3Roots San Diego Project
Environmental Impact Report

SCH No. 2018041065; Project No. 587128

Appendix B

Traffic Impact Analysis

June 2019

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TRANSPORTATION IMPACT ANALYSIS

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June 25, 2019

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EXECUTIVE SUMMARY

This transportation impact analysis evaluates the potential impacts associated with the proposed 3Roots project located within the community of Mira Mesa in the City of San Diego. The 3Roots project is part of the Carroll Canyon Master Plan. The first phase of the plan included 900,000 square feet of industrial known as the Fenton Technology Park. The 3Roots project is the second phase of the Master Plan and includes a change in land use when compared to Phase 2 of the original Carroll Canyon Master Plan for this site. The 52-acre industrial park identified in Phase 2 of the Carroll Canyon Master Plan is being considered as a 25-acre community park on the south side of the future Carroll Canyon Road through the property and medium density residential on the north side of Carroll Canyon Road. Of the 900,000 square feet in the Fenton Industrial Park, 300,000 remains unconstructed. Traffic associated with the existing, developed 600,000 square feet is considered in the existing traffic volumes. The remaining undeveloped 300,000 square feet are included in the forecast volumes for years 2025 and 2050. The 3Roots project does not affect the planned development for Phase 1 of the Carroll Canyon Master Plan. The project requires a Community Plan Amendment, Rezone, VTM and Site Development Permit.

Carroll Canyon Master Plan Approved Land Uses

Proposed 3Roots Land Use Plan

PROJECT DESCRIPTION

The project will be developed in two phases. The Phase 1 development, which is expected to be completed by the year 2021, proposes to construct 1,437 residential units and 16,000 square feet of retail space. Phase 1 would consist of the following residential and retail uses:

- 393 condominiums (low-density attached);
- 609 apartments (high-density attached);
- 435 single-family detached units; and
- 16,000 square-foot of ground floor retail.

Phase 2 (project buildout), which is expected to be completed by the year 2025, will consist of the following additional 363 residential and retail uses:

- 113 single family dwelling units
- 250 attached condominiums
- 86,400 square-feet of food/beverage uses
- 30,300 square-feet of commercial retail use
- 23,460 square-feet of office use
- 4,000 square-feet of mobility hub commercial

Therefore, at project buildout the project will include 1,800 residential units which consist of the following residential types:

- 643 condominiums (low-density attached);
- 609 apartments (high-density attached); and
- 548 single-family detached units.

CARROLL CANYON ROAD

The 3Roots project will construct the extension of Carroll Canyon Road from the western boundary of the Fenton Technology Park to the existing terminus of Carroll Canyon Road on the eastern end of the project site. The project will also restripe the existing 2,700 foot section of Carroll Canyon Road from the eastern project boundary to Camino Ruiz to six lanes as described below. Due to the location and proposed impacts to regulated aquatic resources, Carroll Canyon Road-will be constructed after obtaining the required permits from the resource agencies for impacts to jurisdictional wetlands, waters, and streambed. Such permits include a 404 Individual Permit from the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the California Regional Water Quality Control Board, and a 1602 Streambed Alteration from the California Department of Fish and Wildlife. Permit application processing would be concurrent with the project development approvals by the City; however, issuance of final permits by the resource agencies would extend beyond the City approvals and adoption of the CEQA document for the project (i.e., 3Roots Environmental Impact Report [EIR]). Therefore, the extension of Carroll Canyon Road will be implemented during Phase 2 of construction to coincide with the timeline of resource agency permitting.

The section of Carroll Canyon Road through the project site from Camino Santa Fe to the project's eastern boundary will be constructed as a 6-lane Primary Arterial. The existing 2,700-foot segment of Carroll Canyon Road that extends from the project's eastern boundary to Camino Ruiz was built to 6-lane Primary Arterial standards but is currently striped with 4 lanes. The project will restripe this existing section of Carroll Canyon Road to provide a total of 6 travel lanes and bicycle lanes.

The project will also construct a segment of Carroll Canyon Road west of Camino Santa Fe as a four-lane Major to the western boundary of the existing Fenton Technology Park. However, this segment of Carroll Canyon Road will not carry any vehicular traffic until the City's PFFP Project T-5A to construct Carroll Canyon Road from Carroll Road to the Fenton Technology Park western boundary is completed. According to the 2016 Mira Mesa Public Facilities

Financing Plan, Project T-5A, this project is to be completed within the same time frame as the other segments of Carroll Canyon Road (T-5B and T-5C). The estimated cost to construct the project is $8.18 million, which is scheduled to be funded as part of the FBA-MM for Fiscal Year 2023 ($2M) and Fiscal Year 2025 ($6.18M).

FUTURE TRANSIT

MTS currently operates route 237, Rapid Service, along Mira Mesa Boulevard and provides east-west connectivity to the north of the project site. The Mira Mesa Community Plan contemplated light rail transit (LRT) along the future Carroll Canyon Road and the 1994 Carroll Canyon Master Plan states: "If an LRT line is approved for the Carroll Canyon area, a transit station would be developed within the mixed-use area. If an LRT line is not approved for this area, it is anticipated that this area would be used for a bus station." SANDAG removed the LRT line from Carroll Canyon Road as part of San Diego Forward: The Regional Plan in 2015. However, in consultation with MTS and SANDAG, the applicant was requested to include an area that could be used as right of way for a potential Bus Rapid Transit (BRT) route along Carroll Canyon Road, so as not to preclude a potential BRT route in the future. At the time this report was prepared, SANDAG was in the process of updating the Regional Transportation Plan, which is anticipated to be completed in 2019.

Right of way for a future BRT route has been reserved with an Irrevocable Offer to Dedicate (IOD) should SANDAG determine that a route along Carroll Canyon Road is needed. SANDAG has indicated the future route would generally follow Carroll Canyon Road from I-805 through the project site to Camino Ruiz and then east toward Black Mountain Road. However, as noted above, the exact alignment of this future route not been identified and does not exist in approved SANDAG planning documents. SANDAG has indicated that there is currently no funding identified for this or any other potential transit (such as BRT) along Carroll Canyon Road; nor is there any funding to relocate the Mira Mesa Boulevard bus route southward to Carroll Canyon Road.

Based on guidance from SANDAG, the preferred alignment of the future BRT is along the center of Carroll Canyon Road within the raised median area. The 3Roots project will provide an IOD on the south side of the future Carroll Canyon Road throughout the Carroll Canyon Road alignment in order to accommodate the future ROW necessary to implement the BRT. 3Roots will construct Carroll Canyon Road from Camino Santa Fe to its existing terminus at eastern boundary to a six-lane roadway with a 26-foot raised, landscaped median inclusive of the left turn lanes at the signalized intersections and Class I bike paths on the north and south sides of the roadway. The 3Roots project would also provide additional IOD's on both the north and south side of the street to accommodate a future transit stop on the west side of the future signalized intersection of Carroll Canyon Road / Spine Road.

TRIP GENERATION

Trip generation rates published in the *City of San Diego Trip Generation Manual, May 2003* were applied to the proposed uses to estimate the forecast project traffic. Driveway rates reflect total vehicular trips generated by the project.

In Phase 1 (2021), the project is forecast to generate 11,788 driveway trips per day. Phase 2 (2025) is forecast to generate an additional 19,224 driveway trips per day. Therefore, at project buildout, the project is forecast to generate 31,012 driveway trips per day prior to considering trip reductions for mixed use or transit.

A mixed-use trip reduction was applied at project buildout (2025) to account for the internal and non-motorized trips that occur as the result of placing residential and commercial uses within the project site. The project aims to provide integrated walking trails and bicycle friendly streets throughout the development to encourage non-motorized trips. With the mixed-use trip reduction applied to the project, the project is forecast to generate 29,567 driveway trips per day by year 2025.

As discussed above, SANDAG and MTS anticipate a BRT transit line will travel along Carroll Canyon Road by year 2050. To account for the benefits of transit adjacent to the project, a transit reduction was applied to the driveway

trips in the horizon year condition. With both the mixed use and transit reduction applied to the project, the project is forecast to generate 28,836 driveway trips per day by year 2050. Without a transit reduction applied to the project, the project is forecast to generate 30,281 (28,836 + 1,445) driveway trips per day by year 2050.

STUDY SCENARIOS

This transportation impact analysis report provides findings for the project study intersections, roadway, and freeway segments under the following scenarios:

- Existing Conditions
- Existing Plus Phase 1 Project
- Existing Plus Project Buildout
- Near Term Year 2021 Without Project
- Near Term Year 2021 with Phase 1 Project
- Near Term Year 2025 Baseline (With Phase 1 Project)
- Near Term Year 2025 with Project Buildout
- Horizon Year 2050 Without Project
- Horizon Year 2050 With Project

INTERSECTION ANALYSES

Table ES-1 provides a summary of the operating conditions of study intersections for all scenarios without and with project. The following intersections were forecast to be significantly impacted by the project in one or more of the study scenarios:

		Significantly Impacted in 2021		Significantly Impacted in 2025		Significantly Impacted in 2050	
		AM	PM	AM	PM	AM	PM
3	Pacific Heights Boulevard and Mira Mesa Boulevard		✓				✓
8	Camino Santa Fe and Mira Mesa Boulevard		✓			✓	✓
16	Camino Santa Fe and Carroll Road	✓	✓	✓	✓	✓	✓
20	Towne Center Drive and La Jolla Village Drive		✓		✓		✓
26	Eastgate Mall and Miramar Road				✓		✓
29	Camino Santa Fe and Miramar Road	✓	✓	✓	✓	✓	✓
31	Camino Ruiz and Miramar Road			✓		✓	
32	Mitscher Way and Miramar Road				✓		✓
34	Kearny Villa Road and Miramar Road			✓	✓	✓	✓
38	Flanders Drive and Camino Santa Fe		✓				✓
42	Trade Street and Camino Santa Fe				✓		✓
48	Carroll Canyon Road and Camino Ruiz			✓			
49	Miralani Drive and Camino Ruiz			✓	✓		
50	Activity Road and Camino Ruiz				✓		

ROADWAY SEGMENT ANALYSES

Table ES-2 summarizes the roadway segment LOS results for each scenario analyzed in this report. The following roadway segments were forecast to be significantly impacted by the project in one or more of the study scenarios:

		Significantly Impacted in 2021	Significantly Impacted in 2025	Significantly Impacted in 2050
C	Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive	✓		
F	Mira Mesa Boulevard from Camino Santa Fe and Parkdale Avenue	✓		✓
H	Mira Mesa Boulevard from Reagan Road to Camino Ruiz	✓		
P	Carroll Road from Nancy Ridge Drive to Rehco Road	✓	✓	✓
Q	Carroll Road from Rehco Road and Camino Santa Fe	✓	✓	✓
T	Eastgate Mall from Judicial Drive and Miramar Road	✓	✓	✓
Y	Miramar Road from Nobel Drive to Eastgate Mall	✓	✓	✓
Z	Miramar Road from Eastgate Mall to Camino Santa Fe	✓	✓	✓
AA	Miramar Road from Carroll Road to Camino Ruiz	✓		
AB	Miramar Road from Camino Ruiz to Mitscher Way	✓	✓	✓
AC	Miramar Road from Mitscher Way to Black Mountain Road	✓	✓	✓
AD	Miramar Road from Black Mountain Road to Kearny Villa Road	✓	✓	✓
AE	Miramar Road from Kearny Villa Road to Kearny Mesa Road		✓	✓
AJ	Camino Santa Fe from Carroll Canyon Road to Trade Street		✓	✓
AK	Camino Santa Fe from Trade Street to Carroll Road		✓	✓
AL	Camino Santa Fe from Carroll Road to Miramar Road		✓	✓

TABLE ES-1: SUMMARY OF INTERSECTION PEAK HOUR LOS RESULTS

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
				Delay[a]	LOS [b]	Delay	LOS	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	28.1	C	28.2	C	28.3	C	28.6	C	28.6	C	29.0	C	29.1	C	31.7	C	32.6	C
			PM	43.5	D	43.9	D	44.3	D	45.1	D	45.4	D	46.9	D	46.9	D	50.1	D	50.5	D
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	27.8	C	28.1	C	28.2	C	28.3	C	28.7	C	29.5	C	29.5	C	30.7	C	30.8	C
			PM	46.7	D	47.2	D	47.4	D	48.2	D	48.5	D	49.7	D	50.8	D	51.8	D	51.8	D
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	36.4	D	36.7	D	37.3	D	38.6	D	39.1	D	41.1	D	41.6	D	47.0	D	47.7	D
			PM	68.3	E	**73.4**	**E**	**74.6**	**E**	73.8	E	**80.7**	**F**	89.9	F	89.4	F	83.4	F	**86.8**	**F**
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	31.4	C	31.9	C	32.5	C	34.2	C	35.3	D	42.9	D	42.0	D	46.4	D	50.3	D
			PM	40.9	D	42.0	D	43.5	D	42.7	D	45.0	D	47.0	D	47.3	D	47.7	D	49.7	D
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	13.4	B	14.2	B	14.4	B	14.4	B	15.1	B	16.1	B	16.1	B	15.6	B	16.3	B
			PM	41.9	D	43.0	D	41.9	D	43.1	D	43.1	D	43.2	D	43.2	D	46.5	D	46.6	D
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	22.4	C	24.7	C	25.9	C	23.8	C	27.4	C	34.0	C	32.8	C	30.5	C	35.6	D
			PM	26.2	C	28.5	C	29.5	C	28.1	C	31.5	C	40.1	D	39.9	D	41.3	D	49.0	D
7	Viper Way & Mira Mesa Blvd	Signal	AM	11.4	B	11.5	B	11.5	B	11.7	B	11.8	B	14.6	B	12.6	B	12.4	B	12.6	B
			PM	15.8	B	16.2	B	15.8	B	16.2	B	16.5	B	17.0	B	17.2	B	17.7	B	17.9	B
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	39.5	D	49.7	D	**57.6**	**E**	47.1	D	54.7	D	64.2	E	64.2	E	68.2	E	**73.5**	**F**
			PM	67.6	E	**92.6**	**F**	**145.0**	**F**	87.6	F	**106.1**	**F**	111.8	F	93.5	F	99.2	F	**107.7**	**F**
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	11.6	B	11.7	B	12.0	B	13.8	B	13.8	B	16.7	B	29.3	C	16.8	B	18.1	B
			PM	10.8	B	11.0	B	11.0	B	11.9	B	11.9	B	11.5	B	11.5	B	11.9	B	12.1	B
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	9.8	A	10.1	B	10.8	B	8.4	A	8.7	A	9.8	B	11.2	A	10.6	B	10.7	A
			PM	10.9	B	11.2	B	11.5	B	10.7	B	10.9	B	12.3	B	12.4	B	13.3	B	13.4	B
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	20.2	C	24.2	C	33.4	C	24.0	C	33.2	C	38.6	D	40.9	C	38.2	D	45.9	D
			PM	22.4	C	23.0	C	24.5	C	26.4	C	27.7	C	32.3	C	23.9	C	28.4	C	28.9	C
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	28.8	C	29.7	C	36.3	D	34.7	C	36.8	D	47.1	D	54.2	D	52.8	D	53.0	D
			PM	26.5	C	27.2	C	37.6	D	28.2	C	29.9	C	34.5	C	26.4	C	32.6	C	32.7	C
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	66.3	E	66.5	E	67.9	E	73.4	E	74.0	E	84.5	F	84.6	F	90.4	F	90.5	F
			PM	52.7	D	52.7	D	54.4	D	54.7	D	54.7	D	49.7	D	53.7	D	59.3	E	60.3	E
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	8.5	A	8.6	A	8.8	A	8.6	A	8.7	A	8.9	A	9.9	A	13.4	B	15.2	B
			PM	11.5	B	11.5	B	11.8	B	11.9	B	12.0	B	12.5	B	12.6	B	15.6	B	17.5	B
15	Rehco Rd & Carroll Rd	Signal	AM	5.1	A	5.4	A	6.1	A	5.3	A	5.5	A	6.3	A	7.6	A	5.9	A	6.5	A
			PM	22.1	C	26.5	C	35.4	C	28.3	C	34.9	C	29.8	C	39.7	D	22.1	C	26.0	C
16	Camino Santa Fe & Carroll Rd	Signal	AM	46.5	D	**74.9**	**E**	**124.8**	**F**	50.6	D	**85.2**	**F**	92.9	F	**149.2**	**F**	70.9	E	**118.7**	**F**
			PM	42.0	D	**69.5**	**E**	**135.4**	**F**	45.0	D	**78.3**	**E**	84.5	F	**137.4**	**F**	137.0	F	**151.8**	**F**
17	Kenamar Dr & Carroll Rd	Signal	AM	15.0	B	15.1	B	15.1	B	15.9	B	15.9	B	15.3	B	15.7	B	16.7	B	16.8	B
			PM	13.8	B	14.1	B	14.4	B	14.5	B	14.7	B	15.7	B	16.2	B	11.0	B	11.4	B
18	Eastgate Mall & Judicial Dr	Signal	AM	24.0	C	24.1	C	24.7	C	26.5	C	29.2	C	40.1	D	41.3	D	63.1	E	64.9	E
			PM	23.8	C	24.4	C	24.6	C	24.1	C	24.2	C	25.1	C	25.9	C	34.6	C	36.9	D
19	Executive Way & La Jolla Village Dr	Signal	AM	16.2	B	16.3	B	16.5	B	16.9	B	17.0	B	17.8	B	18.2	B	19.2	B	19.8	B
			PM	39.1	D	39.5	D	39.8	D	41.0	D	41.4	D	43.3	D	43.1	D	51.5	D	53.6	D
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	31.5	C	31.6	C	31.8	C	32.7	C	33.0	C	34.8	D	35.0	C	46.0	D	46.5	D
			PM	72.3	E	**74.8**	**E**	**77.9**	**E**	82.1	F	**85.0**	**F**	94.8	F	**98.8**	**F**	112.3	F	**117.7**	**F**
21	La Jolla Village Dr-Miramar Rd & I-805 SB On/Off Ramps	Signal	AM	43.7	D	43.7	D	43.8	D	51.1	D	51.1	D	58.6	E	58.6	E	70.0	E	70.9	E
			PM	17.1	B	17.7	B	17.8	B	18.4	B	18.6	B	19.6	B	19.6	B	18.8	B	19.0	B
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	15.7	B	15.8	B	16.0	B	16.0	B	16.0	B	16.5	B	16.8	B	15.7	B	15.8	B
			PM	10.2	B	10.4	B	10.5	B	10.5	B	10.7	B	11.1	B	11.1	B	11.7	B	11.8	B
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	4.0	A	4.9	A	5.5	A	4.2	A	5.1	A	5.1	A	5.2	A	4.4	A	4.8	A
			PM	4.1	A	4.7	A	5.6	A	4.1	A	4.8	A	5.0	A	5.5	A	4.7	A	5.2	A
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	21.5	C	21.6	C	21.7	C	20.5	C	20.5	C	20.6	C	20.7	C	20.8	C	21.1	C
			PM	19.7	B	20.3	C	21.0	C	19.9	B	20.8	C	21.0	C	21.2	C	20.4	C	21.0	C
25	Nobel Dr & Miramar Rd	Signal	AM	26.7	C	28.1	C	29.5	C	27.2	C	28.6	C	29.4	C	30.7	C	31.4	C	33.0	C
			PM	27.3	C	29.0	C	29.9	C	28.1	C	29.2	C	29.7	C	30.5	C	29.9	C	30.9	C
26	Eastgate Mall & Miramar Rd	Signal	AM	23.3	C	23.9	C	24.1	C	24.4	C	25.1	C	25.8	C	26.8	C	30.6	C	32.8	C
			PM	34.0	C	35.4	D	40.8	D	37.8	D	41.6	D	51.1	D	**61.3**	**E**	105.5	F	**130.7**	**F**

TABLE ES-1: SUMMARY OF INTERSECTION PEAK HOUR LOS RESULTS

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
				Delay[a]	LOS [b]	Delay	LOS	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS
27	Miramar Mall & Miramar Rd	Signal	AM	7.8	A	8.0	A	7.9	A	9.7	A	9.9	A	10.3	B	10.7	B	15.7	B	21.3	C
			PM	6.6	A	7.0	A	7.6	A	6.5	A	6.9	A	7.7	A	8.2	A	12.7	B	16.9	B
28	Miramar Pl & Miramar Rd	Signal	AM	22.0	C	22.3	C	22.1	C	23.3	C	23.3	C	22.8	C	24.4	C	24.9	C	25.9	C
			PM	8.7	A	8.7	A	8.7	A	8.4	A	8.6	A	8.7	A	9.4	A	12.5	B	13.1	A
29	Camino Santa Fe & Miramar Rd	Signal	AM	65.3	E	**75.3**	**E**	**114.2**	**F**	83.7	F	**94.0**	**F**	121.7	F	**143.6**	**F**	148.1	F	**166.3**	**F**
			PM	45.9	D	**71.6**	**E**	**104.8**	**F**	52.7	D	**79.1**	**E**	90.4	F	**94.8**	**F**	77.2	F	**112.7**	**F**
30	Carroll Rd & Miramar Rd	Signal	AM	20.4	C	22.8	C	25.0	C	21.2	C	23.6	C	24.1	C	24.3	B	19.4	B	19.5	B
			PM	20.1	C	20.3	C	21.5	C	20.5	C	20.8	C	21.5	C	21.7	C	19.8	C	20.4	C
31	Camino Ruiz & Miramar Rd	Signal	AM	56.0	E	56.0	E	**60.5**	**E**	66.6	E	67.0	E	76.8	E	**93.9**	**F**	91.5	F	**96.8**	**F**
			PM	25.2	C	25.3	C	25.4	C	26.2	C	26.2	C	26.0	C	41.4	D	36.1	D	36.2	D
32	Mitscher Way & Miramar Rd	Signal	AM	22.2	C	23.4	C	24.6	C	23.9	C	24.9	C	26.9	C	28.4	C	33.6	C	36.1	D
			PM	44.0	D	45.1	D	46.2	D	46.1	D	47.4	D	56.9	E	**61.8**	**E**	71.6	E	**71.7**	**E**
33	Black Mountain Rd & Miramar Rd	Signal	AM	13.4	B	13.4	B	13.7	B	13.7	B	13.8	B	14.5	B	14.7	B	10.3	B	10.3	B
			PM	20.1	C	20.1	B	20.1	B	18.3	B	18.4	B	19.0	B	19.1	B	19.1	B	19.5	B
34	Kearny Villa Rd & Miramar Rd	Signal	AM	59.8	E	60.2	E	**62.2**	**E**	68.1	E	68.8	E	80.6	F	**88.2**	**F**	140.3	F	**146.5**	**F**
			PM	45.2	D	45.5	D	46.0	D	48.7	D	49.6	D	56.4	E	**59.7**	**E**	115.8	F	**124.2**	**F**
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	19.5	B	19.6	B	19.6	B	19.8	B	19.8	B	20.5	C	20.5	B	28.5	C	28.9	C
			PM	15.0	B	15.1	B	15.2	B	15.7	B	15.8	B	17.1	B	18.0	B	23.0	C	23.5	C
36	I-15 SB On/Off Ramp & Miramar Rd	Signal	AM	18.5	B	18.5	B	18.9	B	18.7	B	18.7	B	19.1	B	19.7	B	19.2	B	19.3	B
			PM	11.9	B	11.9	B	12.2	B	12.3	B	12.3	B	12.7	B	13.1	B	13.0	B	13.2	B
37	Pomerado Rd-Miramar Way & I-15 NB On/Off Ramp	Signal	AM	24.1	C	24.1	C	24.5	C	24.0	C	24.0	C	23.8	C	23.8	C	23.8	C	23.9	C
			PM	23.3	C	23.4	C	23.4	C	23.5	C	23.6	C	23.6	C	23.7	C	24.4	C	24.7	C
38	Flanders Dr & Camino Santa Fe	Signal	AM	35.3	D	40.3	D	46.4	D	36.4	D	41.5	D	43.5	D	47.4	D	46.5	D	52.2	D
			PM	60.1	E	**73.2**	**E**	**92.3**	**F**	68.8	E	**84.4**	**F**	98.8	F	78.3	E	92.6	F	**109.2**	**F**
39	Miratech Dr & Camino Santa Fe	Signal	AM	5.4	A	12.5	B	13.9	B	5.2	A	14.7	B	4.9	A	13.0	B	8.1	A	16.7	B
			PM	7.6	A	29.6	C	21.5	C	5.9	A	35.3	C	6.5	A	21.3	C	9.2	A	16.5	B
40	Summer Ridge Rd & Camino Santa Fe	Signal	AM	7.1	A	16.2	B	24.5	C	7.2	A	15.5	B	6.9	A	20.3	C	8.4	A	20.0	C
			PM	5.6	A	17.1	B	35.0	C	5.5	A	17.3	B	5.3	A	34.4	C	7.2	A	20.3	B
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	5.0	A	7.3	A	9.9	A	4.2	A	4.2	A	7.0	A	21.6	B	45.9	D	63.1	D
			PM	4.9	A	4.9	A	12.1	B	4.8	A	4.8	A	6.8	A	27.6	B	84.9	D	108.3	D
42	Trade St & Camino Santa Fe	Signal	AM	17.5	B	20.7	C	27.8	C	18.1	B	21.9	C	23.5	C	53.2	D	16.1	B	20.2	B
			PM	22.7	C	36.1	D	**90.5**	**F**	24.7	C	48.0	D	56.2	E	**116.2**	**F**	108.8	F	**118.1**	**F**
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	6.6	A	6.6	A	6.6	A	6.7	A	6.7	A	6.7	A	7.3	A	7.5	A	7.7	A
			PM	14.0	B	14.0	B	14.3	B	14.0	B	14.0	B	14.1	B	15.2	B	15.5	B	15.6	B
44	Reagan Rd & Camino Ruiz	Signal	AM	24.8	C	24.8	C	25.4	C	24.8	C	24.8	C	25.3	C	25.9	C	25.4	C	25.7	C
			PM	24.8	C	24.8	C	25.4	C	25.1	C	25.1	C	25.4	C	25.4	C	27.4	C	27.8	C
45	Flanders Dr & Camino Ruiz	Signal	AM	21.5	C	21.5	C	21.6	C	21.7	C	21.7	C	21.9	C	22.0	C	21.2	C	21.3	C
			PM	20.9	C	20.9	C	20.9	C	20.9	C	20.9	C	21.3	C	21.3	B	20.5	C	20.6	C
46	Gold Coast Dr & Camino Ruiz	Signal	AM	31.6	C	31.7	C	32.3	C	34.7	C	34.8	C	34.4	C	36.2	D	33.1	C	33.2	C
			PM	38.8	D	39.1	D	40.1	D	40.1	D	40.3	D	42.5	D	58.1	D	38.1	D	46.0	D
47	Jade Coast Dr & Camino Ruiz	Signal	AM	17.4	B	17.5	B	17.4	B	17.4	B	17.4	B	17.9	B	23.3	C	22.6	C	22.9	C
			PM	10.4	B	10.4	B	11.0	B	10.7	B	10.7	B	10.9	B	13.7	B	10.0	B	10.0	B
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.5	A	6.5	A	6.5	A	6.7	A	6.7	A	6.7	A	**119.8**	**F**	41.0	D	52.8	D
			PM	5.0	A	5.0	A	5.0	A	5.1	A	5.1	A	5.2	A	50.0	D	49.7	D	54.9	D
49	Miralani Dr & Camino Ruiz	Signal	AM	104.1	F	104.1	F	**108.1**	**F**	110.4	F	110.4	F	120.0	F	208.9	F	14.6	B	17.0	B
			PM	42.7	D	42.7	D	43.0	D	44.8	D	44.8	D	47.5	D	**94.1**	**F**	29.0	C	30.5	C
50	Activity Rd & Camino Ruiz	Signal	AM	19.2	B	19.2	B	19.4	B	19.2	B	19.2	B	19.5	B	22.6	C	15.6	B	15.8	B
			PM	70.3	E	70.9	E	**73.9**	**E**	73.3	E	74.1	E	82.1	F	**175.4**	**F**	47.2	D	47.5	D

Note: Bold indicates significant impact.

TABLE ES-2: SUMMARY OF ROADWAY SEGMENT LOS RESULTS

Segment		Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Mira Mesa Boulevard																			
A	Scranton Rd to Lusk Blvd-Oberlin Dr	0.712	C	0.722	C	0.725	C	0.736	C	0.747	C	0.772	C	0.759	C	0.813	C	0.817	C
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	0.766	C	0.780	C	0.784	C	0.793	C	0.806	C	0.833	D	0.821	C	0.880	D	0.884	D
C	Pacific Heights Blvd to Sequence Dr	0.880	D	0.900	D	0.908	D	0.910	D	**0.930**	**E**	0.961	E	0.956	E	0.971	E	0.982	E
D	Sequence Dr to Flanders Dr	0.808	C	0.831	C	0.840	D	0.836	D	0.858	D	0.887	D	0.884	D	0.871	D	0.887	D
E	Flanders to Camino Santa Fe	0.619	C	0.630	C	0.637	C	0.640	C	0.651	C	0.673	C	0.673	C	0.647	C	0.656	C
F	Camino Santa Fe to Parkdale Ave	1.156	F	**1.188**	**F**	**1.240**	**F**	1.195	F	**1.227**	**F**	1.268	F	1.196	F	1.233	F	**1.244**	**F**
G	Parkdale Ave to Reagan Rd	1.016	F	1.043	F (1)	1.091	F (1)	1.051	F	1.078	F (1)	1.113	F	1.038	F	1.077	F	1.079	F
H	Reagan Rd to Camino Ruiz	0.925	E	**0.947**	**E**	**0.978**	**E**	0.956	E	**0.979**	**E**	1.012	F	0.981	E	0.992	E	0.995	E
Flanders Drive																			
I	Mira Mesa Blvd to Camino Santa Fe	0.538	C	0.606	C	0.647	C	0.558	C	0.626	C	0.647	C	0.720	D	0.696	D	0.765	D
Carroll Canyon Road																			
J	Pacific Heights Blvd to Carroll Rd	0.546	C	0.556	C	0.604	C	0.582	C	0.592	C	0.630	C	0.667	C	0.467	C	0.560	C
K	Carroll Rd to Camino Santa Fe															0.411	C	0.641	C
L	Camino Santa Fe to East Project Boundary													0.403	A	0.655	C	0.731	C
M	East Project Boundary to Camino Ruiz	0.045	A	0.045	A	0.045	A	0.046	A	0.046	A	0.032	A	0.446	B	0.647	C	0.811	C
N	Camino Ruiz to Black Mountain Rd															0.810	D	0.896	D
Carroll Road																			
O	Fenton Rd to Nancy Ridge Dr	0.424	B	0.438	B	0.490	C	0.452	B	0.466	B	0.496	C	0.569	C	0.401	B	0.418	B
P	Nancy Ridge Dr to Rehco Rd	0.884	E	**0.910**	**E**	**0.977**	**E**	0.925	E	**0.951**	**E**	0.993	E	**1.097**	**F**	0.851	D	**0.877**	**E**
Q	Rehco Rd to Camino Santa Fe	1.117	F	**1.158**	**F**	**1.237**	**F**	1.168	F	**1.209**	**F**	1.263	F	**1.385**	**F**	1.127	F	**1.178**	**F**
R	Camino Santa Fe to Kenamar Dr	0.664	C	0.772	D	**0.932**	**E**	0.695	D	0.802	D	0.834	D	0.625	C	0.505	C	0.539	C
S	Kenamar Dr to Miramar Rd	0.623	C	0.688	D	0.790	D	0.652	C	0.716	D	0.746	D	0.595	C	0.538	D	0.550	D
Eastgate Mall																			
T	Judicial Dr to Miramar Rd	0.954	E	**0.992**	**E**	**1.018**	**F**	1.008	F	**1.046**	**F**	1.102	F	**1.144**	**F**	1.349	F	**1.140**	**F**
La Jolla Village Drive																			
U	Executive Way to Towne Center Dr	0.656	C	0.664	C	0.675	C	0.685	C	0.693	C	0.723	C	0.740	C	0.776	C	0.793	C
V	Towne Center Dr to I-805 SB Ramps	0.743	C	0.751	C	0.761	D	0.776	D	0.784	C	0.818	C	0.831	D	0.901	E	0.917	E
Nobel Drive																			
W	I-805 NB Off Ramp to Miramar Rd	0.566	C	0.606	C	0.648	C	0.599	C	0.640	C	0.675	C	0.716	C	0.753	D	0.788	D

TABLE ES-2: SUMMARY OF ROADWAY SEGMENT LOS RESULTS

Segment		Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Miramar Road																			
X	I-805 Ramps to Nobel Drive	0.563	C	0.581	C	0.602	C	0.588	C	0.606	C	0.632	C	0.643	C	0.690	C	0.714	C
Y	Nobel Dr to Eastgate Mall	1.036	F	**1.080**	**F**	**1.128**	**F**	1.082	F	**1.126**	**F**	1.174	F	**1.214**	**F**	1.281	F	**1.328**	**F**
Z	Eastgate Mall to Camino Santa Fe	1.572	F	**1.653**	**F**	**1.738**	**F**	1.642	F	**1.722**	**F**	1.796	F	**1.874**	**F**	1.991	F	**2.086**	**F**
AA	Carroll Rd to Camino Ruiz	1.002	F	**1.032**	**F**	**1.079**	**F**	1.047	F	**1.076**	**F**	1.123	F	1.011	F	0.960	E	0.965	E
AB	Camino Ruiz to Mitscher Way	1.198	F	**1.217**	**F**	**1.249**	**F**	1.251	F	**1.270**	**F**	1.326	F	**1.369**	**F**	1.262	F	**1.310**	**F**
AC	Mitscher Way to Black Mountain Rd	1.282	F	**1.301**	**F**	**1.333**	**F**	1.339	F	**1.358**	**F**	1.417	F	**1.450**	**F**	1.375	F	**1.428**	**F**
AD	Black Mountain Rd to Kearny Villa Rd	1.424	F	**1.440**	**F**	**1.470**	**F**	1.487	F	**1.504**	**F**	1.570	F	**1.624**	**F**	1.603	F	**1.656**	**F**
AE	Kearny Villa Rd to Kearny Mesa Rd	1.202	F	1.211	F	**1.228**	**F**	1.256	F	1.264	F	1.320	F	**1.381**	**F**	1.416	F	**1.444**	**F**
Camino Santa Fe																			
AF	Mira Mesa Blvd to Flanders Dr	0.350	A	0.405	B	0.478	B	0.363	A	0.418	B	0.431	B	0.411	B	0.404	B	0.448	B
AG	Flanders Dr to Miratech Dr	0.280	A	0.354	A	0.436	B	0.293	A	0.368	A	0.381	A	0.380	A	0.373	A	0.439	B
AH	Miratech Dr to Summer Ridge Rd	0.271	A	0.336	A	0.415	A	0.285	A	0.350	A	0.365	A	0.373	A	0.355	A	0.422	B
AI	Summer Ridge Rd to Carroll Canyon Rd	0.285	A	0.363	A	0.431	B	0.300	A	0.379	A	0.395	B	0.432	A	0.419	B	0.537	B
AJ	Carroll Canyon Rd to Trade St	0.467	B	0.639	C	0.859	D	0.492	B	0.664	C	0.690	C	**0.970**	**E**	0.948	F	**1.137**	**F**
AK	Trade St to Carroll Rd	0.522	B	0.682	C	**0.882**	**E**	0.550	C	0.710	C	0.739	C	**0.976**	**E**	0.987	F	**1.156**	**F**
AL	Carroll Rd to Miramar Rd	0.610	C	0.705	C	0.808	D	0.643	C	0.738	C	0.772	D	**0.913**	**E**	0.999	F	**1.120**	**F**
Camino Ruiz																			
AM	Mira Mesa Blvd to Mira Mesa Mall Entrance	0.461	B	0.461	B	0.467	B	0.473	B	0.474	B	0.487	B	0.534	B	0.526	C	0.536	C
AN	Mira Mesa Mall Entrance to Reagan Rd	0.450	B	0.450	B	0.456	B	0.462	B	0.463	B	0.475	B	0.535	B	0.523	B	0.535	C
AO	Reagan Rd to Flanders Dr	0.547	C	0.548	C	0.568	C	0.562	C	0.563	C	0.579	C	0.711	C	0.685	C	0.705	C
AP	Flanders Dr to Gold Coast Dr	0.542	C	0.543	C	0.560	C	0.557	C	0.558	C	0.573	C	0.693	C	0.667	C	0.686	C
AQ	Gold Coast Dr to Jade Coast Dr	0.519	B	0.519	B	0.531	C	0.533	C	0.534	C	0.548	C	0.657	C	0.506	B	0.526	B
AR	Jade Coast Dr to Carroll Canyon Rd	0.593	C	0.593	C	0.593	C	0.609	C	0.609	C	0.626	C	0.808	D	0.694	C	0.725	C
AS	Carroll Canyon Rd to Miralani Dr	0.613	C	0.613	C	0.613	C	0.630	C	0.630	C	0.647	C	0.779	D	0.671	C	0.740	C
AT	Miralani Dr to Activity Rd	0.723	C	0.723	C	0.726	C	0.743	C	0.743	C	0.764	D	0.874	D	0.635	C	0.699	C
AU	Activity Rd to Miramar Rd	0.531	C	0.534	C	0.540	C	0.545	C	0.548	C	0.563	C	0.601	C	0.461	B	0.514	B
Kearny Villa Road																			
AV	Miramar Rd to Kearny Mesa Rd	0.583	C	0.592	C	0.602	C	0.609	C	0.618	C	0.645	C	0.655	C	0.722	C	0.745	C

Note: **Bold** indicates significant impact.

(1) City's alternatives analysis for roadway segments determined that the impact on this segment is less than significant because: the roadway operates at is built to its ultimate classification, intersection at the end of the segment operate at acceptable LOS and the HCM arterial analysis determined acceptable LOS.

FREEWAY SEGMENT ANALYSIS

Freeway segments were evaluated based on the Caltrans District 11 method, which is based on the volume-to-capacity (v/c) ratios for each direction of travel during the peak hours. The peak hour capacity used in this analysis for the freeway mainline lanes is 2,350 vehicles per hour per lane. High Occupancy Vehicle (HOV) lanes were given a capacity of 1,680 vehicles per hour per lane, and auxiliary lanes were given a capacity of 1,200 vehicles per hour per lane.

Table ES-3 summarizes the freeway segment analysis results for all scenarios studied within this traffic report.

The analysis results show that the majority of freeway segments operate at acceptable LOS D conditions through Near Term Year 2025. The results of the Horizon Year 2050 analysis show that several freeway segments of I-805 and I-15 are forecast to operate at deficient levels of service (LOS E or F) during the peak hours. However, the addition of project traffic would not result in an increase in v/c exceeding the significance thresholds for LOS E (0.01) and LOS F (0.005). Therefore, no significant impacts were identified on the freeway segments and no mitigation measures are required.

FREEWAY METERED ON-RAMP ANALYSIS

The freeway metered on-ramp analysis was performed using the methodology provided in Appendix 2 of the *City of San Diego Traffic Impact Study Manual* (July 1998). Ramp meter rates were obtained from Caltrans District 11 staff, in which a range of discharge rates from least restrictive to most restrictive are provided. Field observations were conducted to calibrate the ramp meter rates where applicable. Ramp meter rates were only calibrated where the observed delays and queuing during peak periods reflected a discharge rate that is higher than the most restrictive discharge rate.

The freeway metered on-ramp analysis results for all scenarios are summarized in **Table ES-4**.

The results of the analysis show that all study on-ramps currently experience less than 15 minutes of ramp meter delay during the peak hours. The addition of project-related traffic would result in on-ramp meter delays exceeding 15 minutes and increases in delay exceeding 2 minutes at the Southbound I-805 from Nobel Drive On-Ramp during the PM peak hour under the following scenarios:

- Existing Plus Project Buildout
- Near Term Year 2021 With Phase 1 Project
- Near Term Year 2025 With Project Buildout
- Horizon Year 2050 With Project

The addition of project-related traffic under Horizon Year 2050 conditions would also result in ramp meter delays exceeding 15 minutes and increases in delay exceeding 2 minutes at the Southbound I-805 from Westbound Miramar Road On-Ramp and the Southbound I-15 from Eastbound Miramar Road On-ramp during the PM peak hour.

However, the forecast adjacent freeway operations are at LOS D or better along the study on-ramps where deficient ramp meter delays were identified under all analysis scenarios. The adjacent freeway LOS must be LOS E or F for a ramp meter impact to occur per the City's significance criteria for ramp meter impacts. Therefore, no significant project impacts to freeway metered on-ramps were identified under any of the analysis scenarios.

FREEWAY OFF-RAMP QUEUING ANALYSIS

The freeway off-ramp queue analysis was conducted to determine if the signalized intersections at the termination of the ramps cause the queue lengths on the off-ramps to impact the mainline freeway traffic flow. The SYNCHRO software program was used to perform the queuing analysis, and the 95th percentile queue lengths are reported.

The freeway off-ramp queuing analysis results for all scenarios are summarized in **Table ES-5**.

The results of the analysis show that the addition of project-related traffic would not result in off-ramp queues exceeding the lengths of the off-ramps under any of the analysis scenarios through the year 2050.

TABLE ES-3: SUMMARY OF FREEWAY SEGMENT ANALYSIS

Freeway and Segment	Dir	Existing Conditions				Existing Plus Phase 1 Project				Existing Plus Project Buildout				Year 2021				Year 2021 with Phase 1				Year 2025 with Phase 1				Year 2025 with Buildout				Year 2050				Year 2050 with Buildout			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
I-805																																					
I-805 South of Nobel Dr	NB	0.778	C	0.714	C	0.778	C	0.714	C	0.785	C	0.732	C	0.831	D	0.772	C	0.877	D	0.772	C	0.871	D	0.806	D	0.877	D	0.819	D	1.047	F	0.961	E	1.052	F	0.969	E
	SB	0.314	A	0.472	B	0.314	A	0.472	B	0.330	A	0.481	B	0.338	A	0.510	B	0.374	D	0.510	C	0.362	D	0.535	D	0.374	A	0.543	B	0.435	B	0.653	C	0.442	B	0.658	C
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	0.776	C	0.712	C	0.776	C	0.712	C	0.778	C	0.717	C	0.810	D	0.746	C	0.836	D	0.746	C	0.835	D	0.768	D	0.836	D	0.771	C	1.014	F	0.930	E	1.017	F	0.935	E
	SB	0.314	A	0.470	B	0.314	A	0.470	B	0.318	A	0.473	B	0.329	A	0.495	B	0.345	D	0.495	C	0.342	D	0.511	D	0.345	A	0.513	B	0.421	B	0.631	C	0.424	B	0.634	C
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	0.697	C	0.639	C	0.697	C	0.639	C	0.699	C	0.641	C	0.743	C	0.682	C	0.780	D	0.682	C	0.778	D	0.713	D	0.780	C	0.714	C	0.953	E	0.874	D	0.954	E	0.875	D
	SB	0.281	A	0.422	B	0.281	A	0.422	B	0.283	A	0.425	B	0.295	A	0.444	B	0.306	D	0.444	C	0.305	D	0.459	D	0.306	A	0.461	B	0.384	A	0.576	B	0.384	A	0.577	B
Mira Mesa Blvd to I-805/I-5 Interchange	NB	0.634	C	0.582	B	0.634	C	0.582	B	0.639	C	0.587	B	0.668	C	0.614	B	0.699	D	0.614	C	0.694	D	0.636	D	0.699	C	0.641	C	0.887	D	0.813	D	0.891	D	0.818	D
	SB	0.283	A	0.424	B	0.283	A	0.424	B	0.285	A	0.430	B	0.291	A	0.440	B	0.301	D	0.440	C	0.298	D	0.449	D	0.301	A	0.455	B	0.373	A	0.560	B	0.376	A	0.565	B
I-15																																					
Miramar Rd to Miramar Way	NB	0.762	C	0.685	C	0.762	C	0.685	C	0.764	C	0.688	C	0.786	C	0.707	C	0.804	D	0.707	C	0.802	D	0.722	D	0.804	D	0.726	C	0.971	E	0.873	D	0.973	E	0.876	D
	SB	0.519	B	0.535	B	0.519	B	0.535	B	0.521	B	0.537	B	0.547	B	0.564	B	0.570	D	0.564	C	0.567	D	0.584	D	0.570	B	0.586	B	0.682	C	0.703	C	0.684	C	0.705	C
Carroll Canyon Rd to Miramar Rd	NB	0.719	C	0.646	C	0.719	C	0.646	C	0.719	C	0.647	C	0.749	C	0.673	C	0.771	D	0.673	C	0.769	D	0.691	D	0.771	C	0.693	C	0.925	E	0.832	D	0.925	E	0.832	D
	SB	0.520	B	0.536	B	0.520	B	0.536	B	0.521	B	0.537	B	0.553	B	0.570	B	0.577	D	0.570	C	0.576	D	0.593	D	0.577	B	0.596	B	0.687	C	0.708	C	0.687	C	0.708	C
Mira Mesa Blvd to Carroll Canyon Rd	NB	0.681	C	0.612	B	0.681	C	0.612	B	0.682	C	0.613	B	0.709	C	0.638	C	0.733	D	0.638	C	0.729	D	0.656	D	0.733	C	0.658	C	0.882	D	0.793	C	0.886	D	0.796	C
	SB	0.493	B	0.508	B	0.493	B	0.508	B	0.494	B	0.509	B	0.524	B	0.541	B	0.549	D	0.541	C	0.547	D	0.564	D	0.549	B	0.568	B	0.661	C	0.682	C	0.663	C	0.686	C
Mira Mesa Blvd to Mercy Rd	NB	0.761	C	0.685	C	0.761	C	0.685	C	0.765	C	0.688	C	0.800	D	0.721	C	0.833	D	0.721	C	0.829	D	0.746	D	0.833	D	0.749	C	1.000	F	0.901	D	1.005	F	0.904	D
	SB	0.540	B	0.550	B	0.540	B	0.550	B	0.542	B	0.555	B	0.575	B	0.588	B	0.603	D	0.588	C	0.600	D	0.613	D	0.603	B	0.618	B	0.723	C	0.737	C	0.726	C	0.743	C

TABLE ES-4: SUMMARY OF FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Most Restrictive or Calibrated Meter Flow Rate (vphpl)	Number of Lanes		Existing Delay Per Lane (Minutes)		Existing Plus Phase 1 Project			Existing Plus Project Buildout			Near Term 2021 Without Project		Near Term 2021 With Phase 1 Project			Near Term 2025 With Phase 1 Project		Near Term 2025 With Project Buildout			Horizon Year 2050 Without Project		Horizon Year 2050 With Project		
							Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Delay Per Lane (Minutes)		Adj Fwy LOS
			SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV		SOV	HOV	SOV	HOV		SOV	HOV	SOV	HOV		SOV	HOV	SOV	HOV	
SB I-805 from WB Miramar Road	AM	Ramp meter not activated.																									
	PM	C=687	1	1	5.45	0	6.93	0	B	8.52	0	B	8.17	0	9.48	0	B	12.09	0	12.95	0	B	16.07	0	17.66	0	C
NB I-805 from WB Miramar Road	AM	MR = 804	1	1	0	0	0	0	C	0	0	C	0	0	0	0	C	0	0	0	0	C	0	0	0	0	E
	PM	Ramp meter not activated.																									
SB I-805 from Nobel Drive	AM	Ramp meter not activated.																									
	PM	C=200	2	1	8.20	2.83	14.08	7.51	B	19.47	12.14	B	13.50	7.05	17.85	10.78	B	21.73	14.11	24.09	16.14	B	30.81	21.89	34.12	24.73	C
SB I-15 from EB Miramar Road	AM	C=242	2	1	0.07	0	0.98	0	B	2	0	B	1.49	0	2.29	0	B	3.59	0	6.34	0	B	5.26	0	7.63	0	C
	PM	C=539	2	1	0.17	0	0.77	0	B	1	0	B	6.43	0	6.78	0	B	9.49	0	12.06	0	B	14.04	0	15.81	0	C
NB I-15 from EB Miramar Road	AM	Ramp meter not activated.																									
	PM	C = 443	2	0	3.62	N/A	3.62	N/A	C	4.02	N/A	C	5.35	N/A	5.35	N/A	C	7.16	N/A	8.24	N/A	C	13.31	N/A	13.31	N/A	D

Notes:
N/A = Not Applicable
vphpl = vehicles per hour per lane
MR = most restrictive discharge rate
C = calibrated discharge rate

TABLE ES-5: SUMMARY OF FREEWAY OFF-RAMP QUEUING ANALYSIS

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 Without Project		Year 2021 With Phase 1 Project		Year 2025 With Phase 1 Project		Year 2025 With Project Buildout		Year 2050 Without Project		Year 2050 With Project Buildout	
			AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd																				
Southbound Left	2	1,016 (1)	227	99	228	106	233	112	243	101	250	107	259	111	270	115	289	119	289	119
Southbound Right	2	1,295 (1)	970	414	970	415	970	418	1,047	436	1,047	438	1,119	467	1,098	460	1,237	552	1,237	555
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd																				
Northbound Left	2	1,110 (1)	352	261	352	261	352	261	361	274	361	274	376	287	375	282	363	302	363	302
Northbound Right	2	899 (1)	108	32	113	36	125	38	115	32	119	36	125	36	128	36	118	35	127	39
NB I-805 Off-Ramp at Nobel Dr																				
Northbound Left	2	1,429 (1)	263	205	269	205	271	200	273	214	273	214	282	217	290	217	312	230	312	223
Northbound Right	2	1,429 (1)	79	82	100	132	117	168	114	113	125	164	153	185	184	204	213	176	233	202
SB I-15 Off-Ramp at Miramar Rd																				
Southbound Left	2	844 (1)	41	27	42	27	41	26	43	27	43	27	45	27	44	26	47	27	48	27
Southbound Right	2	894 (1)	428	175	432	185	443	205	471	210	473	220	519	250	525	292	532	297	560	314
NB I-15 Off-Ramp at Miramar Rd																				
Northbound Left	2	1,132 (1)	258	349	260	357	268	364	267	361	269	369	279	279	301	412	303	404	318	432
Northbound Right	2	1,132 (1)	56	100	56	103	56	114	56	138	56	141	56	186	55	184	56	293	55	291

Notes:

(1) Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length

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SIGNIFICANT IMPACTS AND MITIGATION MEASURES

The following intersections are forecast to be significantly impacted by the project (direct or cumulative) and require mitigation measures to reduce the impact to less than significant. **Figure ES-1** illustrates the study intersection recommended mitigation measures. **Table ES-6** summarizes the mitigation recommendations for the study intersections.

		Significantly Impacted in 2021		Significantly Impacted in 2025		Significantly Impacted in 2050	
		AM	PM	AM	PM	AM	PM
3	Pacific Heights Boulevard and Mira Mesa Boulevard		D				C
8	Camino Santa Fe and Mira Mesa Boulevard		D			C	C
16	Camino Santa Fe and Carroll Road	D	D	D	D	C	C
20	Towne Center Drive and La Jolla Village Drive		D		D		C
26	Eastgate Mall and Miramar Road				D		C
29	Camino Santa Fe and Miramar Road	D	D	D	D	C	C
31	Camino Ruiz and Miramar Road			D		C	
32	Mitscher Way and Miramar Road				D		C
34	Kearny Villa Road and Miramar Road			D	D	C	C
38	Flanders Drive and Camino Santa Fe		D				C
42	Trade Street and Camino Santa Fe				D		C
48	Carroll Canyon Road and Camino Ruiz			D			
49	Miralani Drive and Camino Ruiz			D	D		
50	Activity Road and Camino Ruiz				D		

Note: D = Direct Impact, C = Cumulative Impact

The following roadway segments are forecast to be significantly impacted by the project (direct or cumulative) and require mitigation measures to reduce the impact to less than significant. **Figure ES-2** illustrates and **Table ES-7** summarizes the recommended roadway segment mitigation measures for the study roadway segments.

		Significantly Impacted in 2021	Significantly Impacted in 2025	Significantly Impacted in 2050
C	Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive	D		
F	Mira Mesa Boulevard from Camino Santa Fe and Parkdale Avenue	D		C
H	Mira Mesa Boulevard from Reagan Road to Camino Ruiz	D		
P	Carroll Road from Nancy Ridge Drive to Rehco Road	D	D	C
Q	Carroll Road from Rehco Road and Camino Santa Fe	D	D	C
T	Eastgate Mall from Judicial Drive and Miramar Road	D	D	C
Y	Miramar Road from Nobel Drive to Eastgate Mall	D	D	C
Z	Miramar Road from Eastgate Mall to Camino Santa Fe	D	D	C
AA	Miramar Road from Carroll Road to Camino Ruiz	D		
AB	Miramar Road from Camino Ruiz to Mitscher Way	D	D	C
AC	Miramar Road from Mitscher Way to Black Mountain Road	D	D	C
AD	Miramar Road from Black Mountain Road to Kearny Villa Road	D	D	C
AE	Miramar Road from Kearny Villa Road to Kearny Mesa Road		D	C
AJ	Camino Santa Fe from Carroll Canyon Road to Trade Street		D	C
AK	Camino Santa Fe from Trade Street to Carroll Road		D	C
AL	Camino Santa Fe from Carroll Road to Miramar Road		D	C

Note: D=Direct Impact, C=Cumulative Impact

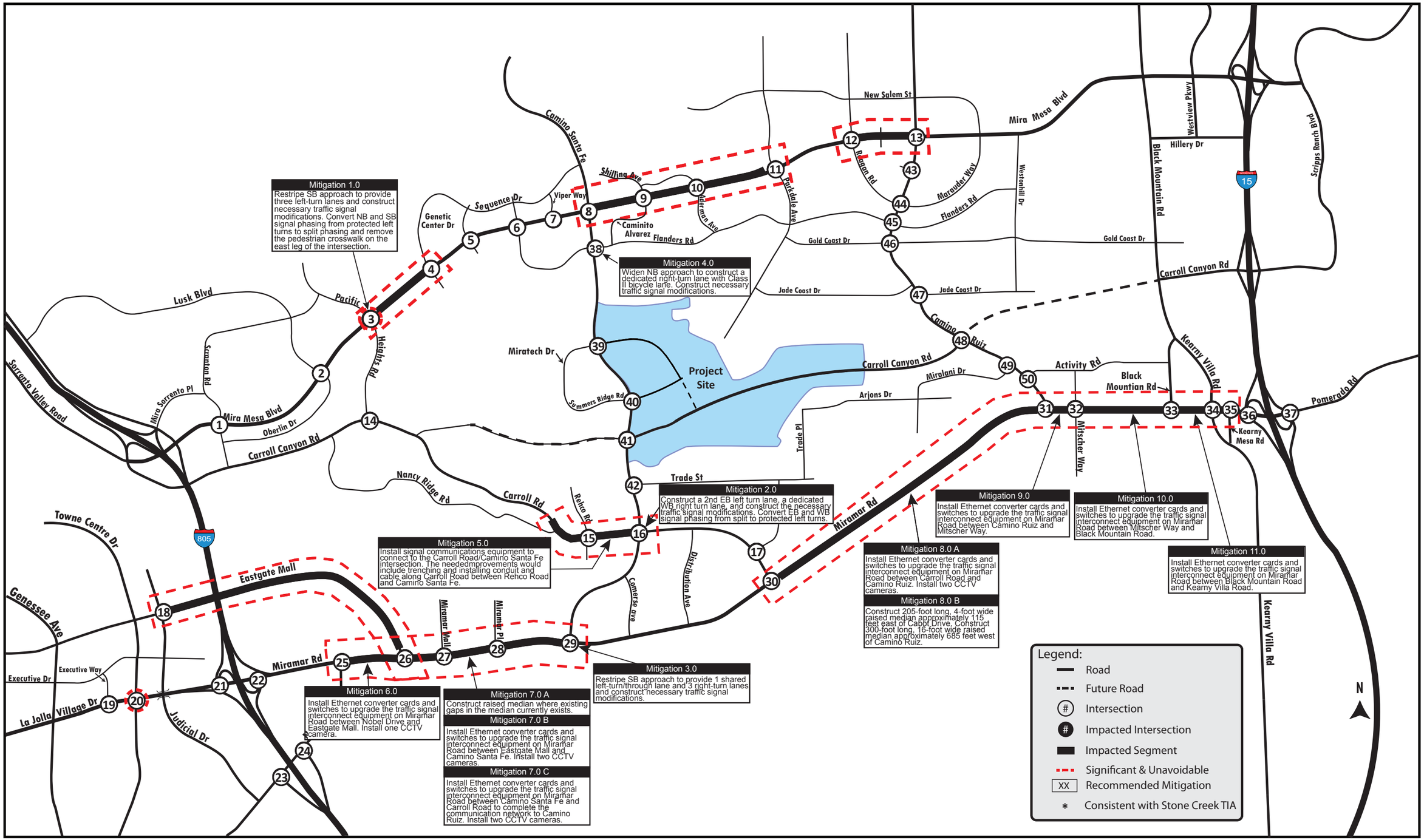

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Figure ES-1
2021 Mitigation Measures

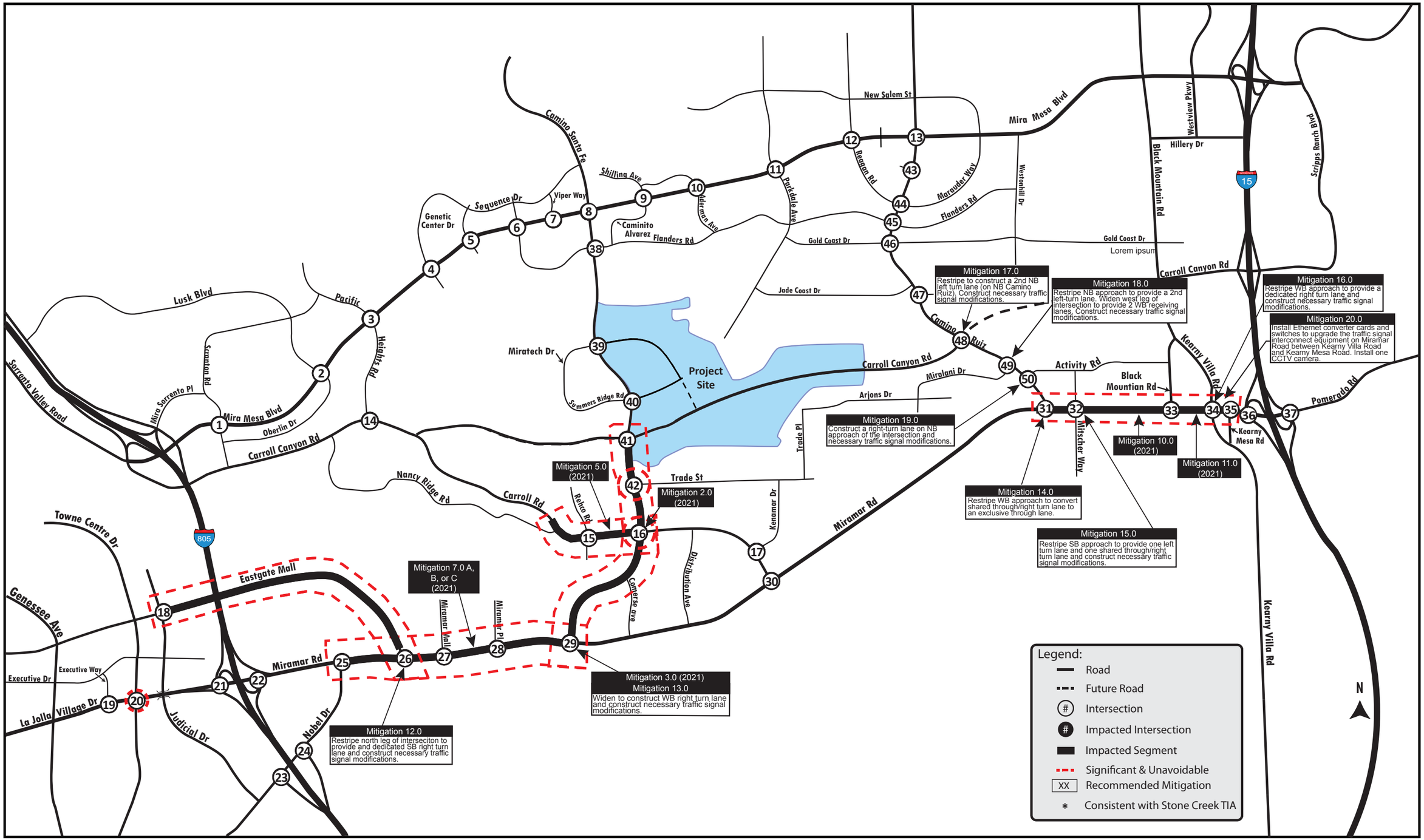

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Figure ES-2
2025 Mitigation Measures

TABLE ES-6: SUMMARY OF INTERSECTION SIGNIFICANT IMPACTS AND MITIGATION MEASURES

#	Significantly Impacted Intersection	Scenario Impacted			Recommended Mitigation	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Funding Mechanism/ Project Responsibility
		2021	2025	2050				
3	Pacific Heights Blvd & Mira Mesa Blvd	X		X	**Mitigation Measure 1.0:** Restripe SB approach to provide three left-turn lanes and construct necessary traffic signal modifications. Convert NB and SB signal phasing from protected left turns to split phasing and remove the pedestrian crosswalk on the east leg of the intersection. (2021 & 2050 Mitigation)			Project Improvement: 100%
8	Camino Santa Fe & Mira Mesa Blvd	X			***Significant & Unavoidable (2021)***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Fair Share: 27.6% (2050)
				X	***Partially Mitigated (2050)*** **Mitigation Measure 21.0:** Fair share payment toward the construction of a 2nd WB left turn lane. This includes widening the west left leg of the intersection and restriping the eastbound lanes to align lanes with proposed improvement. Construct associated traffic signal modifications (2050 Mitigation)			
16	Camino Santa Fe & Carroll Road	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 2.0:** Construct a second EB left turn lane, a dedicated WB right turn lane,and construct the necessary traffic signal modifications. Convert EB and WB signal phasing from split to protected left turns. (2021, 2025 & 2050 Mitigation)			Project Improvement: 100%
20	La Jolla Village Dr & Towne Center Dr	X	X	X	***Significant & Unavoidable***			
26	Eastgate Mall & Miramar Rd		X	X	**Mitigation Measure 12.0:** Restripe north leg of intersection to provide a dedicated SB right turn lane and construct necessary traffic signal modifications. (2025 & 2050 Mitigation)			Project Improvement: 100%
29	Camino Santa Fe & Miramar Road	X			***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 3.0:** Restripe SB approach to provide 1 shared left-turn/through lane and 3 right-turn lanes and construct necessary traffic signal modifications. (2021 Mitigation)	PFFP Project T-87: Restripe north leg to add SB right turn lane and widen east leg to add WB right turn lane (100% Funded by FY 2025).	Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%
			X	X	**Mitigation Measure 13.0:** Widen to construct a WB right turn lane and necessary traffic signal modifications. (2025 & 2050 Mitigation)			
31	Camino Ruiz & Miramar Rd		X	X	**Mitigation Measure 14.0:** Restripe WB approach to convert shared through/right turn lane to an exclusive through lane. (2025 & 2050 Mitigation)			Project Improvement: 100%
32	Mitscher Way & Miramar Rd		X	X	**Mitigation Measure 15.0**: Restripe SB approach to provide one left turn lane and one shared through/right turn lane and construct necessary traffic signal modifications. (2025 & 2050 Mitigation)			Project Improvement: 100%
34	Kearny Villa Rd & Miramar Rd		X		**Mitigation Measure 16.0**: Restripe WB approach to provide a dedicated right turn lane and construct necessary traffic signal modifications. (2025 Mitigation)		Yes (Phase 1 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2025)
				X	**Mitigation Measure 22.0:** Payment of FBA Fees. PFFP includes Project T-89 to construct a 2nd EB right turn lane. (2050 Mitigation)			Payment of FBA Fees
38	Flanders Dr & Camino Santa Fe	X		X	**Mitigation Measure 4.0:** Widen NB approach to construct a dedicated right-turn lane with Class II bicycle lane. Construct necessary traffic signal modifications. (2021 & 2050 Mitigation)			Project Improvement: 100%
42	Trade St & Camino Santa Fe		X	X	***Significant & Unavoidable***			
48	Carroll Canyon Rd & Camino Ruiz		X		**Mitigation Measure 17.0:** Restripe a 2nd NB left turn lane (on NB Camino Ruiz). Construct necessary traffic signal modifications. (2025 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%
49	Miralani Dr & Camino Ruiz		X		**Mitigation Measure 18.0:** Restripe NB approach to provide a 2nd left-turn lane. Widen the west leg of intersection to provide 2 WB receiving lanes. Construct necessary traffic signal modifications. (2025 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%
50	Activity Rd & Camino Ruiz		X		**Mitigation Measure 19.0:** Construct a right-turn lane on NB approach of the intersection and necessary traffic signal modifications. (2025 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%

TABLE ES-7 SUMMARY OF ROADWAY SEGMENT SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significantly Impacted Roadway Segment		Scenario Impacted			Recommended Mitigation Measure	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Funding Mechanism/ Project Responsibility
		2021	2025	2050				
C	Mira Mesa Blvd from Pacific Heights Blvd to Sequence Dr	X			***Significant & Unavoidable***			
F	Mira Mesa Blvd from Camino Santa Fe to Parkdale Ave	X		X	***Significant & Unavoidable***			
H	Mira Mesa Blvd from Reagan Rd to Camino Ruiz	X			***Significant & Unavoidable***			
P	Carroll Road from Nancy Ridge Dr to Rehco Rd	X	X	X	***Significant & Unavoidable***.			
Q	Carroll Road from Rehco Rd to Camino Santa Fe	X	X	X	***Significant & Unavoidable / Partially Mitigated.*** **Mitigation Measure 5.0**: Address the existing signal communications gap at the Carroll Road/Rehco Road intersection by installing signal communications equipment to connect to the Carroll Road/Camino Santa Fe intersection. The needed improvements would include trenching and installing conduit and cable along Carroll Road between Rehco Road and Camino Santa Fe. (2021, 2025 & 2050 Mitigation)			Project Improvement: 100% (2021)
T	Eastgate Mall from Judicial Dr to Miramar Rd	X	X	X	***Significant & Unavoidable***			
Y	Miramar Rd from Nobel Dr to Eastgate Mall	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 6.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Nobel Drive and Eastgate Mall. Install one (1) CCTV Camera. (2021, 2025 & 2050 Mitigation)			
Z	Miramar Rd from Eastgate Mall to Camino Santa Fe	X	X	X	***Significant & Unavoidable / Partially Mitigated.*** **Mitigation Measure 7.A:** Construct raised median where existing gaps in the median currently exist. (2021, 2025 & 2050 Mitigation). **AND** **Mitigation Measure 7.B:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Eastgate Mall and Camino Santa Fe. Install two (2) CCTV cameras. (2021, 2025 & 2050 Mitigation) **AND** **Mitigation Measure 7.C:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Santa Fe and Carroll Road to complete the communication network to Camino Ruiz. Install two (2) CCTV cameras. (2021, 2025 & 2050 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2021)
AA	Miramar Rd from Carroll Rd to Camino Ruiz	X			***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 8.A**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Carroll Road and Camino Ruiz. Install two (2) CCTV cameras. (2021 Mitigation) **AND** **Mitigation Measure 8.B**: Construct 205-foot long, 4-foot wide raised median approximately 115 feet east of Cabot Drive. Construct 300-foot long, 16-foot wide raised median approximately 685 feet west of Camino Ruiz (2021)			Project Improvement: 100% (2021)
AB	Miramar Rd from Camino Ruiz to Mitscher Way	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 9.0**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Ruiz and Mitscher Way. (2021, 2025 & 2050 Mitigation)			
AC	Miramar Rd from Mitscher Way to Black Mountain Rd	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 10.0**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Mitscher Way and Black Mountain Road. Install one (1) CCTV camera. (2021, 2025 & 2050 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2021)

Significantly Impacted Roadway Segment		Scenario Impacted			Recommended Mitigation Measure	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Funding Mechanism/ Project Responsibility
		2021	2025	2050				
AD	Miramar Rd from Black Mountain Rd to Kearny Villa Rd	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 11.0**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Black Mountain Road and Kearny Villa Road. (2021, 2025 & 2050 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2021)
AE	Miramar Rd from Kearny Villa Rd to Kearny Mesa Rd		X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 20.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Kearny Villa Road and Kearny Mesa Road. Install one (1) CCTV camera. (2025 & 2050 Mitigation)			Project Improvement: 100% (2025)
AJ	Camino Santa Fe from Carroll Canyon Rd to Trade St		X	X	***Significant & Unavoidable***			
AK	Camino Santa Fe from Trade St to Carroll Rd		X	X	***Significant & Unavoidable***			
AL	Camino Santa Fe from Carroll Rd to Miramar Rd		X	X	***Significant & Unavoidable***			

1 INTRODUCTION

This transportation impact analysis evaluates the traffic conditions associated with the proposed 3Roots project (herein referred to as "the project") located in Carroll Canyon Master Plan area of the Mira Mesa Community within the City of San Diego, CA.

1.1 PROJECT DESCRIPTION

The 413-acre 3Roots project site is located east of Camino Santa Fe between Flanders Drive and Trade Street. The project site is a former rock quarry previously operated by Hanson Aggregates. In 2017, the land and reclamation obligation transferred to Mesa Canyon Community Partners (MCCP).

Development of the proposed project includes:

- 1,800 residential units,
- 136,700 square feet of retail use,
- 23,460 square feet of office,
- a 25-acre active park, and
- a 1.5-acre Mobility Hub that will function as a centralized space for public and private transit options.

At project buildout, the 1,800 residential units will consist of the following residential types:

- 643 condominiums (low-density attached);
- 609 apartments (high-density attached); and
- 548 single-family detached units.

The commercial retail/office component of the project of 160,000 square feet would include 86,400 square feet food and beverage offerings such as fast casual restaurants, quality dining, breweries, cafes, and on-site craft foods. At the time this report was prepared, the specific uses within the food and beverage designation had not been determined. However, trips associated with this use were evaluated based on the highest trips rate for restaurant use in order to provide a conservative estimate of trips associated with this. It should be noted that fast food restaurants are not included and are not being considered within this land use designation. Once the specific uses are identified within the food and beverage category are determined, the property owner will submit to the City a trip generation letter to ensure that the trips associated with the proposed use are equal to or less than the trips evaluated in this transportation impact analysis report.

Other commercial uses include 20,700 square feet of neighborhood commercial retail, 16,000 square feet of ground floor/live-work retail, 9,600 square feet of service (specialty) retail, and 23,460 square feet of office with a co-working concept that could offer services such as shipping, printing, conference rooms, and tele-meeting options. The future Mobility Hub will also include 4,000 square feet of commercial space.

The project will take access from the existing signalized intersections of Camino Santa Fe/Miratech Drive, Camino Santa Fe/Summers Ridge Drive, and Camino Santa Fe/Carroll Canyon Road. Future access to the site will also be provided from the existing signalized intersection of Camino Ruiz/Carroll Canyon Road following completion of the Carroll Canyon Road extension through the project site. In addition, new project intersections will be constructed along the future segment of Carroll Canyon Road east of Camino Santa Fe. A total of four new signalized intersections are planned along this corridor to provide pedestrian, bicycle and auto access across Carroll Canyon Road from the project site.

Figure 1-1 illustrates the proposed project land use plan, and **Figure 1-2** illustrates the project site plan.

3 Roots TIA

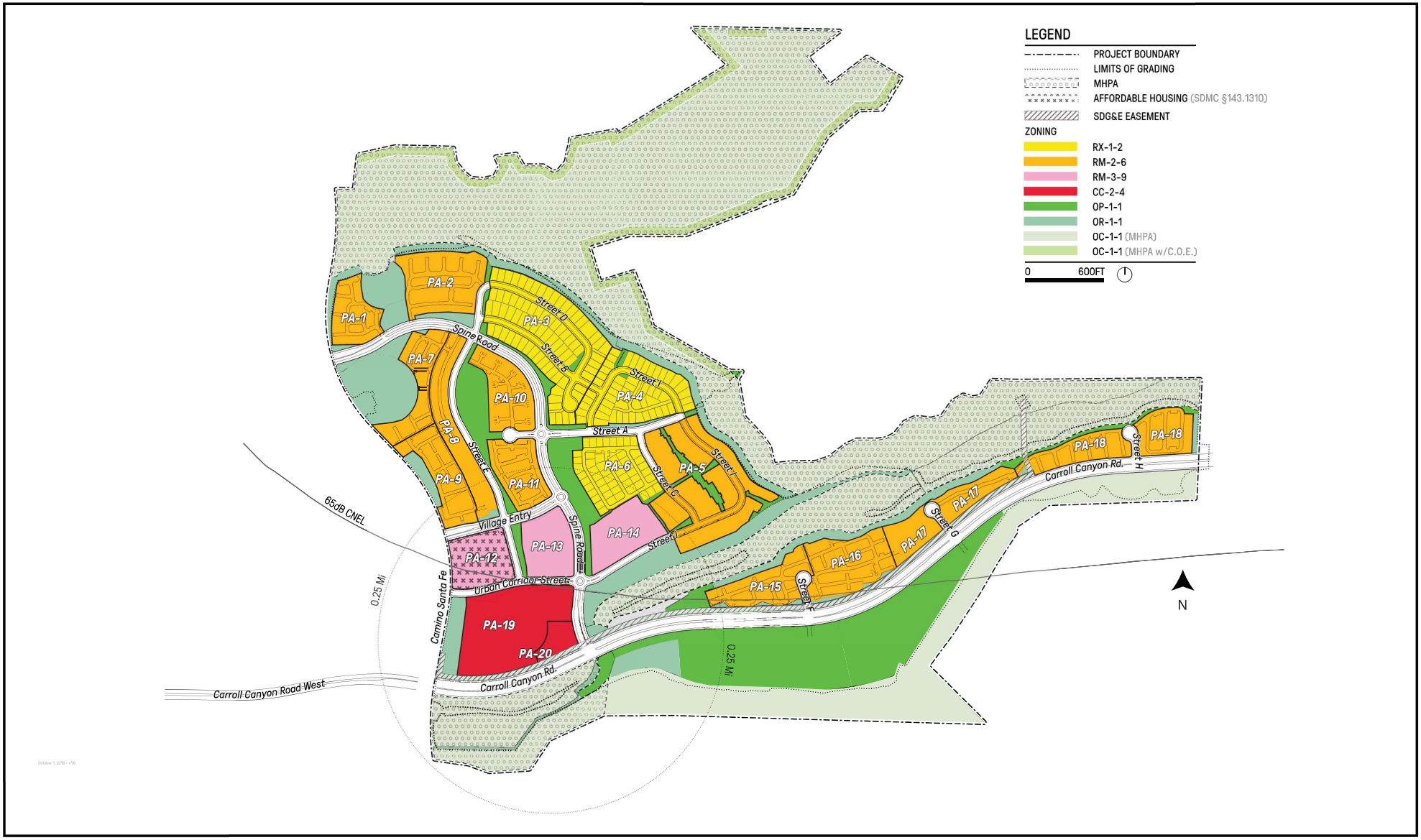

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Figure 1-1
Project Land Use Plan

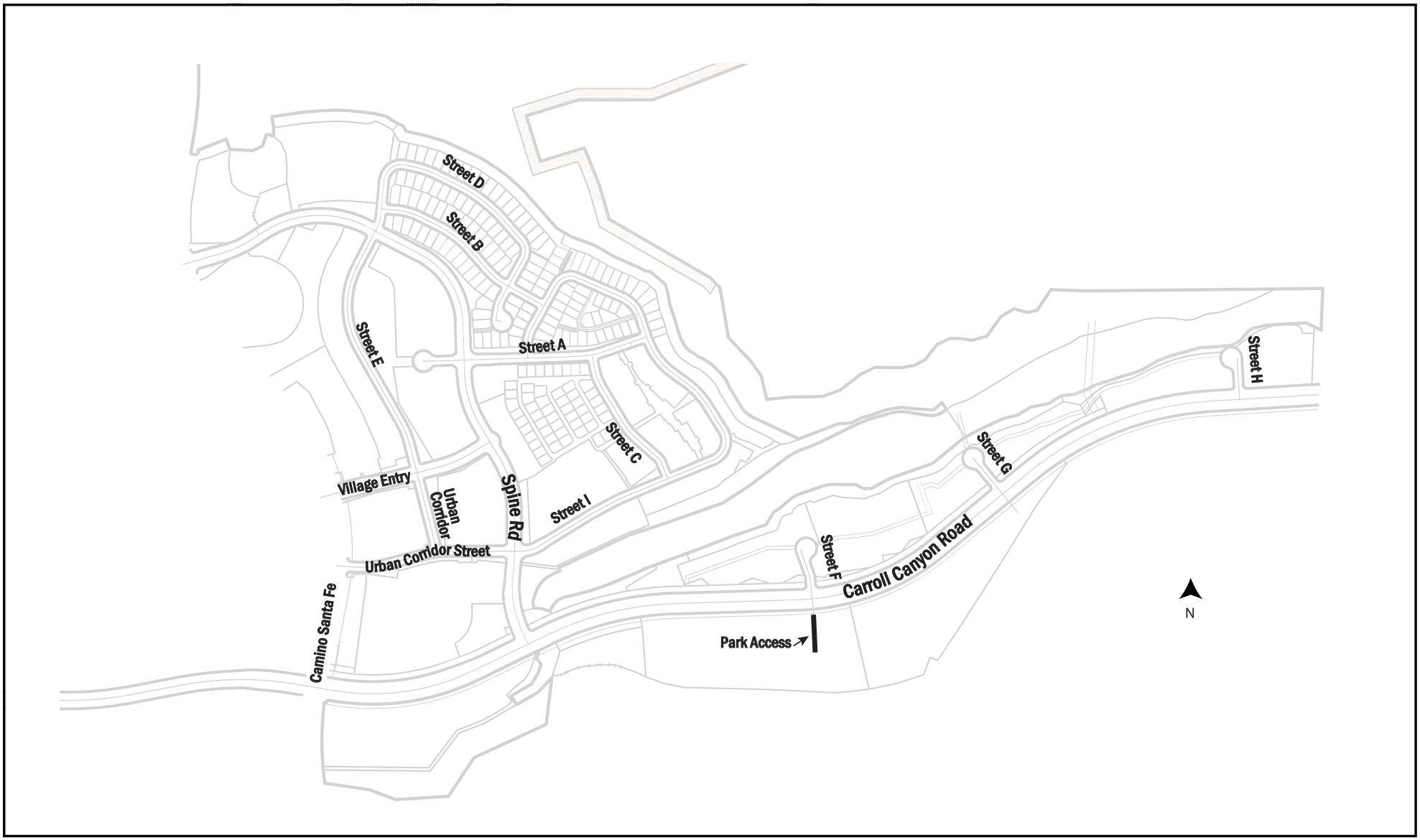

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Figure 1-2
Project Site Plan

Phase 1

The project will be developed in two phases. Phase 1, which is expected to be completed by the year 2021, proposes to construct 1,437 residential units and 16,000 square feet of ground floor retail. Phase 1 would consist of the following residential and retail types:

- 393 condominiums (low-density attached);
- 609 apartments (high-density attached);
- 435 single-family detached units; and
- 16,000 square-foot of ground floor retail.

Phase 2

Phase 2 (project buildout), which is expected to be completed by the year 2025, will construct:

- 113 single family dwelling units,
- 250 attached condominiums,
- 86,400 square-feet of food/beverage uses,
- 30,300 square-feet of commercial retail use,
- 23,460 square-feet of office use, and
- 4,000 square-feet of mobility hub commercial.

Carroll Canyon Road

The project will construct the extension of Carroll Canyon Road through the project site as a 6-lane Primary Arterial in Phase 2. The existing segment of Carroll Canyon Road from one half-mile west of Camino Ruiz to Camino Ruiz was built to 6-lane Primary Arterial standards but is currently striped with 4 lanes. The Phase 2 project will also restripe Carroll Canyon Road from one half-mile west of Camino Ruiz to Camino Ruiz to provide a total of 6 travel lanes.

The project will also construct a segment of Carroll Canyon Road west of Camino Santa Fe as a four-lane Major to the western boundary of the existing Fenton Technology Park in Phase 2. However, this segment of Carroll Canyon Road will not carry any vehicular traffic until the City's PFFP Project T-5A to construct Carroll Canyon Road from Carroll Road to the Fenton Technology Park western boundary is completed.

Future Transit

MTS currently operates route 237, Rapid Service, along Mira Mesa Boulevard and provides east-west connectivity to the north of the project site. The Mira Mesa Community Plan contemplated light rail transit (LRT) along the future Carroll Canyon Road and the 1994 Carroll Canyon Master Plan states: "If an LRT line is approved for the Carroll Canyon area, a transit station would be developed within the mixed-use area. If an LRT line is not approved for this area, it is anticipated that this area would be used for a bus station." SANDAG removed the LRT line from Carroll Canyon Road as part of San Diego Forward: The Regional Plan in 2016. However, in consultation with MTS and SANDAG, the applicant was requested to include an area that could be used as right of way for a potential Bus Rapid Transit (BRT) route along Carroll Canyon Road, so as not to preclude a potential BRT route in the future.

Right of way for a future BRT route has been reserved with an Irrevocable Offer to Dedicate (IOD) should SANDAG determine that a route along Carroll Canyon Road is needed. SANDAG has indicated the future route would generally follow Carroll Canyon Road from I-805 through the project site to Camino Ruiz and then east toward Black Mountain Road. However, as noted above, the exact alignment of this future route not been identified and does not exist in approved SANDAG planning documents. SANDAG has indicated that there is currently no funding identified for this or any other potential transit (such as BRT) along Carroll Canyon Road; nor is there any funding to relocate the Mira Mesa Boulevard bus route southward to Carroll Canyon Road.

Based on guidance from SANDAG, the preferred alignment of the future BRT is along the center of Carroll Canyon Road within the raised median area. The 3Roots project will provide an IOD on the south side of the future Carroll Canyon Road throughout the Carroll Canyon Road alignment in order to accommodate the future ROW necessary to implement the BRT. 3Roots will construct Carroll Canyon Road from Camino Santa Fe to its existing terminus at eastern boundary to a six-lane roadway with a 26-foot raised, landscaped median inclusive of the left turn lanes at the signalized intersections and Class I bike paths on the north and south sides of the roadway. The 3Roots project would also provide additional IOD's on both the north and south side of the street to accommodate a future transit stop on the west side of the future signalized intersection of Carroll Canyon Road / Spine Road.

1.2 STUDY AREA

This transportation impact study addresses potential operational impacts that could result from the addition of the project traffic to the local circulation system. The study area contains intersections and roadway segments that could be significantly impacted by the project traffic. The extents of the project study area include Mira Mesa Boulevard to the north, Miramar Road to the south, Interstate 15 to the east, and Genesee Avenue to the west. **Figure 1-3** illustrates the location of the project and the project study area.

As shown in Figure 1-3, a total of 50 intersections are analyzed in this transportation impact analysis. The study area includes 45 existing roadway segments on Mira Mesa Boulevard, Flanders Drive, Carroll Canyon Road, Carroll Road, Eastgate Mall, La Jolla Village Drive, Nobel Drive, Miramar Road, Camino Santa Fe, Camino Ruiz and Kearny Villa Road. A total of 46 roadway segments are included under Near Term Year 2025 With Project Buildout conditions, and a total of 48 roadway segments are included under Horizon Year 2050 conditions.

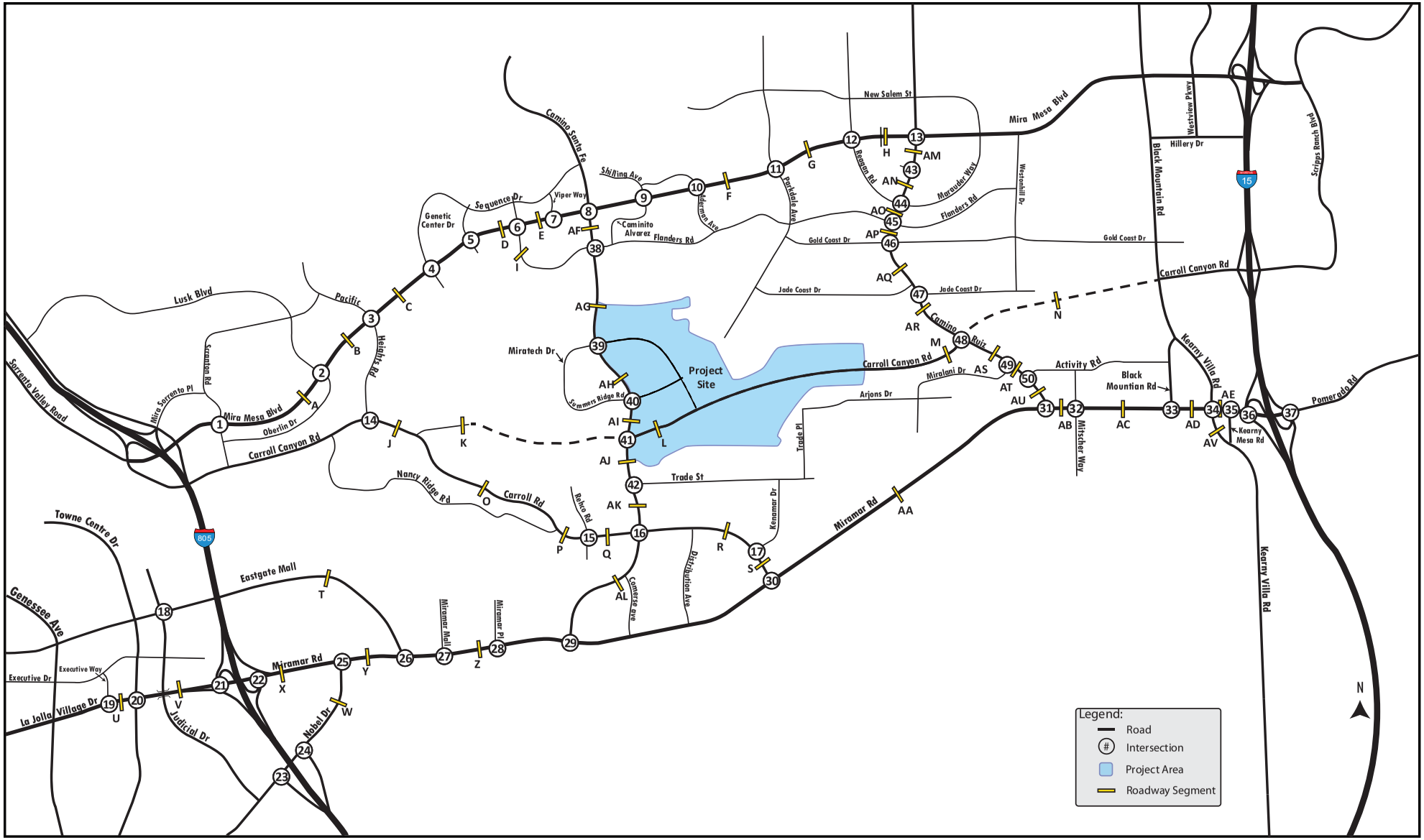

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Figure 1-3
Project Location and Study Area

2 ANALYSIS APPROACH AND METHODOLOGY

This section summarizes the analysis approach and methodology used to evaluate the intersections and roadway segments in the study area, including the project driveways. The analysis is consistent with the City of San Diego Traffic Impact Study Manual (July 1998) and the City's Significance Determination Thresholds (January 2016).

2.1 ANALYSIS SCENARIOS

The following scenarios were evaluated in this traffic impact analysis:

- **Existing Conditions (2017):** This scenario reflects the conditions on the ground at the time the traffic volume data was obtained (Wednesday, February 8, 2017; Wednesday May 17, 2017; and Thursday, June 1, 2017).
- **Existing Plus Phase 1 Project:** This scenario reflects existing conditions with the addition of traffic from the proposed Phase 1 project.
- **Existing Plus Project Buildout:** This scenario reflects existing conditions with the addition of project buildout traffic.
- **Near Term Year 2021 Without Project:** This scenario reflects the anticipated opening year of the Phase 1 Project in 2021 based on the forecast near-term growth of traffic in the Mira Mesa community. This growth includes additional development within the adjacent Fenton Technology Park and Phase I of the Stone Creek project. Near Term Year 2021 conditions without the project reflects the existing conditions roadway network.
- **Near Term Year 2021 With Phase 1 Project:** This scenario reflects the Near Term Year 2021 conditions with the addition of Phase 1 project traffic. Near Term Year 2021 conditions with the project reflects the existing conditions roadway network with the exception of modifications to the intersections that will provide access to the project site.
- **Near Term Year 2025 Baseline With Phase 1 Project:** This scenario reflects the forecast near-term growth of traffic in the Mira Mesa community plus traffic by the year 2025 plus traffic generated by the Phase 1 project. Near Term Year 2025 Baseline With Phase 1 Project conditions reflects the existing conditions roadway network.
- **Near Term Year 2025 With Project Buildout:** This scenario reflects the Near Term Year 2025 conditions with the addition of the Phase 2 project traffic and diverted non-project traffic associated with the project's construction of the Carroll Canyon Road extension from Camino Santa Fe to Camino Ruiz.
- **Horizon Year 2050 Without Project:** This scenario reflects the future land uses and roadway network expected to be fully funded and constructed by the year 2050. The Series 12 2050 model run conducted for this project includes the land uses associated with the nearby Vulcan Stone Creek project and the completion of the Carroll Canyon Road roadway extension between I-5 and I-15 According to the 2016 Mira Mesa Public Facilities Financing Plan Project T-5A, Carroll Canyon Road from Carroll Road to Camino Santa Fe is to be completed within the same time frame as the other segments of Carroll Canyon Road (T-5B and T-5C). The estimated cost to construct the project is $8.18 million, which is schedule as part of the FBA-MM funding source for Fiscal Year 2023 ($2M) and Fiscal year 2024 ($6.18M). Project T-5C extends through the Vulcan Stone Creek project is anticipated to be fully funded completed with that project. With the completion of Carroll Canyon Road, it is assumed that a high frequency transit line is operational by 2050 along Carroll Canyon Road and will serve the project site.
- **Horizon Year 2050 With Project:** This scenario reflects Horizon Year 2050 conditions with the addition of project buildout traffic.

2.2 METHODOLOGY

Intersection Analysis

Levels of service (LOS) were determined at the study area intersections for the AM and PM peak hours. The AM intersection analysis evaluates LOS during the hour with the highest vehicular traffic between 7:00 AM and 9:00 AM. The PM intersection analysis evaluates LOS during the hour with the highest vehicular traffic between 4:00 PM and 6:00 PM.

The computerized analysis of signalized and unsignalized intersection operations was performed utilizing the *Synchro 9.1* traffic analysis software. The signalized intersection analysis conforms to the operational analysis methodology outlined in Chapter 16 of the *2000 Highway Capacity Manual (HCM 2000), Transportation Research Board Special Report 209*. The HCM 2000 methodology relates the intersection Level of Service (LOS) to intersection control delay, in terms of seconds per vehicle (sec/veh). This methodology sets 1,900 passenger-cars per hour per lane (pcphpl) as the base (or ideal) saturation flow rate at signalized intersections, which is based on the minimum headway that can be sustained between departing vehicles at a signalized intersection.

Signal timing data and parameters such as cycle lengths, splits, clearance intervals, etc. were obtained from the current signal timing sheets provided by the City and incorporated into the Synchro model. Synchro reports delays, which correspond to a particular LOS, to describe the overall operation of an intersection.

The criteria for the LOS grade designations are provided in **Table 2-1**. LOS provides a quick overview of how well an intersection is performing. Within the City of San Diego, the acceptable level of service for both signalized and unsignalized intersections is LOS D or better.

TABLE 2-1: LOS CRITERIA FOR INTERSECTIONS

LOS	Control Delay (sec/veh)		Description
	Signalized Intersections	Unsignalized Intersections	
A	<10	<10	Operations with very low delay and most vehicles do not stop.
B	>10 and ≤20	>10 and ≤15	Operations with good progression but with some restricted movements.
C	>20 and ≤35	>15 and ≤25	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35 and ≤55	>25 and ≤35	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
E	>55 and ≤80	>35 and ≤50	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80	>50	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

Source: 2000 Highway Capacity Manual

Roadway Segment Analysis

The basis for roadway segment analysis is the ratio of daily volumes to LOS thresholds according to roadway classifications. The analysis results provide a planning-level assessment of whether a segment is under, approaching, or over capacity. **Table 2-2** presents the roadway segment capacity and LOS standards utilized by the City of San Diego.

TABLE 2-2: LOS CRITERIA FOR ROADWAY SEGMENTS

Street Classification	Level of Service (LOS)				
	A	B	C	D	E
Primary Arterial (8-lane)	< 30,000	< 40,000	< 59,000	< 65,000	< 70,000
Primary Arterial (7-lane)	< 27,000	< 38,000	< 54,000	< 60,000	< 65,000
Primary Arterial (6-lane)	< 25,000	< 35,000	< 50,000	< 55,000	< 60,000
Major (6-lane, divided)	< 20,000	< 28,000	< 40,000	< 45,000	< 50,000
Major (4-lane, divided)	< 15,000	< 21,000	< 30,000	< 35,000	< 40,000
Collector (4-lane)	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector (4-lane, no center lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane, continuous left-turn lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane, no fronting property)	< 4,000	< 5,500	< 7,500	< 9,000	< 10,000
Collector (2-lane, commercial/industrial fronting property)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Collector (2-lane, multi-family)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Collector (2-lane, single family)	--	--	< 2,200	--	--

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic.

Source: City of San Diego Traffic Impact Study Manual, Table 2, Page 8, July 1998.

Arterial Analysis

If a project impact is forecast to result in a V/C greater than 0.02 for a segment operation at LOS E without the project or greater than 0.01 for a segment operating at LOS F without the project, and the segment is built to its ultimate classification, an alternative analysis can be provided to assess segment impacts under CEQA.

The alternative analysis determines whether the intersections at the end of the segment are calculated to operate at acceptable levels of service and if the peak hour Highway Capacity Manual (HCM) arterial analysis for the same segments shows that the segment operates acceptably. If these two criteria are met, then the project impacts are determined to be less than significant and no mitigation is required.

The HCM peak hour arterial analysis evaluates LOS based on arterial speed and urban street class, defined by the 2000 HCM. There are four urban street classifications, defined by number in the HCM:

- High Speed Principal Arterial – Typically four or more lanes, divided, no on-street parking with signals spaced no closer than one every 0.5 miles. Speed limits range from 45-55 mph.
- Suburban Principal Arterial – Typically four or more lanes, divided, no on-street parking with signals spaced no closer than one every mile. Speed limits range from 40-45 mph.
- Intermediate Minor Arterial – Typically two lanes with some on-street parking. Traffic signals spaced no closer than one every five miles. Speed limits range from 30-45 mph.
- Urban Minor Arterial – Typically two lanes, undivided roadway with significant on-street parking. Traffic signals spaced at about one every six miles. Speed limits range from 25 to 35 mph.

Table 2-3 summarizes the urban street LOS by speed as published in the 2000 HCM. The Synchro software program was used to evaluate the peak hour arterial LOS where appropriate.

TABLE 2-3: HCM PEAK HOUR ARTERIAL LEVEL OF SERVICE CRITERIA

Urban Street Class	I	II	III	IV
Range of free flow speeds (FFS)	55 to 45 mi/h	45 to 35 mi/h	35 to 30 mi/h	35 to 25 mi/h
Typical FFS	50 mi/h	40 mi/h	35 mi/h	30 mi/h
LOS	Average Travel Speed (mi/h)			
A	> 42	> 35	> 30	> 25
B	> 34-42	> 28-35	> 24-30	> 19-25
C	> 27-34	> 22-28	> 18-24	> 13-19
D	> 21-27	> 17-22	> 14-18	> 9-13
E	> 16-21	> 13-17	> 10-14	> 7-9
F	≤ 16	≤ 13	≤ 10	≤ 7

Source: 2000 Highway Capacity Manual.

Freeway Analysis

The study freeway segments were evaluated based on the Caltrans District 11 method, which is based on the volume-to-capacity (v/c) ratios according to LOS thresholds and per lane capacity for each direction of travel during the peak hours. The peak hour capacity used in this analysis for the freeway mainline lanes is 2,350 vehicles per hour per lane. High Occupancy Vehicle (HOV) lanes were given a capacity of 1,680 vehicles per hour per lane, and auxiliary lanes were given a capacity of 1,200 vehicles per hour per lane. **Table 2-4** presents the freeway segment LOS criteria, which is based on the ratio of volume to capacity. According to the HCM 6th Edition, the base capacity for a freeway segment is 2,400 vehicles per hour per lane and is therefore less conservative than the lane capacity used in this analysis.

TABLE 2-4: FREEWAY SEGMENT LOS CRITERIA

LOS	Volume/Capacity
A	< 0.41
B	0.62
C	0.80
D	0.92
E	1.00
F	>1.00

Freeway Metered On-Ramp Analysis

The freeway metered on-ramp analysis was performed using the methodology provided in Appendix 2 of the *City of San Diego Traffic Impact Study Manual* (July 1998). As described in the *City of San Diego Traffic Impact Study Manual*, the following factors are used in evaluating ramp meter operations:

Demand: The peak hour demand expected to use the on-ramp.

Meter Flow Rate: The peak hour capacity expected to be processed through the ramp meter, using Caltrans most restrictive rate for each peak hour

Excess Demand: (Demand) – (Meter Flow Rate), or zero, whichever is greater.

Delay: (Excess Demand / Meter Flow Rate) X 60 minutes.

Queue: (Excess Demand) X 25 feet per vehicle.

According to the *City of San Diego Traffic Impact Study Manual*, ramp meter delays above 15 minutes are considered unacceptable.

Ramp meter rates were obtained from Caltrans District 11 staff, in which a range of discharge rates from least restrictive to most restrictive are provided in **Appendix A**. Field observations of ramp meter delays and queues were conducted to calibrate the ramp meter rates where applicable. Ramp meter rates were only calibrated where the observed delays and queuing during peak periods reflected a discharge rate that is higher than the most restrictive discharge rate.

Both single occupancy vehicle (SOV) and high occupancy vehicle (HOV) on-ramp lanes were evaluated for the ramp meter analysis. Recent on-ramp volumes for the SOV and HOV lanes on the study on-ramps were obtained by Caltrans, and these volumes were used to calculate the percentage of traffic in the SOV and HOV on-ramp lanes. These percentages were then applied to the intersection counts for the turning movements entering the on-ramp lanes onto the study area freeways.

Off Ramp Queue Analysis

The freeway off-ramp queue analysis was conducted to determine if the signalized intersections at the termination of the ramp causes the off-ramp queue length to impact the mainline traffic flow. The SYNCHRO software program was used to perform the queuing analysis, and the 95th percentile queue lengths are reported for each ramp junction. The lengths of the off-ramps were determined based on measurements taken over aerial photos (Google Earth).

2.3 SIGNIFICANCE CRITERIA

According to the *City of San Diego's Significance Determination Thresholds Report, dated January 2016*, a project is considered to have a significant impact if the new project traffic exceeds the thresholds summarized in **Table 2-5,** or takes a facility from acceptable LOS D to unacceptable LOS E or F. Project impacts are considered "direct" or "cumulative".

- **Direct traffic impacts** are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational, but which are anticipated to be operational at that time (near term).

- **Cumulative traffic impacts** are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when the affected community plan area reaches full planned build out (long-term cumulative).

For intersections and roadway segments affected by the project, LOS D or better is considered acceptable under both direct and cumulative conditions.

Significant impacts on freeway segments are forecast to occur if project traffic results in an increase in V/C of more than 0.01 for LOS E and more than 0.005 for LOS F.

A significant impact on a ramp meter occurs if delay is greater than 15 minutes, the adjacent freeway segment operates at LOS E or F, and if project traffic results in an increase in delay greater than 2 minutes.

TABLE 2-5: SUMMARY OF SIGNIFICANCE THRESHOLDS

LOS	Allowable Change Due to Project Impact					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (1) (minutes)
E (or ramp meter delays above 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
F (or ramp meter delays above 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

Source: City of San Diego's Significance Determination Thresholds Report, dated January 2016.

Note: The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway at LOS E is 2 minutes.

3 EXISTING CONDITIONS

This section describes the existing roadway network, including pedestrian and bicycle facilities and transit service. Peak hour and daily traffic volumes, and operations at the study area intersections are also provided in this section.

3.1 ROADWAY NETWORK

Mira Mesa Boulevard runs east-west through the project study area and is currently built to its ultimate classification as a 6-lane Primary Arterial between Scranton Road and Camino Santa Fe. East of Camino Santa Fe to Camino Ruiz, Mira Mesa Boulevard currently functions as a 6-lane Major due to the multiple driveways along the corridor, but is classified as a 6-lane Primary Arterial. Generally, 3 lanes of travel are provided in each direction, but west of Scranton Road, Mira Mesa Boulevard transitions to five lanes in the westbound direction and four lanes in the eastbound direction. Parking is prohibited on both sides of the roadway and the posted speed limit is 50 miles per hour (mph), but is reduced to 45 mph west of Scranton Road.

From I-805 to Scranton Road, there are no existing bicycle facilities on either side of Mira Mesa Boulevard. East of Scranton Road, a combination of buffered and unbuffered Class II bike lanes are provided on both sides of Mira Mesa Boulevard up to Parkdale Avenue. The bicycle lanes end approximately 400 feet west of Parkdale Avenue. From Parkdale Avenue east to Reagan Road, there are no bicycle facilities. From Reagan Road West to Camino Ruiz there are Class II bicycle lanes (no buffer).

Miramar Road runs east-west through the project study area and is built to its ultimate classification as an 8-lane Primary Arterial from I-805 to Nobel Drive. Miramar Road from Nobel Drive to Eastgate Mall is classified as an 8-lane Primary Arterial but is currently built with 7 lanes (4 westbound and 3 eastbound). Miramar Road is classified as a 6-lane Primary Arterial from Eastgate Mall to Camino Santa Fe and also from Camino Ruiz to I-15, but these segments currently function as a 6-lane modified Major due to the multiple driveways and lack of raised median along sections of the roadway. Miramar Road between Camino Santa Fe and Camino Ruiz is classified as a 6-lane Major, but it currently functions as a 6-lane modified Major due to the lack of raised median along sections of roadway. Parking is prohibited on both sides of the roadway and the posted speed limit is 50 mph.

Class II bike lanes are provided along the south side of Miramar Road between I-805 and I-15. There are gaps in the Class II facility on the south side of the street between Camino Ruiz and Mitscher Way (bicycle lane drops to Class III facility approaching Mitshcer Way), between Padgett Street and Black Mountain Road (bicycle lane drops to Class II facility midblock), and from Black Mountain Road to I-15 (Class III and a striped shoulder are provided). On the north side of Miramar Road, a Class II bicycle lane is also provided. The bicycle lane is continuous from I-805 to Eastgate Mall. East of Eastgate Mall, there are several gaps in the Class II facility:

- Eastgate Mall to Miramar Mall – Class II drops east of Eastgate Mall to provide right turn lane
- Carroll Road to Empire Street – Class II drops east of Carroll Road to provide right turn lane
- Camino Ruiz to Mitscher Way – No Bicycle Facility
- Mitscher Way to Padgett – 400-foot Class II facility west of Padgett drops to travel lane up to Mitscher Way

Flanders Drive is currently built as a 4-lane Collector between Mira Mesa Boulevard and Camino Santa Fe and as a 4-lane Major from Camino Santa Fe and Caminito Alvarez and as a 2-lane Collector from Caminito Alvarez to the east terminus of the road. The street is built to its ultimate classification. The street runs east-west through the study area. Between Mira Mesa Boulevard and Camino Santa Fe, parking is prohibited on both sides of the roadway and the posted speed limit is 40 mph. Class II bike lanes are provided on both sides of Flanders Drive. Flanders Drive is a Class III bike route between Caminito Alvarez and Parkdale Avenue.

Eastgate Mall is classified as a 4-lane Collector in the Community Plan but is currently built as a 2-lane Collector (with two-way left turn lane) between Judicial Drive and Miramar Road. The North University City Public Facility Financing Program (2013) indicates that a portion of NUC-34 (Eastgate Mall – Miramar Road to SDG&E Easement) is partially

complete, which would widen Eastgate Mall to a 4-lane Collector Street between Miramar Road and the SDG&E Easement. However, this project is on hold pending project approval and property acquisition from the Department of the Navy. As the timing of this approval and acquisition is uncertain, it is assumed that the NUC-34 project will remain incomplete through year 2050.

Parking is allowed on both sides of the roadway east of the overpass with the 805 Freeway and prohibited on both sides of the street west of the 805 freeway. The posted speed limit is 45 mph. Class II bike lanes are provided on both sides of the street between Judicial Drive and North City Terrace and between Eastgate Drive and Olson Drive. There are no bike facilities provided for other parts of the segment within the study area.

Carroll Road is currently built as a 2-lane Collector with a center turn lane and buffered bicycle lanes between Fenton Road and Camino Santa Fe. East of Camino Santa Fe to Kenamar Drive, Carroll Road continues as a 2-lane Collector with on-street parking. Bicycle lanes are not provided through this section. East of Kenmar Drive, Carroll Road widens to a 3-lane/4-lane Collector between Kenamar Drive and Miramar Road. Carroll Road generally runs east-west through the study area. Carroll Road is a Class III bike route between Camino Santa Fe and Miramar Road. According to the Mira Mesa Community Plan, the ultimate classification for Carroll Road between Nancy Ridge Road and Miramar Road is a 4-lane Collector. The posted speed limit is 45 mph between Fenton Road and Nancy Ridge Road and 35 mph between Nancy Ridge Road and Miramar Road

La Jolla Village Drive is currently built as a 6-lane Primary Arterial between Executive Way and Towne Center Drive and an 8-lane Primary Arterial between Towne Center Drive and the I-805 SB On and Off Ramps. The street is built to its ultimate classification. East of the I-805 805 SB Off ramp, La Jolla Village Drive transitions to Miramar Road. La Jolla Village Drive does not intersect with Judicial Drive but crosses over it. On-street parking is prohibited on both sides of the roadway east of Executive Way and the posted speed limit is 50 mph. Class II bike lanes are provided on the north side of La Jolla Village Drive between Judicial Drive and the 805 freeway. There are no bike facilities provided between Judicial Drive and Executive Way.

Nobel Drive is currently built as a 4-lane Major between the I-805 Off Ramps and Miramar Road. The street is built to its ultimate classification. Parking is prohibited on both sides of the roadway and the posted speed limit is 50 mph. Class II bike lanes are provided on both sides of the street between the 805 freeway and Miramar Road.

Camino Santa Fe is currently built to its ultimate street classification as a 4-lane Major between Calle Cristobal and Mira Mesa Boulevard, as a 6-lane Major between Mira Mesa Boulevard and Flanders Drive, and as a 6-lane Primary Arterial between Flanders Drive and Carroll Canyon Road. Camino Santa Fe was recently restriped from 6 lanes to 4 lanes with buffered Class II bike lanes from Carroll Canyon Road to Carroll Road, and currently functions as a 4-lane Major. The road diet was implemented based on the Series 12 2035 forecast ADT volume on Camino Santa Fe between Trade Street and Carroll Road, which showed that the segment would operate at an acceptable LOS D in 2035 with reduction to 4 lanes. A fact sheet published by the City of San Diego for the Camino Santa Fe road diet is provided in **Appendix B**.

Camino Santa Fe is currently built as a 4-lane Major from Carroll Road to Spectrum Lane and is currently built as a 6-lane Major from Spectrum Lane to Miramar Road. There are no bike facilities provided on either side of the roadway between Carroll Road and Miramar Road. Camino Santa Fe has an ultimate street classification as a 6-lane Primary Arterial between Carroll Canyon Road and Miramar Road.

Camino Ruiz is currently built as a 4-lane Major between Calle Cristobal and Miramar Road and generally runs north-south through the study area. According to the Mira Mesa Community Plan, the ultimate classification for Camino Ruiz is 4-lane Major from Calle Cristobal to Gold Coast Drive and 6-lane Major from Gold Coast Drive to Miramar Road. In its current configuration, parking is allowed on both sides of the roadway and the posted speed limit is 35 mph. Class II bike lanes are intermittent between Calle Cristobal and Miramar Road.

Carroll Canyon Road is discontinuous from I-805 to I-15, however the Mira Mesa Community Plan identifies Carroll Canyon Road as a continuous east-west roadway through the community. The following describes the existing condition and Community Plan classification for each segment of Carroll Canyon Road:

Segment	Existing Functional Classification	Community Plan Classification
Sorrento Valley to Nancy Ridge Road:	4 Lane Collector	4 Lane Major
Nancy Ridge to Fenton Road:	2 Lane Collector / Divided	4 Lane Major
Fenton Road to Camino Santa Fe:	Does Not Exist	4 Lane Major
Camino Santa Fe to Camino Ruiz:	Partially Constructed, 4 Lane Major	6 Lane Primary
Camino Ruiz to Black Mountain:	Does Not Exist	6 Lane Major
Black Mountain to Scripps Ranch Boulevard:	4 Lane Collector	4 Lane Major

Each of the missing segments of Carroll Canyon Road are included in the Miramar Public Facilities Financing Plan. The 3Roots project will be responsible for constructing the segment of Carroll Canyon Road from Camino Santa Fe to the project's eastern boundary and a portion of Carroll Canyon Road west of Camino Santa Fe along the Fenton Technology Park. Class II bike lanes are provided along existing segments of Carroll Canyon Road, specifically between Pacific Heights Boulevard and Carroll Road and along the 2,700-foot segment west of Camino Ruiz.

Kearny Villa Road functions as a 4-lane Major between Miramar Road and Kearny Mesa Road. According to the Mira Mesa Community Plan, the ultimate classification of Kearny Villa Road is a 6-lane Major. Parking is prohibited on both sides of the roadway and the posted speed limit is 45 mph. Class II bike lanes are provided on both sides of the street between Miramar Road and Kearny Mesa Road.

Interstate 805 (I-805) has four lanes plus auxiliary lanes and high occupancy vehicle (HOV) lanes in both the northbound and southbound direction between Nobel Drive and Mira Mesa Boulevard. Interchanges within the study area include Nobel Drive, Miramar Road/La Jolla Village Drive and Mira Mesa Boulevard. There are direct access on and off ramps to the HOV lanes for both the northbound and southbound direction from Carroll Canyon Road. SANDAG has identified improvements to the I-805 North corridor (SR-52 to Mira Mesa Boulevard) that will occur in 5 stages. Stage 1 was completed in 2016 and included the direct access ramp to Carroll Canyon Road and one HOV lane in each direction as described previously. Stages 2 through 4 will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Because the existing median cannot accommodate the second carpool lane, the outside lanes will be widened. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. Stage 5 will construct a direct freeway to freeway HOV connector in the median, from westbound SR 52 to northbound I-805 and southbound I-805 to eastbound SR 52, which will also accommodate travel in the reverse direction.

Interstate 15 (I-15) has five to seven through lanes plus auxiliary lanes in each direction between Miramar Road and Mercy Road through the study area. Interchanges within the study area include Miramar Road, Miramar Way, Carroll Canyon Road, Mira Mesa Boulevard and Mercy Road. In addition, there are two managed lanes in each direction. The I-15 Corridor Express Lanes extend from north of the SR-52 to the SR-78 interchange. The four express lanes can be controlled by a moveable barrier during peak hours. Through the study area, there are direct access ramps at Hillery Drive, which connects to the Miramar College Transit Station. There are also intermediate access points into the managed lanes near Miramar Way and north of Miramar Road.

The Circulation Element roadway network maps from the Mira Mesa and North University Community Plans are provided in **Appendix C**.

Figure 3-1 illustrates the existing lane geometrics at the study intersections. The existing study roadway segment classifications within the study area are shown in **Figure 3-2**. The existing freeway segments are addressed in Section 3.7 of this report.

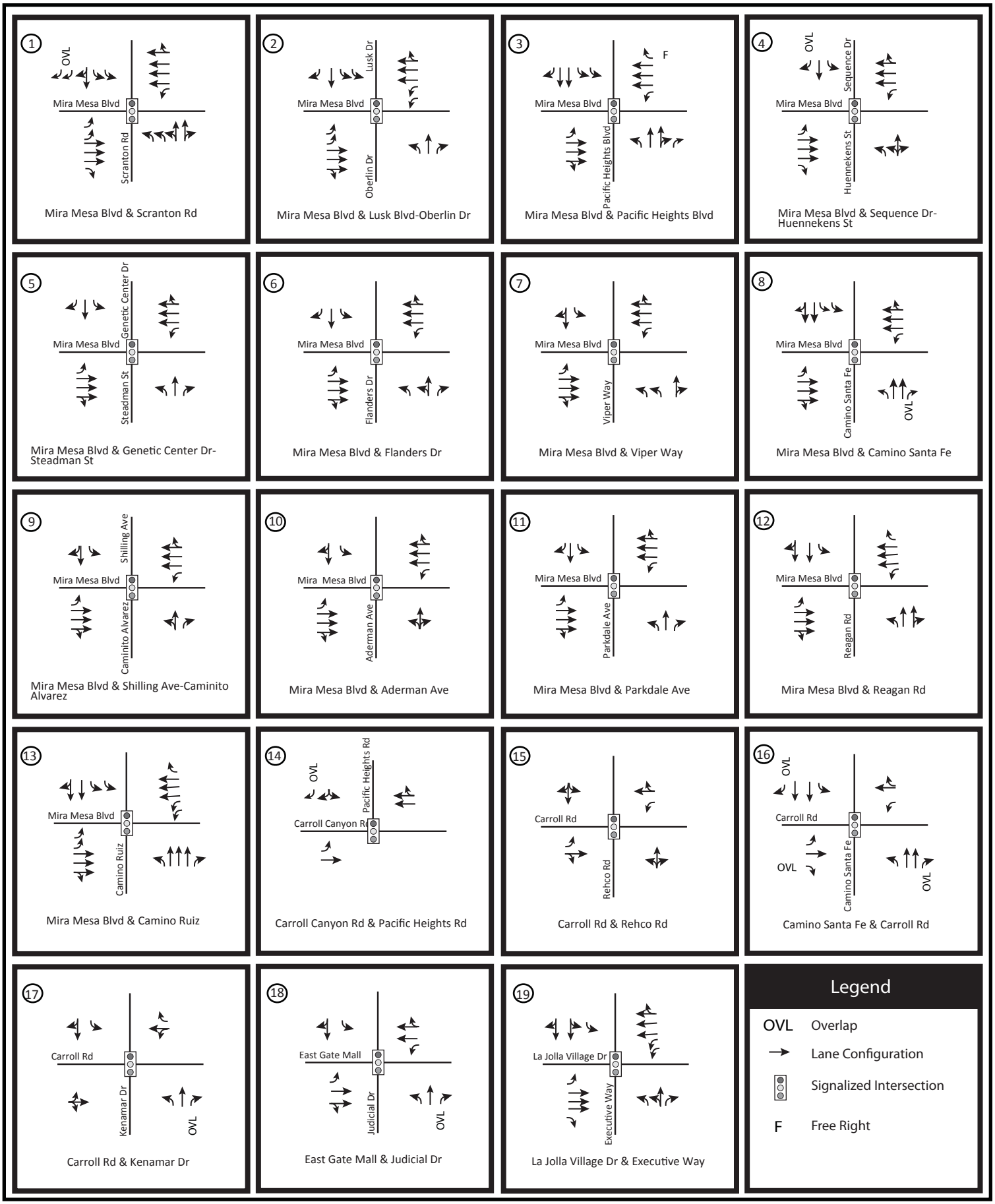

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Figure 3-1a
Existing Intersection Lane Geometries

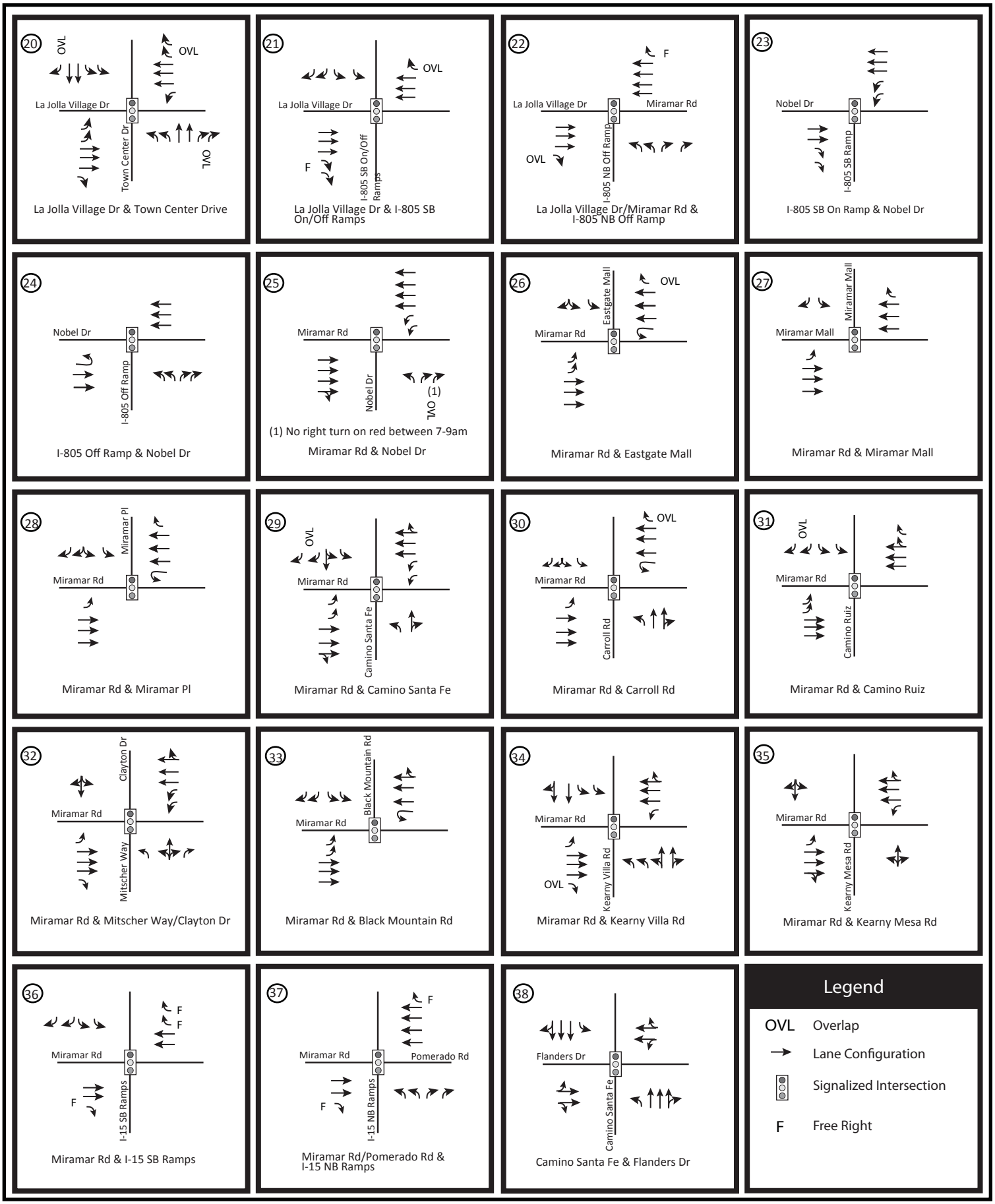

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Figure 3-1b
Existing Intersection Lane Geometries

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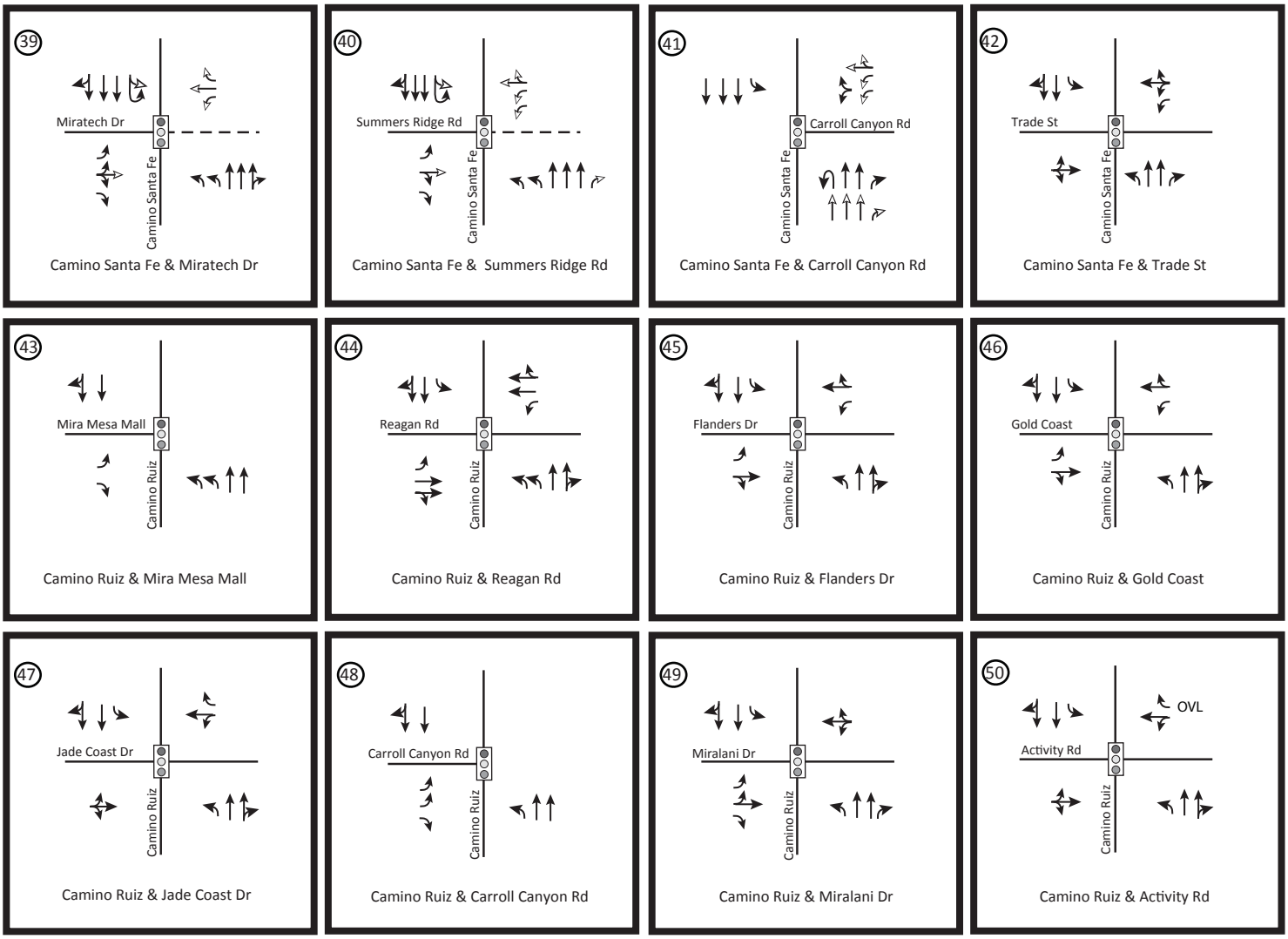

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Figure 3-1c
Existing Intersection Lane Geometries

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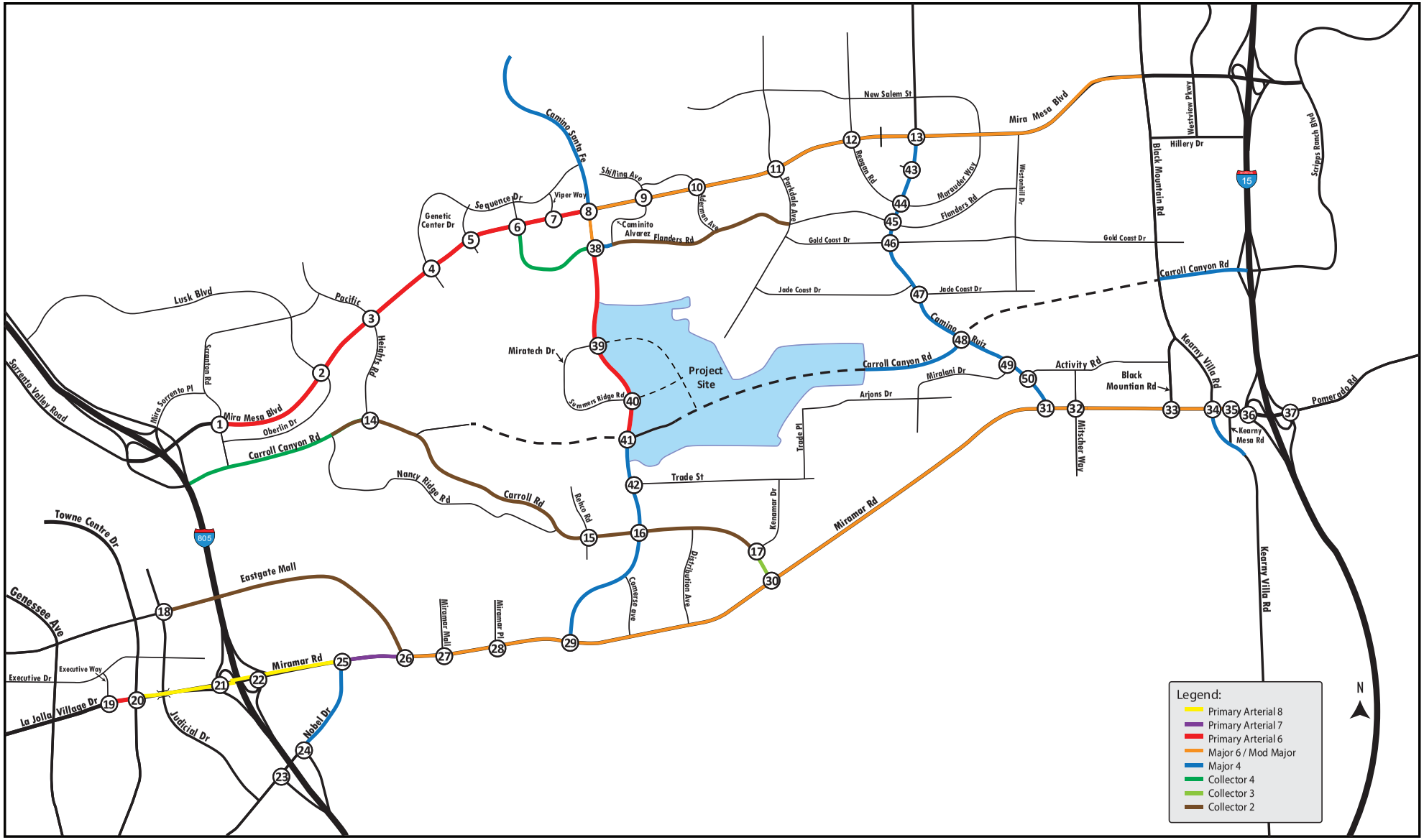

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Figure 3-2
Existing Roadway Segment Classifications

3.2 TRANSIT SERVICE

Metropolitan Transit System (MTS) of San Diego provides service between the UTC Transit Center, the Sorrento Valley COASTER Station and the Miramar College Transit Station. The following routes operate along roads within the study area:

- **Route 20** runs from the Rancho Bernardo Transit Station and Downtown San Diego along Carmel Mountain Road/Black Mountain Road/Kearny Villa Road and the 163 freeway. Weekday operating hours are between 5:00 AM and 10:30 PM with generally 30-minute headways. Weekend operating hours are generally between 6:00 AM and 8:30 PM with 30-minute headways.

- **Route 31** runs from the UTC Transit Center to the Miramar College Transit Center along Miramar Road on weekdays between 5:35-9:45 AM and from 2:10-7:00 PM. In general, the bus runs on 30-minute headways along the route.

- **Route 110** runs from Downtown San Diego to the intersection of Camino Santa Fe and Flanders Drive during the weekday AM (6:00-8:00AM) and PM (4:00-6:00PM) peak hours only. Headway times are approximately 20 to 30 minutes.

- **Route 237** runs on weekdays from UCSD to the Rancho Bernardo Transit Station along La Jolla Village Drive and Mira Mesa Boulevard. Service is provided during the AM (5:45-10:15AM) and PM (2:45-8:40PM) peak periods. Although headways range through the day, the peak hour headways are 15-30 minutes.

- **Route 921** runs from the UTC Transit Center to the Miramar College Transit Center along Mira Mesa Boulevard on both weekdays and weekend. Service is provided from 6:00AM until 7:30PM on weekdays, with 30 minute headways. On the weekends, service is provided from 7:00AM until 8:00PM with 30 minute to 1 hour headways throughout the day.

- **Route 964** runs between Camino Village and Alliant University along Camino Ruiz/Gold Coast Drive/Black Mountain Road and Mira Mesa Boulevard on weekdays only between the hours of 6:00 AM and 8:15 PM, with a headway of 30 minutes.

- **Route 973** runs between the Sorrento Valley COASTER station and the intersection of Nancy Ridge Drive and Carroll Road on weekdays between 6:30-8:51 AM and 3:30-6:41 PM. Five buses run in the morning peak and five buses run in the evening peak, all which are coordinated with the arrival of the Coaster at the Sorrento Valley Coaster Station.

Route maps for the above MTS Routes in the study area are illustrated in **Figure 3-3**.

There are currently no transit bus stops located within a reasonable walking distance of the project site (one quarter-mile). The nearest transit stops are at Camino Santa Fe and Flanders Drive (Route 110), Carroll Road and Nancy Ridge Drive (Route 973) and Camino Santa Fe and Miramar Road (Route 31).

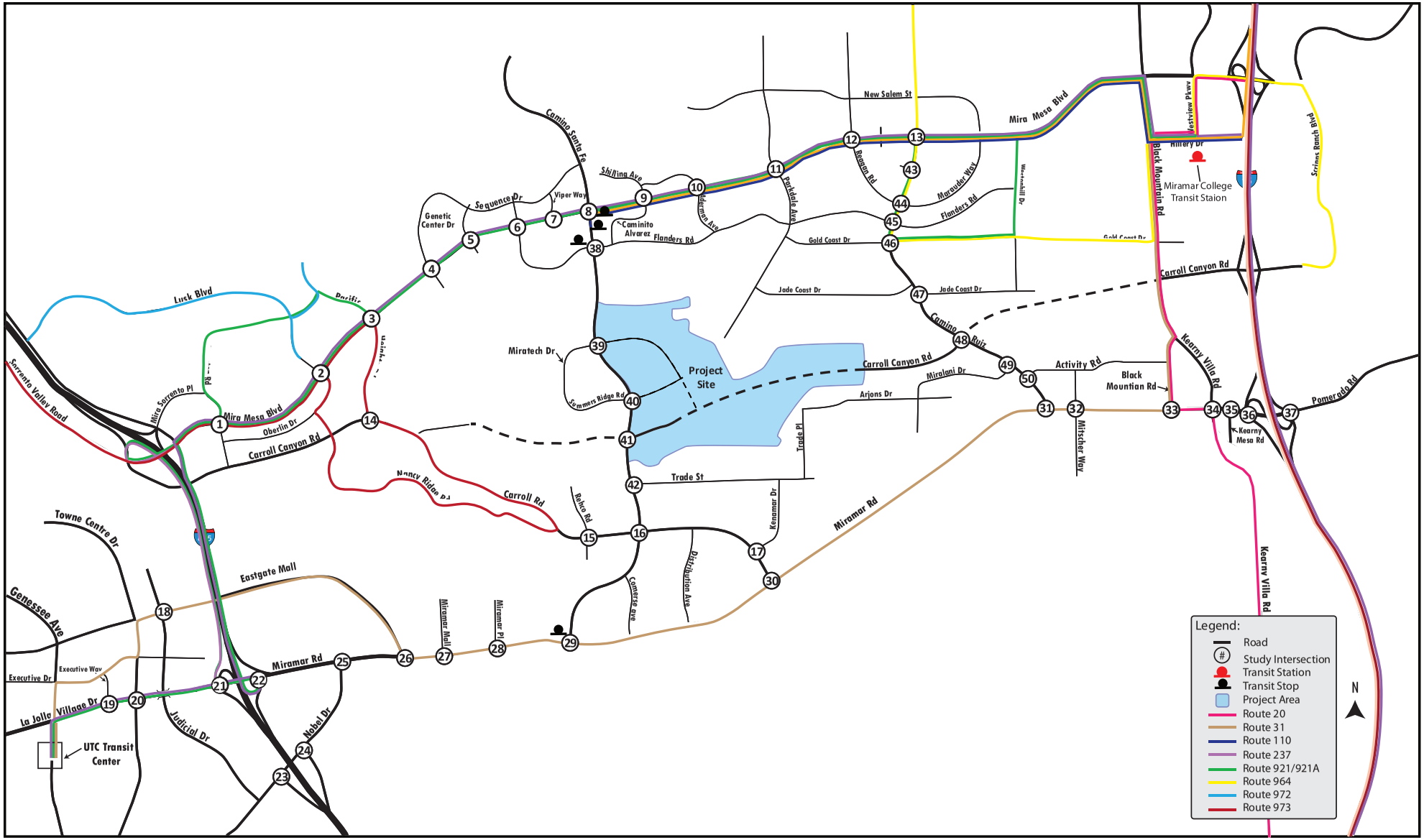

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Figure 3-3

Existing Study Area Transit Bus Routes

3.3 PEDESTRIAN AND BICYCLE ACCESS

The project was previously a rock quarry. Carroll Canyon Road is paved for approximately 1,500 feet east of Camino Santa Fe, but is a private road for the rock quarry and public access is not allowed. No pedestrian facilities or bicycle facilities are provided on this 1,500 foot segment of roadway going into the project site.

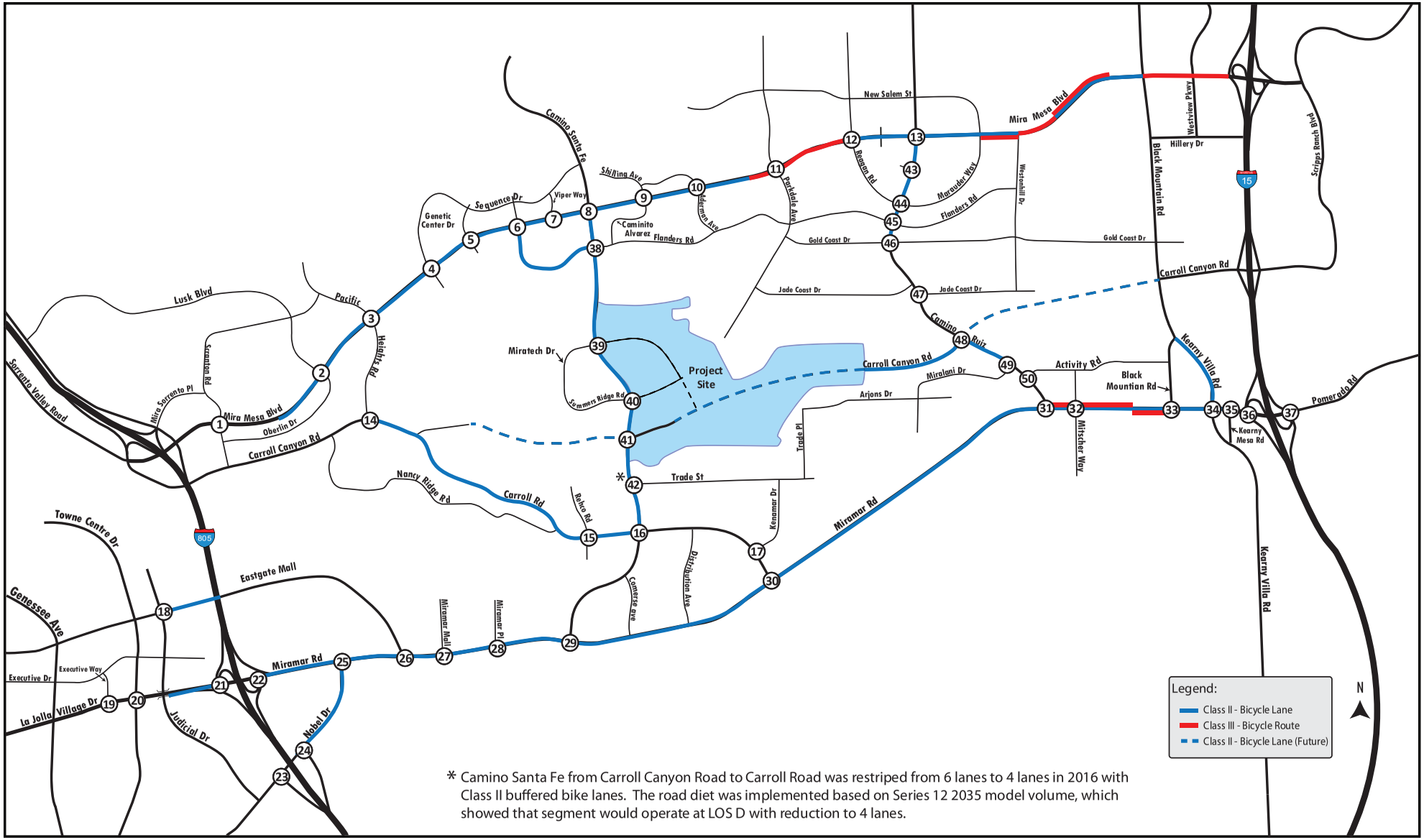
Camino Santa Fe, which will provide primary access to the project site at three signalized intersections, has buffered Class II bicycle lanes on both sides of the roadway between Mira Mesa Boulevard and Carroll Road. There are currently no bicycle facilities provided in either direction on Camino Santa Fe between Carroll Road and Miramar Road. **Figure 3-4** illustrates the existing bicycle network near the project site and throughout the study area.

Sidewalks are provided on both sides of Camino Santa Fe between Mira Mesa Boulevard and Miramar Road. In addition, the signalized intersections along Camino Santa Fe connect the project to the adjacent Fenton Technology Park and the surrounding community. A brief description of the pedestrian facilities at these three intersections is provided below:

- **Miratech Drive and Camino Santa Fe**: The signalized intersection of Miratech Drive and Camino Santa Fe has crosswalks across the north and west legs of the intersection. Existing pedestrian ramps are not ADA compliant and 5' to 8' wide sidewalk is provided on both sides of Miratech Drive. There are no designated bicycle facilities along Miratech Drive. The project will take access from the east leg of the intersection. The project will be conditioned to improve this intersection to include crosswalks, ADA compliant curb ramps, pedestrian count down timers and pedestrian push buttons on all legs of this intersection.

- **Summers Ridge Road and Camino Santa Fe:** The signalized intersection of Summers Ridge Road and Camino Santa Fe has crosswalks across the north and west legs of the intersection. Existing pedestrian ramps are not ADA compliant and 5' to 8' sidewalk is provided on both sides of Summers Ridge Road. There are no designated bicycle facilities along Summers Ridge Road. The project will be conditioned to improve this intersection to include crosswalks, ADA compliant curb ramps, pedestrian count down timers and pedestrian push buttons on all legs of this intersection.

- **Carroll Canyon Road and Camino Santa Fe:** The signalized intersection of Carroll Canyon Road and Camino Santa Fe has continental crosswalks across the north, south, east and west legs of the intersection. Existing pedestrian ramps are not ADA compliant and 5' wide sidewalk exists on both sides of Camino Santa Fe. Currently there are no pedestrian or bicycle facilities on Carroll Canyon Road as this is a private access road for the rock quarry. The project will be conditioned to improve this intersection to include crosswalks, ADA compliant curb ramps, pedestrian count down timers and pedestrian push buttons on all legs of this intersection.



* Camino Santa Fe from Carroll Canyon Road to Carroll Road was restriped from 6 lanes to 4 lanes in 2016 with Class II buffered bike lanes. The road diet was implemented based on Series 12 2035 model volume, which showed that segment would operate at LOS D with reduction to 4 lanes.

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Figure 3-4
Existing Bicycle Facilities

3.4 TRAFFIC VOLUMES

Traffic volumes at the study area intersections and roadway segments were obtained on February 8, May 17 and on June 1, 2017. Daily traffic volumes (24-hour volume counts) were collected for all roadway segments in the study area.

Figure 3-5 illustrates the peak traffic volumes at the intersections and **Figure 3-6** illustrates the daily traffic volumes along the roadway segments. **Appendix D** contains the traffic volume data sheets.

3.5 INTERSECTION ANALYSIS

Table 3-1 displays the LOS analysis results for the study area intersections under Existing Conditions. As shown in the table, the study intersections operate at acceptable LOS except for the following intersections:

3. Pacific Heights Blvd and Mira Mesa Blvd (PM: LOS E)
8. Camino Santa Fe and Mira Mesa Blvd (PM: LOS E)
13. Camino Ruiz and Mira Mesa Blvd (AM: LOS E)
20. Towne Center Dr and La Jolla Village Dr (PM: LOS E)
29. Camino Santa Fe and Miramar Rd (AM: LOS E)
31. Camino Ruiz and Miramar Rd (AM: LOS E)
34. Kearny Villa Rd and Miramar Rd (AM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS E)
49. Miralani Dr and Camino Ruiz (AM: LOS F)
50. Activity Rd and Camino Ruiz (PM: LOS E)

Appendix E contains the Existing Conditions intersection LOS worksheets.

TABLE 3-1: EXISTING PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions	
				Delay [a]	LOS [b]
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	28.1	C
			PM	43.5	D
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	27.8	C
			PM	46.7	D
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	36.4	D
			PM	68.3	E
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	31.4	C
			PM	40.9	D
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	13.4	B
			PM	41.9	D
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	22.4	C
			PM	26.2	C
7	Viper Way & Mira Mesa Blvd	Signal	AM	11.4	B
			PM	15.8	B
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	39.5	D
			PM	67.6	E
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	11.6	B
			PM	10.8	B
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	9.8	A
			PM	10.9	B
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	20.2	C
			PM	22.4	C
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	28.8	C
			PM	26.5	C
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	66.3	E
			PM	52.7	D
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	8.5	A
			PM	11.5	B
15	Rehco Rd & Carroll Rd	Signal	AM	5.1	A
			PM	22.1	C
16	Camino Santa Fe & Carroll Rd	Signal	AM	46.5	D
			PM	42.0	D
17	Kenamar Dr & Carroll Rd	Signal	AM	15.0	B
			PM	13.8	B
18	Eastgate Mall & Judicial Dr	Signal	AM	24.0	C
			PM	23.8	C
19	Executive Way & La Jolla Village Dr	Signal	AM	16.2	B
			PM	39.1	D
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	31.5	C
			PM	72.3	E
21	La Jolla Village Dr-Miramar Rd & I-805 SB On/Off Ramps	Signal	AM	43.7	D
			PM	17.1	B

TABLE 3-1: EXISTING PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions	
				Delay [a]	LOS [b]
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	15.7	B
			PM	10.2	B
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	4.0	A
			PM	4.1	A
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	21.5	C
			PM	19.7	B
25	Nobel Dr & Miramar Rd	Signal	AM	26.7	C
			PM	27.3	C
26	Eastgate Mall & Miramar Rd	Signal	AM	23.3	C
			PM	34.0	C
27	Miramar Mall & Miramar Rd	Signal	AM	7.8	A
			PM	6.6	A
28	Miramar Pl & Miramar Rd	Signal	AM	22.0	C
			PM	8.7	A
29	Camino Santa Fe & Miramar Rd	Signal	AM	65.3	E
			PM	45.9	D
30	Carroll Rd & Miramar Rd	Signal	AM	20.4	C
			PM	20.1	C
31	Camino Ruiz & Miramar Rd	Signal	AM	56.0	E
			PM	25.2	C
32	Mitscher Way & Miramar Rd	Signal	AM	22.2	C
			PM	44.0	D
33	Black Mountain Rd & Miramar Rd	Signal	AM	13.4	B
			PM	20.1	C
34	Kearny Villa Rd & Miramar Rd	Signal	AM	59.8	E
			PM	45.2	D
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	19.5	B
			PM	15.0	B
36	I-15 SB On/Off Ramp & Miramar Rd	Signal	AM	18.5	B
			PM	11.9	B
37	Pomerado Rd-Miramar Way & I-15 NB On/Off Ramp	Signal	AM	24.1	C
			PM	23.3	C
38	Flanders Dr & Camino Santa Fe	Signal	AM	35.3	D
			PM	60.1	E
39	Miratech Dr & Camino Santa Fe	Signal	AM	5.4	A
			PM	7.6	A
40	Summer Ridge Rd & Camino Santa Fe	Signal	AM	7.1	A
			PM	5.6	A
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	5.0	A
			PM	4.9	A

TABLE 3-1: EXISTING PEAK HOUR INTERSECTION LOS SUMMARY

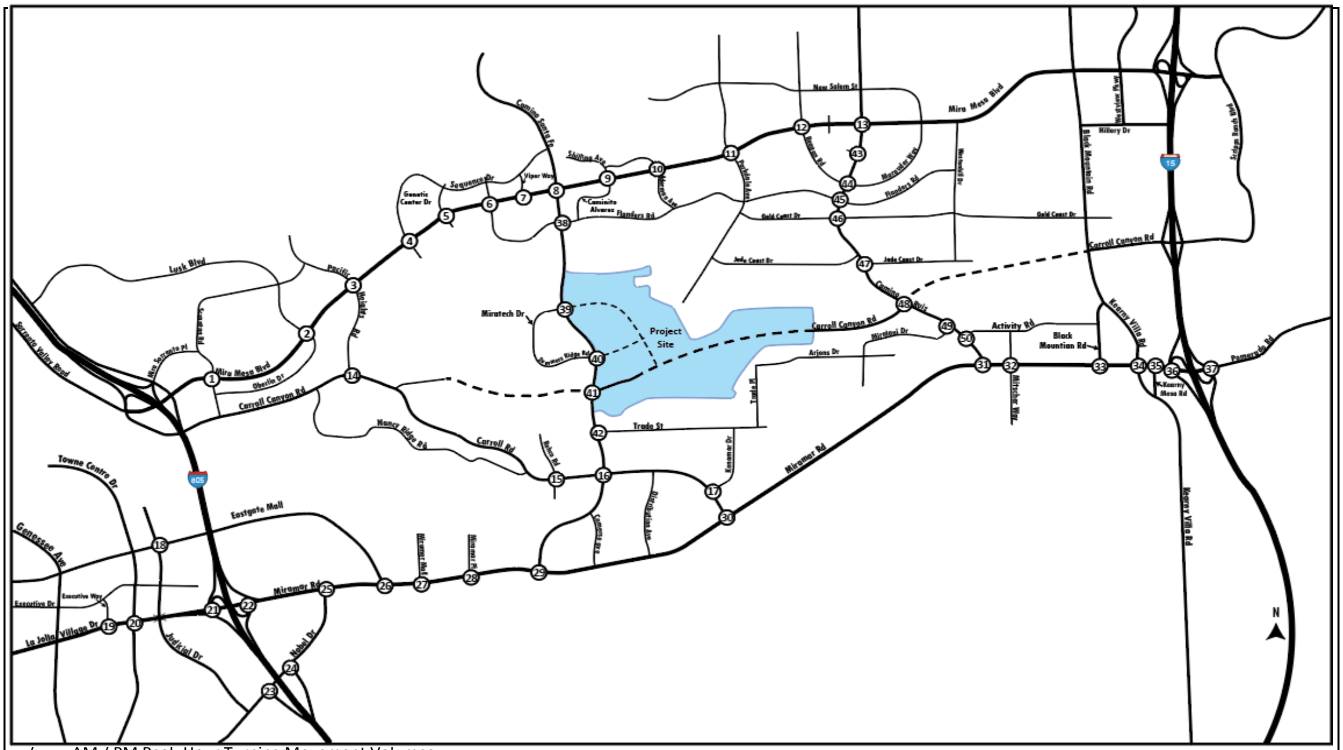
#	Intersection	Traffic Control	Peak Hour	Existing Conditions	
				Delay [a]	LOS [b]
42	Trade St & Camino Santa Fe	Signal	AM	17.5	B
			PM	22.7	C
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	6.6	A
			PM	14.0	B
44	Reagan Rd & Camino Ruiz	Signal	AM	24.8	C
			PM	24.8	C
45	Flanders Dr & Camino Ruiz	Signal	AM	21.5	C
			PM	20.9	C
46	Gold Coast Dr & Camino Ruiz	Signal	AM	31.6	C
			PM	38.8	D
47	Jade Coast Dr & Camino Ruiz	Signal	AM	17.4	B
			PM	10.4	B
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.5	A
			PM	5.0	A
49	Miralani Dr & Camino Ruiz	Signal	AM	104.1	F
			PM	42.7	D
50	Activity Rd & Camino Ruiz	Signal	AM	19.2	B
			PM	70.3	E

Notes:

(a) Delays are reported as the average control delay in seconds.

(b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM) and performed using Synchro 9.

3 Roots TIA



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

1 / Scranton Rd @ Mira Mesa Blvd

117 / 370 ←, 51 / 154 ↓, 54 / 95 →	↑ 89 / 85, ← 948 / 1382, ↓ 32 / 80
852 / 181 ↑, 2272 / 885 →, 633 / 143 ↓	← 67 / 367, ↑ 66 / 91, → 13 / 18

2 / Lusk Blvd @ Mira Mesa Blvd

48 / 224 ←, 17 / 100 ↓, 55 / 453 →	↑ 482 / 92, ← 1001 / 1329, ↓ 150 / 31
242 / 90 ↑, 2074 / 916 →, 40 / 9 ↓	← 6 / 17, ↑ 20 / 23, → 23 / 176

3 / Pacific Heights Rd @ Mira Mesa Blvd

100 / 395 ←, 26 / 226 ↓, 94 / 984 →	↑ 1142 / 108, ← 1487 / 902, ↓ 300 / 101
548 / 72 ↑, 1167 / 1415 →, 326 / 77 ↓	← 29 / 136, ↑ 67 / 31, → 89 / 317

4 / Sequence Dr @ Mira Mesa Blvd

227 / 259 ←, 14 / 7 ↓, 10 / 76 →	↑ 66 / 9, ← 2448 / 599, ↓ 87 / 19
303 / 211 ↑, 792 / 2495 →, 277 / 88 ↓	← 81 / 161, ↑ 6 / 17, → 15 / 74

5 / Genetic Center Dr @ Mira Mesa Blvd

34 / 65 ←, 8 / 3 ↓, 41 / 83 →	↑ 156 / 26, ← 2597 / 622, ↓ 141 / 32
92 / 47 ↑, 687 / 2465 →, 42 / 11 ↓	← 7 / 24, ↑ 4 / 13, → 28 / 279

6 / Flanders Dr @ Mira Mesa Blvd

34 / 43 ←, 15 / 76 ↓, 19 / 120 →	↑ 144 / 23, ← 2678 / 448, ↓ 41 / 45
60 / 58 ↑, 434 / 2256 →, 286 / 468 ↓	← 297 / 150, ↑ 39 / 37, → 34 / 113

7 / Viper Way @ Mira Mesa Blvd

15 / 18 ←, 11 / 12 ↓, 4 / 19 →	↑ 73 / 34, ← 2587 / 422, ↓ 44 / 55
30 / 26 ↑, 295 / 2328 →, 76 / 130 ↓	← 163 / 93, ↑ 24 / 25, → 56 / 183

8 / Camino Santa Fe @ Mira Mesa Blvd

58 / 41 ←, 272 / 198 ↓, 108 / 408 →	↑ 328 / 173, ← 2665 / 402, ↓ 706 / 150
23 / 57 ↑, 299 / 2292 →, 92 / 95 ↓	← 135 / 145, ↑ 131 / 293, → 62 / 509

9 / Shilling Ave @ Mira Mesa Blvd

111 / 19 ←, 5 / 3 ↓, 62 / 56 →	↑ 22 / 77, ← 3526 / 732, ↓ 30 / 58
22 / 130 ↑, 448 / 3048 →, 11 / 30 ↓	← 34 / 13, ↑ 6 / 20, → 45 / 42

10 / Aderman Ave @ Mira Mesa Blvd

37 / 12 ←, 13 / 4 ↓, 111 / 42 →	↑ 31 / 43, ← 3514 / 837, ↓ 18 / 47
7 / 35 ↑, 497 / 3118 →, 9 / 20 ↓	← 15 / 4, ↑ 9 / 18, → 38 / 59

11 / Parkdale Ave @ Mira Mesa Blvd

192 / 58 ←, 87 / 44 ↓, 66 / 25 →	↑ 33 / 79, ← 3301 / 866, ↓ 52 / 94
32 / 97 ↑, 625 / 2914 →, 30 / 199 ↓	← 94 / 40, ↑ 30 / 81, → 75 / 110

12 / Reagan Rd @ Mira Mesa Blvd

213 / 69 ←, 119 / 121 ↓, 52 / 47 →	↑ 14 / 70, ← 2921 / 898, ↓ 21 / 68
41 / 132 ↑, 578 / 2465 →, 60 / 255 ↓	← 152 / 139, ↑ 45 / 136, → 16 / 34

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Figure 3-5a
Existing Peak-Hour Traffic Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

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13 / Camino Ruiz @ Mira Mesa Blvd

← 200 / 120	↓ 483 / 416	→ 395 / 303
↑ 121 / 244	← 2651 / 927	↓ 168 / 280

13

81 / 223 ↑	←	↑
684 / 2046 →	84 / 131	282 / 557
23 / 60 ↓		140 / 122

14 / Pacific Heights Rd @ Carroll Canyon Rd

97 / 405 ←	55 / 229 →	
↑ 83 / 58	← 114 / 253	

14

242 / 59 ↑		
394 / 285 →		

15 / Rehco Rd @ Carroll Rd

← 9 / 37	↓ 1 / 2	→ 35 / 221
↑ 173 / 19	← 646 / 210	↓ 47 / 13

15

53 / 5 ↑	←	↑
267 / 898 →	1 / 11	1 / 1
6 / 14 ↓		8 / 47

16 / Camino Santa Fe @ Carroll Rd

← 315 / 58	↓ 731 / 593	→ 86 / 76
↑ 61 / 113	← 310 / 84	↓ 61 / 77

16

53 / 310 ↑	←	↑
125 / 302 →	317 / 12	402 / 85
127 / 464 ↓		99 / 75

17 / Kenamar Dr @ Carroll Rd

← 20 / 101	↓ 12 / 68	→ 3 / 60
↑ 35 / 6	← 592 / 213	↓ 79 / 74

17

122 / 17 ↑	←	↑
220 / 644 →	200 / 103	90 / 7
62 / 176 ↓		77 / 149

18 / Judicial Dr @ Eastgate Mall

← 20 / 101	↓ 12 / 68	→ 3 / 60
↑ 35 / 6	← 592 / 213	↓ 79 / 74

18

122 / 17 ↑	←	↑
220 / 644 →	200 / 103	90 / 7
62 / 176 ↓		77 / 149

19 / Executive Way @ La Jolla Village Dr

← 49 / 324	↓ 13 / 72	→ 55 / 388
↑ 433 / 93	← 1105 / 1383	↓ 34 / 209

19

136 / 58 ↑	←	↑
1228 / 908 →	21 / 224	25 / 21
79 / 334 ↓		26 / 205

20 / Town Centre Dr @ La Jolla Village Dr

← 35 / 167	↓ 42 / 223	→ 200 / 892
↑ 1326 / 267	← 1426 / 1331	↓ 337 / 416

20

317 / 23 ↑	←	↑
883 / 1367 →	112 / 195	213 / 55
130 / 158 ↓		308 / 651

21 / I-805 SB On/Off Ramps @ La Jolla Village Dr

← 1544 / 756	→ 722 / 209	
↑ 502 / 779	← 1587 / 1213	

21

1001 / 1824 →		
400 / 1040 ↓		

22 / I-805 NB On/Off Ramps @ Miramar Rd

↑ 542 / 772	← 1255 / 1478	

22

1044 / 958 →	←	→
678 / 1164 ↓	837 / 450	297 / 142

23 / I-805 SB On Ramp @ Nobel Dr

	← 1335 / 969	
	↓ 142 / 198	

23

294 / 480 →		
541 / 469 ↓		

24 / I-805 NB Off Ramp @ Nobel Dr

	← 559 / 634	

24

2 / 0 ↑	←	→
287 / 453 →	875 / 562	834 / 557

25 / Nobel Dr @ Miramar Rd

	← 1710 / 2106	
	↓ 416 / 588	

25

1098 / 1010 →	←	→
253 / 59 ↓	98 / 163	833 / 843

26 / Eastgate Mall @ Miramar Rd

← 148 / 322	→ 145 / 841	
↑ 881 / 151	← 1919 / 2372	↓ 1 / 9

26

255 / 131 ↑		
1733 / 1748 →		

27 / Miramar Mall @ Miramar Rd

← 66 / 66	→ 33 / 95	
↑ 60 / 28	← 2711 / 2489	

27

63 / 24 ↑		
1778 / 2463 →		

28 / Miramar Pl @ Miramar Rd

← 81 / 99	→ 36 / 84	
↑ 70 / 33	← 2563 / 2347	↓ 17 / 5

28

105 / 28 ↑		
1842 / 2655 →		

29 / Camino Santa Fe @ Miramar Rd

← 786 / 1073	↓ 2 / 1	→ 50 / 99
↑ 98 / 65	← 2135 / 1283	↓ 20 / 18

29

798 / 862 ↑	←	↑
1072 / 1775 →	18 / 45	3 / 56
23 / 84 ↓		10 / 8

30 / Carroll Rd @ Miramar Rd

← 103 / 168	→ 137 / 458	
↑ 603 / 123	← 2329 / 964	↓ 0 / 5

30

139 / 87 ↑		
795 / 1869 →		

31 / Camino Ruiz @ Miramar Rd

← 516 / 166	→ 649 / 418	
↑ 262 / 603	← 2965 / 900	

31

151 / 358 ↑		
699 / 2338 →		

32 / Mitscher Way @ Miramar Rd

← 73 / 23	↓ 68 / 40	→ 32 / 77
↑ 28 / 37	← 2534 / 1453	↓ 182 / 118

32

14 / 35 ↑	←	↑
1102 / 2517 →	180 / 280	23 / 51
212 / 148 ↓		134 / 282

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Figure 3-5b
Existing Peak-Hour Traffic Volumes

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

33 / Black Mountain Rd @ Miramar Rd

293 / 165 ← 161 / 503 →
↑ 169 / 154
← 2484 / 1517
↓ 1 / 14
33
90 / 193 ↑
1169 / 2505 →

34 / Kearny Villa Rd @ Miramar Rd

122 / 42 ← 179 / 255 →
↑ 107 / 149
← 2307 / 1035
34
39 / 51 ↑
903 / 2012 →

35 / Kearny Mesa Rd @ Miramar Rd

37 / 38 ← 1 / 10 ↓ 38 / 81 →
↑ 14 / 20
← 1544 / 1333
↓ 20 / 40
35
32 / 32 ↑
913 / 2316 →
34 / 93 ↓
← 153 / 32 ↑ 9 / 9 → 56 / 124

36 / I-15 SB On/Off Ramps @ Miramar Rd

1061 / 527 ← 133 / 25 →
↑ 835 / 800
← 534 / 806
36
495 / 1334 →
512 / 1175 ↓

37 / I-15 NB On/Off Ramps @ Pomerado Rd

↑ 109 / 143
← 1152 / 1036
37
186 / 383 →
401 / 975 ↓
← 402 / 562 → 588 / 636

38 / Camino Santa Fe @ Flanders Rd

153 / 42 ← 711 / 303 ↓ 61 / 276 →
↑ 163 / 61
← 434 / 30
↓ 366 / 57
38
15 / 104 ↑
24 / 591 →
51 / 204 ↓
← 79 / 70 ↑ 133 / 778 → 39 / 606

39 / Camino Santa Fe @ Miratech Dr

158 / 17 ← 1051 / 541 ↓ 2 / 1 →
39
9 / 127 ↑
3 / 30 ↓
← 43 / 5 ↑ 243 / 1219

40 / Camino Santa Fe @ Summers Ridge Rd

6 / 1 ← 1046 / 542 ↓
40
1 / 7 ↑
11 / 82 ↓
← 92 / 6 ↑ 284 / 1260

41 / Camino Santa Fe @ Carroll Canyon Rd

↓ 1054 / 628 6 / 1 →
↑ 5 / 1
↓ 30 / 9
41
← 2 / 0 ↑ 370 / 1254 → 22 / 1

42 / Camino Santa Fe @ Trade St

10 / 4 ← 892 / 651 ↓ 96 / 75 →
↑ 48 / 135
← 12 / 2
↓ 157 / 181
42
1 / 13 ↑
2 / 5 →
3 / 18 ↓
← 18 / 7 ↑ 354 / 1189 → 161 / 104

43 / Camino Ruiz @ Mira Mesa Mall Entrance

25 / 59 ← 562 / 571 ↓
43
34 / 137 ↑
17 / 83 ↓
← 51 / 128 ↑ 446 / 665

44 / Camino Ruiz @ Reagan Rd

14 / 39 ← 507 / 562 ↓ 45 / 105 →
↑ 74 / 75
← 193 / 134
↓ 125 / 48
44
17 / 23 ↑
143 / 215 →
170 / 208 ↓
← 112 / 178 ↑ 379 / 692 → 62 / 101

45 / Camino Ruiz @ Flanders Dr

39 / 28 ← 762 / 740 ↓ 21 / 55 →
↑ 52 / 25
← 199 / 46
↓ 83 / 22
45
31 / 87 ↑
46 / 291 →
95 / 120 ↓
← 59 / 53 ↑ 486 / 864 → 52 / 48

46 / Camino Ruiz @ Gold Coast Dr

126 / 92 ← 731 / 578 ↓ 71 / 183 →
↑ 120 / 62
← 183 / 104
↓ 135 / 26
46
222 / 71 ↑
137 / 322 →
104 / 178 ↓
← 35 / 80 ↑ 241 / 857 → 26 / 74

47 / Camino Ruiz @ Jade Coast Dr

0 / 6 ← 1045 / 721 ↓ 27 / 68 →
↑ 49 / 35
← 1 / 1
↓ 267 / 39
47
3 / 0 ↑
1 / 0 →
14 / 4 ↓
← 1 / 3 ↑ 234 / 1086 → 56 / 243

48 / Camino Ruiz @ Carroll Canyon Rd

29 / 5 ← 1286 / 757 ↓
48
4 / 33 ↑
37 / 58 ↓
← 78 / 22 ↑ 285 / 1301

49 / Camino Ruiz @ Miralani Rd

272 / 70 ← 1053 / 749 ↓ 0 / 5 →
↑ 3 / 5
← 2 / 2
↓ 2 / 9
49
31 / 349 ↑
0 / 4 →
70 / 744 ↓
← 562 / 81 ↑ 328 / 976 → 6 / 11

50 / Camino Ruiz @ Activity Rd

0 / 10 ← 892 / 567 ↓ 237 / 924 →
↑ 610 / 237
← 1 / 0
↓ 216 / 47
50
0 / 13 →
0 / 1 ↓
← 7 / 11 ↑ 283 / 819 → 55 / 189

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Figure 3-5c
Existing Peak-Hour Traffic Volumes

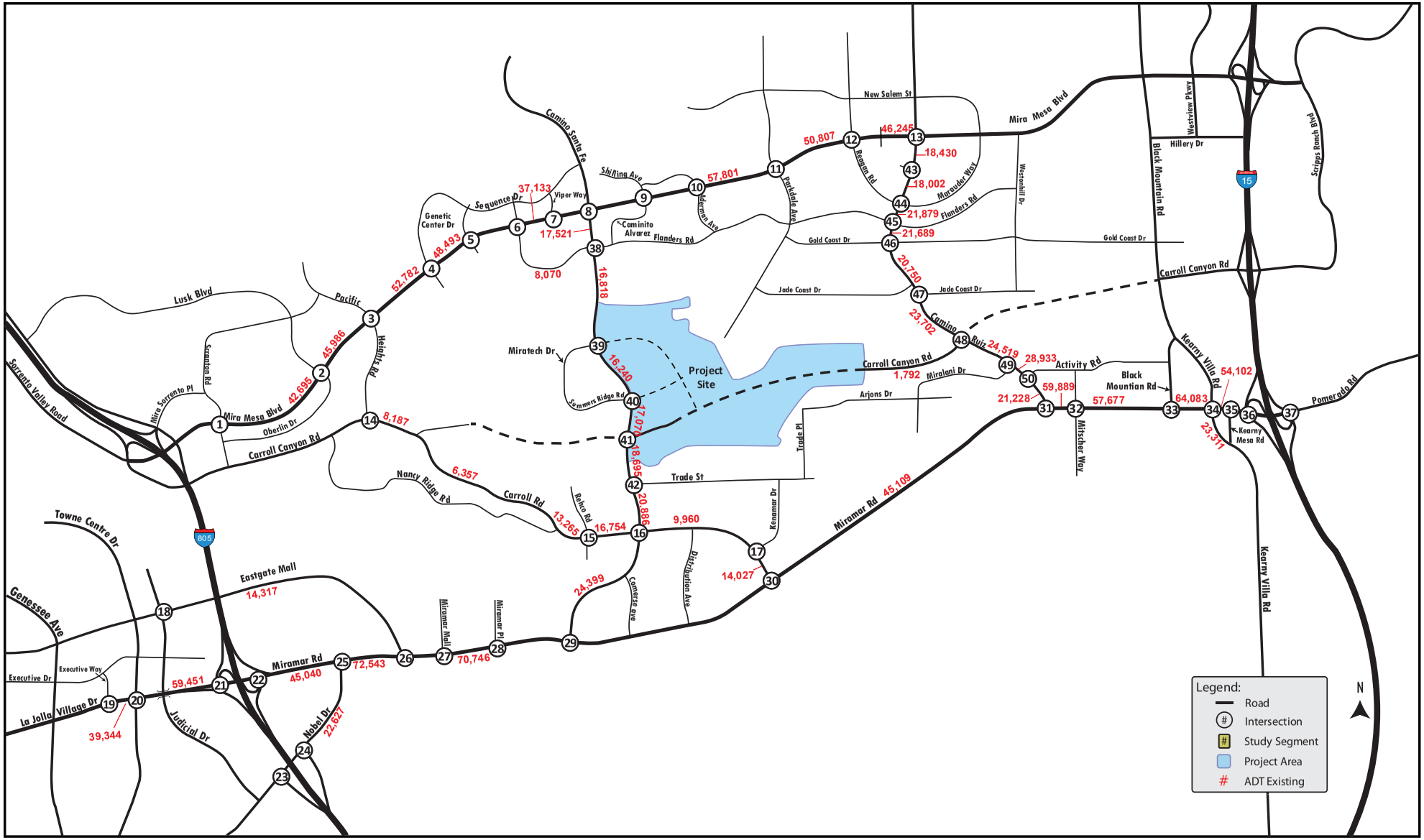

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Figure 3-6
Existing ADT Volumes

3.6 ROADWAY SEGMENT ANALYSIS

Table 3-2 summarizes the roadway segment capacity analysis results under Existing Conditions.

TABLE 3-2: EXISTING ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification [a]	LOS E Capacity	ADT [b]	v/c Ratio [c]	LOS
Mira Mesa Blvd						
A	Scranton Rd to Lusk Blvd-Oberlin Dr	Primary Arterial/6	60,000	42,695	0.712	C
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	Primary Arterial/6	60,000	45,986	0.766	C
C	Pacific Heights Blvd to Sequence Dr	Primary Arterial/6	60,000	52,782	0.880	D
D	Sequence Dr to Flanders Dr	Primary Arterial/6	60,000	48,493	0.808	C
E	Flanders Dr to Camino Santa Fe	Primary Arterial/6	60,000	37,133	0.619	C
F	Camino Santa Fe to Parkdale Ave	Major/6	50,000	57,801	1.156	F
G	Parkdale Ave to Reagan Rd	Major/6	50,000	50,807	1.016	F
H	Reagan Rd to Camino Ruiz	Major/6	50,000	46,245	0.925	E
Flanders Dr						
I	Mira Mesa Blvd to Camino Santa Fe	Collector/4 (no center lane)	15,000	8,070	0.538	C
Carroll Canyon Rd						
J	Pacific Heights Blvd to Fenton Rd	Collector/2 (with TWLT)	15,000	8,187	0.546	C
K	Fenton Rd to Camino Santa Fe	Does Not Exist				
L	Camino Santa Fe to Existing Terminus (Future)	Does Not Exist				
M	Existing Terminus to Camino Ruiz	Major/4	40,000	1,792	0.045	A
N	Camino Ruiz to Black Mountain Road	Does Not Exist				
Carroll Rd						
O	Fenton Rd to Nancy Ridge Dr	Collector/2 (with TWLTL)	15,000	6,357	0.424	B
P	Nancy Ridge Dr to Rehco Rd	Collector/2 (with TWLTL)	15,000	13,265	0.884	E
Q	Rehco Rd to Camino Santa Fe	Collector/2 (with TWLTL)	15,000	16,754	1.117	F
R	Camino Santa Fe to Kenamar Dr	Collector/2 (with TWLTL)	15,000	9,960	0.664	C
S	Kenamar Dr to Miramar Rd	Collector/3	22,500	14,027	0.623	C
Eastgate Mall						
T	Judicial Dr to Miramar Rd	Collector/2 (with TWLTL)	15,000	14,317	0.954	E
La Jolla Village Dr						
U	Executive Way to Towne Center Dr	Primary Arterial/6	60,000	39,344	0.656	C
V	Towne Center Dr to I-805 SB Ramps	Primary Arterial/8	80,000	59,451	0.743	C
Nobel Dr						
W	I-805 NB Off Ramp to Miramar Rd	Major /4	40,000	22,627	0.566	C
Miramar Rd						
X	I-805 Ramps to Nobel Drive	Primary Arterial/8	80,000	45,040	0.563	B
Y	Nobel Dr to Eastgate Mall	Primary Arterial/7	70,000	72,543	1.036	F
Z	Eastgate Mall to Camino Santa Fe	Major/6 (with TWLTL)	45,000	70,746	1.572	F
AA	Carroll Rd to Camino Ruiz	Major/6 (with TWLTL)	45,000	45,109	1.002	F
AB	Camino Ruiz to Mitscher Way	Major/6	50,000	59,889	1.198	F
AC	Mitscher Way to Black Mountain Rd	Major/6 (with TWLTL)	45,000	57,677	1.282	F
AD	Black Mountain Rd to Kearny Villa Rd	Major/6 (with TWLTL)	45,000	64,083	1.424	F
AE	Kearny Villa Rd to Kearny Mesa Rd	Major/6 (with TWLTL)	45,000	54,102	1.202	F

TABLE 3-2: EXISTING ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification [a]	LOS E Capacity	ADT [b]	v/c Ratio [c]	LOS
Camino Santa Fe						
AF	Mira Mesa Blvd to Flanders Dr	Major/6	50,000	17,521	0.350	A
AG	Flanders Dr to Miratech Dr	Primary Arterial/6	60,000	16,818	0.280	A
AH	Miratech Dr to Summer Ridge Rd	Primary Arterial/6	60,000	16,240	0.271	A
AI	Summer Ridge Rd to Carroll Canyon Rd	Primary Arterial/6	60,000	17,070	0.285	A
AJ	Carroll Canyon Rd to Trade St	Major/4 [d]	40,000	18,695	0.467	B
AK	Trade St to Carroll Rd	Major/4 [d]	40,000	20,886	0.522	B
AL	Carroll Rd to Miramar Rd	Major/4	40,000	24,399	0.610	C
Camino Ruiz						
AM	Mira Mesa Blvd to Mira Mesa Mall Entrance	Major/4	40,000	18,430	0.461	B
AN	Mira Mesa Mall Entrance to Reagan Rd	Major/4	40,000	18,002	0.450	B
AO	Reagan Rd to Flanders Dr	Major/4	40,000	21,879	0.547	C
AP	Flanders Dr to Gold Coast Dr	Major/4	40,000	21,689	0.542	C
AQ	Gold Coast Dr to Jade Coast Dr	Major/4	40,000	20,750	0.519	B
AR	Jade Coast Dr to Carroll Canyon Rd	Major/4	40,000	23,702	0.593	C
AS	Carroll Canyon Rd to Miralani Dr	Major/4	40,000	24,519	0.613	C
AT	Miralani Dr to Activity Rd	Major/4	40,000	28,933	0.723	C
AU	Activity Rd to Miramar Rd	Major/4	40,000	21,228	0.531	C
Kearny Villa Rd						
AV	Miramar Rd to Kearny Mesa Rd	Major/4	40,000	23,311	0.583	C

Notes:

(a) Existing functional street classification is based on field observations.

(b) Average Daily Traffic (ADT) volumes were obtained by NDS in February, May and June 2017.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

(d) A road diet was recently implemented on Camino Santa Fe between Carroll Canyon Road and Carroll Road in which the road was restriped from 6 lanes to 4 lanes with buffered bike lanes. As a result, these segments of Camino Santa Fe were downgraded to a 4-lane Major.

As shown in Table 3-2, all segments operate at an acceptable LOS D or better except for the following segments:

F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Ave (LOS F)
G. Mira Mesa Boulevard from Parkdale Ave to Reagan Road (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS E)
P. Carroll Road from Nancy Road to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS E)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS F)
AB. Miramar Road from Camino Ruiz to Clayton-Mitscher Way (LOS F)
AC. Miramar Road from Clayton-Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)

3.7 FREEWAY ANALYSIS

The I-805 freeway runs primarily north-south on the western side of the study area. At the time this report was prepared, there were four northbound lanes and four southbound lanes. Grade separated interchanges provide access to the study area at Nobel Drive, Miramar Road/La Jolla Village Drive and Mira Mesa Boulevard. Nobel Drive has partial access to I-805 with only southbound on-ramp and northbound off-ramp, located south side of Nobel Drive. The I-15 freeway runs north-south on the eastern edge of the study area with a grade separated interchange providing access to the study area at Miramar Road and Mira Mesa Boulevard.

Existing peak hour freeway segment volumes were calculated based on information available from Caltrans, which is provided in **Appendix F**. **Table 3-3** provides a summary of Existing freeway segment LOS. As shown in the Table 3-3, all study freeway segments are currently operating at an acceptable LOS D or better during the peak hours.

TABLE 3-3: EXISTING FREEWAY MAINLINE ANALYSIS SUMMARY

Freeway and Segment	Number of Lanes[b)]		ADT	Capacity (vph)	Existing					
					AM Peak Hour			PM Peak Hour		
					Peak Hour Volume [(a)]	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS
I-805										
I-805 South of Nobel Dr	NB	4M+1H+1A	200,000	12,280	9,559	0.778	C	8,768	0.714	C
	SB	4M+1H+1A		12,280	3,861	0.314	A	5,792	0.472	B
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	4M + 1H	180,000	11,080	8,603	0.776	C	7,891	0.712	C
	SB	4M + 1H		11,080	3,475	0.314	A	5,213	0.470	B
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	4M+1H+1A	179,000	12,280	8,555	0.697	C	7,847	0.639	C
	SB	4M+1H+1A		12,280	3,456	0.281	A	5,184	0.422	B
Mira Mesa Blvd to I-805/I-5 Interchange	NB	4M+1H+1A	163,000	12,280	7,791	0.634	C	7,146	0.582	B
	SB	3M+1H+2A		11,130	3,147	0.283	A	4,720	0.424	A
I-15										
Miramar Rd to Miramar Way	NB	6M+2H+1A	302,000	18,660	14,210	0.762	C	12,774	0.685	C
	SB	7M+2H		19,810	10,282	0.519	B	10,600	0.535	B
Carroll Canyon Rd to Miramar Rd	NB	6M+2H+1A	285,000	18,660	13,410	0.719	C	12,055	0.646	C
	SB	6M+2H+1A		18,660	9,703	0.520	B	10,004	0.536	B
Mira Mesa Blvd to Carroll Canyon Rd	NB	6M+2H+1A	270,000	18,660	12,705	0.681	C	11,421	0.612	B
	SB	6M+2H+1A		18,660	9,192	0.493	B	9,477	0.508	B
Mira Mesa Blvd to Mercy Rd	NB	5M+2H+1A	261,000	16,310	12,415	0.761	C	11,177	0.685	C
	SB	5M+2H+1A		16,310	8,804	0.540	B	8,972	0.550	B

Notes:

(a) Existing AM/PM peak hour volumes were estimated by applying the K and D factors to the published 2016 Caltrans AADT volumes.

(b) Mainline lane capacity = 2,350 vehicles per hour per lane (vphpl); HOV lane Capacity = 1,680 vphpl; Auxiliary Lane Capacity = 1,200 vphpl

M = Mainline Lanes; H = HOV Lanes; A = Auxiliary Lanes

3.8 FREEWAY METERED ON-RAMP ANALYSIS

Field observations of ramp meter delays and queues were conducted during the peak periods when the ramp meters were activated and calibrated the ramp meter rates where applicable. Ramp meter rates were only calibrated where delays and queuing during peak periods reflected a discharge rate that is higher than the most restrictive discharge rate. The existing lane configurations, the most restrictive meter flow rates, and calibrated meter flow rates for each study area freeway on-ramp are provided below:

I-805 NB On-Ramp at Miramar Road / La Jolla Village Drive (AM peak metering)

- 1 single-occupancy vehicle (SOV) lane
- 1 high-occupancy vehicle (HOV) lane
- Most restrictive discharge rate: 804 vehicles per hour per lane (2 cars per green)
- Calibrated discharge rate (based on observations): 826 vehicles per hour per lane (2 cars per green)

I-805 SB On-Ramp at Miramar Road / La Jolla Village Drive (PM peak metering)

- 1 single-occupancy vehicle (SOV) lane
- 1 high-occupancy vehicle (HOV) lane
- Most restrictive discharge rate: 704 vehicles per hour per lane (2 cars per green)
- Calibrated discharge rate (based on observations): 687 vehicles per hour (2 cars per green)

I-805 SB On-Ramp at Nobel Drive (PM peak metering)

- 2 single-occupancy vehicle (SOV) lane
- 1 high-occupancy vehicle (HOV) lane
- Most restrictive discharge rate: 222 vehicles per hour per lane (2 cars per green)
- Calibrated discharge rate (based on observations): 200 vehicles per hour per lane (2 cars per green)

I-15 NB On-Ramp at Miramar Road (PM peak metering)

- 2 single-occupancy vehicle (SOV) lane
- Most restrictive discharge rate: 432 vehicles per hour per lane (2 cars per green)
- Calibrated discharge rate (based on observations): 443 vehicles per hour per lane (2 cars per green)

I-15 SB On-Ramp at Miramar Road (AM peak metering)

- 2 single-occupancy vehicle (SOV) lane
- 1 high-occupancy vehicle (HOV) lane
- Most restrictive discharge rate: 523 vehicles per hour per lane (2 cars per green)
- Calibrated discharge rate (based on observations): 242 vehicles per hour per lane (2 cars per green)

I-15 SB On-Ramp at Miramar Road (PM peak metering)

- 2 single-occupancy vehicle (SOV) lane
- 1 high-occupancy vehicle (HOV) lane
- Most restrictive discharge rate: 559 vehicles per hour per lane (2 cars per green)
- Calibrated discharge rate (based on observations): 536 vehicles per hour per lane (2 cars per green)

The most restrictive meter flow rates shown are based on the discharge rates provided by Caltrans during the peak periods when mainline freeway volumes are highest. The ramp meter discharge rates obtained from Caltrans are provided in **Appendix A**. On-Ramp volumes are based on the scenario turning movements utilizing the ramp meter and were validated through field observations. **Table 3-4** shows the existing on-ramp volumes, percentage split of the SOV/HOV on-ramp volumes, on-ramp storage length, maximum observed delay, existing observed maximum queue lengths, and the most restrictive or calibrated meter discharge rate used in the analysis. As shown, the observed ramp meter delays were currently less than 15 minutes for all study on-ramps.

TABLE 3-4: EXISTING PEAK HOUR FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Existing On-Ramp Volume			Existing SOV / HOV Percent Split (1)		Number of Lanes		Storage Length Per Lane (feet)	Maximum Observed Delay Per Lane (Min:Sec)		Existing Observed Maximum Queue Lengths (Per Lane)				Most Restrictive or Calibrated Meter Flow Rate (vphpl)
												No. of Vehicles		In Feet		
		TOTAL	SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV	SOV	HOV	SOV	HOV	
WB Miramar Road to SB I-805	AM	Ramp meter not activated.														
	PM	887	753	113	85%	15%	1	1	1,300'	5:27	0	66	0	1,650'	0	C=687
WB Miramar Road to NB I-805	AM	542	504	38	93%	7%	1	1	1,800'	0	0	0	0	0	0	MR =804
	PM	Ramp meter not activated.														
Nobel Drive to SB I-805	AM	Ramp meter not activated.														
	PM	671	471	200	70%	30%	2	1	900'	8:12	2:50	36	14	900'	350'	C=200
EB Miramar Road to SB I-15	AM	512	481	31	94%	6%	2	1	1,500'	0:04	0	2	0	50'	0	C=242
	PM	1,175	1,081	94	92%	8%	2	1	1,500'	0:10	0	4	0	100'	0	C=536
EB Miramar Road to NB I-15	AM	Ramp meter not activated.														
	PM	975	975	0	100%	N/A	2	0	900'	3:37	N/A	45	N/A	1,125'	N/A	C = 443

Notes:

(1) Percent Split based on observations in the field.

N/A = Not Applicable

vphpl = vehicles per hour per lane

MR = most restrictive discharge rate

C = calibrated discharge rate

3.9 OFF-RAMP QUEUING ANALYSIS

The freeway off-ramp queue analysis was conducted to determine if the signalized intersections at the termination of the ramp causes the off-ramp queue length to impact the mainline traffic flow. The SYNCHRO software program was used to perform the queuing analysis, and the 95th percentile queue lengths are reported. The lengths of the off-ramps were determined based on measurements taken over aerial photos (Google Earth).

Table 3-5 summarizes the results of the Existing Conditions off-ramp queuing analysis. **Appendix G** contains the off-ramp queuing analysis worksheets.

As shown in the table, all existing queue lengths are shown to be contained within the available capacity of the freeway off-ramps.

TABLE 3-5: EXISTING OFF-RAMP QUEUING ANALYSIS SUMMARY

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			Volume	95% Queue (1)	Volume Per Lane	95% Queue (1)
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd						
Southbound Left	2	1,016 (2)	722	227’	209	99’
Southbound Right	2	1,295 (2)	1544	970’	756	414’
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd						
Northbound Left	2	1,110 (2)	837	352’	450	261’
Northbound Right	2	899 (2)	297	108’	142	32’
NB I-805 Off-Ramp at Nobel Dr						
Northbound Left	2	1,429 (2)	875	263’	562	205’
Northbound Right	2	1,429 (2)	834	79’	557	82’
SB I-15 Off-Ramp at Miramar Rd						
Southbound Left	2	844 (2)	133	41’	25	27’
Southbound Right	2	894 (2)	1,061	428’	527	175’
NB I-15 Off-Ramp at Miramar Rd						
Northbound Left	2	1,132 (2)	402	258’	562	349’
Northbound Right	2	1,132 (2)	588	56’	636	100’

Notes:

Queue lengths in SYNCHRO are expressed in feet

Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length.

4 PROJECT TRAFFIC

This section describes the proposed project, estimated trip generation, trip distribution, and assignment of trips to the adjacent roadway network.

4.1 PROJECT DESCRIPTION

The 413-acre 3Roots project site is located east of Camino Santa Fe between Flanders Drive and Trade Street. The project site is a former rock quarry previously occupied by Hanson Aggregates. In 2017, the land and reclamation obligation transferred to MCCP Mesa Canyon Community Partners.

Development of the proposed project includes:

- 1,800 residential units,
- 136,700 square feet of retail use,
- 23,460 square feet of office,
- a 25-acre active park, and
- a 1.5-acre Mobility Hub that will function as a centralized space for public and private transit options.

At project buildout, the 1,800 residential units will consist of the following residential types:

- 632 condominiums (low-density attached);
- 631 apartments (high-density attached); and
- 537 single-family detached units.

The commercial retail/office component of the project would include 86,400 square feet food and beverage offerings such as casual restaurants, quality dining, breweries, cafes, and on-site craft foods. At the time this report was prepared, the specific uses within the food and beverage designation had not been determined. However, trips associated with this use were evaluated based on the highest trips rate for restaurant use in order to provide a conservative estimate of trips associated with this. It should be noted that fast food restaurants are not included and are not being considered within this land use designation. Once the specific uses are identified within the food and beverage category are determined, the property owner will submit to the City a trip generation letter to ensure that the trips associated with the proposed use are equal to or less than the trips evaluated in this transportation impact analysis report.

Other commercial uses include 20,700 square feet of neighborhood commercial retail, 16,000 square feet of ground floor/live-work retail, 9,600 square feet of service (specialty) retail, and 23,460 square feet of office with a co-working concept that could offer services such as shipping, printing, conference rooms, and tele-meeting options. The future Mobility Hub will also include 4,000 square feet of commercial space.

The project will take access from the existing signalized intersections of Camino Santa Fe/Miratech Drive, Camino Santa Fe/Summers Ridge Drive, and Camino Santa Fe/Carroll Canyon Road. Future access to the site will also be provided from the existing signalized intersection of Camino Ruiz/Carroll Canyon Road following completion of the Carroll Canyon Road extension through the project site. In addition, new project intersections will be constructed along the future segment of Carroll Canyon Road east of Camino Santa Fe. A total of four new signalized intersections are planned along this corridor to provide pedestrian, bicycle and auto access across Carroll Canyon Road from the project site.

Phase 1

The project will be developed in two phases. Phase 1, which is expected to be completed by the year 2021, proposes to construct 1,437 residential units and 16,000 square feet of ground floor retail. Phase 1 would consist of the following residential and retail types:

- 393 condominiums (low-density attached);
- 609 apartments (high-density attached);
- 435 single-family detached units; and
- 16,000 square-foot of ground floor retail.

Phase 2

Phase 2 (project buildout), which is expected to be completed by the year 2025, will construct:

- 113 single family dwelling units,
- 250 attached condominiums,
- 86,400 square-feet of food/beverage uses,
- 30,300 square-feet of commercial retail use,
- 23,460 square-feet of office use, and
- 4,000 square-feet of mobility hub commercial.

Carroll Canyon Road

The project will construct the extension of Carroll Canyon Road through the project site as a 6-lane Primary Arterial in Phase 2. The existing segment of Carroll Canyon Road from one half-mile west of Camino Ruiz to Camino Ruiz was built to 6-lane Primary Arterial standards but is currently striped with 4 lanes. The existing 2,700-foot segment of Carroll Canyon Road that extends from the project's eastern boundary to Camino Ruiz was built to 6-lane Primary Arterial standards but is currently striped with 4 lanes. The project will restripe this existing section of Carroll Canyon Road to provide a total of 6 travel lanes and bicycle lanes.

The project will also construct a segment of Carroll Canyon Road west of Camino Santa Fe as a four-lane Major to the western boundary of the existing Fenton Technology Park in Phase 2. However, this segment of Carroll Canyon Road will not carry any vehicular traffic until the City's PFFP Project T-5A to construct Carroll Canyon Road from Carroll Road to the Fenton Technology Park western boundary is completed. Project T-5A is scheduled to be completed in year 2024.

Future Transit

MTS currently operates route 237, Rapid Service, along Mira Mesa Boulevard and provides east-west connectivity to the north of the project site. The Mira Mesa Community Plan contemplated light rail transit (LRT) along the future Carroll Canyon Road and the 1994 Carroll Canyon Master Plan states: "If an LRT line is approved for the Carroll Canyon area, a transit station would be developed within the mixed-use area. If an LRT line is not approved for this area, it is anticipated that this area would be used for a bus station." SANDAG removed the LRT line from Carroll Canyon Road as part of San Diego Forward: The Regional Plan in 2016. However, in consultation with MTS and SANDAG, the applicant was requested to include an area that could be used as right of way for a potential Bus Rapid Transit (BRT) route along Carroll Canyon Road, so as not to preclude a potential BRT route in the future. At the time this report was prepared, SANDAG was in the process of updating the Regional Transportation Plan, which is anticipated to be completed in 2019.

Right of way for a future BRT route has been reserved with an Irrevocable Offer to Dedicate (IOD) should SANDAG determine that a route along Carroll Canyon Road is needed. SANDAG has indicated the future route would generally follow Carroll Canyon Road from I-805 through the project site to Camino Ruiz and then east toward Black Mountain Road. However, as noted above, the exact alignment of this future route not been identified and does not exist in

approved SANDAG planning documents. SANDAG has indicated that there is currently no funding identified for this or any other potential transit (such as BRT) along Carroll Canyon Road; nor is there any funding to relocate the Mira Mesa Boulevard bus route southward to Carroll Canyon Road.

Based on guidance from SANDAG, the preferred alignment of the future BRT is along the center of Carroll Canyon Road within the raised median area. The 3Roots project will provide an IOD on the south side of the future Carroll Canyon Road throughout the Carroll Canyon Road alignment in order to accommodate the future ROW necessary to implement the BRT. 3Roots will construct Carroll Canyon Road from Camino Santa Fe to its existing terminus at eastern boundary to a six-lane roadway with a 26-foot raised, landscaped median inclusive of the left turn lanes at the signalized intersections and Class I bike paths on the north and south sides of the roadway. The 3Roots project would also provide additional IOD's on both the north and south side of the street to accommodate a future transit stop on the west side of the future signalized intersection of Carroll Canyon Road / Spine Road.

4.2 PROJECT TRIP GENERATION

Trip generation rates published in the *City of San Diego Trip Generation Manual, May 2003* were applied to the proposed uses to estimate the traffic generation characteristics of the site. **Table 4-1** summarizes the City of San Diego's trip generation rates applied to the project. Driveway rates reflect total vehicular trips generated by the project. Cumulative trips are defined as driveway trips minus pass-by trips (trips that are already on the roadway and passing by the site) and considered new trips added to a community.

TABLE 4-1: TRIP GENERATION RATES

Land Use	Driveway Vehicle Trip Rate	Cumulative Vehicle Trip Rate	AM PEAK HOUR		PM PEAK HOUR	
			% of ADT	In:Out Ratio	% of ADT	In:Out Ratio
Condominiums (<20 du per acre)	8 trips / du	8 trips / du	8%	0.20 : 0.80	10%	0.70 : 0.30
Apartments (>20 du per acre)	6 trips / du	6 trips / du	8%	0.20 : 0.80	9%	0.70 : 0.30
Single-Family Detached	10 trips / du	10 trips / du	8%	0.20 : 0.80	10%	0.70 : 0.30
Specialty Retail Center/Strip Commercial	40 trips / ksf	36 trips / ksf	3%	0.60 : 0.40	9%	0.50 : 0.50
High Turnover Restaurant	130 trips / ksf	104 trips / ksf	8%	0.50 : 0.50	8%	0.60 : 0.40
Neighborhood Commercial	120 trips / ksf	72 trips / ksf	4%	0.60 : 0.40	11%	0.50 : 0.50
Commercial Office	(1)	(1)	13%	0.90 : 0.10	14%	0.20 : 0.80
Developed Park	50 trips / acre	50 trips / Acre	4%	0.50 : 0.50	8%	0.50 : 0.50

Notes:

The trip rates for the proposed uses are based on the City of San Diego's Trip Generation Manual, May 2003.

du: dwelling unit; ksf: 1,000 square feet

(1) Trip rate is based on fitted curve logarithmic equation for Commercial Office: Ln(T) = 0.756Ln(X)+3.95.

Phase 1 (2021) and Project Buildout (2025) Trip Generation

Tables 4-2 and 4-3 summarizes the driveway and cumulative trips that are forecast to be generated by the 1,437 residential units and 16,000 square-feet ground floor retail proposed in Phase 1 (year 2021). As shown in Table 4-3, the proposed Phase 1 development is forecast to generate a total of 11,788 cumulative weekday trips per day, with 911 trips (190 in, 721 out) occurring during the AM peak hour, and with 1,136 trips (784 in, 352 out) occurring during the PM peak hour. Due to the low square footage of retail being developed, no mixed-use reduction or pass-by reduction (cumulative rate) was applied for Phase 1.

The forecast Phase 2/Project Buildout driveway and cumulative trip generation (Year 2025) is summarized in **Tables 4-4 and 4-5, respectively**. As shown in Table 4-5, the buildout of the proposed project is forecast to generate 26,209 cumulative trips per day, with 1,982 trips (713 in, 1,268 out) occurring during the AM peak hour, and with 2,407 trips (1,504 in, 904 out) occurring during the PM peak hour.

The cumulative trip rates for the proposed commercial uses were applied to account for pass-by trips. Because both residential and commercial uses will be developed at project buildout, a 10% mixed-use trip reduction was applied to the residential trips to reflect trips that would stay internal to the project site as well as non-vehicular trips.

Horizon Year 2050 Trip Generation

The project will construct a Mobility Hub near the retail center, which will provide for a variety of mobility options. The mobility hub does not include a park-n-ride facility. In addition, SANDAG and MTS are considering a future transit route along Carroll Canyon Road when it is completed. Future route planning has been discussed with SANDAG, MTS and City of San Diego, which is inconclusive at the time this report was prepared. The adopted regional transportation plan (San Diego Forward 2050) at the time this report was prepared did not include a transit route along this corridor. However, the regional transportation plan in process at the time this report was completed may include a future route along Carroll Canyon Road.

The future extensions of Carroll Canyon Road west of Camino Santa Fe and east of Camino Ruiz are not expected to be completed by project buildout (year 2025). Therefore, the trip generation for Phase 1 and Phase 2 (project buildout) do not include transit trip reductions. It is possible that local circulator routes, MTS/Coaster feeder routes or private shuttle services may be operational prior to the Carroll Canyon Road connection. But to maintain a conservative approach for the project near term and project buildout conditions, these reductions are not considered for 2021 and 2025.

By the year 2050, Carroll Canyon Road is anticipated to be constructed both east and west of the project site by others. The eastern portion will be constructed by Vulcan in conjunction with their Stone Creek project. The section to the west is funded through the Mira Mesa Public Facilities Financing Plan (Project T-5A, funded by 2024 through FBA-MM Fees). In addition, SANDAG and MTS are considering a transit route along Carroll Canyon Road. However, at the time this report was prepared, the route was not included in the Regional Transportation Plan and a Feasibility Assessment/Alignment Study had not been prepared for the corridor. Therefore, the project will provide an IOD on the south side of the street and will provide a mobility hub that will serve a future transit line should one be constructed by SANDAG/MTS.

As such, this analysis assumed a transit trip reduction credit for the Horizon Year (2050) analysis. **Tables 4-6 and 4-7** reflect the forecast driveway and cumulative project trips, which includes the completion of Carroll Canyon Road from I-5 to I-15 and an operational BRT route along Carroll Canyon Road. As shown in Table 4-7, the buildout of the proposed project under Horizon Year 2050 conditions is forecast to generate 25,478 cumulative trips per day, with 1,875 trips (689 in, 1,185 out) occurring during the AM peak hour, and with 2,322 trips (1,445 in, 877 out) occurring during the PM peak hour.

TABLE 4-2: DRIVEWAY TRIP GENERATION SUMMARY: PHASE 1 DEVELOPMENT (YEAR 2021)

Land Use	Amount		Daily Trip Generation Rate	ADT	AM PEAK HOUR			PM PEAK HOUR		
					Total	In	Out	Total	In	Out
Condominiums	393	du	8 / du	3,144	252	50	201	314	220	94
Apartments	609	du	6 / du	3,654	292	58	234	329	230	99
Single-Family	435	du	10 / du	4,350	348	70	278	435	305	130
Ground Floor Retail (specialty retail)	16	ksf	40 / ksf (1)	640	19	12	8	58	29	29
Phase 1 Project Total Driveway Trips				11,788	911	190	721	1,136	784	352

Notes:

The trip rates for the proposed uses are based on the City of San Diego's Trip Generation Manual, May 2003.

du: dwelling unit, ksf = 1,000 square feet

TABLE 4-3: CUMULATIVE TRIP GENERATION SUMMARY: PHASE 1 DEVELOPMENT (YEAR 2021)

Land Use	Amount		Daily Trip Generation Rate	ADT	AM PEAK HOUR			PM PEAK HOUR		
					Total	In	Out	Total	In	Out
Condominiums	393	du	8 / du	3,144	252	50	201	314	220	94
Apartments	609	du	6 / du	3,654	292	58	234	329	230	99
Single-Family	435	du	10 / du	4,350	348	70	278	435	305	130
Ground Floor Retail (specialty retail)	16	ksf	40 / ksf (1)	640	19	12	8	58	29	29
Phase 1 Project Total Cumulative Trips				11,788	911	190	721	1,136	784	352

Notes:

The trip rates for the proposed uses are based on the City of San Diego's Trip Generation Manual, May 2003.

du: dwelling unit, ksf = 1,000 square feet

(1) Driveway rate was used for the 16,000 sf of commercial in Phase I. No pass-by or mixed use reductions were applied in Phase 1.

TABLE 4-4: DRIVEWAY TRIP GENERATION SUMMARY: PROJECT BUILDOUT (YEAR 2025)

Land Use	Amount		Daily Trip Generation Rate	ADT	AM PEAK HOUR			PM PEAK HOUR		
					Total	In	Out	Total	In	Out
Condominiums (<20 du per acre)	643	du	8/du	5,144	412	82	330	514	360	154
Apartments (>20 du per acre)	609	du	6/du	3,654	292	58	234	329	230	99
Single-Family Detached	548	du	10/du	5,480	438	88	351	548	384	164
Ground Floor Retail or Live Work	16.000	ksf	40/ksf	640	19	12	7	58	29	29
Food and Beverage, Brewery, Fine Dining	86.400	ksf	130/ksf	11,232	899	449	450	899	539	360
Retail (Neighborhood)	20.700	ksf	120/ksf	2,484	99	60	39	273	137	136
Services (Specialty Retail)	9.600	ksf	40/ksf	384	12	7	5	35	17	18
Co-Working (Office)	23.460	ksf	(1)	564	73	66	7	79	16	63
Mobility Hub Commercial (Specialty Retail)	4.000	ksf	40/ksf	160	5	3	2	14	7	7
Developed Park	25.4	acres	50/acre	1,270	51	26	25	102	51	51
Driveway Trips Subtotal				31,012	2,300	851	1,449	2,851	1,770	1,081
Mixed-Use Trip Reduction (2)				1,445	95	22	73	142	98	44
Net Project Buildout Driveway Trips				***29,567***	***2,205***	***829***	***1,376***	***2,708***	***1,671***	***1,036***

Notes:

The trip rates for the proposed uses are based on the City of San Diego's Trip Generation Manual, May 2003.

du: dwelling unit; ksf: 1,000 square feet

(1) Trip rate is based on fitted curve logarithmic equation for Commercial Office: Ln(T) = 0.756Ln(X)+3.95.

(2) The following mixed-use reduction factors were applied to calculate the trip reduction:

Residential: Daily = 10%; AM = 8%; PM = 10%.

Office: Daily = 3%; AM = 5%; PM = 4%.

The commercial retail trip reduction is equal to the sum of the total mixed-use reduction for residential and office.

TABLE 4-5: CUMULATIVE TRIP GENERATION SUMMARY: PROJECT BUILDOUT DEVELOPMENT (YEAR 2025)

Land Use	Amount		Daily Trip Generation Rate	ADT	AM PEAK HOUR			PM PEAK HOUR		
					Total	In	Out	Total	In	Out
Condominiums (<20 du per acre)	643	du	8/du	5,144	412	83	329	514	360	154
Apartments (>20 du per acre)	609	du	6/du	3,654	292	58	234	329	230	99
Single-Family Detached	548	du	10/du	5,480	438	88	350	548	384	164
Ground Floor Retail or Live Work	16.000	ksf	36/ksf	576	17	10	7	52	26	26
Food and Beverage, Brewery, Fine Dining	86.400	ksf	104/ksf	8,986	719	359	360	719	431	288
Retail (Neighborhood)	20.700	ksf	72/ksf	1,490	60	36	24	164	82	82
Services (Specialty Retail)	9.600	ksf	36/ksf	346	10	6	4	31	16	16
Co-Working (Office)	23.460	ksf	(1)	564	73	66	7	79	16	63
Mobility Hub Commercial (Specialty Retail)	4.000	ksf	36/ksf	144	5	3	2	13	6	6
Developed Park	25.4	acres	50/acre	1,270	51	26	25	102	51	51
Cumulative Trips Subtotal				27,654	2,077	735	1,342	2,551	1,602	949
Mixed-Use Trip Reduction (2)				1,445	95	22	74	143	98	45
Net Project Buildout Cumulative Trips				***26,209***	***1,982***	***713***	***1,268***	***2,407***	***1,504***	***904***

Notes:

The trip rates for the proposed uses are based on the City of San Diego's Trip Generation Manual, May 2003.

du: dwelling unit; ksf: 1,000 square feet

(1) Trip rate is based on fitted curve logarithmic equation for Commercial Office: Ln(T) = 0.756Ln(X)+3.95.

(2) The following mixed-use reduction factors were applied to calculate the trip reduction:

Residential: Daily = 10%; AM = 8%; PM = 10%.

Office: Daily = 3%; AM = 5%; PM = 4%.

The commercial retail trip reduction is equal to the sum of the total mixed-use reduction for residential and office.

TABLE 4-6: DRIVEWAY TRIP GENERATION SUMMARY: PROJECT BUILDOUT DEVELOPMENT WITH TRANSIT TRIP REDUCTIONS (HORIZON YEAR 2050)

Land Use	Amount		Daily Trip Generation Rate	ADT	AM PEAK HOUR			PM PEAK HOUR		
					Total	In	Out	Total	In	Out
Condominiums (<20 du per acre)	643	du	8/du	5,144	412	82	330	514	360	154
Apartments (>20 du per acre)	609	du	6/du	3,654	292	58	234	329	230	99
Single-Family Detached	548	du	10/du	5,480	438	88	350	548	384	164
Ground Floor Retail or Live Work	16.000	ksf	40/ksf	640	19	12	7	58	29	29
Food and Beverage, Brewery, Fine Dining	86.400	ksf	130/ksf	11,232	899	449	450	899	539	359
Retail (Neighborhood)	20.700	ksf	120/ksf	2,484	99	60	39	273	137	137
Services (Specialty Retail)	9.600	ksf	40/ksf	384	12	7	5	35	17	17
Co-Working (Office)	23.460	ksf	(1)	564	73	66	7	79	16	63
Mobility Hub Commercial (Specialty Retail)	4.000	ksf	40/ksf	160	5	3	2	14	7	7
Developed Park	25.4	acres	50/acre	1,270	51	26	25	102	51	51
Driveway Trips Subtotal				31,012	2,300	851	1,449	2,850	1,770	1,081
Mixed-Use Trip Reduction (2)				731	107	24	83	85	59	26
Transit Trip Reduction (3)				1,445	95	22	73	142	98	44
Net Project Buildout Driveway Trips				***28,836***	***2,098***	***805***	***1,293***	***2,623***	***1,613***	***1,010***

Notes:

The trip rates for the proposed uses are based on the City of San Diego's Trip Generation Manual, May 2003.

du: dwelling unit; ksf: 1,000 square feet

(1) Trip rate is based on fitted curve logarithmic equation for Commercial Office: Ln(T) = 0.756Ln(X)+3.95.

(2) The following mixed-use reduction factors were applied to calculate the trip reduction:

Residential: Daily = 10%; AM = 8%; PM = 10%.

Office: Daily = 3%; AM = 5%; PM = 4%.

The commercial retail trip reduction is equal to the sum of the total mixed-use reduction for residential and office.

(3) The following transit trip reduction factors were applied to calculate the trip reduction:

Residential: Daily = 5%; AM = 9%; PM = 6%.

Office: Daily = 3%; AM = 5.5%; PM = 2%.

Transit trip reduction factors were not applied to the commercial retail uses.

TABLE 4-7: CUMULATIVE TRIP GENERATION SUMMARY: PROJECT BUILDOUT DEVELOPMENT WITH TRANSIT TRIP REDUCTIONS (HORIZON YEAR 2050)

Land Use	Amount		Daily Trip Generation Rate	ADT	AM PEAK HOUR			PM PEAK HOUR		
					Total	In	Out	Total	In	Out
Condominiums (<20 du per acre)	643	du	8/du	5,144	412	82	330	514	360	154
Apartments (>20 du per acre)	609	du	6/du	3,654	292	58	234	329	230	99
Single-Family Detached	548	du	10/du	5,480	438	88	350	548	384	164
Ground Floor Retail or Live Work	16.000	ksf	36/ksf	576	17	10	7	52	26	26
Food and Beverage, Brewery, Fine Dining	86.400	ksf	104/ksf	8,986	719	360	359	719	431	288
Retail (Neighborhood)	20.700	ksf	72/ksf	1,490	60	36	24	164	82	82
Services (Specialty Retail)	9.600	ksf	36/ksf	346	10	6	4	31	16	16
Co-Working (Office)	23.460	ksf	(1)	564	73	66	7	79	16	63
Mobility Hub Commercial (Specialty Retail)	4.000	ksf	36/ksf	144	5	3	2	13	6	6
Developed Park	25.4	acres	50/acre	1,270	51	26	25	102	51	51
Cumulative Trips Subtotal				27,654	2,077	735	1,342	2,551	1,602	949
Mixed-Use Trip Reduction (2)				731	107	24	83	85	59	26
Transit Trip Reduction (3)				1,445	95	22	74	143	98	45
Net Project Buildout Cumulative Trips				***25,478***	***1,875***	***689***	***1,185***	***2,322***	***1,445***	***877***

Notes:

The trip rates for the proposed uses are based on the City of San Diego's Trip Generation Manual, May 2003.

du: dwelling unit; ksf: 1,000 square feet

(1) Trip rate is based on fitted curve logarithmic equation for Commercial Office: Ln(T) = 0.756Ln(X)+3.95.

(2) The following mixed-use reduction factors were applied to calculate the trip reduction:

Residential: Daily = 10%; AM = 8%; PM = 10%.

Office: Daily = 3%; AM = 5%; PM = 4%.

The commercial retail trip reduction is equal to the sum of the total mixed-use reduction for residential and office.

(3) The following transit trip reduction factors were applied to calculate the trip reduction:

Residential: Daily = 5%; AM = 9%; PM = 6%.

Office: Daily = 3%; AM = 5.5%; PM = 2%.

Transit trip reduction factors were not applied to the commercial retail uses.

4.3 PROJECT TRIP DISTRIBUTION

Project trips were assigned to the local road network based on the results of Select Zone Assignment conducted using the SANDAG Series 12 Year 2020 and Year 2050 regional travel demand models. Three network scenarios were run using the Series 12 model:

Scenario 1: Year 2020 with existing roadway network (no Carroll Canyon Road extension);

Scenario 2: Year 2020 with Carroll Canyon Road extension between Camino Santa Fe and Camino Ruiz; and

Scenario 3: Year 2050 with buildout of the future roadway network included in the City of San Diego Community Plans and surrounding City General Plans for the SANDAG region.

Scenario 1 reflects the roadway network for Existing Plus Project and Near Term Year 2021 With Project conditions. Scenario 2 reflects the roadway network for Near Term Year 2025 With Project Buildout conditions. Scenario 2 Year 2020 volumes were adjusted using a growth rate factor to determine year 2025 volumes.

The Series 12 Year 2050 model includes the full extension of Carroll Canyon Road from I-5 to I-15. Both sections of Carroll Canyon Road are included in the Mira Mesa Public Facilities Financing Plan as T-5A (Fenton Road to Camino Santa Fe) and T-5C (Camino Ruiz to Black Mountain Road). Project T5-A (Fenton Road to Camino Santa Fe) is identified as funded through FBA-MM fees by year 2024. Project T-5C will be constructed in conjunction with the Vulcan Stone Creek project. Buildout of the Vulcan Stone Creek project is included in the SANDAG Series 12 Model run for this project. The project cannot be completed without the construction of Carroll Canyon Road, therefore it is reasonable to assume that the project is fully funded by year 2050.

The proposed residential, commercial and park uses were included in separate zones and individual Select Zone model runs were performed for each of the three uses. The individual Select Zone Assignment runs performed with the Series 12 Year 2020 and 2050 traffic models are described below:

Series 12 Year 2020 Model –Scenario 1 (Existing Roadway Network – without Carroll Canyon Road)

Select Zone Assignment for Residential Uses (for Existing Plus Project and Near Term Year 2021)

Select Zone Assignment for Commercial Uses (for Existing Plus Project only)

Series 12 Year 2020 Model –Scenario 2 (With Carroll Canyon Road Extension)

Select Zone Assignment for Residential Uses (for Near Term Year 2025)

Select Zone Assignment for Commercial Uses (for Near Term Year 2025)

Series 12 Year 2050 Model – Scenario 3 (with Carroll Canyon Road Extension from I-5 to I-15)

Select Zone Assignment for Residential Uses (for Horizon Year 2050)

Select Zone Assignment for Commercial Uses (for Horizon Year 2050)

Select Zone Assignment for Park Uses (for Near Term Year 2025 and Horizon Year 2050)

The Select Zone distribution percentages for all three uses were similar within each model run scenario. Because the Select Zone Assignment for the park use was not run using the 2020 model, the distribution percentages for the residential uses were applied to the park use for Existing Plus Project and Near Term Year 2025 With Project conditions.

Figure 4-1 displays the project trip distribution through the study intersections and road segments for the residential uses under Existing Plus Project and Near Term Year 2021 With Project conditions. Note that the residential

distribution percentages shown in Figure 4-1 also apply to the park distribution for the Existing Plus Project Buildout scenario.

Figure 4-2 shows the project trip distribution for the commercial uses under Existing Plus Project and Near Term conditions, based on the existing roadway network.

Figure 4-3 and **Figure 4-4** illustrate the project trip distribution for the residential and commercial uses, respectively, for Near Term Year 2025 With Project conditions. Note that the residential distribution percentages shown in Figure 4-3 also apply to the park distribution for the Near Term Year 2025 scenario.

Figure 4-5, Figure 4-6, and **Figure 4-7** display the trip distribution for the residential, commercial and park uses, respectively, under Horizon Year 2050 conditions.

Appendix H contains copies of the Select Zone Assignment model runs conducted for this project.

4.4 PROJECT TRIP ASSIGNMENT

Based on the project trip generation and distribution, the peak hour and daily project trips were assigned to the intersections and roadway segments in the study area.

Figure 4-8 and **Figure 4-9** illustrate the project trip assignment under Existing Plus Project Buildout conditions for the study intersections and roadway segments, respectively.

The Existing Plus Phase 1 Project and Near Term Year 2021 With Phase 1 Project trip assignment for the study intersections and roadway segments are shown in **Figure 4-10** and **Figure 4-11**, respectively.

Figure 4-12 and **Figure 4-13** illustrate the project trip assignment for the study intersections and roadway segments, respectively, under Near Term Year 2025 With Project Buildout conditions.

The Horizon Year 2050 With Project Buildout project trip assignment for the study intersections and roadway segments are shown in **Figure 4-14** and **Figure 4-15**, respectively.

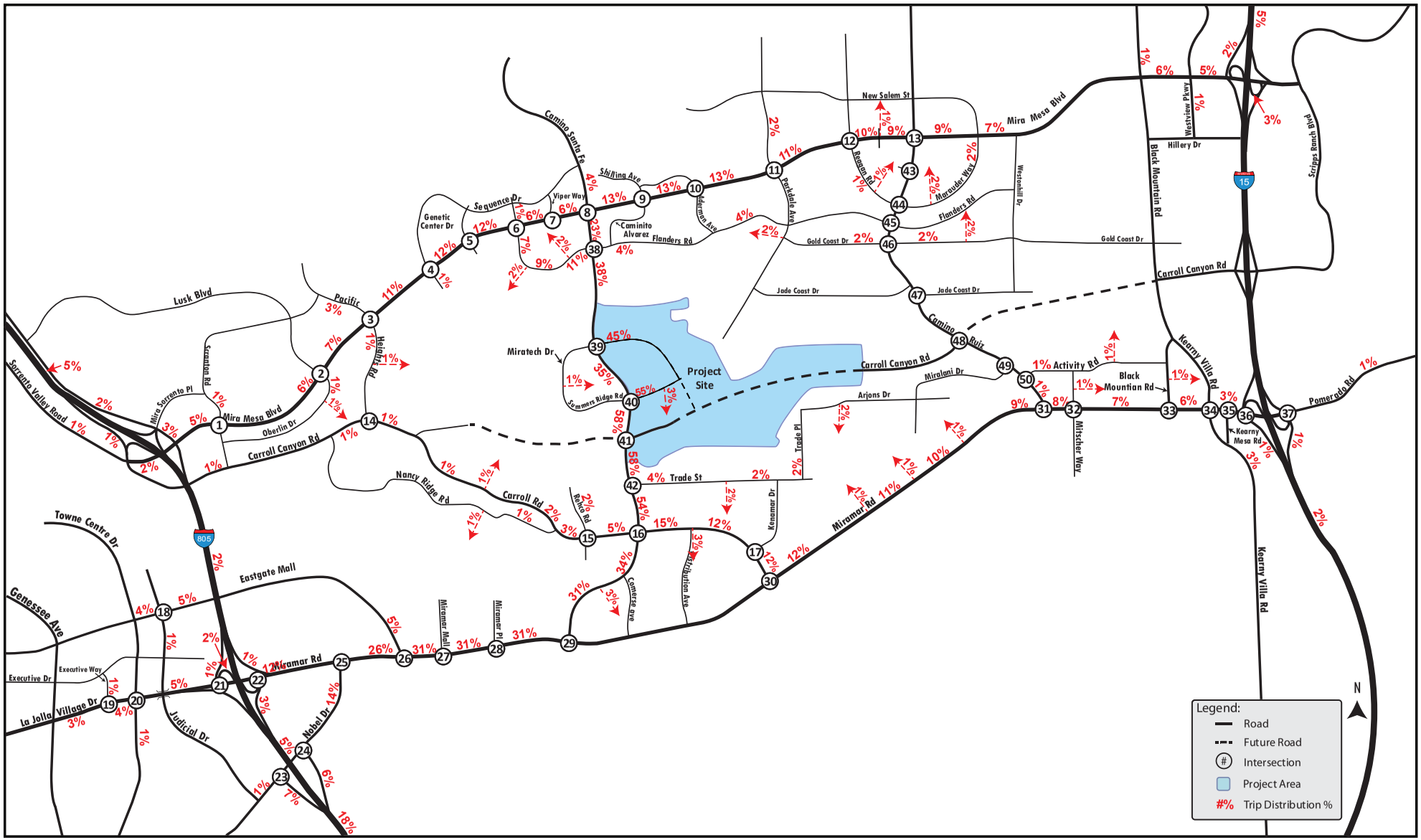

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Figure 4-1

Project Trip Distribution for Residential Uses: Near Term Year 2021

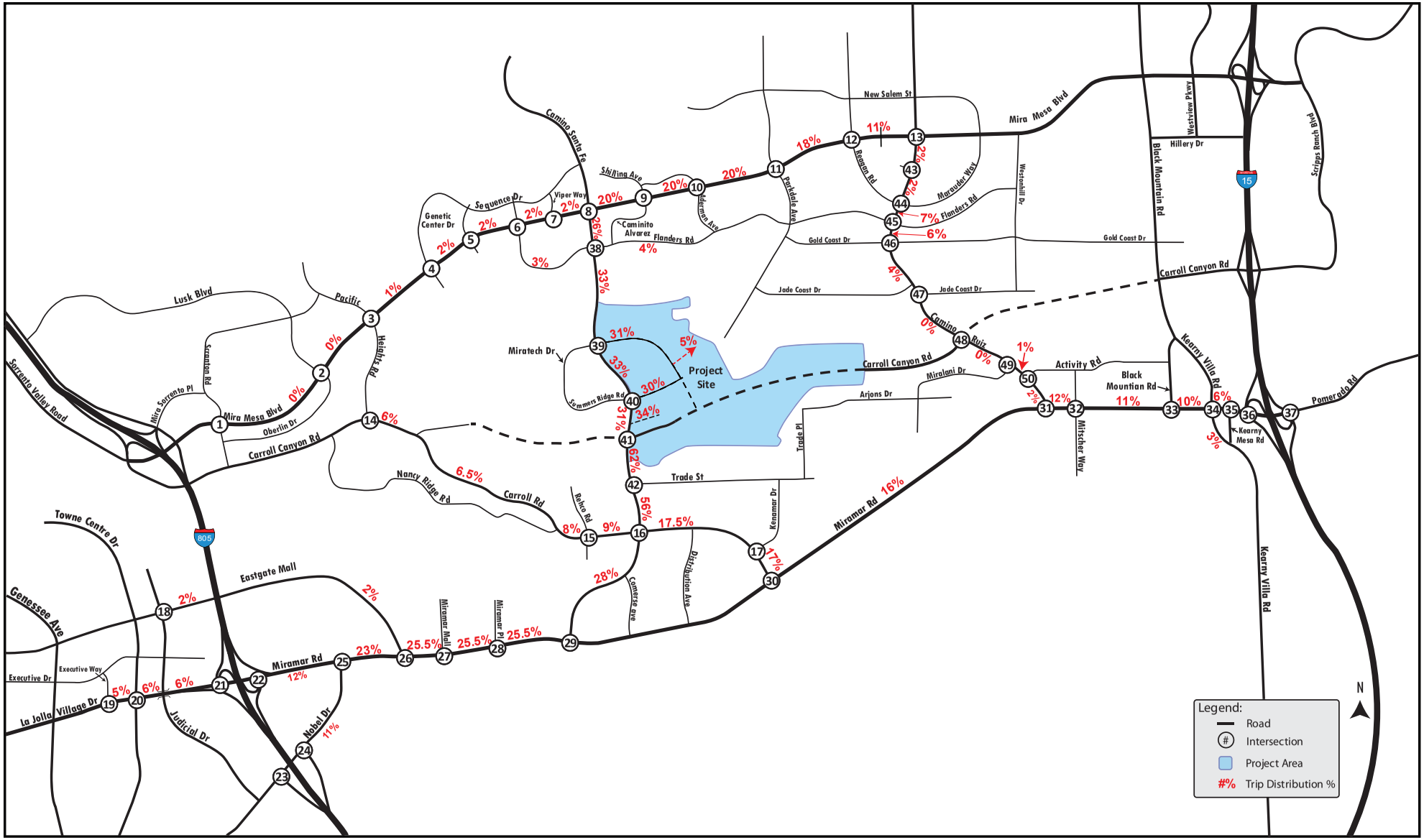

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Figure 4-2

Project Trip Distribution for Commercial Uses: Near Term 2021

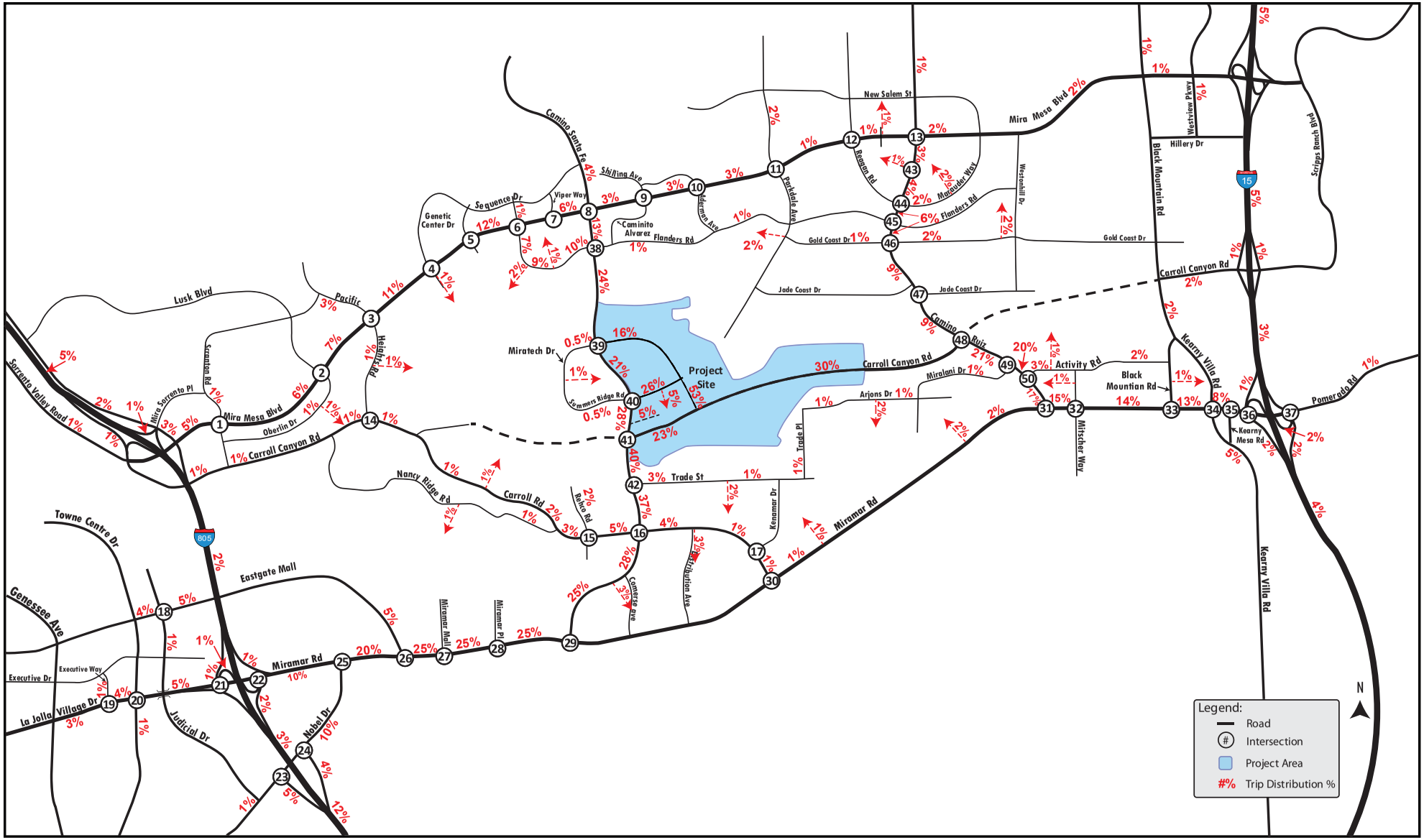

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Figure 4-3

Project Trip Distribution for Residential Uses: Near Term Year 2025 With Project

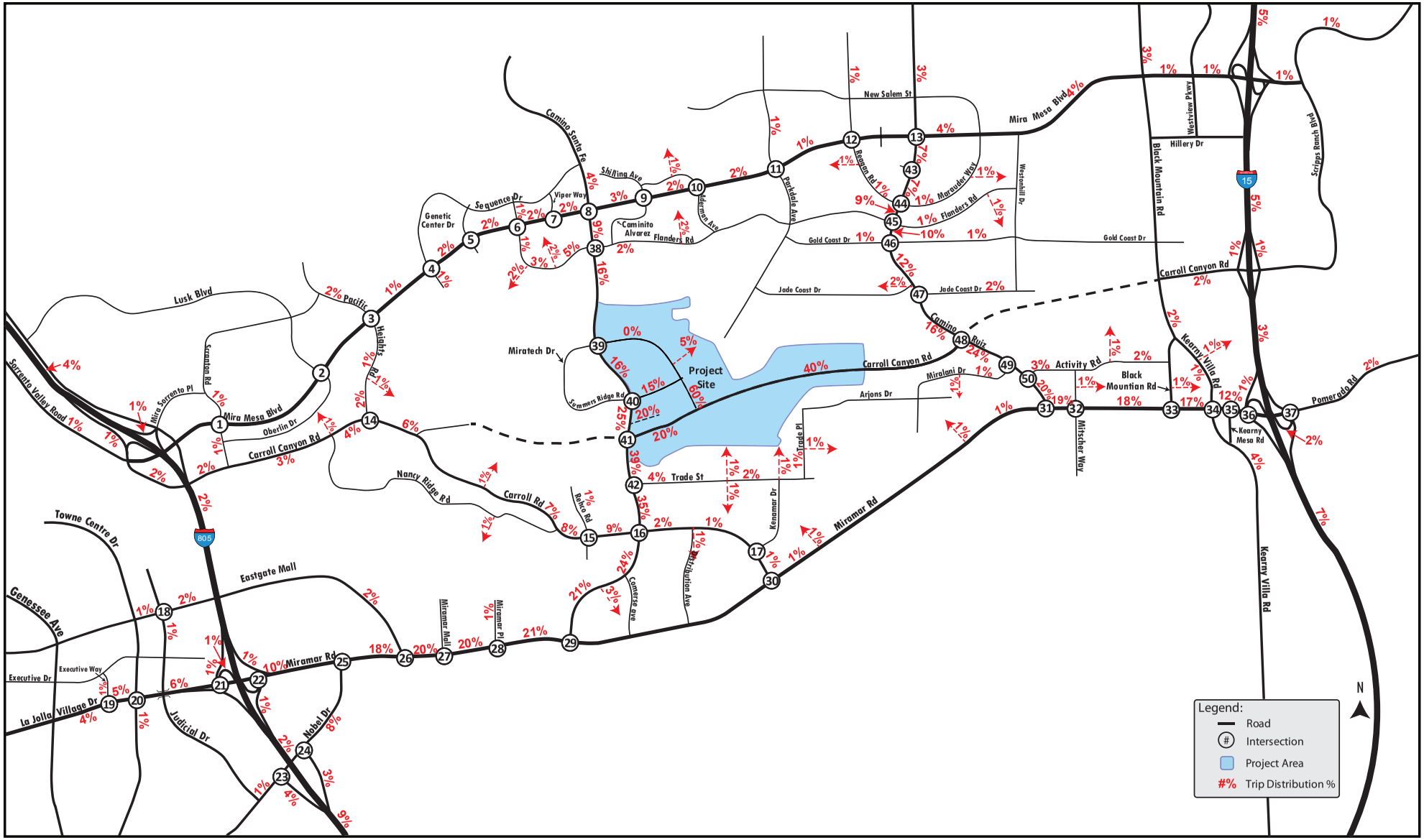

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Figure 4-4
Project Trip Distribution for Commercial Uses: Near Term Year 2025 With Project

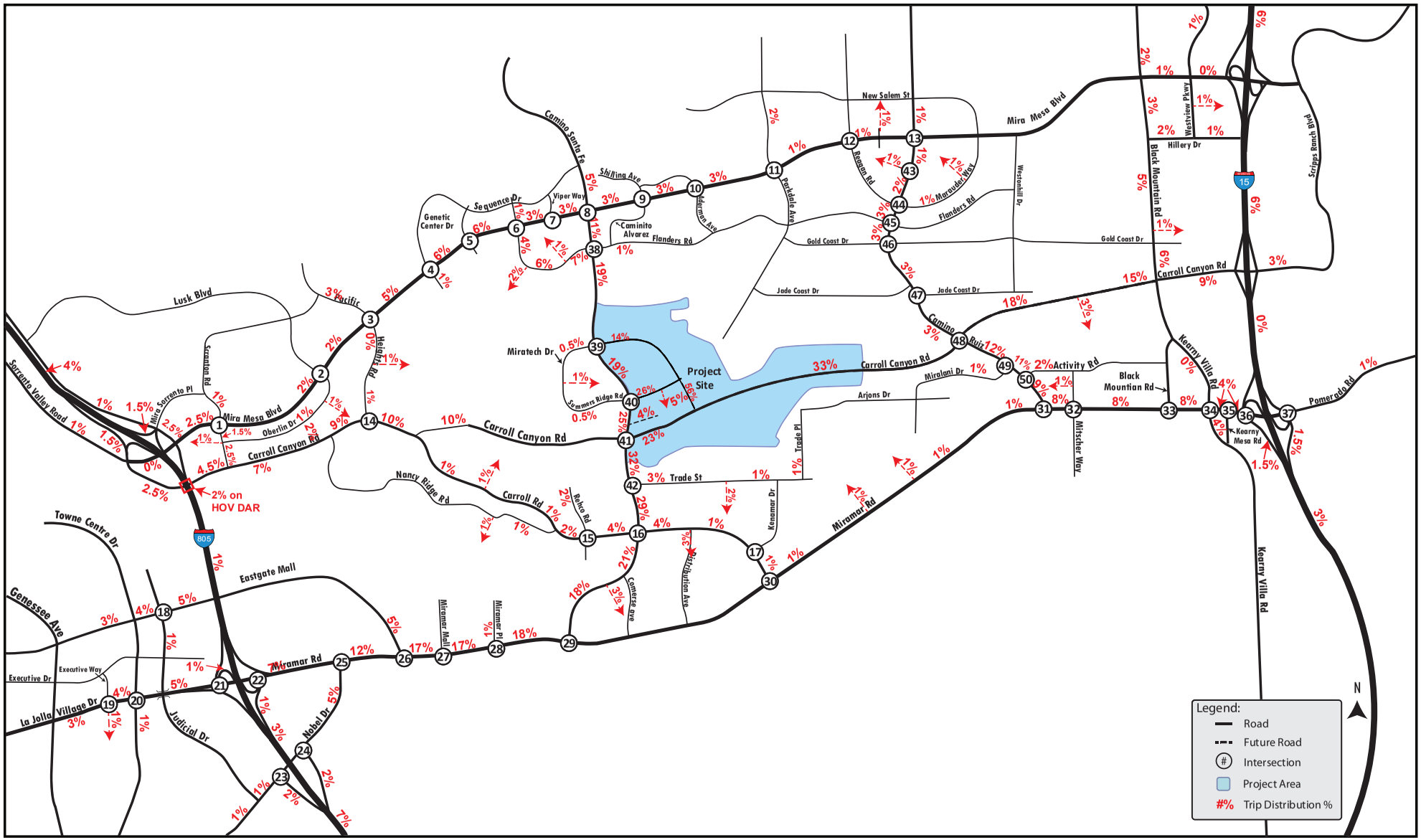

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Figure 4-5

Project Trip Distribution for Residential Uses: Horizon Year 2050 With Project

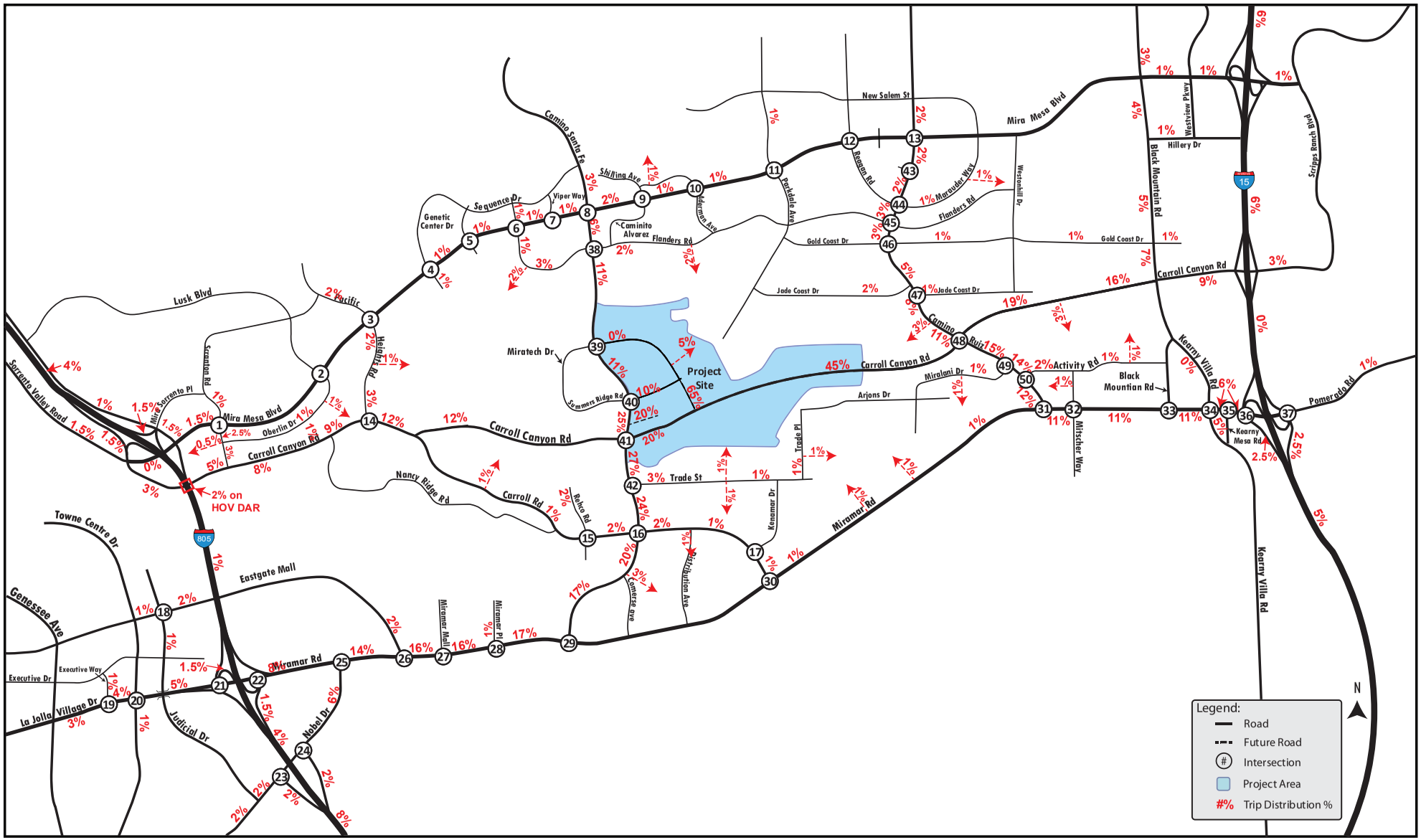

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Figure 4-6

Project Trip Distribution for Commercial Uses: Horizon Year 2050 With Project

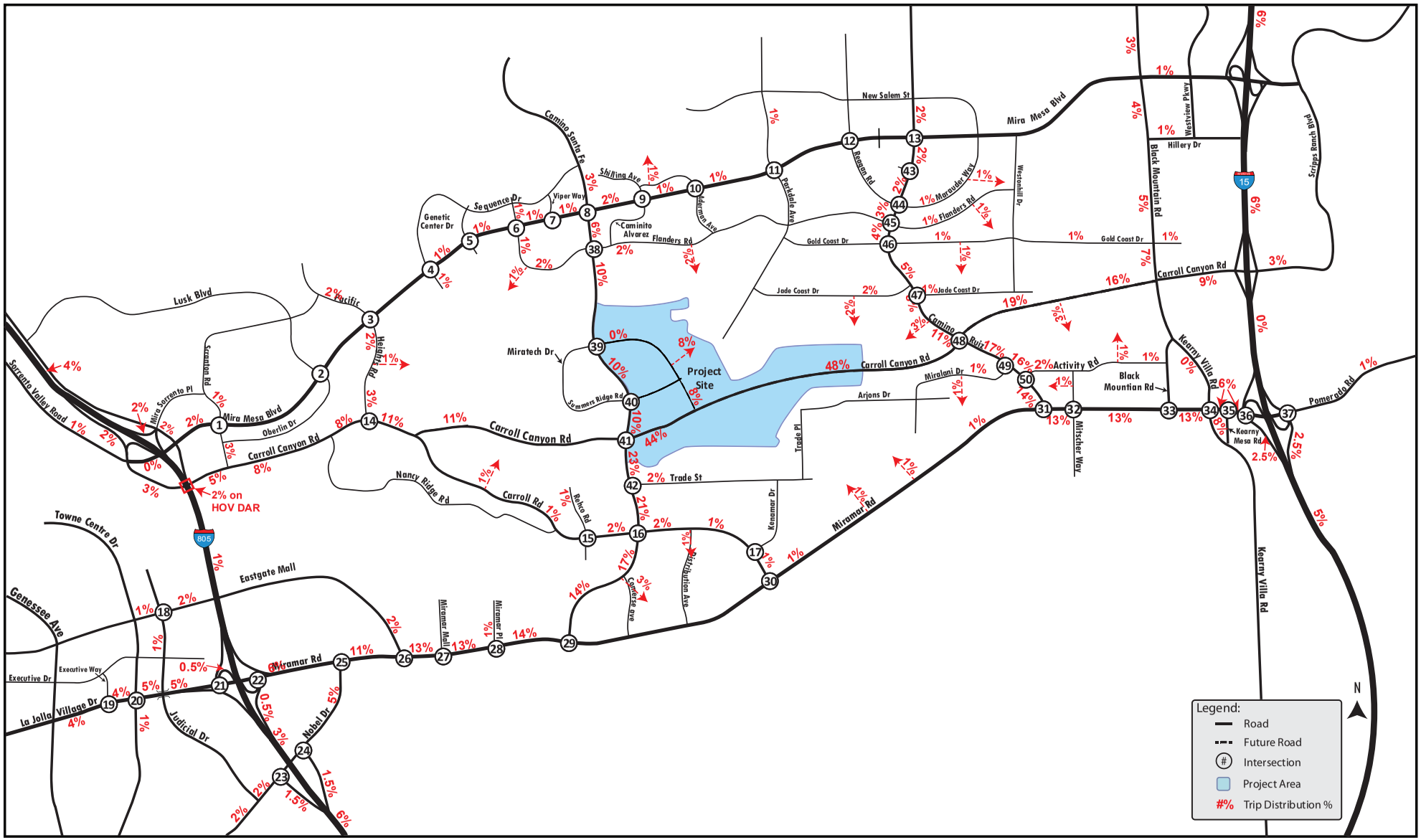

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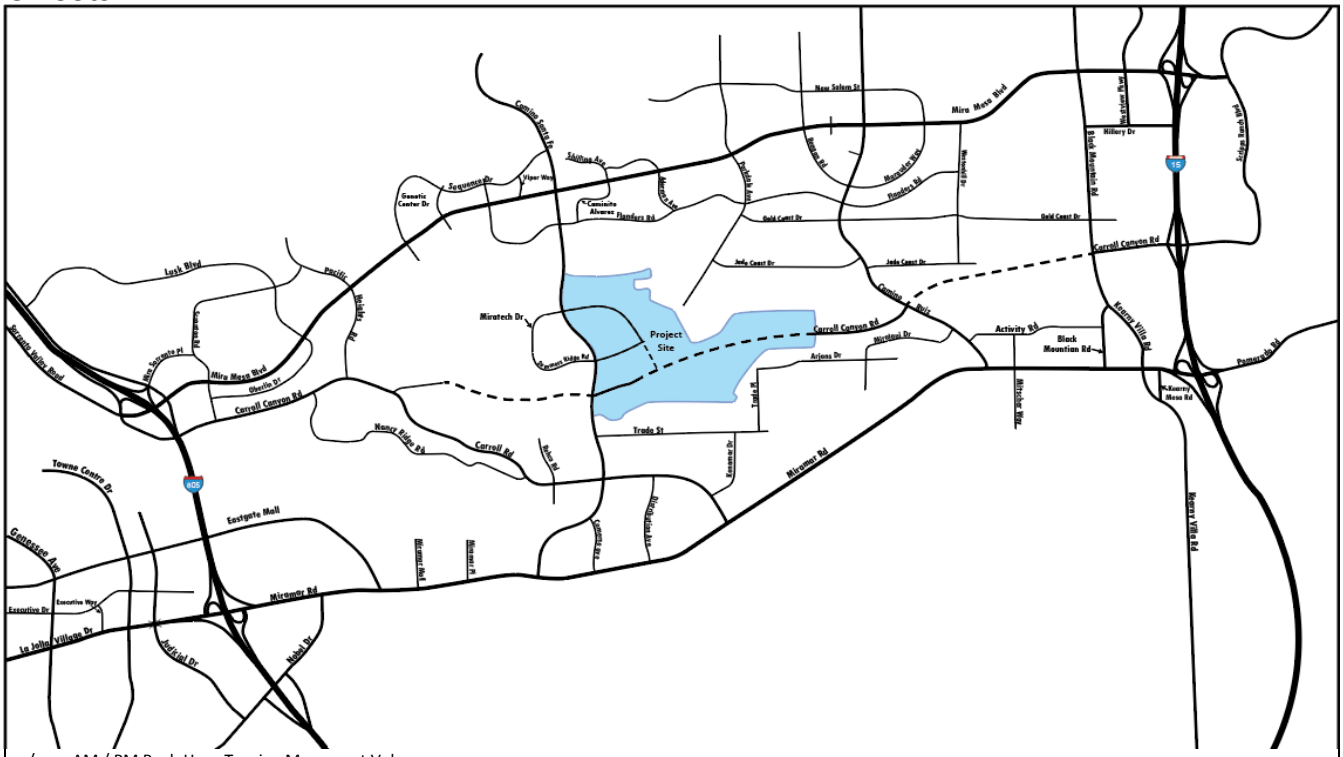
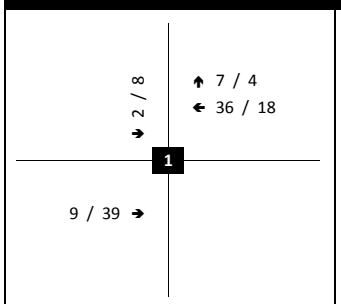
Figure 4-7

Project Trip Distribution for Park Uses: Horizon Year 2050 With Project

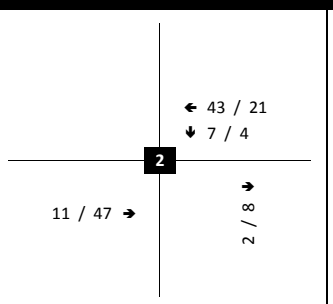


xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

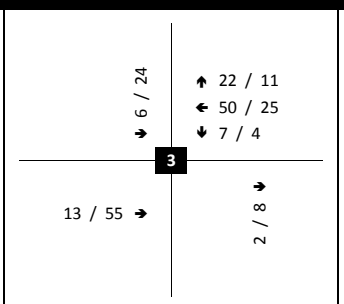
1 / Scranton Rd @ Mira Mesa Blvd



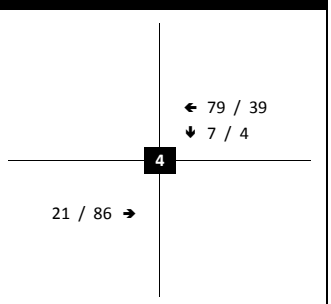
2 / Lusk Blvd @ Mira Mesa Blvd



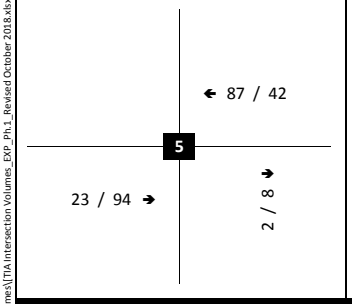
3 / Pacific Heights Rd @ Mira Mesa Blvd



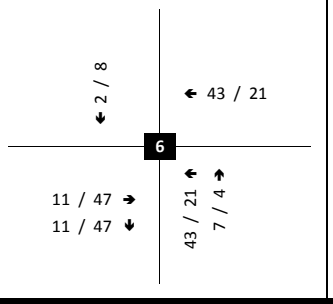
4 / Sequence Dr @ Mira Mesa Blvd



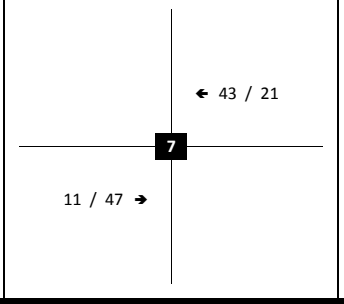
5 / Genetic Center Dr @ Mira Mesa Blvd



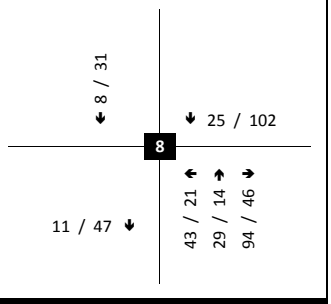
6 / Flanders Dr @ Mira Mesa Blvd



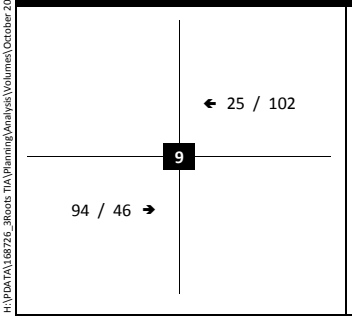
7 / Viper Way @ Mira Mesa Blvd



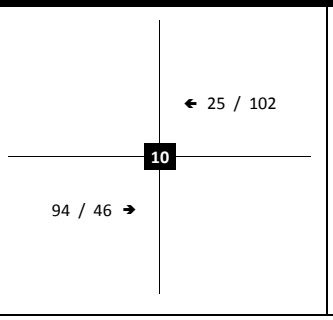
8 / Camino Santa Fe @ Mira Mesa Blvd



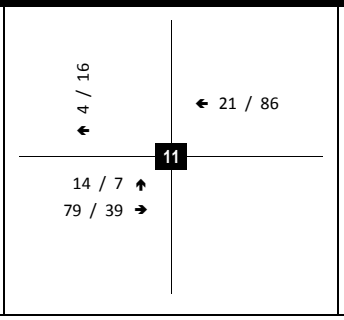
9 / Shilling Ave @ Mira Mesa Blvd



10 / Aderman Ave @ Mira Mesa Blvd



11 / Parkdale Ave @ Mira Mesa Blvd



12 / Reagan Rd @ Mira Mesa Blvd

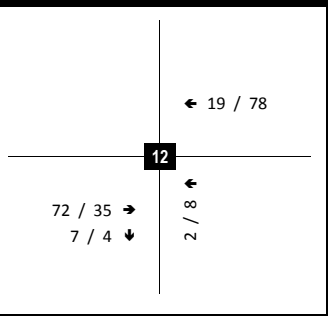


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Figure 4-8a

Peak Hour Project Trip Assignment: Existing Plus Phase 1 Project

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

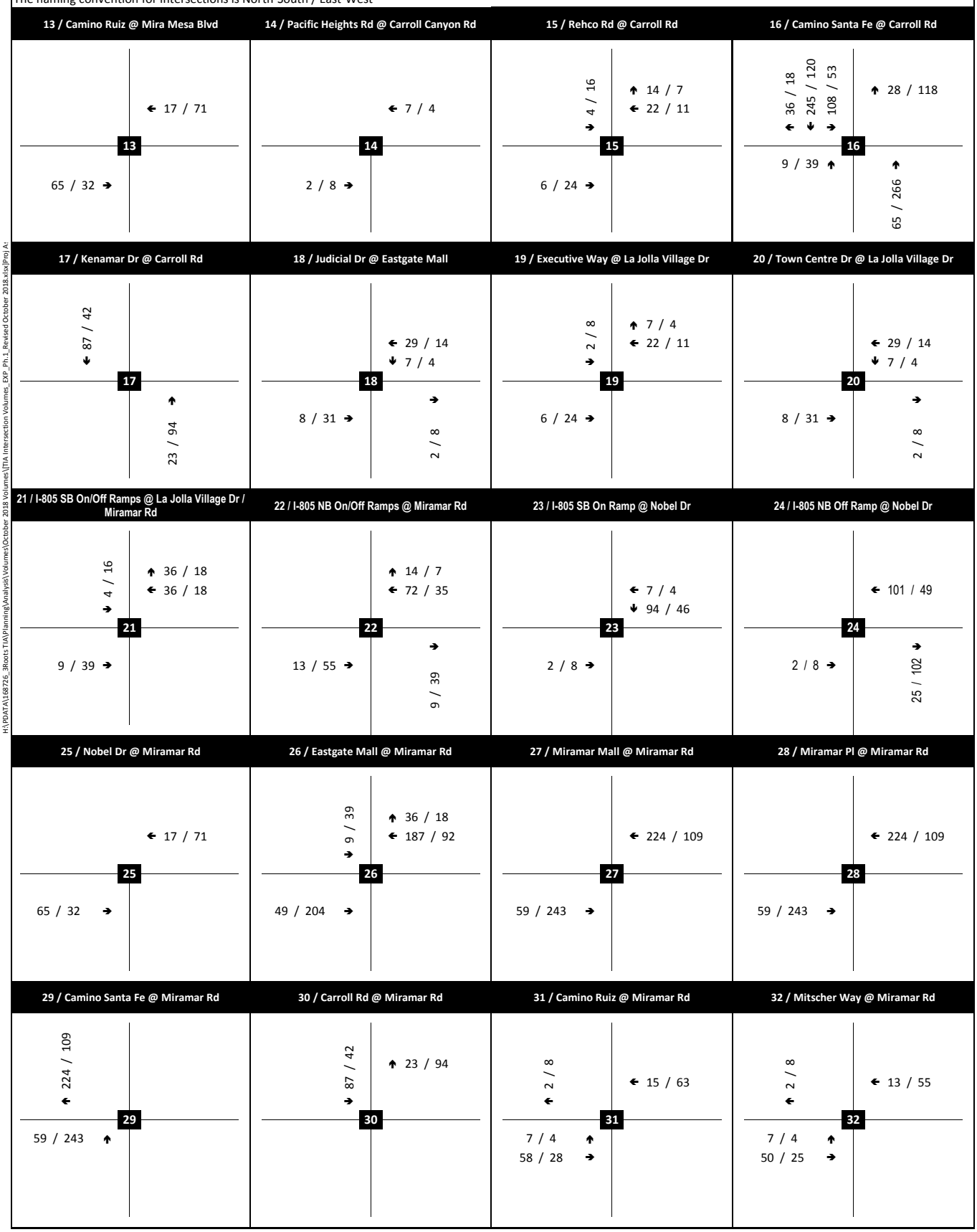

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Figure 4-8b

Peak Hour Project Trip Assignment: Existing Plus Phase 1 Project

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

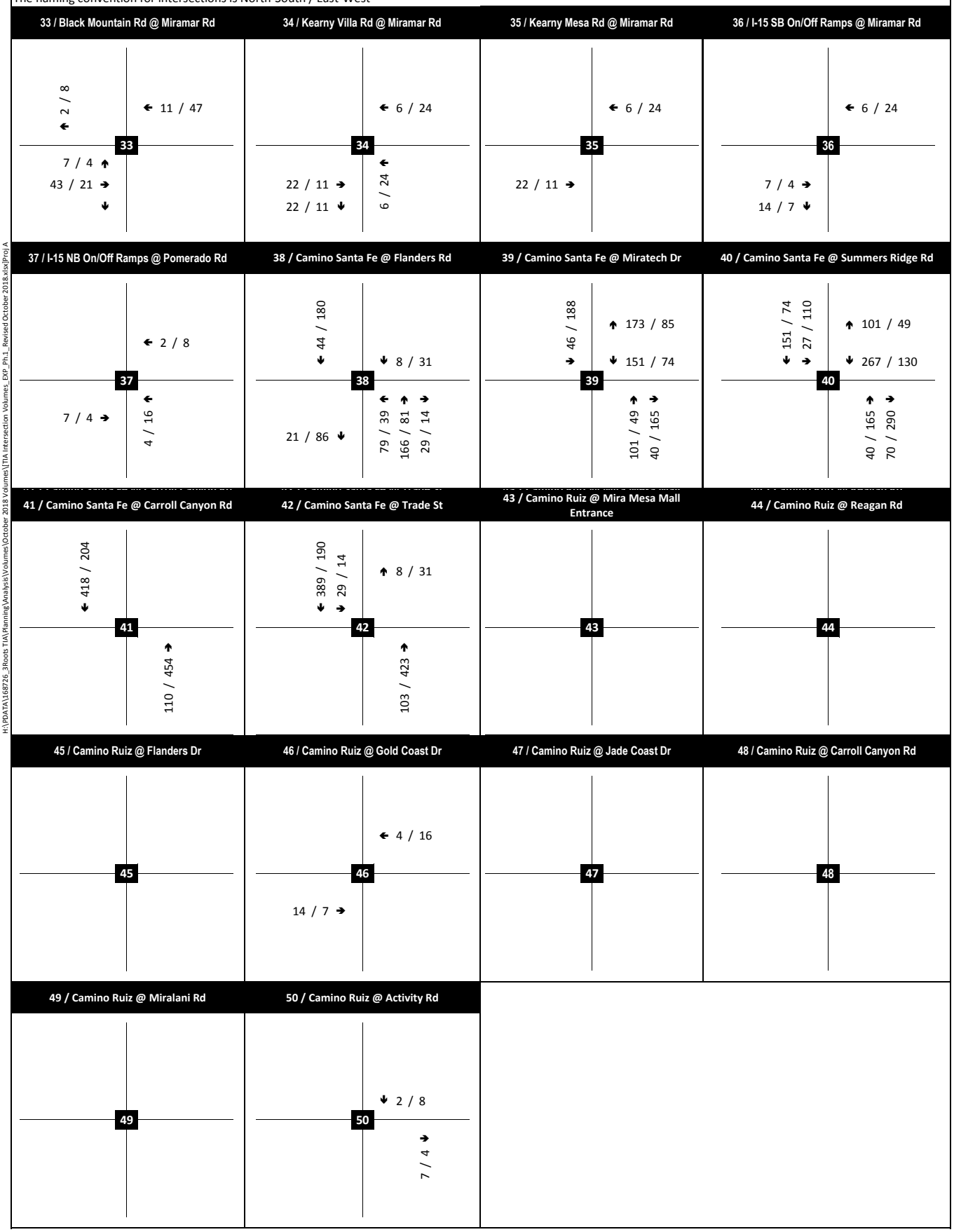

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Figure 4-8c
Peak Hour Project Trip Assignment: Existing Plus Phase 1 Project

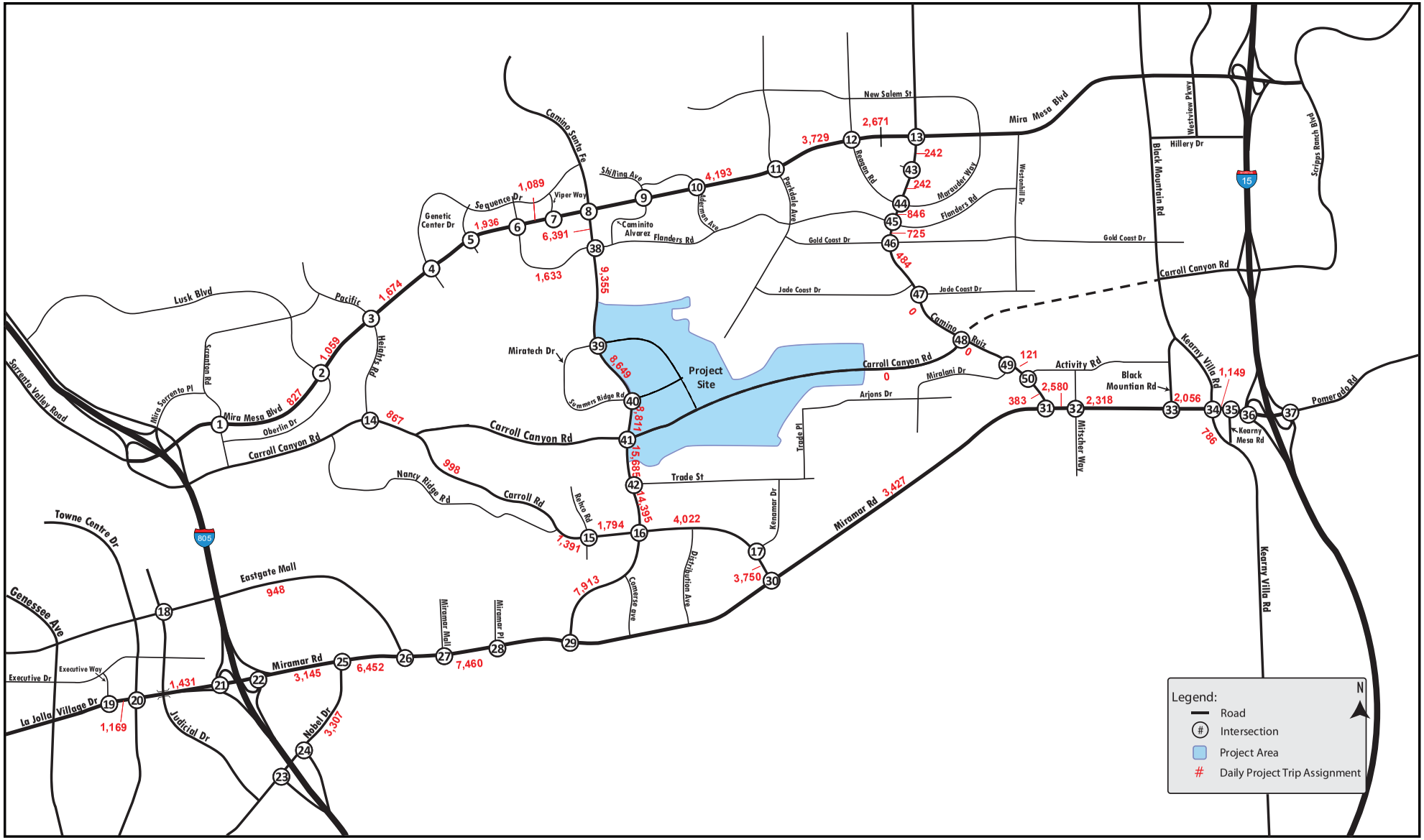

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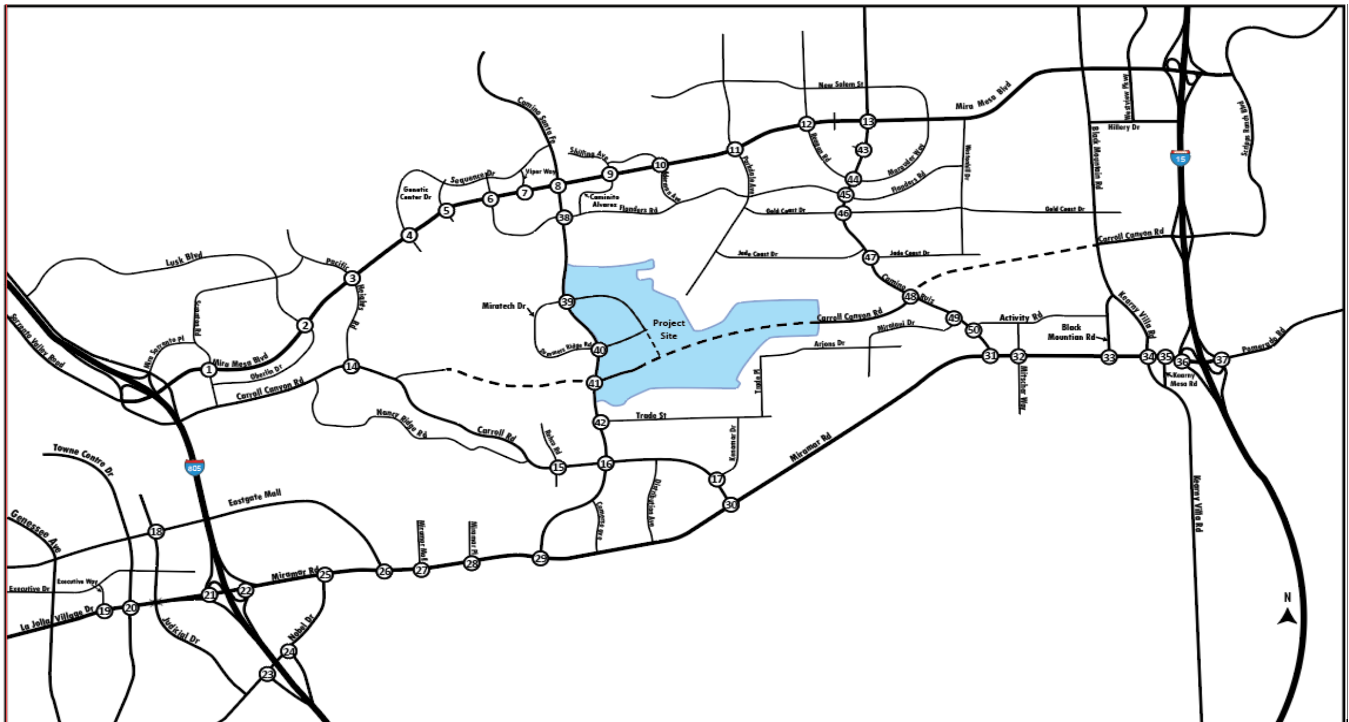
Figure 4-9
Daily Project Trip Assignment: Existing Plus Project Buildout

3 Roots TIA



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

1 / Scranton Rd @ Mira Mesa Blvd
- → 2 / 8
- ↑ 7 / 4
- ← 37 / 18
- 10 / 40 →

2 / Lusk Blvd @ Mira Mesa Blvd
- ← 44 / 21
- ↓ 7 / 4
- 12 / 48 →
- 2 / 8 →

3 / Pacific Heights Rd @ Mira Mesa Blvd
- → 6 / 24
- ↑ 22 / 11
- ← 51 / 25
- ↓ 7 / 4
- 14 / 56 →
- 2 / 8 →

4 / Sequence Dr @ Mira Mesa Blvd
- ← 81 / 39
- ↓ 7 / 4
- 21 / 87 →

5 / Genetic Center Dr @ Mira Mesa Blvd
- ← 88 / 43
- 23 / 95 →
- 2 / 8 →

6 / Flanders Dr @ Mira Mesa Blvd
- ↓ 2 / 8
- ← 44 / 21
- 12 / 48 →
- 12 / 48 ↓
- 44 / 21 ←
- 7 / 4 ↑

7 / Viper Way @ Mira Mesa Blvd
- ← 44 / 21
- 12 / 48 →

8 / Camino Santa Fe @ Mira Mesa Blvd
- ↓ 8 / 32
- ↓ 25 / 103
- 12 / 48 ↓
- 44 / 21 ←
- 29 / 14 ↑
- 95 / 46 →

9 / Shilling Ave @ Mira Mesa Blvd
- ← 25 / 103
- 95 / 46 →

10 / Aderman Ave @ Mira Mesa Blvd
- ← 25 / 103
- 95 / 46 →

11 / Parkdale Ave @ Mira Mesa Blvd
- ← 4 / 16
- ← 21 / 87
- 15 / 7 ↑
- 81 / 39 →

12 / Reagan Rd @ Mira Mesa Blvd
- ← 19 / 79
- 73 / 36 →
- 7 / 4 ↓
- 2 / 8 ←

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Figure 4-10a
Peak Hour Project Trip Assignment: Near Term Year 2021 With Phase One Project

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

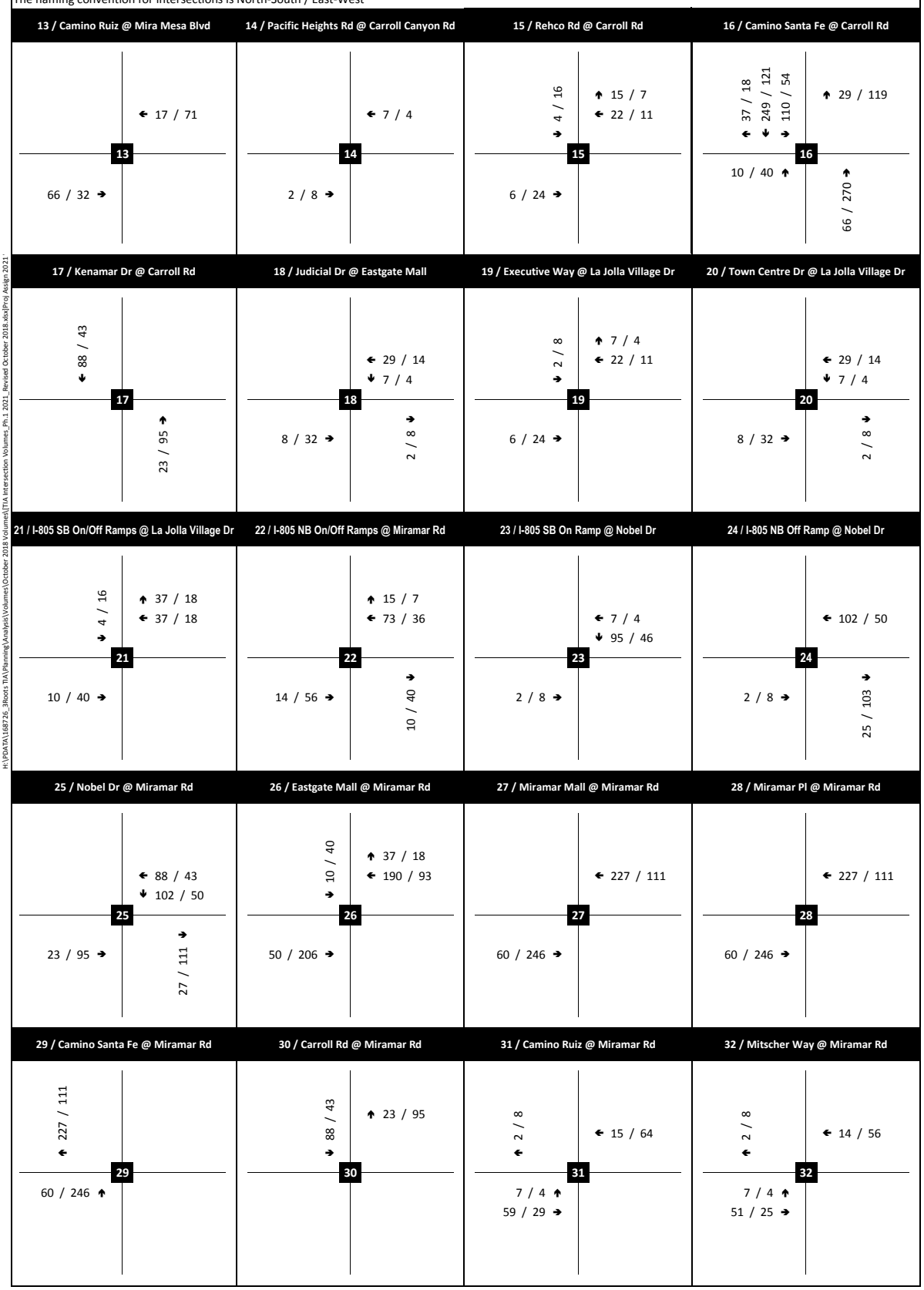

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Figure 4-10b

Peak Hour Project Trip Assignment: Near Term Year 2021 With Phase One Project

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

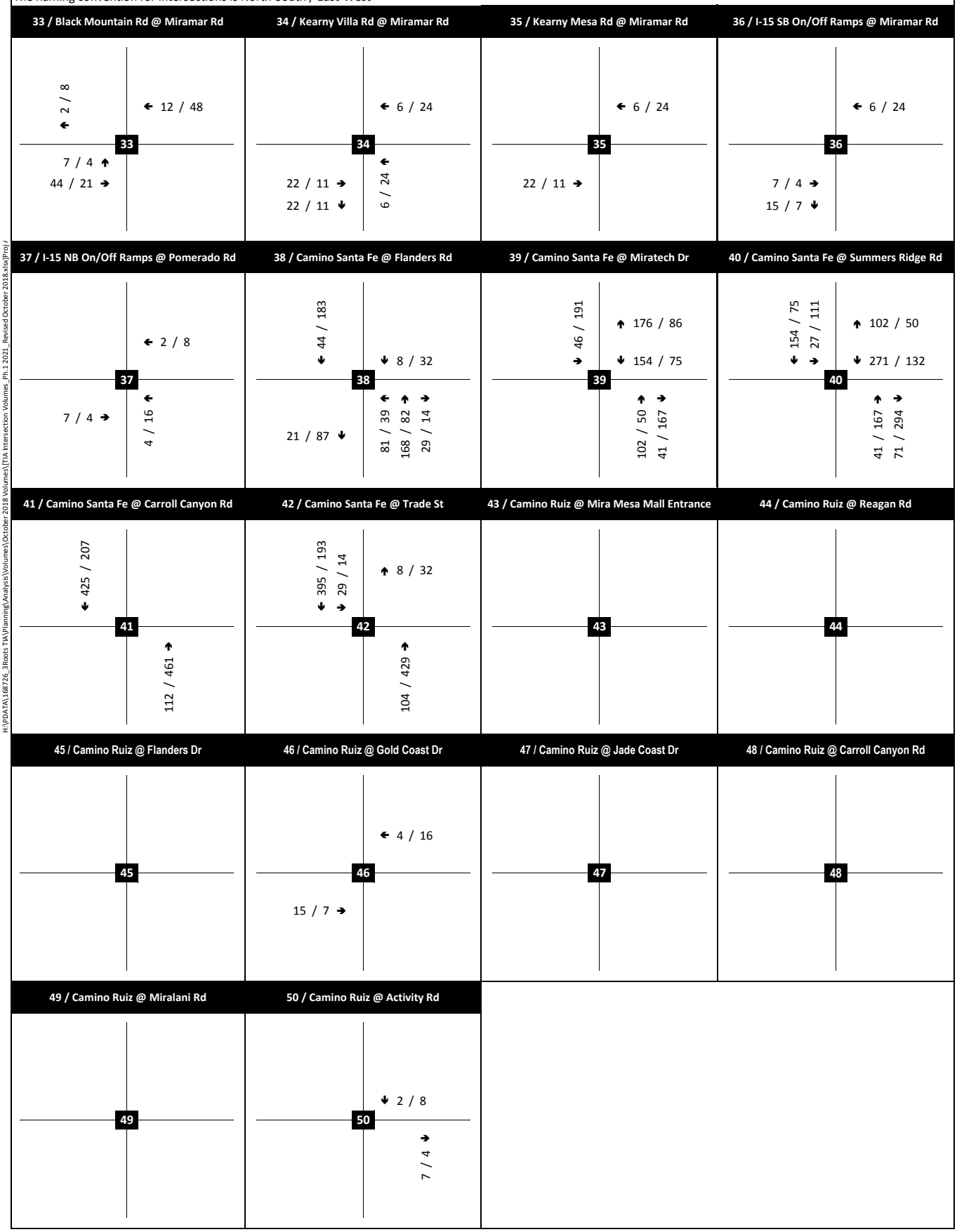

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Figure 4-10c

Peak Hour Project Trip Assignment: Near Term Year 2021 With Phase One Project

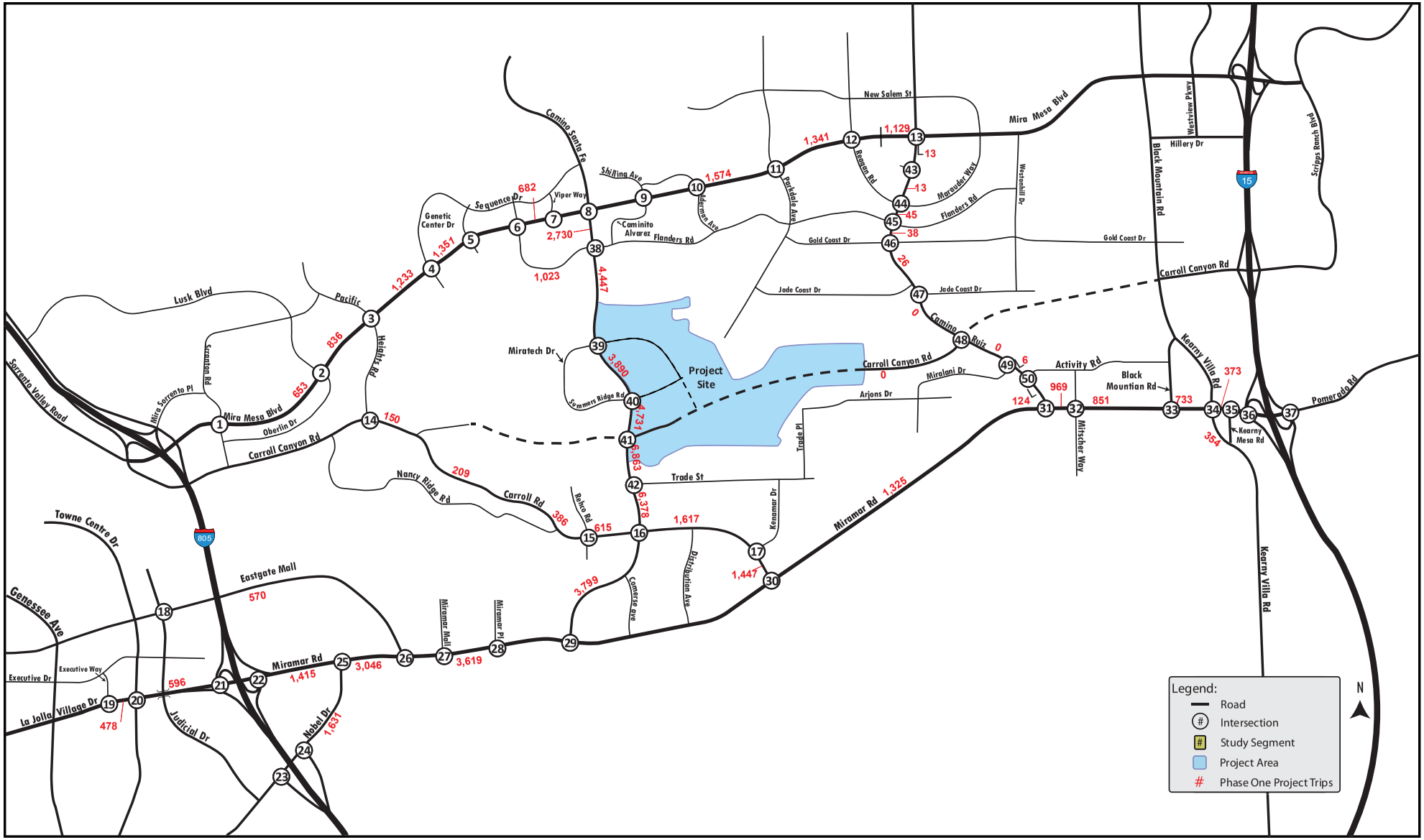

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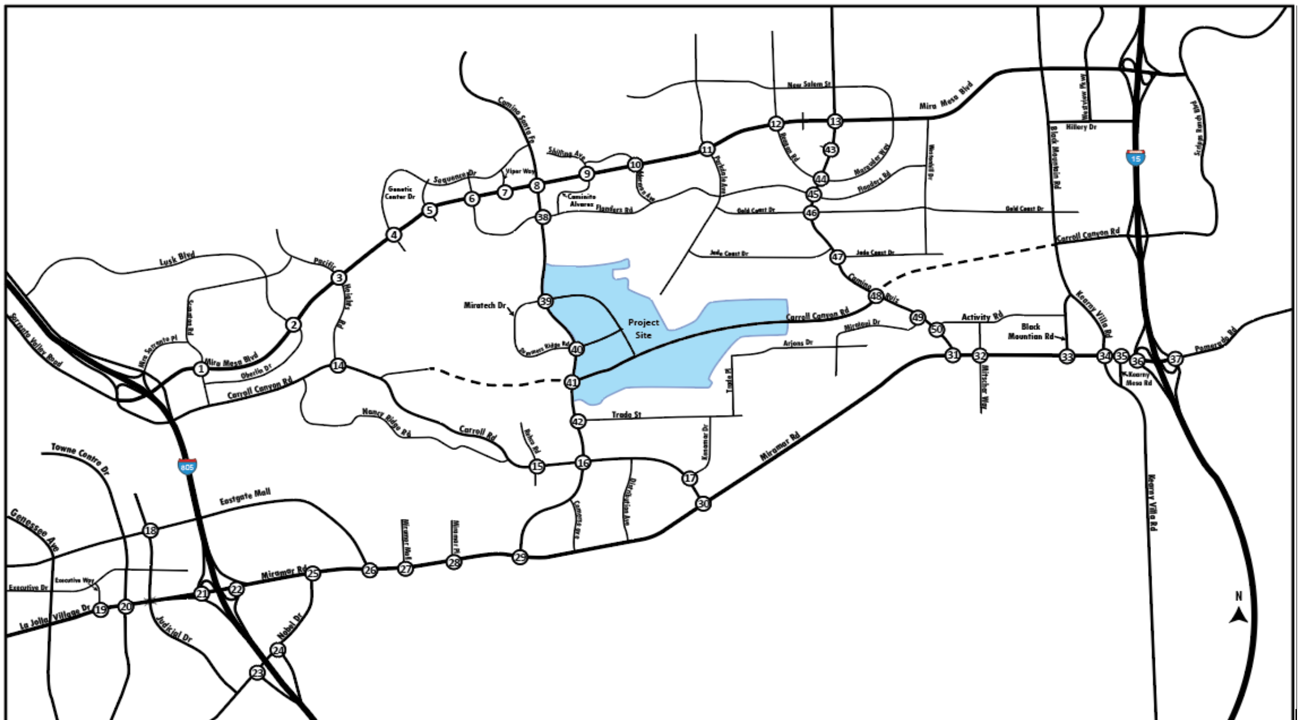
Figure 4-11
Daily Project Trip Assignment: Near Term Year 2021 With Phase One Project



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

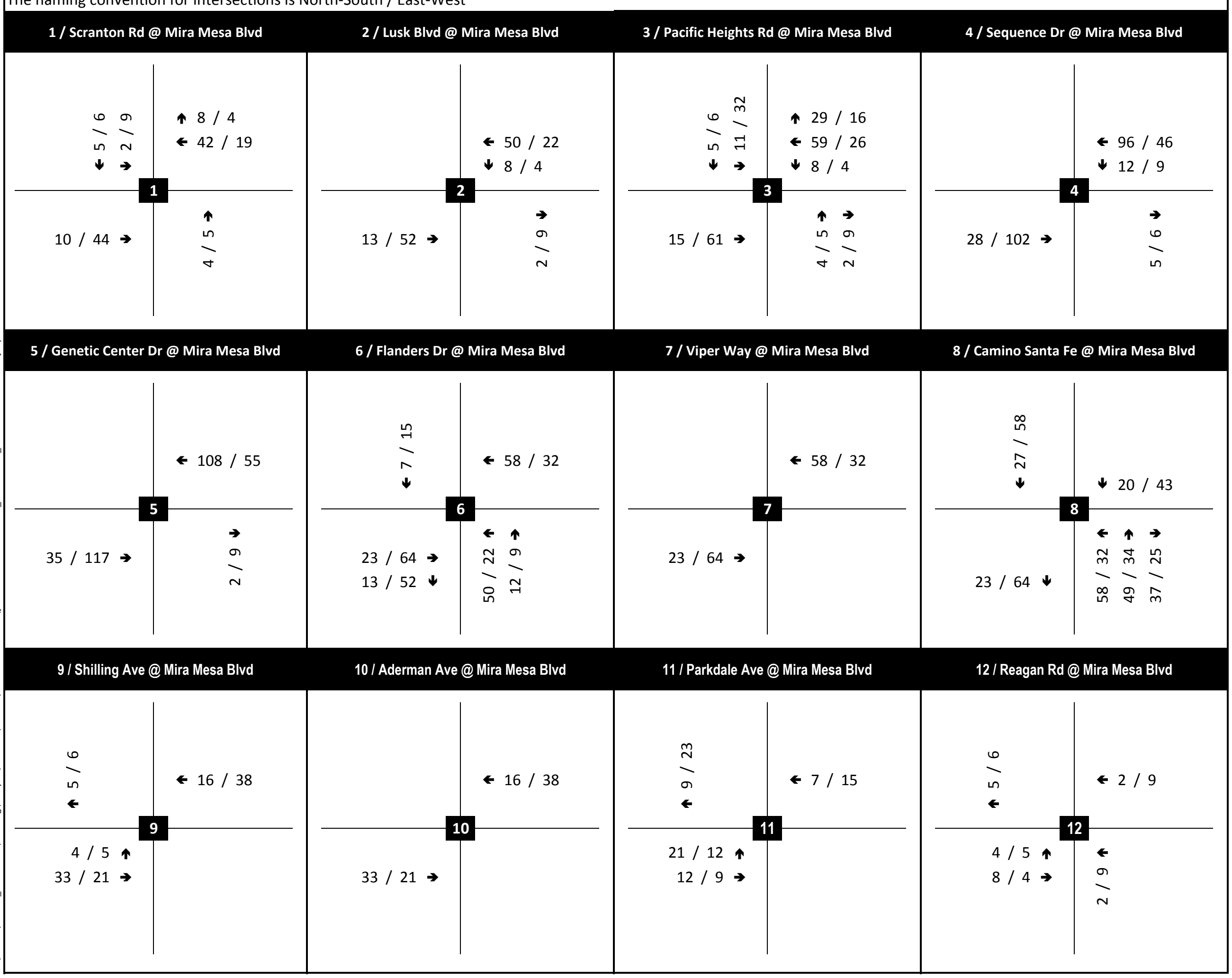


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Figure 4-12a
Peak Hour Project Trip Assignment: Near Term Year 2025 With Project Buildout

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

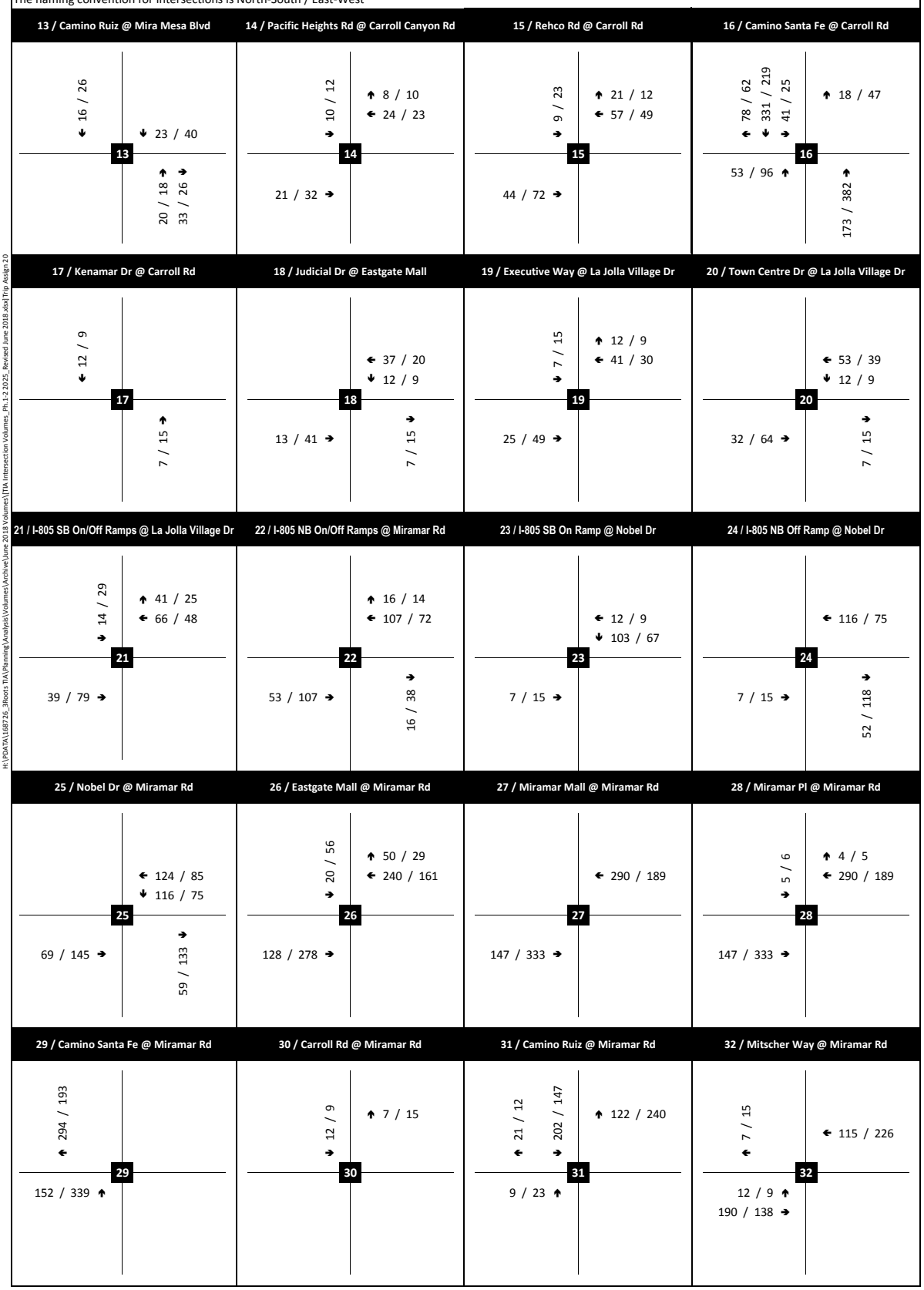

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Figure 4-12b

Peak Hour Project Trip Assignment: Near Term Year 2025 With Project Buildout

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

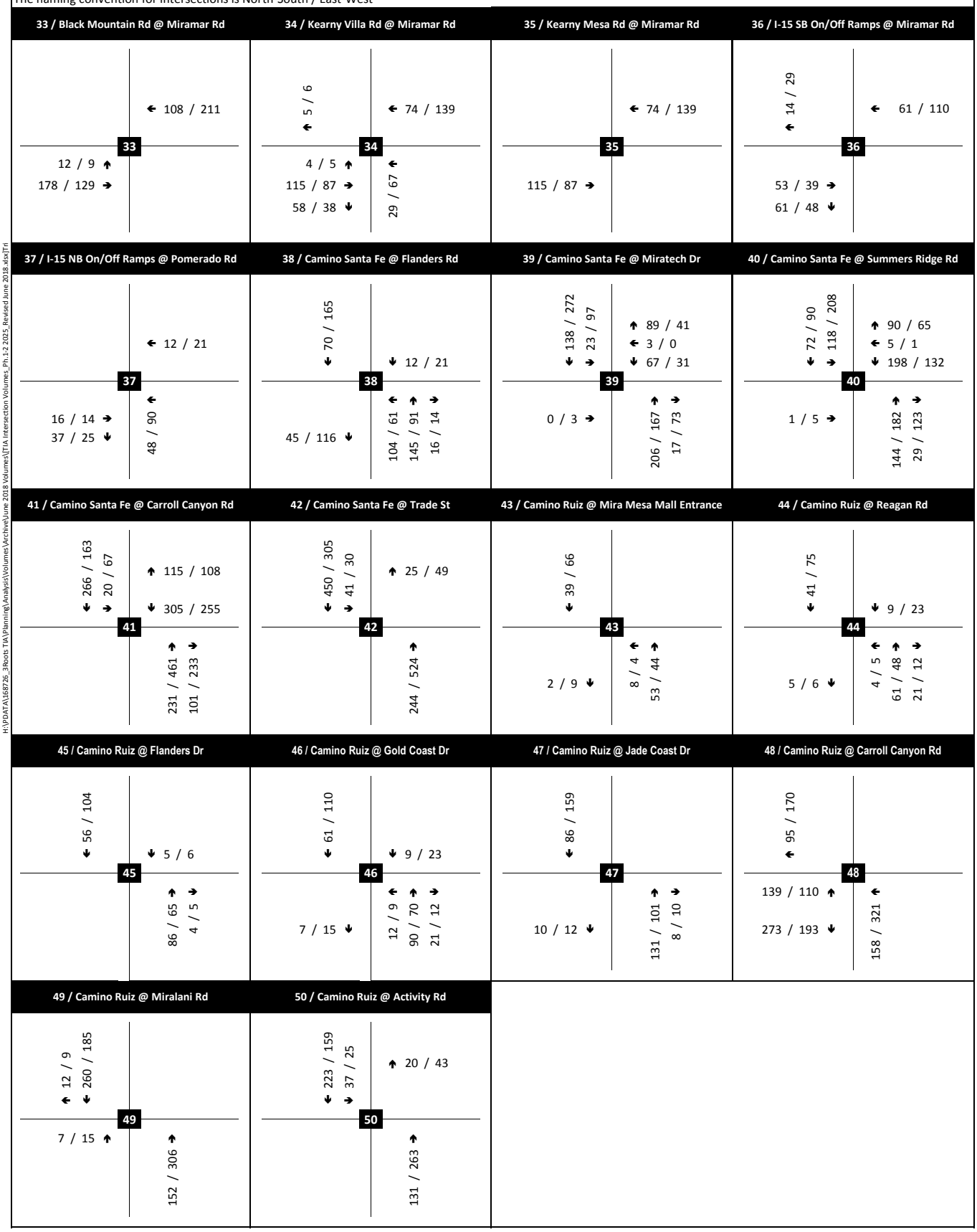

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Figure 4-12c
Peak Hour Project Trip Assignment: Near Term Year 2025 With Project Buildout

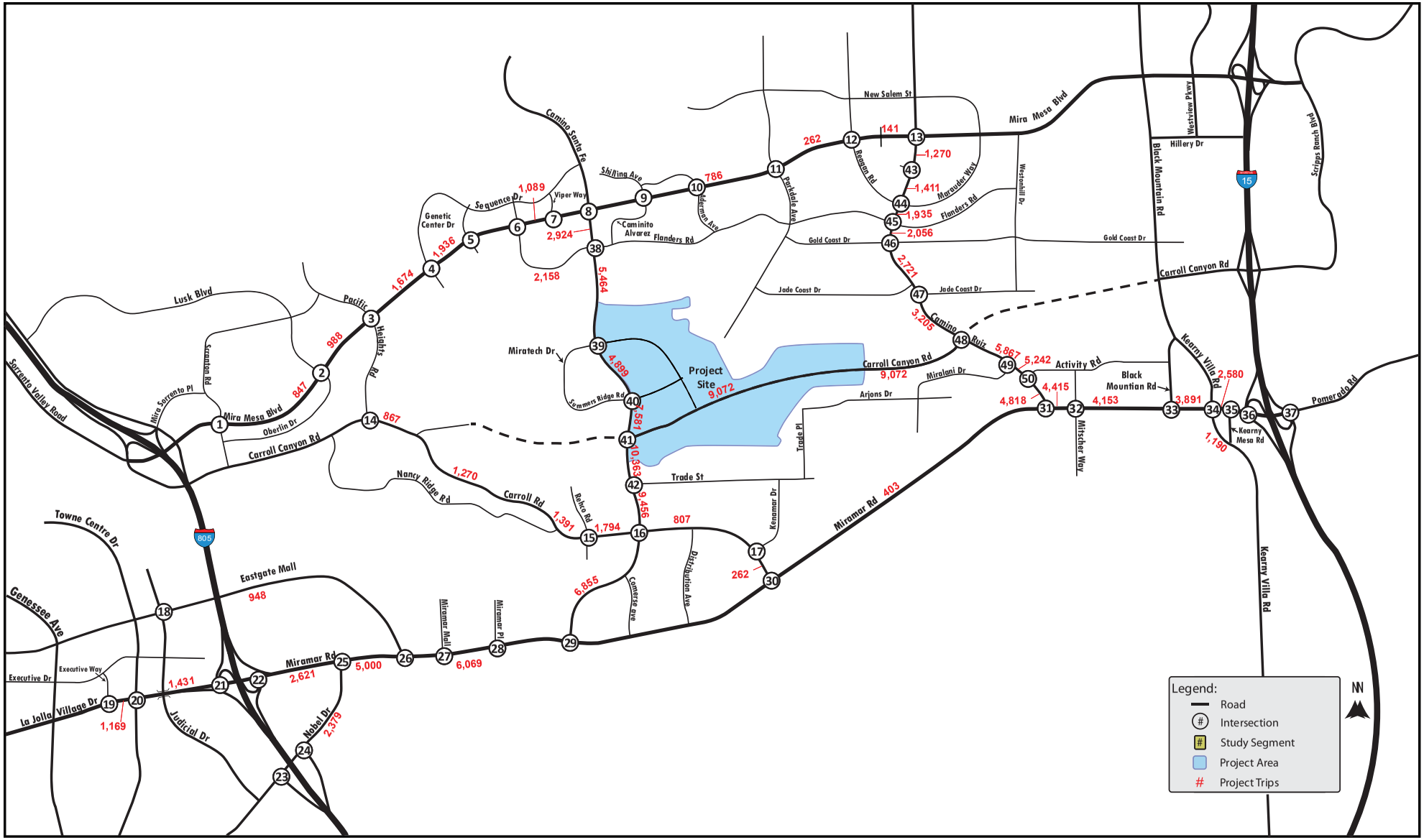

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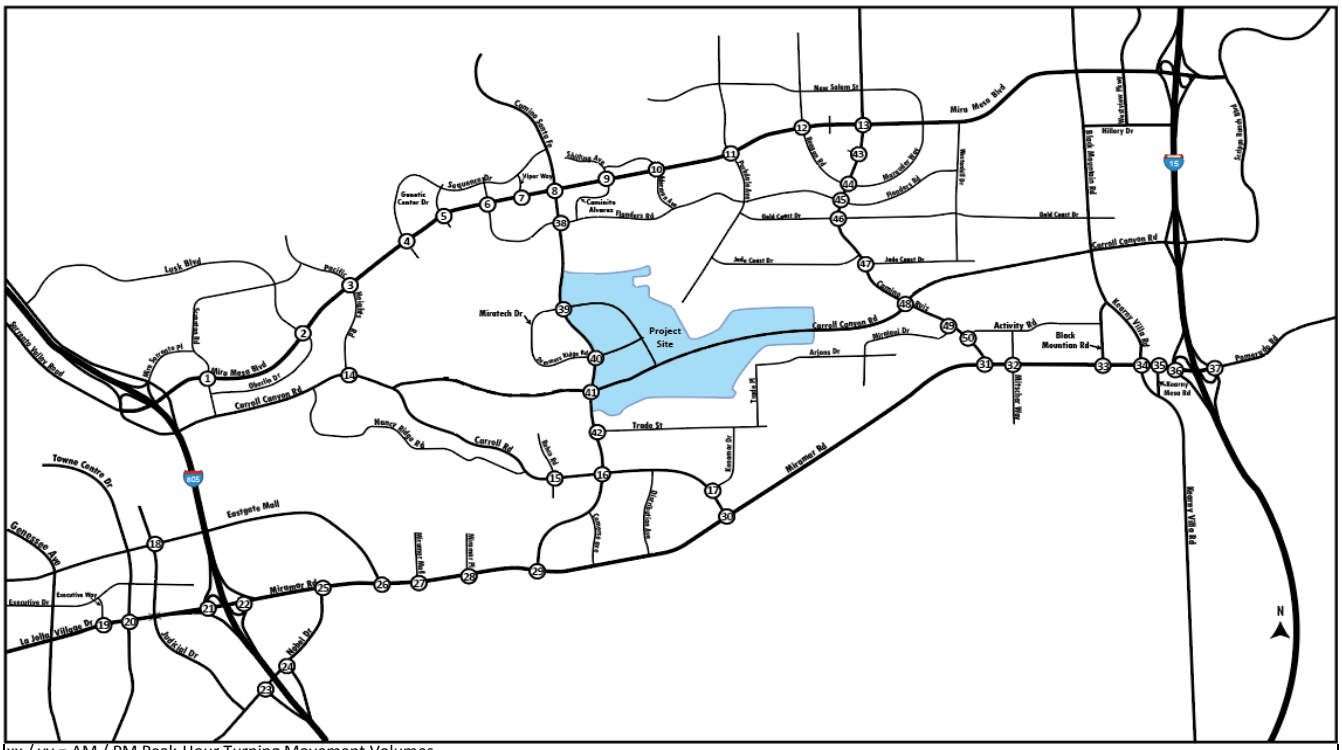
Figure 4-13

Daily Project Trip Assignment: Near Term Year 2025 With Project Buildout



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

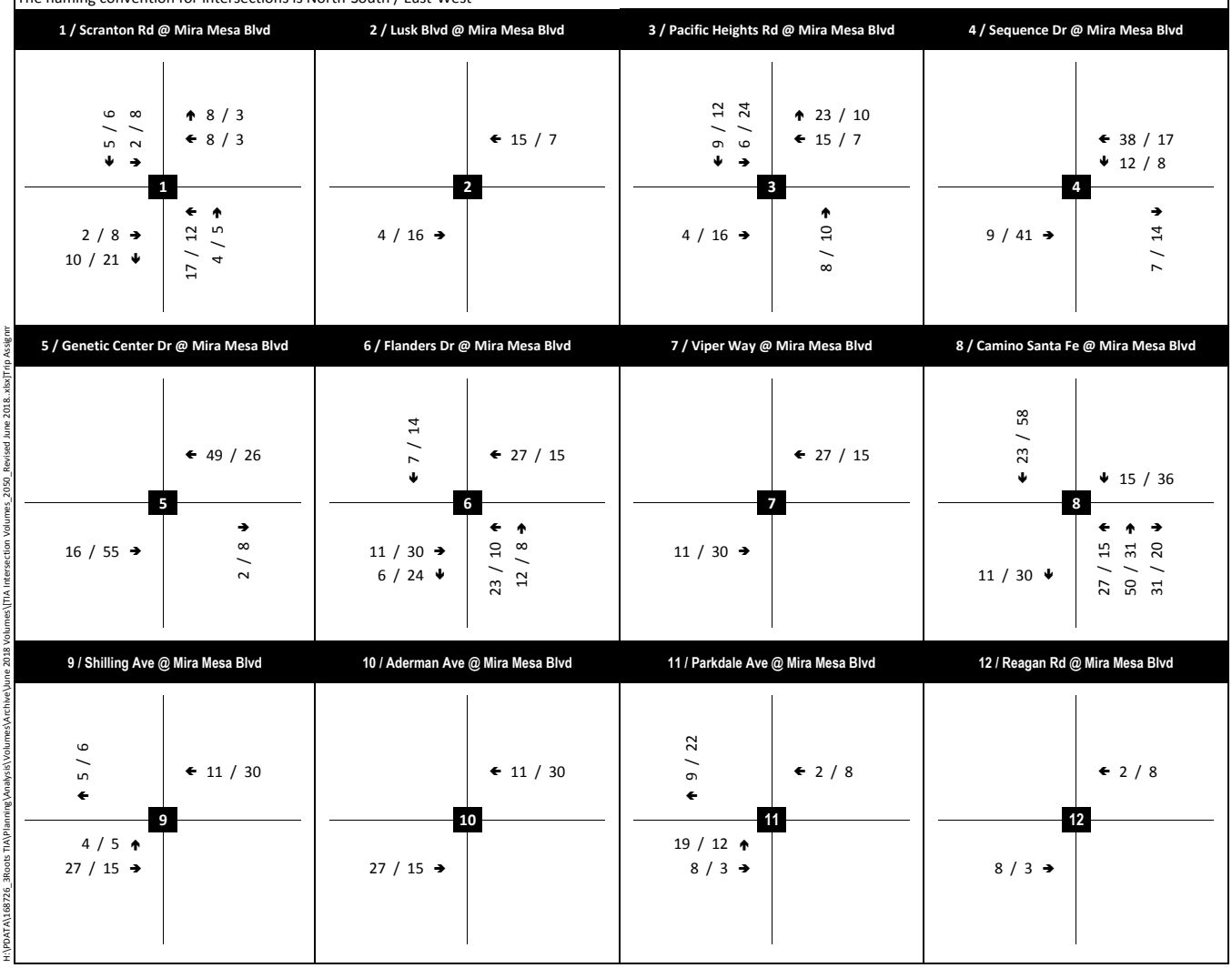


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Figure 4-14a

Peak Hour Project Trip Assignment Horizon Year 2050 With Project Buildout

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

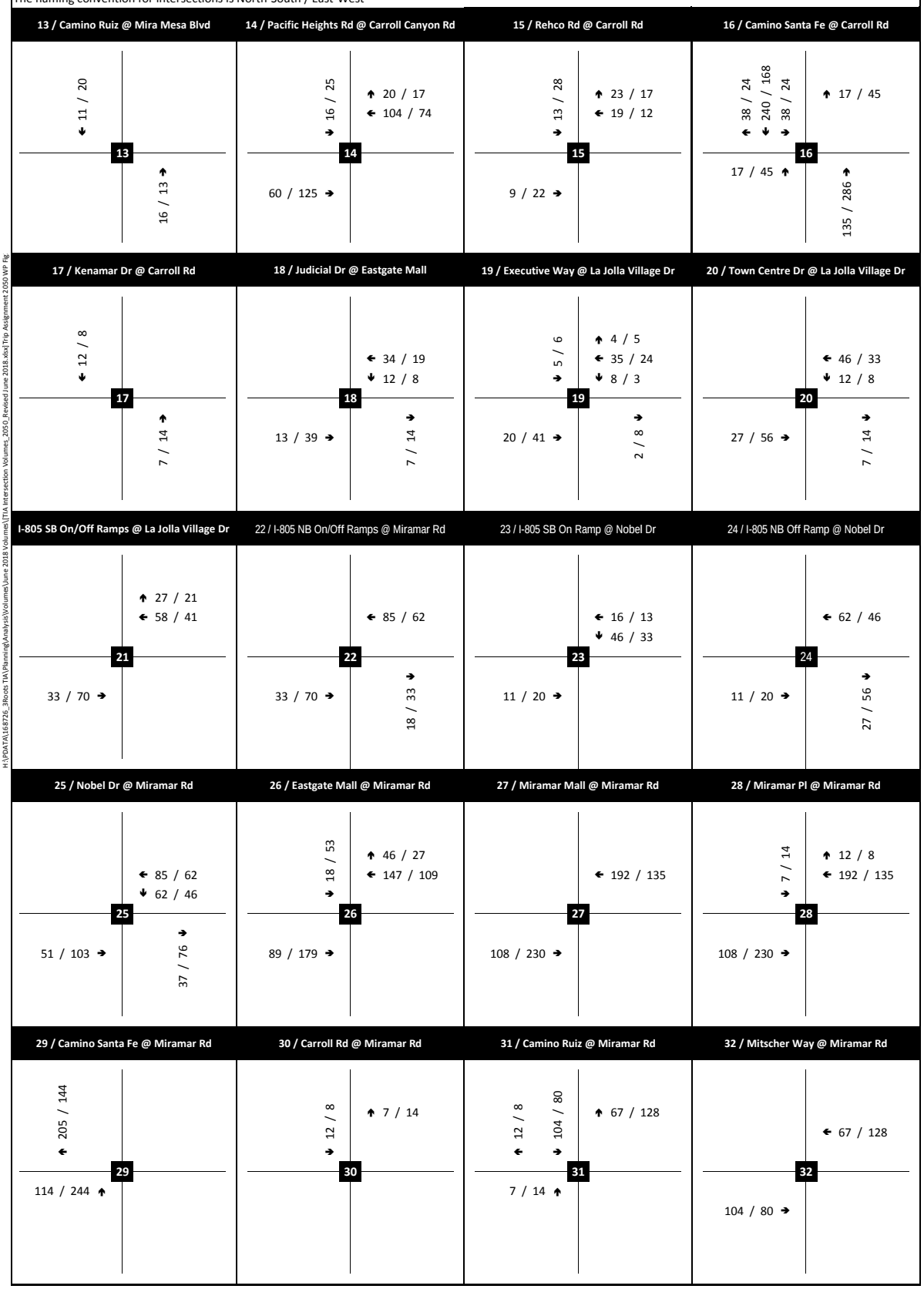

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Figure 4-14b

Peak Hour Project Trip Assignment Horizon Year 2050 With Project Buildout

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

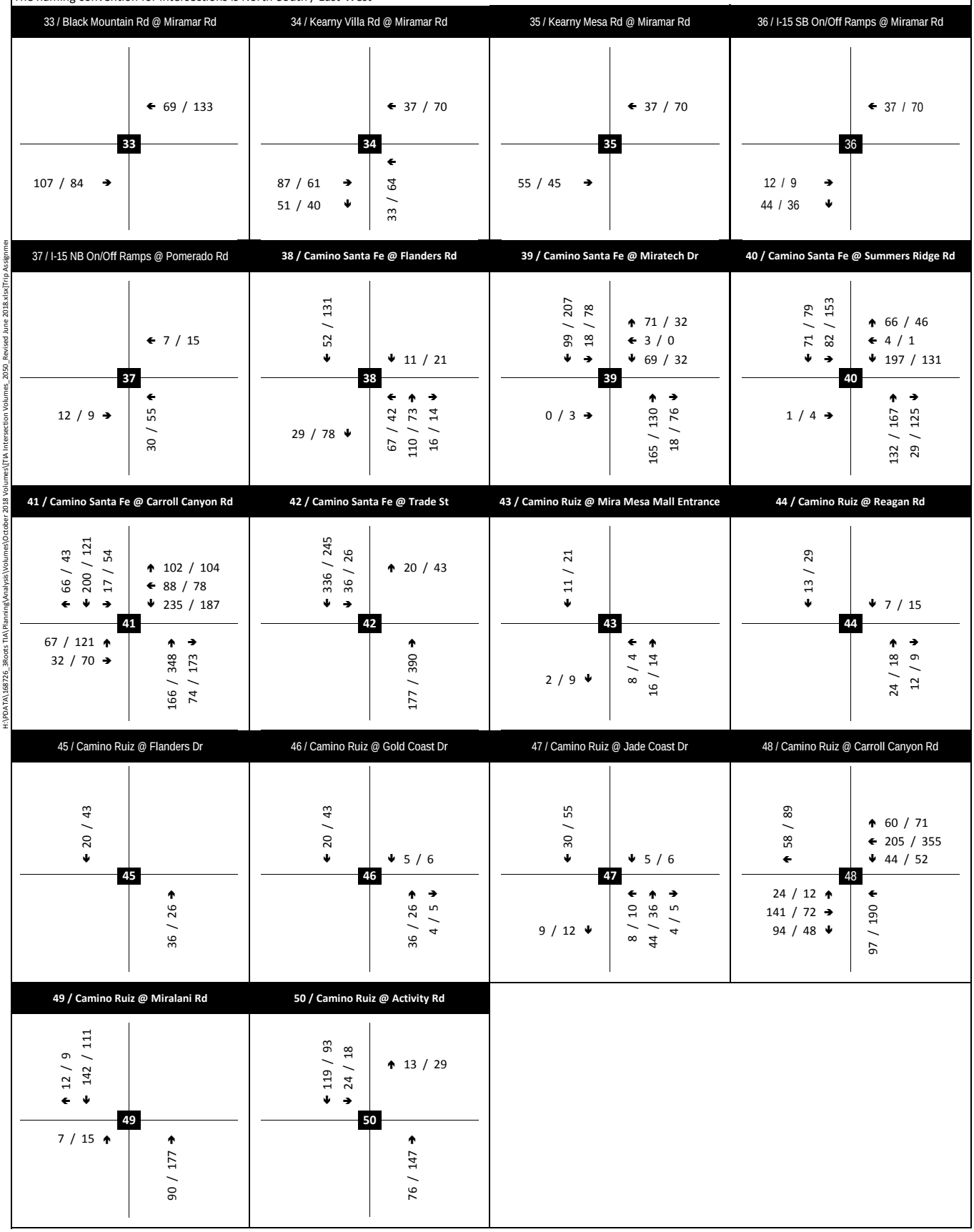

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Figure 4-14c

Peak Hour Project Trip Assignment Horizon Year 2050 With Project Buildout

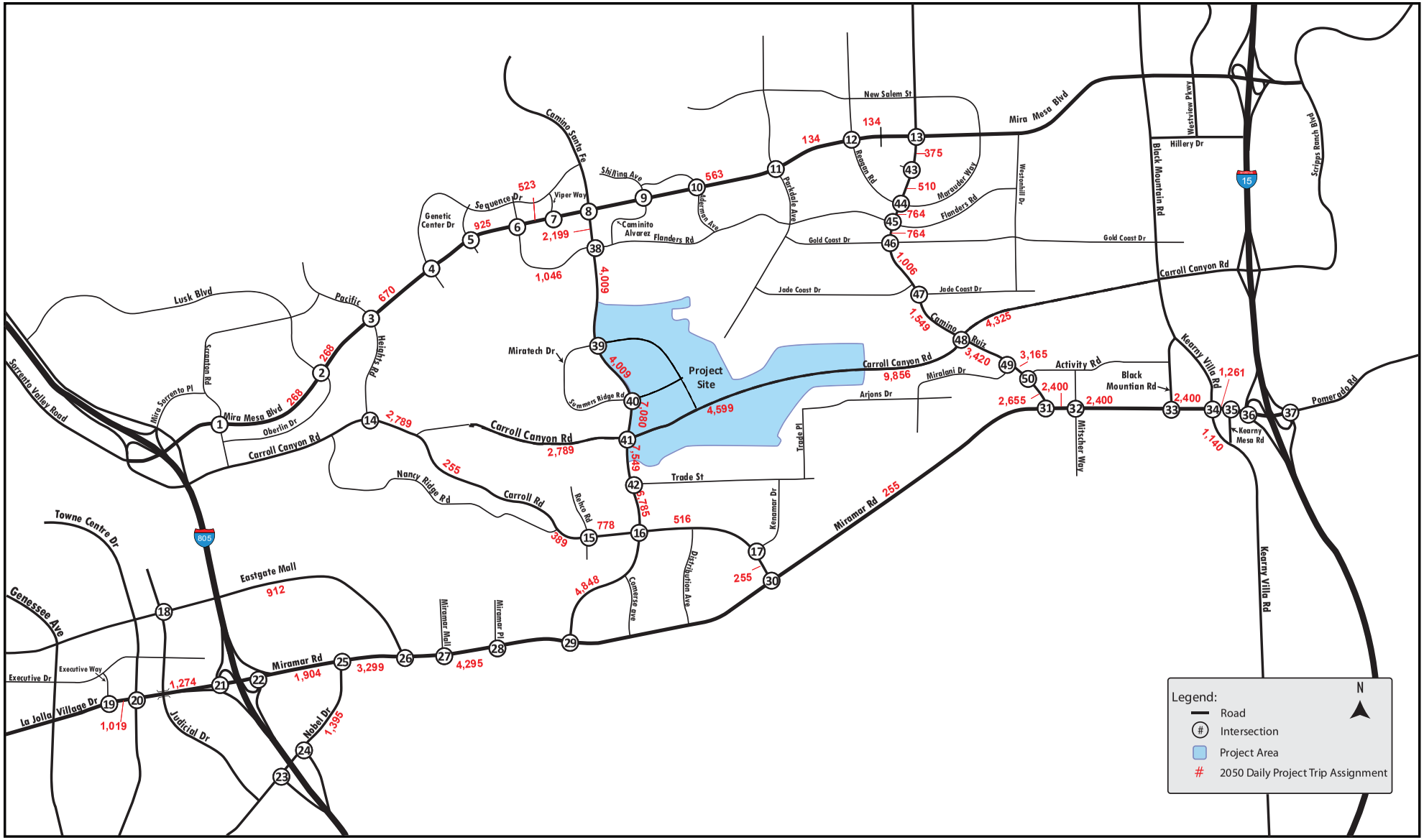

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Figure 4-15
Daily Project Trip Assignment: Horizon Year 2050 With Project Buildout

5 EXISTING PLUS PROJECT CONDITIONS

This section provides a summary of operations at the study area intersections and roadway segments with the addition of project traffic under Existing Plus Project Conditions. Analysis of Existing Plus Project conditions is included to address the State's CEQA requirements. Since the project will be developed in two phases, both Existing Plus Phase 1 Project and Existing Plus Project Buildout are evaluated in this chapter.

5.1 ROADWAY NETWORK

The Existing Plus Project conditions analysis is based on the existing roadway network except for the following improvements that will be constructed by the project at the project access intersections:

- **Camino Santa Fe and Miratech Road:** The project will construct an east leg with a single left turn, through and right turn lane. The west leg will be modified to include a single left turn, through and right turn lane. The southbound U-turn lane will be modified to accommodate left turning vehicles.

- **Camino Santa Fe and Summers Ridge Road:** The project will construct an east leg with dual left turn lanes and a shared through/right turn lane. The west leg will be modified to include a single left turn, through and right turn lane.

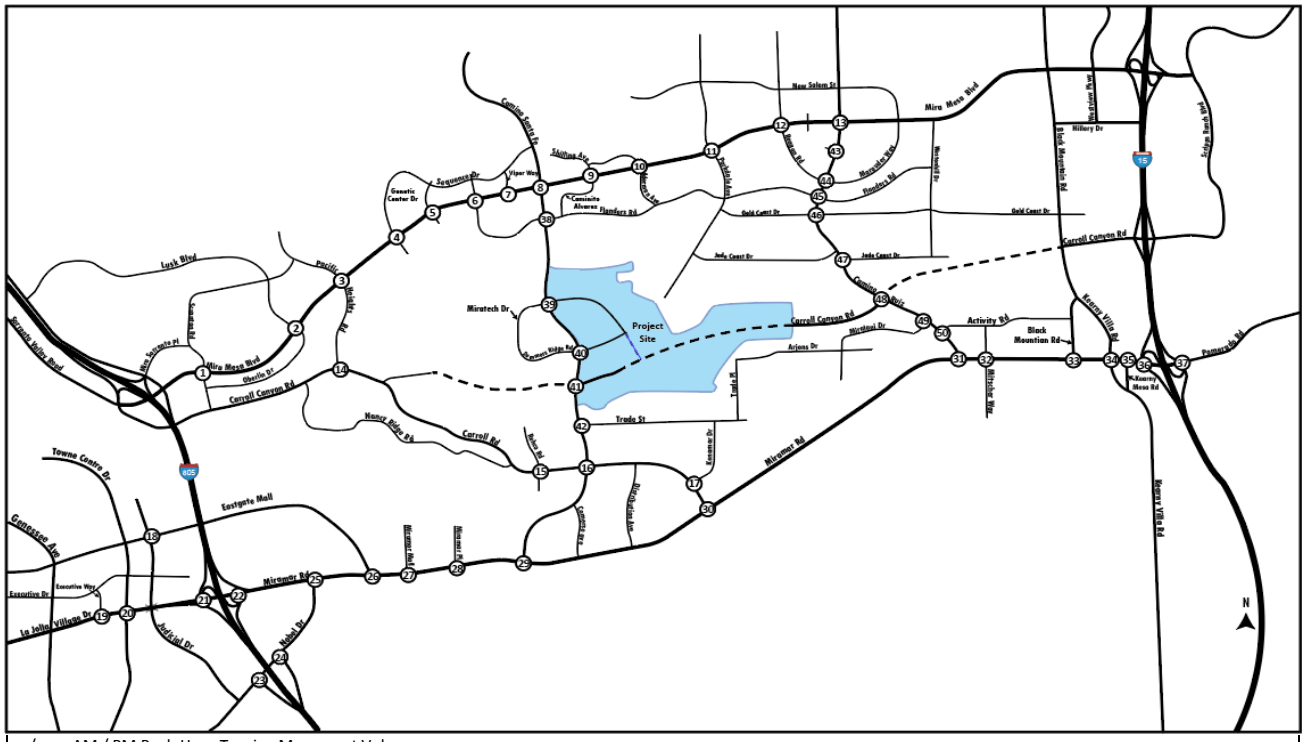
- **Camino Santa Fe and Carroll Canyon Road:** The project will widen the east leg to provide dual left turn lanes and a single right turn lane on the westbound approach. The project will restripe the northbound approach to provide a third through lane and a dedicated right-turn lane, and the southbound approach will also be restriped to provide a second left-turn lane.

5.2 TRAFFIC VOLUMES

Existing Plus Project traffic volumes were derived by adding the project buildout trips to the existing traffic counts collected for this project. This scenario does not allow for trip reduction factors for transit as the site is not currently served by transit.

Figure 5-1 illustrates the Existing Plus Phase 1 Project peak hour intersection volumes at the study area intersections and **Figure 5-2** illustrates the Existing Plus Phase 1 Project daily traffic volumes along the roadway segments.

Existing Plus Project Buildout peak hour intersection volumes are illustrated in **Figure 5-3** and the Existing Plus Project Buildout daily traffic volumes along the study roadway segments are illustrated in **Figure 5-4**.



xx / yy = AM / PM Peak-Hour Turning Movement Volumes

The naming convention for intersections is North-South / East-West

Scranton Rd @ Mira Mesa Blvd

← 117 / 370	↓ 51 / 154	→ 56 / 103
↑ 96 / 89	← 985 / 1400	↓ 32 / 80

1

852 / 181 ↑	←	↑	→
2282 / 925 →	67 / 367	66 / 91	13 / 18
633 / 143 ↓			

Lusk Blvd @ Mira Mesa Blvd

← 48 / 224	↓ 17 / 100	→ 55 / 453
↑ 482 / 92	← 1045 / 1350	↓ 157 / 35

2

242 / 90 ↑	←	↑	→
2086 / 964 →	6 / 17	20 / 23	25 / 184
40 / 9 ↓			

Pacific Heights Rd @ Mira Mesa Blvd

← 100 / 395	↓ 26 / 226	→ 100 / 1008
↑ 1164 / 119	← 1538 / 927	↓ 307 / 105

3

548 / 72 ↑	←	↑	→
1181 / 1471 →	29 / 136	67 / 31	91 / 325
326 / 77 ↓			

Sequence Dr @ Mira Mesa Blvd

← 227 / 259	↓ 14 / 7	→ 10 / 76
↑ 66 / 9	← 2529 / 638	↓ 94 / 23

4

303 / 211 ↑	←	↑	→
813 / 2582 →	81 / 161	6 / 17	15 / 74
277 / 88 ↓			

Genetic Center Dr @ Mira Mesa Blvd

← 34 / 65	↓ 8 / 3	→ 41 / 83
↑ 156 / 26	← 2685 / 665	↓ 141 / 32

5

92 / 47 ↑	←	↑	→
710 / 2560 →	7 / 24	4 / 13	30 / 287
42 / 11 ↓			

Flanders Dr @ Mira Mesa Blvd

← 34 / 43	↓ 17 / 84	→ 19 / 120
↑ 144 / 23	← 2722 / 469	↓ 41 / 45

6

60 / 58 ↑	←	↑	→
446 / 2304 →	341 / 171	46 / 41	34 / 113
298 / 516 ↓			

Viper Way @ Mira Mesa Blvd

← 15 / 18	↓ 11 / 12	→ 4 / 19
↑ 73 / 34	← 2631 / 443	↓ 44 / 55

7

30 / 26 ↑	←	↑	→
307 / 2376 →	163 / 93	24 / 25	56 / 183
76 / 130 ↓			

Camino Santa Fe @ Mira Mesa Blvd

← 58 / 41	↓ 280 / 230	→ 108 / 408
↑ 328 / 173	← 2665 / 402	↓ 731 / 253

8

23 / 57 ↑	←	↑	→
299 / 2292 →	179 / 166	160 / 307	157 / 555
104 / 143 ↓			

Shilling Ave @ Mira Mesa Blvd

← 111 / 19	↓ 5 / 3	→ 62 / 56
↑ 22 / 77	← 3551 / 835	↓ 30 / 58

9

22 / 130 ↑	←	↑	→
543 / 3094 →	34 / 13	6 / 20	45 / 42
11 / 30 ↓			

Aderman Ave @ Mira Mesa Blvd

← 37 / 12	↓ 13 / 4	→ 111 / 42
↑ 31 / 43	← 3539 / 940	↓ 18 / 47

10

7 / 35 ↑	←	↑	→
592 / 3164 →	15 / 4	9 / 18	38 / 59
9 / 20 ↓			

Parkdale Ave @ Mira Mesa Blvd

← 196 / 74	↓ 87 / 44	→ 66 / 25
↑ 33 / 79	← 3322 / 953	↓ 52 / 94

11

47 / 104 ↑	←	↑	→
706 / 2953 →	94 / 40	30 / 81	75 / 110
30 / 199 ↓			

Reagan Rd @ Mira Mesa Blvd

← 213 / 69	↓ 119 / 121	→ 52 / 47
↑ 14 / 70	← 2940 / 977	↓ 21 / 68

12

41 / 132 ↑	←	↑	→
651 / 2501 →	154 / 147	45 / 136	16 / 34
67 / 259 ↓			

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Figure 5-1a

Existing Plus Project Phase One Peak-Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

Camino Ruiz @ Mira Mesa Blvd

← 200 / 120	↓ 483 / 416	→ 395 / 303

↑ 121 / 244	← 2668 / 998	↓ 168 / 280

13

81 / 223 ↑	← 84 / 131	↑ 282 / 557	→ 140 / 122
750 / 2078 →		
23 / 60 ↓		

Pacific Heights Rd @ Carroll Canyon Rd

← 97 / 405	→ 55 / 229	

↑ 83 / 58	← 121 / 257

14

242 / 59 ↑	
396 / 293 →	

Rehco Rd @ Carroll Rd

← 9 / 37	↓ 1 / 2	→ 39 / 237

↑ 188 / 26	← 668 / 221	↓ 47 / 13

15

53 / 5 ↑	← 1 / 11	↑ 1 / 1	→ 8 / 47
273 / 922 →		
6 / 14 ↓		

Camino Santa Fe @ Carroll Rd

← 352 / 76	↓ 980 / 714	→ 196 / 130

↑ 90 / 232	← 310 / 84	↓ 61 / 77

16

63 / 350 ↑	← 317 / 124	↑ 468 / 112	→ 99 / 75
125 / 302 →		
127 / 464 ↓		

Kenamar Dr @ Carroll Rd

← 1 / 0	↓ 239 / 606	→ 19 / 17

↑ 12 / 15	← 1 / 0	↓ 105 / 149

17

0 / 1 ↑	← 0 / 0	↑ 528 / 246	→ 177 / 70
0 / 0 →		
1 / 1 ↓		

Judicial Dr @ Eastgate Mall

← 20 / 101	↓ 12 / 68	→ 3 / 60

↑ 35 / 6	← 621 / 227	↓ 86 / 78

18

122 / 17 ↑	← 200 / 103	↑ 90 / 7	→ 79 / 157
228 / 676 →		
62 / 176 ↓		

Executive Way @ La Jolla Village Dr

← 49 / 324	↓ 13 / 72	→ 57 / 396

↑ 440 / 97	← 1127 / 1394	↓ 34 / 209

19

136 / 58 ↑	← 21 / 224	↑ 25 / 21	→ 26 / 205
1234 / 932 →		
79 / 334 ↓		

Town Centre Dr @ La Jolla Village Dr

← 35 / 167	↓ 42 / 223	→ 200 / 892

↑ 1326 / 267	← 1455 / 1345	↓ 344 / 420

20

317 / 23 ↑	← 112 / 195	↑ 213 / 55	→ 310 / 659
891 / 1399 →		
130 / 158 ↓		

#REF!

I-805 SB On/Off Ramps @ La Jolla Village Dr / Miramar Rd

← 1544 / 756	↓ 0 / 0	→ 726 / 225

↑ 539 / 797	← 1624 / 1231

21

1011 / 1864 →	
400 / 1040 ↓	

I-805 NB On/Off Ramps @ Miramar Rd

↑ 557 / 779	← 1328 / 1514

22

1058 / 1014 →	← 837 / 450	↑ 0 / 0	→ 307 / 182
678 / 1164 ↓		

I-805 SB On Ramp @ Nobel Dr

← 1342 / 973	↓ 237 / 244

23

296 / 488 →	
541 / 469 ↓	

I-805 NB Off Ramp @ Nobel Dr

← 661 / 684	

24

289 / 461 →	← 875 / 562	→ 859 / 660

Nobel Dr @ Miramar Rd

← 1798 / 2149	↓ 518 / 638

25

1121 / 1105 →	← 98 / 163	→ 860 / 954
253 / 59 ↓		

Eastgate Mall @ Miramar Rd

← 148 / 322	↓ 0 / 0	→ 155 / 881

↑ 918 / 169	← 2109 / 2465	↓ 1 / 9

26

255 / 131 ↑	
1783 / 1954 →	

Miramar Mall @ Miramar Rd

← 66 / 66	↓ 0 / 0	→ 33 / 95

↑ 60 / 28	← 2938 / 2600	↓ 0 / 0

27

63 / 24 ↑	
1838 / 2709 →	

Miramar Pl @ Miramar Rd

← 81 / 99	↓ 0 / 0	→ 36 / 84

↑ 70 / 33	← 2790 / 2458	↓ 17 / 5

28

105 / 28 ↑	
1902 / 2901 →	

Camino Santa Fe @ Miramar Rd

← 1013 / 118	↓ 2 / 1	→ 50 / 99

↑ 98 / 65	← 2135 / 1283	↓ 20 / 18

29

858 / 1108 ↑	← 18 / 45	↑ 3 / 56	→ 10 / 8
1072 / 1775 →		
23 / 84 ↓		

Carroll Rd @ Miramar Rd

← 103 / 168	→ 225 / 501	

↑ 626 / 218	← 2329 / 964

30

139 / 87 ↑	
795 / 1869 →	

Camino Ruiz @ Miramar Rd

← 518 / 174	→ 649 / 418	

↑ 262 / 603	← 2980 / 964

31

158 / 362 ↑	
758 / 2367 →	

Mitscher Way @ Miramar Rd

← 75 / 31	↓ 68 / 40	→ 32 / 77

↑ 28 / 37	← 2548 / 1509	↓ 182 / 118

32

21 / 39 ↑	← 180 / 280	↑ 23 / 51	→ 134 / 282
1153 / 2542 →		
212 / 148 ↓		

Figure 5-1b

Existing Plus Project Phase One Peak-Hour Intersection Volumes

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xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

Black Mountain Rd @ Miramar Rd

295 / 173 ← 0 / 0 ↓ 161 / 503 →
↑ 169 / 154
← 2496 / 1565
↓ 1 / 14

33

97 / 197 ↑
1213 / 2526 →
0 / 0 ↓

Kearny Villa Rd @ Miramar Rd

122 / 42 ← 276 / 524 ↓ 179 / 255 →
↑ 107 / 149
← 2313 / 1059
↓ 9 / 33

34

39 / 51 ↑
925 / 2023 →
459 / 973 ↓

← 859 / 508 ↑ 308 / 407 → 9 / 30

Kearny Mesa Rd @ Miramar Rd

37 / 38 ← 1 / 10 ↓ 38 / 81 →
↑ 14 / 20
← 1550 / 1357
↓ 20 / 40

35

32 / 32 ↑
935 / 2327 →
34 / 93 ↓

← 153 / 32 ↑ 9 / 9 → 56 / 124

I-15 SB On/Off Ramps @ Miramar Rd

1061 / 52 ← 0 / 0 ↓ 133 / 25 →
↑ 835 / 800
← 540 / 830

36

502 / 1338 →
527 / 1182 ↓

37 / I-15 NB On/Off Ramps @ Pomerado Rd

↑ 109 / 143
← 1154 / 1044
↓ 0 / 0

37

0 / 0 ↑
193 / 387 →
401 / 975 ↓

← 406 / 578 ↑ 0 / 0 → 588 / 636

Camino Santa Fe @ Flanders Rd

153 / 42 ← 755 / 486 ↓ 61 / 276 →
↑ 163 / 61
← 434 / 30
↓ 374 / 89

38

15 / 104 ↑
24 / 591 →
72 / 291 ↓

← 160 / 109 ↑ 301 / 860 → 68 / 620

Camino Santa Fe @ Miratech Dr

158 / 17 ← 1090 / 700 ↓ 37 / 144 →
↑ 132 / 64
← 0 / 0
↓ 95 / 46

39

9 / 127 ↑
0 / 0 →
3 / 30 ↓

← 43 / 5 ↑ 389 / 1290 → 25 / 103

Camino Santa Fe @ Summers Ridge Rd

6 / 1 ← 1158 / 659 ↓ 21 / 87 →
↑ 88 / 43
← 0 / 0
↓ 205 / 100

40

1 / 7 ↑
0 / 0 →
11 / 82 ↓

← 92 / 6 ↑ 368 / 1392 → 54 / 222

Camino Santa Fe @ Carroll Canyon Rd

0 / 0 ← 1354 / 774 ↓ 23 / 72 →
↑ 64 / 30
← 0 / 0
↓ 154 / 70

41

← 2 / 0 ↑ 449 / 1580 → 55 / 136

Camino Santa Fe @ Trade St

10 / 4 ← 1287 / 844 ↓ 125 / 89 →
↑ 56 / 167
← 12 / 2
↓ 157 / 181

42

1 / 13 ↑
2 / 5 →
3 / 18 ↓

← 18 / 7 ↑ 458 / 1618 → 161 / 104

Camino Ruiz @ Mira Mesa Mall Entrance

25 / 59 ← 562 / 571 ↓

43

34 / 137 ↑
0 / 0 →
17 / 83 ↓

← 51 / 128 ↑ 446 / 665

Camino Ruiz @ Reagan Rd

14 / 39 ← 507 / 562 ↓ 45 / 105 →
↑ 74 / 75
← 193 / 134
↓ 125 / 48

44

17 / 23 ↑
143 / 215 →
170 / 208 ↓

← 112 / 178 ↑ 379 / 692 → 62 / 101

Camino Ruiz @ Flanders Dr

39 / 28 ← 762 / 740 ↓ 21 / 55 →
↑ 52 / 25
← 199 / 46
↓ 83 / 22

45

31 / 87 ↑
46 / 291 →
95 / 120 ↓

← 59 / 53 ↑ 486 / 864 → 52 / 48

Camino Ruiz @ Gold Coast Dr

126 / 92 ← 731 / 578 ↓ 71 / 183 →
↑ 120 / 62
← 187 / 120
↓ 135 / 26

46

222 / 71 ↑
152 / 329 →
104 / 178 ↓

← 35 / 80 ↑ 241 / 857 → 26 / 74

Camino Ruiz @ Jade Coast Dr

0 / 6 ← 1045 / 721 ↓ 27 / 68 →
↑ 49 / 35
← 1 / 1
↓ 267 / 39

47

3 / 0 ↑
1 / 0 →
14 / 4 ↓

← 1 / 3 ↑ 234 / 1086 → 56 / 243

Camino Ruiz @ Carroll Canyon Rd

29 / 5 ← 1286 / 757 ↓

48

4 / 33 ↑
0 / 0 →
37 / 58 ↓

← 78 / 22 ↑ 285 / 1301

#REF!

Camino Ruiz @ Miralani Rd

272 / 70 ← 1053 / 749 ↓ 0 / 5 →
↑ 3 / 5
← 2 / 2
↓ 2 / 9

49

31 / 349 ↑
0 / 4 →
70 / 744 ↓

← 562 / 81 ↑ 328 / 976 → 6 / 11

Camino Ruiz @ Activity Rd

0 / 10 ← 892 / 567 ↓ 237 / 924 →
↑ 610 / 237
← 1 / 0
↓ 218 / 55

50

0 / 0 ↑
0 / 13 →
0 / 1 ↓

← 7 / 11 ↑ 283 / 819 → 62 / 193

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Figure 5-1c
Existing Plus Project Phase One Peak-Hour Intersection Volumes

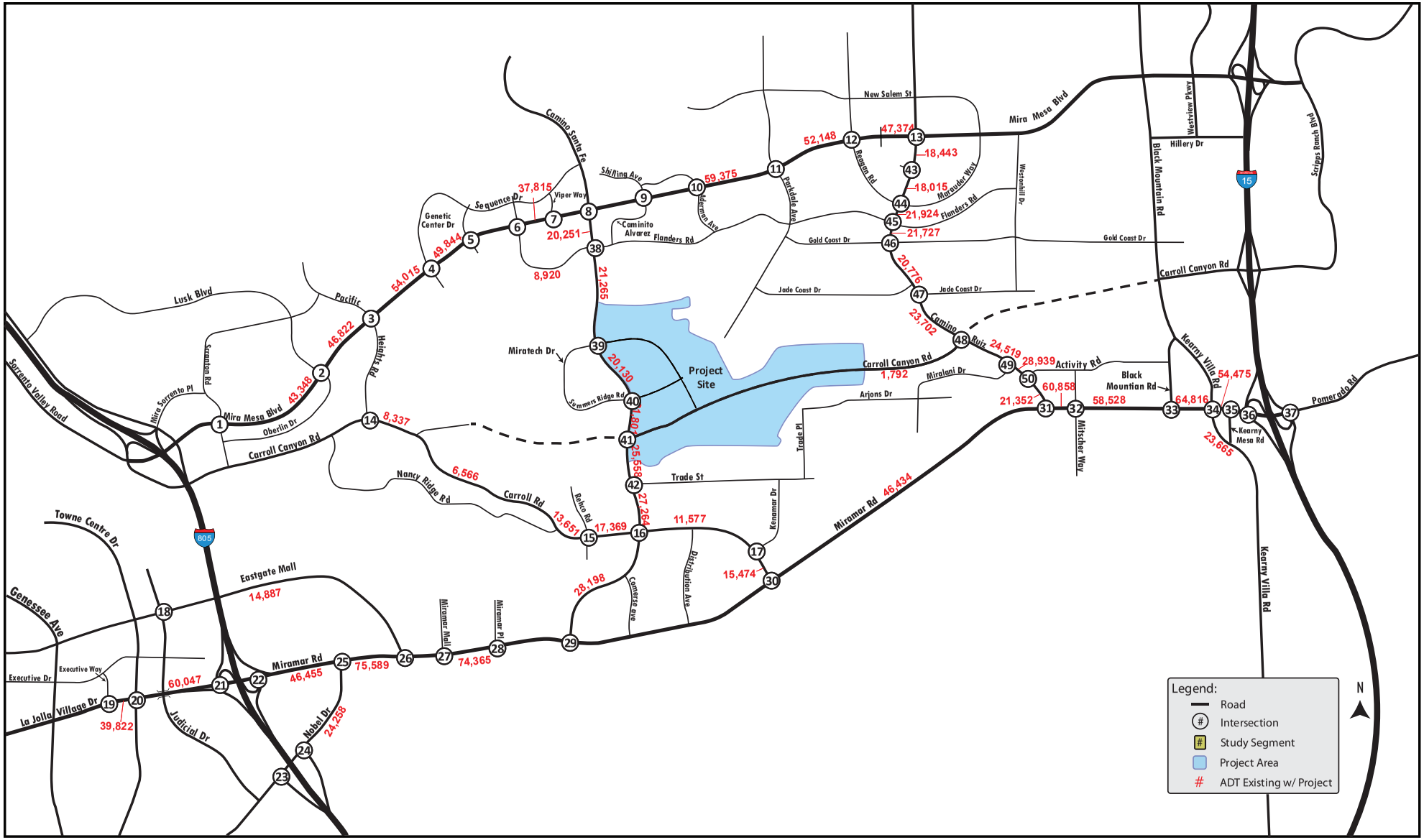

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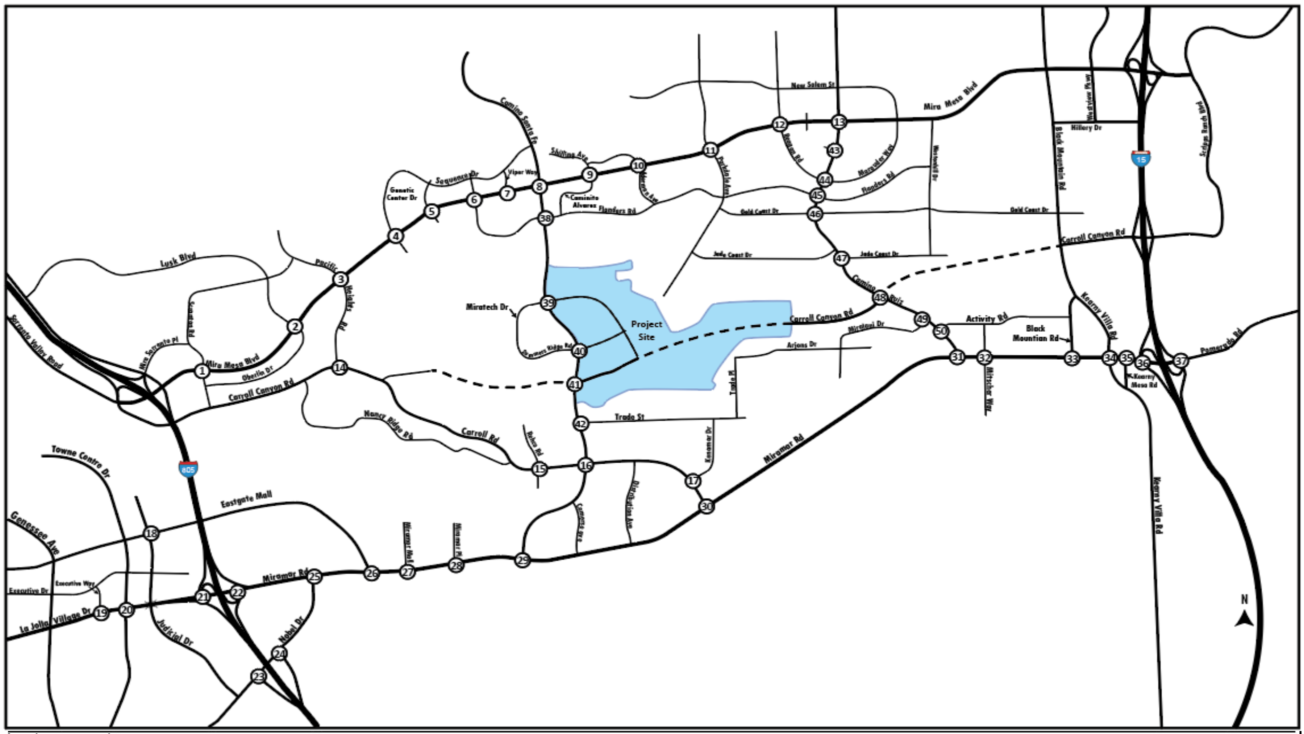
Figure 5-2
Existing Plus Project Phase One ADT Volumes



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

1 Scranton Rd @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	117 / 370
North leg	↓	56 / 160
North leg	→	56 / 104
East leg	↑	97 / 89
East leg	←	990 / 1401
East leg	↓	32 / 80
West leg	↑	852 / 181
West leg	→	2282 / 929
West leg	↓	633 / 143
South leg	←	67 / 367
South leg	↑	70 / 96
South leg	→	13 / 18

2 Lusk Blvd @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	48 / 224
North leg	↓	17 / 100
North leg	→	55 / 453
East leg	↑	482 / 92
East leg	←	1051 / 1351
East leg	↓	158 / 35
West leg	↑	242 / 90
West leg	→	2087 / 968
West leg	↓	40 / 9
South leg	←	6 / 17
South leg	↑	20 / 23
South leg	→	25 / 185

3 Pacific Heights Rd @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	100 / 395
North leg	↓	31 / 232
North leg	→	105 / 1016
East leg	↑	1171 / 124
East leg	←	1546 / 928
East leg	↓	308 / 105
West leg	↑	548 / 72
West leg	→	1182 / 1476
West leg	↓	326 / 77
South leg	←	29 / 136
South leg	↑	71 / 36
South leg	→	91 / 326

4 Sequence Dr @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	227 / 259
North leg	↓	14 / 7
North leg	→	10 / 76
East leg	↑	66 / 9
East leg	←	2544 / 645
East leg	↓	99 / 28
West leg	↑	303 / 211
West leg	→	820 / 2597
West leg	↓	277 / 88
South leg	←	81 / 161
South leg	↑	6 / 17
South leg	→	20 / 80

5 Genetic Center Dr @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	34 / 65
North leg	↓	8 / 3
North leg	→	41 / 83
East leg	↑	156 / 26
East leg	←	2705 / 677
East leg	↓	141 / 32
West leg	↑	92 / 47
West leg	→	722 / 2582
West leg	↓	42 / 11
South leg	←	7 / 24
South leg	↑	4 / 13
South leg	→	30 / 288

6 Flanders Dr @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	34 / 43
North leg	↓	22 / 91
North leg	→	19 / 120
East leg	↑	144 / 23
East leg	←	2736 / 480
East leg	↓	41 / 45
West leg	↑	60 / 58
West leg	→	457 / 2320
West leg	↓	299 / 520
South leg	←	347 / 172
South leg	↑	51 / 46
South leg	→	34 / 113

7 Viper Way @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	15 / 18
North leg	↓	11 / 12
North leg	→	4 / 19
East leg	↑	73 / 34
East leg	←	2645 / 454
East leg	↓	44 / 55
West leg	↑	30 / 26
West leg	→	318 / 2392
West leg	↓	76 / 130
South leg	←	163 / 93
South leg	↑	24 / 25
South leg	→	56 / 183

8 Camino Santa Fe @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	58 / 41
North leg	↓	299 / 256
North leg	→	108 / 408
East leg	↑	328 / 173
East leg	←	2665 / 402
East leg	↓	828 / 378
West leg	↑	23 / 57
West leg	→	299 / 2292
West leg	↓	115 / 159
South leg	←	193 / 177
South leg	↑	180 / 327
South leg	→	252 / 653

9 Shilling Ave @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	116 / 25
North leg	↓	5 / 3
North leg	→	62 / 56
East leg	↑	22 / 77
East leg	←	3644 / 954
East leg	↓	30 / 58
West leg	↑	26 / 135
West leg	→	634 / 3187
West leg	↓	11 / 30
South leg	←	34 / 13
South leg	↑	6 / 20
South leg	→	45 / 42

10 Aderman Ave @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	37 / 12
North leg	↓	13 / 4
North leg	→	111 / 42
East leg	↑	31 / 43
East leg	←	3632 / 1059
East leg	↓	18 / 47
West leg	↑	7 / 35
West leg	→	683 / 3257
West leg	↓	9 / 20
South leg	←	15 / 4
South leg	↑	9 / 18
South leg	→	38 / 59

11 Parkdale Ave @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	201 / 81
North leg	↓	87 / 44
North leg	→	66 / 25
East leg	↑	33 / 79
East leg	←	3410 / 1066
East leg	↓	52 / 94
West leg	↑	53 / 109
West leg	→	790 / 3041
West leg	↓	30 / 199
South leg	←	94 / 40
South leg	↑	30 / 81
South leg	→	75 / 110

12 Reagan Rd @ Mira Mesa Blvd

Approach	Movement	AM / PM
North leg	←	218 / 75
North leg	↓	119 / 121
North leg	→	52 / 47
East leg	↑	14 / 70
East leg	←	2994 / 1048
East leg	↓	21 / 68
West leg	↑	45 / 137
West leg	→	706 / 2555
West leg	↓	92 / 288
South leg	←	183 / 183
South leg	↑	45 / 136
South leg	→	16 / 34

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Figure 5-3a

Existing Plus Project Buildout Peak-Hour Intersection Volumes

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

13 Camino Ruiz @ Mira Mesa Blvd
- ← 214 / 137
- ↓ 483 / 416
- → 395 / 303
- ↑ 121 / 244
- ← 2699 / 1040
- ↓ 168 / 280
- ↑ 93 / 237
- → 783 / 2109
- ↓ 31 / 70
- ← 94 / 143
- ↑ 282 / 557
- → 140 / 122

14 Pacific Heights Rd @ Carroll Canyon Rd
- ← 97 / 405
- → 65 / 241
- ↑ 91 / 68
- ← 138 / 276
- ↑ 242 / 59
- → 415 / 317

15 Rehco Rd @ Carroll Rd
- ← 9 / 37
- ↓ 1 / 2
- → 44 / 244
- ↑ 194 / 31
- ← 703 / 259
- ↓ 47 / 13
- ↑ 53 / 5
- → 311 / 970
- ↓ 6 / 14
- ← 1 / 11
- ↑ 1 / 1
- → 8 / 47

16 Camino Santa Fe @ Carroll Rd
- ← 393 / 120
- ↓ 1132 / 859
- → 284 / 218
- ↑ 178 / 348
- ← 310 / 84
- ↓ 61 / 77
- ↑ 106 / 406
- → 125 / 302
- ↓ 127 / 464
- ← 317 / 124
- ↑ 611 / 132
- → 99 / 75

17 Kenamar Dr @ Carroll Rd
- ← 1 / 0
- ↓ 320 / 689
- → 19 / 17
- ↑ 12 / 15
- ← 1 / 0
- ↓ 105 / 149
- ↑ 0 / 1
- → 0 / 0
- ↓ 1 / 1
- ← 0 / 0
- ↑ 611 / 354
- → 177 / 70

18 Judicial Dr @ Eastgate Mall
- ← 20 / 101
- ↓ 12 / 68
- → 3 / 60
- ↑ 35 / 6
- ← 629 / 233
- ↓ 91 / 83
- ↑ 122 / 17
- → 233 / 685
- ↓ 62 / 176
- ← 200 / 103
- ↑ 90 / 7
- → 84 / 164

19 Executive Way @ La Jolla Village Dr
- ← 49 / 324
- ↓ 13 / 72
- → 62 / 403
- ↑ 445 / 102
- ← 1146 / 1413
- ↓ 34 / 209
- ↑ 136 / 58
- → 1253 / 957
- ↓ 79 / 334
- ← 21 / 224
- ↑ 25 / 21
- → 26 / 205

20 Town Centre Dr @ La Jolla Village Dr
- ← 35 / 167
- ↓ 42 / 223
- → 200 / 892
- ↑ 1326 / 267
- ← 1479 / 1370
- ↓ 349 / 425
- ↑ 317 / 23
- → 915 / 1431
- ↓ 130 / 158
- ← 112 / 195
- ↑ 213 / 55
- → 315 / 666

#REF!

21 I-805 SB On/Off Ramps @ La Jolla Village Dr
- ← 1544 / 756
- ↓ 0 / 0
- → 736 / 238
- ↑ 560 / 817
- ← 1653 / 1261
- → 1040 / 1903
- ↓ 400 / 1040

22 I-805 NB On/Off Ramps @ Miramar Rd
- ↑ 567 / 789
- ← 1379 / 1563
- → 1097 / 1065
- ↓ 678 / 1164
- ← 837 / 450
- ↑ 0 / 0
- → 326 / 209

23 I-805 SB On Ramp @ Nobel Dr
- ← 1347 / 978
- ↓ 291 / 294
- → 301 / 495
- ↓ 541 / 469

24 I-805 NB Off Ramp @ Nobel Dr
- ← 720 / 739
- → 294 / 468
- ← 875 / 562
- → 909 / 728

25 Nobel Dr @ Miramar Rd
- ← 1858 / 2208
- ↓ 577 / 693
- → 1180 / 1184
- ↓ 253 / 59
- ← 98 / 163
- → 914 / 102

26 Eastgate Mall @ Miramar Rd
- ← 148 / 322
- ↓ 0 / 0
- → 165 / 897
- ↑ 931 / 180
- ← 2229 / 2579
- ↓ 1 / 9
- ↑ 255 / 131
- → 1897 / 2106

27 Miramar Mall @ Miramar Rd
- ← 66 / 66
- ↓ 0 / 0
- → 33 / 95
- ↑ 60 / 28
- ← 3071 / 2725
- ↓ 0 / 0
- ↑ 63 / 24
- → 1962 / 2877

28 Miramar Pl @ Miramar Rd
- ← 81 / 99
- ↓ 0 / 0
- → 41 / 90
- ↑ 74 / 38
- ← 2923 / 2583
- ↓ 17 / 5
- ↑ 105 / 28
- → 2026 / 3069

29 Camino Santa Fe @ Miramar Rd
- ← 1150 / 131
- ↓ 2 / 1
- → 50 / 99
- ↑ 98 / 65
- ← 2135 / 1283
- ↓ 20 / 18
- ↑ 987 / 1282
- → 1072 / 1775
- ↓ 23 / 84
- ← 18 / 45
- ↑ 3 / 56
- → 10 / 8

30 Carroll Rd @ Miramar Rd
- ← 103 / 168
- → 306 / 584
- ↑ 709 / 326
- ← 2329 / 964
- ↑ 139 / 87
- → 795 / 1869

31 Camino Ruiz @ Miramar Rd
- ← 528 / 187
- → 649 / 418
- ↑ 262 / 603
- ← 3039 / 1039
- ↑ 167 / 372
- → 814 / 2425

32 Mitscher Way @ Miramar Rd
- ← 80 / 38
- ↓ 68 / 40
- → 32 / 77
- ↑ 28 / 37
- ← 2601 / 1577
- ↓ 182 / 118
- ↑ 26 / 44
- → 1205 / 2596
- ↓ 212 / 148
- ← 180 / 280
- ↑ 23 / 51
- → 134 / 282

Figure 5-3b

Existing Plus Project Buildout Peak-Hour Intersection Volumes

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xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

Black Mountain Rd @ Miramar Rd

← 300 / 180	↓ 0 / 0	→ 161 / 503

↑ 169 / 154
← 2545 / 1627
↓ 1 / 14

33

102 / 202 ↑
1259 / 2575 →
0 / 0 ↓

Kearny Villa Rd @ Miramar Rd

← 127 / 48	↓ 276 / 524	→ 179 / 255

↑ 107 / 149
← 2342 / 1096
↓ 9 / 33

34

43 / 56 ↑
952 / 2052 →
474 / 987 ↓

← 873 / 527 ↑ 308 / 407 → 9 / 30

Kearny Mesa Rd @ Miramar Rd

← 37 / 38	↓ 1 / 10	→ 38 / 81

↑ 14 / 20
← 1579 / 1394
↓ 20 / 40

35

32 / 32 ↑
962 / 2356 →
34 / 93 ↓

← 153 / 32 ↑ 9 / 9 → 56 / 124

I-15 SB On/Off Ramps @ Miramar Rd

← 1071 / 53	↓ 0 / 0	→ 133 / 25

↑ 835 / 800
← 559 / 855

36

519 / 1357 →
537 / 1192 ↓

I-15 NB On/Off Ramps @ Pomerado Rd

↑ 109 / 143
← 1164 / 1057
↓ 0 / 0

37

0 / 0 ↑
202 / 397 →
409 / 985 ↓

← 416 / 591 ↑ 0 / 0 → 588 / 636

Camino Santa Fe @ Flanders Rd

← 153 / 42	↓ 883 / 653	→ 61 / 276

↑ 163 / 61
← 434 / 30
↓ 384 / 104

38

15 / 104 ↑
24 / 591 →
98 / 329 ↓

← 191 / 135 ↑ 430 / 988 → 80 / 631

Camino Santa Fe @ Miratech Dr

← 158 / 17	↓ 1247 / 787	→ 52 / 210

↑ 201 / 90
← 0 / 0
↓ 176 / 78

39

9 / 127 ↑
0 / 0 →
3 / 30 ↓

← 43 / 5 ↑ 528 / 1472 → 44 / 183

Camino Santa Fe @ Summers Ridge Rd

← 6 / 1	↓ 1222 / 620	→ 225 / 368

↑ 285 / 253
← 0 / 0
↓ 437 / 291

40

1 / 7 ↑
0 / 0 →
11 / 82 ↓

← 92 / 6 ↑ 328 / 1443 → 225 / 508

Camino Santa Fe @ Carroll Canyon Rd

← 0 / 0	↓ 1667 / 997	→ 6 / 1

↑ 5 / 1
← 0 / 0
↓ 219 / 235

41

← 2 / 0 ↑ 639 / 1945 → 241 / 276

Camino Santa Fe @ Trade St

← 10 / 4	↓ 1569 / 1120	→ 153 / 119

↑ 85 / 205
← 12 / 2
↓ 157 / 181

42

1 / 13 ↑
2 / 5 →
3 / 18 ↓

← 18 / 7 ↑ 734 / 1982 → 161 / 104

Camino Ruiz @ Mira Mesa Mall Entrance

← 25 / 59	↓ 570 / 581	

43

34 / 137 ↑
0 / 0 →
17 / 83 ↓

← 51 / 128 ↑ 456 / 677

Camino Ruiz @ Reagan Rd

← 14 / 39	↓ 515 / 572	→ 45 / 105

↑ 74 / 75
← 193 / 134
↓ 125 / 48

44

17 / 23 ↑
143 / 215 →
190 / 232 ↓

← 136 / 207 ↑ 389 / 704 → 62 / 101

Camino Ruiz @ Flanders Dr

← 39 / 28	↓ 786 / 769	→ 25 / 60

↑ 57 / 31
← 199 / 46
↓ 83 / 22

45

31 / 87 ↑
46 / 291 →
95 / 120 ↓

← 59 / 53 ↑ 515 / 899 → 52 / 48

Camino Ruiz @ Gold Coast Dr

← 130 / 97	↓ 747 / 597	→ 75 / 188

↑ 125 / 68
← 187 / 121
↓ 135 / 26

46

227 / 77 ↑
154 / 329 →
104 / 178 ↓

← 35 / 80 ↑ 260 / 880 → 26 / 74

Camino Ruiz @ Jade Coast Dr

← 0 / 6	↓ 1045 / 721	→ 35 / 78

↑ 59 / 47
← 1 / 1
↓ 267 / 39

47

3 / 0 ↑
1 / 0 →
14 / 4 ↓

← 1 / 3 ↑ 234 / 1086 → 56 / 243

Camino Ruiz @ Carroll Canyon Rd

← 29 / 5	↓ 1286 / 757	

48

4 / 33 ↑
0 / 0 →
37 / 58 ↓

← 78 / 22 ↑ 285 / 1301

#REF!

Camino Ruiz @ Miralani Rd

← 272 / 70	↓ 1053 / 749	→ 0 / 5

↑ 3 / 5
← 2 / 2
↓ 2 / 9

49

31 / 349 ↑
0 / 4 →
74 / 749 ↓

← 567 / 87 ↑ 328 / 976 → 6 / 11

Camino Ruiz @ Activity Rd

← 0 / 10	↓ 892 / 567	→ 237 / 924

↑ 615 / 243
← 1 / 0
↓ 228 / 68

50

0 / 0 ↑
0 / 13 →
0 / 1 ↓

← 7 / 11 ↑ 287 / 824 → 71 / 203

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Figure 5-3c
Existing Plus Project Buildout Peak-Hour Intersection Volumes

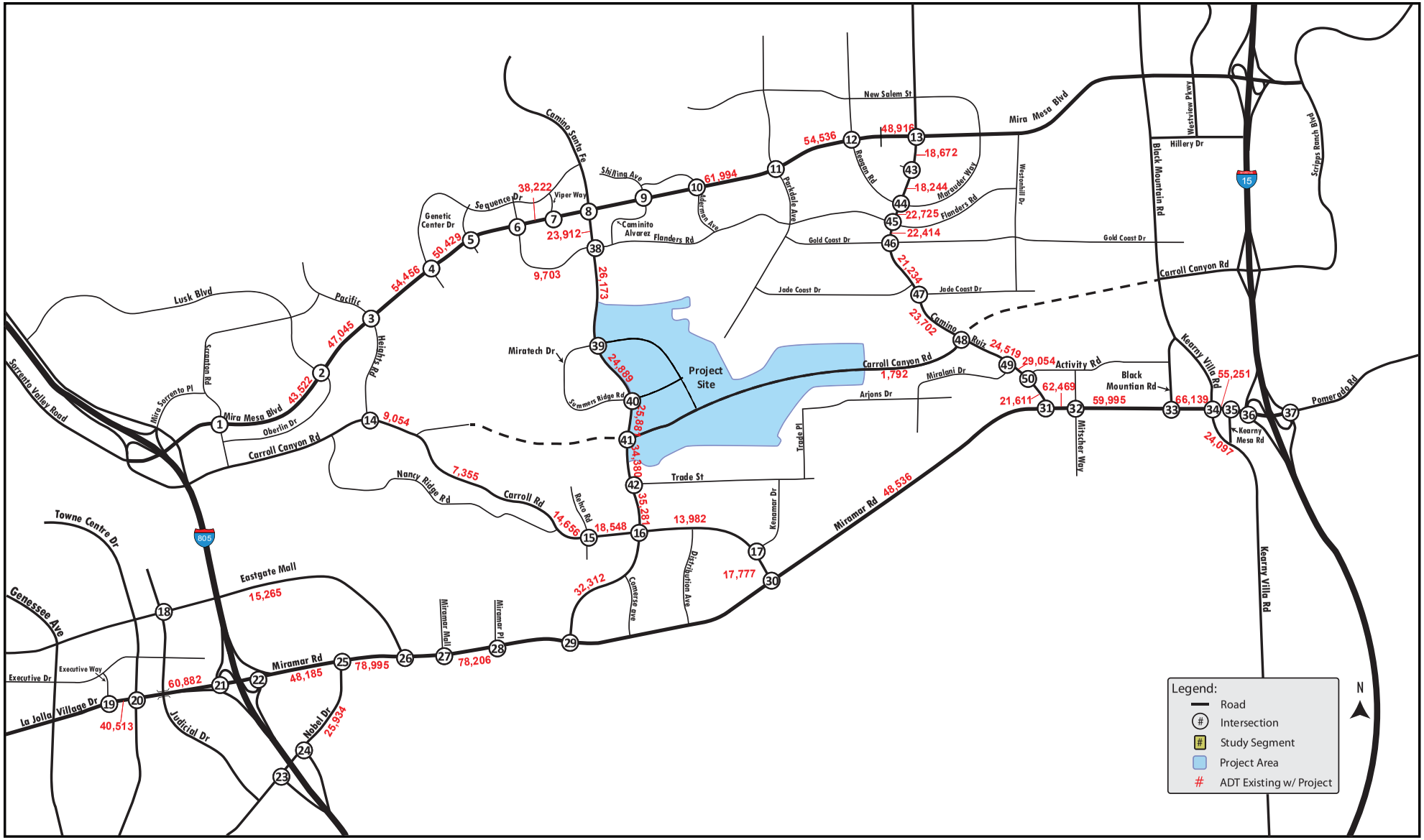

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Figure 5-4
Existing Plus Project Buildout ADT Volumes

5.3 INTERSECTION ANALYSIS – EXISTING PLUS PHASE 1 PROJECT

Table 5-1 displays the LOS analysis results for the study intersections under the Existing Plus Phase 1 Project scenario. **Appendix E** contains the intersection LOS worksheets.

As shown in Table 5-1, the following intersections are forecast to operate at deficient LOS under Existing Plus Phase 1 Project conditions:

3. Pacific Heights Boulevard and Mira Mesa Boulevard (PM: LOS E)
8. Camino Santa Fe and Mira Mesa Boulevard (PM: LOS F)
13. Camino Ruiz and Mira Mesa Boulevard (AM: LOS E)
16. Camino Santa Fe and Carroll Road (AM: LOS E, PM: LOS E)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS E)
29. Camino Santa Fe and Miramar Road (AM: LOS E)
31. Camino Ruiz and Miramar Road (AM: LOS E)
34. Kearny Villa Road and Miramar Road (AM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS E)
49. Miralani Drive and Camino Ruiz (AM: LOS F)
50. Activity Road and Camino Ruiz (PM: LOS E)

Table 5-1 shows that the addition of project-related traffic to existing peak hour volumes at the above-listed intersections would result in increases in delay that exceed the City's significance thresholds for intersection operations (2.0 seconds for LOS E and 1.0 second for LOS F) for the following six (6) intersections:

3. Pacific Heights Boulevard and Mira Mesa Boulevard (PM: LOS E)
8. Camino Santa Fe and Mira Mesa Boulevard (PM: LOS F)
16. Camino Santa Fe and Carroll Road (AM: LOS E, PM: LOS E)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS E)
29. Camino Santa Fe and Miramar Road (AM/PM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS E)

Therefore, the project would result in significant impacts at the six (6) above-listed intersections under Existing Plus Phase 1 Project Conditions. Although this scenario identifies significant impacts, the impacts for the Existing Plus Phase 1 Project conditions are consistent with the findings of the Near Term Year 2021 With Phase 1 Project conditions. Therefore, the mitigation for these impacts is addressed under the Near Term Year 2021 conditions chapter in this report.

TABLE 5-1: EXISTING PLUS PHASE 1 PROJECT PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project (Phase 1)		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS [b]	Delay	LOS		
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	28.1	C	28.2	C	0.1	
			PM	43.5	D	43.9	D	0.4	
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	27.8	C	28.1	C	0.3	
			PM	46.7	D	47.2	D	0.5	
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	36.4	D	36.7	D	0.3	
			PM	68.3	E	73.4	E	5.1	YES
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	31.4	C	31.9	C	0.5	
			PM	40.9	D	42.0	D	1.1	
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	13.4	B	14.2	B	0.8	
			PM	41.9	D	43.0	D	1.1	
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	22.4	C	24.7	C	2.3	
			PM	26.2	C	28.5	C	2.3	
7	Viper Way & Mira Mesa Blvd	Signal	AM	11.4	B	11.5	B	0.1	
			PM	15.8	B	16.2	B	0.4	
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	39.5	D	49.7	D	10.2	
			PM	67.6	E	92.6	F	25.0	YES
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	11.6	B	11.7	B	0.1	
			PM	10.8	B	11.0	B	0.2	
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	9.8	A	10.1	B	0.3	
			PM	10.9	B	11.2	B	0.3	
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	20.2	C	24.2	C	2.0	
			PM	22.4	C	23.0	C	0.6	
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	28.8	C	29.7	C	0.9	
			PM	26.5	C	27.2	C	0.7	
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	66.3	E	66.5	E	0.2	No
			PM	52.7	D	52.7	D	0.0	
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	8.5	A	8.6	A	0.1	
			PM	11.5	B	11.5	B	0.0	
15	Rehco Rd & Carroll Rd	Signal	AM	5.1	A	5.4	A	0.3	
			PM	22.1	C	26.5	C	4.4	
16	Camino Santa Fe & Carroll Rd	Signal	AM	46.5	D	74.9	E	28.4	YES
			PM	42.0	D	69.5	E	27.5	YES
17	Kenamar Dr & Carroll Rd	Signal	AM	15.0	B	15.1	B	0.1	
			PM	13.8	B	14.1	B	0.3	
18	Eastgate Mall & Judicial Dr	Signal	AM	24.0	C	24.1	C	0.1	
			PM	23.8	C	24.4	C	0.6	
19	Executive Way & La Jolla Village Dr	Signal	AM	16.2	B	16.3	B	0.1	
			PM	39.1	D	39.5	D	0.4	

TABLE 5-1: EXISTING PLUS PHASE 1 PROJECT PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project (Phase 1)		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS [b]	Delay	LOS		
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	31.5	C	31.6	C	0.1	
			PM	72.3	E	74.8	E	2.5	YES
21	La Jolla Village Dr-Miramar Rd & I-805 SB On/Off Ramps	Signal	AM	43.7	D	43.7	D	0.0	
			PM	17.1	B	17.7	B	0.6	
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	15.7	B	15.8	B	0.1	
			PM	10.2	B	10.4	B	0.2	
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	4.0	A	4.9	A	0.9	
			PM	4.1	A	4.7	A	0.6	
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	21.5	C	21.6	C	0.1	
			PM	19.7	B	20.3	C	0.6	
25	Nobel Dr & Miramar Rd	Signal	AM	26.7	C	28.1	C	1.4	
			PM	27.3	C	29.0	C	1.7	
26	Eastgate Mall & Miramar Rd	Signal	AM	23.3	C	23.9	C	0.6	
			PM	34.0	C	35.4	D	1.4	
27	Miramar Mall & Miramar Rd	Signal	AM	7.8	A	8.0	A	0.2	
			PM	6.6	A	7.0	A	0.4	
28	Miramar Pl & Miramar Rd	Signal	AM	22.0	C	22.3	C	0.3	
			PM	8.7	A	8.7	A	0.0	
29	Camino Santa Fe & Miramar Rd	Signal	AM	65.3	E	75.3	E	10.0	YES
			PM	45.9	D	71.6	E	25.7	YES
30	Carroll Rd & Miramar Rd	Signal	AM	20.4	C	22.8	C	2.4	
			PM	20.1	C	20.3	C	0.2	
31	Camino Ruiz & Miramar Rd	Signal	AM	56.0	E	56.0	E	0.0	No
			PM	25.2	C	25.3	C	0.1	
32	Mitscher Way & Miramar Rd	Signal	AM	22.2	C	23.4	C	1.2	
			PM	44.0	D	45.1	D	1.1	
33	Black Mountain Rd & Miramar Rd	Signal	AM	13.4	B	13.4	B	0.0	
			PM	20.1	C	20.1	B	0.0	
34	Kearny Villa Rd & Miramar Rd	Signal	AM	59.8	E	60.2	E	0.4	No
			PM	45.2	D	45.5	D	0.3	
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	19.5	B	19.6	B	0.1	
			PM	15.0	B	15.1	B	0.1	
36	I-15 SB On/Off Ramp & Miramar Rd	Signal	AM	18.5	B	18.5	B	0.0	
			PM	11.9	B	11.9	B	0.0	
37	Pomerado Rd-Miramar Way & I-15 NB On/Off Ramp	Signal	AM	24.1	C	24.1	C	0.0	
			PM	23.3	C	23.4	C	0.1	
38	Flanders Dr & Camino Santa Fe	Signal	AM	35.3	D	40.3	D	5.0	
			PM	60.1	E	73.2	E	13.1	YES

TABLE 5-1: EXISTING PLUS PHASE 1 PROJECT PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project (Phase 1)		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS [b]	Delay	LOS		
39	Miratech Dr & Camino Santa Fe	Signal	AM	5.4	A	12.5	B	7.1	
			PM	7.6	A	29.6	C	22.0	
40	Summer Ridge Rd & Camino Santa Fe	Signal	AM	7.1	A	16.2	B	9.1	
			PM	5.6	A	17.1	B	11.5	
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	5.0	A	7.3	A	2.3	
			PM	4.9	A	4.9	A	0.0	
42	Trade St & Camino Santa Fe	Signal	AM	17.5	B	20.7	C	3.2	
			PM	22.7	C	36.1	D	13.4	
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	6.6	A	6.6	A	0.0	
			PM	14.0	B	14.0	B	0.0	
44	Reagan Rd & Camino Ruiz	Signal	AM	24.8	C	24.8	C	0.0	
			PM	24.8	C	24.8	C	0.0	
45	Flanders Dr & Camino Ruiz	Signal	AM	21.5	C	21.5	C	0.0	
			PM	20.9	C	20.9	C	0.0	
46	Gold Coast Dr & Camino Ruiz	Signal	AM	31.6	C	31.7	C	0.1	
			PM	38.8	D	39.1	D	0.3	
47	Jade Coast Dr & Camino Ruiz	Signal	AM	17.4	B	17.5	B	0.1	
			PM	10.4	B	10.4	B	0.0	
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.5	A	6.5	A	0.0	
			PM	5.0	A	5.0	A	0.0	
49	Miralani Dr & Camino Ruiz	Signal	AM	104.1	F	104.1	F	0.0	No
			PM	42.7	D	42.7	D	0.0	
50	Activity Rd & Camino Ruiz	Signal	AM	19.2	B	19.2	B	0.0	
			PM	70.3	E	70.9	E	0.6	No

Notes:

(a) Delays are reported as the average control delay in seconds.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual (HCM)* and performed using Synchro 9.

(c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F or if the addition of project trips results in a change in operating conditions from acceptable (LOS D or better) to deficient (LOS E or F).

5.4 ROADWAY SEGMENT ANALYSIS – EXISTING PLUS PHASE 1 PROJECT

Table 5-2 summarizes the roadway segment capacity analysis results under Existing Plus Phase 1 Project conditions. As shown in the table, the study roadway segments would continue operating at an acceptable LOS D or better except for the following thirteen (13) segments:

F. Mira Mesa Boulevard from Camino Santa Fe and Parkdale Avenue (LOS F)
G. Mira Mesa Boulevard from Parkdale Avenue to Reagan Road (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS E)
P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road and Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive and Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)

The addition of project-related traffic to existing traffic volumes on the 13 above-listed deficient roadway segments would result in increases in the v/c ratios that exceed the City's significance threshold (0.02 for LOS E and 0.01 for LOS F) except for on the segment of Miramar Road from Kearny Villa Road to Kearny Mesa Road.

Despite the City's threshold being exceeded, no significant impact was identified on the segment of Mira Mesa Boulevard between Parkdale Drive and Reagan Road. This segment was evaluated using the City's alternative analysis for roadway segments. The impact on this segment was determined to be not significant because the adjacent intersections operate at an acceptable LOS (LOS D or better), the HCM arterial analysis show an acceptable arterial LOS, and the segment is built to its ultimate roadway classification per the adopted Community Plan. HCM arterial analysis is discussed in Section 5.7 and analysis worksheets are provided in **Appendix I**.

Therefore, the project would result in significant impacts on eleven (11) of the above-listed roadway segments under Existing Plus Phase 1 Project Conditions. The identified impacts are consistent with the impacts identified under Near Term Year 2021 conditions. Therefore, the mitigation measures for the above-listed significantly impacted roadway segments are addressed under the Near Term Year 2021 conditions chapter in this report.

TABLE 5-2: EXISTING PLUS PHASE 1 PROJECT ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification [a]	LOS E Capacity	Existing			Existing Plus Phase 1 Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[b]	LOS	ADT	v/c Ratio[b]	LOS		
Mira Mesa Blvd											
A	Scranton Rd to Lusk Blvd-Oberlin Dr	Primary Arterial/6	60,000	42,695	0.712	C	43,348	0.722	C	0.011	
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	Primary Arterial/6	60,000	45,986	0.766	C	46,822	0.780	C	0.014	
C	Pacific Heights Blvd to Sequence Dr	Primary Arterial/6	60,000	52,782	0.880	D	54,015	0.900	D	0.020	
D	Sequence Dr to Flanders Dr	Primary Arterial/6	60,000	48,493	0.808	C	49,844	0.831	C	0.023	
E	Flanders to Camino Santa Fe	Primary Arterial/6	60,000	37,133	0.619	C	37,815	0.630	C	0.011	
F	Camino Santa Fe to Parkdale Ave	Major/6	50,000	57,801	1.156	F	59,375	1.188	F	0.032	Yes
G	Parkdale Ave to Reagan Rd	Major/6	50,000	50,807	1.016	F	52,148	1.043	F	0.027	No [C]
H	Reagan Rd to Camino Ruiz	Major/6	50,000	46,245	0.925	E	47,374	0.947	E	0.022	Yes
Flanders Dr											
I	Mira Mesa Blvd to Camino Santa Fe	Collector/4 (no center lane)	15,000	8,448	0.563	A	8,920	0.595	A	0.032	
Carroll Canyon Rd											
J	Pacific Heights Blvd to Fenton Rd	Collector/2 (with TWLTL)	15,000	8,187	0.546	C	8,337	0.556	C	0.010	
K	Fenton Rd to Camino Santa Fe	Does not Exist									
L	Camino Santa Fe to Existing Terminus (Future)	Does not Exist									
M	Existing Terminus to Camino Ruiz	Major/4	40,000	1,792	0.045	A	1,792	0.045	A	0.000	
N	Camino Ruiz to Black Mountain Road	Does Not Exist									
Carroll Rd											
O	Fenton Rd to Nancy Ridge Dr	Collector/2 (with TWLTL)	15,000	6,357	0.424	B	6,566	0.438	B	0.014	
P	Nancy Ridge Dr to Rehco Rd	Collector/2 (with TWLTL)	15,000	13,265	0.884	E	13,651	0.910	E	0.026	Yes
Q	Rehco Rd to Camino Santa Fe	Collector/2 (with TWLTL)	15,000	16,754	1.117	F	17,369	1.158	F	0.041	Yes
R	Camino Santa Fe to Kenamar Dr	Collector/2 (with TWLTL)	15,000	9,960	0.664	C	11,577	0.772	D	0.108	
S	Kenamar Dr to Miramar Rd	Collector/3	22,500	14,027	0.623	C	15,474	0.688	D	0.064	
Eastgate Mall											
T	Judicial Dr to Miramar Rd	Collector/2 (with TWLTL)	15,000	14,317	0.954	E	14,887	0.992	E	0.038	Yes

TABLE 5-2: EXISTING PLUS PHASE 1 PROJECT ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification [a]	LOS E Capacity	Existing			Existing Plus Phase 1 Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[b]	LOS	ADT	v/c Ratio[b]	LOS		
La Jolla Village Dr											
U	Executive Way to Towne Center Dr	Primary Arterial/6	60,000	39,344	0.656	C	39,822	0.664	C	0.008	
V	Towne Center Dr to I-805 SB Ramps	Primary Arterial/8	80,000	59,451	0.743	C	60,047	0.751	C	0.007	
Nobel Dr											
W	I-805 NB Off Ramp to Miramar Rd	Major /4	40,000	22,627	0.566	C	24,258	0.606	C	0.040	
Miramar Rd											
X	I-805 Ramps to Nobel Drive	Primary Arterial/8	80,000	45,040	0.563	B	46,455	0.581	C	0.018	
Y	Nobel Dr to Eastgate Mall	Primary Arterial/7	70,000	72,543	1.036	F	75,589	1.080	F	0.044	Yes
Z	Eastgate Mall to Camino Santa Fe	Major/6 (with TWLTL)	45,000	70,746	1.572	F	74,365	1.653	F	0.081	Yes
AA	Carroll Rd to Camino Ruiz	Major/6 (with TWLTL)	45,000	45,109	1.002	F	46,434	1.032	F	0.030	Yes
AB	Camino Ruiz to Mitscher Way	Major/6	50,000	59,889	1.198	F	60,858	1.217	F	0.019	Yes
AC	Mitscher Way to Black Mountain Rd	Major/6 (with TWLTL)	45,000	57,677	1.282	F	58,528	1.301	F	0.019	Yes
AD	Black Mountain Rd to Kearny Villa Rd	Major/6 (with TWLTL)	45,000	64,083	1.424	F	64,816	1.440	F	0.016	Yes
AE	Kearny Villa Rd to Kearny Mesa Rd	Major/6 (with TWLTL)	45,000	54,102	1.202	F	54,475	1.211	F	0.008	No
Camino Santa Fe											
AF	Mira Mesa Blvd to Flanders Dr	Major/6	50,000	17,521	0.350	A	20,251	0.405	B	0.055	
AG	Flanders Dr to Miratech Dr	Primary Arterial/6	60,000	16,818	0.280	A	21,265	0.354	A	0.074	
AH	Miratech Dr to Summer Ridge Rd	Primary Arterial/6	60,000	16,240	0.271	A	20,130	0.336	A	0.065	
AI	Summer Ridge Rd to Carroll Canyon Rd	Primary Arterial/6	60,000	17,070	0.285	A	21,801	0.363	A	0.079	
AJ	Carroll Canyon Rd to Trade St	Major/4	40,000	18,695	0.467	B	25,558	0.639	C	0.172	
AK	Trade St to Carroll Rd	Major/4	40,000	20,886	0.522	B	27,264	0.682	C	0.159	
AL	Carroll Rd to Miramar Rd	Major/4	40,000	24,399	0.610	C	28,198	0.705	C	0.095	
Camino Ruiz											
AM	Mira Mesa Blvd to Mira Mesa Mall Entrance	Major/4	40,000	18,430	0.461	B	18,443	0.461	B	0.000	
AN	Mira Mesa Mall Entrance to Reagan Rd	Major/4	40,000	18,002	0.450	B	18,015	0.450	B	0.000	
AO	Reagan Rd to Flanders Dr	Major/4	40,000	21,879	0.547	C	21,924	0.548	C	0.001	

TABLE 5-2: EXISTING PLUS PHASE 1 PROJECT ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification [a]	LOS E Capacity	Existing			Existing Plus Phase 1 Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[b]	LOS	ADT	v/c Ratio[b]	LOS		
AP	Flanders Dr to Gold Coast Dr	Major/4	40,000	21,689	0.542	C	21,727	0.543	C	0.001	
AQ	Gold Coast Dr to Jade Coast Dr	Major/4	40,000	20,750	0.519	B	20,776	0.519	B	0.001	
AR	Jade Coast Dr to Carroll Canyon Rd	Major/4	40,000	23,702	0.593	C	23,702	0.593	C	0.000	
AS	Carroll Canyon Rd to Miralani Dr	Major/4	40,000	24,519	0.613	C	24,519	0.613	C	0.000	
AT	Miralani Dr to Activity Rd	Major/4	40,000	28,933	0.723	C	28,939	0.723	C	0.000	
AU	Activity Rd to Miramar Rd	Major/4	40,000	21,228	0.531	C	21,352	0.534	C	0.003	
Kearny Villa Rd											
AV	Miramar Rd to Kearny Mesa Rd	Major/4	40,000	23,311	0.583	C	23,665	0.592	C	0.009	

Notes:

(a) Existing functional street classification is based on field observations.

(b) The v/c ratio is calculated by dividing the ADT volume by each respective roadway segments capacity.

(c) Despite the City's threshold being exceeded, no significant impact was identified on this segment based on the City's alternative analysis for roadway segments. The analysis demonstrated that the adjacent intersections operate at an acceptable LOS (LOS D or better), the HCM arterial analysis show an acceptable arterial LOS, and the segment is built to its ultimate roadway classification per the adopted Community Plan. HCM Analysis worksheets are provided in Appendix I.

5.5 INTERSECTION ANALYSIS – EXISTING PLUS PROJECT BUILDOUT

Table 5-3 displays the LOS analysis results for the study intersections under the Existing Plus Project Buildout scenario. **Appendix E** contains the intersection LOS worksheets.

As shown in Table 5-3, the following intersections are forecast to operate at deficient LOS under Existing Plus Project Buildout conditions:

3. Pacific Heights Boulevard and Mira Mesa Boulevard (PM: LOS E)
8. Camino Santa Fe and Mira Mesa Boulevard (AM: LOS E; PM: LOS F)
16. Camino Santa Fe and Carroll Road (AM: LOS F, PM: LOS F)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS E)
29. Camino Santa Fe and Miramar Road (AM: LOS F, PM: LOS F)
31. Camino Ruiz and Miramar Road (AM: LOS E)
34. Kearny Villa Road and Miramar Road (AM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS F)
42. Trade Street and Camino Santa Fe (PM: LOS F)
49. Miralani Drive and Camino Ruiz (AM: LOS F)
50. Activity Road and Camino Ruiz (PM: LOS E)

Table 5-3 shows that with the addition of project-related traffic to existing peak hour volumes at the twelve (12) study intersections listed above would result in increases in delay that exceed the City's significance thresholds for intersection operations (2.0 seconds for LOS E and 1.0 second for LOS F) for all the twelve (12) above-listed intersections.

Therefore, the project would result in significant impacts at the twelve (12) above-listed intersections under Existing Plus Project Buildout Conditions. Although this scenario identifies significant impacts, the impacts for the Existing plus Project Buildout conditions are consistent with the findings of the Near Term Year 2021 With Phase 1 Project conditions and Near Term Year 2025 With Project Buildout conditions. Therefore, the mitigation for these impacts will be addressed in the Near Term Year 2021 and Near Year 2025 conditions chapters in this report.

TABLE 5-3: EXISTING PLUS PROJECT BUILDOUT PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project Buildout (Phases 1-2)		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS [b]	Delay	LOS		
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	28.1	C	28.3	C	0.2	
			PM	43.5	D	44.3	D	0.8	
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	27.8	C	28.2	C	0.4	
			PM	46.7	D	47.4	D	0.7	
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	36.4	D	37.3	D	0.9	
			PM	68.3	E	74.6	E	6.3	YES
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	31.4	C	32.5	C	1.1	
			PM	40.9	D	43.5	D	2.6	
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	13.4	B	14.4	B	1.0	
			PM	41.9	D	41.9	D	0.0	
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	22.4	C	25.9	C	3.5	
			PM	26.2	C	29.5	C	3.3	
7	Viper Way & Mira Mesa Blvd	Signal	AM	11.4	B	11.5	B	0.1	
			PM	15.8	B	15.8	B	0.0	
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	39.5	D	57.6	E	18.1	YES
			PM	67.6	E	145.0	F	77.4	YES
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	11.6	B	12.0	B	0.4	
			PM	10.8	B	11.0	B	0.2	
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	9.8	A	10.8	B	1.0	
			PM	10.9	B	11.5	B	0.6	
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	20.2	C	33.4	C	13.2	
			PM	22.4	C	24.5	C	2.1	
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	28.8	C	36.3	D	7.5	
			PM	26.5	C	37.6	D	11.1	
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	66.3	E	67.9	E	1.6	No
			PM	52.7	D	54.4	D	1.7	
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	8.5	A	8.8	A	0.3	
			PM	11.5	B	11.8	B	0.3	
15	Rehco Rd & Carroll Rd	Signal	AM	5.1	A	6.1	A	1.0	
			PM	22.1	C	35.4	C	13.3	
16	Camino Santa Fe & Carroll Rd	Signal	AM	46.5	D	124.8	F	78.3	YES
			PM	42.0	D	135.4	F	93.4	YES
17	Kenamar Dr & Carroll Rd	Signal	AM	15.0	B	15.1	B	0.1	
			PM	13.8	B	14.4	B	0.6	
18	Eastgate Mall & Judicial Dr	Signal	AM	24.0	C	24.7	C	0.7	
			PM	23.8	C	24.6	C	0.8	
19	Executive Way & La Jolla Village Dr	Signal	AM	16.2	B	16.5	B	0.3	
			PM	39.1	D	39.8	D	0.7	

TABLE 5-3: EXISTING PLUS PROJECT BUILDOUT PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project Buildout (Phases 1-2)		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS [b]	Delay	LOS		
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	31.5	C	31.8	C	0.3	
			PM	72.3	E	77.9	E	5.6	YES
21	La Jolla Village Dr-Miramar Rd & I-805 SB On/Off Ramps	Signal	AM	43.7	D	43.8	D	0.1	
			PM	17.1	B	17.8	B	0.7	
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	15.7	B	16.0	B	0.3	
			PM	10.2	B	10.5	B	0.3	
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	4.0	A	5.5	A	1.5	
			PM	4.1	A	5.6	A	1.5	
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	21.5	C	21.7	C	0.2	
			PM	19.7	B	21.0	C	1.3	
25	Nobel Dr & Miramar Rd	Signal	AM	26.7	C	29.5	C	2.8	
			PM	27.3	C	29.9	C	2.6	
26	Eastgate Mall & Miramar Rd	Signal	AM	23.3	C	24.1	C	0.8	
			PM	34.0	C	40.8	D	6.8	
27	Miramar Mall & Miramar Rd	Signal	AM	7.8	A	7.9	A	0.1	
			PM	6.6	A	7.6	A	1.0	
28	Miramar Pl & Miramar Rd	Signal	AM	22.0	C	22.1	C	0.1	
			PM	8.7	A	8.7	A	0.0	
29	Camino Santa Fe & Miramar Rd	Signal	AM	65.3	E	114.2	F	48.9	YES
			PM	45.9	D	104.8	F	58.9	YES
30	Carroll Rd & Miramar Rd	Signal	AM	20.4	C	25.0	C	4.6	
			PM	20.1	C	21.5	C	1.4	
31	Camino Ruiz & Miramar Rd	Signal	AM	56.0	E	60.5	E	4.5	YES
			PM	25.2	C	25.4	C	0.2	
32	Mitscher Way & Miramar Rd	Signal	AM	22.2	C	24.6	C	2.4	
			PM	44.0	D	46.2	D	2.2	
33	Black Mountain Rd & Miramar Rd	Signal	AM	13.4	B	13.7	B	0.3	
			PM	20.1	C	20.1	B	0.0	
34	Kearny Villa Rd & Miramar Rd	Signal	AM	59.8	E	62.2	E	2.4	YES
			PM	45.2	D	46.0	D	0.8	
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	19.5	B	19.6	B	0.1	
			PM	15.0	B	15.2	B	0.2	
36	I-15 SB On/Off Ramp & Miramar Rd	Signal	AM	18.5	B	18.9	B	0.4	
			PM	11.9	B	12.2	B	0.3	
37	Pomerado Rd-Miramar Way & I-15 NB On/Off Ramp	Signal	AM	24.1	C	24.5	C	0.4	
			PM	23.3	C	23.4	C	0.1	
38	Flanders Dr & Camino Santa Fe	Signal	AM	35.3	D	46.4	D	11.1	
			PM	60.1	E	92.3	F	32.2	YES

TABLE 5-3: EXISTING PLUS PROJECT BUILDOUT PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project Buildout (Phases 1-2)		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS [b]	Delay	LOS		
39	Miratech Dr & Camino Santa Fe	Signal	AM	5.4	A	13.9	B	8.5	
			PM	7.6	A	21.5	C	13.9	
40	Summer Ridge Rd & Camino Santa Fe	Signal	AM	7.1	A	24.5	C	17.4	
			PM	5.6	A	35.0	D	29.4	
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	5.0	A	9.9	A	4.9	
			PM	4.9	A	12.1	B	7.2	
42	Trade St & Camino Santa Fe	Signal	AM	17.5	B	27.8	C	10.3	
			PM	22.7	C	90.5	F	67.8	YES
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	6.6	A	6.6	A	0.0	
			PM	14.0	B	14.3	B	0.3	
44	Reagan Rd & Camino Ruiz	Signal	AM	24.8	C	25.4	C	0.6	
			PM	24.8	C	25.4	C	0.6	
45	Flanders Dr & Camino Ruiz	Signal	AM	21.5	C	21.6	C	0.1	
			PM	20.9	C	20.9	C	0.0	
46	Gold Coast Dr & Camino Ruiz	Signal	AM	31.6	C	32.3	C	0.7	
			PM	38.8	D	40.1	D	1.3	
47	Jade Coast Dr & Camino Ruiz	Signal	AM	17.4	B	17.4	B	0.0	
			PM	10.4	B	11.0	B	0.6	
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.5	A	6.5	A	0.0	
			PM	5.0	A	5.0	A	0.0	
49	Miralani Dr & Camino Ruiz	Signal	AM	104.1	F	108.1	F	4.0	YES
			PM	42.7	D	43.0	D	0.3	
50	Activity Rd & Camino Ruiz	Signal	AM	19.2	B	19.4	B	0.2	
			PM	70.3	E	73.9	E	3.6	YES

Notes:

(a) Delays are reported as the average control delay for the entire intersection at signalized intersections.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual (HCM)* and performed using Synchro 9. All-way stop controlled intersections with more than 2 approach lanes were evaluated based on the *2010 HCM* methodology.

(c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F or degrade intersection delay from acceptable LOS D to unacceptable LOS E or F.

5.6 ROADWAY SEGMENT ANALYSIS – EXISTING PLUS PROJECT BUILDOUT

Table 5-4 summarizes the roadway segment capacity analysis results under Existing Plus Project Buildout (Phases 1-2) Conditions. As shown in the table, the study roadway segments would continue operating at an acceptable LOS D or better except for the following segments:

F. Mira Mesa Boulevard from Camino Santa Fe and Parkdale Avenue (LOS F)
G. Mira Mesa Boulevard from Parkdale Avenue to Reagan Road (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS E)
P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road and Camino Santa Fe (LOS F)
R. Carroll Road from Camino Santa Fe to Kenamar Drive (LOS E)
T. Eastgate Mall from Judicial Drive and Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)
AK. Camino Santa Fe from Trade Street to Carroll Road (LOS E)

The addition of project-related traffic to existing traffic volumes on the fifteen (15) above-listed deficient roadway segments would result in increases in the v/c ratios that exceed the City's significance threshold for roadway segments (0.02 for LOS E and 0.01 for LOS F).

Despite the City's threshold being exceeded, no significant impact was identified on the segment of Mira Mesa Boulevard between Parkdale Drive and Reagan Road. This segment was evaluated using the City's alternative analysis for roadway segments. The impact on this segment was determined to be not significant because the adjacent intersections operate at an acceptable LOS (LOS D or better), the HCM arterial analysis show an acceptable arterial LOS, and the segment is built to its ultimate roadway classification per the adopted Community Plan. HCM arterial analysis is discussed in Section 5.7 and analysis worksheets are provided in **Appendix I**.

Therefore, the project would result in significant impacts on fourteen (14) of the above-listed roadway segments under Existing Plus Project Buildout Conditions. The identified impacts are consistent with the impacts identified under Near Term Year 2021 conditions and Near Term Year 2025 With Project Buildout conditions, with the exception of Segment R (Carroll Road from Camino Santa Fe to Kenamar Dr). This segment is be significant impacted until which time Carroll Canyon Road is constructed through the project site (Year 2025). Therefore, the mitigation for these impacts will be addressed in the Near Term Year 2021 and Near Year 2025 conditions chapters in this report.

TABLE 5-4: EXISTING PLUS PROJECT BUILDOUT ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification [a]	LOS E Capacity	Existing			Existing Plus Project Buildout			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[b]	LOS	ADT	v/c Ratio[b]	LOS		
Mira Mesa Blvd											
A	Scranton Rd to Lusk Blvd-Oberlin Dr	Primary Arterial/6	60,000	42,695	0.712	C	43,522	0.725	C	0.014	
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	Primary Arterial/6	60,000	45,986	0.766	C	47,045	0.784	C	0.018	
C	Pacific Heights Blvd to Sequence Dr	Primary Arterial/6	60,000	52,782	0.880	D	54,456	0.908	D	0.028	
D	Sequence Dr to Flanders Dr	Primary Arterial/6	60,000	48,493	0.808	C	50,429	0.840	D	0.032	
E	Flanders to Camino Santa Fe	Primary Arterial/6	60,000	37,133	0.619	C	38,222	0.637	C	0.018	
F	Camino Santa Fe to Parkdale Ave	Major/6	50,000	57,801	1.156	F	61,994	1.240	F	0.084	Yes
G	Parkdale Ave to Reagan Rd	Major/6	50,000	50,807	1.016	F	54,536	1.091	F	0.075	No [C]
H	Reagan Rd to Camino Ruiz	Major/6	50,000	46,245	0.925	E	48,916	0.978	E	0.053	Yes
Flanders Dr											
I	Mira Mesa Blvd to Camino Santa Fe	Collector/4 (no center lane)	15,000	8,070	0.538	C	9,703	0.647	C	0.109	
Carroll Canyon Rd											
J	Pacific Heights Blvd to Fenton Rd	Collector/2 (with TWLTL)	15,000	8,187	0.546	C	9,054	0.604	C	0.058	
K	Fenton Rd to Camino Santa Fe	Does not Exist									
L	Camino Santa Fe to Existing Terminus (Future)	Does not Exist									
M	Existing Terminus to Camino Ruiz	Major/4	40,000	1,792	0.045	A	1,792	0.045	A	0.000	
N	Camino Ruiz to Black Mountain Rd	Does not Exist									
Carroll Rd											
O	Fenton Rd to Nancy Ridge Dr	Collector/2 (with TWLTL)	15,000	6,357	0.424	B	7,355	0.490	C	0.067	
P	Nancy Ridge Dr to Rehco Rd	Collector/2 (with TWLTL)	15,000	13,265	0.884	E	14,656	0.977	E	0.093	Yes
Q	Rehco Rd to Camino Santa Fe	Collector/2 (with TWLTL)	15,000	16,754	1.117	F	18,548	1.237	F	0.120	Yes
R	Camino Santa Fe to Kenamar Dr	Collector/2 (with TWLTL)	15,000	9,960	0.664	C	13,982	0.932	E	0.268	Yes
S	Kenamar Dr to Miramar Rd	Collector/3	22,500	14,027	0.623	C	17,777	0.790	D	0.167	

TABLE 5-4: EXISTING PLUS PROJECT BUILDOUT ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification [a]	LOS E Capacity	Existing			Existing Plus Project Buildout			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[b]	LOS	ADT	v/c Ratio[b]	LOS		
Eastgate Mall											
T	Judicial Dr to Miramar Rd	Collector/2 (with TWLTL)	15,000	14,317	0.954	E	15,265	1.018	F	0.064	Yes
La Jolla Village Dr											
U	Executive Way to Towne Center Dr	Primary Arterial/6	60,000	39,344	0.656	C	40,513	0.675	C	0.019	
V	Towne Center Dr to I-805 SB Ramps	Primary Arterial/8	80,000	59,451	0.743	C	60,882	0.761	D	0.018	
Nobel Dr											
W	I-805 NB Off Ramp to Miramar Rd	Major /4	40,000	22,627	0.566	C	25,934	0.648	C	0.082	
Miramar Rd											
X	I-805 Ramps to Nobel Drive	Primary Arterial/8	80,000	45,040	0.563	C	48,185	0.602	C	0.039	
Y	Nobel Dr to Eastgate Mall	Primary Arterial/7	70,000	72,543	1.036	F	78,995	1.128	F	0.092	Yes
Z	Eastgate Mall to Camino Santa Fe	Major/6 (with TWLTL)	45,000	70,746	1.572	F	78,206	1.738	F	0.166	Yes
AA	Carroll Rd to Camino Ruiz	Major/6 (with TWLTL)	45,000	45,109	1.002	F	48,536	1.079	F	0.077	Yes
AB	Camino Ruiz to Mitscher Way	Major/6	50,000	59,889	1.198	F	62,469	1.249	F	0.051	Yes
AC	Mitscher Way to Black Mountain Rd	Major/6 (with TWLTL)	45,000	57,677	1.282	F	59,995	1.333	F	0.051	Yes
AD	Black Mountain Rd to Kearny Villa Rd	Major/6 (with TWLTL)	45,000	64,083	1.424	F	66,139	1.470	F	0.046	Yes
AE	Kearny Villa Rd to Kearny Mesa Rd	Major/6 (with TWLTL)	45,000	54,102	1.202	F	55,251	1.228	F	0.026	Yes
Camino Santa Fe											
AF	Mira Mesa Blvd to Flanders Dr	Major/6	50,000	17,521	0.350	A	23,912	0.478	B	0.128	
AG	Flanders Dr to Miratech Dr	Primary Arterial/6	60,000	16,818	0.280	A	26,173	0.436	B	0.156	
AH	Miratech Dr to Summer Ridge Rd	Primary Arterial/6	60,000	16,240	0.271	A	24,889	0.415	A	0.144	
AI	Summer Ridge Rd to Carroll Canyon Rd	Primary Arterial/6	60,000	17,070	0.285	A	25,881	0.431	B	0.146	
AJ	Carroll Canyon Rd to Trade St	Major/4	40,000	18,695	0.467	B	34,380	0.859	D	0.392	
AK	Trade St to Carroll Rd	Major/4	40,000	20,886	0.522	B	35,281	0.882	E	0.360	Yes
AL	Carroll Rd to Miramar Rd	Major/4	40,000	24,399	0.610	C	32,312	0.808	D	0.198	

TABLE 5-4: EXISTING PLUS PROJECT BUILDOUT ROADWAY SEGMENT ANALYSIS SUMMARY

	Roadway Segment	Functional Classification [(a)]	LOS E Capacity	Existing			Existing Plus Project Buildout			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[(b)]	LOS	ADT	v/c Ratio[(b)]	LOS		
Camino Ruiz											
AM	Mira Mesa Blvd to Mira Mesa Mall Entrance	Major/4	40,000	18,430	0.461	B	18,672	0.467	B	0.006	
AN	Mira Mesa Mall Entrance to Reagan Rd	Major/4	40,000	18,002	0.450	B	18,244	0.456	B	0.006	
AO	Reagan Rd to Flanders Dr	Major/4	40,000	21,879	0.547	C	22,725	0.568	C	0.021	
AP	Flanders Dr to Gold Coast Dr	Major/4	40,000	21,689	0.542	C	22,414	0.560	C	0.018	
AQ	Gold Coast Dr to Jade Coast Dr	Major/4	40,000	20,750	0.519	B	21,234	0.531	C	0.012	
AR	Jade Coast Dr to Carroll Canyon Rd	Major/4	40,000	23,702	0.593	C	23,702	0.593	C	0.000	
AS	Carroll Canyon Rd to Miralani Dr	Major/4	40,000	24,519	0.613	C	24,519	0.613	C	0.000	
AT	Miralani Dr to Activity Rd	Major/4	40,000	28,933	0.723	C	29,054	0.726	C	0.003	
AU	Activity Rd to Miramar Rd	Major/4	40,000	21,228	0.531	C	21,611	0.540	C	0.010	
Kearny Villa Rd											
AV	Miramar Rd to Kearny Mesa Rd	Major/4	40,000	23,311	0.583	C	24,097	0.602	C	0.020	

Notes:

(a) Existing functional street classification is based on field observations.

(b) The v/c ratio is calculated by dividing the ADT volume by each respective roadway segments capacity.

(c) Despite the City's threshold being exceeded, no significant impact was identified on this segment based on the City's alternative analysis for roadway segments. The analysis demonstrated that the adjacent intersections operate at an acceptable LOS (LOS D or better), the HCM arterial analysis show an acceptable arterial LOS, and the segment is built to its ultimate roadway classification per the adopted Community Plan. HCM Analysis worksheets are provided in Appendix I.

5.7 ALTERNATIVE ANALYSIS FOR ROADWAY SEGMENTS

Where the roadway segments are built to their ultimate Community Plan street classifications and intersections at the end of the segment are operating at an acceptable LOS D or better, the City allows the alternative analysis of roadway segments to be performed.

Table 5-5 and **Table 5-6** present the results of the HCM peak hour arterial analysis for the Existing Plus Phase 1 Project and Existing Plus Project Buildout conditions, respectively. The arterial analysis worksheets are provided in **Appendix I**.

As shown in the tables, the segment of Mira Mesa Boulevard between Parkdale Avenue and Reagan Road operates at an acceptable LOS D or better during the peak hours under both Existing and Existing Plus Phase 1 Project and Project Buildout conditions. Therefore, a significant impact is not identified on the roadway segment and no mitigation measures are required.

5.8 FREEWAY ANALYSIS

The Existing Plus Project freeway volumes were developed by adding project-related traffic to existing freeway mainline volumes in each direction of travel. The results of the Existing Plus Phase 1 Project freeway mainline analysis are presented in **Table 5-7.** The results of the Existing Plus Project Buildout freeway mainline analysis are presented in **Table 5-8.**

As shown the tables, all study freeway segments are forecast to continue operating at acceptable LOS D or better during the peak hours with the addition of traffic from both the Phase 1 Project and Project Buildout.

TABLE 5-5: EXISTING PLUS PHASE 1 PROJECT PEAK HOUR ARTERIAL ANALYSIS SUMMARY

Roadway	Segment	Direction	Urban Street Class	Segment Length (miles)	Existing Conditions			Existing Plus Phase 1 Project		
					Travel Time (seconds)	Average Arterial Speed (mph)	LOS	Travel Time (seconds)	Average Arterial Speed (mph)	LOS
AM Peak Hour										
Mira Mesa Blvd	Parkdale Ave to Reagan Rd	Eastbound	I	0.40	59.9	24.3	C	60.1	24.2	C
		Westbound	I	0.40	44.4	32.7	C	50.3	28.9	C
PM Peak Hour										
Mira Mesa Blvd	Parkdale Ave to Reagan Rd	Eastbound	I	0.40	49.4	29.4	C	51.1	28.4	B
		Westbound	I	0.40	40.8	35.6	B	41.7	34.9	B

TABLE 5-6: EXISTING PLUS PROJECT BUILDOUT PEAK HOUR ARTERIAL ANALYSIS SUMMARY

Roadway	Segment	Direction	Urban Street Class	Segment Length (miles)	Existing Conditions			Existing Plus Project Buildout		
					Travel Time (seconds)	Average Arterial Speed (mph)	LOS	Travel Time (seconds)	Average Arterial Speed (mph)	LOS
AM Peak Hour										
Mira Mesa Blvd	Parkdale Ave to Reagan Rd	Eastbound	I	0.40	59.9	24.3	C	60.4	24.1	C
		Westbound	I	0.40	44.4	32.7	C	64.5	22.5	D
PM Peak Hour										
Mira Mesa Blvd	Parkdale Ave to Reagan Rd	Eastbound	I	0.40	49.4	29.4	C	67.5	21.5	D
		Westbound	I	0.40	40.8	35.6	B	42.3	34.4	B

TABLE 5-7: EXISTING PLUS PHASE 1 PROJECT FREEWAY MAINLINE ANALYSIS SUMMARY

Freeway and Segment	Number of Lanes		ADT	Capacity (vph)	Existing						Existing Plus Phase 1 Project						Change in V/C		Significant Impact ?	
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour						
					Peak Hour Volume [a]	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	AM	PM	AM	PM
I-805																				
I-805 South of Nobel Dr	NB	4M+1H+1A	200,000	12,280	9,559	0.778	C	8,768	0.714	C	9,586	0.781	C	8,880	0.723	C	0.002	0.009		
	SB	4M+1H+1A		12,280	3,861	0.314	A	5,792	0.472	B	3,961	0.323	A	5,843	0.476	B	0.008	0.004		
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	4M + 1H	180,000	11,080	8,603	0.776	C	7,891	0.712	C	8,611	0.777	C	7,922	0.715	C	0.001	0.003		
	SB	4M + 1H		11,080	3,475	0.314	A	5,213	0.470	B	3,503	0.316	A	5,227	0.472	B	0.003	0.001		
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	4M+1H+1A	179,000	12,280	8,555	0.697	C	7,847	0.639	C	8,566	0.698	C	7,853	0.639	C	0.001	0.000		
	SB	4M+1H+1A		12,280	3,456	0.281	A	5,184	0.422	B	3,459	0.282	A	5,196	0.423	B	0.000	0.001		
Mira Mesa Blvd to I-805/I-5 Interchange	NB	4M+1H+1A	163,000	12,280	7,791	0.634	B	7,146	0.582	B	7,818	0.637	B	7,160	0.583	B	0.002	0.001		
	SB	3M+1H+2A		11,130	3,147	0.283	A	4,720	0.424	A	3,154	0.283	A	4,752	0.427	A	0.001	0.003		
I-15																				
Miramar Rd to Miramar Way	NB	6M+2H+1A	302,000	18,660	14,210	0.762	C	12,774	0.685	C	14,213	0.762	C	12,787	0.685	C	0.000	0.001		
	SB	7M+2H		19,810	10,282	0.519	B	10,600	0.535	B	10,293	0.520	B	10,606	0.535	B	0.001	0.000		
Carroll Canyon Rd to Miramar Rd	NB	6M+2H+1A	285,000	18,660	13,410	0.719	C	12,055	0.646	C	13,410	0.719	C	12,055	0.646	C	0.000	0.000		
	SB	6M+2H+1A		18,660	9,703	0.520	B	10,004	0.536	B	9,703	0.520	B	10,004	0.536	B	0.000	0.000		
Mira Mesa Blvd to Carroll Canyon Rd	NB	6M+2H+1A	270,000	18,660	12,705	0.681	C	11,421	0.612	B	12,705	0.681	C	11,421	0.612	B	0.000	0.000		
	SB	6M+2H+1A		18,660	9,192	0.493	B	9,477	0.508	B	9,192	0.493	B	9,477	0.508	B	0.000	0.000		
Mira Mesa Blvd to Mercy Rd	NB	5M+2H+1A	261,000	16,310	12,415	0.761	C	11,177	0.685	C	12,443	0.763	C	11,191	0.686	C	0.002	0.001		
	SB	5M+2H+1A		16,310	8,804	0.540	B	8,972	0.550	B	8,811	0.540	B	9,003	0.552	B	0.000	0.002		

Notes:

(a) Mainline lane capacity = 2,350 vehicles per hour per lane (vphpl); HOV lane Capacity = 1,680 vphpl; Auxiliary Lane Capacity = 1,200 vphpl

M = Mainline Lanes; H = HOV Lanes; A = Auxiliary Lanes

TABLE 5-8: EXISTING PLUS PROJECT BUILDOUT FREEWAY MAINLINE ANALYSIS SUMMARY

Freeway and Segment	Number of Lanes		ADT	Capacity (vph)	Existing						Existing Plus Project Buildout						Change in V/C		Significant Impact?	
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour						
					Peak Hour Volume [a]	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	AM	PM	AM	PM
I-805																				
I-805 South of Nobel Dr	NB	4M+1H+1A	200,000	12,280	9,559	0.778	C	8,768	0.714	C	9,644	0.785	C	8,987	0.732	C	0.007	0.018		
	SB	4M+1H+1A		12,280	3,861	0.314	A	5,792	0.472	B	4,053	0.330	A	5,912	0.481	B	0.016	0.010		
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	4M + 1H	180,000	11,080	8,603	0.776	C	7,891	0.712	C	8,624	0.778	C	7,949	0.717	C	0.002	0.005		
	SB	4M + 1H		11,080	3,475	0.314	A	5,213	0.470	B	3,526	0.318	A	5,244	0.473	B	0.005	0.003		
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	4M+1H+1A	179,000	12,280	8,555	0.697	C	7,847	0.639	C	8,581	0.699	C	7,865	0.641	C	0.002	0.001		
	SB	4M+1H+1A		12,280	3,456	0.281	A	5,184	0.422	B	3,470	0.283	A	5,214	0.425	B	0.001	0.002		
Mira Mesa Blvd to I-805/I-5 Interchange	NB	4M+1H+1A	163,000	12,280	7,791	0.634	B	7,146	0.582	B	7,850	0.639	C	7,211	0.587	B	0.005	0.005		
	SB	3M+1H+2A		11,130	3,147	0.283	A	4,720	0.424	A	3,178	0.285	A	4,790	0.430	B	0.003	0.006		
I-15																				
Miramar Rd to Miramar Way	NB	6M+2H+1A	302,000	18,660	14,210	0.762	C	12,774	0.685	C	14,248	0.764	C	12,833	0.688	C	0.002	0.003		
	SB	7M+2H		19,810	10,282	0.519	B	10,600	0.535	B	10,327	0.521	B	10,642	0.537	B	0.002	0.002		
Carroll Canyon Rd to Miramar Rd	NB	6M+2H+1A	285,000	18,660	13,410	0.719	C	12,055	0.646	C	13,423	0.719	C	12,070	0.647	C	0.001	0.001		
	SB	6M+2H+1A		18,660	9,703	0.520	B	10,004	0.536	B	9,717	0.521	B	10,021	0.537	B	0.001	0.001		
Mira Mesa Blvd to Carroll Canyon Rd	NB	6M+2H+1A	270,000	18,660	12,705	0.681	C	11,421	0.612	B	12,725	0.682	C	11,445	0.613	B	0.001	0.001		
	SB	6M+2H+1A		18,660	9,192	0.493	B	9,477	0.508	B	9,216	0.494	B	9,506	0.509	B	0.001	0.002		
Mira Mesa Blvd to Mercy Rd	NB	5M+2H+1A	261,000	16,310	12,415	0.761	C	11,177	0.685	C	12,479	0.765	C	11,222	0.688	C	0.004	0.003		
	SB	5M+2H+1A		16,310	8,804	0.540	B	8,972	0.550	B	8,840	0.542	B	9,048	0.555	B	0.002	0.005		

Notes:

(a) Mainline lane capacity = 2,350 vehicles per hour per lane (vphpl); HOV lane Capacity = 1,680 vphpl; Auxiliary Lane Capacity = 1,200 vphpl

M = Mainline Lanes; H = HOV Lanes; A = Auxiliary Lanes

5.9 FREEWAY METERED ON-RAMP ANALYSIS

The results of the Existing Plus Phase 1 Project and Existing Plus Project Buildout freeway metered on-ramp analysis are summarized in **Table 5-9** and **Table 5-10** respectively.

As shown in Table 5-9, the addition of project-related traffic to existing on-ramp volumes during the peak hours would not result in ramp meter delays greater than 15 minutes under Existing Plus Phase 1 Project conditions.

Table 5-10 shows that under Existing Plus Project Buildout conditions, the addition of project-related traffic to the SB I-805 On-Ramp from Nobel Drive during the PM peak hour would result in a ramp meter delay that is greater than 15 minutes and would result in an increase in delay greater than 2 minutes.

However, the adjacent freeway LOS along southbound I-805 during the PM peak hour is LOS B under Existing Plus Project Buildout conditions. The adjacent freeway LOS must be LOS E or F for a ramp meter impact to occur per the City's significance criteria for ramp meter impacts. Therefore, a significant ramp meter impact is not forecast to occur on the study on-ramps under Existing Plus Project Buildout conditions.

TABLE 5-9: EXISTING PLUS PHASE 1 PROJECT PEAK HOUR FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Most Restrictive or Calibrated Meter Flow Rate (vphpl)	Number of Lanes		Storage Length Per Lane (feet)	Existing Conditions								Existing Plus Phase 1 Project Conditions										Adjacent Freeway LOS	Significant?	
						On-Ramp Volume (1)		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		On-Ramp Volume		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		Increase in Delay (Minutes)				
			SOV	HOV		SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV
SB I-805 from WB Miramar Road	AM	Ramp meter not activated.																								
	PM	C = 687	1	1	1,300'	753	113	66	0	5.45	0	1,650'	0	768	117	81	0	6.93	0	2,033	0	1.48	0	B	No	No
NB I-805 from WB Miramar Road	AM	MR = 804	1	1	1,860'	504	38	0	0	0	0	0	0	517	39	0	0	0	0	0	0	0	0	C	No	No
	PM	Ramp meter not activated.																								
SB I-805 from Nobel Drive	AM	Ramp meter not activated.																								
	PM	C=200	2	1	900'	471	200	36	14	8.20	2.83	900'	350'	503	214	52	28	14.08	7.51	1,303	695	5.88	4.68	B	No	No
SB I-15 from EB Miramar Road	AM	C=242	2	1	1,570'	481	31	2	0	0.07	0	50'	0	494	32	9	0	0.98	0	215	0	0.92	0	B	No	No
	PM	C = 536	2	1		1,081	94	4	0	0.17	0	100'	0	1087	95	7	0	0.77	0	181	0	0.61	0	B	No	No
NB I-15 from EB Miramar Road	AM	Ramp meter not activated.																								
	PM	C = 443	2	0	900'	975	0	45	N/A	3.62	N/A	1,125'	N/A	975	N/A	45	N/A	3.62	N/A	1,125	N/A	0	N/A	C	No	No

Notes:

(1) HOV/SOV volumes based on percent split in volume observations in the field.

N/A = Not Applicable

vphpl = vehicles per hour per lane

MR = most restrictive discharge rate

C = calibrated discharge rate

TABLE 5-10: EXISTING PLUS PROJECT BUILDOUT PEAK HOUR FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Most Restrictive or Calibrated Meter Flow Rate (vphpl)	Number of Lanes		Storage Length Per Lane (feet)	Existing Conditions								Existing Plus Project Buildout Conditions										Adjacent Freeway LOS	Significant?	
						On-Ramp Volume [1]		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		On-Ramp Volume		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		Increase in Delay (Minutes)				
			SOV	HOV		SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV
SB I-805 from WB Miramar Road	AM	Ramp meter not activated.																								
	PM	C=687	1	1	1,300'	753	113	66	0	5.45	0	1,650'	0	787	119	100	0	8.52	0	2,500	0	3.07	0	B	No	No
NB I-805 from WB Miramar Road	AM	MR = 804	1	1	1,860'	504	38	0	0	0	0	0	0	527	40	0	0	0	0	0	0	0	0	C	No	No
	PM	Ramp meter not activated.																								
SB I-805 from Nobel Drive	AM	Ramp meter not activated.																								
	PM	C=200	2	1	900'	471	200	36	14	8.20	2.83	900'	350'	543	231	72	45	19.47	12.14	1,801	1,123	11.27	9.30	B	No	No
SB I-15 from EB Miramar Road	AM	C=242	2	1	1,570'	481	31	2	0	0.07	0	50'	0	505	32	14	0	2	0	344	0	1.51	0	B	No	No
	PM	C=536	2	1		1,081	94	4	0	0.17	0	100'	0	1098	96	13	0	1	0	319	0	1.20	0	B	No	No
NB I-15 from EB Miramar Road	AM	Ramp meter not activated.																								
	PM	C = 443	2	0	900'	975	0	45	N/A	3.62	N/A	1,125'	N/A	985	N/A	50	N/A	4.02	N/A	1,250	N/A	0.40	N/A	C	No	No

Notes:

[1] HOV/SOV volumes based on percent split in volume observations in the field.

N/A = Not Applicable

vphpl = vehicles per hour per lane

MR = most restrictive discharge rate

C = calibrated discharge rate

5.10 OFF-RAMP QUEUING ANALYSIS

Table 5-11 summarizes the results of the Existing Plus Phase 1 Project conditions off-ramp queuing analysis. The results of the Existing Plus Project Buildout conditions off-ramp queuing analysis are shown in **Table 5-12**. The queuing analysis worksheets are provided in **Appendix G**.

As shown in the tables, the addition of project trips is not expected to result in a change in queue length that would exceed the available storage capacity for either Phase 1 Project or Project Buildout conditions.

TABLE 5-11: EXISTING PLUS PHASE 1 PROJECT OFF-RAMP QUEUING ANALYSIS SUMMARY

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Existing Conditions				Existing Plus Phase 1 Project				Change in 95% Queue	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	AM Peak Hour	PM Peak Hour
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Southbound Left	2	1,016' (2)	722	227'	209	99'	726	228'	225	106'	1'	7'
Southbound Right	2	1,295' (2)	1,544	970'	756	414'	1544	970'	756	415'	0'	1'
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Northbound Left	2	1,110' (2)	837	352'	450	261'	837	352'	450	261'	0'	0'
Northbound Right	2	899' (2)	297	108'	142	32'	306	113'	181	36'	5'	4'
NB I-805 Off-Ramp at Nobel Dr												
Northbound Left	2	1,429' (2)	875	263'	562	205'	875	269'	562	205'	6'	0'
Northbound Right	2	1,429' (2)	834	79'	557	82'	859	100	659	132'	21''	50'
SB I-15 Off-Ramp at Miramar Rd												
Southbound Left	2	844' (2)	133	41'	25	27'	133	42	25	27'	1'	0'
Southbound Right	2	894' (2)	1,061	428'	527	175'	1061	432	527	185'	4'	10'
NB I-15 Off-Ramp at Miramar Rd												
Northbound Left	2	1,132' (2)	402	258'	562	349'	406	260'	578	357'	2'	8'
Northbound Right	2	1,132' (2)	588	56'	636	100'	588	56'	636	103'	0'	3'

Notes:

(1) Queue lengths in SYNCHRO are expressed in feet

(2) Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length.

TABLE 5-12: EXISTING PLUS PROJECT BUILDOUT OFF-RAMP QUEUING ANALYSIS SUMMARY

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Existing Conditions				Existing Plus Project Buildout				Change in 95% Queue	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	AM Peak Hour	PM Peak Hour
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Southbound Left	2	1,016' (2)	722	227'	209	99'	737	233'	240	112'	6'	13
Southbound Right	2	1,295' (2)	1,544	970'	756	414'	1,544	970'	756	418'	0'	4'
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Northbound Left	2	1,110' (2)	837	352'	450	261'	837	352'	450	261'	0'	0'
Northbound Right	2	899' (2)	297	108'	142	32'	328	125'	211	38'	17'	6'
NB I-805 Off-Ramp at Nobel Dr												
Northbound Left	2	1,429' (2)	875	263'	562	205'	875	271'	562	200'	0'	-5'
Northbound Right	2	1,429' (2)	834	79'	557	82'	913	117'	736	168'	35'	86'
SB I-15 Off-Ramp at Miramar Rd												
Southbound Left	2	844' (2)	133	41'	25	27'	133	41'	25	26'	0'	-1'
Southbound Right	2	894' (2)	1,061	428'	527	175'	1,071	443'	539	205'	15'	30'
NB I-15 Off-Ramp at Miramar Rd												
Northbound Left	2	1,132' (2)	402	258'	562	349'	417	268'	593	364'	7'	15'
Northbound Right	2	1,132' (2)	588	56'	636	100'	588	56'	636	114'	0'	14'

Notes:

(1) Queue lengths in SYNCHRO are expressed in feet

(2) Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length.

6 NEAR TERM YEAR 2021 CONDITIONS – PHASE 1

This section summarizes the development of the Near Term Year 2021 traffic volumes and the operations at the study area intersections and roadway segments. Near Term Year 2021 conditions are based on the expected growth of background traffic associated with near-term future developments in the Mira Mesa community, which was overlaid by traffic generated by the proposed project.

6.1 ROADWAY NETWORK

The Near Term Year 2021 conditions analysis is based on the existing roadway network except for the following improvements that will be constructed by the project at the project access intersections:

- **Camino Santa Fe and Miratech Road:** The project will construct an east leg with a single left turn, through and right turn lane. The west leg will be modified to include a single left turn, through and right turn lane. The southbound U-turn lane will be modified to accommodate left turning vehicles.

- **Camino Santa Fe and Summers Ridge Road:** The project will construct an east leg with dual left turn lanes and a shared through/right turn lane. The west leg will be modified to include a single left turn, through and right turn lane.

Other than construction of the internal roadway network and frontage improvements to serve Phase 1 of the project, no other transportation improvements are included under Near Term 2021 conditions. Conceptual designs of the two intersections listed above are provided in **Appendix J**.

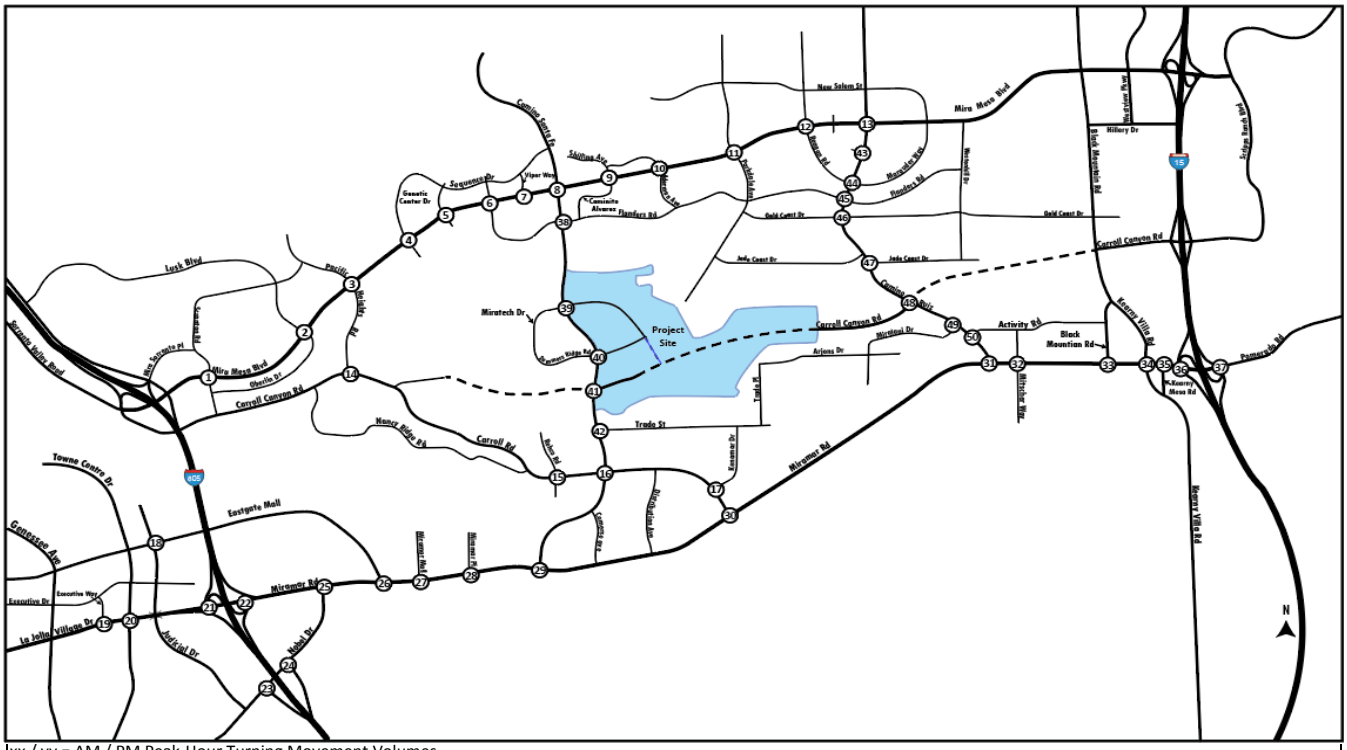
6.2 TRAFFIC VOLUMES

The Near Term Year 2021 baseline (no project) daily and peak hour traffic volumes were developed based on the SANDAG Series 12 Year 2020 model run that was performed for the project. As previously discussed in Section 4.3 (Project Trip Distribution), two network scenarios were run using the Series 12 Year 2020 model. The Series 12 Year 2020 Scenario 1 model run reflects the existing roadway network without the Carroll Canyon Road extension and was used to develop the Near Term Year 2021 traffic volumes.

The Near Term Year 2021 baseline traffic volumes were derived by initially calculating the forecast growth in traffic from the SANDAG Series 12 Year 2008 base model to the Series 12 Year 2020 Scenario 1 model performed for this project. The Select Zone project trips were extracted from the 2020 model volumes prior to calculating the growth in traffic from 2008 to 2020. The adjusted 2020 model volumes without the project's Select Zone trips were refined where the adjusted volumes were either below the 2008 base model volumes or where the model volumes were inconsistent with the traffic patterns based on the existing daily traffic counts. Once all adjusted 2020 volumes were refined, annual growth rates were developed based on the forecast growth from 2008 to 2020. Using the annual growth rates developed for all study roadway segments and all study intersection legs, growth factors reflecting four years of traffic growth from 2017 (existing conditions) to 2021 were applied to the existing traffic volumes. The resulting volumes were then used as the Near Term Year 2021 baseline daily traffic volumes. The methodology for developing the Near Term Year 2021 volumes as described above is provided in **Appendix K**.

The Near Term Year 2021 baseline daily traffic volumes were then post-processed to develop the intersection turning movement volumes during the peak hours. The Near Term Year 2021 baseline AM and PM peak hour volumes were generated using the forecast growth from existing conditions to 2021. Adjustments were made where appropriate to reflect changes in traffic patterns and growth for all study intersections.

The Near Term Year 2021 With Project traffic volumes were developed by manually adding the project trips to the Near Term Year 2021 baseline traffic volumes. **Figures 6-1** and **6-2** illustrate the traffic volumes at the study area intersections and roadway segments, respectively, under Near Term Year 2021 baseline (without project) conditions. **Figures 6-3** and **6-4** illustrate the traffic volumes at the study intersections and roadway segments, respectively, under Near Term Year 2021 conditions with the proposed project.



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

1 / Scranton Rd @ Mira Mesa Blvd

121 / 383	53 / 159	56 / 98
92 / 88	980 / 1429	33 / 83
881 / 187	2349 / 915	655 / 148
69 / 380	68 / 94	13 / 19

2 / Lusk Blvd @ Mira Mesa Blvd

50 / 232	18 / 103	57 / 468
498 / 95	1035 / 1374	155 / 32
250 / 93	2145 / 947	41 / 9
6 / 18	21 / 24	24 / 182

3 / Pacific Heights Rd @ Mira Mesa Blvd

103 / 408	27 / 234	97 / 1017
1181 / 112	1538 / 933	310 / 104
567 / 74	1207 / 1463	337 / 80
30 / 141	69 / 32	92 / 328

4 / Sequence Dr @ Mira Mesa Blvd

235 / 268	14 / 7	10 / 79
68 / 9	2531 / 619	90 / 20
313 / 218	819 / 2580	286 / 91
84 / 166	6 / 18	16 / 77

5 / Genetic Center Dr @ Mira Mesa Blvd

35 / 67	8 / 3	42 / 86
161 / 27	2686 / 643	146 / 33
95 / 49	710 / 2549	43 / 11
7 / 25	4 / 13	29 / 288

6 / Flanders Dr @ Mira Mesa Blvd

35 / 44	16 / 79	20 / 124
149 / 24	2769 / 463	42 / 47
62 / 60	449 / 2333	296 / 484
307 / 155	40 / 38	35 / 117

7 / Viper Way @ Mira Mesa Blvd

16 / 19	11 / 12	4 / 20
75 / 35	2675 / 436	45 / 57
31 / 27	305 / 2407	79 / 134
169 / 96	25 / 26	58 / 189

8 / Camino Santa Fe @ Mira Mesa Blvd

60 / 42	281 / 205	112 / 422
339 / 179	2756 / 416	730 / 155
24 / 59	309 / 2370	95 / 98
140 / 150	135 / 303	64 / 526

9 / Shilling Ave @ Mira Mesa Blvd

115 / 20	5 / 3	64 / 58
23 / 80	3646 / 757	31 / 60
23 / 134	463 / 3152	11 / 31
35 / 13	6 / 21	47 / 43

10 / Aderman Ave @ Mira Mesa Blvd

38 / 12	13 / 4	1 / 43
32 / 44	3634 / 866	19 / 49
7 / 36	514 / 3224	9 / 21
16 / 4	9 / 19	39 / 61

11 / Parkdale Ave @ Mira Mesa Blvd

199 / 60	90 / 45	68 / 26
34 / 82	3413 / 896	54 / 97
33 / 100	646 / 3013	31 / 206
97 / 41	31 / 84	78 / 114

12 / Reagan Rd @ Mira Mesa Blvd

220 / 71	123 / 125	54 / 49
14 / 72	3021 / 929	22 / 70
42 / 136	598 / 2549	62 / 264
157 / 144	47 / 141	17 / 35

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Figure 6-1a

Near Term Year 2021 Baseline Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

13 / Camino Ruiz @ Mira Mesa Blvd

← 207 / 124	↓ 499 / 430	→ 408 / 313

↑ 125 / 252	← 2741 / 959	↓ 174 / 290

13

84 / 231 ↑	←	→
707 / 2116 →	↑	
24 / 62 ↓	87 / 135	292 / 576	145 / 126

14 / Pacific Heights Rd @ Carroll Canyon Rd

← 103 / 432	↓ 59 / 244	→

↑ 88 / 62	← 122 / 270	

14

258 / 63 ↑		
420 / 304 →		

15 / Rehco Rd @ Carroll Rd

← 9 / 39	↓ 1 / 2	→ 37 / 231

↑ 181 / 20	← 676 / 220	↓ 49 / 14

15

55 / 5 ↑	←	→
279 / 939 →	↑	
6 / 15 ↓	1 / 12	1 / 1	8 / 49

16 / Camino Santa Fe @ Carroll Rd

← 332 / 61	↓ 769 / 624	→ 91 / 80

↑ 64 / 118	← 324 / 88	↓ 64 / 81

16

55 / 324 ↑	←	→
131 / 316 →	↑	
133 / 485 ↓	334 / 131	423 / 903	104 / 79

17 / Kenamar Dr @ Carroll Rd

← 1 / 0	↓ 158 / 589	→ 20 / 18

↑ 13 / 16	← 1 / 0	↓ 110 / 156

17

0 / 1 ↑	←	→
	↑	
1 / 1 ↓	528 / 158	185 / 73

18 / Judicial Dr @ Eastgate Mall

← 21 / 107	↓ 13 / 72	→ 3 / 63

↑ 37 / 6	← 625 / 225	↓ 83 / 78

18

129 / 18 ↑	←	→
232 / 680 →	↑	
65 / 186 ↓	211 / 109	95 / 7	81 / 157

19 / Executive Way @ La Jolla Village Dr

← 51 / 338	↓ 14 / 75	→ 57 / 405

↑ 452 / 97	← 1154 / 1445	↓ 36 / 218

19

142 / 61 ↑	←	→
1283 / 948 →	↑	
83 / 349 ↓	22 / 234	26 / 22	27 / 214

20 / Town Centre Dr @ La Jolla Village Dr

← 37 / 174	↓ 44 / 233	→ 209 / 932

↑ 1385 / 279	← 1489 / 1390	↓ 352 / 435

20

331 / 24 ↑	←	→
922 / 1428 →	↑	
136 / 165 ↓	117 / 204	222 / 57	322 / 680

21 / I-805 SB On/Off Ramps @ La Jolla Village Dr

← 1613 / 790	→ 754 / 218	

↑ 524 / 814	← 1658 / 1267	

21

1046 / 1905 →		
418 / 1086 ↓		

22 / I-805 NB On/Off Ramps @ Miramar Rd

↑ 566 / 806	← 1311 / 1544	

22

	←	→
1090 / 1001 →		
708 / 1216 ↓	874 / 470	310 / 148

23 / I-805 SB On Ramp @ Nobel Dr

	← 1414 / 1026	
	↓ 150 / 210	

23

311 / 508 →		
573 / 497 ↓		

24 / I-805 NB Off Ramp @ Nobel Dr

	← 592 / 671	

24

2 / 0 ↑	←	→
304 / 480 →		
	927 / 595	883 / 590

25 / Nobel Dr @ Miramar Rd

	← 1786 / 2200	
	↓ 435 / 614	

25

	←	→
1147 / 1055 →		
264 / 62 ↓	104 / 173	882 / 893

26 / Eastgate Mall @ Miramar Rd

← 155 / 336	↓ 151 / 878	→

↑ 920 / 158	← 2004 / 2478	↓ 1 / 9

26

266 / 137 ↑	←	→
1810 / 1826 →		

27 / Miramar Mall @ Miramar Rd

← 69 / 69	↓ 34 / 99	→

↑ 63 / 29	← 2832 / 2600	

27

66 / 25 ↑	←	→
1857 / 2573 →		

28 / Miramar Pl @ Miramar Rd

← 85 / 103	↓ 38 / 88	→

↑ 73 / 34	← 2677 / 2451	↓ 18 / 5

28

110 / 29 ↑	←	→
1924 / 2773 →		

29 / Camino Santa Fe @ Miramar Rd

← 821 / 1121	↓ 2 / 1	→ 52 / 103

↑ 102 / 68	← 2230 / 1340	↓ 21 / 19

29

833 / 900 ↑	←	→
1120 / 1854 →	↑	
24 / 88 ↓	19 / 47	3 / 58	10 / 8

30 / Carroll Rd @ Miramar Rd

← 108 / 175	↓ 143 / 478	→

↑ 630 / 128	← 2433 / 1007	↓ 0 / 5

30

145 / 91 ↑	←	→
830 / 1952 →		

31 / Camino Ruiz @ Miramar Rd

← 530 / 171	↓ 667 / 429	→

↑ 274 / 630	← 3097 / 940	

31

158 / 374 ↑	←	→
730 / 2442 →		

32 / Mitscher Way @ Miramar Rd

← 76 / 24	↓ 71 / 42	→ 33 / 80

↑ 29 / 39	← 2647 / 1518	↓ 190 / 123

32

15 / 37 ↑	←	→
1151 / 2629 →	↑	
221 / 155 ↓	188 / 292	24 / 53	140 / 295

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Figure 6-1b

Near Term Year 2021 Baseline Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

H:\PDATA\168726_3Roots TIA\Planning\Analysis\Volumes\June 2018 Volumes\[TIA Intersection Volumes_Ph.1 2021_Revised June 2018.xlsx]2021NP Fig3

33 / Black Mountain Rd @ Miramar Rd

← 302 / 170	→ 166 / 518	↑ 177 / 161
		← 2595 / 1584
		↓ 1 / 15
↑ 94 / 202		
→ 1221 / 2616		

34 / Kearny Villa Rd @ Miramar Rd

← 127 / 44	↓ 288 / 547	→ 187 / 266
		↑ 112 / 156
		← 2410 / 1081
		↓ 9 / 34
↑ 41 / 53		← 891 / 501
→ 943 / 2102		↑ 322 / 424
↓ 456 / 1005		→ 9 / 31

35 / Kearny Mesa Rd @ Miramar Rd

← 39 / 40	↓ 1 / 10	→ 40 / 85
		↑ 15 / 21
		← 1613 / 1392
		↓ 21 / 42
↑ 33 / 33		← 160 / 33
→ 954 / 2419		↑ 9 / 9
↓ 36 / 97		→ 58 / 130

36 / I-15 SB On/Off Ramps @ Miramar Rd

← 1108 / 550	→ 139 / 26	↑ 872 / 836
		← 558 / 842
→ 517 / 1393		
↓ 535 / 1227		

37 / I-15 NB On/Off Ramps @ Pomerado Rd

		↑ 114 / 149
		← 1203 / 1082
→ 194 / 400	← 420 / 587	→ 614 / 664
↓ 419 / 1018		

38 / Camino Santa Fe @ Flanders Rd

← 159 / 44	↓ 739 / 315	→ 63 / 287
		↑ 170 / 63
		← 451 / 31
		↓ 381 / 59
↑ 16 / 108	← 82 / 73	→ 138 / 809
→ 25 / 615	↑ 138 / 809	→ 41 / 630
↓ 53 / 212		

39 / Camino Santa Fe @ Miratech Dr

← 166 / 18	↓ 1107 / 570	→ 2 / 1
↑ 9 / 134	← 45 / 5	↑ 256 / 1284
↓ 3 / 32		

40 / Camino Santa Fe @ Summers Ridge Rd

← 6 / 1	↓ 1102 / 571	
↑ 1 / 7	← 97 / 6	↑ 299 / 1327
↓ 12 / 86		

41 / Camino Santa Fe @ Carroll Canyon Rd

↓ 1110 / 662	→ 6 / 1	↑ 5 / 1
		↓ 32 / 9
	← 2 / 0	↑ 390 / 1321
		→ 23 / 1

42 / Camino Santa Fe @ Trade St

← 11 / 4	↓ 940 / 686	→ 101 / 79
		↑ 51 / 142
		← 13 / 2
		↓ 165 / 191
↑ 1 / 14	← 19 / 7	↑ 373 / 1253
→ 2 / 5		→ 170 / 110
↓ 3 / 19		

43 / Camino Ruiz @ Mira Mesa Mall Entrance

← 26 / 61	↓ 577 / 587	
↑ 35 / 141	← 52 / 132	↑ 458 / 683
↓ 17 / 85		

44 / Camino Ruiz @ Reagan Rd

← 14 / 40	↓ 521 / 577	→ 46 / 108
		↑ 76 / 77
		← 198 / 138
		↓ 128 / 49
↑ 17 / 24	← 115 / 183	↑ 389 / 711
→ 147 / 221		→ 64 / 104
↓ 175 / 214		

45 / Camino Ruiz @ Flanders Dr

← 40 / 29	↓ 783 / 760	→ 22 / 57
		↑ 53 / 26
		← 204 / 47
		↓ 85 / 23
↑ 32 / 89	← 60 / 54	↑ 495 / 880
→ 47 / 299		→ 53 / 49
↓ 98 / 123		

46 / Camino Ruiz @ Gold Coast Dr

← 129 / 95	↓ 751 / 594	→ 73 / 188
		↑ 123 / 64
		← 188 / 107
		↓ 139 / 27
↑ 228 / 73	← 36 / 82	↑ 248 / 881
→ 141 / 331		→ 27 / 76
↓ 107 / 183		

47 / Camino Ruiz @ Jade Coast Dr

← 0 / 6	↓ 1074 / 741	→ 28 / 70
		↑ 50 / 36
		← 1 / 1
		↓ 274 / 40
↑ 3 / 0	← 1 / 3	↑ 240 / 1116
→ 1 / 0		→ 58 / 250
↓ 14 / 4		

48 / Camino Ruiz @ Carroll Canyon Rd

← 30 / 5	↓ 1321 / 778	
↑ 4 / 34	← 80 / 23	↑ 293 / 1337
↓ 38 / 60		

49 / Camino Ruiz @ Miralani Rd

← 279 / 72	↓ 1082 / 770	→ 0 / 5
		↑ 3 / 5
		← 2 / 2
		↓ 2 / 9
↑ 32 / 359	← 577 / 83	↑ 337 / 1003
→ 0 / 4		→ 6 / 11
↓ 72 / 764		

50 / Camino Ruiz @ Activity Rd

← 0 / 10	↓ 916 / 583	→ 244 / 949
		↑ 627 / 243
		← 1 / 0
		↓ 222 / 48
↑ 0 / 13	← 7 / 11	↑ 291 / 841
→ 0 / 1		→ 57 / 194
↓		

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Figure 6-1c

Near Term Year 2021 Baseline Peak Hour Intersection Volumes

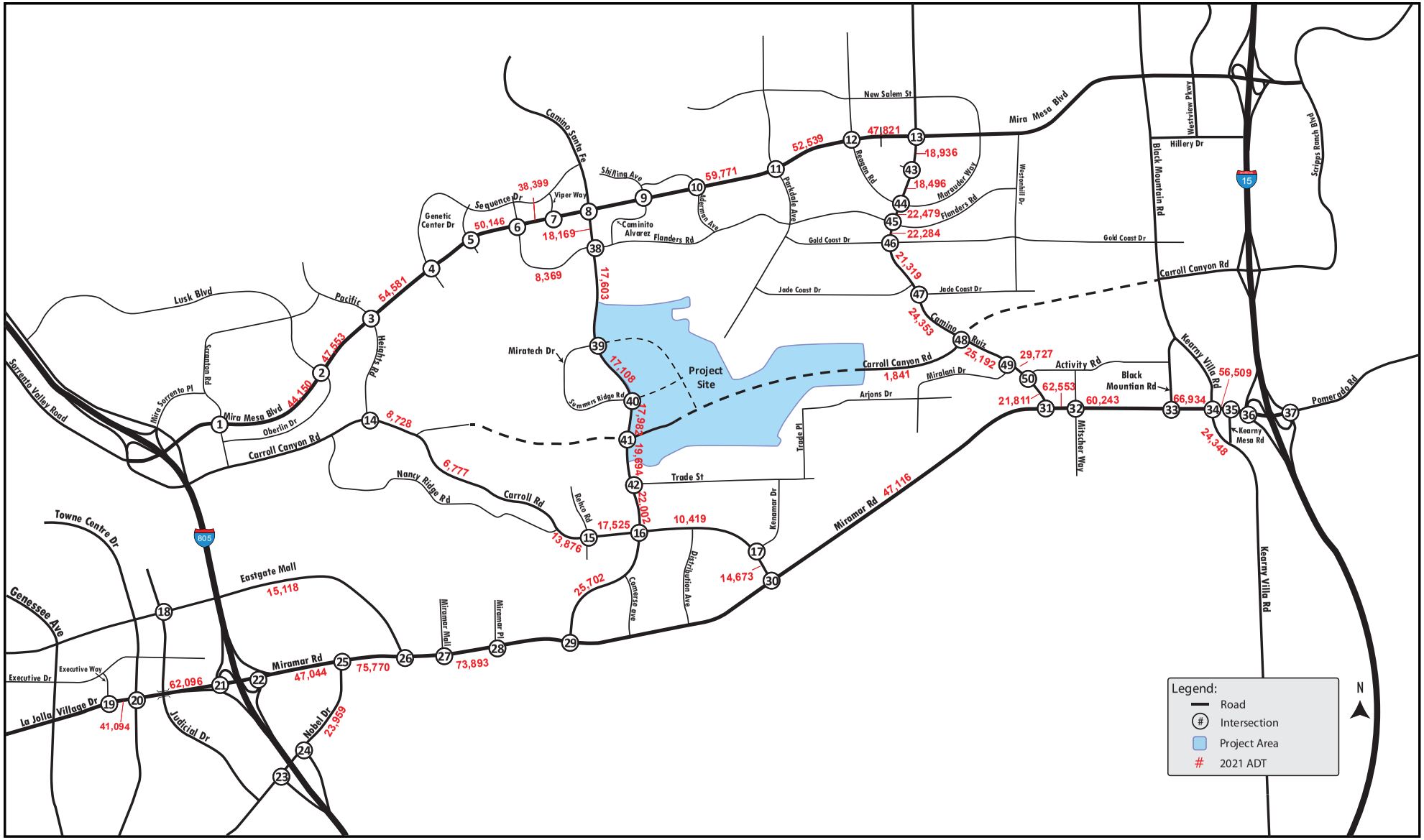

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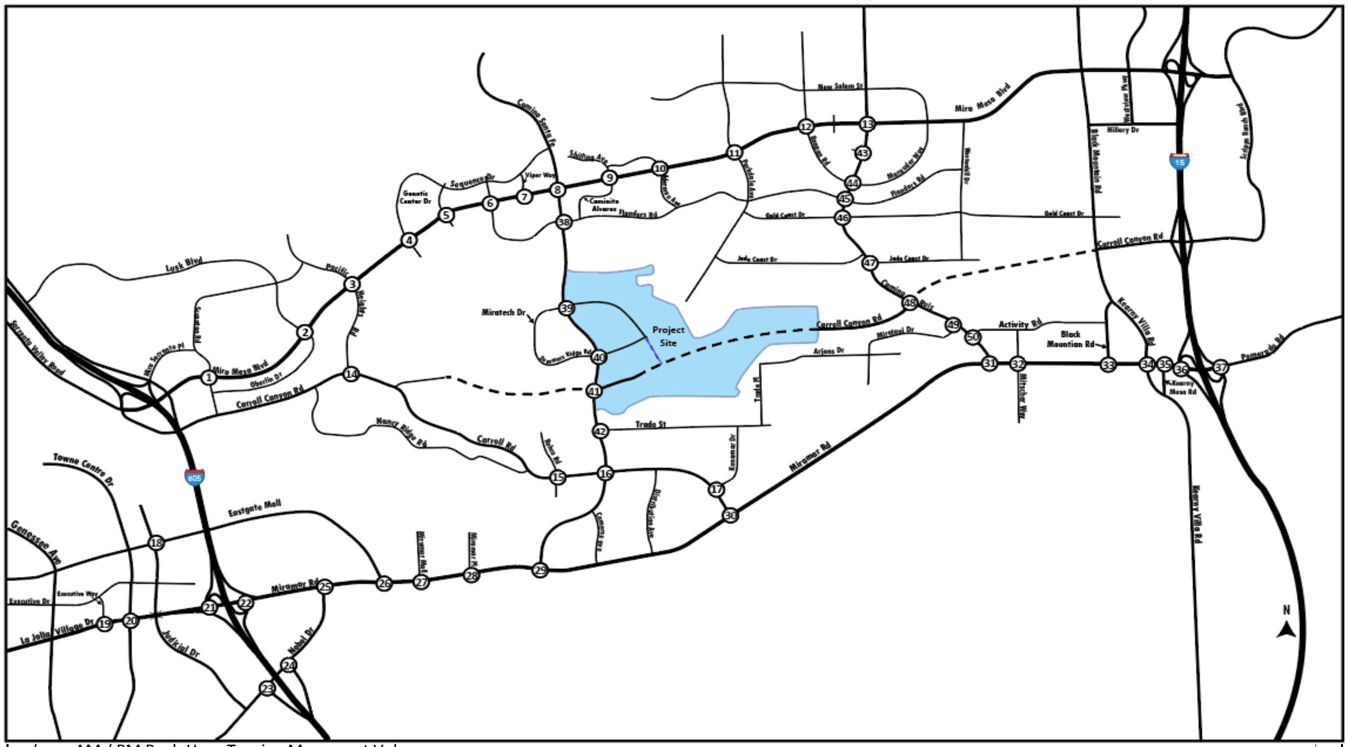
Figure 6-2
Near Term Year 2021 Baseline ADT Volumes



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

Intersection	SB ←	SB ↓	SB →	WB ↑	WB ←	WB ↓	EB ↑	EB →	EB ↓	NB ←	NB ↑	NB →
1 / Scranton Rd @ Mira Mesa Blvd	121 / 383	53 / 159	58 / 106	99 / 92	1017 / 1447	33 / 83	881 / 187	2359 / 955	655 / 148	69 / 380	68 / 94	13 / 19
2 / Lusk Blvd @ Mira Mesa Blvd	50 / 232	18 / 103	57 / 468	498 / 95	1079 / 1395	162 / 36	250 / 93	2157 / 995	41 / 9	6 / 18	21 / 24	26 / 190
3 / Pacific Heights Rd @ Mira Mesa Blvd	103 / 408	27 / 234	103 / 1041	1203 / 123	1589 / 958	317 / 108	567 / 74	1221 / 1519	337 / 80	30 / 141	69 / 32	94 / 336
4 / Sequence Dr @ Mira Mesa Blvd	235 / 268	14 / 7	10 / 79	68 / 9	2612 / 658	97 / 24	313 / 218	840 / 2667	286 / 91	84 / 166	6 / 18	16 / 77
5 / Genetic Center Dr @ Mira Mesa Blvd	35 / 67	8 / 3	42 / 86	161 / 27	2774 / 686	146 / 33	95 / 49	733 / 2644	43 / 11	7 / 25	4 / 13	31 / 296
6 / Flanders Dr @ Mira Mesa Blvd	35 / 44	18 / 87	20 / 124	149 / 24	2813 / 484	42 / 47	62 / 60	461 / 2381	308 / 532	351 / 176	47 / 42	35 / 117
7 / Viper Way @ Mira Mesa Blvd	16 / 19	11 / 12	4 / 20	75 / 35	2719 / 457	45 / 57	31 / 27	317 / 2455	79 / 134	169 / 96	25 / 26	58 / 189
8 / Camino Santa Fe @ Mira Mesa Blvd	60 / 42	289 / 237	112 / 422	339 / 179	2756 / 416	755 / 258	24 / 59	309 / 2370	107 / 146	184 / 171	164 / 317	159 / 572
9 / Shilling Ave @ Mira Mesa Blvd	115 / 20	5 / 3	64 / 58	23 / 80	3671 / 860	31 / 60	23 / 134	558 / 3198	11 / 31	35 / 13	6 / 21	47 / 43
10 / Aderman Ave @ Mira Mesa Blvd	38 / 12	13 / 4	1 / 43	32 / 44	3659 / 969	19 / 49	7 / 36		9 / 21	16 / 4	9 / 19	39 / 61
11 / Parkdale Ave @ Mira Mesa Blvd	203 / 76	90 / 45	68 / 26	34 / 82	3434 / 983	54 / 97	48 / 107	727 / 3052	31 / 206	97 / 41	31 / 84	78 / 114
12 / Reagan Rd @ Mira Mesa Blvd	220 / 71	123 / 125	54 / 49	14 / 72	3040 / 1008	22 / 70	42 / 136	671 / 2585	69 / 268	159 / 152	47 / 141	17 / 35

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Figure 6-3a

Near Term Year 2021 With Phase 1 Project Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

13 / Camino Ruiz @ Mira Mesa Blvd

← 207 / 124	↓ 499 / 430	→ 408 / 313
↑ 125 / 252	← 2758 / 1030	↓ 174 / 290

13

84 / 231 ↑	← 87 / 135	→
773 / 2148 →	↑ 292 / 576	
24 / 62 ↓		→ 145 / 126

14 / Pacific Heights Rd @ Carroll Canyon Rd

← 103 / 432	→ 59 / 244	
↑ 88 / 62	← 129 / 274	

14

258 / 63 ↑	
422 / 312 →	

15 / Rehco Rd @ Carroll Rd

← 9 / 39	↓ 1 / 2	→ 41 / 247
↑ 196 / 27	← 698 / 231	↓ 49 / 14

15

55 / 5 ↑	← 1 / 12	→
285 / 963 →	↑ 1 / 1	
6 / 15 ↓		→ 8 / 49

16 / Camino Santa Fe @ Carroll Rd

← 369 / 79	↓ 1018 / 745	→ 201 / 134
↑ 93 / 237	← 324 / 88	↓ 64 / 81

16

65 / 364 ↑	← 334 / 131	→
131 / 316 →	↑ 489 / 117	
133 / 485 ↓		→ 104 / 79

17 / Kenamar Dr @ Carroll Rd

← 1 / 0	↓ 246 / 632	→ 20 / 18
↑ 13 / 16	← 1 / 0	↓ 110 / 156

17

0 / 1 ↑		→
	↑ 551 / 253	
1 / 1 ↓		→ 185 / 73

18 / Judicial Dr @ Eastgate Mall

← 21 / 107	↓ 13 / 72	→ 3 / 63
↑ 37 / 6	← 654 / 239	↓ 90 / 82

18

129 / 18 ↑	← 211 / 109	→
240 / 712 →	↑ 95 / 7	
65 / 186 ↓		→ 83 / 165

19 / Executive Way @ La Jolla Village Dr

← 51 / 338	↓ 14 / 75	→ 59 / 413
↑ 459 / 101	← 1176 / 1456	↓ 36 / 218

19

142 / 61 ↑	← 22 / 234	→
1289 / 972 →	↑ 26 / 22	
83 / 349 ↓		→ 27 / 214

20 / Town Centre Dr @ La Jolla Village Dr

← 37 / 174	↓ 44 / 233	→ 209 / 932
↑ 1385 / 279	← 1518 / 1404	↓ 359 / 439

20

331 / 24 ↑	← 117 / 204	→
930 / 1460 →	↑ 222 / 57	
136 / 165 ↓		→ 324 / 688

21 / I-805 SB On/Off Ramps @ La Jolla Village Dr

← 1613 / 790	→ 758 / 234	
↑ 561 / 832	← 1695 / 1285	

21

1056 / 1945 →	
418 / 1086 ↓	

22 / I-805 NB On/Off Ramps @ Miramar Rd

↑ 581 / 813	← 1384 / 1580	

22

1104 / 1057 →	← 874 / 470	→
708 / 1216 ↓		→ 320 / 188

23 / I-805 SB On Ramp @ Nobel Dr

	← 1421 / 1030	
	↓ 245 / 256	

23

313 / 516 →	
573 / 497 ↓	

24 / I-805 NB Off Ramp @ Nobel Dr

	← 694 / 721	

24

2 / 0 ↑	←	→
306 / 488 →		

25 / Nobel Dr @ Miramar Rd

	← 1874 / 2243	
	↓ 537 / 664	

25

1170 / 1150 →	←	→
264 / 62 ↓		
	104 / 173	
		909 / 1004

26 / Eastgate Mall @ Miramar Rd

← 155 / 336	→ 161 / 918	
↑ 957 / 176	← 2194 / 2571	↓ 1 / 9

26

266 / 137 ↑
1860 / 2032 →

27 / Miramar Mall @ Miramar Rd

← 69 / 69	→ 34 / 99	
↑ 63 / 29	← 3059 / 2711	

27

66 / 25 ↑
1917 / 2819 →

28 / Miramar Pl @ Miramar Rd

← 85 / 103	→ 38 / 88	
↑ 73 / 34	← 2904 / 2562	↓ 18 / 5

28

110 / 29 ↑
1984 / 3019 →

29 / Camino Santa Fe @ Miramar Rd

← 1048 / 1232	↓ 2 / 1	→ 52 / 103
↑ 102 / 68	← 2230 / 1340	↓ 21 / 19

29

893 / 1146 ↑	← 19 / 47	→
1120 / 1854 →	↑ 3 / 58	
24 / 88 ↓		→ 10 / 8

30 / Carroll Rd @ Miramar Rd

← 108 / 175	→ 231 / 521	
↑ 653 / 223	← 2433 / 1007	↓ 0 / 5

30

145 / 91 ↑
830 / 1952 →

31 / Camino Ruiz @ Miramar Rd

← 532 / 179	→ 667 / 429	
↑ 274 / 630	← 3112 / 1004	

31

165 / 378 ↑
789 / 2471 →

32 / Mitscher Way @ Miramar Rd

← 78 / 32	↓ 71 / 42	→ 33 / 80
↑ 29 / 39	← 2661 / 1574	↓ 190 / 123

32

22 / 41 ↑	← 188 / 292	→
1202 / 2654 →	↑ 24 / 53	
221 / 155 ↓		→ 140 / 295

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Figure 6-3b

Near Term Year 2021 With Phase 1 Project Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

33 / Black Mountain Rd @ Miramar Rd

← 304 / 178	→ 166 / 518	↑ 177 / 161
		← 2607 / 1632
		↓ 1 / 15
↑ 101 / 206		
→ 1265 / 2637		

34 / Kearny Villa Rd @ Miramar Rd

← 127 / 44	↓ 288 / 547	→ 187 / 266
		↑ 112 / 156
		← 2416 / 1105
		↓ 9 / 34
↑ 41 / 53		
→ 965 / 2113		
↓ 478 / 1016		
← 897 / 53(	↑ 322 / 42:	→ 9 / 31

35 / Kearny Mesa Rd @ Miramar Rd

← 39 / 40	↓ 1 / 10	→ 40 / 85
		↑ 15 / 21
		← 1619 / 1416
		↓ 21 / 42
↑ 33 / 33		
→ 976 / 2430		
↓ 36 / 97		
← 160 / 33	↑ 9 / 9	→ 58 / 130

36 / I-15 SB On/Off Ramps @ Miramar Rd

← 1108 / 550	→ 139 / 26	↑ 872 / 836
		← 564 / 866
↑ 524 / 1397		
→ 550 / 1234		

37 / I-15 NB On/Off Ramps @ Pomerado Rd

		↑ 114 / 149
		← 1205 / 1090
→ 201 / 404		
↓ 419 / 1018		
← 424 / 603	→ 614 / 664	

38 / Camino Santa Fe @ Flanders Rd

← 159 / 44	↓ 783 / 498	→ 63 / 287
		↑ 170 / 63
		← 451 / 31
		↓ 389 / 91
↑ 16 / 108		
→ 25 / 615		
↓ 74 / 299		
← 163 / 112	↑ 306 / 891	→ 70 / 644

39 / Camino Santa Fe @ Miratech Dr

← 166 / 18	↓ 1146 / 729	→ 37 / 144
		↑ 132 / 64
		↓ 95 / 46
↑ 9 / 134		
↓ 3 / 32		
← 45 / 5	↑ 402 / 1355	→ 25 / 103

40 / Camino Santa Fe @ Summers Ridge Rd

← 6 / 1	↓ 1214 / 688	→ 21 / 87
		↑ 88 / 43
		↓ 205 / 100
↑ 1 / 7		
↓ 12 / 86		
← 97 / 6	↑ 383 / 1459	→ 54 / 222

41 / Camino Santa Fe @ Carroll Canyon Rd

↓ 1410 / 808	→ 23 / 72	↑ 64 / 30
		↓ 156 / 70
← 2 / 0	↑ 469 / 1647	→ 56 / 136

42 / Camino Santa Fe @ Trade St

← 11 / 4	↓ 1335 / 879	→ 130 / 93
		↑ 59 / 174
		← 13 / 2
		↓ 165 / 191
↑ 1 / 14		
→ 2 / 5		
↓ 3 / 19		
← 19 / 7	↑ 477 / 1682	→ 170 / 110

43 / Camino Ruiz @ Mira Mesa Mall Entrance

← 26 / 61	↓ 577 / 587	
↑ 35 / 141		
↓ 17 / 85		
← 52 / 132	↑ 458 / 683	

44 / Camino Ruiz @ Reagan Rd

← 14 / 40	↓ 521 / 577	→ 46 / 108
		↑ 76 / 77
		← 198 / 138
		↓ 128 / 49
↑ 17 / 24		
→ 147 / 221		
↓ 175 / 214		
← 115 / 183	↑ 389 / 711	→ 64 / 104

45 / Camino Ruiz @ Flanders Dr

← 40 / 29	↓ 783 / 760	→ 22 / 57
		↑ 53 / 26
		← 204 / 47
		↓ 85 / 23
↑ 32 / 89		
→ 47 / 299		
↓ 98 / 123		
← 60 / 54	↑ 495 / 880	→ 53 / 49

46 / Camino Ruiz @ Gold Coast Dr

← 129 / 95	↓ 751 / 594	→ 73 / 188
		↑ 123 / 64
		← 192 / 123
		↓ 139 / 27
↑ 228 / 73		
→ 156 / 338		
↓ 107 / 183		
← 36 / 82	↑ 248 / 881	→ 27 / 76

47 / Camino Ruiz @ Jade Coast Dr

← 0 / 6	↓ 1074 / 741	→ 28 / 70
		↑ 50 / 36
		← 1 / 1
		↓ 274 / 40
↑ 3 / 0		
→ 1 / 0		
↓ 14 / 4		
← 1 / 3	↑ 240 / 1116	→ 58 / 250

48 / Camino Ruiz @ Carroll Canyon Rd

← 30 / 5	↓ 1321 / 778	
↑ 4 / 34		
↓ 38 / 60		
← 80 / 23	↑ 293 / 1337	

49 / Camino Ruiz @ Miralani Rd

← 279 / 72	↓ 1082 / 770	→ 0 / 5
		↑ 3 / 5
		← 2 / 2
		↓ 2 / 9
↑ 32 / 359		
→ 0 / 4		
↓ 72 / 764		
← 577 / 83	↑ 337 / 1003	→ 6 / 11

50 / Camino Ruiz @ Activity Rd

← 0 / 10	↓ 916 / 583	→ 244 / 949
		↑ 627 / 243
		← 1 / 0
		↓ 224 / 56
→ 0 / 13		
↓ 0 / 1		
← 7 / 11	↑ 291 / 841	→ 64 / 198

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Figure 6-3c

Near Term Year 2021 With Phase 1 Project Peak Hour Intersection Volumes

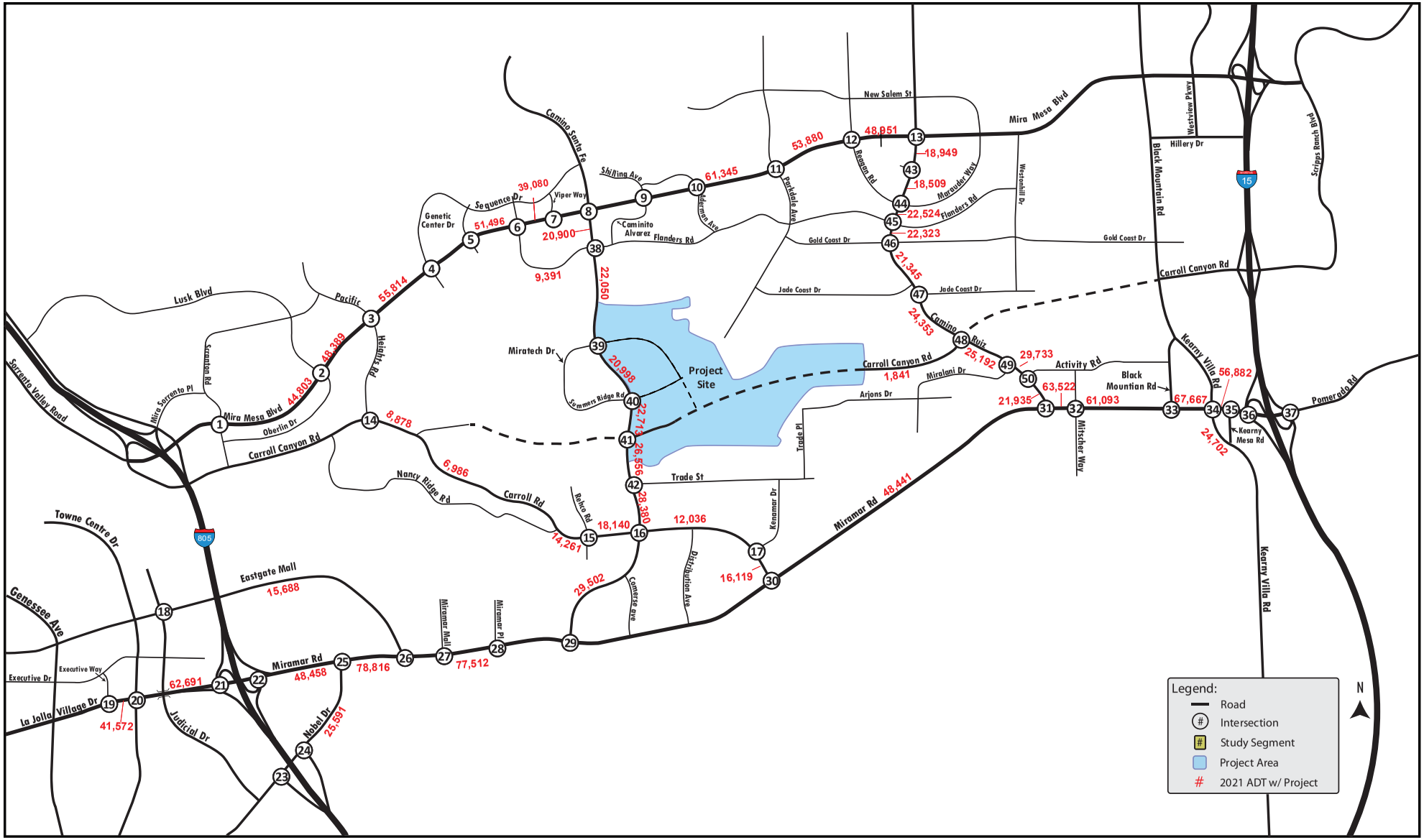

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Figure 6-4
Near Term Year 2021 With Phase 1 Project ADT Volumes

6.3 INTERSECTION ANALYSIS

Table 6-1 displays the LOS analysis results for the study intersections under the Near Term Year 2021 Without and With Phase 1 Project conditions. **Appendix E** contains the intersection LOS worksheets.

As shown in the table, the following ten (10) intersections are forecast to operate at deficient LOS during the peak hours under Near Term Year 2021 conditions without the project:

3. Pacific Heights Boulevard and Mira Mesa Boulevard (PM: LOS E)
8. Camino Santa Fe and Mira Mesa Boulevard (PM: LOS F)
13. Camino Ruiz and Mira Mesa Boulevard (AM: LOS E)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
29. Camino Santa Fe and Miramar Road (AM: LOS E, PM: LOS E)
31. Camino Ruiz and Miramar Road (AM: LOS E)
34. Kearny Villa Road and Miramar Road (AM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS E)
49. Miralani Drive and Camino Ruiz (AM: LOS F)
50. Activity Road and Camino Ruiz (PM: LOS E)

As shown in Table 6-1, the addition of traffic generated by the proposed project would result in increases in delay exceeding the City's significance thresholds for intersection operations (2.0 seconds for LOS E and 1.0 second for LOS F) at the following six (6) study intersections:

3. Pacific Heights Boulevard and Mira Mesa Boulevard (PM: LOS F)
8. Camino Santa Fe and Mira Mesa Boulevard (PM: LOS F)
16. Camino Santa Fe and Carroll Road (AM: LOS F, PM: LOS E)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
29. Camino Santa Fe and Miramar Road (AM: LOS F, PM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS F)

Therefore, the addition of project-related traffic would result in significant impacts at the six (6) above-listed intersections and mitigation measures are required.

TABLE 6-1: NEAR TERM YEAR 2021 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2021 Without Project		Near Term Year 2021 With Phase 1 Project		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]		
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	28.6	C	28.6	C	0.0	
			PM	45.1	D	45.4	D	0.3	
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	28.3	C	28.7	C	0.4	
			PM	48.2	D	48.5	D	0.3	
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	38.6	D	39.1	D	0.5	
			PM	73.8	E	80.7	F	6.9	YES
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	34.2	C	35.3	D	1.1	
			PM	42.7	D	45.0	D	2.3	
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	14.4	B	15.1	B	0.7	
			PM	43.1	D	43.1	D	0.0	
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	23.8	C	27.4	C	3.6	
			PM	28.1	C	31.5	C	3.4	
7	Viper Way & Mira Mesa Blvd	Signal	AM	11.7	B	11.8	B	0.1	
			PM	16.2	B	16.5	B	0.3	
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	47.1	D	54.7	D	7.6	
			PM	87.6	F	106.1	F	18.5	YES
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	13.8	B	13.8	B	0.0	
			PM	11.9	B	11.9	B	0.0	
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	8.4	A	8.7	A	0.3	
			PM	10.7	B	10.9	B	0.2	
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	24.0	C	33.2	C	9.2	
			PM	26.4	C	27.7	C	1.3	
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	34.7	C	36.8	D	2.1	
			PM	28.2	C	29.9	C	1.7	
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	73.4	E	74.0	E	0.6	No
			PM	54.7	D	54.7	D	0.0	
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	8.6	A	8.7	A	0.1	
			PM	11.9	B	12.0	B	0.1	
15	Rehco Rd & Carroll Rd	Signal	AM	5.3	A	5.5	A	0.2	
			PM	28.3	C	34.9	C	6.6	
16	Camino Santa Fe & Carroll Rd	Signal	AM	50.6	D	85.2	F	34.6	YES
			PM	45.0	D	78.3	E	33.3	YES
17	Kenamar Dr & Carroll Rd	Signal	AM	15.9	B	15.9	B	0.0	
			PM	14.5	B	14.7	B	0.2	
18	Eastgate Mall & Judicial Dr	Signal	AM	26.5	C	29.2	C	2.7	
			PM	24.1	C	24.2	C	0.1	
19	Executive Way & La Jolla Village Dr	Signal	AM	16.9	B	17.0	B	0.1	
			PM	41.0	D	41.4	D	0.4	
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	32.7	C	33.0	C	0.3	
			PM	82.1	F	85.0	F	2.9	YES
21	La Jolla Village Dr-Miramar Rd & I-805 SB On/Off Ramps	Signal	AM	51.1	D	51.1	D	0.0	
			PM	18.4	B	18.6	B	0.2	

TABLE 6-1: NEAR TERM YEAR 2021 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2021 Without Project		Near Term Year 2021 With Phase 1 Project		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]		
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	16.0	B	16.0	B	0.0	
			PM	10.5	B	10.7	B	0.2	
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	4.2	A	5.1	A	0.9	
			PM	4.1	A	4.8	A	0.7	
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	20.5	C	20.5	C	0.0	
			PM	19.9	B	20.8	C	0.9	
25	Nobel Dr & Miramar Rd	Signal	AM	27.2	C	28.6	C	1.4	
			PM	28.1	C	29.2	C	1.1	
26	Eastgate Mall & Miramar Rd	Signal	AM	24.4	C	25.1	C	0.7	
			PM	37.8	D	41.6	D	3.8	
27	Miramar Mall & Miramar Rd	Signal	AM	9.7	A	9.9	A	0.2	
			PM	6.5	A	6.9	A	0.4	
28	Miramar Pl & Miramar Rd	Signal	AM	23.3	C	23.3	C	0.0	
			PM	8.4	A	8.6	A	0.2	
29	Camino Santa Fe & Miramar Rd	Signal	AM	83.7	F	94.0	F	10.3	YES
			PM	52.7	D	79.1	E	26.4	YES
30	Carroll Rd & Miramar Rd	Signal	AM	21.2	C	23.6	C	2.4	
			PM	20.5	C	20.8	C	0.3	
31	Camino Ruiz & Miramar Rd	Signal	AM	66.6	E	67.0	E	0.4	No
			PM	26.2	C	26.2	C	0.0	
32	Mitscher Way & Miramar Rd	Signal	AM	23.9	C	24.9	C	1.0	
			PM	46.1	D	47.4	D	1.3	
33	Black Mountain Rd & Miramar Rd	Signal	AM	13.7	B	13.8	B	0.1	
			PM	18.3	B	18.4	B	0.1	
34	Kearny Villa Rd & Miramar Rd	Signal	AM	68.1	E	68.8	E	0.7	No
			PM	48.7	D	49.6	D	0.9	
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	19.8	B	19.8	B	0.0	
			PM	15.7	B	15.8	B	0.1	
36	I-15 SB On/Off Ramp & Miramar Rd	Signal	AM	18.7	B	18.7	B	0.0	
			PM	12.3	B	12.3	B	0.0	
37	Pomerado Rd-Miramar Way & I-15 NB On/Off Ramp	Signal	AM	24.0	C	24.0	C	0.0	
			PM	23.5	C	23.6	C	0.1	
38	Flanders Dr & Camino Santa Fe	Signal	AM	36.4	D	41.5	D	5.1	
			PM	68.8	E	84.4	F	15.6	YES
39	Miratech Dr & Camino Santa Fe	Signal	AM	5.2	A	14.7	B	9.5	
			PM	5.9	A	35.3	D	29.4	
40	Summer Ridge Rd & Camino Santa Fe	Signal	AM	7.2	A	15.5	B	8.3	
			PM	5.5	A	17.3	B	11.8	
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	4.2	A	4.2	A	0.0	
			PM	4.8	A	4.8	A	0.0	
42	Trade St & Camino Santa Fe	Signal	AM	18.1	B	21.9	C	3.8	
			PM	24.7	C	48.0	D	23.3	

TABLE 6-1: NEAR TERM YEAR 2021 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2021 Without Project		Near Term Year 2021 With Phase 1 Project		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]		
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	6.7	A	6.7	A	0.0	
			PM	14.0	B	14.0	B	0.0	
44	Reagan Rd & Camino Ruiz	Signal	AM	24.8	C	24.8	C	0.0	
			PM	25.1	C	25.1	C	0.0	
45	Flanders Dr & Camino Ruiz	Signal	AM	21.7	C	21.7	C	0.0	
			PM	20.9	C	20.9	C	0.0	
46	Gold Coast Dr & Camino Ruiz	Signal	AM	34.7	C	34.8	C	0.1	
			PM	40.1	D	40.3	D	0.2	
47	Jade Coast Dr & Camino Ruiz	Signal	AM	17.4	B	17.4	B	0.0	
			PM	10.7	B	10.7	B	0.0	
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.7	A	6.7	A	0.0	
			PM	5.1	A	5.1	A	0.0	
49	Miralani Dr & Camino Ruiz	Signal	AM	110.4	F	110.4	F	0.0	No
			PM	44.8	D	44.8	D	0.0	
50	Activity Rd & Camino Ruiz	Signal	AM	19.2	B	19.2	B	0.0	
			PM	73.3	E	74.1	E	0.8	No

Notes:

(a) Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections. Reductions in delay between no project and with project conditions are a result of the Carroll Canyon Road extension between Camino Santa Fe and Camino Ruiz.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual (HCM)* and performed using Synchro 9. All-way stop controlled intersections with more than 2 approach lanes were evaluated based on the *2010 HCM* methodology.

(c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F or if the addition of project trips results in a change in operating conditions from acceptable (LOS D or better) to deficient (LOS E or F).

6.4 ROADWAY SEGMENT ANALYSIS

Table 6-2 summarizes the roadway segment capacity analysis results under Near Term Year 2021 Without and With Phase 1 Project Conditions. As shown in the table, the following thirteen (13) study roadway segments under the Near Term Year 2021 conditions without the project are forecast to operate at an unacceptable LOS E or F:

F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue (LOS F)
G. Mira Mesa Boulevard from Parkdale Avenue to Reagan Road (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS E)
P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)

The addition of project-related traffic to Near Term Year 2021 traffic volumes on the above-listed deficient roadway segments would result in increases in the v/c ratios that exceed the City's significance threshold (0.02 for LOS E and 0.01 for LOS F) except for the segment of Miramar Road from Kearny Villa Road to Kearny Mesa Road. The addition of project-related traffic to Near Term Year 2021 traffic volumes would also result in a change from an acceptable LOS D to a deficient LOS E on the segment of Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive.

Despite the City's threshold being exceeded, no significant impact was identified on the segment of Mira Mesa Boulevard between Parkdale Drive and Reagan Road. This segment was evaluated using the City's alternative analysis for roadway segments. The impact on this segment was determined to be not significant because the adjacent intersections operate at an acceptable LOS (LOS D or better), the HCM arterial analysis show an acceptable arterial LOS, and the segment is built to its ultimate roadway classification per the adopted Community Plan. HCM arterial analysis is discussed in Section 6.5 and analysis worksheets are provided in **Appendix I**.

Therefore, the project would result in significant impacts on the following twelve (12) roadway segments under Near Term Year 2021 with Project Conditions and mitigation measures are required:

C. Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive (LOS E)
F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS E)
P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)

TABLE 6-2: NEAR TERM YEAR 2021 ROADWAY SEGMENT ANALYSIS SUMMARY

	Roadway Segment	Functional Classification	LOS E Capacity	Near Term Year 2021 Without Project			Near Term Year 2021 With Phase 1 Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[a]	LOS	ADT	v/c Ratio[a]	LOS		
Mira Mesa Blvd											
A	Scranton Rd to Lusk Blvd-Oberlin Dr	Primary Arterial/6	60,000	44,150	0.736	C	44,803	0.747	C	0.011	
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	Primary Arterial/6	60,000	47,553	0.793	C	48,389	0.806	C	0.014	
C	Pacific Heights Blvd to Sequence Dr	Primary Arterial/6	60,000	54,581	0.910	D	55,814	0.930	E	0.021	Yes
D	Sequence Dr to Flanders Dr	Primary Arterial/6	60,000	50,146	0.836	D	51,496	0.858	D	0.023	
E	Flanders Drive to Camino Santa Fe	Primary Arterial/6	60,000	38,399	0.640	C	39,080	0.651	C	0.011	
F	Camino Santa Fe to Parkdale Ave	Major/6	50,000	59,771	1.195	F	61,345	1.227	F	0.031	Yes
G	Parkdale Ave to Reagan Rd	Major/6	50,000	52,539	1.051	F	53,880	1.078	F	0.027	No [b]
H	Reagan Rd to Camino Ruiz	Major/6	50,000	47,821	0.956	E	48,951	0.979	E	0.023	Yes
Flanders Dr											
I	Mira Mesa Blvd to Camino Santa Fe	Collector/4 (no center lane)	15,000	8,369	0.558	C	9,391	0.626	C	0.068	
Carroll Canyon Rd											
J	Pacific Heights Blvd to Fenton Rd	Collector/2 (with TWLTL)	15,000	8,728	0.582	C	8,878	0.592	C	0.010	
K	Fenton Rd to Camino Santa Fe	Does not Exist									
L	Camino Santa Fe to Eastern Project Boundary	Does not Exist									
M	East Project Boundary to Camino Ruiz	Major/4	40,000	1,841	0.046	A	1,841	0.046	A	0.000	
N	Camino Ruiz to Black Mountain Rd	Does not Exist									
Carroll Rd											
O	Fenton Rd to Nancy Ridge Dr	Collector/2 (with TWLTL)	15,000	6,777	0.452	B	6,986	0.466	B	0.014	
P	Nancy Ridge Dr to Rehco Rd	Collector/2 (with TWLTL)	15,000	13,876	0.925	E	14,261	0.951	E	0.026	Yes
Q	Rehco Rd to Camino Santa Fe	Collector/2 (with TWLTL)	15,000	17,525	1.168	F	18,140	1.209	F	0.041	Yes
R	Camino Santa Fe to Kenamar Dr	Collector/2 (with TWLTL)	15,000	10,419	0.695	D	12,036	0.802	D	0.108	
S	Kenamar Dr to Miramar Rd	Collector/3	22,500	14,673	0.652	C	16,119	0.716	D	0.064	

TABLE 6-2: NEAR TERM YEAR 2021 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Near Term Year 2021 Without Project			Near Term Year 2021 With Phase 1 Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[a]	LOS	ADT	v/c Ratio[a]	LOS		
Eastgate Mall											
T	Judicial Dr to Miramar Rd	Collector/2 (with TWLTL)	15,000	15,118	1.008	F	15,688	1.046	F	0.038	Yes
La Jolla Village Dr											
U	Executive Way to Towne Center Dr	Primary Arterial/6	60,000	41,094	0.685	C	41,572	0.693	C	0.008	
V	Towne Center Dr to I-805 SB Ramps	Primary Arterial/8	80,000	62,096	0.776	D	62,691	0.784	C	0.007	
Nobel Dr											
W	I-805 NB Off Ramp to Miramar Rd	Major /4	40,000	23,959	0.599	C	25,591	0.640	C	0.041	
Miramar Rd											
X	I-805 Ramps to Nobel Drive	Primary Arterial/8	80,000	47,044	0.588	C	48,458	0.606	C	0.018	
Y	Nobel Dr to Eastgate Mall	Primary Arterial/7	70,000	75,770	1.082	F	78,816	1.126	F	0.044	Yes
Z	Eastgate Mall to Camino Santa Fe	Major/6 (with TWLTL)	45,000	73,893	1.642	F	77,512	1.722	F	0.080	Yes
AA	Carroll Rd to Camino Ruiz	Major/6 (with TWLTL)	45,000	47,116	1.047	F	48,441	1.076	F	0.029	Yes
AB	Camino Ruiz to Mitscher Way	Major/6	50,000	62,553	1.251	F	63,522	1.270	F	0.019	Yes
AC	Mitscher Way to Black Mountain Rd	Major/6 (with TWLTL)	45,000	60,243	1.339	F	61,093	1.358	F	0.019	Yes
AD	Black Mountain Rd to Kearny Villa Rd	Major/6 (with TWLTL)	45,000	66,934	1.487	F	67,667	1.504	F	0.017	Yes
AE	Kearny Villa Rd to Kearny Mesa Rd	Major/6 (with TWLTL)	45,000	56,509	1.256	F	56,882	1.264	F	0.008	No
Camino Santa Fe											
AF	Mira Mesa Blvd to Flanders Dr	Major/6	50,000	18,169	0.363	A	20,900	0.418	B	0.055	
AG	Flanders Dr to Miratech Dr	Primary Arterial/6	60,000	17,603	0.293	A	22,050	0.368	A	0.074	
AH	Miratech Dr to Summer Ridge Rd	Primary Arterial/6	60,000	17,108	0.285	A	20,998	0.350	A	0.065	
AI	Summer Ridge Rd to Carroll Canyon Rd	Primary Arterial/6	60,000	17,982	0.300	A	22,713	0.379	A	0.079	
AJ	Carroll Canyon Rd to Trade St	Major/4	40,000	19,694	0.492	B	26,556	0.664	C	0.172	
AK	Trade St to Carroll Rd	Major/4	40,000	22,002	0.550	C	28,380	0.710	C	0.159	
AL	Carroll Rd to Miramar Rd	Major/4	40,000	25,702	0.643	C	29,502	0.738	C	0.095	

TABLE 6-2: NEAR TERM YEAR 2021 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Near Term Year 2021 Without Project			Near Term Year 2021 With Phase 1 Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio[a]	LOS	ADT	v/c Ratio[a]	LOS		
Camino Ruiz											
AM	Mira Mesa Blvd to Mira Mesa Mall Entrance	Major/4	40,000	18,936	0.473	B	18,949	0.474	B	0.000	
AN	Mira Mesa Mall Entrance to Reagan Rd	Major/4	40,000	18,496	0.462	B	18,509	0.463	B	0.000	
AO	Reagan Rd to Flanders Dr	Major/4	40,000	22,479	0.562	C	22,524	0.563	C	0.001	
AP	Flanders Dr to Gold Coast Dr	Major/4	40,000	22,284	0.557	C	22,323	0.558	C	0.001	
AQ	Gold Coast Dr to Jade Coast Dr	Major/4	40,000	21,319	0.533	C	21,345	0.534	C	0.001	
AR	Jade Coast Dr to Carroll Canyon Rd	Major/4	40,000	24,353	0.609	C	24,353	0.609	C	0.000	
AS	Carroll Canyon Rd to Miralani Dr	Major/4	40,000	25,192	0.630	C	25,192	0.630	C	0.000	
AT	Miralani Dr to Activity Rd	Major/4	40,000	29,727	0.743	C	29,733	0.743	C	0.000	
AU	Activity Rd to Miramar Rd	Major/4	40,000	21,811	0.545	C	21,935	0.548	C	0.003	
Kearny Villa Rd											
AV	Miramar Rd to Kearny Mesa Rd	Major/4	40,000	24,348	0.609	C	24,702	0.618	C	0.009	

Notes:

(a) The v/c ratio is calculated by dividing the ADT volume by each respective roadway segments capacity.

(b) Despite the City's threshold being exceeded, no significant impact was identified on this segment based on the City's alternative analysis for roadway segments. The analysis demonstrated that the adjacent intersections operate at an acceptable LOS (LOS D or better), the HCM arterial analysis show an acceptable arterial LOS, and the segment is built to its ultimate roadway classification per the adopted Community Plan. HCM Analysis worksheets are provided in Appendix I.

6.5 ALTERNATIVE ANALYSIS FOR ROADWAY SEGMENTS

Where the roadway segments are built to their ultimate Community Plan street classifications and intersections at the end of the segment are operating at an acceptable LOS D or better, the City allows the alternative analysis of roadway segments to be performed. **Table 6-3** presents the results of the Near Term Year 2021 peak hour arterial analysis. The arterial analysis worksheets are provided in **Appendix I**.

As shown in the table, the segment of Mira Mesa Boulevard between Parkdale Avenue and Reagan Road operates at an acceptable LOS D or better during the peak hours under Near Term Year 2021 conditions both without and with the project. Therefore, a significant impact is not identified on the roadway segment and no mitigation measures are required.

TABLE 6-3: NEAR TERM YEAR 2021 PEAK HOUR ARTERIAL ANALYSIS SUMMARY

Roadway	Segment	Direction	Urban Street Class	Segment Length (miles)	Without Project			With Project		
					Travel Time (seconds)	Average Arterial Speed (mph)	LOS	Travel Time (seconds)	Average Arterial Speed (mph)	LOS
AM Peak Hour										
Mira Mesa Blvd	Parkdale Ave to Reagan Rd	Eastbound	I	0.40	61.2	23.8	C	61.0	23.8	C
		Westbound	I	0.40	48.2	30.2	C	62.8	23.1	D
PM Peak Hour										
Mira Mesa Blvd	Parkdale Ave to Reagan Rd	Eastbound	I	0.40	52.1	27.9	C	55.4	26.2	C
		Westbound	I	0.40	41.2	35.3	B	42.0	34.6	B

6.6 FREEWAY ANALYSIS

The Near Term Year 2021 baseline freeway volumes were derived by calculating the forecast growth in traffic from the SANDAG Series 12 Year 2008 base model to the Series 12 Year 2020 Scenario 1 model performed for this project. Annual growth rates were created for the freeway segments based on the forecast growth from 2008 to 2020. Using the annual growth rates developed for the freeway segments, growth factors reflecting six years of traffic growth from 2015 (year of existing freeway counts) to 2021 were applied to the existing freeway volumes. The resulting volumes were then used as the Near Term Year 2021 baseline freeway volumes.

The results of the Near Term Year 2021 freeway mainline analysis without and with the proposed project are presented in **Table 6-4.**

As shown in Table 6-4, all study freeway segments are forecast to operate at an acceptable LOS D or better during the peak hours under Near Term Year 2021 conditions both without and with the proposed project.

TABLE 6-4: NEAR TERM YEAR 2021 FREEWAY MAINLINE ANALYSIS SUMMARY

Freeway and Segment	Number of Lanes		ADT	Capacity (vph)	Near Term Year 2021 Without Project						Near Term Year 2021 With Phase 1 Project						Change in V/C		Significant Impact ?	
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour						
					Peak Hour Volume [a]	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	AM	PM	AM	PM
I-805																				
I-805 South of Nobel Dr	NB	4M+1H+1A	214,100	12,280	10,207	0.831	D	9,362	0.762	C	10,234	0.833	D	9,474	0.772	C	0.002	0.009		
	SB	4M+1H+1A		12,280	4,145	0.338	A	6,218	0.506	B	4,245	0.346	A	6,269	0.510	B	0.008	0.004		
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	4M + 1H	188,400	11,080	8,980	0.810	D	8,237	0.743	C	8,988	0.811	D	8,268	0.746	C	0.001	0.003		
	SB	4M + 1H		11,080	3,646	0.329	A	5,469	0.494	B	3,674	0.332	A	5,483	0.495	B	0.003	0.001		
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	4M+1H+1A	189,400	12,280	9,129	0.743	C	8,374	0.682	C	9,140	0.744	C	8,379	0.682	C	0.001	0.000		
	SB	4M+1H+1A		12,280	3,627	0.295	A	5,441	0.443	B	3,630	0.296	A	5,453	0.444	B	0.000	0.001		
Mira Mesa Blvd to I-805/I-5 Interchange	NB	4M+1H+1A	169,800	12,280	8,205	0.668	C	7,526	0.613	B	8,233	0.670	C	7,540	0.614	B	0.002	0.001		
	SB	3M+1H+2A		11,130	3,243	0.291	A	4,866	0.437	B	3,251	0.292	A	4,897	0.440	B	0.001	0.003		
I-15																				
Miramar Rd to Miramar Way	NB	6M+2H+1A	314,800	18,660	14,658	0.786	C	13,177	0.706	C	14,661	0.786	C	13,189	0.707	C	0.000	0.001		
	SB	7M+2H		19,810	10,828	0.547	B	11,164	0.564	B	10,839	0.547	B	11,170	0.564	B	0.001	0.000		
Carroll Canyon Rd to Miramar Rd	NB	6M+2H+1A	299,800	18,660	13,967	0.749	C	12,556	0.673	C	13,967	0.749	C	12,556	0.673	C	0.000	0.000		
	SB	6M+2H+1A		18,660	10,310	0.553	B	10,630	0.570	B	10,310	0.553	B	10,630	0.570	B	0.000	0.000		
Mira Mesa Blvd to Carroll Canyon Rd	NB	6M+2H+1A	284,400	18,660	13,239	0.709	C	11,901	0.638	C	13,239	0.709	C	11,901	0.638	C	0.000	0.000		
	SB	6M+2H+1A		18,660	9,786	0.524	B	10,089	0.541	B	9,786	0.524	B	10,089	0.541	B	0.000	0.000		
Mira Mesa Blvd to Mercy Rd	NB	5M+2H+1A	276,200	16,310	13,053	0.800	D	11,751	0.720	C	13,081	0.802	D	11,765	0.721	C	0.002	0.001		
	SB	5M+2H+1A		16,310	9,378	0.575	B	9,558	0.586	B	9,386	0.575	B	9,589	0.588	B	0.001	0.002		

Notes:

(a) Mainline lane capacity = 2,350 vehicles per hour per lane (vphpl); HOV lane Capacity = 1,680 vphpl; Auxillary Lane Capacity = 1,200 vphpl

M = Mainline Lanes; H = HOV Lanes; A = Auxiliary Lanes

6.7 FREEWAY METERED ON-RAMP ANALYSIS

The results of the Near Term Year 2021 freeway metered on-ramp analysis are summarized in **Table 6-5**. As shown in the table, the addition of project-related traffic to the SB I-805 On-Ramp from Nobel Drive during the PM peak hour would result in a ramp meter delay that is greater than 15 minutes and would result in an increase in delay greater than 2 minutes.

However, the adjacent freeway LOS along southbound I-805 during the PM peak hour is LOS B under Near Term Year 2021 With Phase 1 Project conditions. The adjacent freeway LOS must be LOS E or F for a ramp meter impact to occur per the City's significance criteria for ramp meter impacts. Therefore, a significant ramp meter impact is not forecast to occur on the study on-ramps Near Term Year 2021 With Phase 1 Project conditions.

TABLE 6-5: NEAR TERM YEAR 2021 PEAK HOUR FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Most Restrictive or Calibrated Meter Flow Rate (vphpl)	Number of Lanes		Storage Length Per Lane (feet)	Near Term Year 2021 Without Project								Near Term 2021 With Project										Adjacent Freeway LOS	Significant?	
						On-Ramp Volume (1)		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		On-Ramp Volume		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		Increase in Delay (Minutes)				
			SOV	HOV		SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV
SB I-805 from WB Miramar Road	AM	Ramp meter not activated.																								
	PM	C=687	1	1	1,300	783	118	96	0	8.17	0	2,398	0	798	121	111	0	9.48	0	2,780	0	1.30	0	B	No	No
NB I-805 from WB Miramar Road	AM	MR = 804	1	1	1,860	526	40	0	0	0	0	0	0	540	41	0	0	0	0	0	0	0	0	C	No	No
	PM	Ramp meter not activated.																								
SB I-805 from Nobel Drive	AM	Ramp meter not activated.																								
	PM	C=200	2	1	900	499	212	50	26	13.50	7.05	1,249	653	531	226	66	40	17.85	10.78	1,651	998	4.35	3.73	B	No	No
SB I-15 from EB Miramar Road	AM	C=242	2	1	1,570	503	32	13	0	1.49	0	324	0	517	33	20	0	2.29	0	500	0	0.81	0	B	No	No
	PM	C=536	2	1		1,129	98	60	0	6.43	0	1,498	0	1,135	99	63	0	6.78	0	1,579	0	0.35	0	B	No	No
NB I-15 from EB Miramar Road	AM	Ramp meter not activated.																								
	PM	C = 443	2	0	900	1,018	0	67	N/A	5.35	N/A	1,663	N/A	1,018	N/A	67	N/A	5.35	N/A	1,663	N/A	0	N/A	C	No	No

Notes:

(1) HOV/SOV volumes based on percent split in volume observations in the field during existing conditions and applied consistently across all study scenarios

N/A = Not Applicablee

vphpl = vehicles per hour per lane

MR = most restrictive discharge rate

C = calibrated discharge rate

6.8 OFF-RAMP QUEUING ANALYSIS

Table 6-6 summarizes the results of the Near Term Year 2021 conditions off-ramp queuing analysis. The queuing analysis worksheets are provided in **Appendix G**.

As shown in Table 6-6, the increase in traffic volume associated with regional growth and the project does not result in a condition where the volume on the ramp exceeds the available capacity. Since all queues can be contained within the available storage capacity, the project does not significantly impact the off-ramps under Near Term Year 2021 condition.

TABLE 6-6: NEAR TERM YEAR 2021 OFF-RAMP QUEUING ANALYSIS SUMMARY

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Near Term Year 2021 Without Project				Near Term Year 2021 With Project				Change in 95% Queue	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	AM Peak Hour	PM Peak Hour
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Southbound Left	2	1,016' (2)	754	243'	218	101'	758	250'	234	107'	7'	6'
Southbound Right	2	1,295' (2)	1,613	1,047'	790	436'	1,613	1047'	790	438'	0'	2'
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Northbound Left	2	1,110' (2)	874	361'	470	274'	874	361'	470	274'	0'	0'
Northbound Right	2	899' (2)	310	115'	148	32'	320	119'	188	36'	4'	4'
NB I-805 Off-Ramp at Nobel Dr												
Northbound Left	2	1,429' (2)	927	273'	595	214'	927	273'	595	214'	0'	0'
Northbound Right	2	1,429' (2)	883	114'	590	113'	908	125'	693	164'	11'	51'
SB I-15 Off-Ramp at Miramar Rd												
Southbound Left	2	844' (2)	139	43'	26	27'	139	43'	26	27'	0'	0'
Southbound Right	2	894' (2)	1,108	471'	550	210'	1,108	473'	550	220'	2'	10'
NB I-15 Off-Ramp at Miramar Rd												
Northbound Left	2	1,132' (2)	420	267'	587	361'	424	269'	603	369'	2'	8'
Northbound Right	2	1,132' (2)	614	56'	664	138'	614	56'	664	141'	0'	3'

Notes:

Queue lengths in SYNCHRO are expressed in feet

Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length.

6.9 NEAR TERM YEAR 2021 MITIGATION

Intersection Mitigation Measures

The results of the intersection analysis showed that the following six (6) intersections would be significantly impacted by traffic generated by the proposed project under Near Term Year 2021 conditions:

3. Pacific Heights Boulevard and Mira Mesa Boulevard (PM: LOS F)
8. Camino Santa Fe and Mira Mesa Boulevard (PM: LOS F)
16. Camino Santa Fe and Carroll Road (AM: LOS F, PM: LOS E)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
29. Camino Santa Fe and Miramar Road (AM: LOS F, PM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS F)

The project's Phase 1 impacts will remain significant and unavoidable until Carroll Canyon Road is constructed between Camino Santa Fe and Camino Ruiz at the following intersection:

- Camino Santa Fe / Mira Mesa Boulevard

To mitigate the project's significant impacts at the remaining study intersections under Near Term Year 2021 With Project conditions, the following mitigation measures are recommended. Conceptual designs for the recommended mitigation measures are provided in **Appendix J.**

Intersection #3: Pacific Heights Boulevard and Mira Mesa Boulevard

- **Mitigation Measure 1.0:** It is recommended that the project restripe the southbound approach of the intersection to convert one through lane to a shared through/left turn lane and construction necessary traffic signal modifications. Convert NB and SB signal phasing from protected left turns to split phasing and remove the pedestrian crosswalk, pedestrian heads and associated push buttons for the existing marked crosswalk on the east leg of the intersection.

Intersection #8: Camino Santa Fe and Mira Mesa Boulevard

Significant & Unavoidable Constructing a second westbound left turn lane at the intersection and constructing the necessary traffic signal modifications would potentially mitigate the identified impact. However, right-of-way constraints and complex utility conflicts on both the north and south side of Mira Mesa Boulevard result in this improvement being infeasible in the near term. The project's Phase 1 impact at this intersection would remain significant and unavoidable until the project constructs the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz. Due to the location and proposed impacts to regulated aquatic resources, Carroll Canyon Road will be constructed after obtaining the required permits from the resource agencies for impacts to jurisdictional wetlands, waters, and streambed. Such permits include a 404 Individual Permit from the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the California Regional Water Quality Control Board, and a 1602 Streambed Alteration from the California Department of Fish and Wildlife. Permit application processing would be concurrent with the project development approvals by the City; however, issuance of final permits by the resource agencies would extend beyond the City approvals and adoption of the CEQA document for the project (i.e., 3Roots Environmental Impact Report [EIR]). Therefore, the extension of Carroll Canyon Road will be implemented during Phase 2 of construction to coincide with the timeline of resource agency permitting.

Intersection #16: Camino Santa Fe and Carroll Road

- **Mitigation Measure 2.0:** It is recommended that the project construct a second eastbound left turn lane, a dedicated westbound right turn lane, and the necessary traffic signal modifications at the intersection. The recommended improvements also include modifying the signal to change the east-west phasing from split phasing to protected left turn phasing. Construction of the recommended improvements may require the acquisition of right-of-way to widen both the east and west legs of the intersection.

Intersection #20: Towne Center Drive and La Jolla Village Drive

Significant & Unavoidable Restriping the southbound approach of the intersection to convert one through lane to a shared through/left turn lane and construction necessary traffic signal modifications would reduce the project impact to less than significant. However, the City did not accept this mitigation due to impacts to signal coordination and physical constraints. Therefore, no other feasible mitigation measures were identified and the impact at the intersection will remain significant and unavoidable.

Intersection #29: Camino Santa Fe and Miramar Road

- **Mitigation Measure 3.0:** It is recommended that the project restripe the southbound approach of the intersection to provide one shared left turn/through lane, and three right turn lanes with associated signal modifications. This improvement is consistent with Project T-87 as identified in the Mira Mesa Public Facilities Financing Plan (PFFP). PFFP Project T-87 would restripe the north leg to add a southbound right turn lane, and to widen the east leg to add a westbound right turn lane. However, restriping the north leg of the intersection to add a third southbound right turn lane would be sufficient to mitigate the project's impact at this intersection.

Intersection #38: Flanders Drive and Camino Santa Fe

- **Mitigation Measure 4.0:** It is recommended that the project widen the northbound approach to provide a dedicated right turn lane with a dedicated bicycle lane and the necessary traffic signal modifications.

Roadway Segment Mitigation Measures

The results of the roadway segment analysis showed that the following twelve (12) roadway segments would be significantly impacted by traffic generated by the proposed project under Near Term Year 2021 conditions:

C. Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive (LOS E)
F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS E)
P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)

The project's Phase 1 impacts will remain significant and unavoidable until Carroll Canyon Road is constructed between Camino Santa Fe and Camino Ruiz along the following roadway segments:

- Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive
- Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue
- Mira Mesa Boulevard from Reagan Road to Camino Ruiz, and
- Miramar Road from Carroll Road to Camino Ruiz

To mitigate the project's significant impacts at the remaining study roadway segments under Near Term Year 2021 With Project conditions, the following mitigation measures are recommended. Conceptual designs of the recommended improvements are provided in **Appendix J**.

Segment C: Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive

Significant & Unavoidable. There are no feasible improvements to mitigate the project's significant impacts along Mira Mesa Boulevard. The project's Phase 1 impacts along Mira Mesa Boulevard would remain significant and unavoidable until the project constructs the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz. Due to the location and proposed impacts to regulated aquatic resources, Carroll Canyon Road will be constructed after obtaining the required permits from the resource agencies for impacts to jurisdictional wetlands, waters, and streambed. Such permits include a 404 Individual Permit from the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the California Regional Water Quality Control Board, and a 1602 Streambed Alteration from the California Department of Fish and Wildlife. Permit application processing would be concurrent with the project development approvals by the City; however, issuance of final permits by the resource agencies would extend beyond the City approvals and adoption of the CEQA document for the project (i.e., 3Roots Environmental Impact Report [EIR]). Therefore, the extension of Carroll Canyon Road will be implemented during Phase 2 of construction to coincide with the timeline of resource agency permitting.

Segment F: Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue

Significant & Unavoidable. There are no feasible improvements to mitigate the project's significant impacts along Mira Mesa Boulevard. The project's Phase 1 impacts along Mira Mesa Boulevard would remain significant and unavoidable until the project constructs the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz. Due to the location and proposed impacts to regulated aquatic resources, Carroll Canyon Road will be constructed after obtaining the required permits from the resource agencies for impacts to jurisdictional wetlands, waters, and streambed. Such permits include a 404 Individual Permit from the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the California Regional Water Quality Control Board, and a 1602 Streambed Alteration from the California Department of Fish and Wildlife. Permit application processing would be concurrent with the project development approvals by the City; however, issuance of final permits by the resource agencies would extend beyond the City approvals and adoption of the CEQA document for the project (i.e., 3Roots Environmental Impact Report [EIR]). Therefore, the extension of Carroll Canyon Road will be implemented during Phase 2 of construction to coincide with the timeline of resource agency permitting.

Segment H: Mira Mesa Boulevard from Reagan Road to Camino Ruiz

Significant & Unavoidable. There are no feasible improvements to mitigate the project's significant impacts along Mira Mesa Boulevard. The project's Phase 1 impacts along Mira Mesa Boulevard would remain significant and unavoidable until the project constructs the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz. Due to the location and proposed impacts to regulated aquatic resources, Carroll Canyon Road will be constructed after obtaining the required permits from the resource agencies for impacts to jurisdictional wetlands, waters, and streambed. Such permits include a 404 Individual Permit from the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the California Regional Water Quality Control Board, and a 1602 Streambed Alteration from the California Department of Fish and Wildlife. Permit application processing would be concurrent with the project development approvals by the City; however, issuance of final permits by the resource agencies would extend beyond the City approvals and adoption of the CEQA document for the project (i.e., 3Roots

Environmental Impact Report [EIR]). Therefore, the extension of Carroll Canyon Road will be implemented during Phase 2 of construction to coincide with the timeline of resource agency permitting.

Segment P: Carroll Road from Nancy Ridge Drive to Rehco Road

Significant & Unavoidable. There are no feasible improvements to mitigate the project's significant impact on the segment of Carroll Road between Nancy Ridge Road and Rehco Road. Carroll Road is currently constructed as a two-lane Collector with a two-way center turn lane and a cross-sectional width of approximately 50 feet curb to curb. The current Mira Mesa Community Plan identifies Carroll Road from Nancy Ridge Road to Recho Road as a four-lane Collector. Existing development along the corridor limits the ability to widen this road to meet the current four-lane, Urban Collector standard. Therefore, the impact would remain significant and unavoidable.

Segment Q: Carroll Road from Rehco Road to Camino Santa Fe

Significant & Unavoidable. There are no feasible improvements to mitigate the project's significant impact on the segment of Carroll Road between Rehco Road and Camino Santa Fe. Carroll Road is currently constructed as a two-lane Collector with a two-way center turn lane and a cross-sectional width of approximately 50 feet curb to curb. The current Mira Mesa Community Plan identifies Carroll Road from Nancy Ridge Road to Recho Road as a four-lane Collector. Existing development along the corridor limits the ability to widen this road to meet the current four-lane Urban Collector standard. Therefore, the impact would remain significant and unavoidable.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 5.0:** It is recommended that the project address the existing signal communications gap at the Carroll Road/Rehco Road intersection by installing signal communications equipment to connect to the Carroll Road/Camino Santa Fe intersection. The needed improvements would include trenching and installing conduit and cable along Carroll Road between Rehco Road and Camino Santa Fe. Installation of communication equipment is consistent with the City's Traffic Signal Communications Master Plan and will improve the ability for these closely spaced intersections to operate more efficiently. By operating more efficiently, this reduces delay and improves traffic flow along Carroll Road.

Segment T: Eastgate Mall from Judicial Drive to Miramar Road

Significant & Unavoidable. Project NUC-34, identified in the North University City Public Facilities Financing Plan (PFFP), would widen Eastgate Mall to four-lane Collector standards from the SDG&E easement on the east side of I-805 to Miramar Road. As included in the 2016 NUC PFFP, "the FBA and Developer portions of the project east of the SDG&E easement are complete (Transportation Threshold 1, Project 3 completed). The remainder of the project is on hold pending project approval and property acquisition from the Department of the Navy." Therefore, the impact along this segment will remain significant and unavoidable until which time the City completes the project.

Segment Y: Miramar Road from Nobel Drive to Eastgate Mall

Significant & Unavoidable – Partially Mitigated. Project NUC-50, identified in the North University City Public Facilities Financing Plan (PFFP), would widen Miramar Road to eight lanes from the I-805 Northbound Ramps to 300 feet east of Eastgate Mall. This project is partially completed as there are currently eight lanes on Miramar Road from I-805 to Nobel Drive, but there are currently only seven lanes (four westbound and three eastbound) between Nobel Drive and Eastgate Mall. According to the North University City PFFP, NUC-50 is fully funded except for land acquisition from the US Department of the Navy, and the remaining improvement left to complete is a fourth eastbound lane from 500 feet east of Nobel Drive to 300 feet east of Eastgate Mall. The impact on this segment is significant and unavoidable until which time the City is able to acquire the additional land necessary from the Department of the Navy.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 6.0:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Nobel Drive and Eastgate Mall. Install one (1) CCTV Cameral.

Segment Z: Miramar Road from Eastgate Mall to Camino Santa Fe

Significant & Unavoidable – Partially Mitigated. Miramar Road from Eastgate Mall is six lanes with an 18-foot wide striped median and bicycle lanes on both sides of the street. Raised medians have been constructed west of Miramar Place (700 foot median) and west of Camino Santa Fe (1,000 foot median). The curb to curb width ranges from approximately 100 to 110 feet. Due to the lack of a raised median through this section and the presence of commercial driveways on the north side of the street, the City has identified the classification of this roadway as a six lane Major with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six lane Primary Arterial. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding raised medians along the corridor would re-classify the street from six lane Major to six lane Primary and increase in the daily capacity to 60,000 vehicles per day at LOS E. However, the addition of the raised median would result in an increase in u-turning vehicles at signalized intersections along the corridor, increased left turn demand at critical intersections (including Miramar Road/Camino Santa Fe) and may impact the businesses who take direct access from Miramar Road. Should the medians be determined to be infeasible, traffic signal communications equipment is recommended to help improve the capacity and efficiency of the existing infrastructure.

Therefore, the project proposes one of two partial mitigation measures to offset the project impacts: install raised medians where gaps in the median currently exist or install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. Either of the following mitigation measures will partially mitigate the identified project impact:

- **Mitigation Measures 7.0A:** It is recommended that the project install raised medians where existing gaps in the median exist between Eastgate Mall and Camino Santa Fe. This improvement will require close coordination with City staff and the existing businesses along the corridor; **AND**

- **Mitigation Measure 7.0B:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Eastgate Mall and Camino Santa Fe. Install two (2) CCTV cameras; **AND**

- **Mitigation Measure 7.0C:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Santa Fe and Carroll Canyon Road to complete the communication network to Camino Ruiz. Install two (2) CCTV cameras.

Segment AA: Miramar Road from Carroll Road to Camino Ruiz

Significant & Unavoidable – Partially Mitigated. Miramar Road from Carroll Road to Camino Ruiz is six lanes with a striped 15-foot median and bicycle lanes on both sides of the street. The curb to curb width ranges from approximately 100 to 105 feet. Due to the lack of a raised median through this section and the presence of commercial driveways on the north side of the street, the City has identified the functional classification of the existing roadway as a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day. The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Major with a maximum capacity at LOS E of 50,000 vehicles per day. The curb to curb width of a current standard

Major Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding raised medians along the corridor would re-classify the street from six lane Major with two-way left turn lane to six lane Major. However, the addition of the raised median would result in an increase in u-turning vehicles at signalized intersections along the corridor and would significantly impact the businesses who take direct access from Miramar Road. With the raised median, the corridor would continue to operate at LOS F conditions. The project does not recommend a raised median for the corridor for these reasons. Therefore, the impact will remain significant and unavoidable.

The project's Phase 1 impacts along Mira Mesa Boulevard would remain significant and unavoidable until the project constructs the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz. Due to the location and proposed impacts to regulated aquatic resources, Carroll Canyon Road will be constructed after obtaining the required permits from the resource agencies for impacts to jurisdictional wetlands, waters, and streambed. Such permits include a 404 Individual Permit from the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the California Regional Water Quality Control Board, and a 1602 Streambed Alteration from the California Department of Fish and Wildlife. Permit application processing would be concurrent with the project development approvals by the City; however, issuance of final permits by the resource agencies would extend beyond the City approvals and adoption of the CEQA document for the project (i.e., 3Roots Environmental Impact Report [EIR]). Therefore, the extension of Carroll Canyon Road will be implemented during Phase 2 of construction to coincide with the timeline of resource agency permitting.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 8.0A:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Carroll Road and Camino Ruiz. Install two (2) CCTV cameras; **AND**
- **Mitigation Measure 8.0B**: It is recommended that the project construct a 205-foot long, 4-foot wide raised median approximately 115 feet east of Cabot Drive. Construct a 300-foot long, 16-foot wide raised median approximately 685 feet west of Camino Ruiz.

CCTV cameras and communications equipment will improve the ability for City staff to monitor traffic conditions in real time from a central location. By monitoring traffic conditions, staff will be able to make adjustments to traffic signal operations to reduce delay and improve efficiency along the corridor.

Segment AB: Miramar Road from Camino Ruiz to Clayton Drive-Mitscher Way

Significant & Unavoidable – Partially Mitigated. Miramar Road from Camino Ruiz to Clayton Drive-Mitscher Way is six lanes with a raised median. The curb to curb width is approximately 100 feet**.** City has identified the functional classification of the existing roadway as a six lane Major with a raised median with a maximum daily capacity at LOS E of 50,000 vehicles per day. Restriping the road to provide an additional through lane was evaluated but determined to be infeasible due to right-of-way constraints. The City minimum design standards for bicycle facilities and lane widths could not be met via striping. Therefore, the impact will remain significant and unavoidable.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 9.0:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Ruiz and Mitscher Way.

CCTV cameras and communications equipment will improve the ability for City staff to monitor traffic conditions in real time from a central location. By monitoring traffic conditions, staff will be able to make adjustments to traffic signal operations to reduce delay and improve efficiency along the corridor.

Segment AC: Miramar Road from Clayton Drive-Mitscher Way to Black Mountain Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Clayton Drive-Mitscher Way to Black Mountain Road is six lanes with a raised median. There is a 550-foot gap in the raised median immediately east of Padgett Street. This gap provides access to the businesses that take direct access from Miramar Road. The curb to curb width is approximately 100 feet. Due to the lack of a raised median west of Padgett Street and the presence of commercial driveways on the north side of the street, the City has identified the functional classification of the existing roadway as a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day. The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding a raised median where the 550-foot gap exists would re-classify the street from six lane Major with two-way left turn lane to six lane Primary. However, the addition of the raised median would significantly impact access to the businesses who take direct access from Miramar Road through the section where the median is currently striped. With the raised median, the corridor would continue to operate at LOS F conditions.

The project does not recommend constructing the missing 550-foot section of raised median for this section of the corridor. Therefore, the impact will remain significant and unavoidable.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 10.0:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Mitscher Way and Black Mountain Road. Install one (1) CCTV camera.

CCTV cameras and communications equipment will improve the ability for City staff to monitor traffic conditions in real time from a central location. By monitoring traffic conditions, staff will be able to make adjustments to traffic signal operations to reduce delay and improve efficiency along the corridor.

Segment AD: Miramar Road from Black Mountain Road to Kearny Villa Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Black Mountain Road to Kearny Villa Road is six lanes with a striped median, with the exception of a 350-foot section with a raised median immediately east of Black Mountain Road. The striped two-way left turn lane provides access to the businesses that take direct access from Miramar Road. The curb to curb width is approximately 100 feet. Due to the lack of a raised median and the presence of commercial driveways on the north side of the street, the City has identified the functional classification of the existing roadway as a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding the raised median where the gap exists would re-classify the street from six lane Major with two-way left turn lane to six lane Primary. However, the addition of the raised median would significantly impact access to the businesses who take direct access from Miramar Road through the section where the median is currently striped and would increase the left turn/u-turn volume at the signalized intersections at either end of the corridor. With the raised median, the corridor would continue to operate at LOS F conditions.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 11.0:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Black Mountain Road and Kearny Villa Road.

CCTV cameras and communications equipment will improve the ability for City staff to monitor traffic conditions in real time from a central location. By monitoring traffic conditions, staff will be able to make adjustments to traffic signal operations to reduce delay and improve efficiency along the corridor.

Intersection and Roadway Segment Mitigated LOS

Table 6-7 summarizes the intersection levels of service with the recommended mitigation measures under Near Term Year 2021 With Project conditions. As shown in the table, the recommended mitigation measures will improve operations at the significantly impacted intersections to an acceptable LOS D or will improve conditions better than without the project. **Appendix L** displays the HCM worksheets that show intersection delays and levels of service with the recommended mitigation measures.

Table 6-8 summarizes the roadway segment levels of service with the recommended mitigation measures under Near Term Year 2021 With Project conditions.

TABLE 6-7: NEAR TERM YEAR 2021 INTERSECTION MITIGATED LOS

#	Intersection	Peak Hour	Near Term Year 2021 Baseline		Near Term Year 2021 With Project		Recommended Mitigation	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Near Term Year 2021 With Project With Mitigation		Change in Delay (with Project) with-without mitigation
			Delay [a]	LOS	Delay [a]	LOS						
3	Pacific Heights Blvd & Mira Mesa Blvd	AM	38.6	D	39.1	D	**Mitigation Measure 1.0:** Restripe SB approach to provide three left-turn lanes and construct necessary traffic signal modifications. Convert NB and SB signal phasing from protected left turns to split phasing and remove the pedestrian crosswalk on the east leg of the intersection.			49.9	D	10.8
		PM	73.8	E	80.7	F				66.3	E	-14.4
8	Camino Santa Fe & Mira Mesa Blvd	AM	47.1	D	54.7	D	***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)			
		PM	87.6	F	106.1	F						
16	Camino Santa Fe & Carroll Rd	AM	50.6	D	85.2	F	**Mitigation Measure 2.0**: Construct a second EB left turn lane, a dedicated WB right turn lane, and construct the necessary traffic signal modifications. Convert EB and WB signal phasing from split to protected left turns.			46.3	D	-38.9
		PM	45.0	D	78.3	E				50.6	D	-66.6
20	La Jolla village Dr & Towne Center Dr	AM	32.7	C	33.0	C	***Significant & Unavoidable***					
		PM	82.1	F	85.0	F						
29	Camino Santa Fe & Miramar Rd	AM	83.7	F	94.0	F	**Mitigation Measure 3.0:** Restripe SB approach to provide 1 shared left-turn/through lane and 3 right-turn lanes and construct necessary traffic signal modifications.	PFFP Project T-87: Restripe north leg to add a SB right turn lane and widen east leg to add WB right turn lane (100% funded by FY 2025).	Yes (2030 mitigation required per Vulcan Stone Creek TIA)	77.1	E	-16.9
		PM	52.7	D	79.1	E				54.4	D	-24.7
38	Camino Santa Fe & Flanders Dr	AM	36.4	D	41.5	D	**Mitigation Measure 4.0:** Widen NB approach to construct a dedicated right-turn lane with Class II bicycle lane. Construct necessary traffic signal modifications.			41.4	D	-0.01
		PM	68.8	E	84.4	F				66.2	E	-18.2

Notes: (a) Average seconds of delay per vehicle.

TABLE 6-8: NEAR TERM YEAR 2021 ROADWAY SEGMENT MITIGATED LOS

Roadway	Segment		Near Term Year 2021 Without Improvements				Recommended Mitigation	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Near Term Year 2021 With Improvements			
			Baseline		With Project					Mitigated Capacity	Mitigated V/C Ratio	Mitigated LOS	Change in V/C
			V/C Ratio	LOS	V/C Ratio	LOS							
Mira Mesa Blvd	C	Pacific Heights Blvd to Sequence Dr	0.910	D	0.930	E	***Significant & Unavoidable***						
	F	Camino Santa Fe to Parkdale Ave	1.195	F	1.227	F	***Significant & Unavoidable***						
	H	Reagan Rd to Camino Ruiz	0.956	E	0.979	E	***Significant & Unavoidable***						
Carroll Rd	P	Nancy Ridge Dr to Rehco Rd	0.925	E	0.951	E	***Significant & Unavoidable***						
	Q	Rehco Rd to Camino Santa Fe	1.168	F	1.209	F	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 5.0:** Address the existing signal communications gap at the Carroll Road/Rehco Road intersection by installing signal communications equipment to connect to the Carroll Road/Camino Santa Fe intersection. The needed improvements would include trenching and installing conduit and cable along Carroll Road between Rehco Road and Camino Santa Fe.				1.209	F	
Eastgate Mall	T	Judicial Dr to Miramar Rd	1.008	F	1.046	F	***Significant & Unavoidable***						
Miramar Rd	Y	Nobel Dr to Eastgate Mall	1.082	F	1.126	F	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 6.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Nobel Drive and Eastgate Mall. Install one (1) CCTV Camera.						
	Z	Eastgate Mall to Camino Santa Fe	1.642	F	1.722	F	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 7.0A:** Construct raised median where existing gaps in the median currently exist. **AND** **Mitigation Measure 7.0B:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Eastgate Mall and Camino Santa Fe. Install two (2) CCTV Cameras. **AND** **Mitigation Measure 7.0C:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Santa Fe and Carroll Road to complete the communication network to Camino Ruiz. Install two (2) CCTV Cameras.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.722	F	
	AA	Carroll Rd to Camino Ruiz	1.047	F	1.076	F	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 8.0A:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Carroll Road and Camino Ruiz. Install two (2) CCTV Cameras. **AND** **Mitigation Measure 8.0B:** Construct 205-foot long, 4-foot wide raised median approximately 115 feet east of Cabot Drive. Construct 300-foot long, 16-foot wide raised median approximately 685 feet west of Camino Ruiz.				1.076	F	
	AB	Camino Ruiz to Mitscher Way	1.251	F	1.270	F	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 9.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Ruiz and Mitscher Way.						
	AC	Mitscher Way to Black Mountain Rd	1.339	F	1.358	F	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 10.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Mitscher Way and Black Mountain Road. Install one (1) CCTV Camera.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.358	F	
	AD	Black Mountain Rd to Kearny Villa Rd	1.487	F	1.504	F	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 11.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Black Mountain Road and Kearny Villa Road.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.504	F	

7 NEAR TERM YEAR 2025 CONDITIONS – PHASE 2 (BUILDOUT)

This section summarizes the development of the Near Term Year 2025 traffic volumes and the operations at the study area intersections and roadway segments. Near Term Year 2025 conditions are based on the expected growth of background traffic associated with near-term future developments in the Mira Mesa community, which was overlaid by traffic generated by the proposed project. Near Term Year 2025 baseline conditions include completion of the proposed Phase 1 Project; therefore, Near Term Year 2025 conditions evaluates the impacts associated with the additional traffic generated by the buildout of the project in Phase 2.

7.1 ROADWAY NETWORK

The Near Term Year 2025 roadway network generally reflects the existing roadway network with the Phase 1 Project, including the improvements to Camino Santa Fe / Miratech Drive and Camino Santa Fe / Summers Ridge Road that provide access to the project site. The Near Term Year 2025 baseline conditions (With Phase 1 Project) roadway network will include the following improvements:

- Camino Santa Fe and Carroll Canyon Road: The project will construct the east leg to provide dual left turn lanes and a single right turn lane on the westbound approach. The project will restripe the northbound approach to provide a third through lane and a dedicated right-turn lane, and the southbound approach will also be restriped to provide a second left-turn lane.
- Extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz: Construction will begin at the start of the Phase 2 development prior to construction of the remaining residential and commercial uses. The existing 2,700-foot segment of Carroll Canyon Road that extends from the project's eastern boundary to Camino Ruiz was built to 6-lane Primary Arterial standards but is currently striped with 4 lanes. The project will restripe this existing section of Carroll Canyon Road to provide a total of 6 travel lanes and bicycle lanes.

The model run that was conducted to develop the Near Term Year 2025 traffic volumes (which is described in detail in Section 7.2) showed that the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz would result in a reduction in traffic volumes on several roadways in the study area such as the following:

- Mira Mesa Blvd from Scranton Road to Camino Santa Fe (reduction of approximately 800 ADT)
- Mira Mesa Blvd from Camino Santa Fe to Camino Ruiz (reduction of approximately 2,700 ADT)
- Carroll Road from Camino Santa Fe to Miramar Rd (reduction of approximately 2,300 ADT)
- Miramar Road from Carroll Road to Camino Ruiz (reduction of approximately 4,100 ADT)

The model run results also showed reductions in traffic volumes on the following smaller Collector streets within the study area that were not analyzed in the traffic impact analysis report:

- Flanders Drive from Camino Santa Fe to Camino Ruiz (reduction of approximately 2,000 ADT)
- Gold Coast Drive from Parkdale Drive to Camino Ruiz (reduction of approximately 1,500 ADT)
- Trade Street from Camino Santa Fe to Kenamar Drive (reduction of approximately 800 ADT)
- Miralani Drive from Arjons Drive to Camino Ruiz (reduction of approximately 1,300 ADT)

The model runs demonstrate that the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz would shift vehicular trips away from arterial roadways such as Mira Mesa Boulevard and Miramar Road and away from the smaller Collector streets currently used as cut-through routes.

In addition to the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz and other project-related improvements as described above, Near Term Year 2025 conditions include the Mid-Coast Trolley Extension (Trolley Blue Line from Old Town Transit Center to UTC).

Figure 7-1 illustrates the Near Term Year 2025 roadway improvements for both baseline (Phase 1 Project) conditions and With Project Buildout conditions.

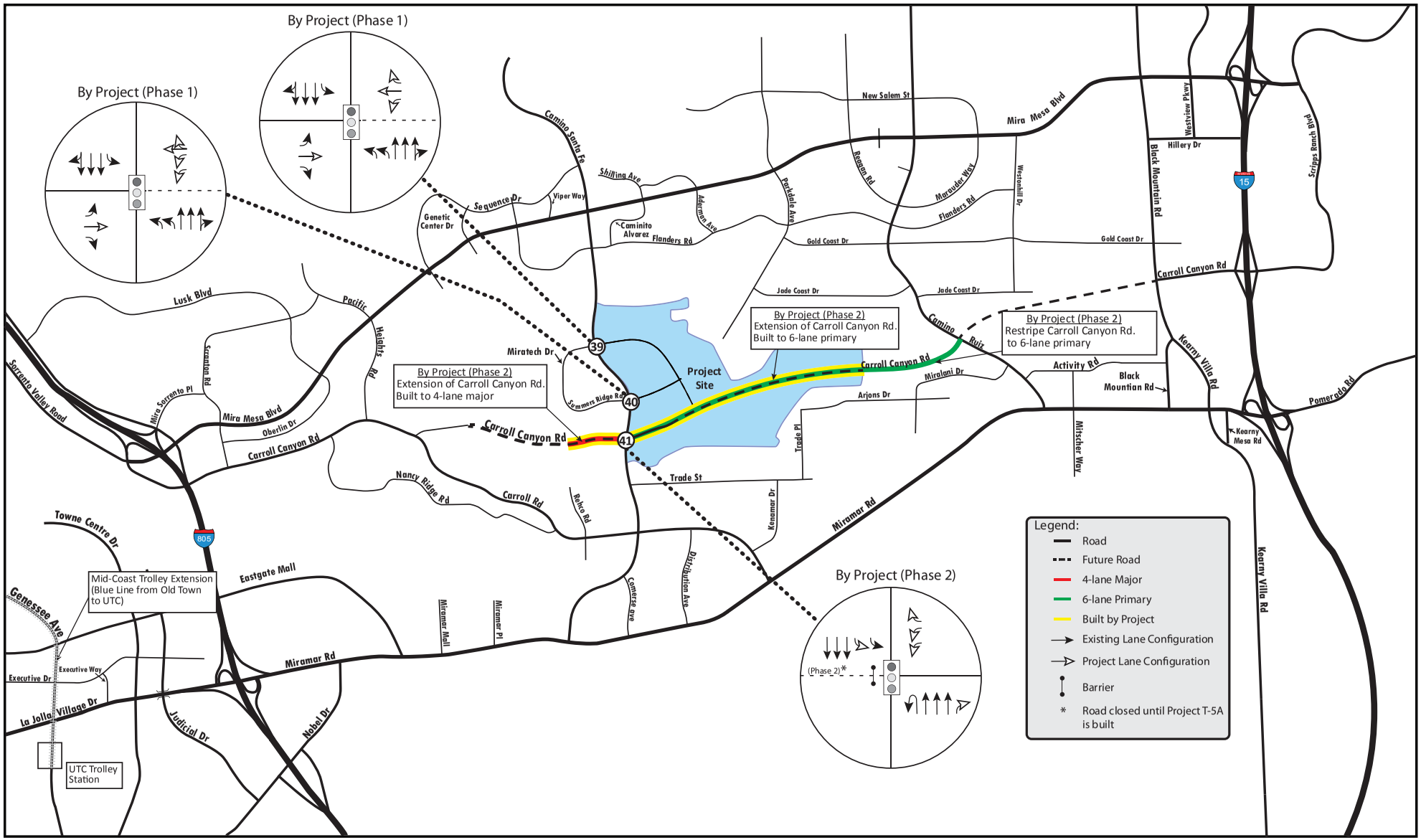

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Figure 7-1

Near Term Year 2025 Roadway Improvements

7.2 TRAFFIC VOLUMES

The Near Term Year 2025 daily and peak hour traffic volumes were developed based on the SANDAG Series 12 Year 2020 model run that was performed for the project. As previously discussed in Section 4.3 (Project Trip Distribution), two network scenarios were run using the Series 12 Year 2020 model. The Series 12 2020 Scenario 1model run reflects the Near Term Year 2025 roadway network without the proposed project, and is generally the same as the existing roadway network. The Series 12 2020 Scenario 2 model run reflects the Near Term Year 2025 roadway network with the proposed project, and includes the extension of Carroll Canyon Road between Camino Santa Fe and Camino Ruiz.

Year 2025 Baseline Volumes (with Phase 1 Project)

The Near Term Year 2025 baseline traffic volumes were initially derived using the annual growth rates that were developed to derive the growth in traffic from existing (2017) conditions to Near Term Year 2021 conditions. Growth factors reflecting four years of growth from the year 2021 to the year 2025 were applied to the Near Term Year 2021 baseline traffic volumes to develop the Near Term Year 2025 baseline (no project) traffic volumes. This baseline condition assumes Carroll Canyon Road was not constructed in 2025.

The Near Term Year 2025 baseline a.m. and p.m. peak hour volumes were generated using the forecast growth from Near Term Year 2021 to Near Term Year 2025. **Figures 7-2** and **7-3** illustrate the traffic volumes at the study area intersections and roadway segments, respectively, under Near Term Year 2025 Baseline With Phase 1 Project conditions.

Carroll Canyon Road (Camino Santa Fe to Camino Ruiz) Extension Traffic Volume Adjustments

The development of the Near Term Year 2025 traffic volumes with the proposed project consisted of the following steps to first adjust the volumes to reflect the with Carroll Canyon Road Extension through the project site:

- Select Zone project trips were calculated using the Series 12 Year 2020 Scenario 2 (with Carroll Canyon Road)
- Project trips were extracted from the Year 2020 Scenario 2 model volumes to derive adjusted Year 2020 Scenario 2 volumes without project-related traffic.
- The difference in traffic volumes between the adjusted Year 2020 Scenario 2 model volumes and the adjusted Year 2020 Scenario 1 model volumes was calculated.
- The calculated difference between the adjusted Year 2020 Scenario 2 and Scenario 1 traffic volumes represent the changes in <u>non-project</u> traffic associated with the construction of the Carroll Canyon Road extension between Camino Santa Fe and Camino Ruiz. This calculated difference in traffic was then applied to the Near Term Year 2025 baseline volumes.
- The Near Term Year 2025 Baseline With Phase 1 Project daily traffic volumes were derived by manually adding the Phase 1 Project trips to the non-adjusted Near Term Year 2025 baseline traffic volumes <u>without</u> the changes in traffic patterns associated with the Carroll Canyon Road extension. **Figure 7-4** illustrates the non-project daily traffic volumes that would be diverted with the construction of the Carroll Canyon Road extension from Camino Santa Fe to Camino Ruiz in Phase 2 of the proposed project (project buildout).

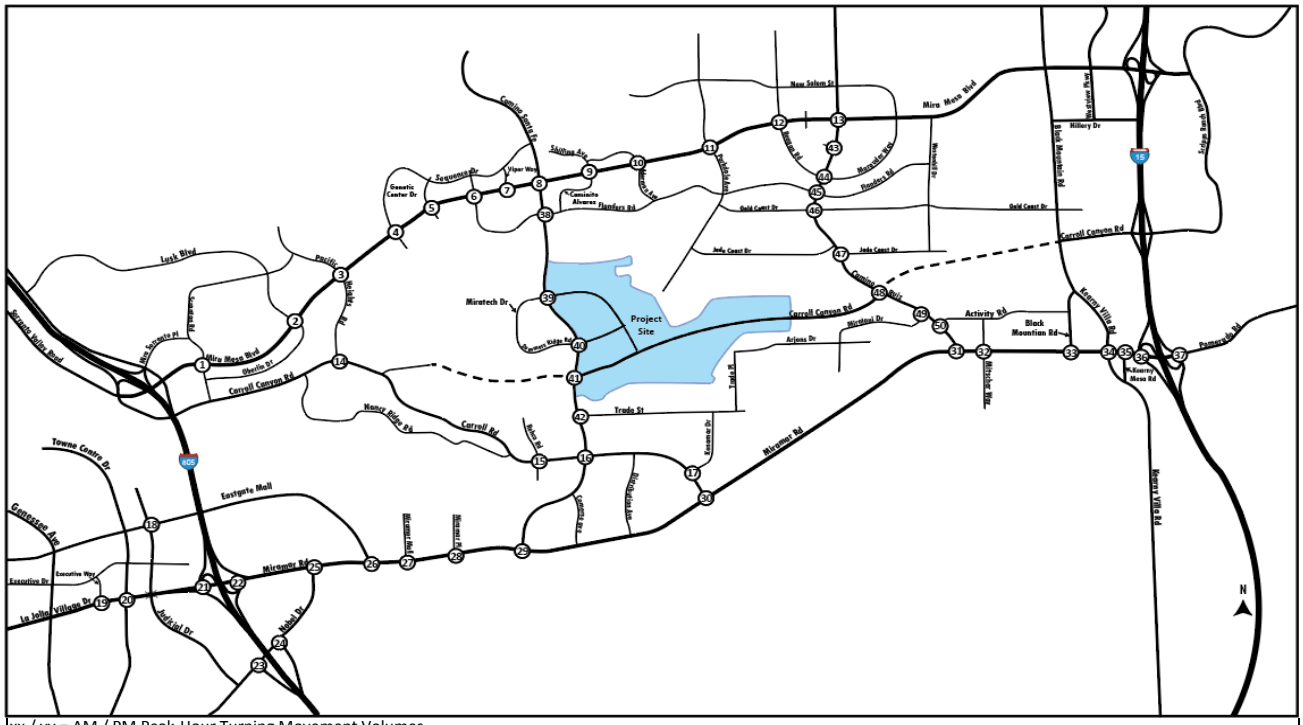
Year 2025 With Project Volumes (with Phase 1 and Phase 2 Project, with Carroll Canyon Road)

The Near Term Year 2025 With Project Buildout daily traffic volumes were derived by manually adding the Phase 1 and Phase 2 project trips to the adjusted Near Term Year 2025 baseline volumes that include the diverted non-project traffic as a result of the Carroll Canyon Road extension. The Phase 1 Project trips based on a distribution without the Carroll Canyon Road extension were extracted from the baseline volumes, then replaced with Phase 1 trips with a distribution that includes the extension of Carroll Canyon Road.

Prior to developing the Near Term Year 2025 With Project Buildout peak hour intersection turning movement volumes, the adjusted Near Term Year 2025 baseline daily traffic volumes with the diverted non-project traffic (from Carroll Canyon Road extension) were post-processed to develop adjusted Near Term Year 2025 baseline intersection turning movement volumes during the peak hours.

The Near Term Year 2025 With Project Buildout peak hour intersection volumes were then developed by manually adding the peak hour project trips to the adjusted Near Term Year 2025 baseline intersection volumes. The methodology for developing the Near Term Year 2025 volumes as described above is provided in **Appendix K**.

Figures 7-5 and **7-6** illustrate the traffic volumes at the study intersections and roadway segments, respectively, under Near Term Year 2025 With Project Buildout conditions.



xx / yy = AM / PM Peak-Hour Turning Movement Volumes

The naming convention for intersections is North-South / East-West

1 / Scranton Rd @ Mira Mesa Blvd

← 125 / 396	↓ 55 / 164	→ 60 / 109

↑ 102 / 95	← 1050 / 1496	↓ 34 / 86

1

911 / 193 ↑	← 71 / 393	↑ 70 / 97	→ 13 / 20
2439 / 986 →		
677 / 153 ↓		

2 / Lusk Blvd @ Mira Mesa Blvd

← 52 / 240	↓ 19 / 107	→ 59 / 484

↑ 515 / 98	← 1114 / 1442	↓ 167 / 37

2

259 / 96 ↑	← 6 / 19	↑ 22 / 25	→ 27 / 196
2230 / 1027 →		
42 / 9 ↓		

3 / Pacific Heights Rd @ Mira Mesa Blvd

← 107 / 422	↓ 28 / 242	→ 106 / 1076

↑ 1243 / 127	← 1641 / 990	↓ 328 / 112

3

586 / 77 ↑	← 31 / 146	↑ 71 / 33	→ 97 / 347
1262 / 1569 →		
348 / 83 ↓		

4 / Sequence Dr @ Mira Mesa Blvd

← 243 / 277	↓ 14 / 7	→ 10 / 82

↑ 70 / 9	← 2698 / 679	↓ 100 / 25

4

324 / 225 ↑	← 87 / 172	↑ 6 / 19	→ 17 / 80
868 / 2755 →		
296 / 94 ↓		

5 / Genetic Center Dr @ Mira Mesa Blvd

← 36 / 69	↓ 8 / 3	→ 43 / 89

↑ 166 / 28	← 2866 / 708	↓ 151 / 34

5

98 / 51 ↑	← 7 / 26	↑ 4 / 13	→ 32 / 306
757 / 2731 →		
44 / 11 ↓		

6 / Flanders Dr @ Mira Mesa Blvd

← 36 / 46	↓ 19 / 90	→ 21 / 128

↑ 154 / 25	← 2907 / 500	↓ 43 / 49

6

64 / 62 ↑	← 361 / 181	↑ 48 / 43	→ 36 / 121
476 / 2461 →		
318 / 548 ↓		

7 / Viper Way @ Mira Mesa Blvd

← 17 / 20	↓ 11 / 12	→ 4 / 21

↑ 78 / 36	← 2810 / 472	↓ 47 / 59

7

32 / 28 ↑	← 175 / 99	↑ 26 / 27	→ 60 / 195
327 / 2537 →		
82 / 139 ↓		

8 / Camino Santa Fe @ Mira Mesa Blvd

← 62 / 43	↓ 299 / 244	→ 116 / 436

↑ 351 / 185	← 2850 / 430	↓ 780 / 263

8

25 / 61 ↑	← 189 / 176	↑ 169 / 327	→ 161 / 590
320 / 2451 →		
110 / 149 ↓		

9 / Shilling Ave @ Mira Mesa Blvd

← 119 / 21	↓ 5 / 3	→ 66 / 60

↑ 24 / 83	← 3795 / 886	↓ 32 / 62

9

24 / 139 ↑	← 36 / 13	↑ 6 / 22	→ 49 / 44
574 / 3305 →		
11 / 32 ↓		

10 / Aderman Ave @ Mira Mesa Blvd

← 39 / 12	↓ 13 / 4	→ 1 / 44

↑ 33 / 45	← 3783 / 999	↓ 20 / 51

10

7 / 37 ↑	← 17 / 4	↑ 9 / 20	→ 40 / 63
627 / 3380 →		
9 / 22 ↓		

11 / Parkdale Ave @ Mira Mesa Blvd

← 210 / 78	↓ 93 / 47	→ 70 / 27

↑ 35 / 85	← 3550 / 1014	↓ 56 / 100

11

49 / 110 ↑	← 100 / 42	↑ 32 / 87	→ 81 / 118
749 / 3155 →		
32 / 213 ↓		

12 / Reagan Rd @ Mira Mesa Blvd

← 227 / 73	↓ 127 / 129	→ 56 / 51

↑ 14 / 74	← 3143 / 1040	↓ 23 / 72

12

43 / 141 ↑	← 164 / 157	↑ 49 / 146	→ 18 / 36
691 / 2672 →		
71 / 277 ↓		

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Figure 7-2a

Near Term Year 2025 Baseline With Phase One Project Peak Hour Intersection Volumes

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xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

13 / Camino Ruiz @ Mira Mesa Blvd

← 214 / 128
↓ 516 / 445
→ 422 / 324

↑ 129 / 261
← 2856 / 1064
↓ 180 / 300

13

87 / 239 ↑
797 / 2220 →
25 / 64 ↓

← 90 / 140
↑ 302 / 596
→ 150 / 130

14 / Pacific Heights Rd @ Carroll Canyon Rd

← 110 / 461
→ 63 / 260

↑ 94 / 66
← 137 / 292

14

275 / 67 ↑
450 / 332 →

15 / Rehco Rd @ Carroll Rd

← 9 / 41
↓ 1 / 2
→ 43 / 258

↑ 204 / 28
← 729 / 241
↓ 51 / 15

15

58 / 5 ↑
298 / 1006 →
6 / 16 ↓

← 1 / 13
↑ 1 / 1
→ 8 / 51

16 / Camino Santa Fe @ Carroll Rd

← 387 / 82
↓ 1059 / 778
→ 206 / 138

↑ 96 / 242
← 339 / 92
↓ 67 / 85

16

68 / 379 ↑
137 / 331 →
139 / 507 ↓

← 352 / 138
↑ 512 / 1221
→ 110 / 83

17 / Kenamar Dr @ Carroll Rd

← 1 / 0
↓ 253 / 659
→ 21 / 19

↑ 14 / 17
← 1 / 0
↓ 115 / 163

17

0 / 1 ↑
1 / 1 ↓

← ↑ 575 / 260
→ 194 / 76

18 / Judicial Dr @ Eastgate Mall

← 22 / 113
↓ 14 / 76
→ 3 / 67

↑ 39 / 6
← 689 / 252
↓ 95 / 86

18

136 / 19 ↑
253 / 750 →
69 / 196 ↓

← 223 / 115
↑ 100 / 7
→ 88 / 174

19 / Executive Way @ La Jolla Village Dr

← 53 / 353
↓ 15 / 78
→ 62 / 431

↑ 479 / 105
← 1227 / 1520
↓ 38 / 228

19

148 / 64 ↑
1346 / 1014 →
87 / 365 ↓

← 23 / 244
↑ 27 / 23
→ 28 / 224

20 / Town Centre Dr @ La Jolla Village Dr

← 39 / 182
↓ 46 / 243
→ 218 / 973

↑ 1447 / 291
← 1584 / 1466
↓ 375 / 458

20

346 / 25 ↑
971 / 1524 →
142 / 172 ↓

← 122 / 213
↑ 232 / 60
→ 338 / 718

21 / I-805 SB On/Off Ramps @ La Jolla Village Dr

← 1685 / 825
→ 792 / 244

↑ 584 / 868
← 1769 / 1341

21

1103 / 2030 →
437 / 1134 ↓

22 / I-805 NB On/Off Ramps @ Miramar Rd

↑ 606 / 849
← 1442 / 1649

22

1152 / 1102 →
740 / 1270 ↓

← 913 / 491
→ 334 / 195

23 / I-805 SB On Ramp @ Nobel Dr

← 1504 / 1090
↓ 254 / 268

23

331 / 546 →
607 / 526 ↓

24 / I-805 NB Off Ramp @ Nobel Dr

← 729 / 761

24

2 / 0 ↑
324 / 516 →

← 982 / 630
→ 960 / 728

25 / Nobel Dr @ Miramar Rd

← 1953 / 2341
↓ 556 / 691

25

1221 / 1197 →
276 / 65 ↓

← 110 / 183
→ 961 / 1057

26 / Eastgate Mall @ Miramar Rd

← 162 / 351
→ 168 / 957

↑ 998 / 183
← 2283 / 2681
↓ 1 / 9

26

278 / 143 ↑
1941 / 2113 →

27 / Miramar Mall @ Miramar Rd

← 72 / 72
→ 36 / 103

↑ 66 / 30
← 3185 / 2827

27

69 / 26 ↑
2000 / 2933 →

28 / Miramar Pl @ Miramar Rd

← 89 / 108
→ 40 / 92

↑ 76 / 36
← 3023 / 2671
↓ 19 / 5

28

115 / 30 ↑
2070 / 3142 →

29 / Camino Santa Fe @ Miramar Rd

← 1085 / 1282
↓ 2 / 1
→ 54 / 108

↑ 107 / 71
← 2329 / 1400
↓ 22 / 20

29

930 / 1186 ↑
1170 / 1936 →
25 / 92 ↓

← 20 / 49
↑ 3 / 61
→ 10 / 8

30 / Carroll Rd @ Miramar Rd

← 113 / 183
→ 237 / 542

↑ 681 / 229
← 2541 / 1052
↓ 0 / 5

30

151 / 95 ↑
867 / 2039 →

31 / Camino Ruiz @ Miramar Rd

← 547 / 184
→ 685 / 441

↑ 286 / 658
← 3250 / 1046

31

172 / 395 ↑
821 / 2580 →

32 / Mitscher Way @ Miramar Rd

← 81 / 33
↓ 74 / 44
→ 34 / 84

↑ 30 / 41
← 2779 / 1642
↓ 198 / 128

32

23 / 43 ↑
1253 / 2771 →
231 / 162 ↓

← 196 / 305
↑ 25 / 55
→ 146 / 308

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Figure 7-2b

Near Term Year 2025 Baseline With Phase One Project Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

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33 / Black Mountain Rd @ Miramar Rd

← 317 / 186	→ 173 / 541	↑ 185 / 168
		← 2722 / 1702
		↓ 1 / 16
105 / 215 ↑	**33**	
1319 / 2753 →		

34 / Kearny Villa Rd @ Miramar Rd

← 133 / 46	→ 195 / 278	↑ 117 / 163
		← 2523 / 1153
43 / 55 ↑	**34**	
1007 / 2206 →		

35 / Kearny Mesa Rd @ Miramar Rd

← 41 / 42	↓ 1 / 10	→ 42 / 89
		↑ 16 / 22
		← 1691 / 1478
		↓ 22 / 44
34 / 34 ↑	**35**	← 167 / 34
1018 / 2538 →		↑ 9 / 9
38 / 101 ↓		→ 61 / 136

36 / I-15 SB On/Off Ramps @ Miramar Rd

← 1157 / 574	→ 145 / 27	↑ 911 / 873
		← 589 / 903
	36	
547 / 1459 →		
574 / 1289 ↓		

37 / I-15 NB On/Off Ramps @ Pomerado Rd

		↑ 119 / 156
		← 1259 / 1138
	37	
210 / 422 →	← 443 / 629	→ 641 / 694
438 / 1063 ↓		

38 / Camino Santa Fe @ Flanders Rd

← 165 / 46	↓ 812 / 511	→ 66 / 298
		↑ 177 / 66
		← 469 / 32
		↓ 404 / 93
17 / 112 ↑	**38**	← 166 / 115
26 / 640 →		↑ 312 / 923
76 / 307 ↓		→ 72 / 669

39 / Camino Santa Fe @ Miratech Dr

← 175 / 19	↓ 1166 / 600	→ 48 / 192
		↑ 176 / 86
		↓ 154 / 75
9 / 141 ↑	**39**	← 47 / 5
3 / 34 ↓		↑ 372 / 1403
		→ 41 / 167

40 / Camino Santa Fe @ Summers Ridge Rd

← 6 / 1	↓ 1315 / 677	→ 27 / 111
		↑ 102 / 50
		↓ 271 / 132
1 / 7 ↑	**40**	← 102 / 6
13 / 91 ↓		↑ 356 / 1565
		→ 71 / 294

41 / Camino Santa Fe @ Carroll Canyon Rd

↓ 1594 / 904	→ 6 / 1	↑ 5 / 1
		↓ 34 / 9
	41	
	← 2 / 0	→ 24 / 1
	↑ 523 / 1853	

42 / Camino Santa Fe @ Trade St

← 12 / 4	↓ 1385 / 916	→ 135 / 97
		↑ 62 / 182
		← 14 / 2
		↓ 174 / 201
1 / 15 ↑	**42**	← 20 / 7
2 / 5 →		↑ 497 / 1749
3 / 20 ↓		→ 179 / 116

43 / Camino Ruiz @ Mira Mesa Mall Entrance

← 27 / 63	↓ 593 / 603	
	43	
36 / 145 ↑		← 53 / 136
17 / 87 ↓		↑ 471 / 702

44 / Camino Ruiz @ Reagan Rd

← 14 / 41	↓ 535 / 593	→ 47 / 111
		↑ 78 / 79
		← 203 / 142
		↓ 132 / 50
17 / 25 ↑	**44**	← 118 / 188
151 / 227 →		↑ 400 / 731
180 / 220 ↓		→ 66 / 107

45 / Camino Ruiz @ Flanders Dr

← 41 / 30	↓ 804 / 781	→ 23 / 59
		↑ 54 / 27
		← 210 / 48
		↓ 87 / 24
33 / 91 ↑	**45**	← 62 / 55
48 / 307 →		↑ 509 / 904
101 / 126 ↓		→ 54 / 50

46 / Camino Ruiz @ Gold Coast Dr

← 133 / 98	↓ 772 / 610	→ 75 / 193
		↑ 126 / 66
		← 197 / 126
		↓ 143 / 28
234 / 75 ↑	**46**	← 37 / 84
160 / 347 →		↑ 255 / 905
110 / 188 ↓		→ 28 / 78

47 / Camino Ruiz @ Jade Coast Dr

← 0 / 6	↓ 1104 / 761	→ 29 / 72
		↑ 51 / 37
		← 1 / 1
		↓ 281 / 41
3 / 0 ↑	**47**	← 1 / 3
1 / 0 →		↑ 247 / 1147
14 / 4 ↓		→ 60 / 257

48 / Camino Ruiz @ Carroll Canyon Rd

← 31 / 5	↓ 1357 / 799	
	48	
4 / 35 ↑		← 82 / 24
39 / 62 ↓		↑ 301 / 1374

49 / Camino Ruiz @ Miralani Rd

← 287 / 74	↓ 1112 / 791	→ 0 / 5
		↑ 3 / 5
		← 2 / 2
		↓ 2 / 9
33 / 369 ↑	**49**	← 593 / 85
0 / 4 →		↑ 346 / 1031
74 / 785 ↓		→ 6 / 11

50 / Camino Ruiz @ Activity Rd

← 0 / 10	↓ 941 / 599	→ 251 / 975
		↑ 644 / 250
		← 1 / 0
		↓ 230 / 57
0 / 13 →	**50**	← 7 / 11
0 / 1 ↓		↑ 299 / 864
		→ 66 / 203

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Figure 7-2c

Near Term Year 2025 Baseline With Phase One Project Peak Hour Intersection Volumes

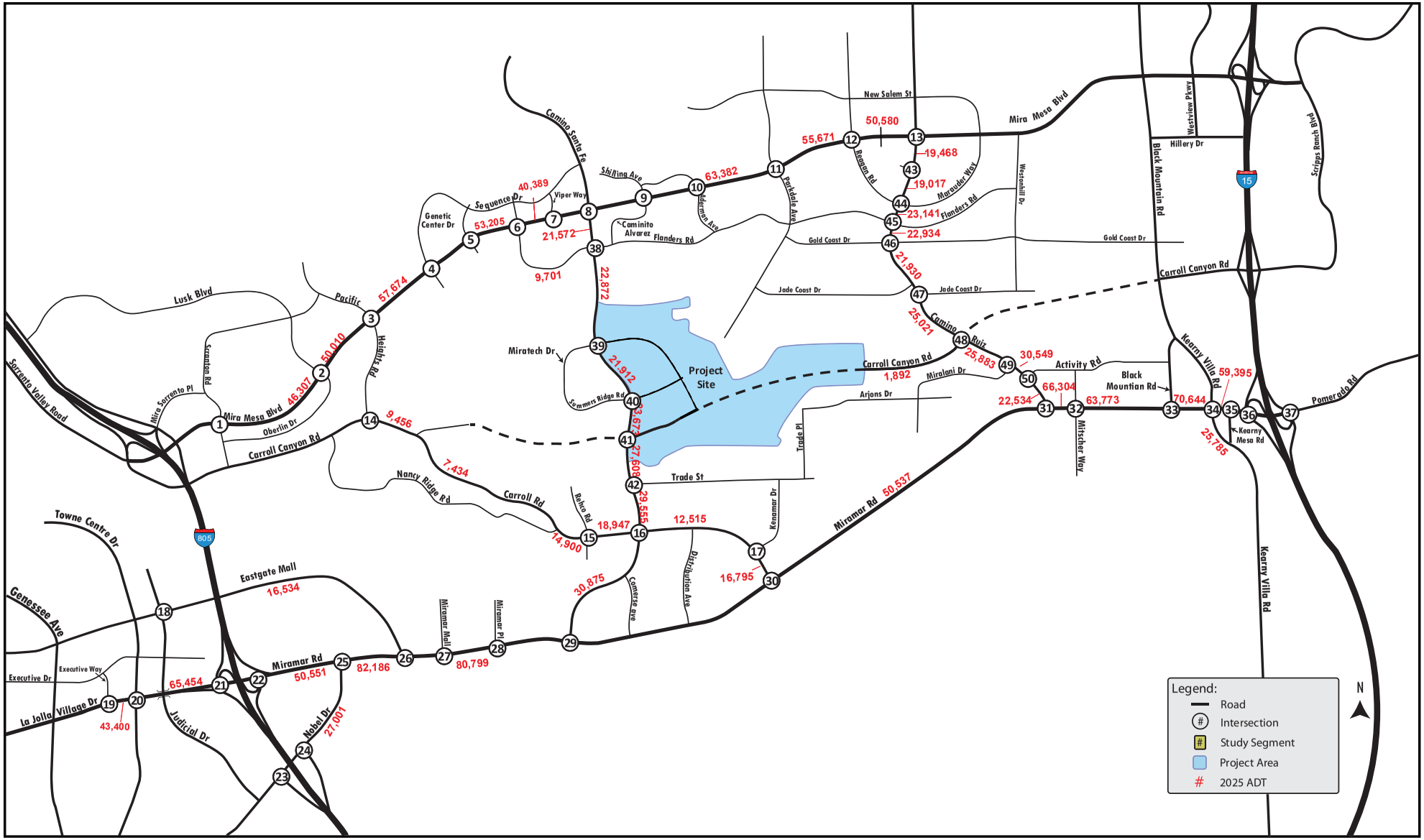

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Figure 7-3

Near Term Year 2025 Baseline With Phase One Project ADT Volumes

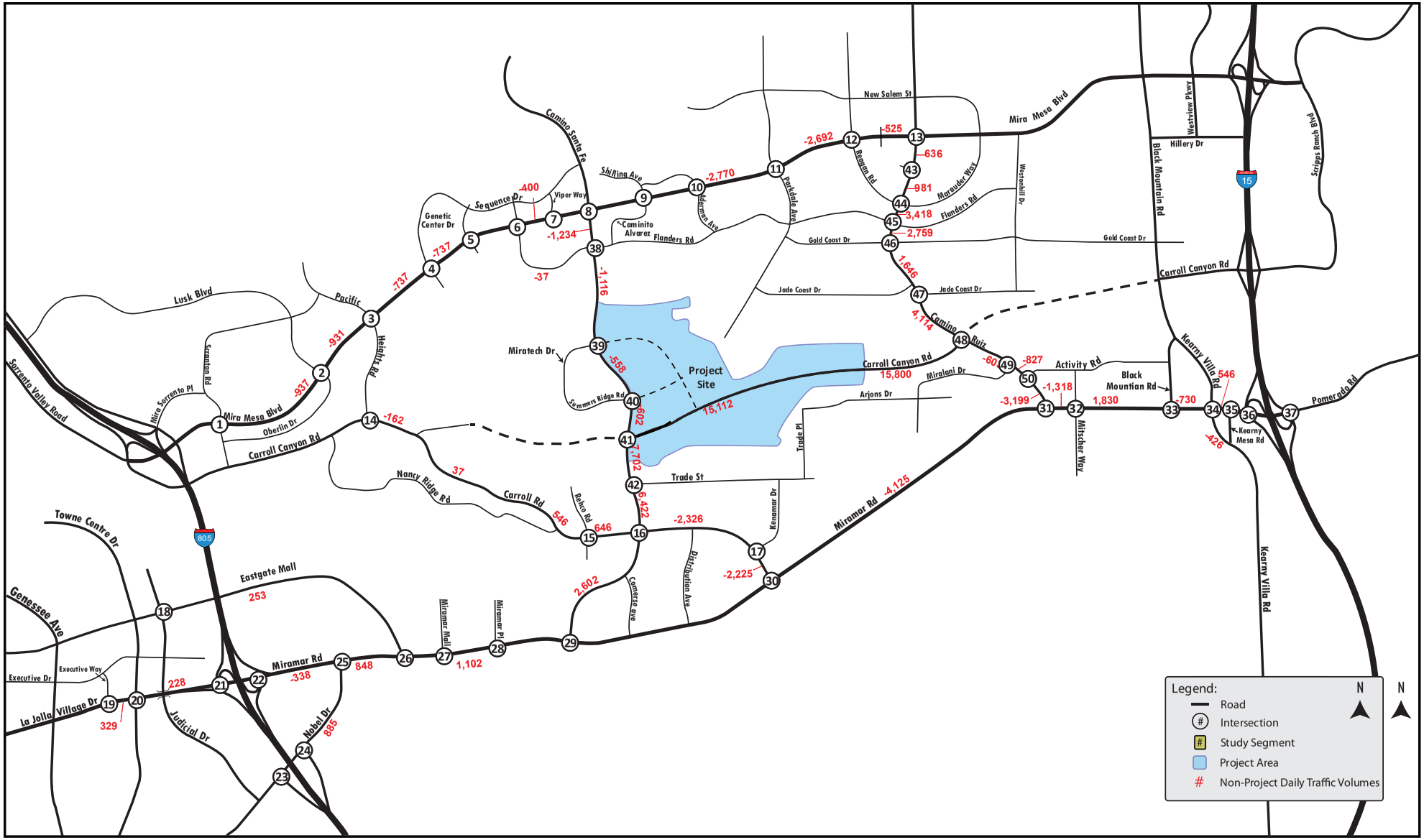

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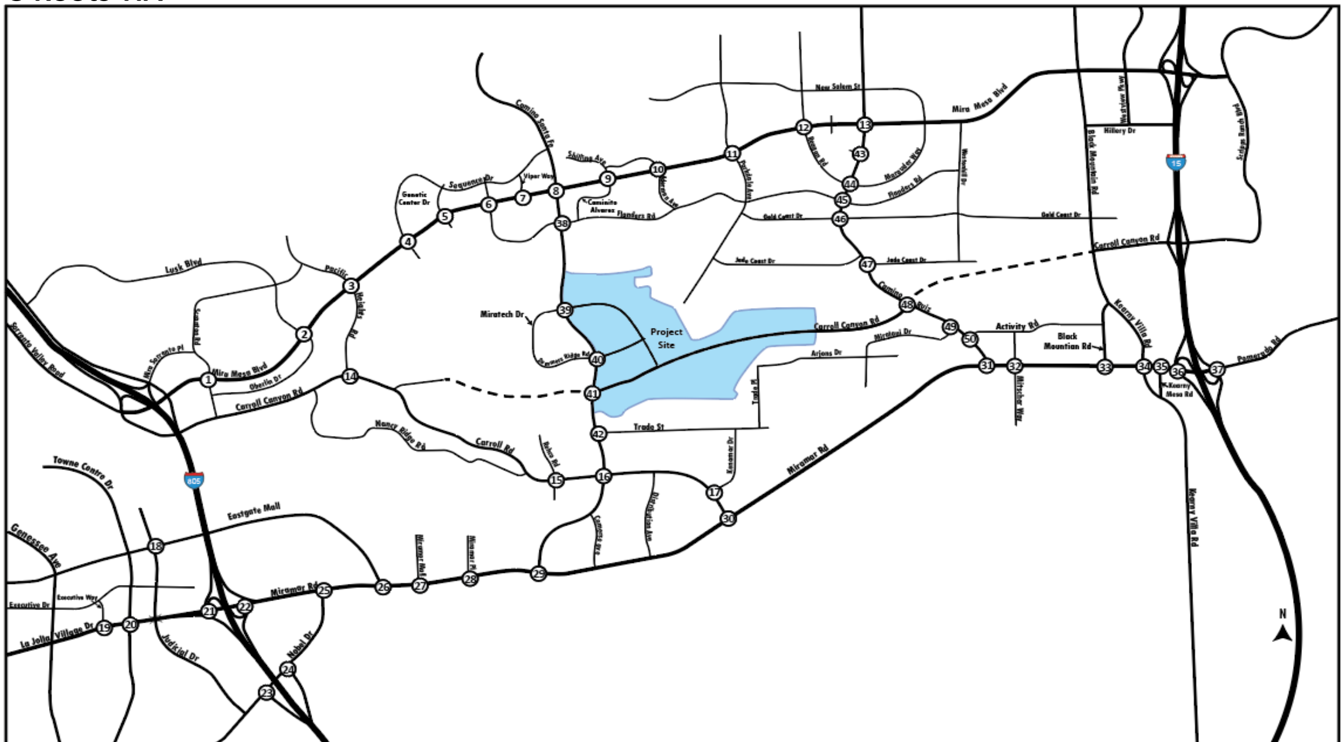
Figure 7-4
Near Term Year 2025 Diverted Non-Project Daily Traffic Volumes With Carroll Canyon Road Extension



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

1 / Scranton Rd @ Mira Mesa Blvd

124 / 394 ← | 59 / 169 ↓ | 60 / 110 →
↑ 101 / 93
← 1035 / 1466
↓ 33 / 84
905 / 192 ↑
2423 / 984 →
673 / 152 ↓
← 66 / 366 | ↑ 69 / 95 | → 13 / 18

2 / Lusk Blvd @ Mira Mesa Blvd

53 / 245 ← | 19 / 109 ↓ | 60 / 495 →
↑ 505 / 96
← 1100 / 1416
↓ 165 / 36
253 / 94 ↑
2186 / 1011 →
42 / 9 ↓
← 7 / 20 | ↑ 23 / 26 | → 28 / 209

3 / Pacific Heights Rd @ Mira Mesa Blvd

106 / 420 ← | 33 / 247 ↓ | 111 / 1079 →
↑ 1234 / 130
← 1629 / 978
↓ 324 / 110
575 / 75 ↑
1240 / 1545 →
342 / 81 ↓
← 30 / 141 | ↑ 73 / 37 | → 94 / 337

4 / Sequence Dr @ Mira Mesa Blvd

243 / 277 ← | 14 / 7 ↓ | 10 / 82 →
↑ 69 / 9
← 2672 / 676
↓ 104 / 29
319 / 222 ↑
864 / 2735 →
292 / 93 ↓
← 87 / 172 | ↑ 6 / 19 | → 22 / 86

5 / Genetic Center Dr @ Mira Mesa Blvd

36 / 69 ← | 8 / 3 ↓ | 43 / 89 →
↑ 164 / 28
← 2846 / 710
↓ 149 / 34
97 / 50 ↑
758 / 2713 →
44 / 11 ↓
← 7 / 26 | ↑ 4 / 13 | → 32 / 307

6 / Flanders Dr @ Mira Mesa Blvd

37 / 47 ← | 24 / 99 ↓ | 21 / 131 →
↑ 153 / 25
← 2909 / 509
↓ 43 / 48
63 / 61 ↑
481 / 2442 →
315 / 545 ↓
← 359 / 178 | ↑ 52 / 47 | → 35 / 118

7 / Viper Way @ Mira Mesa Blvd

15 / 18 ← | 10 / 11 ↓ | 4 / 18 →
↑ 76 / 36
← 2778 / 475
↓ 46 / 58
32 / 28 ↑
337 / 2542 →
81 / 138 ↓
← 154 / 88 | ↑ 23 / 24 | → 53 / 173

8 / Camino Santa Fe @ Mira Mesa Blvd

62 / 43 ← | 316 / 269 ↓ | 115 / 435 →
↑ 335 / 177
← 2722 / 411
↓ 741 / 196
24 / 60 ↑
314 / 2360 →
120 / 214 ↓
← 193 / 177 | ↑ 179 / 327 | → 99 / 533

9 / Shilling Ave @ Mira Mesa Blvd

124 / 27 ← | 5 / 3 ↓ | 66 / 60 →
↑ 23 / 79
← 3604 / 783
↓ 31 / 59
27 / 137 ↑
490 / 3134 →
11 / 31 ↓
← 31 / 12 | ↑ 5 / 19 | → 42 / 38

10 / Aderman Ave @ Mira Mesa Blvd

39 / 12 ← | 13 / 4 ↓ | 1 / 44 →
↑ 32 / 44
← 3612 / 895
↓ 19 / 48
7 / 35 ↑
539 / 3194 →
9 / 21 ↓
← 17 / 4 | ↑ 9 / 20 | → 40 / 63

11 / Parkdale Ave @ Mira Mesa Blvd

219 / 86 ← | 95 / 47 ↓ | 72 / 27 →
↑ 34 / 81
← 3370 / 898
↓ 53 / 96
54 / 111 ↑
649 / 2982 →
31 / 203 ↓
← 83 / 35 | ↑ 26 / 72 | → 67 / 97

12 / Reagan Rd @ Mira Mesa Blvd

202 / 70 ← | 110 / 112 ↓ | 48 / 44 →
↑ 14 / 73
← 3080 / 956
↓ 22 / 71
45 / 139 ↑
597 / 2515 →
61 / 260 ↓
← 154 / 148 | ↑ 45 / 136 | → 16 / 34

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Figure 7-5a
Near Term Year 2025 With Project Buildout Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

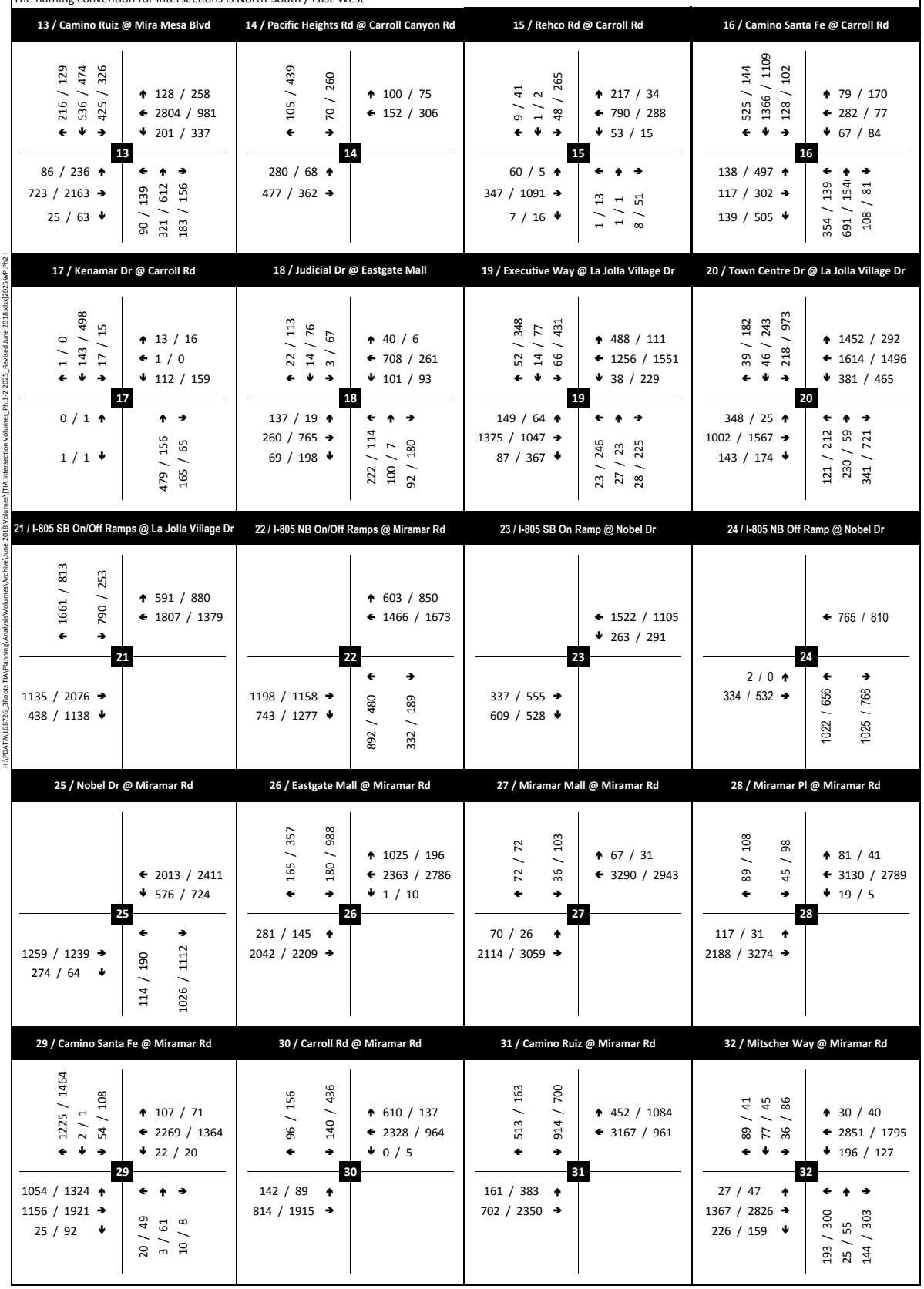

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Figure 7-5b

Near Term Year 2025 With Phase 2 Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

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33 / Black Mountain Rd @ Miramar Rd

← 320 / 191	→ 172 / 537	↑ 183 / 166
		← 2790 / 1848
		↓ 1 / 16
107 / 214 ↑	**33**	
1418 / 2785 →		

34 / Kearny Villa Rd @ Miramar Rd

← 135 / 51	→ 192 / 273	↑ 118 / 164
		← 2614 / 1279
46 / 60 ↑	**34**	
1090 / 2260 →		

35 / Kearny Mesa Rd @ Miramar Rd

← 41 / 42	↓ 1 / 10	→ 42 / 89
		↑ 16 / 22
		← 1774 / 1606
		↓ 22 / 44
35 / 35 ↑	**35**	← 167 / 34 ↑ 9 / 9 → 60 / 135
1121 / 2637 →		
38 / 102 ↓		

36 / I-15 SB On/Off Ramps @ Miramar Rd

← 1148 / 592	→ 142 / 27	↑ 912 / 875
		← 645 / 991
598 / 1507 →	**36**	
625 / 1341 ↓		

37 / I-15 NB On/Off Ramps @ Pomerado Rd

		↑ 118 / 154
		← 1258 / 1142
219 / 432 →	**37**	← 484 / 699 → 637 / 689
475 / 1090 ↓		

38 / Camino Santa Fe @ Flanders Rd

← 155 / 43	↓ 938 / 471	→ 61 / 279
		↑ 155 / 57
		← 411 / 28
		↓ 360 / 75
15 / 100 ↑	**38**	← 194 / 132 ↑ 330 / 881 → 56 / 629
23 / 572 →		
94 / 313 ↓		

39 / Camino Santa Fe @ Miratech Dr

← 164 / 18	↓ 1334 / 887	→ 25 / 98
		↑ 89 / 41
		← 3 / 0
		↓ 67 / 31
9 / 131 ↑	**39**	← 46 / 5 ↑ 567 / 1578 → 17 / 73
0 / 3 →		
3 / 31 ↓		

40 / Camino Santa Fe @ Summers Ridge Rd

← 6 / 1	↓ 1297 / 823	→ 118 / 208
		↑ 90 / 65
		← 5 / 1
		↓ 198 / 132
1 / 7 ↑	**40**	← 99 / 6 ↑ 559 / 1635 → 29 / 123
1 / 5 →		
15 / 109 ↓		

41 / Camino Santa Fe @ Carroll Canyon Rd

↓ 1253 / 838	→ 301 / 268	↑ 325 / 380
		↓ 811 / 504
	41	← 3 / 0 ↑ 544 / 1669 → 334 / 734

42 / Camino Santa Fe @ Trade St

← 11 / 4	↓ 1808 / 1146	→ 162 / 119
		↑ 82 / 209
		← 15 / 2
		↓ 175 / 200
1 / 15 ↑	**42**	← 21 / 8 ↑ 746 / 2110 → 179 / 113
2 / 5 →		
3 / 20 ↓		

43 / Camino Ruiz @ Mira Mesa Mall Entrance

← 29 / 64	↓ 630 / 667	
42 / 167 ↑	**43**	← 64 / 148 ↑ 531 / 756
22 / 110 ↓		

44 / Camino Ruiz @ Reagan Rd

← 15 / 42	↓ 609 / 697	→ 48 / 113
		↑ 82 / 83
		← 208 / 144
		↓ 149 / 82
17 / 25 ↑	**44**	← 125 / 196 ↑ 495 / 857 → 121 / 165
155 / 226 →		
184 / 230 ↓		

45 / Camino Ruiz @ Flanders Dr

← 37 / 29	↓ 990 / 1005	→ 26 / 67
		↑ 55 / 27
		← 185 / 38
		↓ 118 / 40
27 / 74 ↑	**45**	← 59 / 52 ↑ 656 / 1078 → 65 / 61
39 / 250 →		
82 / 103 ↓		

46 / Camino Ruiz @ Gold Coast Dr

← 129 / 94	↓ 946 / 809	→ 84 / 216
		↑ 127 / 66
		← 184 / 101
		↓ 153 / 51
216 / 66 ↑	**46**	← 51 / 99 ↑ 377 / 1035 → 51 / 95
127 / 299 →		
104 / 180 ↓		

47 / Camino Ruiz @ Jade Coast Dr

← 0 / 7	↓ 1325 / 979	→ 31 / 77
		↑ 66 / 48
		← 1 / 1
		↓ 313 / 53
3 / 0 ↑	**47**	← 1 / 4 ↑ 418 / 1436 → 82 / 321
1 / 0 →		
24 / 16 ↓		

48 / Camino Ruiz @ Carroll Canyon Rd

← 556 / 351	↓ 1155 / 706	
277 / 512 ↑	**48**	← 463 / 619 ↑ 219 / 1267
628 / 540 ↓		

49 / Camino Ruiz @ Miralani Rd

← 292 / 81	↓ 1496 / 1158	→ 0 / 5
		↑ 3 / 5
		← 2 / 2
		↓ 2 / 9
37 / 354 ↑	**49**	← 596 / 86 ↑ 645 / 1522 → 6 / 11
0 / 4 →		
68 / 720 ↓		

50 / Camino Ruiz @ Activity Rd

← 0 / 10	↓ 1244 / 841	→ 314 / 1026
		↑ 692 / 334
		← 1 / 0
		↓ 220 / 48
0 / 13 →	**50**	← 7 / 10 ↑ 553 / 1283 → 53 / 181
0 / 1 ↓		

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Figure 7-5c

Near Term Year 2025 With Phase 2 Peak Hour Intersection Volumes

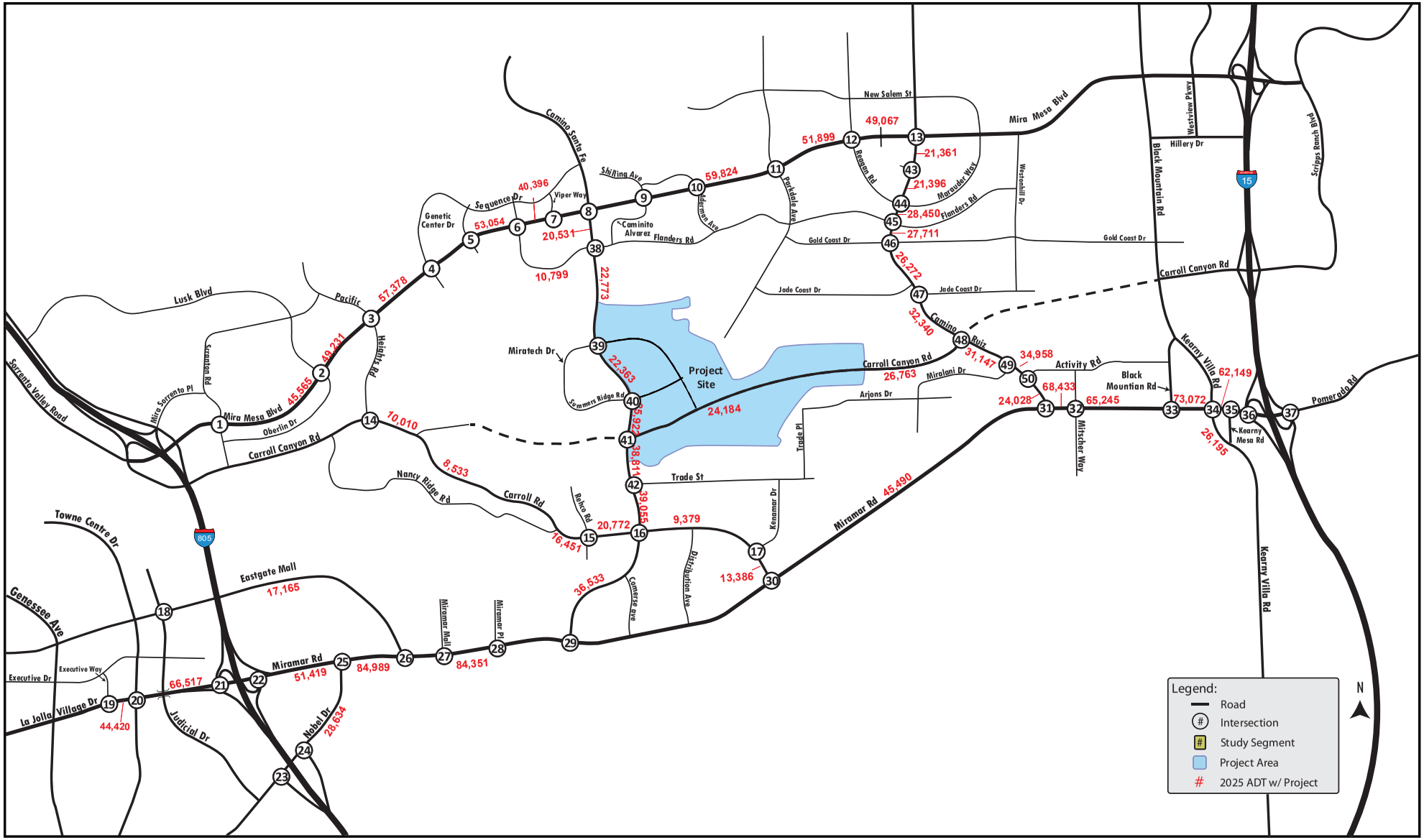

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Figure 7-6
Near Term Year 2025 With Project Buildout ADT Volumes

7.3 INTERSECTION ANALYSIS

Table 7-1 displays the LOS analysis results for the study intersections under Near Term Year 2025 Baseline With Phase 1 Project and Near Term Year 2025 With Project Buildout conditions. **Appendix E** contains the intersection LOS worksheets.

As shown in the table, the following fourteen (14) intersections are forecast to operate at deficient LOS during the peak hours under Near Term Year 2025 Baseline With Phase 1 Project:

3. Pacific Heights Boulevard and Mira Mesa Boulevard (PM: LOS F)
8. Camino Santa Fe and Mira Mesa Boulevard (AM: LOS E; PM: LOS F)
13. Camino Ruiz and Mira Mesa Boulevard (AM: LOS F)
16. Camino Santa Fe and Carroll Road (AM/PM: LOS F)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
21. La Jolla Village Dr & I-805 SB On/Off Ramps (AM: LOS E)
29. Camino Santa Fe and Miramar Road (AM/PM: LOS F)
31. Camino Ruiz and Miramar Road (AM: LOS E)
32. Mitscher Way and Miramar Road (PM: LOS E)
34. Kearny Villa Road and Miramar Road (AM: LOS F PM: LOS E)
38. Flanders Drive and Camino Santa Fe (PM: LOS F)
42. Trade Street and Camino Santa Fe (PM: LOS E)
49. Miralani Drive and Camino Ruiz (AM: LOS F)
50. Activity Road and Camino Ruiz (PM: LOS F)

As shown in Table 7-1, the addition of traffic generated by the buildout of the proposed project would result in increases in delay exceeding the City's significance thresholds for intersection operations (2.0 seconds for LOS E and 1.0 second for LOS F) at the following eleven (11) study intersections:

16. Camino Santa Fe and Carroll Road (AM/PM: LOS F)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
26. Eastgate Mall and Miramar Drive (PM: LOS E)
29. Camino Santa Fe and Miramar Road (AM/PM: LOS F)
31. Camino Ruiz and Miramar Road (AM: LOS F)
32. Mitscher Way and Miramar Road (PM: LOS E)
34. Kearny Villa Road and Miramar Road (AM: LOS F PM: LOS E)
42. Trade Street and Camino Santa Fe (PM: LOS F)
48. Carroll Canyon Road and Camino Ruiz (AM: LOS F)
49. Miralani Drive and Camino Ruiz (AM/PM: LOS F)
50. Activity Road and Camino Ruiz (PM: LOS F)

Therefore, the addition of project-related traffic would result in significant impacts at the eleven (11) above-listed intersections and mitigation measures are required.

TABLE 7-1: NEAR TERM YEAR 2025 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2025 Baseline With Phase 1 Project		Near Term Year 2025 With Project Buildout		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]		
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	29.0	C	29.1	C	0.1	
			PM	46.9	D	46.9	D	0.0	
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	29.5	C	29.5	C	0.0	
			PM	49.7	D	50.8	D	1.1	
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	41.1	D	41.6	D	0.5	
			PM	89.9	F	89.4	F	-0.5	No
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	42.9	D	42.0	D	-0.7	
			PM	47.0	D	47.3	D	0.3	
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	16.1	B	16.1	B	0.0	
			PM	43.2	D	43.2	D	0.0	
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	34.0	C	32.8	C	0.9	
			PM	40.1	D	39.9	D	-0.2	
7	Viper Way & Mira Mesa Blvd	Signal	AM	14.6	B	12.6	B	0.3	
			PM	17.0	B	17.2	B	0.2	
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	64.2	E	64.2	E	0.1	
			PM	111.8	F	93.5	F	-18.3	No
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	16.7	B	29.3	C	13.1	
			PM	11.5	B	11.5	B	0.0	
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	9.8	B	11.2	A	0.6	
			PM	12.3	B	12.4	B	0.1	
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	38.6	D	40.9	C	2.2	
			PM	32.3	C	23.9	C	-8.4	
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	47.1	D	54.2	D	7.1	
			PM	34.5	C	26.4	C	-8.1	
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	84.5	F	84.6	F	0.2	No
			PM	49.7	D	53.7	D	4.0	
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	8.9	A	9.9	A	1.0	
			PM	12.5	B	12.6	B	0.1	
15	Rehco Rd & Carroll Rd	Signal	AM	6.3	A	7.6	A	1.3	
			PM	29.8	C	39.7	D	9.9	
16	Camino Santa Fe & Carroll Rd	Signal	AM	92.9	F	149.2	F	56.3	YES
			PM	84.5	F	137.4	F	52.9	YES
17	Kenamar Dr & Carroll Rd	Signal	AM	15.3	B	15.7	B	0.4	
			PM	15.7	B	16.2	B	0.5	
18	Eastgate Mall & Judicial Dr	Signal	AM	40.1	D	41.3	D	1.2	
			PM	25.1	C	25.9	C	0.8	
19	Executive Way & La Jolla Village Dr	Signal	AM	17.8	B	18.2	B	0.4	
			PM	43.3	D	43.1	D	-0.2	
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	34.8	D	35.0	C	0.2	
			PM	94.8	F	98.8	F	4.0	YES

TABLE 7-1: NEAR TERM YEAR 2025 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2025 Baseline With Phase 1 Project		Near Term Year 2025 With Project Buildout		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]		
21	La Jolla Village Dr-Miramar Rd & I-805 SB On/Off Ramps	Signal	AM	58.6	E	58.6	E	0.0	
			PM	19.6	B	19.6	B	0.0	
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	16.5	B	16.8	B	0.3	
			PM	11.1	B	11.1	B	0.0	
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	5.1	A	5.2	A	0.1	
			PM	5.0	A	5.5	A	0.5	
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	20.6	C	20.7	C	0.1	
			PM	21.0	C	21.2	C	0.2	
25	Nobel Dr & Miramar Rd	Signal	AM	29.4	C	30.7	C	1.3	
			PM	29.7	C	30.5	C	0.8	
26	Eastgate Mall & Miramar Rd	Signal	AM	25.8	C	26.8	C	1.0	
			PM	51.1	D	61.3	E	10.2	YES
27	Miramar Mall & Miramar Rd	Signal	AM	10.3	B	10.7	B	0.4	
			PM	7.7	A	8.2	A	0.5	
28	Miramar Pl & Miramar Rd	Signal	AM	22.8	C	24.4	C	1.6	
			PM	8.7	A	9.4	A	0.7	
29	Camino Santa Fe & Miramar Rd	Signal	AM	121.7	F	143.6	F	21.9	YES
			PM	90.4	F	94.8	F	4.4	YES
30	Carroll Rd & Miramar Rd	Signal	AM	24.1	C	24.3	B	0.2	
			PM	21.5	C	21.7	C	0.2	
31	Camino Ruiz & Miramar Rd	Signal	AM	76.8	E	93.9	F	17.1	YES
			PM	26.0	C	41.4	D	15.4	
32	Mitscher Way & Miramar Rd	Signal	AM	26.9	C	28.4	C	1.5	
			PM	56.9	E	61.8	E	4.9	YES
33	Black Mountain Rd & Miramar Rd	Signal	AM	14.5	B	14.7	B	0.2	
			PM	19.0	B	19.1	B	0.1	
34	Kearny Villa Rd & Miramar Rd	Signal	AM	80.6	F	88.2	F	7.6	YES
			PM	56.4	E	59.7	E	3.3	YES
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	20.5	C	20.5	B	0.0	
			PM	17.1	B	18.0	B	0.9	
36	I-15 SB On/Off Ramp & Miramar Rd	Signal	AM	19.1	B	19.7	B	0.6	
			PM	12.7	B	13.1	B	0.4	
37	Pomerado Rd-Miramar Way & I-15 NB On/Off Ramp	Signal	AM	23.8	C	23.8	C	0.0	
			PM	23.6	C	23.7	C	0.1	
38	Flanders Dr & Camino Santa Fe	Signal	AM	43.5	D	47.4	D	3.9	
			PM	98.8	F	78.3	E	-20.5	No
39	Miratech Dr & Camino Santa Fe	Signal	AM	4.9	A	13.0	B	8.1	
			PM	6.5	A	21.3	C	14.8	
40	Summers Ridge Rd & Camino Santa Fe	Signal	AM	6.9	A	20.3	C	13.4	
			PM	5.3	A	34.4	C	29.1	

TABLE 7-1: NEAR TERM YEAR 2025 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2025 Baseline With Phase 1 Project		Near Term Year 2025 With Project Buildout		Δ in Delay	Significant Impact? [c]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]		
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	7.0	A	21.6	C	14.6	
			PM	6.8	A	27.6	B	20.8	
42	Trade St & Camino Santa Fe	Signal	AM	23.5	C	53.2	D	29.7	
			PM	56.2	E	116.2	F	60.0	YES
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	6.7	A	7.3	A	0.6	
			PM	14.1	B	15.2	B	1.1	
44	Reagan Rd & Camino Ruiz	Signal	AM	25.3	C	25.9	C	0.6	
			PM	25.4	C	25.4	C	0.0	
45	Flanders Dr & Camino Ruiz	Signal	AM	21.9	C	22.0	C	0.1	
			PM	21.3	C	21.3	B	0.0	
46	Gold Coast Dr & Camino Ruiz	Signal	AM	34.4	C	36.2	D	1.8	
			PM	42.5	D	58.1	D	15.6	
47	Jade Coast Dr & Camino Ruiz	Signal	AM	17.9	B	23.3	C	5.4	
			PM	10.9	B	13.7	B	2.8	
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.7	A	119.8	F	113.1	YES
			PM	5.2	A	50.0	D	44.8	
49	Miralani Dr & Camino Ruiz	Signal	AM	120.0	F	208.9	F	88.9	YES
			PM	47.5	D	94.1	F	46.6	YES
50	Activity Rd & Camino Ruiz	Signal	AM	19.5	B	22.6	C	3.1	
			PM	82.1	F	175.4	F	93.3	YES

Notes:

(a) Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual (HCM)* and performed using Synchro 9.

(c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F or if the addition of project trips results in a change in operating conditions from acceptable (LOS D or better) to deficient (LOS E or F)

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7.4 ROADWAY SEGMENT ANALYSIS

Table 7-2 summarizes the roadway segment capacity analysis results under Near Term Year 2025 Baseline With Phase 1 Project and Near Term Year 2025 With Project Buildout conditions. As shown in the table, the study roadway segments are forecast to operate at an acceptable LOS D or better except for the following segments under Near Term Year 2025 Baseline With Phase 1 Project conditions:

C. Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive (LOS E)
F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue (LOS F)
G. Mira Mesa Boulevard from Parkdale Avenue to Reagan Road (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS F)
P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)

The addition of traffic associated with Phase 2 of the project to Near Term Year 2025 Baseline (includes project phase 1) traffic volumes would result in increases in the v/c ratios that exceed the City's significance threshold (0.02 for LOS E and 0.01 for LOS F) for the following roadway segments, where significant impacts were identified and mitigation measures are required:

P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS F)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)
AJ. Camino Santa Fe from Carroll Canyon Road to Trade Street (LOS E)
AK. Camino Santa Fe from Trade Street to Carroll Road (LOS E)
AL. Camino Santa Fe from Carroll Road to Miramar Road (LOS E)

TABLE 7-2: NEAR TERM YEAR 2025 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Near Term Year 2025 Baseline With Phase 1 Project			Near Term Year 2025 With Project Buildout			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio [(a)]	LOS	ADT	v/c Ratio [(a)]	LOS		
Mira Mesa Blvd											
A	Scranton Rd to Lusk Blvd-Oberlin Dr	Primary Arterial/6	60,000	46,307	0.772	C	45,565	0.759	C	-0.013	
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	Primary Arterial/6	60,000	50,010	0.833	D	49,231	0.821	C	-0.012	
C	Pacific Heights Blvd to Sequence Dr	Primary Arterial/6	60,000	57,674	0.961	E	57,378	0.956	E	-0.005	No
D	Sequence Dr to Flanders Dr	Primary Arterial/6	60,000	53,205	0.887	D	53,054	0.884	D	-0.003	
E	Flanders to Camino Santa Fe	Primary Arterial/6	60,000	40,389	0.673	C	40,396	0.673	C	0.000	
F	Camino Santa Fe to Parkdale Ave	Major/6	50,000	63,382	1.268	F	59,824	1.196	F	-0.071	No
G	Parkdale Ave to Reagan Rd	Major/6	50,000	55,671	1.113	F	51,899	1.038	F	-0.075	No
H	Reagan Rd to Camino Ruiz	Major/6	50,000	50,580	1.012	F	49,067	0.981	E	-0.030	No
Flanders Dr											
I	Mira Mesa Blvd to Camino Santa Fe	Collector/4 (no center lane)	15,000	9,701	0.647	C	10,799	0.720	D	0.073	
Carroll Canyon Rd											
J	Pacific Heights Blvd to Fenton Rd	Collector/2 (with TWLTL)	15,000	9,456	0.630	C	10,010	0.667	C	0.037	
K	Fenton Rd to Camino Santa Fe	Does not Exist									
L	Camino Santa Fe to East Project Boundary (Future)	Primary Arterial/6	60,000	Does not Exist			24,184	0.403	A	0.403	
M	East Project Boundary to Camino Ruiz	Primary Arterial/6	60,000	1,892	0.032	A	26,763	0.446	B	0.414	
N	Camino Ruiz to Black Mountain Rd	Does not Exist									
Carroll Rd											
O	Fenton Rd to Nancy Ridge Dr	Collector/2 (with TWLTL)	15,000	7,434	0.496	C	8,533	0.569	C	0.073	
P	Nancy Ridge Dr to Rehco Rd	Collector/2 (with TWLTL)	15,000	14,900	0.993	E	16,451	1.097	F	0.104	Yes
Q	Rehco Rd to Camino Santa Fe	Collector/2 (with TWLTL)	15,000	18,947	1.263	F	20,772	1.385	F	0.122	Yes
R	Camino Santa Fe to Kenamar Dr	Collector/2 (with TWLTL)	15,000	12,515	0.834	D	9,379	0.625	C	-0.209	
S	Kenamar Dr to Miramar Rd	Collector/3	22,500	16,795	0.746	D	13,386	0.595	C	-0.152	

TABLE 7-2: NEAR TERM YEAR 2025 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Near Term Year 2025 Baseline With Phase 1 Project			Near Term Year 2025 With Project Buildout			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio [a]	LOS	ADT	v/c Ratio [a]	LOS		
Eastgate Mall											
T	Judicial Dr to Miramar Rd	Collector/2 (with TWLTL)	15,000	16,534	1.102	F	17,165	1.144	F	0.042	Yes
La Jolla Village Dr											
U	Executive Way to Towne Center Dr	Primary Arterial/6	60,000	43,400	0.723	C	44,420	0.740	C	0.017	
V	Towne Center Dr to I-805 SB Ramps	Primary Arterial/8	80,000	65,454	0.818	C	66,517	0.831	D	0.013	
Nobel Dr											
W	I-805 NB Off Ramp to Miramar Rd	Major /4	40,000	27,001	0.675	C	28,634	0.716	C	0.041	
Miramar Rd											
X	I-805 Ramps to Nobel Drive	Primary Arterial/8	80,000	50,551	0.632	C	51,419	0.643	C	0.011	
Y	Nobel Dr to Eastgate Mall	Primary Arterial/7	70,000	82,186	1.174	F	84,989	1.214	F	0.040	Yes
Z	Eastgate Mall to Camino Santa Fe	Major/6 (with TWLTL)	45,000	80,799	1.796	F	84,351	1.874	F	0.079	Yes
AA	Carroll Rd to Camino Ruiz	Major/6 (with TWLTL)	45,000	50,537	1.123	F	45,490	1.011	F	-0.112	No
AB	Camino Ruiz to Mitscher Way	Major/6	50,000	66,304	1.326	F	68,433	1.369	F	0.043	Yes
AC	Mitscher Way to Black Mountain Rd	Major/6 (with TWLTL)	45,000	63,773	1.417	F	65,245	1.450	F	0.033	Yes
AD	Black Mountain Rd to Kearny Villa Rd	Major/6 (with TWLTL)	45,000	70,644	1.570	F	73,072	1.624	F	0.054	Yes
AE	Kearny Villa Rd to Kearny Mesa Rd	Major/6 (with TWLTL)	45,000	59,395	1.320	F	62,149	1.381	F	0.061	Yes
Camino Santa Fe											
AF	Mira Mesa Blvd to Flanders Dr	Major/6	50,000	21,572	0.431	B	20,531	0.411	B	-0.021	
AF	Flanders Dr to Miratech Dr	Primary Arterial/6	60,000	22,872	0.381	A	22,773	0.380	A	-0.002	
AH	Miratech Dr to Summer Ridge Rd	Primary Arterial/6	60,000	21,912	0.365	A	22,363	0.373	A	0.008	
AI	Summer Ridge Rd to Carroll Canyon Rd	Primary Arterial/6	60,000	23,673	0.395	B	25,922	0.432	A	0.037	
AJ	Carroll Canyon Rd to Trade St	Major/4	40,000	27,608	0.690	C	38,811	0.970	E	0.280	Yes
AK	Trade St to Carroll Rd	Major/4	40,000	29,555	0.739	C	39,055	0.976	E	0.237	Yes
AL	Carroll Rd to Miramar Rd	Major/4	40,000	30,875	0.772	D	36,533	0.913	E	0.141	Yes

TABLE 7-2: NEAR TERM YEAR 2025 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Near Term Year 2025 Baseline With Phase 1 Project			Near Term Year 2025 With Project Buildout			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio [(a)]	LOS	ADT	v/c Ratio [(a)]	LOS		
Camino Ruiz											
AM	Mira Mesa Blvd to Mira Mesa Mall Entrance	Major/4	40,000	19,468	0.487	B	21,361	0.534	B	0.047	
AN	Mira Mesa Mall Entrance to Reagan Rd	Major/4	40,000	19,017	0.475	B	21,396	0.535	B	0.059	
AO	Reagan Rd to Flanders Dr	Major/4	40,000	23,141	0.579	C	28,450	0.711	C	0.133	
AP	Flanders Dr to Gold Coast Dr	Major/4	40,000	22,934	0.573	C	27,711	0.693	C	0.119	
AQ	Gold Coast Dr to Jade Coast Dr	Major/4	40,000	21,930	0.548	C	26,272	0.657	C	0.109	
AR	Jade Coast Dr to Carroll Canyon Rd	Major/4	40,000	25,021	0.626	C	32,340	0.808	D	0.183	
AS	Carroll Canyon Rd to Miralani Dr	Major/4	40,000	25,883	0.647	C	31,147	0.779	D	0.132	
AT	Miralani Dr to Activity Rd	Major/4	40,000	30,549	0.764	D	34,958	0.874	D	0.110	
AU	Activity Rd to Miramar Rd	Major/4	40,000	22,534	0.563	C	24,028	0.601	C	0.037	
Kearny Villa Rd											
AV	Miramar Rd to Kearny Mesa Rd	Major/4	40,000	25,785	0.645	C	26,195	0.655	C	0.010	

Notes:

(a) The v/c ratio is calculated by dividing the ADT volume by each respective roadway segments capacity.

7.5 FREEWAY ANALYSIS

The Near Term Year 2025 baseline freeway volumes were derived by calculating the forecast growth in traffic from 2021 to 2025 using the annual growth rates developed for the freeway segments previously described in the Near Term Year 2021 freeway analysis. Growth factors reflecting four years of traffic growth from 2021 to 2025 were applied to the Near Term Year 2021 freeway volumes. The resulting volumes were then used as the Near Term Year 2025 baseline freeway volumes.

The results of the Near Term Year 2025 freeway mainline analysis without and with the proposed project are presented in **Table 7-3.**

As shown in the table, all study freeway segments are forecast to operate at an acceptable LOS D or better during the peak hours under both Near Term Year 2025 Baseline With Phase 1 Project conditions and Near Term Year 2025 With Project Buildout conditions.

7.6 FREEWAY METERED ON-RAMP ANALYSIS

The results of the Near Term Year 2025 freeway metered on-ramp analysis are summarized in **Table 7-4**. As shown in the table, the SB I-805 On-Ramp from Nobel Drive is forecast to experience a ramp meter delay greater than 15 minutes under both Near Term Year 2025 With Phase 1 Project and Near Term Year 2025 With Project Buildout conditions.

The addition of project traffic would result in an increase in delay greater than 2 minutes at the SB I-805 On-Ramp from Nobel Drive during the PM peak hour. However, the forecast adjacent freeway LOS along southbound I-805 during the PM peak hour is LOS B under Near Term Year 2025 With Project Buildout conditions. The adjacent freeway LOS must be LOS E or F for a ramp meter impact to occur per the City's significance criteria for ramp meter impacts. Therefore, a significant ramp meter impact is not forecast to occur at the study on-ramps under Near Term Year 2025 With Project Buildout conditions.

TABLE 7-3: NEAR TERM YEAR 2025 FREEWAY MAINLINE ANALYSIS SUMMARY

Freeway and Segment	Number of Lanes		ADT	Capacity (vph)	Near Term Year 2025 Baseline With Phase 1 Project						Near Term Year 2025 With Project Buildout						Change in V/C		Significant Impact ?	
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour						
					Peak Hour Volume [a]	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	AM	PM	AM	PM
I-805																				
I-805 South of Nobel Dr	NB	4M+1H+1A	224,200	12,280	10,695	0.871	D	9,897	0.806	D	10,767	0.877	D	10,060	0.819	D	0.006	0.013		
	SB	4M+1H+1A		12,280	4,448	0.362	A	6,574	0.535	B	4,588	0.374	A	6,668	0.543	B	0.011	0.008		
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	4M + 1H	194,200	11,080	9,250	0.835	D	8,509	0.768	C	9,267	0.836	D	8,548	0.771	C	0.002	0.004		
	SB	4M + 1H		11,080	3,793	0.342	A	5,663	0.511	B	3,827	0.345	A	5,685	0.513	B	0.003	0.002		
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	4M+1H+1A	196,800	12,280	9,549	0.778	C	8,754	0.713	C	9,574	0.780	C	8,772	0.714	C	0.002	0.001		
	SB	4M+1H+1A		12,280	3,749	0.305	A	5,633	0.459	B	3,764	0.306	A	5,663	0.461	B	0.001	0.002		
Mira Mesa Blvd to I-805/I-5 Interchange	NB	4M+1H+1A	174,600	12,280	8,524	0.694	C	7,807	0.636	C	8,583	0.699	C	7,873	0.641	C	0.005	0.005		
	SB	3M+1H+2A		11,130	3,317	0.298	A	4,996	0.449	B	3,348	0.301	A	5,066	0.455	B	0.003	0.006		
I-15																				
Miramar Rd to Miramar Way	NB	6M+2H+1A	323,700	18,660	14,968	0.802	D	13,465	0.722	C	15,011	0.804	D	13,543	0.726	C	0.002	0.004		
	SB	7M+2H		19,810	11,223	0.567	B	11,565	0.584	B	11,286	0.570	B	11,616	0.586	B	0.003	0.003		
Carroll Canyon Rd to Miramar Rd	NB	6M+2H+1A	310,200	18,660	14,354	0.769	C	12,903	0.691	C	14,392	0.771	C	12,930	0.693	C	0.002	0.001		
	SB	6M+2H+1A		18,660	10,740	0.576	B	11,073	0.593	B	10,762	0.577	B	11,118	0.596	B	0.001	0.002		
Mira Mesa Blvd to Carroll Canyon Rd	NB	6M+2H+1A	294,500	18,660	13,610	0.729	C	12,235	0.656	C	13,674	0.733	C	12,280	0.658	C	0.003	0.002		
	SB	6M+2H+1A		18,660	10,207	0.547	B	10,523	0.564	B	10,242	0.549	B	10,598	0.568	B	0.002	0.004		
Mira Mesa Blvd to Mercy Rd	NB	5M+2H+1A	286,900	16,310	13,527	0.829	D	12,167	0.746	C	13,591	0.833	D	12,212	0.749	C	0.004	0.003		
	SB	5M+2H+1A		16,310	9,793	0.600	B	10,004	0.613	B	9,829	0.603	B	10,079	0.618	B	0.002	0.005		

Notes:

(a) Mainline lane capacity = 2,350 vehicles per hour per lane (vphpl); HOV lane Capacity = 1,680 vphpl; Auxillary Lane Capacity = 1,200 vphpl

M = Mainline Lanes; H = HOV Lanes; A = Auxiliary Lanes

TABLE 7-4: NEAR TERM YEAR 2025 PEAK HOUR FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Most Restrictive or Calibrated Meter Flow Rate (vphpl)	Number of Lanes		Storage Length Per Lane (feet)	Year 2025 With Phase 1 Project								Year 2025 With Project Buildout										Adjacent Freeway LOS	Significant?	
						On-Ramp Volume [1]		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		On-Ramp Volume		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		Increase in Delay (Minutes)				
			SOV	HOV		SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV
SB I-805 from WB Miramar Road	AM	Ramp meter not activated.																								
	PM	C=687	1	1	1,300	829	126	142	0	12.09	0	3,545	0	839	128	152	0	12.95	0	3,800	0	0.87	0	B	No	No
NB I-805 from WB Miramar Road	AM	MR =804	1	1	1,860	564	42	0	0	0	0	0	0	561	42	0	0	0	0	0	0	0	0	C	No	No
	PM	Ramp meter not activated.																								
SB I-805 from Nobel Drive	AM	Ramp meter not activated.																								
	PM	C=200	2	1	900	560	238	80	52	21.73	14.11	2,010	1305	577	246	89	60	24.09	16.14	2,229	1,493	2.36	2.03	B	No	No
SB I-15 from EB Miramar Road	AM	C=242	2	1	1,570	540	34	31	0	3.59	0	782	0	588	38	55	0	6.34	0	1,381	0	2.75	0	B	No	No
	PM	C=536	2	1		1,186	103	88	0	9.49	0	2,211	0	1,234	107	112	0	12.06	0	2,809	0	2.57	0	B	No	No
NB I-15 from EB Miramar Road	AM	Ramp meter not activated.																								
	PM	C=443	2	0	900	1,063	0	89	N/A	7.16	N/A	2,225	N/A	1,090	N/A	103	N/A	8.24	N/A	2,563	N/A	1.09	N/A	C	No	No

Notes:

[1] HOV/SOV volumes based on percent split in volume observations in the field during existing conditions and applied consistently across all study scenarios

N/A = Not Applicable

vphpl = vehicles per hour per lane

MR = most restrictive discharge rate

C = calibrated discharge rate

7.7 OFF-RAMP QUEUING ANALYSIS

Table 7-5 summarizes the results of the Near Term Year 2025 conditions off-ramp queuing analysis. The queuing analysis worksheets are provided in **Appendix G**.

As shown in Table 7-5, the increase in traffic volume associated with regional growth and the project does not result in a condition where the volume on the ramp exceeds the available capacity. Since all queues can be contained within the available storage capacity, the project does not significantly impact the off-ramps under Near Term Year 2025 condition.

TABLE 7-5: NEAR TERM YEAR 2025 OFF-RAMP QUEUING ANALYSIS SUMMARY

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Near Term Year 2025 Baseline With Phase 1 Project				Near Term Year 2025 With Project Buildout				Change in 95% Queue	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	AM Peak Hour	PM Peak Hour
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Southbound Left	2	1,016' (2)	792	259'	244	111'	791	270'	255	115'	11'	4'
Southbound Right	2	1,295' (2)	1,685	1119'	825	467'	1,661	1,098'	813	460'	-21'	-7'
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Northbound Left	2	1,110' (2)	913	376'	491	287'	892	375'	480	282'	-1'	-5'
Northbound Right	2	899' (2)	334	125'	194	36'	333	128'	191	36'	3'	0'
NB I-805 Off-Ramp at Nobel Dr												
Northbound Left	2	1,429' (2)	982	282'	630	217'	1,022	290'	656	217'	8'	0'
Northbound Right	2	1,429' (2)	960	153'	727	184'	1,027	184'	773	204'	31'	20''
SB I-15 Off-Ramp at Miramar Rd												
Southbound Left	2	844' (2)	145	45'	27	27'	142	44'	27	26'	-1'	-1'
Southbound Right	2	894' (2)	1,157	519'	574	250'	1,149	525'	594	292''	6'	42''
NB I-15 Off-Ramp at Miramar Rd												
Northbound Left	2	1,132' (2)	443	279'	629	379'	486	301'	701	412'	22'	33''
Northbound Right	2	1,132' (2)	641	56'	694	186'	637	55'	689	184'	-1'	-2'

Notes:

Queue lengths in SYNCHRO are expressed in feet

Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length.

7.8 NEAR TERM YEAR 2025 MITIGATION

Intersection Mitigation Measures

The results of the intersection analysis showed that the following eleven (11) intersections would be significantly impacted by traffic generated by the proposed project under Near Term Year 2025 With Project conditions:

16. Camino Santa Fe and Carroll Road (AM: LOS F, PM: LOS F)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
26. Eastgate Mall and Miramar Drive (PM: LOS E)
29. Camino Santa Fe and Miramar Road (AM: LOS F, PM: LOS F)
31. Camino Ruiz and Miramar Road (AM: LOS F)
32. Mitscher Way and Miramar Road (PM: LOS E)
34. Kearny Villa Road and Miramar Road (AM: LOS F PM: LOS E)
42. Trade Street and Camino Santa Fe (PM: LOS F)
48. Carroll Canyon Road and Camino Ruiz (AM: LOS F)
49. Miralani Drive and Camino Ruiz (AM: LOS F, PM: LOS F)
50. Activity Road and Camino Ruiz (PM: LOS F)

To mitigate the project's significant impacts at the study intersections under Near Term Year 2025 With Project conditions, the following mitigation measures are recommended. Conceptual designs are provided in **Appendix J.**

Intersection #16: Camino Santa Fe and Carroll Road

Significant & Unavoidable – Partially Mitigated. To fully mitigate the identified impact, Camino Santa Fe would need to be widened to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-43 to improve Camino Santa Fe from Carroll Road to Trade Street to a six-lane modified Primary Arterial was completed in 2011 by the Fenton-Carroll Canyon development. Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. The project team coordinated with the City of San Diego staff and management in making the determination that maintaining the four lanes with buffered bicycle lanes was preferred over restriping to provide the original six travel lanes. Therefore, the impact at the intersection will remain significant and unavoidable.

The Year 2021 analysis identified mitigation for this intersection will ***partially mitigate*** the identified impact:

- **Mitigation Measure 2.0 (consistent with 2021 mitigation):** It is recommended that the project construct a second eastbound left turn lane, a dedicated westbound right turn lane, and construct necessary traffic signal modifications at the intersection. The recommended improvements also include modifying the east and westbound signal phasing from split phasing to protected left turn phasing. Construction of the recommended improvements may require the acquisition of right-of-way to widen both the east and west legs of the intersection.

Intersection #20: Towne Center Drive and La Jolla Village Drive

Significant & Unavoidable. Restriping the southbound approach of the intersection to convert one through lane to a shared through/left turn lane thus allowing triple left turns and construct necessary traffic signal modifications would reduce the project impact to less than significant. However, City staff and management did not accept this proposal due to impacts to signal coordination. Therefore, no other feasible mitigation measures were identified and the impact at the intersection will remain significant and unavoidable.

Intersection #26: Eastgate Mall and Miramar Road

- **Mitigation Measure 12.0:** It is recommended that the project restripe the north leg of the intersection to provide a dedicated southbound right turn lane and construct the necessary traffic signal modifications.

Intersection #29: Camino Santa Fe and Miramar Road

- **Mitigation Measure 3.0 (consistent with 2021 mitigation):** It is recommended that the project restripe the southbound approach of the intersection to provide one shared left turn/through lane, and three right turn lanes. This improvement is consistent with Project T-87 as identified in the Mira Mesa Public Facilities Financing Plan (PFFP). PFFP Project T-87 would restripe the north leg to add a southbound right turn lane, and to widen the east leg to add a westbound right turn lane. The analysis results showed that providing a westbound right turn lane at the intersection alone would not mitigate the project's impact.

  Mitigation Measure 13.0: It is recommended that the project widen the east leg to add a westbound right turn lane and necessary traffic signal modifications, consistent with PFFP Project T-87.

Intersection #31: Camino Ruiz and Miramar Road

- **Mitigation Measure 14.0:** It is recommended that the project restripe the westbound approach of the intersection by converting the shared through/right-turn lane to an exclusive through lane.

Intersection #32: Mitscher Way-Clayton Drive and Miramar Road

- **Mitigation Measure 15.0:** It is recommended that the project restripe the southbound approach of the intersection to provide one left turn lane and one shared through/right turn lane and construct the necessary traffic signal modifications.

Intersection 34: Kearny Villa Road and Miramar Road

- **Mitigation Measure 16.0:** It is recommended that the project restripe the westbound approach to provide a dedicated right turn lane and construct the necessary traffic signal modifications.

Intersection #42: Trade Street and Camino Santa Fe

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be widened to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-43 to improve Camino Santa Fe from Carroll Road to Trade Street to a six-lane modified Primary Arterial was completed in 2011 by the Fenton-Carroll Canyon development. Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. A review of the corridor identified that widening is infeasible due to right-of-way constraints. The project team coordinated with the City of San Diego staff and management in making the determination that maintaining the four lanes with buffered bicycle lanes was preferred over restriping to provide the original six travel lanes. Therefore, the impact at the intersection will remain significant and unavoidable.

Intersection #48: Carroll Canyon Road and Camino Ruiz

- **Mitigation Measure 17.0:** It is recommended that the project restripe the south leg and construct a second northbound left turn lane at the intersection and the necessary traffic signal modifications. This improvement is consistent with Project T-10A in the Mira Mesa Public Facilities Financing Plan (PFFP), which includes construction of a second northbound left turn lane on Camino Ruiz at the Carroll Canyon Road/Camino Ruiz intersection. In addition to the left turn lane, T-10A includes widening Camino Ruiz to

a six-lane Major. Widening Camino Ruiz to six lanes is not needed to mitigate the project's expected Year 2025 impact.

Intersection #49: Miralani Drive and Camino Ruiz

- **Mitigation Measure 18.0:** It is recommended that the project restripe the northbound approach to provide a second left turn lane. To accommodate the second northbound left turn lane, the project would also widen the west leg of the intersection to provide two (2) westbound receiving lanes. This improvement will also require modifications to the traffic signal.

Intersection #50: Activity Road and Camino Ruiz

Mitigation Measure 19.0: It is recommended that the project construct a dedicated right-turn lane on the northbound approach of the intersection and construct the necessary traffic signal modifications.

Roadway Segment Mitigation Measures

The results of the roadway segment analysis showed that the following twelve (12) roadway segments would be significantly impacted by traffic generated by the proposed project under Near Term Year 2025 conditions:

P. Carroll Road from Nancy Ridge Drive to Rehco Road (LOS F)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)
AJ. Camino Santa Fe from Carroll Canyon Road to Trade Street (LOS E)
AK. Camino Santa Fe from Trade Street to Carroll Road (LOS E)
AL. Camino Santa Fe from Carroll Road to Miramar Road (LOS E)

To mitigate the significant impacts at the study roadway segments under Near Term Year 2025 With Project conditions, the following mitigation measures are recommended. Conceptual designs are provided in **Appendix J.**

Segment P: Carroll Road from Nancy Ridge Drive to Rehco Road

Significant & Unavoidable There are no feasible improvements to mitigate the project's significant impact on the segment of Carroll Road between Nancy Ridge Road and Rehco Road. Carroll Road is currently constructed as a two-lane Collector with a two-way center turn lane and a cross-sectional width of approximately 50 feet curb to curb. The current Mira Mesa Community Plan identifies Carroll Road from Nancy Ridge Road to Recho Road as a four-lane Collector. Existing development along the corridor limits the ability to widen to current four-lane, Urban Collector standards. Therefore, the impact would remain significant and unavoidable.

Segment Q: Carroll Road from Rehco Road to Camino Santa Fe

Significant & Unavoidable – Partially Mitigated. There are no feasible improvements to mitigate the project's significant impact on the segment of Carroll Road between Rehco Road and Camino Santa Fe. Carroll Road is currently constructed as a two-lane Collector with a two-way center turn lane and a cross-sectional width of approximately 50 feet curb to curb. The current Mira Mesa Community Plan identifies Carroll Road from Nancy Ridge Road to Recho Road as a four-lane Collector. Existing development along the corridor limits the ability to widen to current four-lane, Urban Collector standards. Therefore, the impact would remain significant and unavoidable.

To offset the project's impacts to this segment, the project proposes to install traffic signal communications equipment to upgrade the signal interconnection equipment in this location. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 5.0 (consistent with 2021 mitigation):** It is recommended that the project address the existing signal communications gap at the Carroll Road/Rehco Road intersection by installing signal communications equipment to connect to the Carroll Road/Camino Santa Fe intersection. The needed improvements would include trenching and installing conduit and cable along Carroll Road between Rehco Road and Camino Santa Fe. Installation of communication equipment is consistent with the City's Traffic Signal Communications Master Plan and will improve the ability for these closely spaced intersections to operate more efficiently. By operating more efficiently, this reduces delay and improves traffic flow along Carroll Road.

Segment T: Eastgate Mall from Judicial Drive to Miramar Road

Significant & Unavoidable. Project NUC-34, identified in the North University City Public Facilities Financing Plan (PFFP), would widen Eastgate Mall to four-lane Collector standards from the SDG&E easement on the east side of I-805 to Miramar Road. As included in the 2016 NUC PFFP, "the FBA and Developer portions of the project east of the SDG&E easement are complete (Transportation Threshold 1, Project 3 completed). The remainder of the project is on hold pending project approval and property acquisition from the Department of the Navy." Therefore, the impact along this segment will remain significant and unavoidable until which time the City completes the project.

Segment Y: Miramar Road from Nobel Drive to Eastgate Mall

Significant & Unavoidable – Partially Mitigated. Project NUC-50, identified in the North University City Public Facilities Financing Plan (PFFP), would widen Miramar Road to eight lanes from the I-805 Northbound Ramps to 300 feet east of Eastgate Mall. This project is partially completed as there are currently eight lanes on Miramar Road from I-805 to Nobel Drive, but there are currently only seven lanes (four westbound and three eastbound) between Nobel Drive and Eastgate Mall. According to the North University City PFFP, NUC-50 is fully funded except for land acquisition from the US Department of the Navy, and the remaining improvement left to complete is a fourth eastbound lane from 500 feet east of Nobel Drive to 300 feet east of Eastgate Mall. The impact on this segment is significant and unavoidable until which time the City is able to acquire the additional land necessary from the Department of the Navy.

To offset the project's impacts to this segment, the project proposes to install traffic signal communications equipment to upgrade the signal interconnection equipment in this location. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 6.0 (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Nobel Drive and Eastgate Mall and install one (1) CCTV Camera.

Segment Z: Miramar Road from Eastgate Mall to Camino Santa Fe

Significant & Unavoidable – Partially Mitigated. Miramar Road from Eastgate Mall to Camino Santa Fe is six lanes with an 18-foot wide striped median and bicycle lanes on both sides of the street. Raised medians only exists west of Miramar Place (700 foot median of 2,600 feet) and west of Camino Santa Fe (1,000 foot median of 1,600 feet). The curb to curb width ranges from approximately 100 to 110 feet. Due to the lack of a raised median through this section and the presence of commercial driveways on the north side of the street, the City has identified the classification of this roadway as a six lane Major with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six lane Primary Arterial. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding raised medians along the corridor would increase the daily capacity to 60,000 vehicles per day at LOS E. However, the addition of the raised median would result in an increase in u-turning vehicles at signalized intersections along the corridor, increased left turn demand at critical intersections (including Miramar Road/Camino Santa Fe) and may impact the businesses who take direct access from Miramar Road. Should the medians be determined to be infeasible, traffic signal communications equipment is recommended to help improve the capacity and efficiency of the existing infrastructure.

Therefore, the project proposes one of two partial mitigation measures to offset the project impacts: install raised medians where gaps in the median currently exist or upgrade traffic signal communications equipment along this segment. The following mitigation measures will partially mitigate the identified project impact:

- **Mitigation Measures 7.0A (consistent with 2021 mitigation):** It is recommended that the project install 2,200 feet of raised median where existing gaps in the median exist between Eastgate Mall and Camino Santa Fe. This improvement will require close coordination with City staff and management and the existing businesses along the corridor;
  AND
- **Mitigation Measure 7.0B (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Eastgate Mall and Camino Santa Fe and install two (2) CCTV Cameras;
  AND
- **Mitigation Measure 7.0C (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Santa Fe and Carroll Road to complete the communication network to Camino Ruiz. Install two (2) CCTV Cameras.

Segment AB: Miramar Road from Camino Ruiz to Clayton Drive-Mitscher Way

Significant & Unavoidable – Partially Mitigated. Miramar Road from Camino Ruiz to Clayton Drive-Mitscher Way is six lanes with a raised median. The curb to curb width is approximately 100 feet**.** City has identified the functional classification of the existing roadway as a six lane Major with a raised median with a maximum daily capacity at LOS E of 50,000 vehicles per day. Widening the road to provide an additional through lane was evaluated but determined to be infeasible due to right-of-way constraints. The City minimum design standards for bicycle facilities and lane widths could not be met via striping. Therefore, the impact will remain significant and unavoidable.

To offset the project's impacts to this segment, the project proposes to install traffic signal communications equipment to upgrade the traffic signal interconnect equipment along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 9.0 (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Ruiz and Mitscher Way.

Segment AC: Miramar Road from Clayton Drive-Mitscher Way to Black Mountain Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Clayton Drive-Mitscher Way to Black Mountain Road is six lanes with a raised median. There is a 550-foot gap in the raised median immediately east of Padgett Street. This gap provides access to the businesses that take direct access from Miramar Road. The curb to curb width is approximately 100 feet. Due to the lack of a raised median west of Padgett Street and the presence of commercial driveways on the north side of the street, the functional classification of the existing roadway is a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day. The current Mira Mesa Community Plan identifies this segment of Miramar Road is a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding the 550-foot raised median where the gap exists would increase the capacity to 60,000 vehicles per day. However, the addition of the raised median would significantly impact access to the businesses who take direct access from Miramar Road through the section where the median is currently striped. With the raised median, the corridor would continue to operate at LOS F conditions.

The project does not recommend constructing the missing 550-foot section of raised median for this section of the corridor due to the presence of commercial driveways along the north side of the street. Therefore, the impact will remain significant and unavoidable.

To offset the project's impacts to this segment, the project proposes to install traffic signal communications equipment to upgrade the traffic signal interconnect equipment along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 10.0 (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Mitscher Way and Black Mountain Road. Install one (1) CCTV Camera.

Segment AD: Miramar Road from Black Mountain Road to Kearny Villa Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Black Mountain Road to Kearny Villa Road is six lanes with a 14-foot wide striped median. There is a 350-foot raised median immediately east of Black Mountain Road. This striped two-way left turn lane provides access to the businesses that take direct access from Miramar Road. The curb to curb width is approximately 100 feet. Due to the lack of a raised median and the presence of commercial driveways on the north side of the street, the City's functional classification of the existing roadway is a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding the raised median where the gap exists would increase capacity to 60,000 ADT. However, the addition of the raised median would significantly impact access to the businesses who take direct access from Miramar Road through the section where the median is currently striped and would increase the left turn volume at the signalized intersections at either end of the corridor. With the raised median, the corridor would continue to operate at LOS F conditions. The project does not recommend a raised median for the corridor for these reasons. Therefore, the impact would remain significant and unavoidable.

To offset the project's impacts to this segment, the project proposes to install traffic signal communications equipment to upgrade the traffic signal interconnect equipment along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 11.0 (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Black Mountain Road and Kearny Villa Road.

Segment AE: Miramar Road from Kearny Villa Road to Kearny Mesa Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Kearny Villa Road to Kearny Mesa Road is a 400-foot segment of Miramar Road that is striped with six lanes with an 18-foot wide striped median. Due to the short segment length the striped median serves as back-to-back left turn pockets for the intersections at either end of the segment. The functional classification of the existing roadway is a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding the raised median where the gap exists would increase the capacity to 60,000 ADT. However, the addition of the raised median may impact the left turn storage capacity at the signalized intersections at either end of the segment. With the raised median, the corridor would continue to operate at LOS F. The project does not recommend a raised median for the corridor for these reasons. Therefore, the impact will remain significant and unavoidable.

To offset the project's impacts to this segment, the project proposes to install traffic signal communications equipment to upgrade the traffic signal interconnect equipment along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 20.0:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Kearny Villa Road and Kearny Mesa Road. Install one (1) CCTV camera.

Segment AJ: Camino Santa Fe from Carroll Canyon Road to Trade Street

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be restriped to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-21 constructed Camino Santa Fe from Mira Mesa Boulevard to Trade Street as a six lane Primary Arterial with Raised Center Medians and Class II bicycle lanes. The project was completed in 2007 by the Fenton-Carroll Canyon Development as a condition of their tentative map.

Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. A review of the corridor identified that widening is infeasible due to right-of-way constraints. The project team coordinated with the City of San Diego staff and management in making the determination that maintaining the four lanes with buffered bicycle lanes was preferred over restriping to provide the original six lane Primary Arterial condition. Therefore, the impact at the intersection will remain significant and unavoidable.

Segment AK: Camino Santa Fe from Trade Street to Carroll Road

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be restriped to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-43 to improve Camino Santa Fe from Carroll Road to Trade Street to a six-lane modified Primary Arterial was completed in 2011 by the Fenton-Carroll Canyon development. Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. The roadway could be restriped to it's original condition, however bicycle lanes

In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. A review of the corridor identified that widening is infeasible due to right-of-way constraints. The project team coordinated with the City of San Diego staff and management in making the determination that

maintaining the four lanes with buffered bicycle lanes was preferred over restriping to provide the original six travel lanes. Therefore, the impact at the intersection will remain significant and unavoidable.

Segment AL: Camino Santa Fe from Carroll Road to Miramar Road

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be re-striped to six lanes, three in each direction._According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-85 to improve Camino Santa Fe from Carroll Road to 500 feet south of Commerce Avenue to a six-lane modified Primary Arterial "will be completed when a responsible subdivider is identified and develops the fronting property". At the time this report was prepared, a developer/subdivider of the fronting property had not been identified. Therefore, the impact at the intersection will remain significant and unavoidable until which time Project T-85 is completed by others.

Appendix J contains conceptual design exhibits for the recommended mitigation measures that will require roadway construction and/or restriping.

Intersection and Roadway Segment Mitigated LOS

Table 7-6 summarizes the intersection levels of service with the recommended mitigation measures under Near Term Year 2025 With Project conditions. As shown in the table, the recommended mitigation measures will improve operations at the significantly impacted intersections to an acceptable LOS D or will improve conditions to better than without the project. **Appendix K** displays the HCM worksheets that show intersection delays and levels of service with the recommended mitigation measures.

Table 7-7 summarizes the roadway segment levels of service with the recommended mitigation measures under Near Term Year 2025 With Project conditions.

TABLE 7-6: NEAR TERM YEAR 2025 INTERSECTION MITIGATED LOS

#	Intersection	Peak Hour	Near Term Year 2025 Baseline		Near Term Year 2025 with Project		Intersection Mitigated by Project In 2021?	Recommended Mitigation	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Near Term Year 2025 With Project With Mitigation		Change in Delay (with Project) with-without mitigation
			Delay [a]	LOS	Delay [a]	LOS					Delay [a]	LOS	
16	Camino Santa Fe & Carroll Road	AM	92.9	F	149.2	F	Partial (Mitigation 2.0, See Table 6-7)	***Significant & Unavoidable***			50.5	D	-98.7
		PM	84.5	F	137.4	F					87.1	F	-50.3
20	La Jolla Village Dr & Towne Center Dr	AM	34.8	C	35.0	C		***Significant & Unavoidable***					
		PM	94.8	F	98.8	F							
26	Miramar Rd & Eastgate Mall	AM	25.8	C	26.8	C		**Mitigation Measure 12.0**: Restripe north leg of intersection to provide a dedicated SB right turn lane and construct necessary traffic signal modifications.			26.5	C	-0.3
		PM	51.1	D	61.5	E					31.9	C	-29.6
29	Camino Santa Fe & Miramar Rd	AM	121.7	F	143.6	F	Partial (Mitigation 3.0, See Table 6-7)	**Mitigation Measure 13.0**: Widen to construct WB right turn lane and necessary traffic signal modifications	PFFP Project T-87: Restripe north leg to add SB right turn lane and widen east leg to add WB right turn lane (100% Funded by FY 2025).	Yes (2030 mitigation required per Vulcan Stone Creek TIA)	89.9	F	-53.7
		PM	90.4	F	94.8	F					88.0	F	-6.8
31	Miramar Rd & Camino Ruiz	AM	76.8	E	93.9	F		**Mitigation Measure 14.0**: Restripe WB approach to convert shared through/right turn lane to an exclusive through lane.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	77.9	E	-16.0
		PM	26.0	C	41.4	D					49.6	D	-8.2
32	Mitscher Way & Miramar Rd	AM	26.9	C	28.4	C		**Mitigation Measure 15.0**: Restripe SB approach to provide one left turn lane and one shared through/right turn lane and construct necessary traffic signal modifications.			25.1	C	-1.8
		PM	56.9	E	61.8	E					46.6	D	-15.2
34	Kearny Villa Rd & Miramar Rd	AM	80.6	F	88.2	F		**Mitigation Measure 16.0**: Restripe WB approach to provide a dedicated right turn lane and construct necessary traffic signal modifications.		Yes (Phase 1 mitigation required per Vulcan Stone Creek TIA)	75.2	E	-13.0
		PM	56.4	E	59.7	E					56.7	E	-3.0
42	Camino Santa Fe & Trade St	AM	23.5	C	53.2	D		***Significant & Unavoidable***					
		PM	56.2	E	116.2	F							
48	Camino Ruiz & Carroll Canyon Rd	AM	6.7	A	119.8	F		**Mitigation Measure 17.0:** Restripe a 2nd NB left turn lane (on NB Camino Ruiz) and construct the necessary traffic signal modifications.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	50.2	D	-69.6
		PM	5.2	A	50.0	D					25.3	C	-24.7
49	Camino Ruiz & Miralani Dr	AM	120.0	F	208.9	F		**Mitigation Measure 18.0:** Restripe NB approach to provide a 2nd left-turn lane. Widen the west leg of intersection to provide 2 WB receiving lanes. Construct necessary traffic signal modifications.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	36.3	D	-173.2
		PM	47.5	D	94.1	F					45.6	D	-48.5
50	Camino Ruiz & Activity Rd	AM	19.5	B	22.6	C		**Mitigation Measure 19.0:** Construct a right-turn lane on NB approach of the intersection and construct necessary traffic signal modifications.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	24.9	C	2.3
		PM	82.1	F	175.4	F					81.5	F	-93.9

Notes: (a) Average seconds of delay per vehicle.

TABLE 7-7: NEAR TERM YEAR 2025 ROADWAY SEGMENT MITIGATED LOS

Roadway	Segment		Near Term Year 2025 Without Improvements				Roadway Segment Mitigated by Project in 2021?	Recommended Mitigation	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Near Term Year 2025 With Improvements			
			With Phase 1 Project		With Project Buildout						Mitigated Daily Capacity	Mitigated V/C Ratio	Mitigated LOS	Change in V/C
			V/C Ratio	LOS	V/C Ratio	LOS								
Carroll Rd	P	Nancy Ridge Dr to Rehco Rd	0.993	E	1.097	F		***Significant & Unavoidable***						
	Q	Rehco Rd to Camino Santa Fe	1.263	F	1.385	F	Partial (Mitigation 5.0, See Table 6-8)	***Significant & Unavoidable***				1.385	F	
Eastgate Mall	T	Judicial Dr to Miramar Rd	1.102	F	1.144	F		***Significant & Unavoidable***						
Miramar Rd	Y	Nobel Dr to Eastgate Mall	1.174	F	1.214	F	Partial (Mitigation 6.0, See Table 6-8)	***Significant & Unavoidable***						
	Z	Eastgate Mall to Camino Santa Fe	1.796	F	1.874	F	Partial (Mitigation 7.0, See Table 6-8)	***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.874	F	
	AB	Camino Ruiz to Mitscher Way	1.326	F	1.369	F	Partial (Mitigation 9.0, See Table 6-8)	***Significant & Unavoidable***						
	AC	Mitscher Way to Black Mountain Rd	1.417	F	1.450	F	Partial (Mitigation 10.0, See Table 6-8)	***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.450	F	
	AD	Black Mountain Rd to Kearny Villa Rd	1.570	F	1.624	F	Partial (Mitigation 11.0, See Table 6-8)	***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.624	F	
	AE	Kearny Villa Rd to Kearny Mesa Rd	1.320	F	1.381			***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 20.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Kearny Villa Road and Kearny Mesa Road. Install one (1) CCTV camera.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.381	F	
Camino Santa Fe	AJ	Carroll Canyon Rd to Trade St	0.690	C	0.970	E		***Significant & Unavoidable***						
	AK	Trade St to Carroll Rd	0.739	C	0.976	E		***Significant & Unavoidable***						
	AL	Carroll Rd to Miramar Rd	0.772	D	0.913	E		***Significant & Unavoidable***						

8 HORIZON YEAR 2050 CONDITIONS

Horizon Year 2050 conditions reflect the buildout of the City of San Diego Community Plans and surrounding City General Plans for the SANDAG region. Horizon year volumes are forecast through the compilation of existing and planned land uses throughout the County. The land uses in turn generate trips that are added to the existing and future planned roadways in the region through the use of the SANDAG Series 12 regional travel demand model. The Series 12 2050 model accounts for the buildout of the Mira Mesa community and includes the identified infrastructure improvements contained in the adopted Community Plan. The Series 12 2050 model run performed for this project also includes the land uses and traffic generation associated with the Vulcan Stone Creek Project located northeast of the proposed project site.

8.1 ROADWAY NETWORK AND TRANSPORTATION PHASING PLAN

Horizon Year 2050 conditions reflects the buildout of the roadway network in the adopted Mira Mesa and North University City Community Plans for the planned public facilities improvements that are expected to be fully funded prior to 2050. The 2050 roadway network includes the following future roadway improvements within the study area:

- **Carroll Canyon Road:** Consistent with the Mira Mesa Community Plan and Public Facilities Financing Plan (PFFP), completion of the Carroll Canyon Road extension from Carroll Road to Black Mountain Road to provide a continuous roadway from I-5 to I-15. Project T-5A would construct the extension of Carroll Canyon Road from Carroll Road to the western boundary of the Fenton Technology Park. The 3Roots Project would construct the extension of Carroll Canyon Road from the western boundary of the Fenton Technology Park to the western terminus of the existing Carroll Canyon Road one half-mile west of Camino Ruiz (Project T-5A, completed in Phase 2 of the 3Roots Project). The 3Roots project would also restripe the existing segment of Carroll Canyon Road from one half-mile west of Camino Ruiz to Camino Ruiz to provide a total of 6 travel lanes. The Stone Creek project would construct the extension of Carroll Canyon Road from Camino Ruiz to Black Mountain Road. Consistent with the Mira Mesa Community Plan, Carroll Canyon Road between Carroll Road and Camino Santa Fe was evaluated as a four-lane Major, as a six-lane Primary Arterial between Camino Santa Fe and Camino Ruiz, and as a six-lane Major between Camino Ruiz and Black Mountain Road.

- **Camino Ruiz:** Improved to a six-lane Major from Gold Coast Drive to Miramar Road per Projects T-10 and T-10A in the Mira Mesa Public Facilities Financing Plan (PFFP). This improvement is located within the Vulcan Stone Creek project, which is included a cumulative project by year 2050. As the Vulcan Stone Creek project has identified improvements to this roadway as part of the overall project design, it is reasonable to assume these improvements are completed with the development of that site. Therefore, these improvements are included in the 2050 roadway network.

- **Kearny Villa Road:** Improved to a six-lane Major from Black Mountain Road to 600 feet south of Miramar Road per Project T-92 in the Mira Mesa Public Facilities Financing Plan (PFFP). The PFFP identifies the schedule for this project to begin in 2023. Therefore, it is reasonable to assume this improvement is complete by Year 2050.

- **I-805 North Express Lanes:** Completion of a second HOV lane in each direction of travel on I-805 between La Jolla Village Drive and I-52. Information about this project from the San Diego Forward Regional Plan (SANDAG) is provided in **Appendix M.**

- **I-805/Nobel Drive Direct Access Ramps (DAR):** Completion of direct access ramps (DAR) that will provide on/off ramps between the HOV lanes and Nobel Drive. Information about this project from the San Diego Forward Regional Plan (SANDAG) is provided in **Appendix M.**

A Horizon Year 2050 Transportation Phasing Plan was prepared to provide a detailed description, funding source, responsibility party, status and schedule of the planned roadway improvement projects identified in the Mira Mesa and North University City Public Facilities Financing Plans (PFFP). The planned roadway improvement projects identified in the Mira Mesa and North University City Public Facilities Financing Plans (PFFP), and freeway improvement projects identified in the SANDAG Regional Transportation Plan (RTP) are provided in **Appendix M**.

Table 8-1 presents the Horizon Year 2050 Transportation Phasing Plan for the planned future roadway improvements in the study area. The Horizon Year 2050 Transportation Phasing Plan for the study area is also illustrated in **Figure 8-1**.

Figure 8-2 illustrates the future intersection lane geometrics under Horizon Year 2050 conditions, and **Figure 8-3** displays the future roadway segment improvements expected to be completed prior to 2050.

TABLE 8-1: HORIZON YEAR 2050 TRANSPORTATION PHASING PLAN

Project No.	Facility	Location	Required Improvement Description	Funding Source	Responsible Parcel(s), Developer(s), or Agencies	Status	Construction Expected to Start	Schedule
Mira Mesa Public Facilities Financing Plan								
T-5A	Carroll Canyon Rd	Carroll Rd to Western Fenton Boundary	Construct 4 lane Major	FBA/DIF	N/A	Remaining	FY 2025	To be completed within same timeframe as Projects T-5B and T-5C.
T-5B	Carroll Canyon Rd	Western Fenton Boundary to Camino Santa Fe	Construct 4 lane Major street.	Developer/ Subdivider	3Roots (100% responsible)	Assured by Developer	FY 2021	To be completed prior to project buildout in 2025.
T-5C	Carroll Canyon Rd	Camino Santa Fe to Camino Ruiz	Construct 6 lane Primary Arterial from Camino Santa Fe to one half-mile west of Camino Ruiz. Restripe existing roadway to six lanes from west terminus to Camino Ruiz.	Developer/ Subdivider	3Roots (100% responsible)	Assured by Developer	FY 2021	To be completed prior to project buildout in 2025.
T-6	Carroll Canyon Rd	Camino Ruiz to Black Mountain Rd	Construct 6 lane Major.	Developer/ Subdivider	Stone Creek (100% responsible)	Remaining	TBD	To be completed during Stone Creek Phase 2A (2030).
T-10	Camino Ruiz	Gold Coast Dr to East Leg of Jade Coast Dr, and from Miralani Dr to Miramar Rd	Widen to 6 lane Major.	FBA/DIF	N/A	Remaining	FY 2025	Cannot precede Project T-10A.
T-10A	Camino Ruiz	Jade Coast Dr to Miralani Dr	Widen to 6 lane Major.	Developer/ Subdivider	Stone Creek (APN 341-060-41/42); Others (APN 341-480-01/02)	Remaining	TBD	TBD
T-85	Camino Santa Fe	Carroll Rd to 350' South of Commerce Ave	Widen to 6 lane Major.	Developer/ Subdivider	N/A	Remaining	TBD	TBD
T-87	Camino Santa Fe / Miramar Rd Intersection Improvements		Restripe southbound approach to provide additional right turn lane	FBA/DIF	N/A	Remaining	FY 2025	TBD
T-89	Kearny Villa Rd / Miramar Rd Intersection Improvements		Widen east and west legs of intersection to provide additional left and right turn lanes.	FBA/DIF	N/A	Remaining	FY 2025	TBD
T-92	Kearny Villa Rd	Black Mountain Rd to 600' South of Miramar Rd	Widen to 6 lane Major.	FBA/DIF	N/A	Remaining	FY 2023	Scheduled to Begin in FY2023 per PFFP
T-96	Carroll Canyon Rd	Scanton Rd to Carroll Rd	Widen to 4 lane Major.	FBA/DIF	N/A	Project was completed from Scranton Road to Nancy Ridge Road. Segment from Nancy Ridge Road to Carroll Road still needs to be improved.	FY 2022	Should be completed before completion of Project T-5A
North University City Public Facilities Financing Plan								
NUC-34	Eastgate Mall	SDG&E Easement to Miramar Rd	Construct 4 lane Collector.	FBA/DIF	N/A	Pending approval and property acquisition from Dept. of Navy.	FY 2021	To be completed by the City when land is acquired
NUC-42	La Jolla Village Dr / Towne Center Dr Intersection Improvements		Separate eastbound and westbound right turn lanes; a pedestrian bridge on west side of intersection.	Developer/ Subdivider	Westfield (UTC)	Roadway improvements are completed. Pedestrian bridge will be constructed according to deferred improvement agreement per UTC VTM #293788 and Condition #48.	TBD	TBD
NUC-50	Miramar Rd	I-805 Easterly Ramps to 300' East of Eastgate Mall	Widen Miramar Road to 8 lane Primary Arterial.	FBA/DIF	N/A	Partially Completed. The project was completed from I-805 Easterly Ramps to 500' East of Nobel Drive. One additional eastbound lane still needs to be constructed from 500' east of Nobel to 300' east of Eastgate Mall, which requires property acquisition from Dept. of Navy.	FY 2021	To be completed by the City when land is acquired.
Freeway and Transit Improvements (SANDAG/Caltrans/MTS)								
I-805		La Jolla Village Drive to SR-52	Construct 2nd HOV lane in each direction.	TransNet	SANDAG/Caltrans	Construction start pending funding.		Expected to be built by 2035.
I-805		Nobel Drive Interchange	Construct Direct Access Ramps (DAR) from HOV lanes.	TransNet	SANDAG/Caltrans	Construction start pending funding.		Expected to be built by 2035.
Mid-Coast Trolley Extension		Construct trolley line from Old Town to UTC, and new transit station at UTC.		FTA/TransNet	SANDAG	Currently under construction.		Construction began in fall 2016, is expected to be completed in 2021.

Source: Mira Mesa Public Facilities Financing Plan, Fiscal Year 2016; North University City Public Facilities Financing Plan, Fiscal Year 2013. SANDAG/Keep San Diego Moving (TransNet).

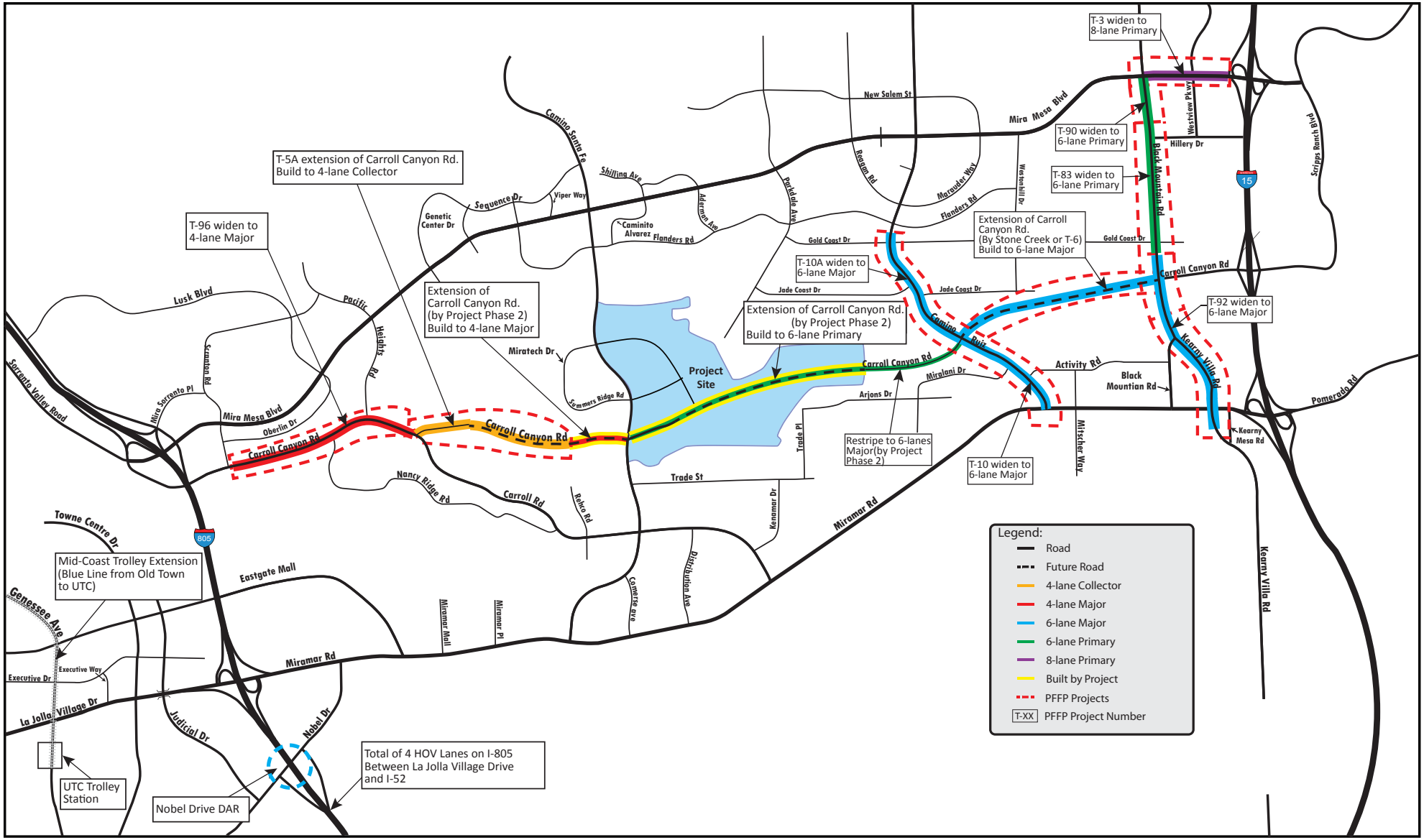

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Figure 8-1

Horizon Year 2050 Transportation Phasing Plan

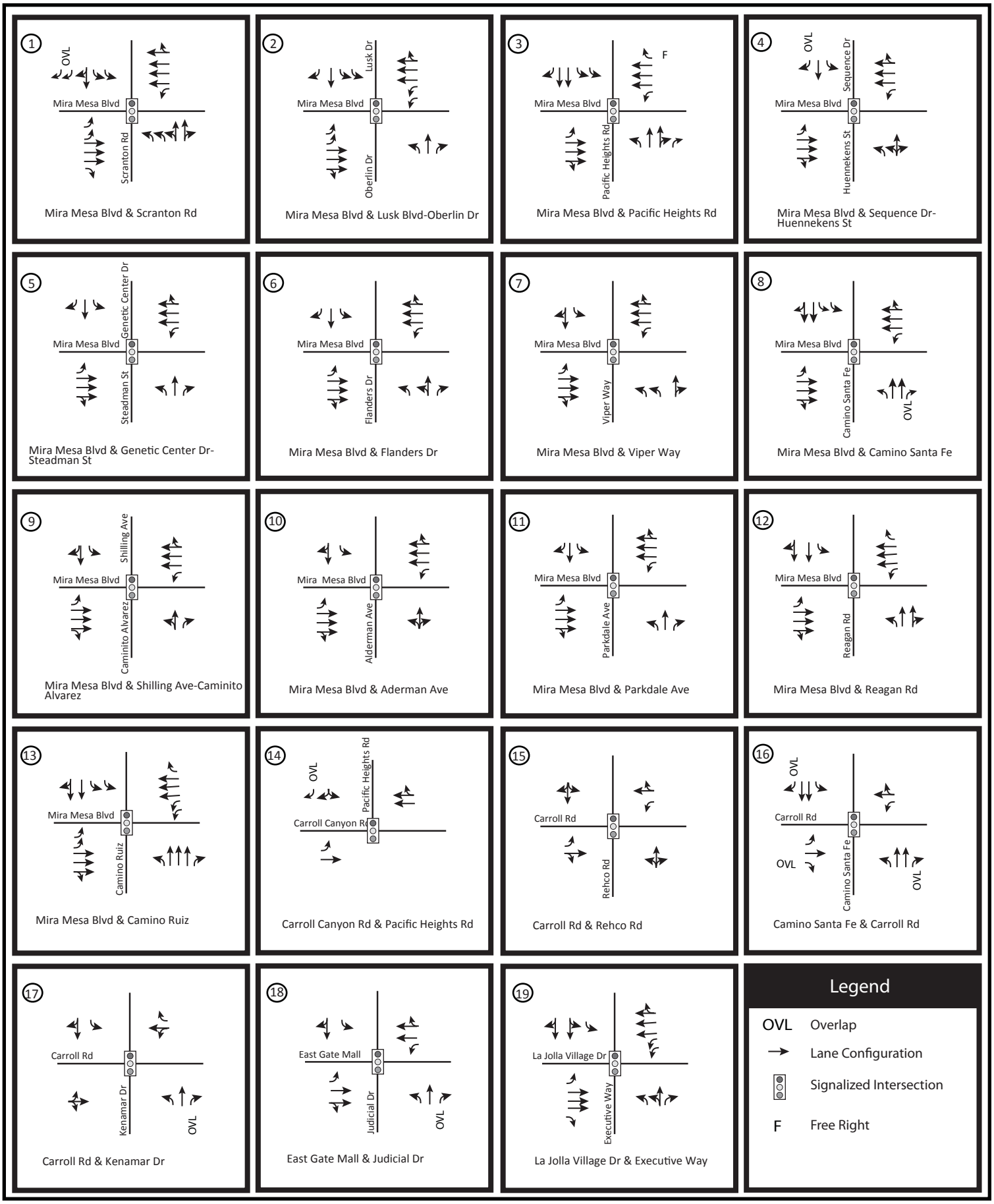

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Figure 8-2a
Horizon Year 2050 Intersection Lane Geometries

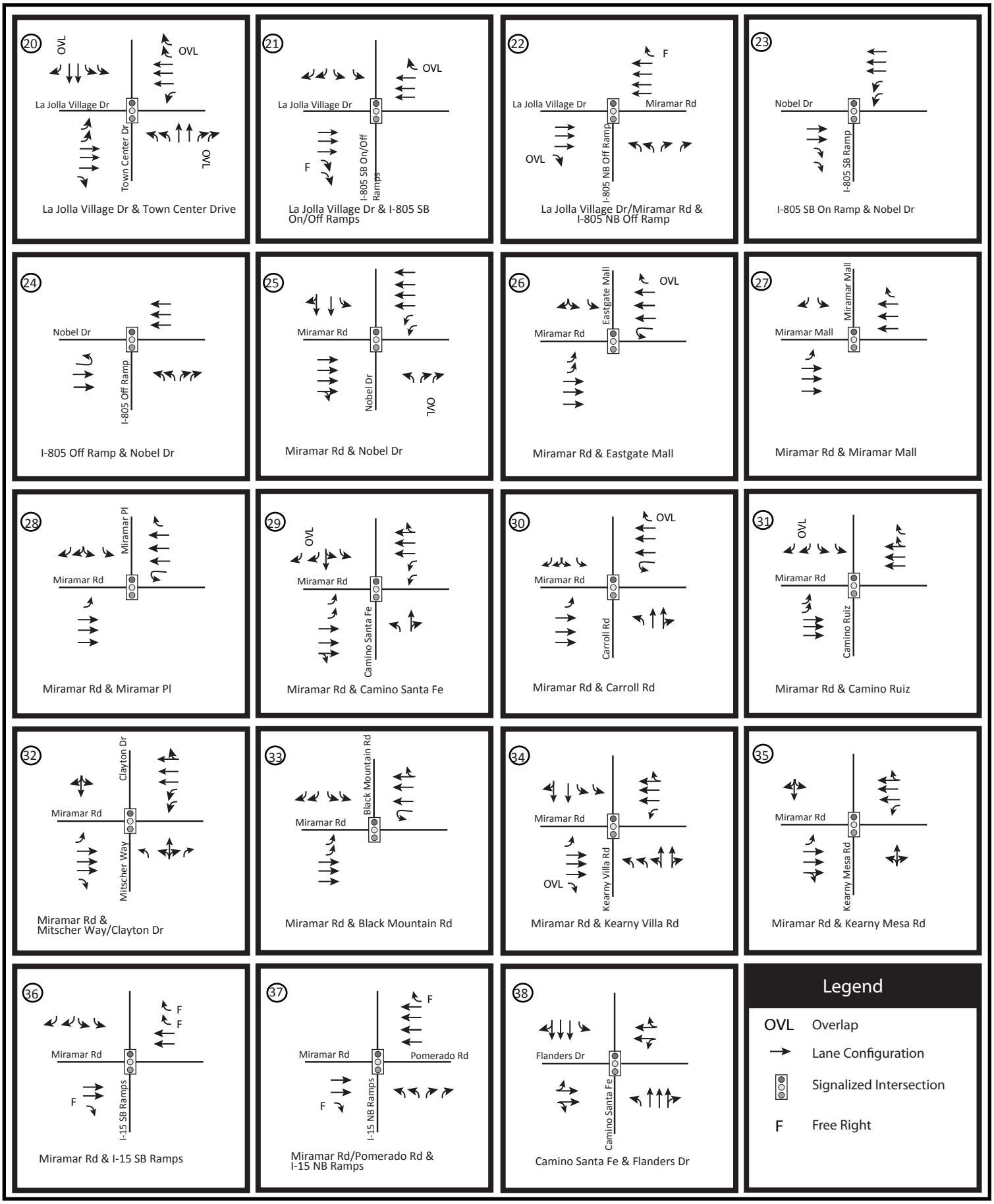

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Figure 8-2b
Horizon Year 2050 Intersection Lane Geometries

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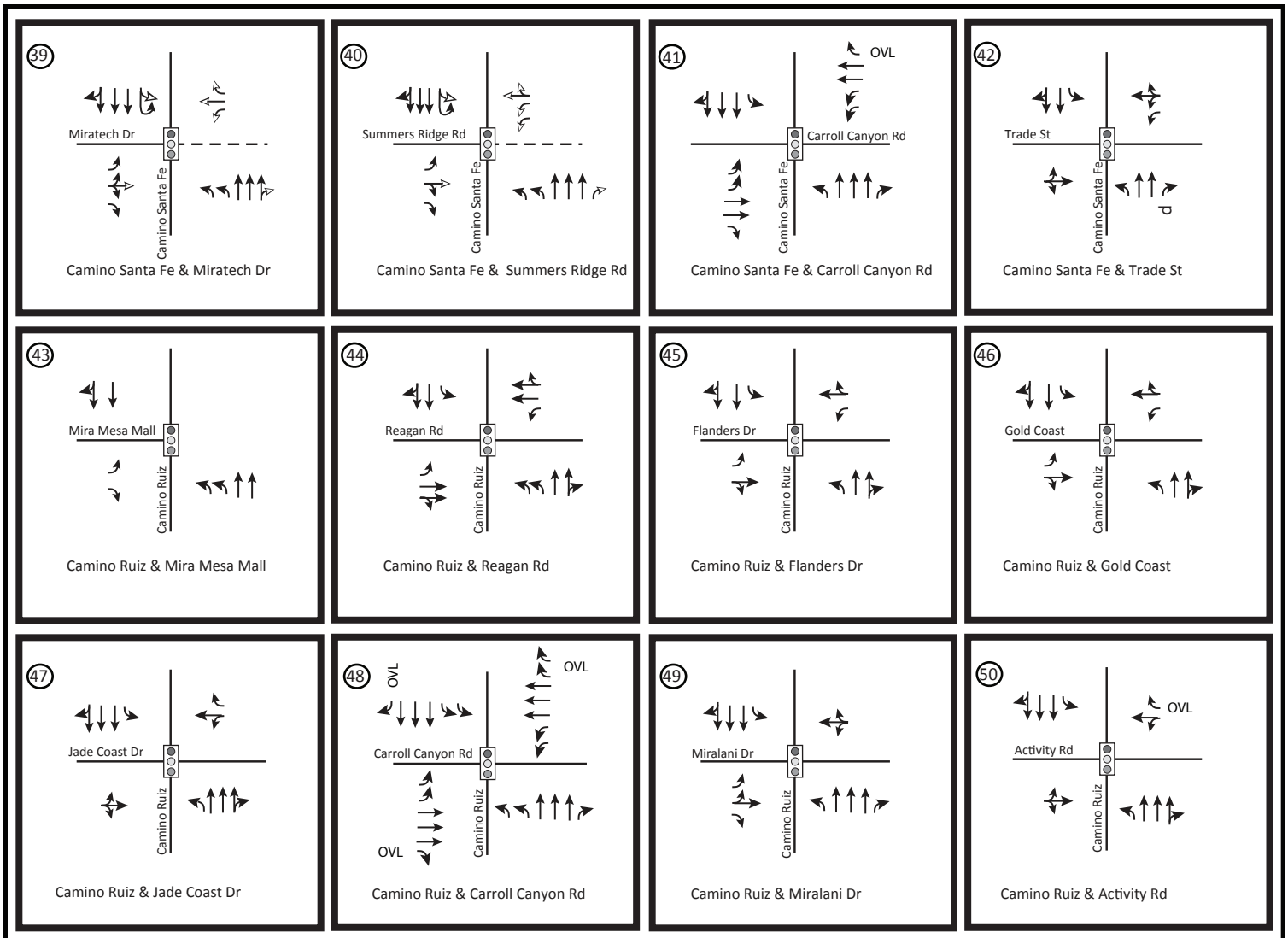

Legend

OVL	Overlap
→	Lane Configuration
	Signalized Intersection
F	Free Right
→	With Project Lane Configuration
– –	With Project Roadway Segment
d	Defacto Right-turn Lane

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Figure 8-2c
Horizon Year 2050 Intersection Lane Geometries

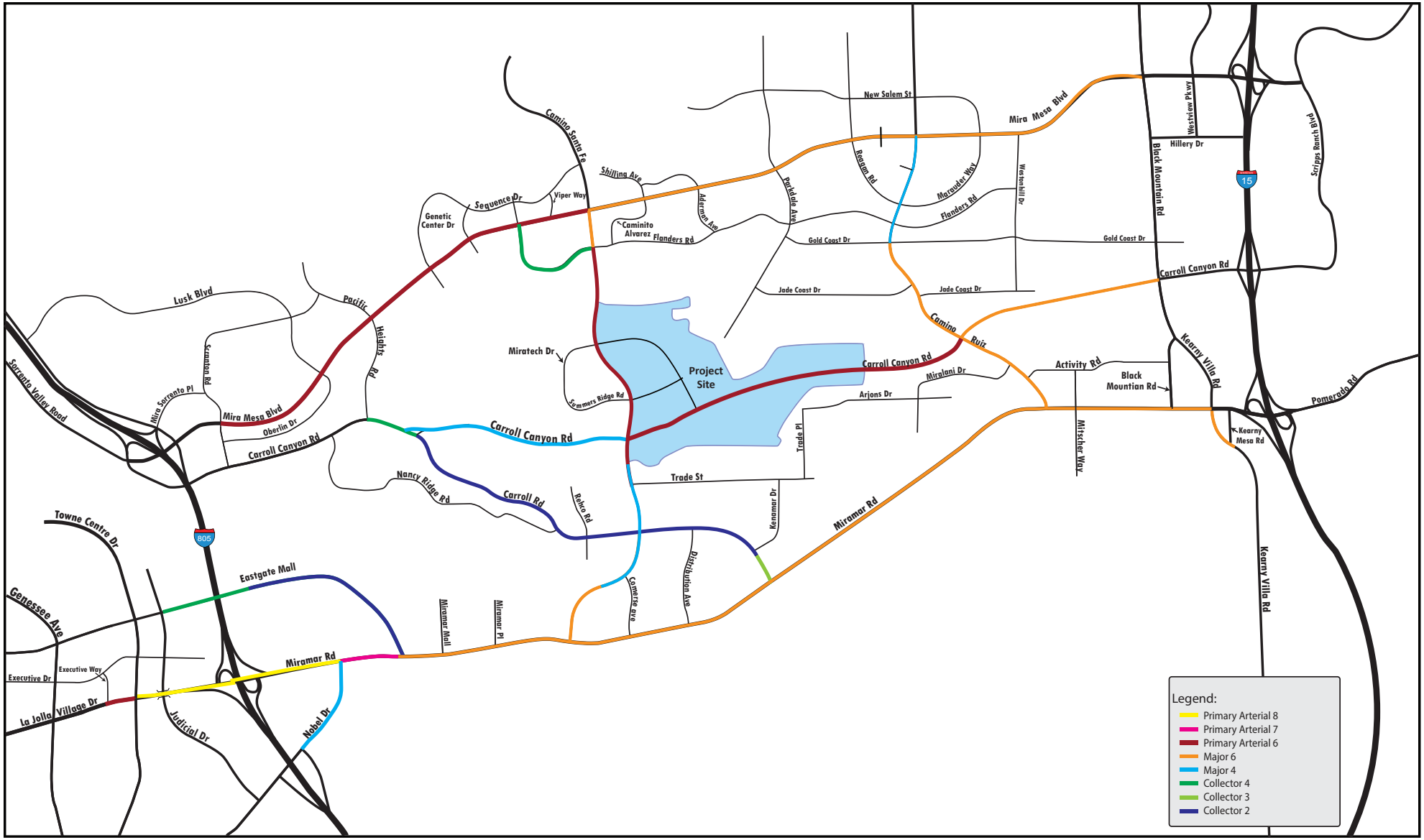

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Figure 8-3
Horizon Year 2050 Roadway Segment Classification

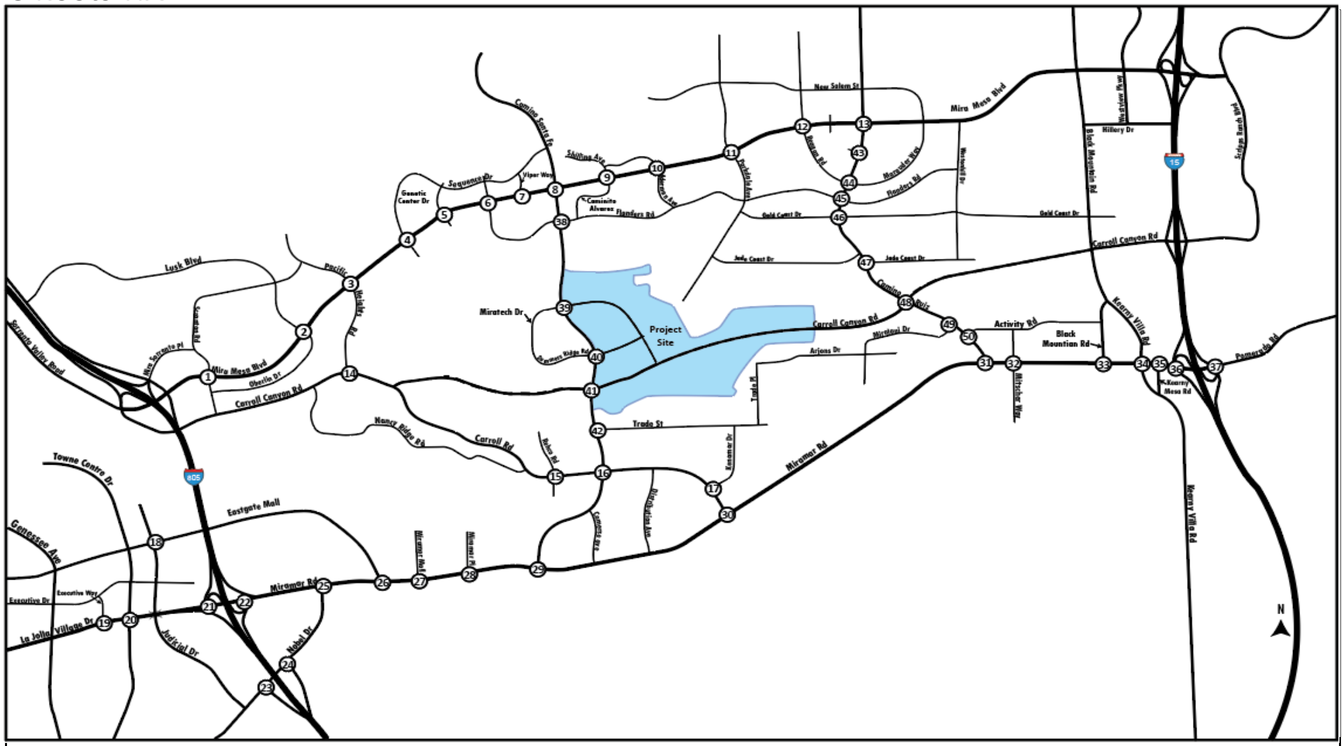
8.2 TRAFFIC VOLUMES

The Horizon Year 2050 baseline (no project) traffic volumes were derived by initially calculating the forecast growth in traffic from the SANDAG Series 12 Year 2020 Scenario 2 model to the Series 12 Year 2050 model. The Select Zone project trips were extracted from both the 2020 and 2050 model volumes prior to calculating the growth in traffic from 2020 to 2050.

Growth rates were developed based on the forecast growth from 2020 to 2050, and growth factors reflecting 25 years of growth from the year 2025 to the year 2050 were applied to the Near Term Year 2025 baseline (plus diverted non-project Carroll Canyon Road extension traffic) volumes to develop the Horizon Year 2050 baseline traffic volumes. The methodology for developing the Horizon Year 2050 volumes as described above is provided in **Appendix K**.

The Horizon Year 2050 baseline daily traffic volumes were then post-processed to develop the intersection turning movement volumes during the peak hours. The Horizon Year 2050 baseline a.m. and p.m. peak hour volumes were generated using the forecast growth from 2025 to 2050. Adjustments were made where appropriate to reflect changes in traffic patterns and growth for all study intersections. The Horizon Year 2050 With Project peak hour intersection volumes were then developed by manually adding the peak hour project trips to the Horizon Year 2050 baseline intersection volumes.

Figures 8-4 and **8-5** illustrate the traffic volumes at the study area intersections and roadway segments, respectively, under Horizon Year 2050 baseline (without project) conditions. **Figures 8-6** and **8-7** illustrate the traffic volumes at the study intersections and roadway segments, respectively, under Horizon Year 2050 conditions with the proposed project.



xx / yy = AM / PM Peak-Hour Turning Movement Volumes

The naming convention for intersections is North-South / East-West

Intersection	Top ←	Top ↓	Top →	Right ↑	Right ←	Right ↓	Left ↑	Left →	Left ↓	Bottom ←	Bottom ↑	Bottom →
1 / Scranton Rd @ Mira Mesa Blvd	136 / 433	59 / 179	64 / 111	101 / 97	1083 / 1578	36 / 92	999 / 212	2665 / 1038	743 / 168	76 / 423	75 / 104	15 / 21
2 / Lusk Blvd @ Mira Mesa Blvd	58 / 269	21 / 120	66 / 544	553 / 105	1149 / 1526	172 / 35	276 / 103	2370 / 1046	46 / 10	8 / 22	26 / 29	29 / 224
3 / Pacific Heights Rd @ Mira Mesa Blvd	121 / 478	32 / 274	114 / 1191	1260 / 119	1642 / 996	340 / 111	629 / 82	1341 / 1624	379 / 89	36 / 170	83 / 39	111 / 395
4 / Sequence Dr @ Mira Mesa Blvd	267 / 305	15 / 8	11 / 90	71 / 9	2658 / 650	95 / 21	334 / 232	874 / 2754	305 / 97	94 / 185	6 / 20	18 / 86
5 / Genetic Center Dr @ Mira Mesa Blvd	43 / 82	10 / 4	51 / 106	176 / 30	2772 / 663	151 / 34	106 / 54	746 / 2679	45 / 11	8 / 29	4 / 14	33 / 328
6 / Flanders Dr @ Mira Mesa Blvd	42 / 53	19 / 95	24 / 148	151 / 25	2821 / 472	46 / 52	64 / 62	464 / 2408	324 / 524	365 / 184	47 / 45	41 / 139
7 / Viper Way @ Mira Mesa Blvd	17 / 20	11 / 12	4 / 20	75 / 36	2684 / 437	50 / 62	32 / 28	311 / 2452	85 / 142	176 / 100	26 / 27	60 / 197
8 / Camino Santa Fe @ Mira Mesa Blvd	77 / 53	357 / 261	142 / 538	372 / 195	2848 / 430	755 / 160	29 / 64	310 / 2329	96 / 148	155 / 166	149 / 336	71 / 582
9 / Shilling Ave @ Mira Mesa Blvd	127 / 22	5 / 3	71 / 64	24 / 83	3785 / 786	33 / 62	24 / 137	475 / 3238	11 / 32	33 / 13	5 / 20	45 / 41
10 / Aderman Ave @ Mira Mesa Blvd	43 / 13	14 / 4	1 / 48	33 / 46	3749 / 894	20 / 50	7 / 37	531 / 3327	9 / 22	19 / 4	10 / 22	44 / 69
11 / Parkdale Ave @ Mira Mesa Blvd	228 / 68	103 / 51	78 / 29	36 / 85	3522 / 925	55 / 101	34 / 103	664 / 3100	32 / 212	92 / 39	29 / 80	74 / 107
12 / Reagan Rd @ Mira Mesa Blvd	232 / 75	130 / 132	57 / 52	14 / 75	3162 / 973	23 / 73	42 / 138	608 / 2594	63 / 284	183 / 167	54 / 164	19 / 41

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Figure 8-4a

Horizon Year 2050 Baseline Peak Hour Intersection Volumes

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

13 / Camino Ruiz @ Mira Mesa Blvd

← 224 / 134
↓ 539 / 464
→ 441 / 338

↑ 134 / 269
← 2926 / 1024
↓ 186 / 310

13

86 / 236 ↑
722 / 2160 →
25 / 63 ↓

← 98 / 151
↑ 326 / 644
→ 163 / 141

14 / Pacific Heights Rd @ Carroll Canyon Rd

← 133 / 558
→ 86 / 335

↑ 141 / 100
← 196 / 434

14

366 / 89 ↑
635 / 471 →

15 / Rehco Rd @ Carroll Rd

← 10 / 44
↓ 1 / 2
→ 42 / 258

↑ 207 / 24
← 631 / 206
↓ 56 / 17

15

66 / 6 ↑
257 / 864 →
8 / 18 ↓

← 1 / 14
↑ 1 / 1
→ 9 / 54

16 / Camino Santa Fe @ Carroll Rd

← 396 / 74
↓ 1460 / 1427
→ 90 / 80

↑ 64 / 128
← 258 / 68
↓ 69 / 89

16

73 / 366 ↑
102 / 286 →
127 / 461 ↓

← 319 / 129
↑ 760 / 170
→ 113 / 84

17 / Kenamar Dr @ Carroll Rd

← 1 / 0
↓ 107 / 401
→ 19 / 17

↑ 14 / 18
← 1 / 0
↓ 123 / 175

17

0 / 1 ↑
1 / 1 ↓

↑ 426 / 125
→ 182 / 72

18 / Judicial Dr @ Eastgate Mall

← 24 / 124
↓ 15 / 84
→ 3 / 74

↑ 50 / 7
← 833 / 299
↓ 111 / 104

18

168 / 24 ↑
312 / 915 →
87 / 250 ↓

← 271 / 139
↑ 120 / 9
→ 104 / 201

19 / Executive Way @ La Jolla Village Dr

← 62 / 415
↓ 17 / 92
→ 70 / 496

↑ 512 / 110
← 1308 / 1637
↓ 41 / 246

19

170 / 73 ↑
1539 / 1138 →
99 / 418 ↓

← 25 / 271
↑ 30 / 25
→ 31 / 247

20 / Town Centre Dr @ La Jolla Village Dr

← 42 / 198
↓ 50 / 264
→ 237 / 1058

↑ 1608 / 323
← 1729 / 1614
↓ 409 / 505

20

375 / 27 ↑
1044 / 1618 →
154 / 187 ↓

← 144 / 253
↑ 275 / 70
→ 399 / 843

21 / I-805 SB On/Off Ramps @ La Jolla Village Dr

← 1793 / 877
→ 838 / 242

↑ 594 / 923
← 1880 / 1437

21

1214 / 2212 →
485 / 1260 ↓

22 / I-805 NB On/Off Ramps @ Miramar Rd

↑ 664 / 945
← 1537 / 1811

22

1236 / 1135 →
792 / 1364 ↓

← 858 / 462
→ 304 / 145

23 / I-805 SB On Ramp @ Nobel Dr

← 1862 / 1351
↓ 192 / 271

23

437 / 715 →
716 / 619 ↓

24 / I-805 NB Off Ramp @ Nobel Dr

← 744 / 843

24

2 / 0 ↑
384 / 607 →

← 1080 / 693
→ 1029 / 687

25 / Nobel Dr @ Miramar Rd

← 2117 / 2607
↓ 515 / 727

25

1346 / 1237 →
310 / 72 ↓

← 131 / 218
→ 1109 / 1123

26 / Eastgate Mall @ Miramar Rd

← 206 / 445
→ 199 / 1161

↑ 1126 / 193
← 2452 / 3032
↓ 1 / 12

26

315 / 162 ↑
2145 / 2164 →

27 / Miramar Mall @ Miramar Rd

← 79 / 79
→ 40 / 113

↑ 77 / 36
← 3465 / 3180

27

81 / 30 ↑
2272 / 3148 →

28 / Miramar Pl @ Miramar Rd

← 98 / 119
→ 44 / 101

↑ 88 / 41
← 3236 / 2962
↓ 22 / 6

28

133 / 35 ↑
2326 / 3351 →

29 / Camino Santa Fe @ Miramar Rd

← 1214 / 1660
↓ 3 / 1
→ 77 / 153

↑ 119 / 77
← 2375 / 1427
↓ 22 / 20

29

1057 / 1143 ↑
1354 / 2241 →
28 / 106 ↓

← 22 / 54
↑ 3 / 67
→ 11 / 9

30 / Carroll Rd @ Miramar Rd

← 89 / 144
→ 118 / 394

↑ 568 / 115
← 2193 / 908
↓ 0 / 5

30

141 / 88 ↑
809 / 1903 →

31 / Camino Ruiz @ Miramar Rd

← 590 / 181
→ 853 / 663

↑ 361 / 922
← 3121 / 947

31

164 / 392 ↑
690 / 2310 →

32 / Mitscher Way @ Miramar Rd

← 90 / 29
↓ 85 / 50
→ 40 / 95

↑ 33 / 44
← 2771 / 1589
↓ 284 / 189

32

17 / 42 ↑
1160 / 2649 →
348 / 238 ↓

← 305 / 454
↑ 29 / 62
→ 227 / 478

H:\PDATA\168726_3Roots TIA\Planning\Analysis\Volumes\October 2018 Volumes\TIA Intersection Volumes_2050_Revised June 2018.xlsx\2050NP Fig2

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Figure 8-4b

Horizon Year 2050 Baseline Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

H:\PDATA\168726_3Roots TIA\Planning\Analysis\Volumes\October 2018 Volumes\TIA Intersection Volumes_2050_Revised June 2018.xlsx\2050NP Fig3

33 / Black Mountain Rd @ Miramar Rd

← 216 / 121		↑ 141 / 123
→ 118 / 370	33	← 2796 / 1706
		↓ 1 / 17
71 / 158 ↑		
1256 / 2690 →		

34 / Kearny Villa Rd @ Miramar Rd

← 187 / 65		↑ 126 / 175
→ 276 / 392	34	← 2717 / 1219
44 / 57 ↑		
1016 / 2265 →		

35 / Kearny Mesa Rd @ Miramar Rd

← 45 / 46		↑ 18 / 24
↓ 1 / 11	35	← 1809 / 1561
→ 46 / 98		↓ 29 / 57
39 / 39 ↑		← 237 / 48
1076 / 2727 →		↑ 13 / 13
49 / 134 ↓		→ 85 / 192

36 / I-15 SB On/Off Ramps @ Miramar Rd

← 1200 / 596		↑ 1041 / 999
→ 150 / 29	36	← 667 / 1006
580 / 1562 →		
605 / 1381 ↓		

37 / I-15 NB On/Off Ramps @ Pomerado Rd

		↑ 133 / 174
	37	← 1408 / 1267
232 / 477 →		← 490 / 684
500 / 1216 ↓		→ 716 / 774

38 / Camino Santa Fe @ Flanders Rd

← 178 / 49		↑ 178 / 66
↓ 1030 / 357	38	← 473 / 32
→ 70 / 295		↓ 400 / 62
18 / 120 ↑		← 116 / 92
28 / 595 →		↑ 239 / 1020
59 / 236 ↓		→ 52 / 644

39 / Camino Santa Fe @ Miratech Dr

← 232 / 28		
↓ 1545 / 769	39	
→ 3 / 1		
16 / 232 ↑		← 106 / 11
		↑ 441 / 1723
5 / 105 ↓		

40 / Camino Santa Fe @ Summers Ridge Rd

← 22 / 2		
↓ 1511 / 895	40	
2 / 22 ↑		← 206 / 13
		↑ 559 / 1958
35 / 257 ↓		

41 / Camino Santa Fe @ Carroll Canyon Rd

← 101 / 61		↑ 202 / 261
↓ 1054 / 731	41	← 522 / 402
→ 260 / 216		↓ 586 / 284
86 / 136 ↑		← 154 / 106
571 / 746 →		↑ 367 / 1451
171 / 106 ↓		→ 221 / 478

42 / Camino Santa Fe @ Trade St

← 15 / 5		↑ 70 / 196
↓ 1811 / 1121	42	← 18 / 2
→ 161 / 119		↓ 214 / 245
1 / 17 ↑		← 28 / 11
2 / 6 →		↑ 669 / 2115
3 / 22 ↓		→ 239 / 151

43 / Camino Ruiz @ Mira Mesa Mall Entrance

← 31 / 69		
↓ 640 / 651	43	
46 / 181 ↑		← 61 / 157
		↑ 521 / 777
22 / 110 ↓		

44 / Camino Ruiz @ Reagan Rd

← 19 / 51		↑ 90 / 91
↓ 620 / 679	44	← 239 / 163
→ 52 / 123		↓ 154 / 65
21 / 31 ↑		← 135 / 218
195 / 284 →		↑ 449 / 837
225 / 281 ↓		→ 103 / 158

45 / Camino Ruiz @ Flanders Dr

← 38 / 30		↑ 61 / 30
↓ 966 / 932	45	← 206 / 42
→ 27 / 69		↓ 126 / 38
30 / 83 ↑		← 61 / 54
44 / 281 →		↑ 593 / 1053
92 / 116 ↓		→ 63 / 58

46 / Camino Ruiz @ Gold Coast Dr

← 134 / 98		↑ 110 / 57
↓ 920 / 727	46	← 160 / 87
→ 82 / 208		↓ 124 / 24
227 / 69 ↑		← 42 / 96
122 / 289 →		↑ 307 / 1034
102 / 173 ↓		→ 27 / 79

47 / Camino Ruiz @ Jade Coast Dr

← 0 / 8		↑ 62 / 45
↓ 1361 / 901	47	← 1 / 1
→ 33 / 82		↓ 294 / 50
3 / 0 ↑		← 1 / 4
1 / 0 →		↑ 306 / 1424
14 / 4 ↓		→ 76 / 324

48 / Camino Ruiz @ Carroll Canyon Rd

← 414 / 191		↑ 158 / 583
↓ 1538 / 815	48	← 1113 / 858
→ 627 / 461		↓ 333 / 223
122 / 508 ↑		← 154 / 119
862 / 1102 →		↑ 250 / 1377
120 / 232 ↓		→ 101 / 376

49 / Camino Ruiz @ Miralani Rd

← 373 / 81		↑ 3 / 6
↓ 1440 / 1295	49	← 2 / 2
→ 0 / 7		↓ 2 / 10
40 / 409 ↑		← 506 / 79
0 / 4 →		↑ 595 / 1473
58 / 649 ↓		→ 6 / 11

50 / Camino Ruiz @ Activity Rd

← 0 / 10		↑ 553 / 239
↓ 1111 / 720	50	← 1 / 0
→ 251 / 910		↓ 191 / 45
0 / 14 →		← 8 / 12
0 / 1 ↓		↑ 486 / 1176
		→ 51 / 168

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Figure 8-4c

Horizon Year 2050 Baseline Peak Hour Intersection Volumes

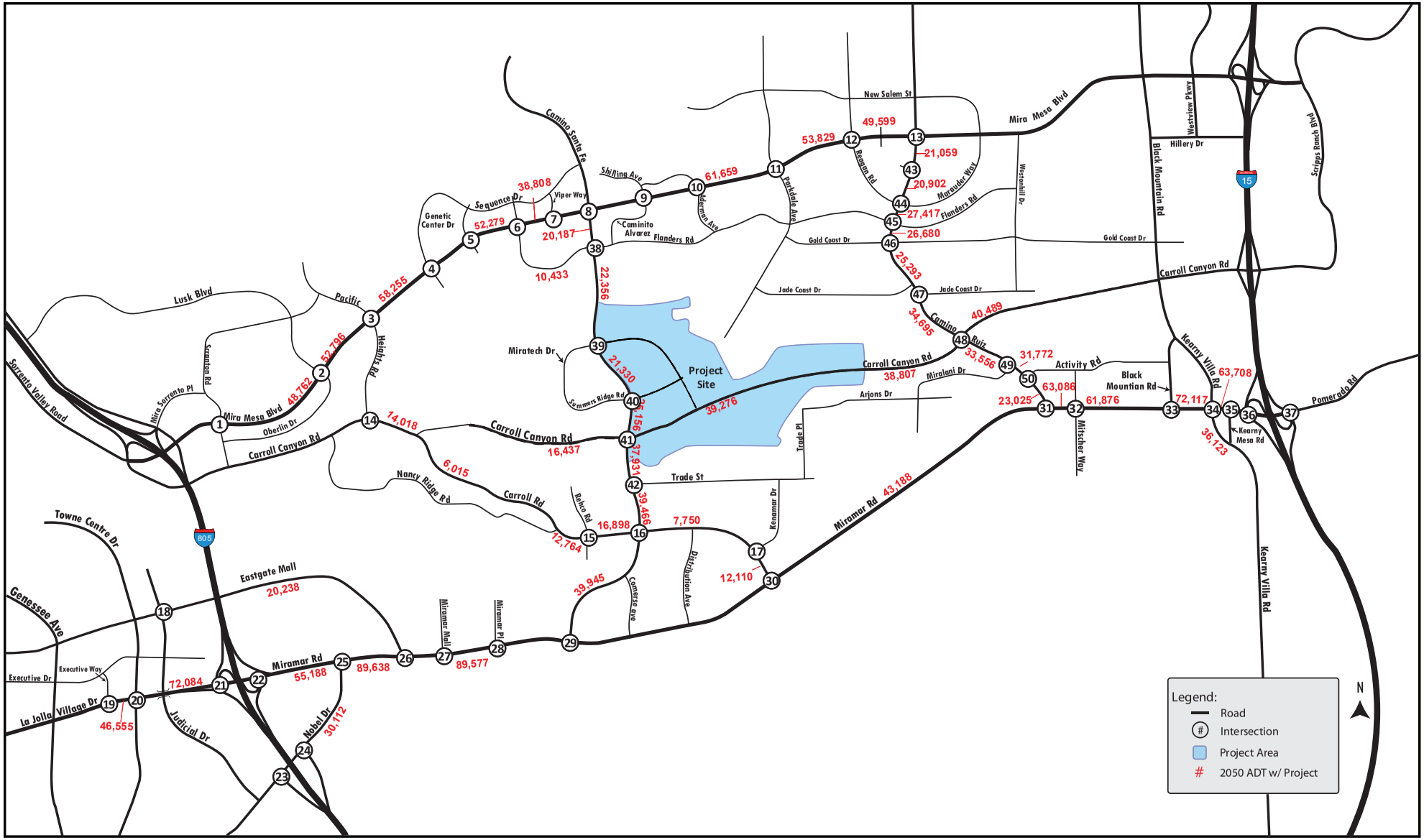

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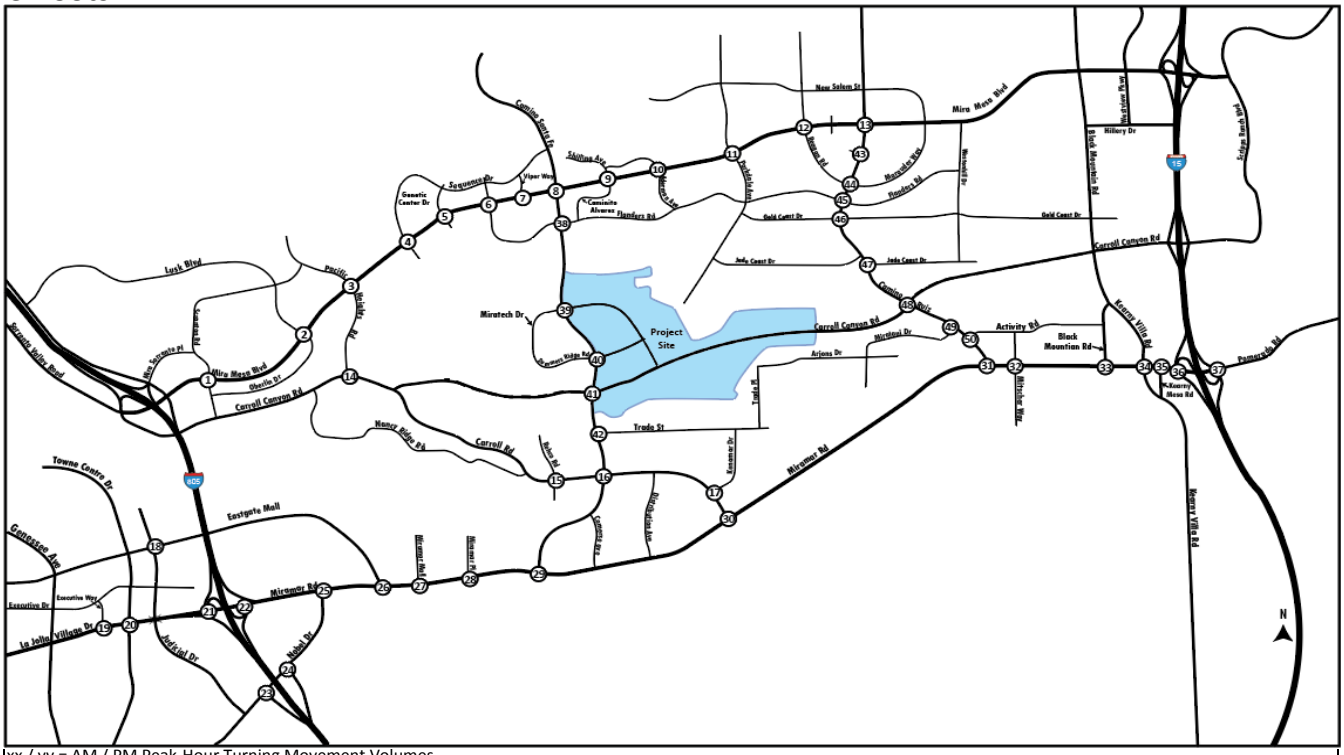
Figure 8-5
Horizon Year 2050 Baseline ADT Volumes

3 Roots TIA



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

1 / Scranton Rd @ Mira Mesa Blvd

136 / 433 ←	64 / 185 ↓	66 / 119 →
999 / 212 ↑	**1**	109 / 100 ↑
2667 / 1046 →		1091 / 1581 ←
753 / 189 ↓		36 / 92 ↓
	93 / 435 ←	79 / 109 ↑
	15 / 21 →	

2 / Lusk Blvd @ Mira Mesa Blvd

58 / 269 ←	21 / 120 ↓	66 / 544 →
276 / 103 ↑	**2**	553 / 105 ↑
2374 / 1062 →		1164 / 1533 ←
46 / 10 ↓		172 / 35 ↓
	8 / 22 ←	26 / 29 ↑
	29 / 224 →	

3 / Pacific Heights Rd @ Mira Mesa Blvd

121 / 478 ←	41 / 286 ↓	120 / 1215 →
629 / 82 ↑	**3**	1283 / 129 ↑
1345 / 1640 →		1657 / 1003 ←
379 / 89 ↓		340 / 111 ↓
	36 / 170 ←	91 / 49 ↑
	111 / 395 →	

4 / Sequence Dr @ Mira Mesa Blvd

267 / 305 ←	15 / 8 ↓	11 / 90 →
334 / 232 ↑	**4**	71 / 9 ↑
883 / 2795 →		2696 / 667 ←
305 / 97 ↓		107 / 29 ↓
	94 / 185 ←	6 / 20 ↑
	25 / 100 →	

5 / Genetic Center Dr @ Mira Mesa Blvd

43 / 82 ←	10 / 4 ↓	51 / 106 →
106 / 54 ↑	**5**	176 / 30 ↑
762 / 2734 →		2821 / 689 ←
45 / 11 ↓		151 / 34 ↓
	8 / 29 ←	4 / 14 ↑
	35 / 336 →	

6 / Flanders Dr @ Mira Mesa Blvd

42 / 53 ←	26 / 109 ↓	24 / 148 →
64 / 62 ↑	**6**	151 / 25 ↑
475 / 2438 →		2848 / 487 ←
330 / 548 ↓		46 / 52 ↓
	388 / 194 ←	59 / 53 ↑
	41 / 139 →	

7 / Viper Way @ Mira Mesa Blvd

17 / 20 ←	11 / 12 ↓	4 / 20 →
32 / 28 ↑	**7**	75 / 36 ↑
322 / 2482 →		2711 / 452 ←
85 / 142 ↓		50 / 62 ↓
	176 / 100 ←	26 / 27 ↑
	60 / 197 →	

8 / Camino Santa Fe @ Mira Mesa Blvd

77 / 53 ←	380 / 319 ↓	142 / 538 →
29 / 64 ↑	**8**	372 / 195 ↑
310 / 2329 →		2848 / 430 ←
107 / 178 ↓		770 / 196 ↓
	182 / 181 ←	199 / 367 ↑
	102 / 602 →	

9 / Shilling Ave @ Mira Mesa Blvd

132 / 28 ←	5 / 3 ↓	71 / 64 →
28 / 142 ↑	**9**	24 / 83 ↑
502 / 3253 →		3796 / 816 ←
11 / 32 ↓		33 / 62 ↓
	33 / 13 ←	5 / 20 ↑
	45 / 41 →	

10 / Aderman Ave @ Mira Mesa Blvd

43 / 13 ←	14 / 4 ↓	1 / 48 →
7 / 37 ↑	**10**	33 / 46 ↑
558 / 3342 →		3760 / 924 ←
9 / 22 ↓		20 / 50 ↓
	19 / 4 ←	10 / 22 ↑
	44 / 69 →	

11 / Parkdale Ave @ Mira Mesa Blvd

237 / 90 ←	103 / 51 ↓	78 / 29 →
53 / 115 ↑	**11**	36 / 85 ↑
672 / 3103 →		3524 / 933 ←
32 / 212 ↓		55 / 101 ↓
	92 / 39 ←	29 / 80 ↑
	74 / 107 →	

12 / Reagan Rd @ Mira Mesa Blvd

232 / 75 ←	130 / 132 ↓	57 / 52 →
42 / 138 ↑	**12**	14 / 75 ↑
616 / 2597 →		3164 / 981 ←
63 / 284 ↓		23 / 73 ↓
	183 / 167 ←	54 / 164 ↑
	19 / 41 →	

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Figure 8-6a

Horizon Year 2050 With Project Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

H:\PDATA\168726_3Roots TIA\Planning\Analysis\Volumes\October 2018 Volumes\[TIA Intersection Volumes_2050_Revised June 2018.xlsx]2050WP Fig2

13 / Camino Ruiz @ Mira Mesa Blvd

← 224 / 134
↓ 550 / 485
→ 441 / 338

↑ 134 / 269
← 2926 / 1024
↓ 186 / 310

13

86 / 236 ↑
722 / 2160 →
25 / 63 ↓

← 98 / 151
↑ 342 / 658
→ 163 / 141

14 / Pacific Heights Rd @ Carroll Canyon Rd

← 133 / 558
→ 102 / 361

↑ 161 / 118
← 303 / 513

14

366 / 89 ↑
697 / 601 →

15 / Rehco Rd @ Carroll Rd

← 10 / 44
↓ 1 / 2
→ 55 / 287

↑ 231 / 42
← 651 / 219
↓ 56 / 17

15

66 / 6 ↑
266 / 887 →
8 / 18 ↓

← 1 / 14
↑ 1 / 1
→ 9 / 54

16 / Camino Santa Fe @ Carroll Rd

← 435 / 100
↓ 1705 / 1606
→ 129 / 106

↑ 82 / 175
← 258 / 68
↓ 69 / 89

16

91 / 413 ↑
102 / 286 →
127 / 461 ↓

← 319 / 129
↑ 900 / 200!
→ 113 / 84

17 / Kenamar Dr @ Carroll Rd

← 1 / 0
↓ 119 / 410
→ 19 / 17

↑ 14 / 18
← 1 / 0
↓ 123 / 175

17

0 / 1 ↑
1 / 1 ↓

↑ 433 / 140
→ 182 / 72

18 / Judicial Dr @ Eastgate Mall

← 24 / 124
↓ 15 / 84
→ 3 / 74

↑ 50 / 7
← 868 / 320
↓ 123 / 113

18

168 / 24 ↑
326 / 956 →
87 / 250 ↓

← 271 / 139
↑ 120 / 9
→ 111 / 216

19 / Executive Way @ La Jolla Village Dr

← 62 / 415
↓ 17 / 92
→ 75 / 502

↑ 516 / 115
← 1344 / 1663
↓ 49 / 250

19

170 / 73 ↑
1559 / 1181 →
99 / 418 ↓

← 25 / 271
↑ 30 / 25
→ 33 / 256

20 / Town Centre Dr @ La Jolla Village Dr

← 42 / 198
↓ 50 / 264
→ 237 / 1058

↑ 1608 / 323
← 1776 / 1649
↓ 421 / 514

20

375 / 27 ↑
1072 / 1676 →
154 / 187 ↓

← 144 / 253
↑ 275 / 70
→ 406 / 858

21 / I-805 SB On/Off Ramps @ La Jolla Village Dr

← 1793 / 877
→ 838 / 242

↑ 622 / 945
← 1939 / 1481

21

1249 / 2284 →
485 / 1260 ↓

22 / I-805 NB On/Off Ramps @ Miramar Rd

↑ 664 / 945
← 1624 / 1877

22

1271 / 1207 →
792 / 1364 ↓

← 858 / 462
→ 322 / 179

23 / I-805 SB On Ramp @ Nobel Dr

← 1878 / 1365
↓ 239 / 306

23

448 / 736 →
716 / 619 ↓

24 / I-805 NB Off Ramp @ Nobel Dr

← 807 / 892

24

2 / 0 ↑
395 / 628 →

← 1080 / 693
→ 1057 / 745

25 / Nobel Dr @ Miramar Rd

← 2204 / 2673
↓ 578 / 776

25

1399 / 1344 →
310 / 72 ↓

← 131 / 218
→ 1148 / 1201

26 / Eastgate Mall @ Miramar Rd

← 206 / 445
→ 219 / 1216

↑ 1173 / 223
← 2602 / 3147
↓ 1 / 12

26

315 / 162 ↑
2237 / 2349 →

27 / Miramar Mall @ Miramar Rd

← 79 / 79
→ 40 / 113

↑ 77 / 36
← 3662 / 3324

27

81 / 30 ↑
2385 / 3388 →

28 / Miramar Pl @ Miramar Rd

← 98 / 119
→ 51 / 116

↑ 100 / 50
← 3433 / 3106
↓ 22 / 6

28

133 / 35 ↑
2439 / 3591 →

29 / Camino Santa Fe @ Miramar Rd

← 1423 / 1813
↓ 3 / 1
→ 77 / 153

↑ 119 / 77
← 2375 / 1427
↓ 22 / 20

29

1176 / 1397 ↑
1354 / 2241 →
28 / 106 ↓

← 22 / 54
↑ 3 / 67
→ 11 / 9

30 / Carroll Rd @ Miramar Rd

← 89 / 144
→ 130 / 403

↑ 575 / 130
← 2193 / 908
↓ 0 / 5

30

141 / 88 ↑
809 / 1903 →

31 / Camino Ruiz @ Miramar Rd

← 602 / 190
→ 960 / 747

↑ 430 / 1055
← 3121 / 947

31

171 / 407 ↑
690 / 2310 →

32 / Mitscher Way @ Miramar Rd

← 90 / 29
↓ 85 / 50
→ 40 / 95

↑ 33 / 44
← 2840 / 1722
↓ 284 / 189

32

17 / 42 ↑
1267 / 2733 →
348 / 238 ↓

← 305 / 454
↑ 29 / 62
→ 227 / 478

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Figure 8-6b

Horizon Year 2050 With Project Peak Hour Intersection Volumes

3 Roots TIA

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

H:\PDATA\168726_3Roots TIA\Planning\Analysis\Volumes\October 2018 Volumes\TIA Intersection Volumes_2050_Revised June 2018.xlsx\2050WP Fig3

33 / Black Mountain Rd @ Miramar Rd

← 216 / 121	→ 118 / 370	↑ 141 / 123
		← 2865 / 1839
		↓ 1 / 17

33

71 / 158 ↑		
1363 / 2774 →		

34 / Kearny Villa Rd @ Miramar Rd

← 187 / 65	→ 276 / 392	↑ 126 / 175
		← 2754 / 1289

34

44 / 57 ↑		
1103 / 2326 →		

35 / Kearny Mesa Rd @ Miramar Rd

← 45 / 46	↓ 1 / 11	→ 46 / 98
		↑ 18 / 24
		← 1846 / 1631
		↓ 29 / 57

35

39 / 39 ↑	← 237 / 48	→ 85 / 192
1131 / 2772 →	↑ 13 / 13	
49 / 134 ↓		

36 / I-15 SB On/Off Ramps @ Miramar Rd

← 1200 / 596	→ 150 / 29	↑ 1041 / 999
		← 704 / 1076

36

592 / 1571 →		
649 / 1417 ↓		

37 / I-15 NB On/Off Ramps @ Pomerado Rd

		↑ 133 / 174
		← 1415 / 1282

37

244 / 486 →	← 520 / 739	→ 716 / 774
500 / 1216 ↓		

38 / Camino Santa Fe @ Flanders Rd

← 178 / 49	↓ 1082 / 488	→ 70 / 295
		↑ 178 / 66
		← 473 / 32
		↓ 411 / 83

38

18 / 120 ↑	← 183 / 134	→ 68 / 658
28 / 595 →	↑ 349 / 1093	
88 / 314 ↓		

39 / Camino Santa Fe @ Miratech Dr

← 232 / 28	↓ 1644 / 976	→ 21 / 79
		↑ 71 / 32
		← 3 / 0
		↓ 69 / 32

39

16 / 232 ↑	← 106 / 11	→ 18 / 76
0 / 3 →	↑ 606 / 1853	
5 / 105 ↓		

40 / Camino Santa Fe @ Summers Ridge Rd

← 22 / 2	↓ 1582 / 974	→ 82 / 153
		↑ 66 / 46
		← 4 / 1
		↓ 197 / 131

40

2 / 22 ↑	← 206 / 13	→ 29 / 125
1 / 4 →	↑ 691 / 2125	
35 / 257 ↓		

41 / Camino Santa Fe @ Carroll Canyon Rd

← 167 / 104	↓ 1254 / 852	→ 277 / 270
		↑ 304 / 365
		← 610 / 480
		↓ 821 / 471

41

153 / 257 ↑	← 154 / 106	→ 295 / 651
603 / 816 →	↑ 533 / 1799	
171 / 106 ↓		

42 / Camino Santa Fe @ Trade St

← 15 / 5	↓ 2147 / 1366	→ 197 / 145
		↑ 90 / 239
		← 18 / 2
		↓ 214 / 245

42

1 / 17 ↑	← 28 / 11	→ 239 / 151
2 / 6 →	↑ 846 / 2505	
3 / 22 ↓		

43 / Camino Ruiz @ Mira Mesa Mall Entrance

← 31 / 69	↓ 651 / 672	

43

46 / 181 ↑	← 69 / 161	
24 / 119 ↓	↑ 537 / 791	

44 / Camino Ruiz @ Reagan Rd

← 19 / 51	↓ 633 / 708	→ 52 / 123
		↑ 90 / 91
		← 239 / 163
		↓ 161 / 80

44

21 / 31 ↑	← 135 / 218	→ 115 / 167
195 / 284 →	↑ 473 / 855	
225 / 281 ↓		

45 / Camino Ruiz @ Flanders Dr

← 38 / 30	↓ 986 / 975	→ 27 / 69
		↑ 61 / 30
		← 206 / 42
		↓ 126 / 38

45

30 / 83 ↑	← 61 / 54	→ 63 / 58
44 / 281 →	↑ 629 / 1079	
92 / 116 ↓		

46 / Camino Ruiz @ Gold Coast Dr

← 134 / 98	↓ 940 / 770	→ 82 / 208
		↑ 110 / 57
		← 160 / 87
		↓ 129 / 30

46

227 / 69 ↑	← 42 / 96	→ 31 / 84
122 / 289 →	↑ 343 / 1060	
102 / 173 ↓		

47 / Camino Ruiz @ Jade Coast Dr

← 0 / 8	↓ 1391 / 956	→ 33 / 82
		↑ 62 / 45
		← 1 / 1
		↓ 299 / 56

47

3 / 0 ↑	← 9 / 14	→ 80 / 329
1 / 0 →	↑ 350 / 1460	
23 / 16 ↓		

48 / Camino Ruiz @ Carroll Canyon Rd

← 472 / 280	↓ 1538 / 815	→ 627 / 461
		↑ 218 / 654
		← 1318 / 1213
		↓ 377 / 275

48

146 / 520 ↑	← 251 / 309	→ 101 / 376
1003 / 1174 →	↑ 250 / 1377	
214 / 280 ↓		

49 / Camino Ruiz @ Miralani Rd

← 385 / 90	↓ 1582 / 1406	→ 0 / 7
		↑ 3 / 6
		← 2 / 2
		↓ 2 / 10

49

47 / 424 ↑	← 506 / 79	→ 6 / 11
0 / 4 →	↑ 685 / 1650	
58 / 649 ↓		

50 / Camino Ruiz @ Activity Rd

← 0 / 10	↓ 1230 / 813	→ 275 / 928
		↑ 566 / 268
		← 1 / 0
		↓ 191 / 45

50

0 / 14 →	← 8 / 12	→ 51 / 168
0 / 1 ↓	↑ 562 / 1323	

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Figure 8-6c

Horizon Year 2050 With Project Peak Hour Intersection Volumes

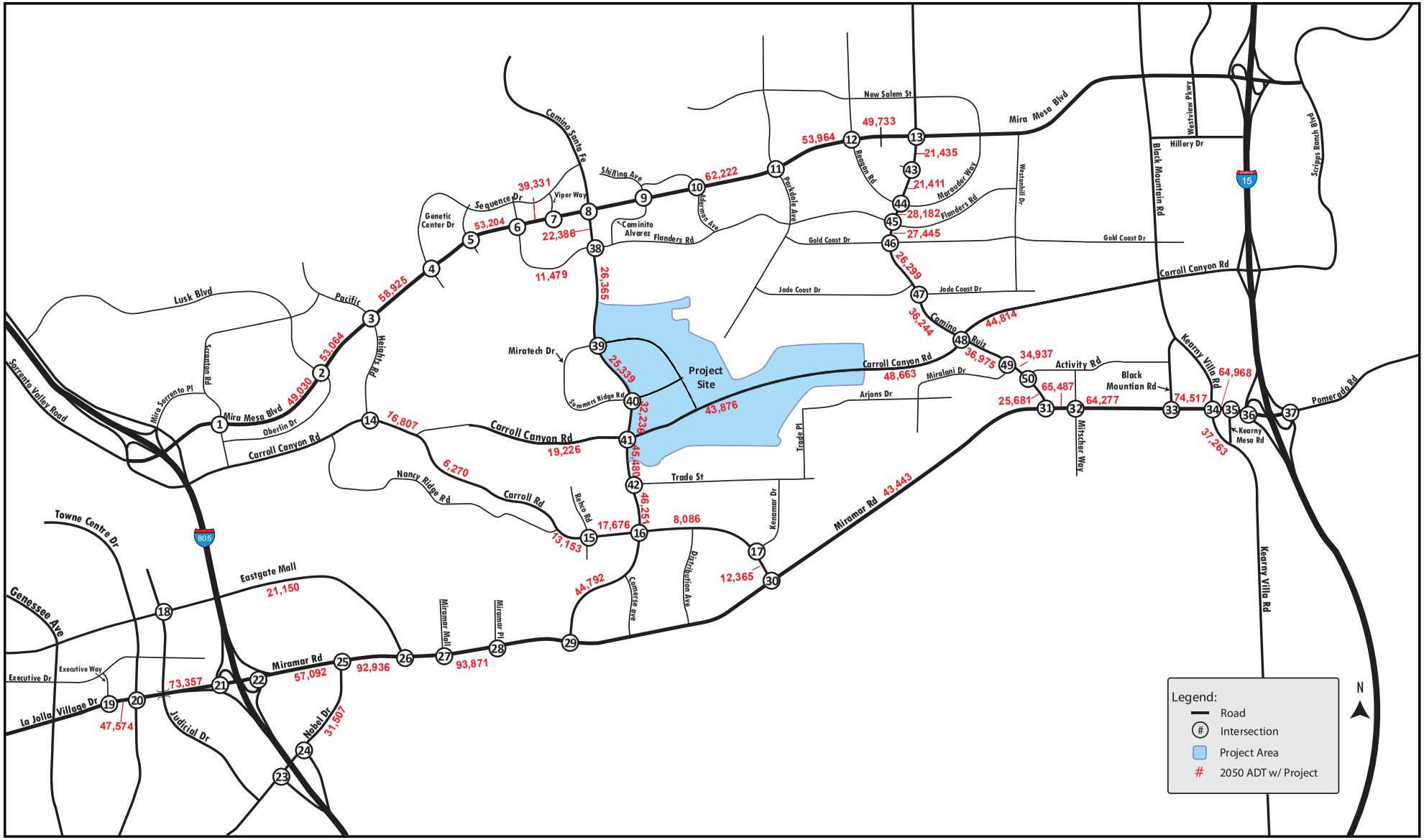

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Figure 8-7
Horizon Year 2050 With Project ADT Volumes

8.3 INTERSECTION ANALYSIS

Table 8-2 displays the LOS analysis results for the study intersections under the Horizon Year 2050 Baseline and With Project conditions. **Appendix E** contains the intersection LOS worksheets.

As shown in the table, the following fourteen (14) intersections are forecast to operate at an unacceptable LOS under Horizon Year 2050 conditions without the project:

3. Pacific Heights and Mira Mesa Boulevard (PM: LOS E)
8. Camino Santa Fe and Mira Mesa Boulevard (AM: LOS E; PM: LOS F)
13. Camino Ruiz and Mira Mesa Boulevard (AM: LOS F, PM: LOS E)
16. Camino Santa Fe and Carroll Road (AM: LOS E; PM: LOS F)
18. Eastgate Mall and Judicial Drive (AM: LOS E)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
21. La Jolla Village Dr & I-805 SB On/Off Ramps (AM: LOS E)
26. Eastgate Mall and Miramar Road (PM: LOS F)
29. Camino Santa Fe and Miramar Road (AM: LOS F, PM: LOS F)
31. Camino Ruiz and Miramar Road (AM: LOS F)
32. Mitscher Way and Miramar Road (PM: LOS E)
34. Kearny Villa Road and Miramar Road (AM: LOS F, PM: LOS F)
38. Flanders Drive and Camino Santa Fe (PM: LOS F)
42. Trade Street and Camino Santa Fe (PM: LOS F)

As shown in Table 8-2, the addition of traffic generated by the proposed project would result in increases in delay exceeding the City's significance thresholds for intersection operations (2.0 seconds for LOS E and 1.0 second for LOS F) at the following eleven (11) study intersections:

3. Pacific Heights and Mira Mesa Boulevard (PM: LOS F)
8. Camino Santa Fe and Mira Mesa Boulevard (PM: LOS F)
16. Camino Santa Fe and Carroll Road (AM: LOS E; PM: LOS F)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
26. Eastgate Mall and Miramar Road (PM: LOS F)
29. Camino Santa Fe and Miramar Road (AM: LOS F, PM: LOS F)
31. Camino Ruiz and Miramar Road (AM: LOS F)
32. Mitscher Way and Miramar Road (PM: LOS E)
34. Kearny Villa Road and Miramar Way (AM: LOS F, PM: LOS F)
38. Flanders Drive and Camino Santa Fe (PM: LOS F)
42. Trade Street and Camino Santa Fe (PM: LOS F)

Therefore, the addition of project-related traffic would result in significant impacts at the eleven (11) above-listed intersections and mitigation measures are required.

TABLE 8-2: HORIZON YEAR 2050 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Horizon Year 2050 Without Project		Horizon Year 2050 With Project		Δ in Delay	Significant Impact? [c]
				Delay [a]	LOS[b]	Delay[a]	LOS [b]		
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	31.7	C	32.6	C	0.9	
			PM	50.1	D	50.5	D	0.4	
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	30.7	C	30.8	C	0.1	
			PM	51.8	D	51.8	D	0.0	
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	47.0	D	47.7	D	0.7	
			PM	83.4	F	86.8	F	3.2	YES
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	46.4	D	50.3	D	3.9	
			PM	47.7	D	49.7	D	2.0	
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	15.6	B	16.3	B	0.7	
			PM	46.5	D	46.6	D	0.1	
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	30.5	C	35.6	D	5.1	
			PM	41.3	D	49.0	D	7.7	
7	Viper Way & Mira Mesa Blvd	Signal	AM	12.4	B	12.6	B	0.2	
			PM	17.7	B	17.9	B	0.2	
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	68.2	E	73.5	E	5.3	YES
			PM	99.2	F	107.7	F	8.5	YES
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	16.8	B	18.1	B	1.3	
			PM	11.9	B	12.1	B	0.2	
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	10.6	B	10.7	A	0.1	
			PM	13.3	B	13.4	B	0.1	
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	38.2	D	45.9	D	7.7	
			PM	28.4	C	28.9	C	0.5	
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	52.8	D	53.0	D	0.2	
			PM	32.6	C	32.7	C	0.1	
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	90.4	F	90.5	F	0.1	No
			PM	59.3	E	60.3	E	1.0	No
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	13.4	B	15.2	B	1.8	
			PM	15.6	B	17.5	B	1.9	
15	Rehco Rd & Carroll Rd	Signal	AM	5.9	A	6.5	A	0.6	
			PM	22.1	C	26.0	C	3.9	
16	Camino Santa Fe & Carroll Rd	Signal	AM	70.9	E	118.7	F	47.8	YES
			PM	137.0	F	151.8	F	14.8	YES
17	Kenamar Dr & Carroll Rd	Signal	AM	16.7	B	16.8	B	0.1	
			PM	11.0	B	11.4	B	0.4	
18	Eastgate Mall & Judicial Dr	Signal	AM	63.1	E	64.9	E	1.8	No
			PM	34.6	C	36.9	D	2.3	
19	Executive Way & La Jolla Village Dr	Signal	AM	19.2	B	19.8	B	0.6	
			PM	51.5	D	53.6	D	2.1	
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	46.0	D	46.5	D	0.5	
			PM	112.3	F	117.7	F	5.4	YES

TABLE 8-2: HORIZON YEAR 2050 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Horizon Year 2050 Without Project		Horizon Year 2050 With Project		Δ in Delay	Significant Impact? [c]
				Delay [a]	LOS[b]	Delay[a]	LOS [b]		
21	La Jolla Village Dr & I-805 SB On/Off Ramps	Signal	AM	70.0	E	70.9	E	0.9	
			PM	18.8	B	19.0	B	0.2	
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	15.7	B	15.8	B	0.1	
			PM	11.7	B	11.8	B	0.1	
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	4.4	A	4.8	A	0.4	
			PM	4.7	A	5.2	A	0.5	
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	20.8	C	21.1	C	0.3	
			PM	20.4	C	21.0	C	0.6	
25	Nobel Dr & Miramar Rd	Signal	AM	31.4	C	33.0	C	1.6	
			PM	29.9	C	30.9	C	1.0	
26	Eastgate Mall & Miramar Rd	Signal	AM	30.6	C	32.8	C	2.2	
			PM	105.5	F	130.7	F	25.2	YES
27	Miramar Mall & Miramar Rd	Signal	AM	15.7	B	21.3	C	5.6	
			PM	12.7	B	16.9	B	4.2	
28	Miramar Pl & Miramar Rd	Signal	AM	24.9	C	25.9	C	1.0	
			PM	12.5	B	13.1	B	0.6	
29	Camino Santa Fe & Miramar Rd	Signal	AM	148.1	F	166.3	F	18.2	YES
			PM	77.2	E	112.7	F	35.5	YES
30	Carroll Rd & Miramar Rd	Signal	AM	19.4	B	19.5	B	0.1	
			PM	19.8	C	20.4	C	0.6	
31	Camino Ruiz & Miramar Rd	Signal	AM	91.5	F	96.8	F	5.3	YES
			PM	36.1	D	36.2	D	0.1	
32	Mitscher Way & Miramar Rd	Signal	AM	33.6	C	36.1	D	2.5	
			PM	71.6	E	71.7	E	0.1	YES
33	Black Mountain Rd & Miramar Rd	Signal	AM	10.3	B	10.3	A	0.0	
			PM	19.1	C	19.5	B	0.4	
34	Kearny Villa Rd & Miramar Rd	Signal	AM	140.3	F	146.5	F	6.2	YES
			PM	115.8	F	124.2	F	8.4	YES
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	28.5	C	28.9	C	0.4	
			PM	23.0	C	23.5	C	0.5	
36	Miramar Rd & I-15 SB On/Off Ramps	Signal	AM	19.2	B	19.3	B	0.1	
			PM	13.0	B	13.2	B	0.2	
37	Miramar Rd/Pomerado Rd & I-15 NB On/Off Ramps	Signal	AM	23.8	C	23.9	C	0.1	
			PM	24.4	C	24.7	C	0.3	
38	Flanders Dr & Camino Santa Fe	Signal	AM	46.5	D	52.2	D	5.7	
			PM	92.6	F	109.2	F	16.6	YES
39	Miratech Dr & Camino Santa Fe	Signal	AM	8.1	A	16.7	B	8.6	
			PM	9.2	A	16.5	B	7.3	
40	Summers Ridge Rd & Camino Santa Fe	Signal	AM	8.4	A	20.0	C	11.6	
			PM	7.2	A	20.3	B	13.1	

TABLE 8-2: HORIZON YEAR 2050 PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Horizon Year 2050 Without Project		Horizon Year 2050 With Project		Δ in Delay	Significant Impact? (c)
				Delay (a)	LOS(b)	Delay(a)	LOS (b)		
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	45.9	D	63.1	D	17.2	
			PM	84.9	D	108.3	D	23.4	
42	Trade St & Camino Santa Fe	Signal	AM	16.1	B	20.2	C	4.1	
			PM	108.8	F	118.1	F	9.3	YES
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	7.5	A	7.7	A	0.2	
			PM	15.5	B	15.6	B	0.1	
44	Reagan Rd & Camino Ruiz	Signal	AM	25.4	C	25.7	C	0.3	
			PM	27.4	C	27.8	C	0.4	
45	Flanders Dr & Camino Ruiz	Signal	AM	21.2	C	21.3	C	0.1	
			PM	20.5	C	20.6	C	0.1	
46	Gold Coast Dr & Camino Ruiz	Signal	AM	33.1	C	33.2	C	0.1	
			PM	38.1	D	46.0	D	7.9	
47	Jade Coast Dr & Camino Ruiz	Signal	AM	22.6	C	22.9	C	0.3	
			PM	10.0	A	10.0	A	0.0	
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	41.0	D	52.8	D	11.8	
			PM	49.7	D	54.9	E	5.2	
49	Miralani Dr & Camino Ruiz	Signal	AM	14.6	B	17.0	B	2.4	
			PM	29.0	C	30.5	C	1.4	
50	Activity Rd & Camino Ruiz	Signal	AM	15.6	B	15.8	B	0.2	
			PM	47.2	D	47.5	D	0.3	

Notes:

(a) Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual (HCM)* and performed using Synchro 9.

(c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F or take LOS from D to E or F.

8.4 ROADWAY SEGMENT ANALYSIS

Table 8-2 summarizes the roadway segment capacity analysis results under Horizon Year 2050 Baseline and With Project Conditions. As shown in the table, the following segments are forecast to operate at a deficient LOS E or F under Horizon Year 2050 conditions without the project:

C. Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive (LOS E)
F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue (LOS F)
G. Mira Mesa Boulevard from Parkdale Avenue to Reagan Road (LOS F)
H. Mira Mesa Boulevard from Reagan Road to Camino Ruiz (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
V. La Jolla Village Drive from Towne Center Drive to I-805 SB Ramps (LOS E)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AA. Miramar Road from Carroll Road to Camino Ruiz (LOS E)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)
AJ. Camino Santa Fe from Carroll Canyon Road to Trade Street (LOS F)
AK. Camino Santa Fe from Trade Street to Carroll Road (LOS F)
AL. Camino Santa Fe from Carroll Road to Miramar Road (LOS F)

The addition of project-related traffic to Horizon Year 2050 traffic volumes would result in increases in the v/c ratios that exceed the City's significance threshold (0.02 for LOS E and 0.01 for LOS F), or result in changes in LOS from an acceptable LOS (LOS D or better) to a deficient (LOS E or F) LOS on the following roadway segments, resulting in significant impacts and requiring mitigation measures:

F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue (LOS F)
P. Carroll Road from Nancy Ridge Road to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial Drive to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)
AJ. Camino Santa Fe from Carroll Canyon Road to Trade Street (LOS F)
AK. Camino Santa Fe from Trade Street to Carroll Road (LOS F)
AL. Camino Santa Fe from Carroll Road to Miramar Road (LOS F)

TABLE 8-3: HORIZON YEAR 2050 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Horizon Year 2050 Without Project			Horizon Year 2050 With Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio [a]	LOS	ADT	v/c Ratio[a]	LOS		
Mira Mesa Blvd											
A	Scranton Rd to Lusk Blvd-Oberlin Dr	Primary Arterial/6	60,000	48,762	0.813	C	49,030	0.817	C	0.004	
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	Primary Arterial/6	60,000	52,796	0.880	D	53,064	0.884	D	0.004	
C	Pacific Heights Blvd to Sequence Dr	Primary Arterial/6	60,000	58,255	0.971	E	58,925	0.982	E	0.011	No
D	Sequence Dr to Flanders Dr	Primary Arterial/6	60,000	52,279	0.871	D	53,204	0.887	D	0.015	
E	Flanders to Camino Santa Fe	Primary Arterial/6	60,000	38,808	0.647	C	39,331	0.656	C	0.009	
F	Camino Santa Fe to Parkdale Ave	Major/6	50,000	61,659	1.233	F	62,222	1.244	F	0.011	Yes
G	Parkdale Ave to Reagan Rd	Major/6	50,000	53,829	1.077	F	53,964	1.079	F	0.003	No
H	Reagan Rd to Camino Ruiz	Major/6	50,000	49,599	0.992	E	49,733	0.995	E	0.003	No
Flanders Dr											
I	Mira Mesa Blvd to Camino Santa Fe	Collector/4 (no center lane)	15,000	10,433	0.696	D	11,479	0.765	D	0.069	
Carroll Canyon Rd											
J	Pacific Heights Blvd to Fenton Rd	Collector/4	30,000	14,018	0.467	C	16,807	0.560	C	0.093	
K	Carroll Rd to Camino Santa Fe	Major / 4 [b]	40,000	16,437	0.411	A	19,226	0.481	A	0.070	
L	Camino Santa Fe to East Project Boundary	Primary Arterial/6	60,000	39,276	0.655	C	43,876	0.731	C	0.076	
M	East Project Boundary to Camino Ruiz	Primary Arterial/6	60,000	38,807	0.647	C	48,663	0.811	C	0.164	
N	Camino Ruiz to Black Mountain Rd	Major/6	50,000	40,489	0.810	D	44,814	0.896	D	0.086	
Carroll Rd											
O	Fenton Rd to Nancy Ridge Dr	Collector/2 (with TWLTL)	15,000	6,015	0.401	B	6,270	0.418	B	0.017	
P	Nancy Ridge Dr to Rehco Rd	Collector/2 (with TWLTL)	15,000	12,764	0.851	D	13,153	0.877	E	0.026	Yes
Q	Rehco Rd to Camino Santa Fe	Collector/2 (with TWLTL)	15,000	16,898	1.127	F	17,676	1.178	F	0.052	Yes
R	Camino Santa Fe to Kenamar Dr	Collector/2 (with TWLTL)	15,000	7,570	0.505	C	8,086	0.539	C	0.034	
S	Kenamar Dr to Miramar Rd	Collector/3	22,500	12,110	0.538	D	12,365	0.550	D	0.011	

TABLE 8-3: HORIZON YEAR 2050 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Horizon Year 2050 Without Project			Horizon Year 2050 With Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio [a]	LOS	ADT	v/c Ratio[a]	LOS		
Eastgate Mall											
T	Judicial Dr to Miramar Rd	Collector/2 (with TWLTL)	15,000	20,238	1.349	F	21,150	1.410	F	0.061	Yes
La Jolla Village Dr											
U	Executive Way to Towne Center Dr	Primary Arterial/6	60,000	46,555	0.776	C	47,574	0.793	C	0.017	
V	Towne Center Dr to I-805 SB Ramps	Primary Arterial/8	80,000	72,084	0.901	E	73,357	0.917	E	0.016	No
Nobel Dr											
W	I-805 NB Off Ramp to Miramar Rd	Major /4	40,000	30,112	0.753	D	31,507	0.788	D	0.035	
Miramar Rd											
X	I-805 Ramps to Nobel Drive	Primary Arterial/8	80,000	55,188	0.690	C	57,092	0.714	C	0.024	
Y	Nobel Dr to Eastgate Mall	Primary Arterial/7	70,000	89,638	1.281	F	92,936	1.328	F	0.047	Yes
Z	Eastgate Mall to Camino Santa Fe	Major/6 (with TWLTL)	45,000	89,577	1.991	F	93,871	2.086	F	0.095	Yes
AA	Carroll Rd to Camino Ruiz	Major/6 (with TWLTL)	45,000	43,188	0.960	E	43,443	0.965	E	0.006	No
AB	Camino Ruiz to Mitscher Way	Primary Arterial/6	50,000	6 3,086	1.262	F	65,487	1.310	F	0.048	Yes
AC	Mitscher Way to Black Mountain Rd	Major/6 (with TWLTL)	45,000	61,876	1.375	F	64,277	1.428	F	0.053	Yes
AD	Black Mountain Rd to Kearny Villa Rd	Major/6 (with TWLTL)	45,000	72,117	1.603	F	74,517	1.656	F	0.053	Yes
AE	Kearny Villa Rd to Kearny Mesa Rd	Major/6 (with TWLTL)	45,000	63,708	1.416	F	64,968	1.444	F	0.028	Yes
Camino Santa Fe											
AF	Mira Mesa Blvd to Flanders Dr	Major/6	50,000	20,187	0.404	B	22,386	0.448	B	0.044	
AG	Flanders Dr to Miratech Dr	Primary Arterial/6	60,000	22,356	0.373	A	26,365	0.439	B	0.067	
AH	Miratech Dr to Summer Ridge Rd	Primary Arterial/6	60,000	21,330	0.355	A	25,339	0.422	B	0.067	
AI	Summer Ridge Rd to Carroll Canyon Rd	Primary Arterial/6	60,000	25,156	0.419	B	32,236	0.537	B	0.118	
AJ	Carroll Canyon Rd to Trade St	Major/4	40,000	37,931	0.948	F	45,480	1.137	F	0.189	Yes
AK	Trade St to Carroll Rd	Major/4	40,000	39,466	0.987	E	46,251	1.156	F	0.170	Yes
AL	Carroll Rd to Miramar Rd	Major/4	40,000	39,945	0.999	E	44,792	1.120	F	0.121	Yes

TABLE 8-3: HORIZON YEAR 2050 ROADWAY SEGMENT ANALYSIS SUMMARY

Roadway Segment		Functional Classification	LOS E Capacity	Horizon Year 2050 Without Project			Horizon Year 2050 With Project			Δ in v/c Ratio	Significant Impact?
				ADT	v/c Ratio [(a)]	LOS	ADT	v/c Ratio[(a)]	LOS		
Camino Ruiz											
AM	Mira Mesa Blvd to Mira Mesa Mall	Major/4	40,000	21,059	0.526	C	21,435	0.536	C	0.009	
AN	Mira Mesa Mall to Reagan Rd	Major/4	40,000	20,902	0.523	B	21,411	0.535	C	0.013	
AO	Reagan Rd to Flanders Dr	Major/4	40,000	27,417	0.685	C	28,182	0.705	C	0.019	
AP	Flanders Dr to Gold Coast Dr	Major/4	40,000	26,680	0.667	C	27,445	0.686	C	0.019	
AQ	Gold Coast Dr to Jade Coast Dr	Major/6	50,000	25,293	0.506	B	26,299	0.526	B	0.020	
AR	Jade Coast Dr to Carroll Canyon Rd	Major/6	50,000	34,695	0.694	C	36,244	0.725	C	0.031	
AS	Carroll Canyon Rd to Miralani Dr	Major/6	50,000	33,556	0.671	C	36,975	0.740	C	0.066	
AT	Miralani Dr to Activity Rd	Major/6	50,000	31,772	0.635	C	34,937	0.699	C	0.063	
AU	Activity Rd to Miramar Rd	Major/6	50,000	23,025	0.461	B	25,681	0.514	B	0.053	
Kearny Villa Rd											
AV	Miramar Rd to Kearny Mesa Rd	Major/6	50,000	36,123	0.722	C	37,263	0.745	C	0.023	

Notes:

(a) The v/c ratio is calculated by dividing the ADT volume by each respective roadway segments capacity.

(b) Carroll Canon Road from Carroll Road to the western boundary of Fenton Technology Park is identified in the 2016 Mira Mesa PFFP as Project T-5a, which is planned to be constructed when other segments of Carroll Canyon Road are constructed. The funding sources in the PFFP is identified as FBA/MM, scheduled for 2023 / 2024. Therefore, the 2050 analysis assumes this to be constructed by others by 2050.

8.5 FREEWAY ANALYSIS

The Horizon Year 2050 baseline freeway volumes were derived by calculating the forecast growth in traffic from the SANDAG Series 12 Year 2020 model to the Series 12 Year 2050 model performed for this project. Annual growth rates were created for the freeway segments based on the forecast growth from 2020 to 2050. Using the annual growth rates developed for the freeway segments, growth factors reflecting 25 years of traffic growth from 2025 to 2050 were applied to the Near Term Year 2025 freeway volumes. The resulting volumes were then used as the Horizon Year 2050 baseline freeway volumes.

The results of the Horizon Year 2050 freeway mainline analysis without and with the proposed project are presented in **Table 8-3.**

As shown in the table, the following study freeway segments are forecast to operate at deficient levels of service (LOS E or F) during the peak hours under Horizon Year 2050 conditions without the project:

- NB I-805 south of Nobel Drive (AM: LOS F(1); PM: LOS E)
- NB I-805 from Nobel Drive to Miramar Road/La Jolla Village Drive (AM: LOSF(0); PM: LOS E)
- NB I-805 from Miramar Road/La Jolla Village Drive to Mira Mesa Boulevard (AM: LOS E)
- NB I-15 from Miramar Way to Miramar Road (AM: LOS E)
- NB I-15 from Miramar Road to Carroll Canyon Road (AM: LOS E)
- NB I-15 from Mira Mesa Boulevard to Mercy Road (AM: LOS F(0))

With the addition of project-related traffic, the above-listed freeway segments are forecast to continue operating at the same deficient levels of service. Based on the significance thresholds for freeway segments, the addition of project-related traffic will <u>not</u> result in significant impacts to the study freeway segments.

TABLE 8-4: HORIZON YEAR 2050 FREEWAY MAINLINE ANALYSIS SUMMARY

Freeway and Segment	Number of Lanes		ADT	Capacity (vph)	Horizon Year 2050 Without Project						Horizon Year 2050 With Project						Change in V/C		Significant Impact ?	
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour						
					Peak Hour Volume [a]	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	Peak Hour Volume	V/C Ratio	LOS	AM	PM	AM	PM
I-805																				
I-805 South of Nobel Dr	NB	4M+1H+1A	272,900	12,280	12,862	1.047	F(1)	11,798	0.961	E	12,915	1.052	F(1)	11,905	0.969	E	0.004	0.009	No	No
	SB	4M+1H+1A		12,280	5,343	0.435	B	8,015	0.653	C	5,430	0.442	B	8,082	0.658	C	0.007	0.005		
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	4M + 1H	238,300	11,080	11,238	1.014	F(0)	10,308	0.930	E	11,263	1.017	F(0)	10,357	0.935	E	0.002	0.004	No	No
	SB	4M + 1H		11,080	4,661	0.421	B	6,992	0.631	C	4,701	0.424	B	7,023	0.634	C	0.004	0.003		
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	4M+1H+1A	244,500	12,280	11,701	0.953	E	10,733	0.874	D	11,713	0.954	E	10,741	0.875	D	0.001	0.001	No	
	SB	4M+1H+1A		12,280	4,712	0.384	A	7,068	0.576	B	4,719	0.384	A	7,083	0.577	B	0.001	0.001		
Mira Mesa Blvd to I-805/I-5 Interchange	NB	4M+1H+1A	221,400	12,280	10,888	0.887	D	9,987	0.813	D	10,935	0.891	D	10,041	0.818	D	0.004	0.004		
	SB	3M+1H+2A		11,130	4,154	0.373	A	6,232	0.560	B	4,182	0.376	A	6,290	0.565	B	0.002	0.005		
I-15																				
Miramar Rd to Miramar Way	NB	6M+2H+1A	391,100	18,660	18,126	0.971	E	16,295	0.873	D	18,157	0.973	E	16,349	0.876	D	0.002	0.003	No	
	SB	7M+2H		19,810	13,514	0.682	C	13,933	0.703	C	13,558	0.684	C	13,969	0.705	C	0.002	0.002		
Carroll Canyon Rd to Miramar Rd	NB	6M+2H+1A	371,700	18,660	17,267	0.925	E	15,522	0.832	D	17,267	0.925	E	15,522	0.832	D	0.000	0.000	No	
	SB	6M+2H+1A		18,660	12,822	0.687	C	13,219	0.708	C	12,822	0.687	C	13,219	0.708	C	0.000	0.000		
Mira Mesa Blvd to Carroll Canyon Rd	NB	6M+2H+1A	356,200	18,660	16,467	0.882	D	14,803	0.793	C	16,538	0.886	D	14,855	0.796	C	0.004	0.003		
	SB	6M+2H+1A		18,660	12,339	0.661	C	12,722	0.682	C	12,381	0.663	C	12,808	0.686	C	0.002	0.005		
Mira Mesa Blvd to Mercy Rd	NB	5M+2H+1A	346,400	16,310	16,317	1.000	F (0)	14,689	0.901	D	16,388	1.005	F (0)	14,742	0.904	D	0.004	0.003	No	
	SB	5M+2H+1A		16,310	11,800	0.723	C	12,026	0.737	C	11,841	0.726	C	12,113	0.743	C	0.003	0.005		

Notes:

(a) Mainline lane capacity = 2,350 vehicles per hour per lane (vphpl); HOV lane Capacity = 1,680 vphpl; Auxillary Lane Capacity = 1,200 vphpl

M = Mainline Lanes; H = HOV Lanes; A = Auxiliary Lanes

8.6 FREEWAY METERED ON-RAMP ANALYSIS

The results of the Horizon Year 2050 freeway metered on-ramp analysis are summarized in **Table 8-4**. As shown in the table, ramp meters at the following on-ramps are forecast to experience more than 15 minutes of delay under Horizon Year 2050 conditions without the project:

- SB I-805 On-Ramp from WB Miramar Road (PM)
- SB I-805 On-Ramp from Nobel Drive (PM)

With the addition of project-related traffic to Horizon Year 2050 on-ramp volumes, the following on-ramps are forecast to experience more than 15 minutes of delay:

- SB I-805 On-Ramp from WB Miramar Road (PM)
- SB I-805 On-Ramp from Nobel Drive (PM)
- SB I-15 On-Ramp from EB Miramar Road (PM)

At the above-listed on-ramps experiencing more than 15 minutes of delay under Horizon Year 2050 With Project conditions, the addition of project traffic would result in an increase in delay greater than 2 minutes at the SB I-805 On-Ramp from Nobel Drive during the PM peak hour. However, the forecast adjacent freeway LOS along southbound I-805 during the PM peak hour is LOS C under Horizon Year 2050 With Project conditions. The adjacent freeway LOS must be LOS E or F for a ramp meter impact to occur per the City's significance criteria for ramp meter impacts. Therefore, a significant ramp meter impact is not forecast to occur at the study on-ramps under Horizon Year 2050 conditions.

TABLE 8-5: HORIZON YEAR 2050 PEAK HOUR FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Meter Flow Rate (per hour per lane)	Number of Lanes		Storage Length Per Lane (feet)	Horizon Year 2050 Without Project								Horizon Year 2050 With Project										Adjacent Freeway LOS	Significant?	
						On-Ramp Volume [1]		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		On-Ramp Volume		Excess Demand (vehicles per lane)		Delay Per Lane (Minutes)		Queue Length (in feet)		Increase in Delay (Minutes)				
			SOV	HOV		SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV
SB I-805 from WB Miramar Road	AM	Ramp meter not activated.																								
	PM	C=687	1	1	1,300'	876	134	189	0	16.07	0	4,714'	0	858	138	207	0	17.66	0	5,181	0	1.59	0	C	No	No
NB I-805 from WB Miramar Road	AM	MR=804	1	1	1,860'	618	46	0	0	0	0	0	0	618	46	0	0	0	0	0	0	0	0	E	No	No
	PM	Ramp meter not activated.																								
SB I-805 from Nobel Drive	AM	Ramp meter not activated.																								
	PM	C=200	2	1	900'	623	267	114	81	30.81	21.89	2,850'	2,025'	648	278	126	92	34.12	24.73	3,156	2,288	3.31	2.84	C	No	No
SB I-15 from EB Miramar Road	AM	C=242	2	1	1,570'	569	36	46	0	5.26	0	1,146'	0	610	39	67	0	7.63	0	1,663	0	2.37	0	C	No	No
	PM	C=536	2	1		1,271	110	131	0	14.04	0	3,269'	0	1,304	113	147	0	15.81	0	3,683	0	1.78	0	C	No	No
NB I-15 from EB Miramar Road	AM	Ramp meter not activated.																								
	PM	C=443	2	0	900'	1,216	0	166	N/A	13.31	N/A	4,138'	N/A	1,216	N/A	166	N/A	13.31	N/A	4,138	N/A	0	N/A	D	No	No

Notes:

[1] HOV/SOV volumes based on percent split in volume observations in the field during existing conditions and applied consistently across all study scenarios

N/A = Not Applicable

vphpl = vehicles per hour per lane

MR = most restrictive discharge rate

C = calibrated discharge rate

8.7 OFF-RAMP QUEUING ANALYSIS

Table 8-5 summarizes the results of the Horizon Year 2050 conditions off-ramp queuing analysis. The queuing analysis worksheets are provided in **Appendix G**.

As shown in Table 8-5, the increase in traffic volume associated with regional growth and the project does not result in a condition where the volume on the ramp exceeds the available capacity. Since all queues can be contained within the available storage capacity, the project does not significantly impact the off-ramps under Horizon Year 2050 condition.

TABLE 8-6: HORIZON YEAR 2050 OFF-RAMP QUEUING ANALYSIS

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Horizon Year 2050 Without Project				Horizon Year 2050 With Project				Change in 95% Queue	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	Volume	95% Queue (1)	AM Peak Hour	PM Peak Hour
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Southbound Left	2	1,016' (2)	838	289'	242	119'	838	289'	242	119'	0'	0'
Southbound Right	2	1,295' (2)	1,793	1237'	877	552'	1,793	1,237'	877	555'	0'	3'
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd												
Northbound Left	2	1,110' (2)	858	363'	462	302'	858	363'	462	302'	0'	0'
Northbound Right	2	899' (2)	304	118'	145	35'	322	127'	179	39'	9'	4'
NB I-805 Off-Ramp at Nobel Dr												
Northbound Left	2	1,429' (2)	1,080	312'	693	230'	1,080	312'	693	223'	0'	-7'
Northbound Right	2	1,429' (2)	1,029	213'	687	176'	1,056	233'	745	202'	20'	26'
SB I-15 Off-Ramp at Miramar Rd												
Southbound Left	2	844' (2)	150	47'	29	27'	150	48'	29	27'	1'	0'
Southbound Right	2	894' (2)	1,200	532'	596	297'	1,200	560'	596	314'	28'	17'
NB I-15 Off-Ramp at Miramar Rd												
Northbound Left	2	1,132' (2)	490	303'	684	404'	520	318'	739	432'	15'	28"
Northbound Right	2	1,132' (2)	716	56'	774	293'	716	55'	774	291'	-1'	-2'

Notes:

Queue lengths in SYNCHRO are expressed in feet

Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length.

8.8 HORIZON YEAR 2050 MITIGATION

Intersection Mitigation Measures

The results of the intersection analysis showed that the following nine (9) intersections would be significantly impacted by traffic generated by the proposed project under Horizon Year 2050 conditions:

3. Pacific Heights and Mira Mesa Boulevard (PM: LOS F)
8. Camino Santa Fe and Mira Mesa Boulevard (AM: LOS E; PM: LOS F)
16. Camino Santa Fe and Carroll Road (AM: LOS E; PM: LOS F)
20. Towne Center Drive and La Jolla Village Drive (PM: LOS F)
26. Eastgate Mall and Miramar Road (PM: LOS F)
29. Camino Santa Fe and Miramar Road (AM/PM: LOS F)
31. Camino Ruiz and Miramar Road (AM: LOS F)
32. Mitscher Way and Miramar Road (PM: LOS E)
34. Kearny Villa Road and Miramar Way (AM/PM: LOS F)
38. Flanders Drive and Camino Santa Fe (PM: LOS F)
42. Trade Street and Carroll Canyon Road (PM: LOS F)

To mitigate the project's significant impacts at the study intersections under Horizon Year 2050 With Project conditions, the following mitigation measures are recommended. Conceptual designs are provided in **Appendix J.**

Intersection #3: Pacific Heights Boulevard and Mira Mesa Boulevard

- **Mitigation Measure 1.0 (consistent with 2021 mitigation):** It is recommended that the project restripe the southbound approach of the intersection to convert one through lane to a shared through/left turn lane and construction necessary traffic signal modifications. Convert NB and SB signal phasing from protected left turns to split phasing and remove the pedestrian crosswalk on the east leg of the intersection.

Intersection #8: Camino Santa Fe and Mira Mesa Boulevard

- **Mitigation Measure 21.0:** It is recommended that the project pay a fair share towards the construction of a second westbound left turn lane at the intersection. This includes widening the west left leg of the intersection and restriping the eastbound lanes to align lanes with proposed improvement and construct the associated traffic signal modifications.

Intersection #16: Camino Santa Fe and Carroll Road

Significant & Unavoidable – Partially Mitigated. To fully mitigate the identified impact, Camino Santa Fe would need to be widened to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-43 to improve Camino Santa Fe from Carroll Road to Trade Street to a six-lane modified Primary Arterial was completed in 2011 by the Fenton-Carroll Canyon development. Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. A review of the corridor identified that widening is infeasible. The project team coordinated with the City of San Diego staff and management in making the determination that maintaining the four lanes with buffered bicycle lanes was preferred over restriping to provide the original six travel lanes. Therefore, the impact at the intersection will remain significant and unavoidable.

The Year 2021 analysis identified mitigation for this intersection will ***partially mitigate*** the identified impact:

- **Mitigation Measure 2.0 (consistent with 2021 mitigation):** It is recommended that the project construct a second eastbound left turn lane, a dedicated westbound right turn lane, and construct necessary traffic signal modifications at the intersection. The recommended improvements also include modifying the east and westbound signal phasing from split phasing to protected left turn phasing. Construction of the recommended improvements may require the acquisition of right-of-way to widen both the east and west legs of the intersection.

Intersection #20: Towne Center Drive and La Jolla Village Drive

Significant & Unavoidable. Restriping the southbound approach of the intersection to convert one through lane to a shared through/left turn lane and construction necessary traffic signal modifications would reduce the project impact to less than significant. However, the City did not accept this mitigation due to impacts to signal coordination and physical constraints. Therefore, no other feasible mitigation measures were identified and the impact at the intersection will remain significant and unavoidable.

Intersection #26: Eastgate Mall and Miramar Road

- **Mitigation Measure 12.0 (consistent with 2025 mitigation):** It is recommended that the project restripe the north leg of the intersection to provide a dedicated southbound right turn lane and construct the necessary traffic signal modifications.

Intersection #29: Camino Santa Fe and Miramar Road

Significant & Unavoidable – Partially Mitigated. To fully mitigate the impact at this intersection, a third eastbound left turn lane would need to be constructed. A review of the physical conditions on the west leg of the intersection determined this improvement to be infeasible. West of the intersection there is a bridge over the existing railroad tracks that would need to be widened and Miramar Road would need to be widened from the bridge to Camino Santa Fe. Widening would require acquisition of right-of-way, which may not be feasible due to the location of the existing Frost Hardwood Lumber building and utilities on the south side of the street. Therefore, the impact at the intersection will remain significant and unavoidable.

The 2021 and 2025 mitigation for this intersection will ***partially mitigate*** the identified impact:

- **Mitigation Measure 3.0 (consistent with 2021 mitigation):** It is recommended that the project restripe the southbound approach of the intersection to provide one shared left turn/through lane, and three right turn lanes. This improvement is consistent with Project T-87 as identified in the Mira Mesa Public Facilities Financing Plan (PFFP).

- **Mitigation Measure 13.0 (consistent with 2025 mitigation):** It is recommended that the project widen the east leg to add a westbound right turn lane and construct the necessary traffic signal modifications, consistent with PFFP Project T-87.

Intersection #31: Camino Ruiz and Miramar Road

- **Mitigation Measure 14.0 (consistent with 2025 mitigation):** It is recommended that the project restripe the westbound approach of the intersection by converting the shared through/right-turn lane to a through-only lane.

Intersection #32: Mitscher Way-Clayton Drive and Miramar Road

- **Mitigation Measure 15.0 (consistent with 2025 mitigation):** It is recommended that the project restripe the southbound approach of the intersection to provide one left turn lane and one shared through/right turn lane and construct the necessary traffic signal modifications.

Intersection #34: Kearny Villa Road and Miramar Road

- **Mitigation Measure 16.0 (consistent with 2025 mitigation):** It is recommended that the project restripe the westbound approach to provide a dedicated right turn lane and construct the necessary traffic signal modifications.

- **Mitigation Measure 22.0:** It is recommended that the project pay a fair share contribution of **12.1%** toward financing Project T-89 identified in the Mira Mesa Public Facilities Financing Plan (PFFP). PFFP Project T-89 would widen the east and west legs of the intersection to provide additional left and right turn lanes. The specific additional improvement needed to mitigate the project's impact at the intersection is to construct a second eastbound right turn lane.

Intersection #38: Flanders Drive and Camino Santa Fe

- **Mitigation Measure 4.0 (consistent with 2021 mitigation):** It is recommended that the project widen the northbound approach to provide a dedicated right turn lane with a dedicated bicycle lane and the necessary traffic signal modifications.

Intersection 42: Trade Street and Camino Santa Fe

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be widened to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-43 to improve Camino Santa Fe from Carroll Road to Trade Street to a six-lane modified Primary Arterial was completed in 2011 by the Fenton-Carroll Canyon development. Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. A review of the corridor identified that widening is infeasible. The project team coordinated with the City of San Diego staff and management in making the determination that maintaining the four lanes with buffered bicycle lanes was preferred over restriping to provide the original six travel lanes. Therefore, the impact at the intersection will remain significant and unavoidable.

Roadway Segment Mitigation Measures

The results of the roadway segment analysis showed that the following roadway segments would be significantly impacted by traffic generated by the proposed project under Horizon Year 2050 conditions:

F. Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue (LOS F)
P. Carroll Road from Nancy Ridge Road to Rehco Road (LOS E)
Q. Carroll Road from Rehco Road to Camino Santa Fe (LOS F)
T. Eastgate Mall from Judicial to Miramar Road (LOS F)
Y. Miramar Road from Nobel Drive to Eastgate Mall (LOS F)
Z. Miramar Road from Eastgate Mall to Camino Santa Fe (LOS F)
AB. Miramar Road from Camino Ruiz to Mitscher Way (LOS F)
AC. Miramar Road from Mitscher Way to Black Mountain Road (LOS F)
AD. Miramar Road from Black Mountain Road to Kearny Villa Road (LOS F)
AE. Miramar Road from Kearny Villa Road to Kearny Mesa Road (LOS F)
AJ. Camino Santa Fe from Carroll Canyon Road to Trade Street (LOS F)
AK. Camino Santa Fe from Trade Street to Carroll Road (LOS F)
AL. Camino Santa Fe from Carroll Road to Miramar Road (LOS F)

To mitigate the project's significant impacts at the study roadway segments under Horizon Year 2050 With Project conditions, the following mitigation measures are recommended. Conceptual designs are provided in **Appendix J.**

Segment F: Mira Mesa Boulevard from Camino Santa Fe to Parkdale Avenue

Significant & Unavoidable. There are no feasible improvements to mitigate the project's significant impacts along Mira Mesa Boulevard. The Community Plan identifies Mira Mesa Boulevard as a six lane Primary Arterial. The roadway cross-section is approximately 102 feet curb-to-curb with a raised, landscaped median and Class II bicycle lanes. The roadway narrows approximately 450 feet west of Parkdale Avenue to approximately 85 feet curb-to-curb. As a result, the bicycle lane is dropped and the median narrows along the length of the existing left turn pocket. The City has identified the functional classification of this segment of Mira Mesa Boulevard as a six lane Major with a maximum capacity of 50,000 vehicles per day. Due to the existing development on either side of Mira Mesa Boulevard within 450 feet of Parkdale Avenue, it is not feasible to widen the corridor to meet the Primary Arterial curb-to-curb width. Therefore, the project impact will remain significant and unavoidable.

Segment P: Carroll Road from Nancy Ridge Road to Rehco Road:

Significant & Unavoidable. There are no feasible improvements to mitigate the project's significant impacts on the segments along Carroll Road from Nancy Ridge Road to Rehco Road. The construction of Carroll Canyon Road reduces the traffic volume on Carroll Road. However, the Year 2050 with Project volume exceeds the LOS D threshold by approximately 150 vehicles per day.

Carroll Road is currently constructed as a two-lane Collector with a two-way center turn lane and a cross-sectional width of approximately 50 feet curb to curb. The Community Plan identifies Carroll Road from Nancy Ridge Road to Recho Road as a four-lane Collector. Existing development along the corridor limits the ability to widen this road to the current four-lane, Urban Collector standards. Therefore, the impact would remain significant and unavoidable.

The project's significant impacts on these segments would remain significant and unavoidable under Horizon Year 2050 conditions.

Segment Q: Carroll Road from Rehco Road to Camino Santa Fe

Significant & Unavoidable – Partially Mitigated. There are no feasible improvements to mitigate the project's significant impact on the segment of Carroll Road between Rehco Road and Camino Santa Fe. Carroll Road is currently constructed as a two-lane Collector with a two-way center turn lane and a cross-sectional width of approximately 50 feet curb to curb. The Community Plan identifies Carroll Road from Nancy Ridge Road to Recho Road as a four-lane Collector. Existing development along the corridor limits the ability to widen this road current four-lane, Urban Collector standard. Therefore, the impact would remain significant and unavoidable.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 5.0:** It is recommended that the project address the existing signal communications gap at the Carroll Road/Rehco Road intersection by installing signal communications equipment to connect to the Carroll Road/Camino Santa Fe intersection. The needed improvements would include trenching and installing conduit and cable along Carroll Road between Rehco Road and Camino Santa Fe. Installation of communication equipment is consistent with the City's Traffic Signal Communications Master Plan and will improve the ability for these closely spaced intersections to operate more efficiently. By operating more efficiently, this reduces delay and improves traffic flow along Carroll Road.

Segment T: Eastgate Mall from Judicial Drive to Miramar Road

Significant & Unavoidable. Project NUC-34, identified in the North University City Public Facilities Financing Plan (PFFP), would widen Eastgate Mall to four-lane Collector standards from the SDG&E easement on the east side of I-805 to Miramar Road. As included in the 2016 NUC PFFP, "the FBA and Developer portions of the project east of the SDG&E easement are complete (Transportation Threshold 1, Project 3 completed). The remainder of the project is on hold pending project approval and property acquisition from the Department of the Navy." Therefore, the impact along this segment will remain significant and unavoidable until which time the City completes the project.

Segment Y: Miramar Road from Nobel Drive to Eastgate Mall

Significant & Unavoidable – Partially Mitigated. Project NUC-50, identified in the North University City Public Facilities Financing Plan (PFFP), would widen Miramar Road to eight lanes from the I-805 Northbound Ramps to 300 feet east of Eastgate Mall. This project is partially completed as there are currently eight lanes on Miramar Road from I-805 to Nobel Drive, but there are currently only seven lanes (four westbound and three eastbound) between Nobel Drive and Eastgate Mall. According to the North University City PFFP, NUC-50 is fully funded except for land acquisition from the US Department of the Navy, and the remaining improvement left to complete is a fourth eastbound lane from 500 feet east of Nobel Drive to 300 feet east of Eastgate Mall. The impact on this segment is significant and unavoidable until which time the City is able to acquire the additional land necessary from the Department of the Navy. To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 6.0 (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Nobel Drive and Eastgate Mall and install one (1) CCTV camera.

Segment Z: Miramar Road from Eastgate Mall to Camino Santa Fe

Significant & Unavoidable – Partially Mitigated. Miramar Road from Eastgate Mall is six lanes with an 18-foot wide striped median and bicycle lanes on both sides of the street. Raised medians have been constructed west of Miramar Place (700-foot median) and west of Camino Santa Fe (1,000-foot median). The curb to curb width ranges from approximately 100 to 110 feet. Due to the lack of a raised median through this section and the presence of commercial driveways on the north side of the street, the City has identified the classification of this roadway as a six lane Major with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six lane Primary Arterial. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding raised medians along the corridor would re-classify the street from six lane Major to six-lane Primary and increase in the daily capacity to 60,000 vehicles per day at LOS E. However, the addition of the raised median would result in an increase in u-turning vehicles at signalized intersections along the corridor, increased left turn demand at critical intersections (including Miramar Road/Camino Santa Fe) and may impact the businesses who take direct access from Miramar Road. Should the medians be determined to be infeasible, traffic signal communications equipment is recommended to help improve the capacity and efficiency of the existing infrastructure.

Therefore, the project proposes one of two partial mitigation measures to offset the project impacts: install raised medians where gaps in the median currently exist or install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. Either of the following mitigation measures will partially mitigate the identified project impact:

- **Mitigation Measures 7.0A (consistent with 2021 mitigation):** It is recommended that the project install raised median where existing gaps in the median exist between Eastgate Mall and Camino Santa Fe. This improvement will require close coordination with City staff and the existing businesses along the corridor. **AND**
- **Mitigation Measure 7.0B (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Eastgate Mall and Camino Santa Fe. Install two (2) CCTV cameras.
- **AND**
- **Mitigation Measure 7.0C (consistent with 2021 mitigation):** Install Ethernet converter cards and switches to upgrade the traffic signal equipment on Miramar Road between Camino Santa Fe and Carroll Canyon Road to complete the communication network to Camino Ruiz. Install two (2) CCTV cameras.

Segment AB: Miramar Road from Camino Ruiz to Clayton Drive-Mitscher Way

Significant & Unavoidable – Partially Mitigated. Miramar Road from Camino Ruiz to Clayton Drive-Mitscher Way is six lanes with a raised median. The curb to curb width is approximately 100 feet**.** The City has identified the functional classification of the existing roadway as a six lane Major with a raised median with a maximum daily capacity at LOS E of 50,000 vehicles per day. Restriping the road to provide an additional through lane was evaluated but determined to be infeasible due to right-of-way constraints. The City minimum design standards for bicycle facilities and lane widths could not be met via striping. Therefore, the impact will remain significant and unavoidable. To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 9.0 (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Ruiz and Mitscher Way.

Segment AC: Miramar Road from Clayton Drive-Mitscher Way to Black Mountain Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Clayton Drive-Mitscher Way to Black Mountain Road is six lanes with a raised median. There is a 550-foot gap in the raised median immediately east of Padgett Street. This gap provides access to the businesses that take direct access from Miramar Road. The curb to curb width is approximately 100 feet. Due to the lack of a raised median west of Padgett Street and the presence of commercial driveways on the north side of the street, the City has identified the functional classification of the existing roadway as a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day. The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding the 550-foot raised median where the gap exists would re-classify the street from six lane Major with two-way left turn lane to six lane Primary Arterial. However, the addition of the raised median would significantly impact access to the businesses who take direct access from Miramar Road through the section where the median is currently striped. With the raised median, the corridor would continue to operate at LOS F conditions. The project does not recommend constructing the missing 550-foot section of raised median for this section of the corridor. Therefore, the impact will remain significant and unavoidable. To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 10.0 (consistent with 2021 mitigation):** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Mitscher Way and Black Mountain Road. Install one (1) CCTV camera.

Segment AD: Miramar Road from Black Mountain Road to Kearny Villa Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Black Mountain Road to Kearny Villa Road is six lanes with a striped median. There is a 350-foot raised median immediately east of Black Mountain Road. This striped two-way left turn lane provides access to the businesses that take direct access from Miramar Road. The curb to curb width is approximately 100 feet. Due to the lack of a raised median and the presence of commercial driveways on the north side of the street, the City has identified the functional classification of the existing roadway as a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding the raised median where the gap exists would re-classify the street from six lane Major with two-way left turn lane to six lane Primary. However, the addition of the raised median would significantly impact access to the businesses who take direct access from Miramar Road through the section where the median is currently striped and would increase the left turn volume at the signalized intersections at either end of the corridor. With the raised median, the corridor would continue to operate at LOS F conditions. Therefore, the project does not recommend the installation of a raised median. The project impact along this segment would remain significant and unavoidable.

To offset the project's impacts, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 11.0:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Black Mountain Road and Kearny Villa Road.

Segment AE: Miramar Road from Kearny Villa Road to Kearny Mesa Road

Significant & Unavoidable – Partially Mitigated. Miramar Road from Kearny Villa Road to Kearny Mesa Road is a 400-foot segment of Miramar Road that is striped with six lanes with a striped median. Due to the short segment length the striped median serves as back-to-back left turn pockets for the intersections at either end of the segment. The City has identified the functional classification of the existing roadway as a six lane Major with two-way left turn lane with a maximum daily capacity at LOS E of 45,000 vehicles per day.

The current Mira Mesa Community Plan identifies this segment of Miramar Road as a six-lane Primary Arterial with a maximum capacity at LOS E of 60,000 vehicles per day. The curb to curb width of a current standard Primary Arterial is 98 feet with buffered bicycle lanes and a 16-foot median. Adding the raised median where the gap exists would re-classify the street from six lane Major with two-way left turn lane to six lane Primary. However, the addition of the raised median may be physically infeasible through this section due to the short segment length and may impact the left turn storage capacity at the signalized intersections at either end of the segment. With the raised median, the corridor would continue to operate at LOS F. The project does not recommend a raised median for the corridor for these reasons. Therefore, the impact will remain significant and unavoidable. To offset the project's impacts to this segment, the project proposes to install traffic signal communications equipment to improve the efficiency and maximize the available capacity along this segment. The following mitigation measure will partially mitigate the identified project impact:

- **Mitigation Measure 20.0:** It is recommended that the project install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Kearny Villa Road and Kearny Mesa Road. Install one (1) CCTV camera.

Segment AJ: Camino Santa Fe from Carroll Canyon Road to Trade Street

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be restriped to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-21 constructed Camino Santa Fe from Mira Mesa Boulevard to Trade Street as a six lane Primary Arterial with Raised Center Medians and Class II bicycle lanes. The project was completed in 2007 by the Fenton-Carroll Canyon Development as a condition of their tentative map.

Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. A review of the corridor identified that widening is infeasible. The project team coordinated with the City of San Diego staff in making the determination that maintaining the four lanes with buffered bicycle lanes was preferred over restriping to provide the original six lane Primary Arterial condition. Therefore, the impact at the intersection will remain significant and unavoidable.

Segment AK: Camino Santa Fe from Trade Street to Carroll Road

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be restriped to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-43 to improve Camino Santa Fe from Carroll Road to Trade Street to a six-lane modified Primary Arterial was completed in 2011 by the Fenton-Carroll Canyon development. Camino Santa Fe was restriped from six lanes to four lanes with buffered bicycle lanes in 2016. The road diet was implemented to achieve the goals and objectives of the City's Bicycle Master Plan by providing buffered bicycle lanes along the corridor. The roadway could be restriped to it's original condition, however bicycle lanes

In order to provide six vehicular lanes and buffered bicycle lanes, Camino Santa Fe would need to be widened and property acquired. A review of the corridor identified that widening is infeasible. The project team coordinated with the City of San Diego staff in making the determination that maintaining the four lanes with buffered bicycle

lanes was preferred over restriping to provide the original six travel lanes. Therefore, the impact at the intersection will remain significant and unavoidable.

Segment AL: Camino Santa Fe from Carroll Road to Miramar Road

Significant & Unavoidable. To fully mitigate the identified impact, Camino Santa Fe would need to be re-striped to six lanes, three in each direction. According to the Mira Mesa Public Facilities Financing Plan (PFFP), Project T-85 to improve Camino Santa Fe from Carroll Road to 500 feet south of Commerce Avenue to a six-lane modified Primary Arterial "will be completed when a responsible subdivider is identified and develops the fronting property". At the time this report was prepared, a developer/subdivider of the fronting property had not been identified. Therefore, the impact at the intersection will remain ***significant and unavoidable*** until which time Project T-85 is completed by others.

Intersection and Roadway Segment Mitigated LOS

Table 8-6 summarizes the intersection levels of service with the recommended mitigation measures under Horizon Year 2050 With Project conditions. **Appendix L** displays the HCM worksheets that show intersection delays and levels of service with the recommended mitigation measures. Fair share calculation worksheets are also provided in **Appendix L**.

Table 8-7 summarizes the roadway segment levels of service with the recommended mitigation measures under Horizon Year 2050 With Project conditions.

TABLE 8-6: HORIZON YEAR 2050 INTERSECTION MITIGATED LOS

#	Intersection	Peak Hour	Horizon Year 2050 Baseline		Horizon Year 2050 With Project		Intersection Mitigated by Project in 2021?	Intersection Mitigated by Project in 2025?	Recommended Mitigation	PFFP Project for FBA Fee Contribution or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Horizon Year 2050 With Project With Mitigation		Change in Delay (with Project) with-without mitigation
												Delay [a]	LOS	
3	Pacific Heights Blvd & Mira Mesa Blvd	AM	47.0	D	47.7	D	Yes Mitigation 1.0 See Table 6-7		N/A			46.8	D	-0.9
		PM	83.4	F	86.8	F						66.0	E	-20.8
8	Camino Santa Fe & Mira Mesa Blvd	AM	68.2	E	73.5	E			**Mitigation Measure 21.0:** Fair share payment toward the construction of a 2nd WB left turn lane. This includes widening the west left leg of the intersection and restriping the eastbound lanes to align lanes with proposed improvement. Construct associated traffic signal modifications.		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	73.1	D	-0.4
		PM	99.2	F	107.7	F						101.4	F	-6.3
16	Camino Santa Fe & Carroll Rd	AM	70.9	E	118.7	F	Partial Mitigation 2.0 See Table 6-7		***Significant & Unavoidable***			77.6	E	-41.1
		PM	137.0	F	151.8	F						99.5	F	-52.3
20	La Jolla Village Dr & Towne Center Dr	AM	46.0	D	46.5	D			***Significant & Unavoidable***					
		PM	112.3	F	117.7	F								
26	Miramar Rd & Eastgate Mall	AM	30.6	C	32.8	C		Yes Mitigation 12.0 See Table 7-6	N/A			32.7	C	-0.1
		PM	105.5	F	130.7	F						83.1	F	-47.6
29	Camino Santa Fe & Miramar Rd	AM	148.1	F	166.3	F	Partial Mitigation 3.0 See Table 6-7	Partial Mitigation 13.0 See Table 7-6	***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	134.0	F	-32.3
		PM	77.2	F	112.7	F						101.6	F	-11.1
31	Miramar Rd & Camino Ruiz	AM	91.5	F	96.8	F		Yes Mitigation 14.0 See Table 7-6	N/A			79.6	E	-17.2
		PM	36.1	C	36.2	D						40.7	D	4.5
32	Mitscher Way & Miramar Rd	AM	33.6	C	36.1	D		Yes Mitigation 15.0 See Table 7-6	N/A			31.6	C	-4.5
		PM	71.6	E	71.7	E						65.6	E	-6.1
34	Kearny Villa Rd & Miramar Rd	AM	140.3	F	146.5	F		Partial Mitigation 16.0 See Table 7-6	**Mitigation Measure 22.0**: Payment of FBA Fees. Contribute a fair share payment of 12.1% toward PFFP Project T-89 to construct a 2nd EB right turn lane.	PFFP Project T-89: Widen both east and west legs of Miramar Road at Kearny Villa Road intersection to add left and right turn lanes (100% funded by FY 2025).	Yes (Phase 1 mitigation required per Vulcan Stone Creek TIA)	131.1	F	-15.4
		PM	115.8	F	124.2	F						87.7	F	-36.5
38	Camino Santa Fe & Flanders Dr	AM	46.5	D	52.2	D	Yes Mitigation 4.0 See Table 6-7		N/A			52.7	D	0.5
		PM	92.6	F	109.2	F						75.3	E	-33.9
42	Trade St & Camino Santa Fe	AM	16.1	B	20.2	C			***Significant & Unavoidable***					
		PM	108.8	F	118.1	F								

Notes:

(a) Average seconds of delay per vehicle.

TABLE 8-7: HORIZON YEAR 2050 ROADWAY SEGMENT MITIGATED LOS

Roadway	Segment		Horizon Year 2050 Without Improvements				Roadway Segment Mitigated by Project in 2021?	Roadway Segment Mitigated by Project in 2025?	Recommended Mitigation	PFFP Project for FBA Fee Contribution or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Horizon Year 2050 With Improvements			
			Without Project			With Project						Mitigated Daily Capacity	Mitigated V/C Ratio	Mitigated LOS	Change in V/C
			V/C Ratio	LOS	V/C Ratio	LOS									
Mira Mesa Blvd	F	Camino Santa Fe to Parkdale Ave	1.233	F	1.244	F			***Significant & Unavoidable***						
Carroll Rd	P	Nancy Ridge Rd to Rehco Rd	0.851	D	0.877	E			***Significant & Unavoidable***						
	Q	Rehco Rd to Camino Santa Fe	1.127	F	1.178	F	Partial Mitigation 5.0 Table 6-8		***Significant & Unavoidable***				1.178	F	
Eastgate Mall	T	Judical to Miramar Rd	1.349	F	1.140	F			***Significant & Unavoidable***						
Miramar Rd	Y	Nobel Dr to Eastgate Mall	1.281	F	1.328	F	Partial Mitigation 6.0 Table 6-8		***Significant & Unavoidable***						
	Z	Eastgate Mall to Camino Santa Fe	1.991	F	2.086	F	Partial Mitigation 7.0 Table 6-8		***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		2.086	F	
	AB	Camino Ruiz to Mitscher Way	1.262	F	1.310	F	Partial Mitigation 9.0 Table 6-8		***Significant & Unavoidable***						
	AC	Mitscher Way to Black Mountain Rd	1.375	F	1.428	F	Partial Mitigation 10.0 Table 6-8		***Significant & Unavoidable***				1.428	F	
	AD	Black Mountain Rd to Kearny Villa Rd	1.603	F	1.656	F	Partial Mitigation 11.0 Table 6-8		***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.656	F	
	AE	Kearny Villa Rd to Kearny Mesa Rd	1.416	F	1.444	F		Partial Mitigation 20.0 Table 7-4	***Significant & Unavoidable***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)		1.444	F	
Camino Santa Fe	AJ	Carroll Canyon Rd to Trade St	0.948	F	1.137	F			***Significant & Unavoidable***						
	AK	Trade St to Carroll Rd	0.987	E	1.156	F			***Significant & Unavoidable***						
	AL	Carroll Rd to Miramar Rd	0.999	E	1.120	F			***Significant & Unavoidable***						

9 SITE ACCESS, ON-SITE CIRCULATION & PARKING

9.1 SITE ACCESS

As described earlier in the report, access to the project site will be provided off Camino Santa Fe and Carroll Canyon Road. Access to the Phase 1 development will be taken from the existing signalized intersections of Camino Santa Fe/Miratech Drive, Camino Santa Fe/Summers Ridge Drive, and Camino Santa Fe/Carroll Canyon Road.

Phase 2 (project buildout) includes the construction of Carroll Canyon Road through the project site from Camino Santa Fe to the current westerly terminus of Carroll Canyon Road approximately one half-mile west of Camino Ruiz. New traffic signals will be installed at four project access streets along Carroll Canyon Road that will serve the Phase 2 development that will take direct access from Carroll Canyon Road east of Camino Santa Fe. The existing segment of Carroll Canyon Road from one half-mile west of Camino Ruiz to Camino Ruiz will be restriped in Phase 2 to provide a total of 6 travel lanes to Camino Ruiz.

The segment of Carroll Canyon Road west of Camino Santa Fe will also be constructed in Phase 2 as a four-lane Major to the western boundary of the existing Fenton Technology Park. However, this segment of Carroll Canyon Road will not carry any vehicular traffic until the City's PFFP Project T-5A to construct Carroll Canyon Road from Carroll Road to the Fenton Technology Park western boundary is completed.

9.2 ON-SITE CIRCULATION

Roadways within the project site are designed as follows:

- **Spine Road:** is proposed as a 2-lane Collector with 86-foot right-of-way and 53-foot curb to curb width. The recommended speed limit is 30 mph and parking will be permitted on both sides of the street. A Class II bike lane will be provided in each direction on the Spine Road. Intersections along Spine Road will be controlled by either roundabout or side street stop control. This roadway connects from Camino Santa Fe to the future Carroll Canyon Road through the project site.

- **Village Entry:** is proposed as a 2-lane Collector with 86-foot right-of-way and 52-foot curb to curb width. The recommended speed limit is 30 mph and parking will be permitted on both sides of the street. Intersections along Village Entry will be controlled by either roundabout or side street stop control. This roadway connects from Camino Santa Fe to the internal Spine Road.

- **Urban Corridor Streets:** are proposed as a 2-lane Collector with 60-foot right-of-way and 36-foot curb to curb width. The recommended speed limit is 25 mph and parking will be permitted on both sides of the street. Intersections along Urban Corridor Street will be controlled by either roundabout or side street stop control. This street typology is planned within the mixed-use retail, mobility hub and residential portion of the site, south of the Village Entry Road.

- **Residential Streets:** are proposed as a 2-lane Collector with right-of-way width ranging from 60 to 56-feet and curb to curb width ranging from 36 to 32 feet. The recommended speed limit is 25 mph and parking will be permitted on both sides of the street. The intersections along the residential streets will be controlled by stop signs. This street typology occurs throughout the site and connects the residential neighborhoods to the Spine Road or to Carroll Canyon Road.

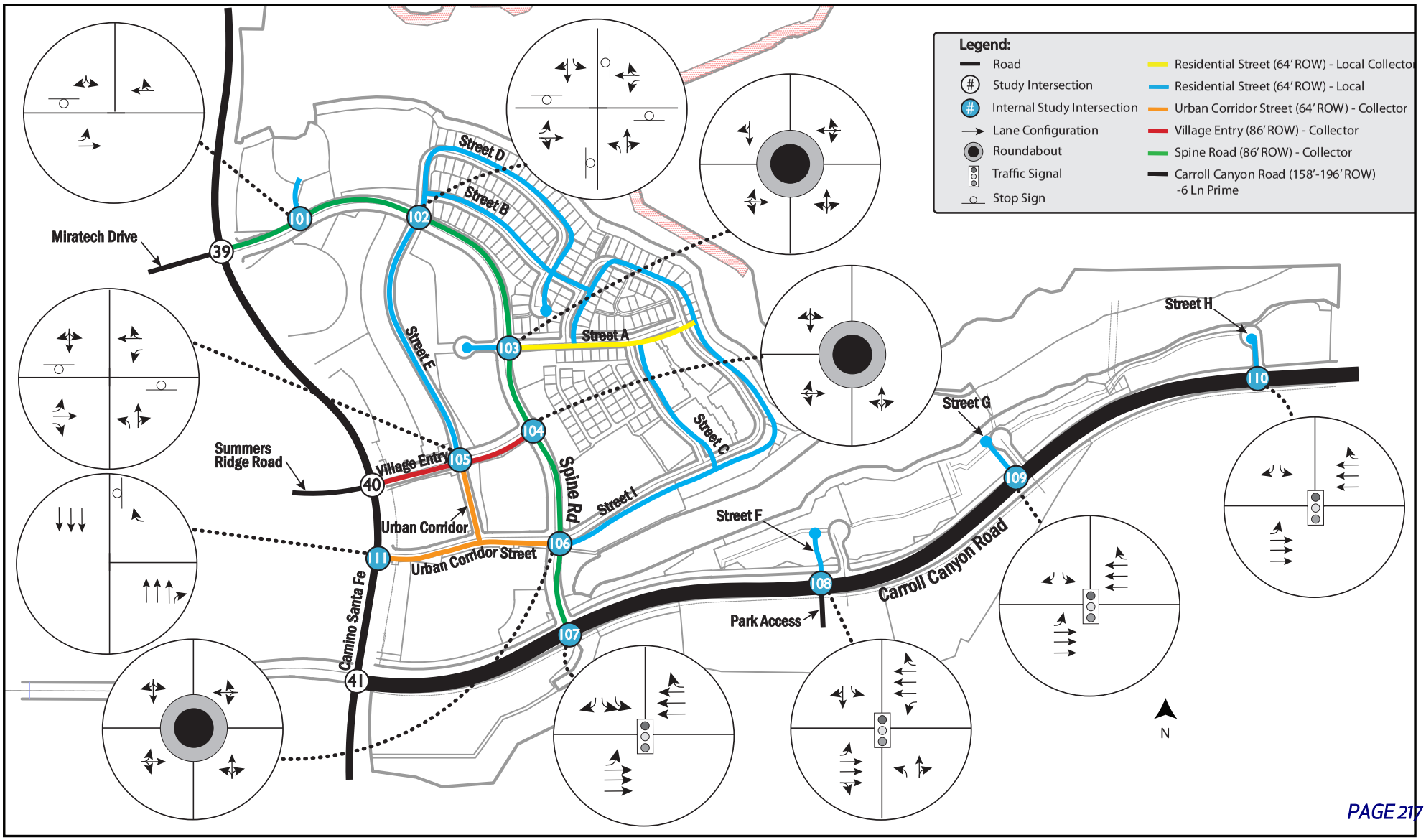
Figure 9-1 illustrates the internal roadway network, internal traffic control and internal intersection geometrics.

9.3 INTERNAL INTERSECTIONS TRAFFIC VOLUMES

Volumes for the internal intersections were derived by breaking the project area up into zones A through K and classifying those zones based on the land use. Trip distributions were assigned to each zone based on the connectivity to the internal roadway network and logical direction of travel beyond the boundary of the project. Based on the mix of residential and retail use within the property, a portion of the trips (consistent with the previously presented trip generation tables) were assigned within the site and did not reach the regional transportation network. Using the trip distribution and forecast project trips for each zone, the project trips were then assigned to the roadway network and the intersection peak hour volumes were calculated.

Figure 9-2 and **Figure 9-3** illustrate the peak hour internal intersection volumes and internal daily traffic volumes, respectively, under Near Term Year 2025 With Project conditions. The peak hour internal intersection volumes and internal daily traffic volumes under Horizon Year 2050 With Project conditions are illustrated in **Figure 9-4** and **Figure 9-5**, respectively.

3 Roots TIA



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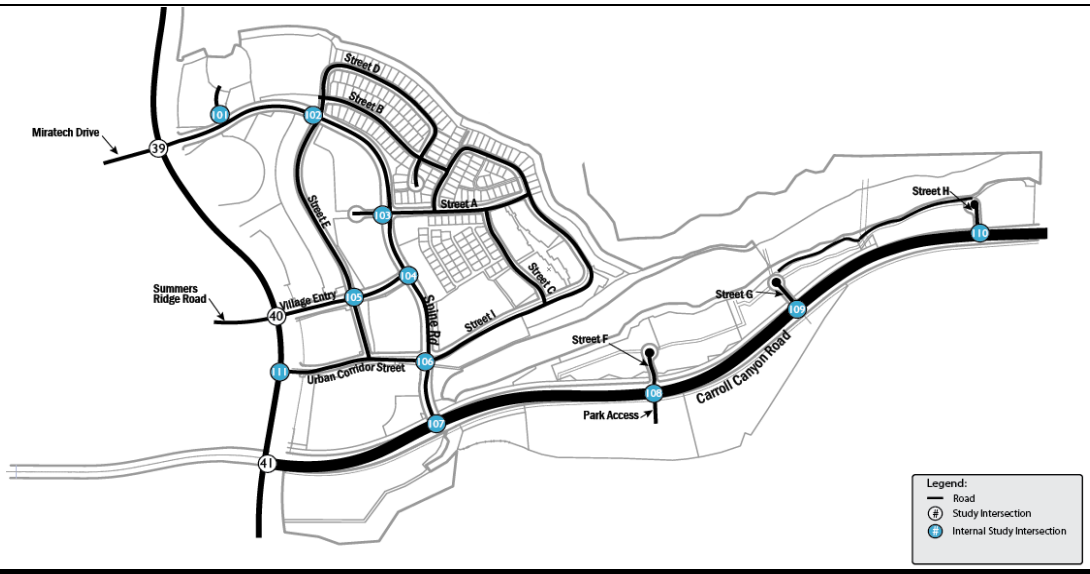
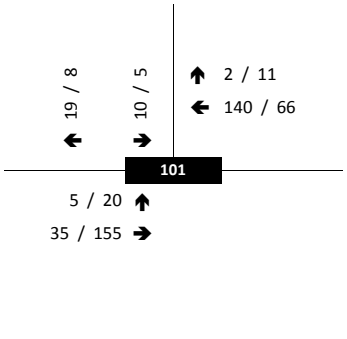
Michael Baker INTERNATIONAL

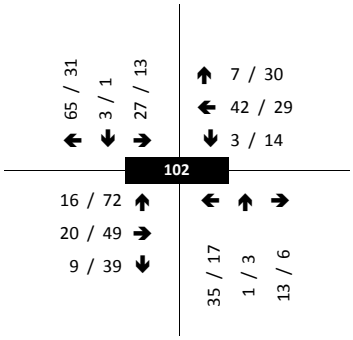
Figure 9-1
Internal Roadway Network



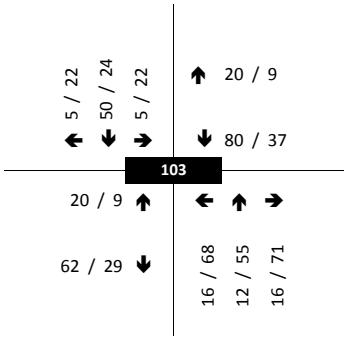
Zone A Access @ Spine Road



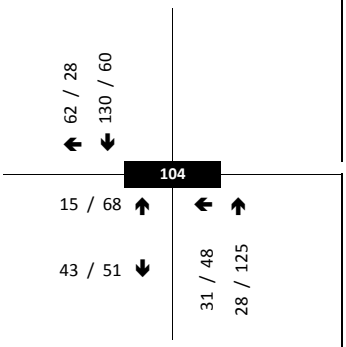
Zones B & C Access @ Spine Road



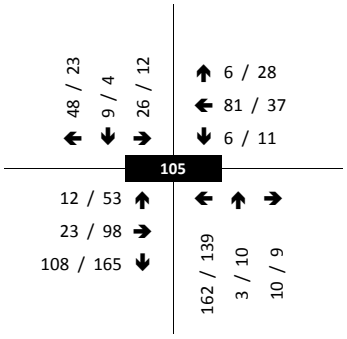
Spine Road @ Zones D & E Access



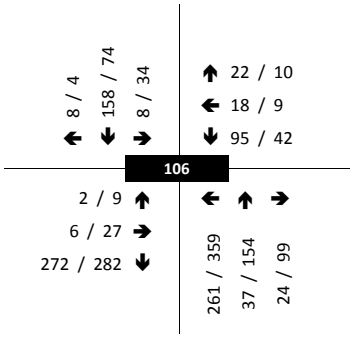
Spine Road @ Middle Project Access



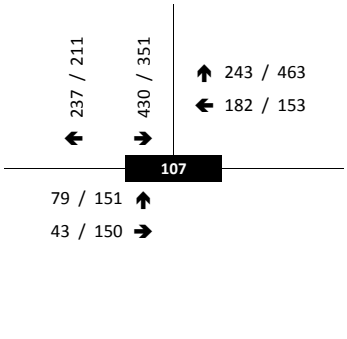
Zones C, F & G Access @ Middle Project Access



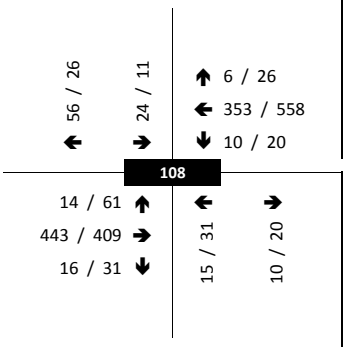
Spine Road @ Zones G & H Access



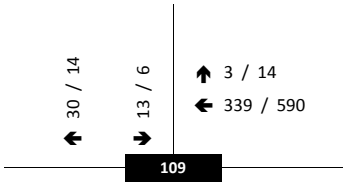
Spine Road @ Carroll Canyon Rd



Zone I Access @ Carroll Canyon Rd



Zone J Access @ Carroll Canyon Rd



Zone K Access @ Carroll Canyon Rd

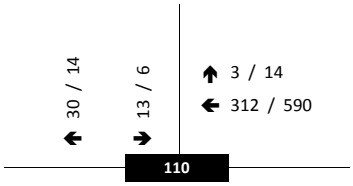


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Figure 9-2

Peak Hour Internal Intersection Volumes: Near Term Year 2025 With Project

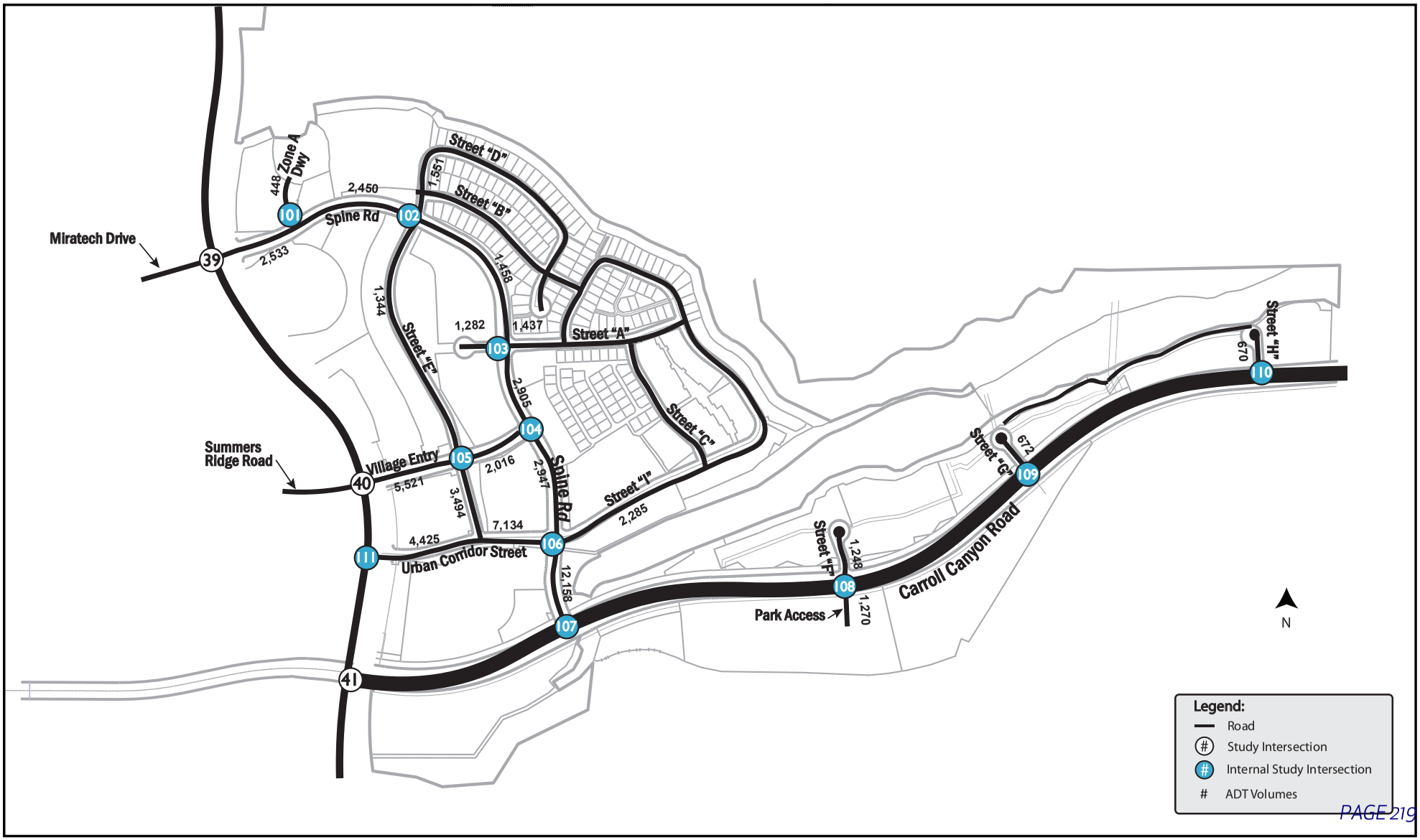

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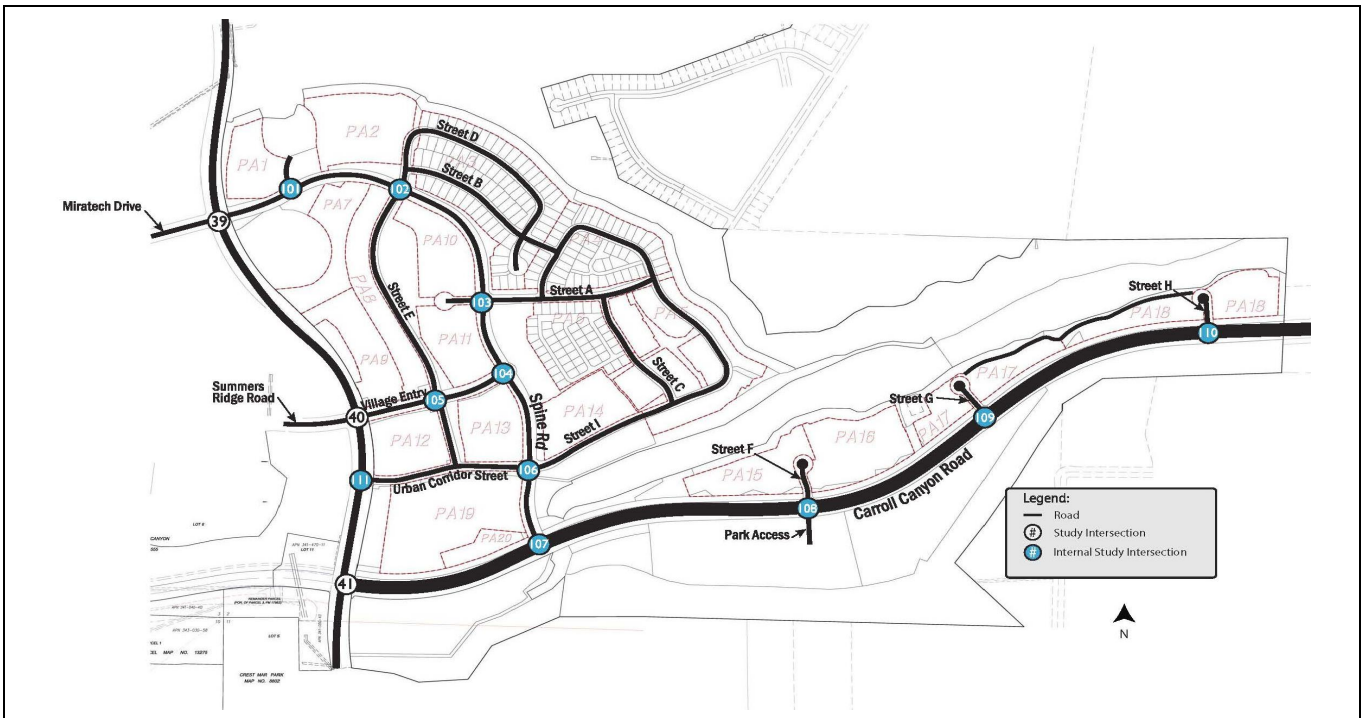
Figure 9-3
Internal Roadway ADT - Near Term Year 2025 With Project



xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North-South / East-West

101 / Zone A Access @ Spine Road

← 18 / 8	→ 11 / 5	↑ 3 / 12	← 126 / 59
4 / 19 ↑	32 / 139 →		

102 / Zones B & C Access @ Spine Road

← 62 / 29	↓ 3 / 1	→ 30 / 14	↑ 8 / 33
← 35 / 27	↓ 3 / 14		
16 / 68 ↑	19 / 41 →	8 / 35 ↓	
← 32 / 15	↑ 1 / 3	→ 13 / 6	

103 / Spine Road @ Zones D & E Access

← 4 / 18	↓ 54 / 25	→ 4 / 18	↑ 16 / 8
↓ 85 / 40			
16 / 7 ↑	66 / 31 ↓		
← 17 / 72	↑ 14 / 59	→ 18 / 80	

104 / Spine Road @ Middle Project Access

← 65 / 30	↓ 140 / 66	
17 / 74 ↑	46 / 47 ↓	
← 28 / 50	↑ 31 / 141	

105 / Zones C, F & G Access @ Middle Project Access

← 48 / 23	↓ 9 / 4	→ 30 / 14	↑ 7 / 32
← 79 / 37	↓ 6 / 11		
12 / 53 ↑	22 / 94 →	79 / 134 ↓	
← 140 / 121	↑ 3 / 10	→ 10 / 9	

106 / Spine Road @ Zones G & H Access

← 8 / 4	↓ 167 / 78	→ 7 / 28	↑ 18 / 8
← 17 / 8	↓ 101 / 44		
2 / 9 ↑	5 / 23 →	303 / 309 ↓	
← 292 / 401	↑ 39 / 167	→ 26 / 104	

107 / Spine Road @ Carroll Canyon Rd

← 250 / 218	→ 477 / 392	↑ 278 / 524	← 1488 / 1097
80 / 157 ↑	1094 / 1583 →		

108 / Zone I Access @ Carroll Canyon Rd

← 54 / 25	→ 26 / 12	↑ 7 / 29	← 1696 / 1564
↓ 10 / 20			
13 / 58 ↑	1540 / 1886 →	16 / 31 ↓	
← 15 / 31	→ 10 / 20		

109 / Zone J Access @ Carroll Canyon Rd

← 29 / 13	→ 14 / 7	↑ 4 / 16	← 1684 / 1600
7 / 31 ↑	1569 / 1887 →		

110 / Zone K Access @ Carroll Canyon Rd

← 29 / 13	→ 14 / 7	↑ 4 / 16	← 1659 / 1603
7 / 31 ↑	1576 / 1863 →		

111 / Camino Santa Fe @ Commercial Access

↓ 1580 / 1168	↑ 56 / 52	
↑ 777 / 2024	→ 232 / 327	

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Figure 9-4

Peak Hour Internal Intersection Volumes: Horizon Year 2050 With Project

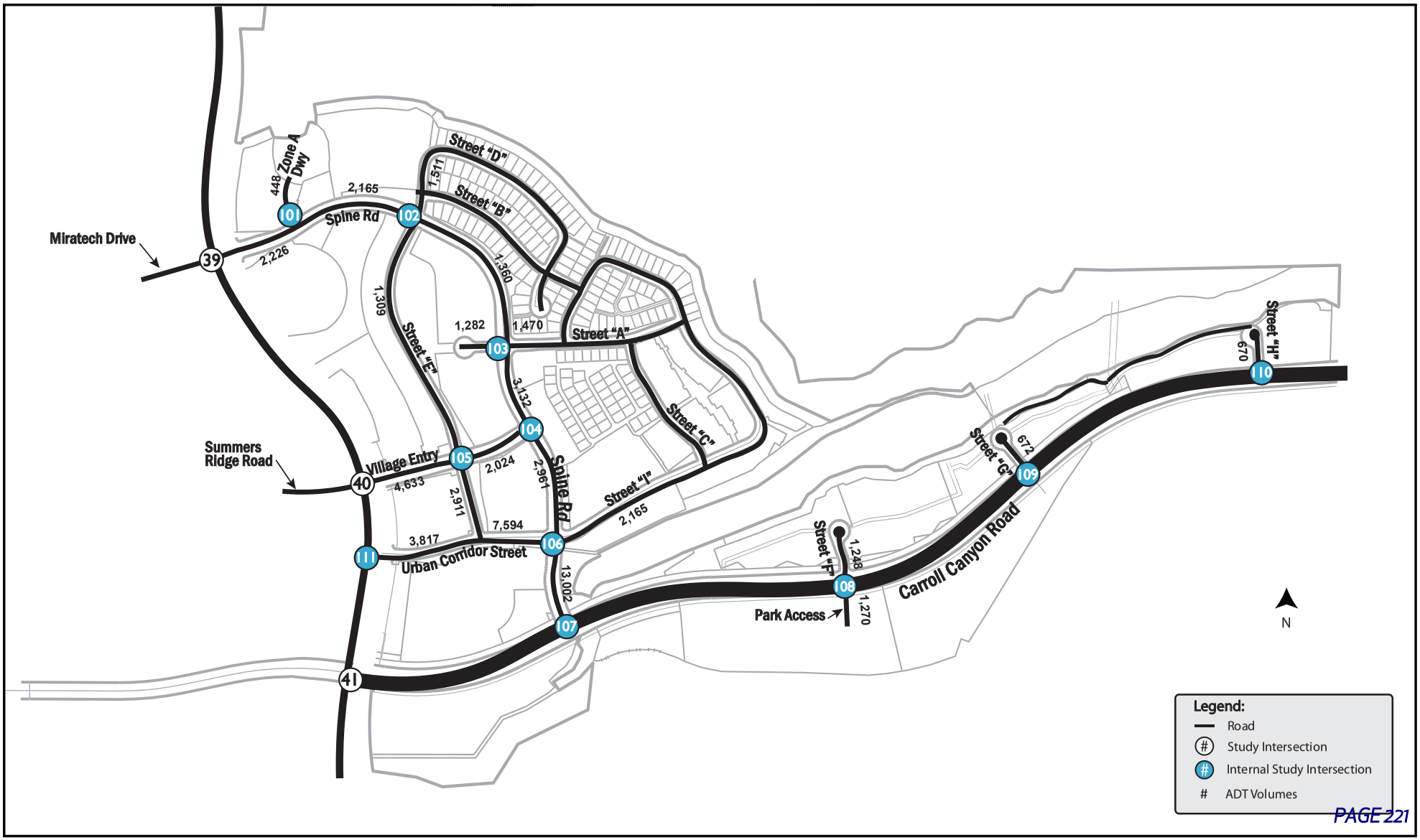

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Figure 9-5
Internal Roadway ADT Volumes - Horizon Year 2050 With Project

9.4 INTERNAL INTERSECTIONS ANALYSIS

The analysis of signalized, unsignalized and roundabout intersection operations was performed utilizing the *Synchro 9.1* traffic analysis software for the internal intersections. The signalized, unsignalized and roundabout intersection analysis results presented in **Table 9-1** conforms to the analysis methodology outlined in the 2010 *Highway Capacity Manual (HCM 2010).* **Appendix N** displays the results from the internal intersection analysis.

Table 9-1 provides the analysis results for both the Near Term Year 2025 and Horizon Year 2050 with Project Buildout (Phase 1 and Phase 2). The results show that intersections within the project site are forecast to operate at acceptable LOS D or better through Horizon Year 2050.

TABLE 9-1: INTERNAL INTERSECTIONS PEAK HOUR INTERSECTION LOS SUMMARY

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2025 With Project Buildout		Horizon Year 2050 With Project Buildout	
				Delay [a]	LOS [b]	Delay	LOS
101	Spine Road and Zone A Access	OWSC	AM	9.3	A	9.3	A
			PM	9.3	A	9.2	A
102	Spine Road and Street D/Street E	AWSC	AM	7.8	A	7.7	A
			PM	8.0	A	7.9	A
103	Spine Road and Street A	Single-Lane Roundabout	AM	4.2	A	4.2	A
			PM	4.7	A	4.8	A
104	Spine Road and Village Entry	Single-Lane Roundabout	AM	4.7	A	4.8	A
			PM	4.7	A	4.9	A
105	Urban Corridor St/Street E and Village Entry	TWSC	AM	11.5	B	11.2	B
			PM	12.8	B	12.5	B
106	Spine Road and Urban Corridor Street	Single-Lane Roundabout	AM	7.2	A	7.7	A
			PM	10.1	B	11.2	B
107	Spine Road and Carroll Canyon Rd[c]	Signal	AM	19.3	B	12.8	B
			PM	13.5	B	11.5	B
108	Carroll Canyon Rd and Park Access/Street F[c]	Signal	AM	16.8	B	3.3	A
			PM	9.3	A	7.9	A
109	Carroll Canyon Rd and Street G[c]	Signal	AM	1.5	A	1.6	A
			PM	3.9	A	1.1	A
110	Carroll Canyon Rd and Street H	Signal	AM	12.1	B	11.9	B
			PM	12.2	B	12.4	B
111	Camino Santa Fe and Urban Corridor St	OWSC (RIRO)	AM	11.7	B	13.1	B
			PM	22.3	C	31.8	D

Notes:

Signal: Traffic signal, OWSC: One-Way Stop Control, TWSC: Two-Way Stop Control, AWSC: All-Way Stop Control, RIRO: Right-In/Right-Out Only

(a) Delays are reported as the average control delay for the whole intersection at signalized and all-way stop controlled intersection, and the movement with worst delay at on-way and two-way stop-controlled intersections.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual (HCM 2010)* and performed using Synchro 9.

(c) 2050 volumes are lower than 2025 because the 2050 conditions consider a reduction in project traffic as a result of the planned BRT along Carroll Canyon Road.

9.5 INTERNAL ROADWAY SEGMENTS ANALYSIS

The roadway segments internal to the project site were analyzed based on the ratio of daily volumes to LOS thresholds according to roadway classifications. **Table 9-2** and **Table 9-3** provide the results of the internal roadway segments analysis for Near Term Year 2025 and Horizon Year 2050 conditions, respectively. As shown in Tables 9-2 and 9-3, all internal roadway segments are forecast to operate at acceptable levels of service (LOS D or better) under both Near Term Year 2025 and Horizon Year 2025 conditions with the buildout of the proposed project.

TABLE 9-2: INTERNAL ROADWAY SEGMENTS LOS SUMMARY – NEAR TERM YEAR 2025 CONDITIONS

Roadway	Segment	Functional Classification/ Lanes	Daily Capacity	Year 2025 With Project Buildout (Phases 1 and 2)		
				ADT	V/C	LOS
Spine Road	Camino Santa Fe to Intersection #101	Collector / 2 (w/raised median)	15,000	2,533	0.169	A
	Intersection #101 to Streets D/E	Collector / 2 (w/raised median)	15,000	2,450	0.163	A
	Streets D/E to Street A	Collector / 2 (w/raised median)	15,000	1,458	0.097	A
	Street A to Village Entry	Collector / 2 (w/raised median)	15,000	2,905	0.194	A
	Village Entry to Urban Corridor St	Collector / 2 (w/raised median)	15,000	2,947	0.196	A
	Urban Corridor St to Carroll Canyon Rd	Collector / 2 (w/raised median)	15,000	12,158	0.811	D
Village Entry	Camino Santa Fe to Urban Corridor St	Collector / 2 (w/raised median)	15,000	5,521	0.368	B
	Urban Corridor St to Spine Rd	Collector / 2 (w/raised median)	15,000	2,016	0.134	A
Zone A Driveway	North of Spine Rd	Local / 2 (1)	2,200	448	0.204	Better than C
Street D	North of Spine Rd	Collector / 2 (2)	8,000	1,551	0.194	A
Street E	Spine Road to Village Entry	Collector / 2 (2)	8,000	1,344	0.168	A
Street A	West of Spine Rd	Local / 2 (1)	2,200	1,282	0.583	Better than C
	East of Spine Rd	Collector / 2 (2)	8,000	1,437	0.180	A
Urban Corridor Street N/S	South of Village Entry	Collector / 2 (3)	10,000	3,494	0.349	A
Urban Corridor Street E/W	East of Camino Santa Fe	Collector / 2 (3)	10,000	4,425	0.442	B
	West of Spine Rd	Collector / 2 (3)	10,000	7,134	0.713	C
Street I	East of Spine Rd	Collector / 2 (2)	8,000	2,285	0.286	A
Street F	North of Carroll Canyon Rd	Local / 2 (1)	2,200	1,248	0.567	Better than C
Park Access	South of Carroll Canyon Rd	Local / 2 (1)	2,200	1,270	0.577	Better than C
Street G	North of Carroll Canyon Rd	Local / 2 (1)	2,200	672	0.305	Better than C
Street H	North of Carroll Canyon Rd	Local / 2 (1)	2,200	670	0.305	Better than C

Notes:

(1) Daily capacity estimated based on 2,200 ADT threshold at LOS C per Table 2 of the City's TIS Manual.

(2) Residential with fronting property.

(3) Commercial with no fronting property.

TABLE 9-3: INTERNAL ROADWAY SEGMENTS LOS SUMMARY – HORIZON YEAR 2050 CONDITIONS

Roadway	Segment	Functional Classification/ Lanes	Daily Capacity	Year 2050 With Project Buildout (Phases 1 and 2)		
				ADT	V/C	LOS
Spine Road	Camino Santa Fe to Intersection #101	Collector / 2 (w/raised median)	15,000	2,226	0.148	A
	Intersection #101 to Streets D/E	Collector / 2 (w/raised median)	15,000	2,165	0.144	A
	Streets D/E to Street A	Collector / 2 (w/raised median)	15,000	1,360	0.091	A
	Street A to Village Entry	Collector / 2 (w/raised median)	15,000	3,132	0.209	A
	Village Entry to Urban Corridor St	Collector / 2 (w/raised median)	15,000	2,961	0.197	A
	Urban Corridor St to Carroll Canyon Rd	Collector / 2 (w/raised median)	15,000	13,002	0.867	D
Village Entry	Camino Santa Fe to Urban Corridor St	Collector / 2 (w/raised median)	15,000	4,633	0.309	A
	Urban Corridor St to Spine Rd	Collector / 2 (w/raised median)	15,000	2,024	0.135	A
Zone A Driveway	North of Spine Rd	Local / 2 (1)	2,200	448	0.204	Better than C
Street D	North of Spine Rd	Collector / 2 (2)	8,000	1,511	0.189	A
Street E	Spine Road to Village Entry	Collector / 2 (2)	8,000	1,309	0.164	A
Street A	West of Spine Rd	Local / 2 (1)	2,200	1,282	0.569	Better than C
	East of Spine Rd	Collector / 2 (2)	8,000	1,470	0.184	A
Urban Corridor Street N/S	South of Village Entry	Collector / 2 (3)	10,000	2,911	0.291	A
Urban Corridor Street E/W	East of Camino Santa Fe	Collector / 2 (3)	10,000	3,817	0.382	B
	West of Spine Rd	Collector / 2 (3)	10,000	7,594	0.759	C
Street I	East of Spine Rd	Collector / 2 (2)	8,000	2,165	0.271	A
Street F	North of Carroll Canyon Rd	Local / 2 (1)	2,200	1,248	0.357	Better than C
Park Access	South of Carroll Canyon Rd	Local / 2 (1)	2,200	1,270	0.363	Better than C
Street G	North of Carroll Canyon Rd	Local / 2 (1)	2,200	672	0.305	Better than C
Street H	North of Carroll Canyon Rd	Local / 2 (1)	2,200	670	0.305	Better than C

Notes:

(1) Daily capacity estimated based on 2,200 ADT threshold at LOS C per Table 2 of the City's TIS Manual.

(2) Residential with fronting property.

(3) Commercial with no fronting property.

9.6 SIGNAL WARRANT ANALYSIS

A signal warrant analysis was conducted for the following proposed future signalized intersections along Carroll Canyon Road to determine if installation of a traffic signal would be justified at the intersections:

- Carroll Canyon Road / Spine Road
- Carroll Canyon Road / Street F-Park Access
- Carroll Canyon Road / Street G
- Carroll Canyon Road / Street H

The signal warrant analysis was performed in accordance with the 2014 California Manual on Uniform Traffic Devices (MUTCD). The signal warrants, if satisfied, provide justification for the installation of a traffic signal, but in itself would not require the installation of a signal.

Because the proposed signalized intersections currently do not exist, Figure 4C-103 Traffic Signal Warrants Worksheet (Average Traffic Estimate Form) was used to perform the signal warrant analysis.

The signal warrant analysis was performed for Near Term 2025 With Project Buildout conditions and for Horizon Year 2050 With Project conditions. The findings of the traffic signal warrant analysis are summarized in **Table 9-4**. **Appendix O** contains the signal warrant worksheets.

TABLE 9-4: SIGNAL WARRANT ANALYSIS

Intersection		ADT Warrant (Figure 4C-103)		
		Condition A	Condition B	Combination Warrant (80%)
Near Term Year 2025 With Project Buildout Conditions				
107	Carroll Canyon Rd / Spine Rd	Satisfied	Satisfied	N/A
108	Carroll Canyon Rd / Street F-Park Access	Not Satisfied	Not Satisfied	Not Satisfied
109	Carroll Canyon Rd / Street G	Not Satisfied	Not Satisfied	Not Satisfied
110	Carroll Canyon Rd / Street H	Not Satisfied	Not Satisfied	Not Satisfied
Horizon Year 2050 With Project Conditions				
107	Carroll Canyon Rd / Spine Rd	Satisfied	Satisfied	N/A
108	Carroll Canyon Rd / Street F-Park Access	Not Satisfied	Not Satisfied	Not Satisfied
109	Carroll Canyon Rd / Street G	Not Satisfied	Not Satisfied	Not Satisfied
110	Carroll Canyon Rd / Street H	Not Satisfied	Not Satisfied	Not Satisfied

Source: California MUTCD 2014 Edition

N/A = Not Applicable

As shown in Table 9-4, both Conditions A and B of the ADT warrant were satisfied at the intersection of Carroll Canyon Road and Spine Road under both Near Term Year 2025 and Horizon Year 2050 conditions. The results of the signal warrant analysis also show that no warrants were satisfied at the other three proposed signalized intersections. Although not warranted, it is recommended that traffic signals be installed at these other three intersections due to the street classification of Carroll Canyon Road (6-lane Primary Arterial) and the forecast high traffic volume on Carroll Canyon Road during the peak hours and on a daily basis.

9.7 PEDESTRIAN AND BICYCLE SITE ACCESS IMPROVEMENTS

The project will provide new sidewalks within the project site and will provide ADA compliant connections to the existing pedestrian network and to transit stops. Details of the pedestrian improvements include:

- **Miratech Drive and Camino Santa Fe:** The signalized intersection of Miratech Drive and Camino Santa Fe has crosswalks across the north and west leg of the intersection. Existing pedestrian ramps are not ADA compliant. The project will take access from the east leg of the intersection. Improvements to this intersection include replacing existing crosswalks with continental style crosswalks on all legs, ADA compliant curb ramps, audible pedestrian count down timers and pedestrian push buttons on all legs of this intersection.
- **Summers Ridge Road and Camino Santa Fe:** The signalized intersection of Summers Ridge Road and Camino Santa Fe has crosswalks across the north and west leg of the intersection. The project will take access from the east leg of the intersection. Improvements to this intersection include replacing existing crosswalks with continental style crosswalks on all legs, ADA compliant curb ramps, audible pedestrian count down timers and pedestrian push buttons on all legs of this intersection.
- **Carroll Canyon Road and Camino Santa Fe:** This intersection is currently configured to serve the quarry. However, continental style crosswalks have been painted across all legs of the intersection. The project will take access from the east leg of the intersection and will extend Carroll Canyon to the east to Camino Ruiz. Improvements to this intersection include constructing ADA compliant curb ramps on all corners and installing audible pedestrian count down timers and pedestrian push buttons on all legs of this intersection.

As part of the roadway design of the Carroll Canyon Road extension, the project will construct Class II bicycle lanes, sidewalks and landscaped buffer.

The roads through the project site are designed to provide for a pedestrian and bicycle friendly environment. **Figure 9-6** illustrates the proposed bicycle facilities. **Figures 9-7 and 9-8** illustrate the internal sidewalk and trail network and sidewalks along public streets within the project site.

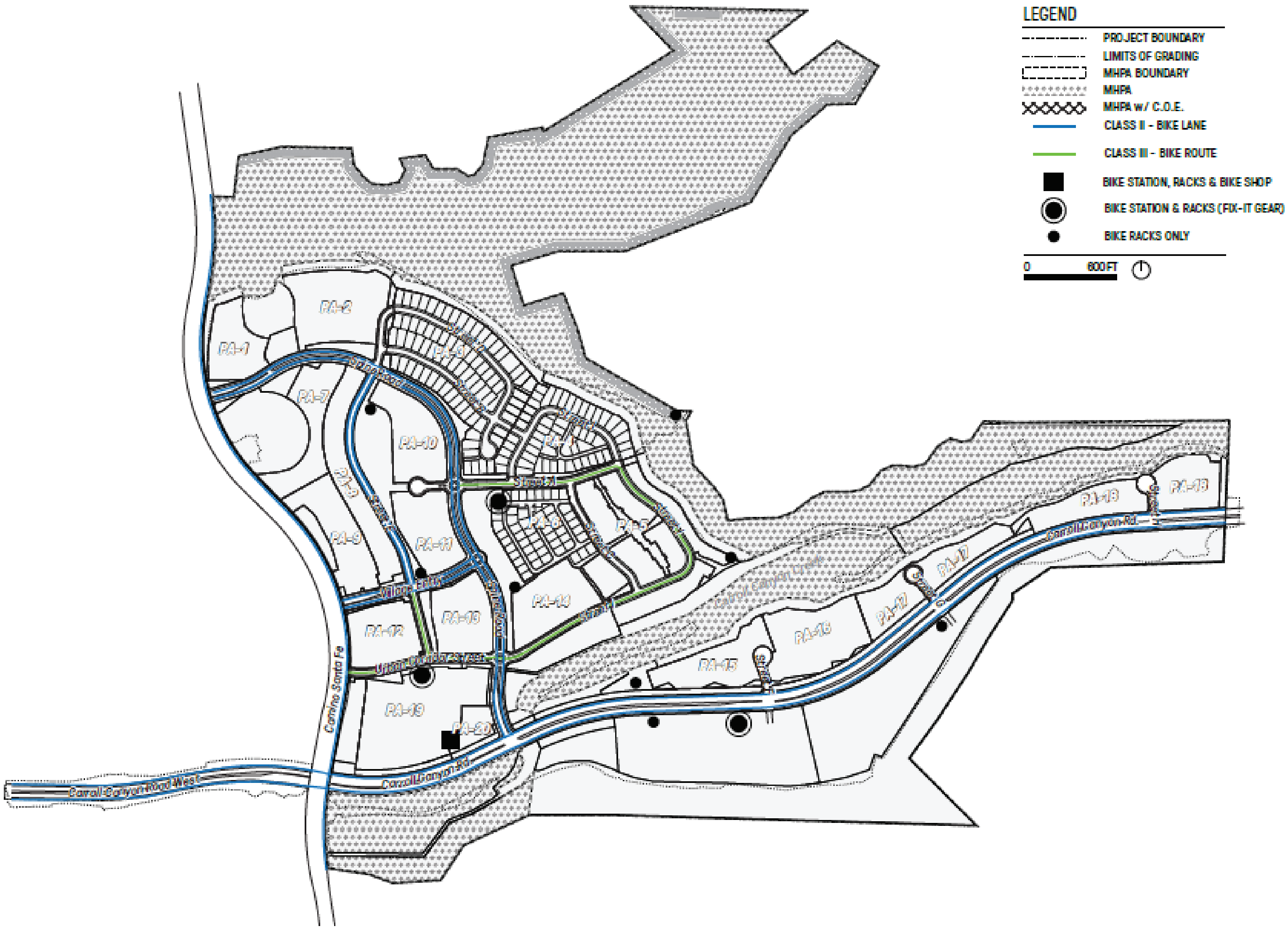

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Figure 9-6
Internal Bicycle Network

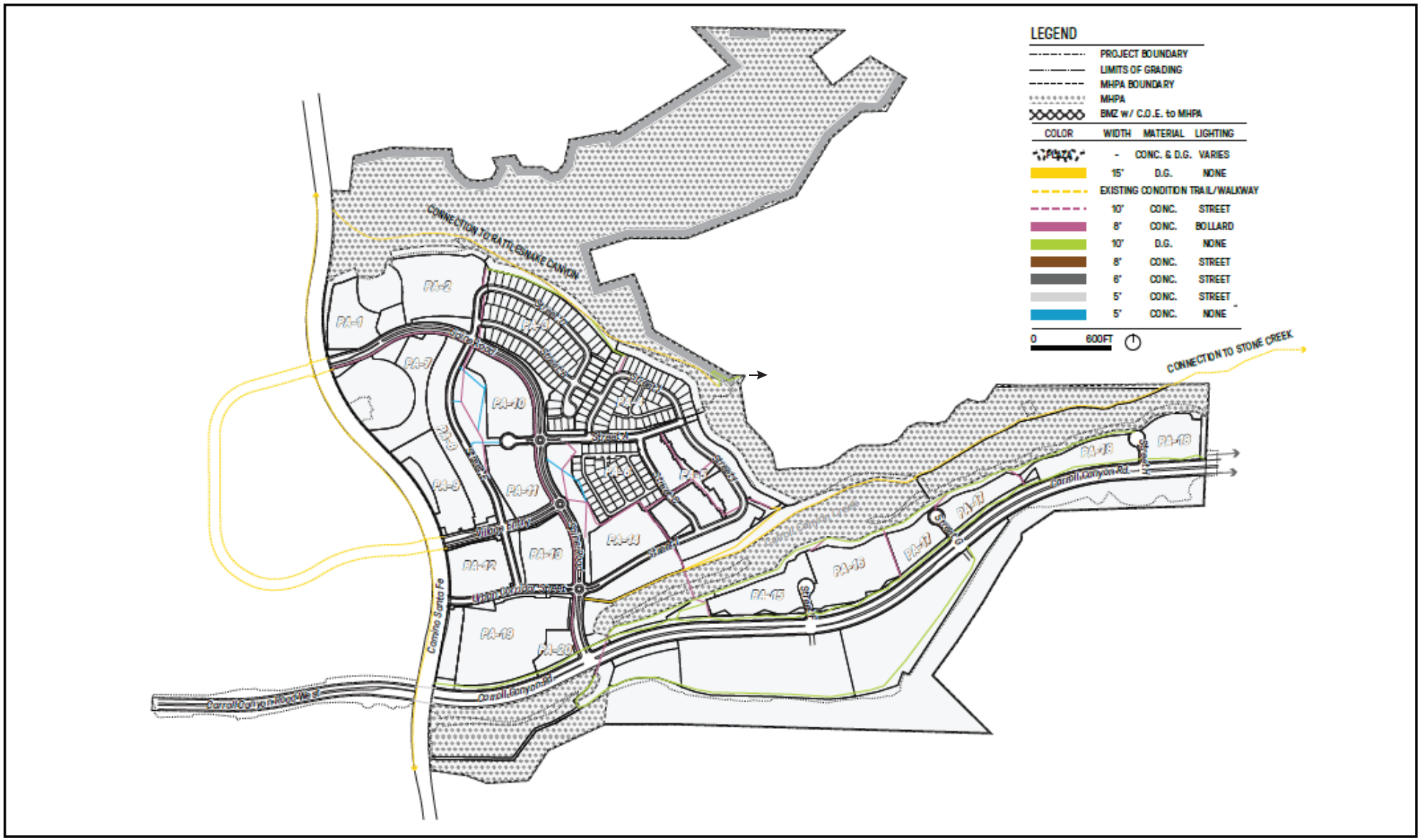

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Figure 9-7
Internal Trails and Sidewalk Network

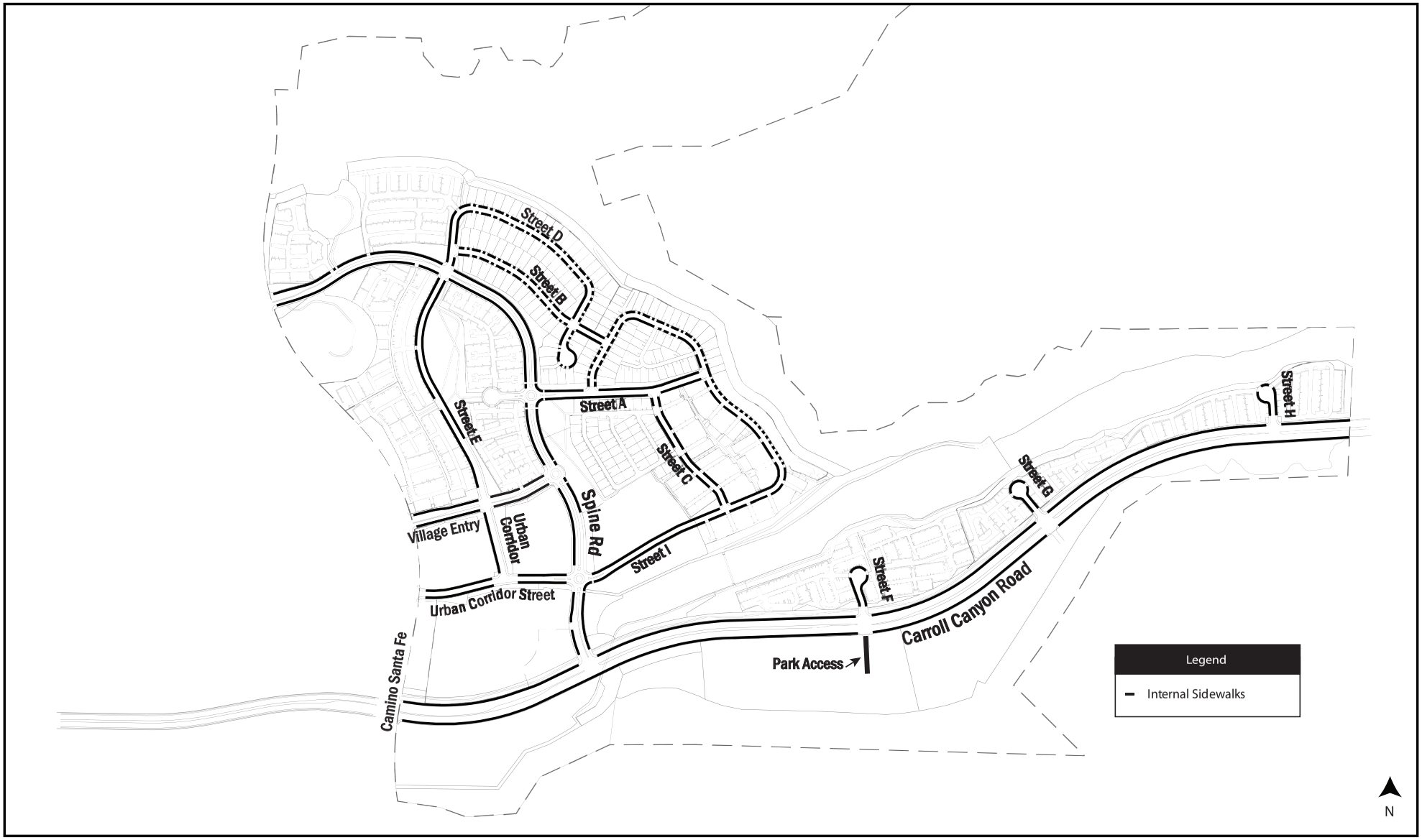

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Figure 9-8
Internal Sidewalks On Public Roads

9.8 PARKING ASSESSMENT

The project's parking requirements were calculated according to the *San Diego Municipal Code, Chapter 14: General Regulation, Article 2: General Development Regulation, Division 5: Parking Regulations*.

The minimum parking requirements for the residential uses were calculated based on the number of spaced needed according to unit bedroom counts per the values in Tables 142-05B and 142-05C in the San Diego Municipal Code. At the time this report was prepared, the bedroom count per unit per planning area was undetermined. Therefore, the maximum parking requirement would be considered when determining the residential parking within each planning area.

The ground floor retail parking requirements were calculated based on Table 142-05C in the San Diego Municipal Code, in which 2.5 parking spaces per 1,000 square-feet are required for retail sales as an accessory use within a multi-family residential building.

The parking requirements for the Urban Core commercial uses were calculated according to Table 142-05E for the retail uses, Table 142-05F for the restaurant uses, and Table 142-05G for the office uses in the San Diego Municipal Code.

The City's Municipal Code does not include specific parking requirements for a community park use, and therefore a calculation of the minimum required parking spaces for the proposed community park was not included at this time. Parking for the park will be determined through the park design process and will not influence or affect parking for other uses within the project site.

Table 9-5 presents the project's minimum parking requirements and the proposed number of parking spaces that the project will provide by Planning Area.

Table 9-5 shows that the proposed project is required to provide a minimum of 4,046 parking spaces, excluding the 25.4-acre community park. As shown, the proposed project will provide a total of 5,293 parking spaces, which would result in a surplus of 1,247 parking spaces.

TABLE 9-5: CONCEPTUAL PARKING ASSESSMENT

Planning Area	Land Use	Amount	Unit	Minimum Required Parking Ratio Per Unit	Minimum Required Parking Spaces	Proposed Parking Ratio Per Unit	Proposed Parking Spaces Provided
PA-1	Condominiums	56	DU	2.25	126	2.25	151
PA-2	Single-Family DU	78	DU	2	156	2	156
PA-3	Single-Family DU	78	DU	2	156	2	156
PA-4	Single-Family DU	54	DU	2	108	2	108
PA-5	Single-Family DU	141	DU	2	282	2	282
PA-6	Single-Family DU	53	DU	2	106	2	106
PA-7	Condominiums	66	DU	2.25	149	2.25	155
PA-8	Condominiums	118	DU	2.25	266	2.25	159
PA-9	Condominiums	68	DU	2.25	153	2.25	276
PA-10	Single-Family DU	61	DU	2	122	2	122
PA-11	Condominiums	85	DU	2.0, 2.25	191	2.0, 2.25	198
PA-12	Apartments (High-Density Senior Housing)	180	DU	0.75, 1.0 (1)	180	0.75, 1.0 (1)	180
PA-13	Apartments (High-Density)	243	DU	1.5, 2.0, 2.25 (1)	547	1.5, 2.0, 2.25 (1)	561
	Ground Floor Retail (2)	16	TSF	2.5	40	2.5	40
PA-14	Apartments (High-Density)	186	DU	1.5, 2.0, 2.25 (1)	419	1.5, 2.0, 2.25 (1)	426
PA-15	Condominiums	76	DU	2.0, 2.25 (1)	171	2.0, 2.25 (1)	193
PA-16	Condominiums	80	DU	2.25	180	2.25	208
PA-17	Condominiums	94	DU	2.0, 2.25 (1)	212	2.0, 2.25 (1)	194
PA-18	Single-Family DU	83	DU	2	166	2	166
MU (3)	Food & Beverage (Restaurant)	72	TSF	2.5	180	17	1,224
	Neighborhood Retail	18	TSF	2.5	45	6.5	117
	Specialty Retail (Services)	9.6	TSF	2.5	24	5	48
	Co-Working Office	20.4	TSF	3.3	67	3.3	67
Park	Community Park	25.4	acre	N/A	N/A	N/A	N/A
TOTAL					***4,046***		***5,293***

Source: San Diego Municipal Code, Chapter 14: General Regulation, Article 2: General Development Regulation, Division 5: Parking Regulations.

DU = Dwelling Unit; TSF = Thousand Square Feet

(1) Variable minimum parking ratios according to bedroom count. Highest parking rate applied where multiple parking rates are possible due to lack of information regarding bedroom count by planning area when the TIA was prepared.

(2) Ground floor retail parking requirement to be met by on-street parking at east and south sides of parcel.

(3) The interior sellable square-footage was used to calculate the parking requirements of the Urban Core Commercial (MU) Planning Area. The interior+exterior sellable square-footage of the commercial uses was used to calculate the project's trip generation in the Traffic Impact Analysis.

N/A = Information not available. The City's Municipal Code does not appear to include parking regulations for a park use.

10 CONSTRUCTION TRAFFIC ASSESSMENT

Construction activities that are expected to result in the hauling of materials to and/or from the project site include the following:

Clearing and grubbing

- Phase 1 total truckloads = 377 (13 days)
- Phase 2 total truckloads = 349 (11 days)
- Estimated hauling distance = 7.8 miles (one-way)

Demolition

- Total truckloads = 1,340 (20 days)
- Estimated hauling distance = 6.9 miles (one-way)

Construction of Carroll Canyon Road Extension

- Total truckloads for import/excavation = 959 (7 days)
- Total cubic yards to be hauled for import/excavation = 13,426
- Total truckloads with materials deliveries = 5,980 (52 days)

Other On-Site Road and Surface Construction

- Phase 1 total truckloads with materials deliveries = 30,885 (213 days)
- Phase 2 total truckloads with materials deliveries = 13,920 (96 days)

The grading of the site will not require the export or import of materials off-site. Demolition materials will be hauled to the Hanson Miramar Recycling Plant located on Harris Plant Road off of Kearny Villa Road.

Based on information provided by the project applicant, daily truckloads were calculated and converted into daily truck trips by multiplying by two (one inbound trip and one outbound trip for each truckload). According to the project applicant, daily operating hours would be approximately 8 hours per day; therefore, hourly truck trips were calculated by dividing the daily truck trips by 8.

Approximately 10-15 trucks per day would be used to deliver aggregate base and asphalt materials for the construction of Carroll Canyon Road, with an average of 6 loads per day per truck. An additional 15-20 trucks per day would deliver aggregate base and asphalt materials for the construction of other on-site roads and surfaces with an average of 6 loads per day per truck. Approximately 25 concrete deliveries per day would occur for both the construction of Carroll Canyon Road and the other on-site roadways and surfaces.

Table 10-1 summarizes the estimated daily and AM/PM peak hour truck trips for the various hauling activities as described above. A passenger car equivalent factor of 2.5 was applied to the daily trips and peak hour trips to account for the impacts slower moving, larger trucks have on traffic conditions. Each activity included in the table below would occur in isolation of the other activities; in other words, the activities below would not occur at the same time and therefore the trips shown for each activity represent the maximum trips that would occur during a specific stage of construction.

As shown in Table 10-1, the ***highest number of truck trips*** would occur with the aggregate base, asphalt and concrete deliveries for the construction of the on-site roadways and surfaces during both Phase 1 and Phase 2 of the project. As shown, the materials deliveries would result in approximately 290 daily trips (725 PCE trips), with approximately 98 trips occurring during both the AM and PM peak hours. Worker trips per day, per phase are also provided in Table 10-1. Adding to the worker trips to the construction trips during Phase 1 and Phase 2, the total number of construction trips is less than the trip generated in either Phase 1 or Phase 2 of the project. Therefore, there would be no additional impacts associated with the construction of the site not identified or evaluated in the analysis of the project study scenarios.

TABLE 10-1: CONSTRUCTION TRAFFIC TRIP GENERATION

Clearing and Grubbing													
Construction	Total Truckloads	Project Duration (Days)	CY of Material Per Day	Truck Capacity (CY)	Loads Per Day	Daily Trips	PCE Daily Trips (PCE = 2.5)	AM Peak Hour (PCE = 2.5)			PM Peak Hour (PCE = 2.5)		
								Total	In	Out	Total	In	Out
Phase 1 Clearing/ Grubbing	377	13	N/A	N/A	29	58	145	20	10	10	20	10	10
Phase 2 Clearing/ Grubbing	349	11	N/A	N/A	32	63	159	21	11	11	21	11	11
Demolition													
Construction	Total Truckloads	Project Duration (Days)	CY of Material Per Day	Truck Capacity (CY)	Loads Per Day	Daily Trips	PCE Daily Trips (PCE = 2.5)	AM Peak Hour (PCE = 2.5)			PM Peak Hour (PCE = 2.5)		
								Total	In	Out	Total	In	Out
Demolition	1,340	20	N/A	N/A	67	134	335	45	23	23	45	23	23
CCR Extension Construction: Import Excavation Truck Trips													
Construction	Total Truckloads	Project Duration (Days)	CY of Material Per Day	Truck Capacity (CY)	Loads Per Day	Daily Trips	PCE Daily Trips (PCE = 2.5)	AM Peak Hour (PCE = 2.5)			PM Peak Hour (PCE = 2.5)		
								Total	In	Out	Total	In	Out
Import/ Excavation	13,426	7	1,918	14	137	274	685	92	46	46	92	46	46
CCR Extension Construction: Materials Deliveries Truck Trips													
Construction	Total Truckloads	Project Duration (Days)	CY of Material Per Day	Truck Capacity (CY)	Loads Per Day	Daily Trips	PCE Daily Trips (PCE = 2.5)	AM Peak Hour (PCE = 2.5)			PM Peak Hour (PCE = 2.5)		
								Total	In	Out	Total	In	Out
Material Deliveries	5,980	52	N/A	N/A	115	230	575	78	39	39	78	39	39

Other On-Site Road and Surface Construction: Materials Deliveries Truck Trips

Construction	Total Truckloads	Project Duration (Days)	CY of Material Per Day	Truck Capacity (CY)	Loads Per Day	Daily Trips	PCE Daily Trips (PCE = 2.5)	AM Peak Hour (PCE = 2.5)			PM Peak Hour (PCE = 2.5)		
								Total	In	Out	Total	In	Out
Phase 1 Material Deliveries	30,885	213	N/A	N/A	145	290	725	98	49	49	98	49	49
Phase 2 Material Deliveries	13,920	96	N/A	N/A	145	290	725	98	49	49	98	49	49

Worker Trips	TOTAL Round Trips	Phase Duration	Average Trips Per Day	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Phase 1 Worker Trips	1,291	213	2,582	349	174	174	349	174	174
Phase 2 Worker Trips	3,176	96	6,352	858	429	429	858	429	429

Note: Average Daily Trips = Total Round Trips * 2

11 VEHICLE MILES TRAVELED (VMT) ANALYSIS

The Federal Bureau of Transportation Statistics defines VMT as a unit to measure vehicular travel made by individual vehicles. Each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle. Total vehicle miles are the aggregated total mileage traveled by all individual vehicles. Recent State of California legislation (SB743) requires that alternative measures to LOS be used to assess transportation related impacts for the purpose of CEQA analysis. In December 2018, the Governer's Office of Planning and Research (OPR) released revised guidelines outlining the new methodology for evaluating transportation impacts under this new law. VMT is OPR's recommended analysis tool to assess transportation impacts of land development projects under CEQA. OPR's Technical Advisory (December 2018) suggests that VMT be evaluated based on residential, retail and office uses individually. Residential VMT is recommended to be evaluated at residential VMT/capita. Office VMT is recommended to be evaluated as employee VMT/employee. According to the Technical Advisory, local serving retail development may result in shorten trip lengths and reduce VMT. VMT for retail should be evaluated as change in total VMT. OPR's Technical Advisory is intended to provide guidance for local jurisdictions who will each prepare their own guidelines. At the time this report was prepared, the City was in the process of updating their guidelines for VMT.

Although the CEQA Checklist for Transportation has changed, compliance with the VMT analysis is not required until June 2020. Therefore, the VMT analysis presented in this study is for informational purposes only.

The SANDAG Series 12 regional travel demand model run performed for this project calculated total vehicle miles traveled (VMT) for each of the land use Select Zones (Residential, Commercial and Park). SANDAG provided the VMT information for each Select Zone in conjunction with the Select Zone model results. Although OPR suggests separating retail and office VMT, that information was not separated at the time the model runs were conducted. Therefore, retail and office are combined in the Commercial land use provided in Table 11-1.

The total VMT information provided by SANDAG was used to calculate the VMT per capita for the project.

Table 11-1 provides a summary of the total VMT and VMT per unit for each of the three proposed land uses. The total VMT and VMT per unit was also calculated for each analysis scenario for the proposed project.

TABLE 11-1: PROJECT VMT SUMMARY

Land Use	Near Term Year 2021				Near Term Year 2025				Horizon Year 2050			
	Amount	Unit	Total VMT	VMT per Capita (1)	Amount	Unit	Total VMT	VMT per Capita	Amount	Unit	Total VMT	VMT per Capita
Residential	1,461	DU	88,399	21.2	1,800	DU	108,117	21.1	1,800	DU	99,620	19.4
Commercial	16	TSF	7,969		160.160	TSF	79,766		160.160	TSF	75,129	
Park	-	-	-	-	25.4	acres	11,541		25.4	acres	10,634	
TOTAL			96,367	23.1			199,424	38.8			185,383	36.1

Note: Assumes 2.85 persons per household.

As shown in Table 11-1, the VMT per unit for each land use decreases into the future, with the lowest VMT per capita occurring under Horizon Year 2050 conditions. The lower VMT per capita in 2050 is likely attributed to the completion of the bus rapid transit (BRT) route along Carroll Canyon Road that is included in the Series 12 2050 regional travel demand model and the introduction of greater onsite land use intensity.

11.1 DATA USED IN VMT ANALYSIS

To evaluate the potential VMT reduction for the project site, several equations identified in the CAPCOA Guidelines include variables related to population within the project site, number of employees within the project site, and home-based work related VMT for both residents and employees. The data sources used to estimate these variables are discussed below:

- **Project Population:** The 3Roots project includes a mix of residential, commercial and office related uses. Based on US Census Data (QuickFacts provided in the Appendix P: US Census Data), the average household size in San Diego County is 2.85 persons per dwelling unit. To determine the anticipated population of the 3Roots community, the average household density was multiplied by the total number of residential units: 2.85 * 1,800 = 5,130 people.
- **Number of Retail Employees:** The San Diego General Plan estimates that a Neighborhood Commercial Shopping Center will have 400 square feet per employee. The Project's commercial center is estimated to employ 342 employees based on a gross area of 136,700 square feet or retail space (136,700 square feet/400 square feet per employee = 342 employees).
- **Number of Office Employees:** Commercial real estate trends are showing that employers are providing far less space per employee than have been provided in years past. Reports published related to employee density in the workplace indicates that the average space per employee in 2012 was approximately 175 sf.
- **Residential based Work VMT:** It is necessary to understand the amount of VMT that is due to residents of the proposed project traveling to work outside the project. Conservatively, we estimate that all of the residents work outside of the proposed Project area. Residents account for 96.8% of the service population (6,085/6,288=96.8%). The 2009 National Household Travel Survey (summary provided in the Appendix A: National Household Travel Survey Data) provides information on trip purpose and indicates that 25% of home based trips are work related. Therefore 24.2% of the overall VMT is home based work related (96.8%*25%=24.2%).

12 TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Transportation Demand Management strategies have been implemented on projects for decades and are intended to help reduce the number of auto oriented, more specifically single occupant auto oriented trips. The purpose of the TDM measures is to reduce the project's overall impact on the transportation system and to provide reasonable and viable transportation options for those living, working and visiting the project site.

The California Air Pollution Control Officers Association (CAPCOA) published the "Quantifying Green House Gas Mitigation Measures" document in August 2010, which was updated in August 2016 to provide the "Air Toxic Hot Spots Program Facility Prioritization Guidelines". This document was intended clearly define the benefit of mitigation measures across all strategies including Energy, Water, Solid Waste, Vegetation, Outdoor Watering, Construction, and Transportation. Research was conducted for the measures included for each of these strategies and reported in terms of VMT and GHG reduction. As VMT is directly related to the length and number of trips generated by a project, the application of the CAPCOA mitigation measure benefits can be used to mitigate the VMT impacts associated with a project.

12.1 PROPOSED TRANSPORTATION DEMAND MANAGEMENT PROGRAMS

TDM measures for the 3Roots project focus on providing mobility choices for residents and employees within the project site. Through the implementation of a Mobility Hub within the project, the project is committed to ensuring mobility choices are available to all cross-sections of the population. The following is a bullet list of the potential TDM measures considered for this project:

Mobility Hub Features:

- **On-Site Mobility Concierge / TDM Coordinator –** Full time staff person(s) employed by the homeowners association (HOA) on-site to manage the real time needs of the residents, business owners and employees within the community. This individual will also work directly with SANDAG in identifying and coordinating TDM programs, ride share programs and other mobility related activities and marketing material on-site.
- **Dedicated Car Share Space within Mobility Hub –** the project will work with ZipCar and Turo, the car share providers available in the San Diego region, to bring 3-5 car share vehicles to the Mobility Hub. Dedicated parking spaces and electric vehicle charging stations (if applicable) will be provided to serve this car share service.
- **On-Line Website for Car Share/Van Pool –** a dedicated on-line portal will be developed for the community to share information and coordinate ride share opportunities. Digital resources and on-line "help desk" (to be managed by the On-Site Mobility Concierge) will be available to residents, employees and business owners in the community.
- **Employment Center Shuttle Service –** working with the major employers in the region and major employment centers (such as UTC and Sorrento Valley), the project will establish an employment center shuttle service that will link residents to their places of employment. Park and ride spaces will be provided within the Mobility Hub for residents who live within the community but find the Mobility Hub too far to walk to or have mobility restrictions. Funding for the shuttle may be provided either by the rider or through subsidies funded by the employment centers. The on-site TDM coordinator, hired by the HOA, will be responsible for developing, implementing and coordinating the Employment Center Shuttle Service.
- **Uber/Lyft/Car Share Meeting Location –** The Mobility Hub will also provide designated pick up/drop off locations for on-line car sharing programs. In addition, the Mobility Hub will provide on-line kiosks where individuals without access to a smart phone or computer would be able to schedule and pay for on-line car sharing programs. The on-site Mobility Concierge would be on-hand to assist with the on-site kiosk.
- **Connection to Public Transportation –** At the time this report was prepared MTS operated a commuter shuttle service that connects the community and businesses to the Sorrento Valley Coaster Station. Routing for the existing Coaster Connection routes 972, 973, 978 and 979 are provided in **Appendix P.** The project

is working with MTS to identify ways to extend the existing shuttle service to the project site once Carroll Canyon Road is constructed from Camino Ruiz to Camino Santa Fe. The Mobility Hub will serve as the gathering place for residents and employees who plan to use public transportation. Park and Ride parking spaces will be provided at the Mobility Hub along with bicycle lockers and bicycle racks.

- **Bicycle Services –** In addition to providing auto oriented services at the Mobility Hub, bicycle facilities including a bike repair station or shop and bicycle racks will be provided. This will allow residents to ride their bicycle to the Mobility Hub, store their bicycle while they take other modes from the site, and if necessary have their bicycle repaired while they are at work or play.
- **Bike Share Station** – Although bike share within the community is not a reasonable service given the mix of residential and commercial uses, the Mobility Hub will provide space for a Bike Share Station should an electric or standard bicycle share program be implemented within the surrounding community. Reasonable connections to the Fenton Business Park, Qualcomm and other surrounding business parks to the south of the site along Carroll Canyon Road could be made on electric bicycles. The TDM coordinator would be responsible for working with the local community on the implementation and integration of bike share services should that program evolve.
- **Centralized On Demand Portal:** The Mobility Hub will also serve as a central delivery and service point or meeting point for on-line ordering sites (such as Amazon, Ebay, Craigs List, etc) with drop-offs to be given to the mobility concierge. This service will be available to residents who would prefer those services not occur at their door step or at their home. This will help reduce the trip lengths and number of delivery trucks within the community.

Commercial Center Features

- **Flexible Work Space:** The commercial center will provide for flexible office space and on-demand office space for telecommuters. Smaller, flexible space allows for as-needed office and meeting space within the community reducing the need for residents to drive long distances to corporate offices.
- **Retail Office Support Services:** The commercial center retail space will include a office support services store (FedEx, UPS Store, etc) to provide work at home employees the necessary resources such as mailing, packing/shipping and printing services.
- **Retail within ¼ mile Walking Distance of Medium to High Density Housing –** placing the higher density housing near the commercial center makes the retail center walking and bicycling accessible to a large portion of the population within the community.

Site Design Features

- **Integrated System of Trails and Sidewalks –** The 413-acre site will provide up to 8 miles of internal off-street trails in addition to sidewalks and pathways along the internal roadways and Carroll Canyon Road.
- **Integrated Bicycle Network with On-Bicycle Services –** The project site includes an integrated system of bicycle lanes, shared bicycle facilities, and bicycle trails. In addition, bicycle racks are planned throughout the site as well as a Bike share Station at the Mobility Hub, Fix it Stations at the key park locations and a bicycle shop in the retail center. The Mobility Concierge will be responsible for coordinating bicycle education events for the community to encourage trips by bicycle within the community and into the surrounding communities.
- **Integrated Network of Low Speed Streets and Roadways -** Internal streets are expected to have posted speed limits ranging from 25 to 35 mph, which is compatible with walking and bicycling along the corridors. Key intersections along the main internal roadway will be controlled by roundabouts, which will encourage slow travel speeds, narrow pedestrian crossing distances and reduced number of conflict points for all modes.

  Connectivity to Local Community and Local Resources – the pedestrian and bicycle network connects to existing trails and sidewalks in the surrounding community. This will encourage non-auto oriented trips from the project site to the local schools and trips from the local community to the retail center. The project will encourage Bike or Walk to School programs to the local elementary school (Salk Elementary), which is located less than 1 mile from center of project with direct trail connection (refer to Figures 9-6 through 9-8 for pedestrian and bicycle facilities within the project site).

12.2 FORECAST BENEFITS OF THE PROPOSED TDM PROGRAMS

As stated previously, the TDM program is designed to reduce reliance on the single occupancy vehicle and provide mobility options to the residents and employees who live and work within the 3Roots project. The CAPCOA mitigation measures research was used to quantify the overall benefits of the programs identified above. The Centralized On Demand Portal TDM measure is the only measure that is not CAPCOA as there are no applicable measures at this time. **Table 12-1** summarizes the potential VMT and ADT reduction benefits associated with each of these programs per the CAPCOA (August 2010) document. A detailed description of each program is described below.

Commute Trip Reduction Features for Residents

The project site will provide for a robust Mobility Hub, which will provide commute services for residents including employee shuttles, car share, bike share, , and transit services. These ride sharing support services both reduce the reliance on the single occupancy automobile, but also assist in reducing VMT. The CAPCOA equation presented in TRT-1 (Commute Trip Reduction) for evaluating the VMT benefit associated with these services is as follows:

%VMT Reduction = (% reduction in commute VMT)*(% employees eligible)*(% home based work VMT)

The CAPCOA Guidelines suggests a typical annual reduction of 5.4% in commute VMT is applicable for suburban centers. In addition, a reasonable range of employees eligible to participate in commute programs ranges from 20% to 100%. To maintain a conservative assessment of the VMT benefits of commute services, a 40% eligibility rate was applied. Therefore, the equation for determining %VMT reduction for the 3Roots site is:

%VMT Reduction = 5.4%*40%*(% home based work VMT) = 2.16%*(% home based work VMT)

The mitigation measures quantified for CAPCOA mitigation fall into general categories and outline common quantification methods used to estimate VMT reduction. The selected categories and subcategories of measures applicable for the 3Roots project have quantifiable methods used for each one and caps to reduction. Some of the selected CAPCOA categories contain subcategories that work together to achieve a more efficient program. In order to reach a program's potential, it is recommended that the measures that require subcategory partners are not individually implemented. These TDM strategies provide the 3Roots community with multimodal connections and opportunities to explore without relying on a single occupancy vehicle.

TABLE 12-1: FORECAST VMT REDUCTIONS BASED ON CAPCOA MITIGATION MEASURES

Mobility Hub Features:	CAPCOA Category	Anticipated VMT Reduction
On-Site Mobility Concierge / TDM Coordinator	TRT-7	0.8-4.0%
Dedicated Car Share Space within Mobility Hub	TRT-9	0.4-0.7%
On-Line Website for Car Share/Van Pool	TRT-9	0.4-0.7%
Employment Center Shuttle Service	TRT-11	0.3-13.4%
Uber/Lyft/Car Share Meeting Location	TST-2 (TST-3 & TST-4)	0.1-8.2%
Connection to Public Transportation	TST-1 (LUT-5, TST-6)	0.02-3.2%
Bicycle Services	SDT-7	0.3-21.3%
Bike Share Station	TRT-12 (SDT-5, LUT-9)	0.03%
Centralized On Demand Portal	Not Applicable	Not Applicable
Commercial Center Features		
Flexible Work Space	LUT-3(LUT-4)	9-30%
Retail Office Support Services	LUT-3(LUT-4)	9-30%
Retail within ¼ mile Walking Distance of Medium to High Density Housing	LUT-3 (LUT-4)	9-30%
Site Design Features		
Integrated System of Trails and Sidewalks	SDT-1 (LUT-9)	0-2%
Integrated Bicycle Network with On-Bicycle Services	SDT-5 (LUT-9)	3-21.3%
Integrated Network of Low Speed Streets and Roadways	SDT-2	0.25-1.0%
Connectivity to Local Community and Local Resources	LUT-3(LUT-4)	9-30%

13 FINDINGS AND RECOMMENDATIONS

This transportation analysis evaluates the potential impacts associated with the proposed 3Roots project located within the community of Mira Mesa in the City of San Diego.

The 3Roots project is part of the Carroll Canyon Master Plan. The first phase of the plan included 900,000 square feet of industrial known as the Fenton Technology Park. The 3Roots project is the second phase of the Master Plan. A change in land use is planned from the original Carroll Canyon Master Plan for this site. The 52-acre industrial park identified in Phase 2 of the Carroll Canyon Master Plan is being considered as a 25-acre community park on the south side of the future Carroll Canyon Road through the property and medium density residential on the north side of Carroll Canyon Road.

Project Description

The project will be developed in two phases. The Phase 1 development, which is expected to be completed by the year 2021, proposes to construct 1,437 residential units and 16,000 square feet of retail space. Phase 1 would consist of the following residential and retail uses:

- 393 condominiums (low-density attached);
- 609 apartments (high-density attached);
- 435 single-family detached units; and
- 16,000 square-foot of ground floor retail.

Phase 2 (project buildout), which is expected to be completed by the year 2025, will consist of the following additional 365 residential dwelling units and retail uses:

- 113 single family dwelling units
- 250 attached condominiums
- 86,400 square-feet of food/beverage uses
- 30,300 square-feet of commercial retail use
- 23,460 square-feet of office use
- 4,000 square-feet of mobility hub commercial

Therefore, at project buildout the project will include 1,800 residential units which consist of the following residential types:

- 643 condominiums (low-density attached);
- 609 apartments (high-density attached); and
- 548 single-family detached units.

Carroll Canyon Road

The 3Roots project will construct the extension of Carroll Canyon Road from the western boundary of the Fenton Technology Park to the existing terminus of Carroll Canyon Road on the eastern end of the project site. The project will also restripe existing 2,700-foot section of Carroll Canyon Road from the eastern project boundary to Camino Ruiz to six lanes as described below. Carroll Canyon Road improvements will be construction with Phase 2 of the project. Due to the location and proposed impacts to regulated aquatic resources, Carroll Canyon Road will be constructed after obtaining the required permits from the resource agencies for impacts to jurisdictional wetlands, waters, and streambed. Such permits include a 404 Individual Permit from the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the California Regional Water Quality Control Board, and a 1602 Streambed Alteration from the California Department of Fish and Wildlife. Permit application processing would be concurrent with the project development approvals by the City; however, issuance of final permits by the resource agencies would extend beyond the City approvals and adoption of the CEQA document for the project (i.e., 3Roots

Environmental Impact Report [EIR]). Therefore, the extension of Carroll Canyon Road will be implemented during Phase 2 of construction to coincide with the timeline of resource agency permitting.

The section of Carroll Canyon Road through the project site from Camino Santa Fe to the project's eastern boundary will be constructed as a 6-lane Primary Arterial. The existing 2,700-foot segment of Carroll Canyon Road that extends from the project's eastern boundary to Camino Ruiz was built to 6-lane Primary Arterial standards but is currently striped with 4 lanes. The project will restripe this existing section of Carroll Canyon Road to provide a total of 6 travel lanes and bicycle lanes.

The project will also construct a segment of Carroll Canyon Road west of Camino Santa Fe as a four-lane Major to the western boundary of the existing Fenton Technology Park. However, this segment of Carroll Canyon Road will not carry any vehicular traffic until the City's PFFP Project T-5A to construct Carroll Canyon Road from Carroll Road to the Fenton Technology Park western boundary is completed. According to the 2016 Mira Mesa Public Facilities Financing Plan, Project T-5A, this project is to be completed within the same time frame as the other segments of Carroll Canyon Road (T-5B and T-5C). The estimated cost to construct the project is $8.18 million, which is schedule as part of the FBA-MM funding source for Fiscal Year 2023 ($2M) and Fiscal year 2024 ($6.18M).

Future Transit

MTS currently operates route 237, Rapid Service, along Mira Mesa Boulevard and provides east-west connectivity to the north of the project site. The Mira Mesa Community Plan contemplated light rail transit (LRT) along the future Carroll Canyon Road and the 1994 Carroll Canyon Master Plan states: "If an LRT line is approved for the Carroll Canyon area, a transit station would be developed within the mixed-use area. If an LRT line is not approved for this area, it is anticipated that this area would be used for a bus station." SANDAG removed the LRT line from Carroll Canyon Road as part of San Diego Forward: The Regional Plan in 2016. However, in consultation with MTS and SANDAG, the applicant was requested to include an area that could be used as right of way for a potential Bus Rapid Transit (BRT) route along Carroll Canyon Road, so as not to preclude a potential BRT route in the future.

Right of way for a future BRT route has been reserved with an Irrevocable Offer to Dedicate (IOD) should SANDAG determine that a route along Carroll Canyon Road is needed. SANDAG has indicated the future route would generally follow Carroll Canyon Road from I-805 through the project site to Camino Ruiz and then east toward Black Mountain Road. However, as noted above, the exact alignment of this future route not been identified and does not exist in approved SANDAG planning documents. SANDAG has indicated that there is currently no funding identified for this or any other potential transit (such as BRT) along Carroll Canyon Road; nor is there any funding to relocate the Mira Mesa Boulevard bus route southward to Carroll Canyon Road.

Based on guidance from SANDAG, the preferred alignment of the future BRT is along the center of Carroll Canyon Road within the raised median area. The 3Roots project will provide an IOD on the south side of the future Carroll Canyon Road throughout the Carroll Canyon Road alignment in order to accommodate the future ROW necessary to implement the BRT. 3Roots will construct Carroll Canyon Road from Camino Santa Fe to its existing terminus at eastern boundary to a six-lane roadway with a 26-foot raised, landscaped median inclusive of the left turn lanes at the signalized intersections and Class I bike paths on the north and south sides of the roadway. The 3Roots project would also provide additional IOD's on both the north and south side of the street to accommodate a future transit stop on the west side of the future signalized intersection of Carroll Canyon Road / Spine Road.

Trip Generation

Trip generation rates published in the *City of San Diego Trip Generation Manual, May 2003* were applied to the proposed uses to estimate the forecast project traffic. Driveway rates reflect total vehicular trips generated by the project.

In Phase 1 (2021), the project is forecast to generate 11,788 driveway trips per day. Phase 2 (2025) is forecast to generate an additional 19,224 driveway trips per day. Therefore, at project buildout, the project is forecast to generate 31,012 driveway trips per day prior to considering trip reductions for mixed use or transit.

A mixed-use trip reduction was applied at project buildout (2025) to account for the internal and non-motorized trips that occur as the result of placing residential and commercial uses within the project site. The project aims to provide an integrated of walking trails and bicycle friendly streets throughout the development to encourage non-motorized trips. With the mixed-use trip reduction applied to the project, the project is forecast to generate 29,567 driveway trips per day by year 2025.

As discussed above, SANDAG and MTS anticipate a transit line will travel along Carroll Canyon Road by year 2050. To account for the benefits of transit adjacent to the project, a transit reduction was applied to the driveway trips in the horizon year condition. With both the mixed use and transit reduction applied to the project, the project is forecast to generate 28,836 driveway trips per day by year 2050.

Study Scenarios

This transportation impact analysis report provides findings for the project study intersections, roadway, and freeway segments under the following scenarios:

- Existing Conditions
- Existing Plus Phase 1 Project
- Existing Plus Project Buildout
- Near Term Year 2021 Without Project
- Near Term Year 2021 with Phase 1 Project
- Near Term Year 2025 Baseline (With Phase 1 Project)
- Near Term Year 2025 with Project Buildout
- Horizon Year 2050 Without Project
- Horizon Year 2050 With Project

Summary of Intersection Analyses

Table 13-1 provides a summary of the operating conditions of study intersections for all scenarios without and with project. The following intersections were forecast to be significantly impacted by the project in one or more of the study scenarios:

		Significantly Impacted in 2021		Significantly Impacted in 2025		Significantly Impacted in 2050	
		AM	PM	AM	PM	AM	PM
3	Pacific Heights Boulevard and Mira Mesa Boulevard		✓				✓
8	Camino Santa Fe and Mira Mesa Boulevard		✓			✓	✓
16	Camino Santa Fe and Carroll Road	✓	✓	✓	✓		
20	Towne Center Drive and La Jolla Village Drive		✓		✓		✓
26	Eastgate Mall and Miramar Road				✓		✓
29	Camino Santa Fe and Miramar Road	✓	✓	✓	✓	✓	✓
31	Camino Ruiz and Miramar Road			✓		✓	
32	Mitscher Way and Miramar Road				✓		✓
34	Kearny Villa Road and Miramar Road			✓	✓	✓	✓
38	Flanders Drive and Camino Santa Fe		✓				✓
42	Trade Street and Camino Santa Fe				✓		✓
48	Carroll Canyon Road and Camino Ruiz			✓			
49	Miralani Drive and Camino Ruiz			✓	✓		
50	Activity Road and Camino Ruiz				✓		

Summary of Roadway Segment Analyses

Table 13-2 summarizes the roadway segment LOS results for each scenario analyzed in this report. The following roadway segments were forecast to be significantly impacted by the project in one or more of the study scenarios:

		Significantly Impacted in 2021	Significantly Impacted in 2025	Significantly Impacted in 2050
C	Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive	✓		
F	Mira Mesa Boulevard from Camino Santa Fe and Parkdale Avenue	✓		✓
H	Mira Mesa Boulevard from Reagan Road to Camino Ruiz	✓		
P	Carroll Road from Nancy Ridge Drive to Rehco Road	✓	✓	✓
Q	Carroll Road from Rehco Road and Camino Santa Fe	✓	✓	✓
T	Eastgate Mall from Judicial Drive and Miramar Road	✓	✓	✓
Y	Miramar Road from Nobel Drive to Eastgate Mall	✓	✓	✓
Z	Miramar Road from Eastgate Mall to Camino Santa Fe	✓	✓	✓
AA	Miramar Road from Carroll Road to Camino Ruiz	✓		
AB	Miramar Road from Camino Ruiz to Mitscher Way	✓	✓	✓
AC	Miramar Road from Mitscher Way to Black Mountain Road	✓	✓	✓
AD	Miramar Road from Black Mountain Road to Kearny Villa Road	✓	✓	✓
AE	Miramar Road from Kearny Villa Road to Kearny Mesa Road		✓	✓
AJ	Camino Santa Fe from Carroll Canyon Road to Trade Street		✓	✓
AK	Camino Santa Fe from Trade Street to Carroll Road		✓	✓
AL	Camino Santa Fe from Carroll Road to Miramar Road		✓	✓

TABLE 13-1: SUMMARY OF INTERSECTION PEAK HOUR LOS RESULTS

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
				Delay[a]	LOS [b]	Delay	LOS	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS
1	Scranton Rd & Mira Mesa Blvd	Signal	AM	28.1	C	28.2	C	28.3	C	28.6	C	28.6	C	29.0	C	29.1	C	31.7	C	32.6	C
			PM	43.5	D	43.9	D	44.3	D	45.1	D	45.4	D	46.9	D	46.9	D	50.1	D	50.5	D
2	Lusk Blvd-Oberlin Dr & Mira Mesa Blvd	Signal	AM	27.8	C	28.1	C	28.2	C	28.3	C	28.7	C	29.5	C	29.5	C	30.7	C	30.8	C
			PM	46.7	D	47.2	D	47.4	D	48.2	D	48.5	D	49.7	D	50.8	D	51.8	D	51.8	D
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	36.4	D	36.7	D	37.3	D	38.6	D	39.1	D	41.1	D	41.6	D	47.0	D	47.7	D
			PM	68.3	E	**73.4**	**E**	**74.6**	**E**	73.8	E	**80.7**	**F**	89.9	F	89.4	F	83.4	F	**86.8**	**F**
4	Sequence Dr & Mira Mesa Blvd	Signal	AM	31.4	C	31.9	C	32.5	C	34.2	C	35.3	D	42.9	D	42.0	D	46.4	D	50.3	D
			PM	40.9	D	42.0	D	43.5	D	42.7	D	45.0	D	47.0	D	47.3	D	47.7	D	49.7	D
5	Genetic Center Dr & Mira Mesa Blvd	Signal	AM	13.4	B	14.2	B	14.4	B	14.4	B	15.1	B	16.1	B	16.1	B	15.6	B	16.3	B
			PM	41.9	D	43.0	D	41.9	D	43.1	D	43.1	D	43.2	D	43.2	D	46.5	D	46.6	D
6	Flanders Dr & Mira Mesa Blvd	Signal	AM	22.4	C	24.7	C	25.9	C	23.8	C	27.4	C	34.0	C	32.8	C	30.5	C	35.6	D
			PM	26.2	C	28.5	C	29.5	C	28.1	C	31.5	C	40.1	D	39.9	D	41.3	D	49.0	D
7	Viper Way & Mira Mesa Blvd	Signal	AM	11.4	B	11.5	B	11.5	B	11.7	B	11.8	B	14.6	B	12.6	B	12.4	B	12.6	B
			PM	15.8	B	16.2	B	15.8	B	16.2	B	16.5	B	17.0	B	17.2	B	17.7	B	17.9	B
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	39.5	D	49.7	D	**57.6**	**E**	47.1	D	54.7	D	64.2	E	64.2	E	68.2	E	**73.5**	**F**
			PM	67.6	E	**92.6**	**F**	**145.0**	**F**	87.6	F	**106.1**	**F**	111.8	F	93.5	F	99.2	F	**107.7**	**F**
9	Shilling Ave-Caminito Alvarez & Mira Mesa Blvd	Signal	AM	11.6	B	11.7	B	12.0	B	13.8	B	13.8	B	16.7	B	29.3	C	16.8	B	18.1	B
			PM	10.8	B	11.0	B	11.0	B	11.9	B	11.9	B	11.5	B	11.5	B	11.9	B	12.1	B
10	Aderman Ave & Mira Mesa Blvd	Signal	AM	9.8	A	10.1	B	10.8	B	8.4	A	8.7	A	9.8	B	11.2	A	10.6	B	10.7	A
			PM	10.9	B	11.2	B	11.5	B	10.7	B	10.9	B	12.3	B	12.4	B	13.3	B	13.4	B
11	Parkdale Ave & Mira Mesa Blvd	Signal	AM	20.2	C	24.2	C	33.4	C	24.0	C	33.2	C	38.6	D	40.9	C	38.2	D	45.9	D
			PM	22.4	C	23.0	C	24.5	C	26.4	C	27.7	C	32.3	C	23.9	C	28.4	C	28.9	C
12	Reagan Rd & Mira Mesa Blvd	Signal	AM	28.8	C	29.7	C	36.3	D	34.7	C	36.8	D	47.1	D	54.2	D	52.8	D	53.0	D
			PM	26.5	C	27.2	C	37.6	D	28.2	C	29.9	C	34.5	C	26.4	C	32.6	C	32.7	C
13	Camino Ruiz & Mira Mesa Blvd	Signal	AM	66.3	E	66.5	E	67.	E	73.4	E	74.0	E	84.5	F	84.6	F	90.4	F	90.5	F
			PM	52.7	D	52.7	D	54.4	D	54.7	D	54.7	D	49.7	D	53.7	D	59.3	E	60.3	E
14	Pacific Heights Blvd & Carroll Canyon Rd	Signal	AM	8.5	A	8.6	A	8.8	A	8.6	A	8.7	A	8.9	A	9.9	A	13.4	B	15.2	B
			PM	11.5	B	11.5	B	11.8	B	11.9	B	12.0	B	12.5	B	12.6	B	15.6	B	17.5	B
15	Rehco Rd & Carroll Rd	Signal	AM	5.1	A	5.4	A	6.1	A	5.3	A	5.5	A	6.3	A	7.6	A	5.9	A	6.5	A
			PM	22.1	C	26.5	C	35.4	C	28.3	C	34.9	C	29.8	C	39.7	D	22.1	C	26.0	C
16	Camino Santa Fe & Carroll Rd	Signal	AM	46.5	D	**74.9**	**E**	**124.8**	**F**	50.6	D	**85.2**	**F**	92.9	F	**149.2**	**F**	70.9	E	**118.7**	**F**
			PM	42.0	D	**69.5**	**E**	**135.4**	**F**	45.0	D	**78.3**	**E**	84.5	F	**137.4**	**F**	137.0	F	**151.8**	**F**
17	Kenamar Dr & Carroll Rd	Signal	AM	15.0	B	15.1	B	15.1	B	15.9	B	15.9	B	15.3	B	15.7	B	16.7	B	16.8	B
			PM	13.8	B	14.1	B	14.4	B	14.5	B	14.7	B	15.7	B	16.2	B	11.0	B	11.4	B
18	Eastgate Mall & Judicial Dr	Signal	AM	24.0	C	24.1	C	24.7	C	26.5	C	29.2	C	40.1	D	41.3	D	63.1	E	64.9	E
			PM	23.8	C	24.4	C	24.6	C	24.1	C	24.2	C	25.1	C	25.9	C	34.6	C	36.9	D
19	Executive Way & La Jolla Village Dr	Signal	AM	16.2	B	16.3	B	16.5	B	16.9	B	17.0	B	17.8	B	18.2	B	19.2	B	19.8	B
			PM	39.1	D	39.5	D	39.8	D	41.0	D	41.4	D	43.3	D	43.1	D	51.5	D	53.6	D
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	31.5	C	31.6	C	31.8	C	32.7	C	33.0	C	34.8	D	35.0	C	46.0	D	46.5	D
			PM	72.3	E	**74.8**	**E**	**77.9**	**E**	82.1	F	**85.0**	**F**	94.8	F	**98.8**	**F**	112.3	F	**117.7**	**F**
21	La Jolla Village Dr-Miramar Rd & I-805 SB On/Off Ramps	Signal	AM	43.7	D	43.7	D	43.8	D	51.1	D	51.1	D	58.6	E	58.6	E	70.0	E	70.9	E
			PM	17.1	B	17.7	B	17.8	B	18.4	B	18.6	B	19.6	B	19.6	B	18.8	B	19.0	B
22	La Jolla Village Dr-Miramar Rd & I-805 NB On/Off Ramps	Signal	AM	15.7	B	15.8	B	16.0	B	16.0	B	16.0	B	16.5	B	16.8	B	15.7	B	15.8	B
			PM	10.2	B	10.4	B	10.5	B	10.5	B	10.7	B	11.1	B	11.1	B	11.7	B	11.8	B
23	Nobel Dr & I-805 SB On Ramp	Signal	AM	4.0	A	4.9	A	5.5	A	4.2	A	5.1	A	5.1	A	5.2	A	4.4	A	4.8	A
			PM	4.1	A	4.7	A	5.6	A	4.1	A	4.8	A	5.0	A	5.5	A	4.7	A	5.2	A
24	Nobel Dr & I-805 NB Off Ramp	Signal	AM	21.5	C	21.6	C	21.7	C	20.5	C	20.5	C	20.6	C	20.7	C	20.8	C	21.1	C
			PM	19.7	B	20.3	C	21.0	C	19.9	B	20.8	C	21.0	C	21.2	C	20.4	C	21.0	C
25	Nobel Dr & Miramar Rd	Signal	AM	26.7	C	28.1	C	29.5	C	27.2	C	28.6	C	29.4	C	30.7	C	31.4	C	33.0	C
			PM	27.3	C	29.0	C	29.9	C	28.1	C	29.2	C	29.7	C	30.5	C	29.9	C	30.9	C
			AM	23.3	C	23.9	C	24.1	C	24.4	C	25.1	C	25.8	C	26.8	C	30.6	C	32.8	C

TABLE 13-1: SUMMARY OF INTERSECTION PEAK HOUR LOS RESULTS

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
				Delay[a]	LOS [b]	Delay	LOS	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS	Delay[a]	LOS [b]	Delay	LOS
26	Eastgate Mall & Miramar Rd	Signal	PM	34.0	C	35.4	D	40.8	D	37.8	D	41.6	D	51.1	D	**61.3**	**E**	105.5	F	**130.7**	**F**
27	Miramar Mall & Miramar Rd	Signal	AM	7.8	A	8.0	A	7.9	A	9.7	A	9.9	A	10.3	B	10.7	B	15.7	B	21.3	C
			PM	6.6	A	7.0	A	7.6	A	6.5	A	6.9	A	7.7	A	8.2	A	12.7	B	16.9	B
28	Miramar Pl & Miramar Rd	Signal	AM	22.0	C	22.3	C	22.1	C	23.3	C	23.3	C	22.8	C	24.4	C	24.9	C	25.9	C
			PM	8.7	A	8.7	A	8.7	A	8.4	A	8.6	A	8.7	A	9.4	A	12.5	B	13.1	A
29	Camino Santa Fe & Miramar Rd	Signal	AM	65.3	E	**75.3**	**E**	**114.2**	**F**	83.7	F	**94.0**	**F**	121.7	F	**143.6**	**F**	148.1	F	**166.3**	**F**
			PM	45.9	D	**71.6**	**E**	**104.8**	**F**	52.7	D	**79.1**	**E**	90.4	F	**94.8**	**F**	77.2	F	**112.7**	**F**
30	Carroll Rd & Miramar Rd	Signal	AM	20.4	C	22.8	C	25.0	C	21.2	C	23.6	C	24.1	C	24.3	B	19.4	B	19.5	B
			PM	20.1	C	20.3	C	21.5	C	20.5	C	20.8	C	21.5	C	21.7	C	19.8	C	20.4	C
31	Camino Ruiz & Miramar Rd	Signal	AM	56.0	E	56.0	E	60.5	E	66.6	E	67.0	E	76.8	E	**93.9**	**F**	91.5	F	**96.8**	**F**
			PM	25.2	C	25.3	C	25.4	C	26.2	C	26.2	C	26.0	C	41.4	D	36.1	D	36.2	D
32	Mitscher Way & Miramar Rd	Signal	AM	22.2	C	23.4	C	24.6	C	23.9	C	24.9	C	26.9	C	28.4	C	33.6	C	36.1	D
			PM	44.0	D	45.1	D	46.2	D	46.1	D	47.4	D	56.9	E	**61.8**	**E**	71.6	E	**71.7**	**E**
33	Black Mountain Rd & Miramar Rd	Signal	AM	13.4	B	13.4	B	13.7	B	13.7	B	13.8	B	14.5	B	14.7	B	10.3	B	10.3	B
			PM	20.1	C	20.1	B	20.1	B	18.3	B	18.4	B	19.0	B	19.1	B	19.1	B	19.5	B
34	Kearny Villa Rd & Miramar Rd	Signal	AM	59.8	E	60.2	E	**62.2**	**E**	68.1	E	68.8	E	80.6	F	**88.2**	**F**	140.3	F	**146.5**	**F**
			PM	45.2	D	45.5	D	46.0	D	48.7	D	49.6	D	56.4	E	**59.7**	**E**	115.8	F	**124.2**	**F**
35	Kearny Mesa Rd & Miramar Rd	Signal	AM	19.5	B	19.6	B	19.6	B	19.8	B	19.8	B	20.5	C	20.5	B	28.5	C	28.9	C
			PM	15.0	B	15.1	B	15.2	B	15.7	B	15.8	B	17.1	B	18.0	B	23.0	C	23.5	C
36	I-15 SB On/Off Ramp & Miramar Rd	Signal	AM	18.5	B	18.5	B	18.9	B	18.7	B	18.7	B	19.1	B	19.7	B	19.2	B	19.3	B
			PM	11.9	B	11.9	B	12.2	B	12.3	B	12.3	B	12.7	B	13.1	B	13.0	B	13.2	B
37	Pomerado Rd-Miramar Way & I-15 NB On/Off Ramp	Signal	AM	24.1	C	24.1	C	24.5	C	24.0	C	24.0	C	23.8	C	23.8	C	23.8	C	23.9	C
			PM	23.3	C	23.4	C	23.4	C	23.5	C	23.6	C	23.6	C	23.7	C	24.4	C	24.7	C
38	Flanders Dr & Camino Santa Fe	Signal	AM	35.3	D	40.3	D	46.4	D	36.4	D	41.5	D	43.5	D	47.4	D	46.5	D	52.2	D
			PM	60.1	E	**73.2**	**E**	**92.3**	**F**	68.8	E	**84.4**	**F**	98.8	F	78.3	E	92.6	F	**109.2**	**F**
39	Miratech Dr & Camino Santa Fe	Signal	AM	5.4	A	12.5	B	13.9	B	5.2	A	14.7	B	4.9	A	13.0	B	8.1	A	16.7	B
			PM	7.6	A	29.6	C	21.5	C	5.9	A	35.3	C	6.5	A	21.3	C	9.2	A	16.5	B
40	Summer Ridge Rd & Camino Santa Fe	Signal	AM	7.1	A	16.2	B	24.5	C	7.2	A	15.5	B	6.9	A	20.3	C	8.4	A	20.0	C
			PM	5.6	A	17.1	B	35.0	C	5.5	A	17.3	B	5.3	A	34.4	C	7.2	A	20.3	B
41	Carroll Canyon Rd & Camino Santa Fe	Signal	AM	5.0	A	7.3	A	9.9	A	4.2	A	4.2	A	7.0	A	21.6	B	45.9	D	63.1	D
			PM	4.9	A	4.9	A	12.1	B	4.8	A	4.8	A	6.8	A	27.6	B	84.9	D	108.3	D
42	Trade St & Camino Santa Fe	Signal	AM	17.5	B	20.7	C	27.8	C	18.1	B	21.9	C	23.5	C	53.2	D	16.1	B	20.2	B
			PM	22.7	C	36.1	D	**90.5**	**F**	24.7	C	48.0	D	56.2	E	**116.2**	**F**	108.8	F	**118.1**	**F**
43	Mira Mesa Mall Entrance & Camino Ruiz	Signal	AM	6.6	A	6.6	A	6.6	A	6.7	A	6.7	A	6.7	A	7.3	A	7.5	A	7.7	A
			PM	14.0	B	14.0	B	14.3	B	14.0	B	14.0	B	14.1	B	15.2	B	15.5	B	15.6	B
44	Reagan Rd & Camino Ruiz	Signal	AM	24.8	C	24.8	C	25.4	C	24.8	C	24.8	C	25.3	C	25.9	C	25.4	C	25.7	C
			PM	24.8	C	24.8	C	25.4	C	25.1	C	25.1	C	25.4	C	25.4	C	27.4	C	27.8	C
45	Flanders Dr & Camino Ruiz	Signal	AM	21.5	C	21.5	C	21.6	C	21.7	C	21.7	C	21.9	C	22.0	C	21.2	C	21.3	C
			PM	20.9	C	20.9	C	20.9	C	20.9	C	20.9	C	21.3	C	21.3	B	20.5	C	20.6	C
46	Gold Coast Dr & Camino Ruiz	Signal	AM	31.6	C	31.7	C	32.3	C	34.7	C	34.8	C	34.4	C	36.2	D	33.1	C	33.2	C
			PM	38.8	D	39.1	D	40.1	D	40.1	D	40.3	D	42.5	D	58.1	D	38.1	D	46.0	D
47	Jade Coast Dr & Camino Ruiz	Signal	AM	17.4	B	17.5	B	17.4	B	17.4	B	17.4	B	17.9	B	23.3	C	22.6	C	22.9	C
			PM	10.4	B	10.4	B	11.0	B	10.7	B	10.7	B	10.9	B	13.7	B	10.0	B	10.0	B
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.5	A	6.5	A	6.5	A	6.7	A	6.7	A	6.7	A	**119.8**	**F**	41.0	D	52.8	D
			PM	5.0	A	5.0	A	5.0	A	5.1	A	5.1	A	5.2	A	50.0	D	49.7	D	54.9	D
49	Miralani Dr & Camino Ruiz	Signal	AM	104.1	F	104.1	F	**108.1**	**F**	110.4	F	110.4	F	120.0	F	208.9	F	14.6	B	17.0	B
			PM	42.7	D	42.7	D	43.0	D	44.8	D	44.8	D	47.5	D	**94.1**	**F**	29.0	C	30.5	C
50	Activity Rd & Camino Ruiz	Signal	AM	19.2	B	19.2	B	19.4	B	19.2	B	19.2	B	19.5	B	22.6	C	15.6	B	15.8	B
			PM	70.3	E	70.9	E	**73.9**	**E**	73.3	E	74.1	E	82.1	F	**175.4**	**F**	47.2	D	47.5	D

Note: Bold indicates significant impact

TABLE 13-2: SUMMARY OF ROADWAY SEGMENT LOS RESULTS

Segment		Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Mira Mesa Boulevard																			
A	Scranton Rd to Lusk Blvd-Oberlin Dr	0.712	C	0.722	C	0.725	C	0.736	C	0.747	C	0.772	C	0.759	C	0.813	C	0.817	C
B	Lusk Blvd-Oberlin Dr to Pacific Heights Blvd	0.766	C	0.780	C	0.784	C	0.793	C	0.806	C	0.833	D	0.821	C	0.880	D	0.884	D
C	Pacific Heights Blvd to Sequence Dr	0.880	D	0.900	D	0.908	D	0.910	D	**0.930**	**E**	0.961	E	0.956	E	0.971	E	0.982	E
D	Sequence Dr to Flanders Dr	0.808	C	0.831	C	0.840	D	0.836	D	0.858	D	0.887	D	0.884	D	0.871	D	0.887	D
E	Flanders to Camino Santa Fe	0.619	C	0.630	C	0.637	C	0.640	C	0.651	C	0.673	C	0.673	C	0.647	C	0.656	C
F	Camino Santa Fe to Parkdale Ave	1.156	F	**1.188**	**F**	**1.240**	**F**	1.195	F	**1.227**	**F**	1.268	F	1.196	F	1.233	F	**1.244**	**F**
G	Parkdale Ave to Reagan Rd	1.016	F	1.043	F (1)	1.091	F (1)	1.051	F	1.078	F (1)	1.113	F	1.038	F	1.077	F	1.079	F
H	Reagan Rd to Camino Ruiz	0.925	E	**0.947**	**E**	**0.978**	**E**	0.956	E	**0.979**	**E**	1.012	F	0.981	E	0.992	E	0.995	E
Flanders Drive																			
I	Mira Mesa Blvd to Camino Santa Fe	0.538	C	0.606	C	0.647	C	0.558	C	0.626	C	0.647	C	0.720	D	0.696	D	0.765	D
Carroll Canyon Road																			
J	Pacific Heights Blvd to Carroll Rd	0.546	C	0.556	C	0.604	C	0.582	C	0.592	C	0.630	C	0.667	C	0.467	C	0.560	C
K	Carroll Rd to Camino Santa Fe															0.411	C	0.641	C
L	Camino Santa Fe to East Project Boundary													0.403	A	0.655	C	0.731	C
M	East Project Boundary to Camino Ruiz	0.045	A	0.045	A	0.045	A	0.046	A	0.046	A	0.032	A	0.446	B	0.647	C	0.811	C
N	Camino Ruiz to Black Mountain Rd															0.810	D	0.896	D
Carroll Road																			
O	Fenton Rd to Nancy Ridge Dr	0.424	B	0.438	B	0.490	C	0.452	B	0.466	B	0.496	C	0.569	C	0.401	B	0.418	B
P	Nancy Ridge Dr to Rehco Rd	0.884	E	**0.910**	**E**	**0.977**	**E**	0.925	E	**0.951**	**E**	0.993	E	**1.097**	**F**	0.851	D	**0.877**	**E**
Q	Rehco Rd to Camino Santa Fe	1.117	F	**1.158**	**F**	**1.237**	**F**	1.168	F	**1.209**	**F**	1.263	F	**1.385**	**F**	1.127	F	**1.178**	**F**
R	Camino Santa Fe to Kenamar Dr	0.664	C	0.772	D	**0.932**	**E**	0.695	D	0.802	D	0.834	D	0.625	C	0.505	C	0.539	C
S	Kenamar Dr to Miramar Rd	0.623	C	0.688	D	0.790	D	0.652	C	0.716	D	0.746	D	0.595	C	0.538	D	0.550	D
Eastgate Mall																			
T	Judicial Dr to Miramar Rd	0.954	E	**0.992**	**E**	**1.018**	**F**	1.008	F	**1.046**	**F**	1.102	F	**1.144**	**F**	1.349	F	**1.140**	**F**
La Jolla Village Drive																			
U	Executive Way to Towne Center Dr	0.656	C	0.664	C	0.675	C	0.685	C	0.693	C	0.723	C	0.740	C	0.776	C	0.793	C
V	Towne Center Dr to I-805 SB Ramps	0.743	C	0.751	C	0.761	D	0.776	D	0.784	C	0.818	C	0.831	D	0.901	E	0.917	E
Nobel Drive																			
W	I-805 NB Off Ramp to Miramar Rd	0.566	C	0.606	C	0.648	C	0.599	C	0.640	C	0.675	C	0.716	C	0.753	D	0.788	D

TABLE 13-2: SUMMARY OF ROADWAY SEGMENT LOS RESULTS

Segment		Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 No Project		Year 2021 with Phase 1 Project		Year 2025 Baseline (with Phase 1 Project)		Year 2025 with Project Buildout		Year 2050 No Project		Year 2050 with Project Buildout	
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Miramar Road																			
X	I-805 Ramps to Nobel Drive	0.563	C	0.581	C	0.602	C	0.588	C	0.606	C	0.632	C	0.643	C	0.690	C	0.714	C
Y	Nobel Dr to Eastgate Mall	1.036	F	**1.080**	**F**	**1.128**	**F**	1.082	F	**1.126**	**F**	1.174	F	**1.214**	**F**	1.281	F	**1.328**	**F**
Z	Eastgate Mall to Camino Santa Fe	1.572	F	**1.653**	**F**	**1.738**	**F**	1.642	F	**1.722**	**F**	1.796	F	**1.874**	**F**	1.991	F	**2.086**	**F**
AA	Carroll Rd to Camino Ruiz	1.002	F	**1.032**	**F**	**1.079**	**F**	1.047	F	**1.076**	**F**	1.123	F	1.011	F	0.960	E	0.965	E
AB	Camino Ruiz to Mitscher Way	1.198	F	**1.217**	**F**	**1.249**	**F**	1.251	F	**1.270**	**F**	1.326	F	**1.369**	**F**	1.262	F	**1.310**	**F**
AC	Mitscher Way to Black Mountain Rd	1.282	F	**1.301**	**F**	**1.333**	**F**	1.339	F	**1.358**	**F**	1.417	F	**1.450**	**F**	1.375	F	**1.428**	**F**
AD	Black Mountain Rd to Kearny Villa Rd	1.424	F	**1.440**	**F**	**1.470**	**F**	1.487	F	**1.504**	**F**	1.570	F	**1.624**	**F**	1.603	F	**1.656**	**F**
AE	Kearny Villa Rd to Kearny Mesa Rd	1.202	F	1.211	F	**1.228**	**F**	1.256	F	1.264	F	1.320	F	**1.381**	**F**	1.416	F	**1.444**	**F**
Camino Santa Fe																			
AF	Mira Mesa Blvd to Flanders Dr	0.350	A	0.405	B	0.478	B	0.363	A	0.418	B	0.431	B	0.411	B	0.404	B	0.448	B
AG	Flanders Dr to Miratech Dr	0.280	A	0.354	A	0.436	B	0.293	A	0.368	A	0.381	A	0.380	A	0.373	A	0.439	B
AH	Miratech Dr to Summer Ridge Rd	0.271	A	0.336	A	0.415	A	0.285	A	0.350	A	0.365	A	0.373	A	0.355	A	0.422	B
AI	Summer Ridge Rd to Carroll Canyon Rd	0.285	A	0.363	A	0.431	B	0.300	A	0.379	A	0.395	B	0.432	A	0.419	B	0.537	B
AJ	Carroll Canyon Rd to Trade St	0.467	B	0.639	C	0.859	D	0.492	B	0.664	C	0.690	C	**0.970**	**E**	0.948	F	**1.137**	**F**
AK	Trade St to Carroll Rd	0.522	B	0.682	C	**0.882**	**E**	0.550	C	0.710	C	0.739	C	**0.976**	**E**	0.987	F	**1.156**	**F**
AL	Carroll Rd to Miramar Rd	0.610	C	0.705	C	0.808	D	0.643	C	0.738	C	0.772	D	**0.913**	**E**	0.999	F	**1.120**	**F**
Camino Ruiz																			
AM	Mira Mesa Blvd to Mira Mesa Mall Entrance	0.461	B	0.461	B	0.467	B	0.473	B	0.474	B	0.487	B	0.534	B	0.526	C	0.536	C
AN	Mira Mesa Mall Entrance to Reagan Rd	0.450	B	0.450	B	0.456	B	0.462	B	0.463	B	0.475	B	0.535	B	0.523	B	0.535	C
AO	Reagan Rd to Flanders Dr	0.547	C	0.548	C	0.568	C	0.562	C	0.563	C	0.579	C	0.711	C	0.685	C	0.705	C
AP	Flanders Dr to Gold Coast Dr	0.542	C	0.543	C	0.560	C	0.557	C	0.558	C	0.573	C	0.693	C	0.667	C	0.686	C
AQ	Gold Coast Dr to Jade Coast Dr	0.519	B	0.519	B	0.531	C	0.533	C	0.534	C	0.548	C	0.657	C	0.506	B	0.526	B
AR	Jade Coast Dr to Carroll Canyon Rd	0.593	C	0.593	C	0.593	C	0.609	C	0.609	C	0.626	C	0.808	D	0.694	C	0.725	C
AS	Carroll Canyon Rd to Miralani Dr	0.613	C	0.613	C	0.613	C	0.630	C	0.630	C	0.647	C	0.779	D	0.671	C	0.740	C
AT	Miralani Dr to Activity Rd	0.723	C	0.723	C	0.726	C	0.743	C	0.743	C	0.764	D	0.874	D	0.635	C	0.699	C
AU	Activity Rd to Miramar Rd	0.531	C	0.534	C	0.540	C	0.545	C	0.548	C	0.563	C	0.601	C	0.461	B	0.514	B
Kearny Villa Road																			
AV	Miramar Rd to Kearny Mesa Rd	0.583	C	0.592	C	0.602	C	0.609	C	0.618	C	0.645	C	0.655	C	0.722	C	0.745	C

Note: Bold indicates significant impact.

City's alternatives analysis for roadway segments determined that the impact on this segment is less than significant because: the roadway operates at is built to its ultimate classification, intersection at the end of the segment operate at acceptable LOS and the HCM arterial analysis determined acceptable LOS.

Summary of Freeway Segment Analysis

Freeway segments were evaluated based on the Caltrans District 11 method, which is based on the volume-to-capacity (v/c) ratios for each direction of travel during the peak hours. The peak hour capacity used in this analysis for the freeway mainline lanes is 2,350 vehicles per hour per lane. High Occupancy Vehicle (HOV) lanes were given a capacity of 1,680 vehicles per hour per lane, and auxiliary lanes were given a capacity of 1,200 vehicles per hour per lane.

Table 13-3 summarizes the freeway segment analysis results for all scenarios studied within this traffic report.

The analysis results show that the majority of freeway segments operate at acceptable LOS D conditions through Near Term Year 2025. The results of the Horizon Year 2050 analysis show that several freeway segments of I-805 and I-15 are forecast to operate at deficient levels of service (LOS E or F) during the peak hours. However, the addition of project traffic would not result in an increase in v/c exceeding the significance thresholds for LOS E (0.01) and LOS F (0.005). Therefore, no significant impacts were identified on the freeway segments and no mitigation measures are required.

Summary of Freeway Metered On-Ramp Analysis

The freeway metered on-ramp analysis was performed using the methodology provided in Appendix 2 of the *City of San Diego Traffic Impact Study Manual* (July 1998). Ramp meter rates were obtained from Caltrans District 11 staff, in which a range of discharge rates from least restrictive to most restrictive are provided. Field observations were conducted to calibrate the ramp meter rates where applicable. Ramp meter rates were only calibrated where the observed delays and queuing during peak periods reflected a discharge rate that is higher than the most restrictive discharge rate.

The freeway metered on-ramp analysis results for all scenarios are summarized in **Table 13-4**.

The results of the analysis show that all study on-ramps currently experience less than 15 minutes of ramp meter delay during the peak hours. The addition of project-related traffic would result in on-ramp meter delays exceeding 15 minutes and increases in delay exceeding 2 minutes at the Southbound I-805 from Nobel Drive On-Ramp during the PM peak hour under the following scenarios:

- Existing Plus Project Buildout
- Near Term Year 2021 With Phase 1 Project
- Near Term Year 2025 With Project Buildout
- Horizon Year 2050 With Project

The addition of project-related traffic under Horizon Year 2050 conditions would also result in ramp meter delays exceeding 15 minutes and increases in delay exceeding 2 minutes at the Southbound I-805 from Westbound Miramar Road On-Ramp and the Southbound I-15 from Eastbound Miramar Road On-ramp during the PM peak hour.

However, the forecast adjacent freeway operations are at LOS D or better along the study on-ramps where deficient ramp meter delays were identified under all analysis scenarios. The adjacent freeway LOS must be LOS E or F for a ramp meter impact to occur per the City's significance criteria for ramp meter impacts. Therefore, no significant project impacts to freeway metered on-ramps were identified under any of the analysis scenarios.

Summary of Freeway Off-Ramp Queuing Analysis

The freeway off-ramp queue analysis was conducted to determine if the signalized intersections at the termination of the ramps cause the queue lengths on the off-ramps to impact the mainline freeway traffic flow. The SYNCHRO software program was used to perform the queuing analysis, and the 95th percentile queue lengths are reported.

The freeway off-ramp queuing analysis results for all scenarios are summarized in **Table 13-5**.

The results of the analysis show that the addition of project-related traffic would not result in off-ramp queues exceeding the lengths of the off-ramps under any of the analysis scenarios through the year 2050.

TABLE 13-3: SUMMARY OF FREEWAY SEGMENT ANALYSIS

Freeway and Segment	Dir	Existing Conditions				Existing Plus Phase 1 Project				Existing Plus Project Buildout				Year 2021 No Project				Year 2021 with Phase 1 Project				Year 2025 with Phase 1 Project				Year 2025 with Phase 2 Project				Year 2050 No Project				Year 2050 With Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
I-805																																					
I-805 South of Nobel Dr	NB	0.771	C	0.707	C	0.773	C	0.719	C	0.778	C	0.725	C	0.823	D	0.755	C	0.826	D	0.766	C	0.863	D	0.801	D	0.866	D	0.802	D	1.037	F	0.951	E	1.041	F	0.960	E
	SB	0.311	A	0.467	B	0.322	A	0.472	B	0.327	A	0.477	B	0.334	A	0.501	B	0.345	A	0.507	B	0.361	A	0.531	B	0.362	A	0.533	B	0.431	B	0.646	C	0.438	B	0.652	C
Miramar Rd/La Jolla Village Dr to Nobel Dr	NB	0.768	C	0.704	C	0.769	C	0.708	C	0.770	C	0.709	C	0.801	D	0.735	C	0.802	D	0.739	C	0.826	D	0.760	C	0.826	D	0.760	C	1.003	F	0.920	E	1.005	F	0.924	E
	SB	0.310	A	0.465	B	0.313	A	0.467	B	0.315	A	0.468	B	0.325	A	0.488	B	0.329	A	0.490	B	0.339	A	0.506	B	0.339	A	0.506	B	0.416	B	0.624	C	0.420	B	0.627	C
Mira Mesa Blvd to Miramar Rd/La Jolla Village Dr	NB	0.689	C	0.632	C	0.690	C	0.632	C	0.691	C	0.633	C	0.735	C	0.674	C	0.736	C	0.675	C	0.769	C	0.705	C	0.770	C	0.706	C	0.942	E	0.864	D	0.943	E	0.865	D
	SB	0.278	A	0.417	B	0.279	A	0.419	B	0.279	A	0.420	B	0.292	A	0.438	B	0.292	A	0.439	B	0.302	A	0.454	B	0.303	A	0.455	B	0.379	A	0.569	B	0.380	A	0.570	B
Mira Mesa Blvd to I-805/I-5 Interchange	NB	0.607	B	0.557	B	0.610	B	0.558	B	0.612	B	0.562	B	0.639	C	0.587	B	0.642	C	0.588	B	0.665	C	0.609	B	0.667	C	0.613	B	0.849	D	0.778	C	0.852	D	0.783	C
	SB	0.271	A	0.406	A	0.271	A	0.409	A	0.273	A	0.412	B	0.279	A	0.418	B	0.280	A	0.422	B	0.285	A	0.431	B	0.287	A	0.433	B	0.357	A	0.536	B	0.360	A	0.541	B
I-15																																					
Miramar Rd to Miramar Way	NB	0.764	C	0.687	C	0.764	C	0.688	C	0.766	C	0.690	C	0.788	C	0.708	C	0.788	C	0.709	C	0.805	D	0.724	C	0.807	D	0.727	C	0.975	E	0.876	D	0.976	E	0.879	D
	SB	0.521	B	0.537	B	0.521	B	0.537	B	0.523	B	0.539	B	0.548	B	0.565	B	0.549	B	0.566	B	0.569	B	0.586	B	0.571	B	0.588	B	0.684	C	0.706	C	0.687	C	0.707	C
Carroll Canyon Rd to Miramar Rd	NB	0.721	C	0.648	C	0.721	C	0.648	C	0.722	C	0.649	C	0.751	C	0.675	C	0.751	C	0.675	C	0.772	C	0.694	C	0.774	C	0.695	C	0.929	E	0.835	D	0.929	E	0.835	D
	SB	0.522	B	0.538	B	0.522	B	0.538	B	0.523	B	0.539	B	0.554	B	0.572	B	0.554	B	0.572	B	0.578	B	0.596	B	0.579	B	0.598	B	0.690	C	0.711	C	0.690	C	0.711	C
Mira Mesa Blvd to Carroll Canyon Rd	NB	0.671	C	0.603	B	0.671	C	0.603	B	0.672	C	0.604	B	0.699	C	0.628	C	0.699	C	0.628	C	0.719	C	0.646	C	0.722	C	0.648	C	0.869	D	0.782	C	0.873	D	0.784	C
	SB	0.485	B	0.500	B	0.485	B	0.500	B	0.487	B	0.502	B	0.517	B	0.533	B	0.517	B	0.533	B	0.539	B	0.556	B	0.541	B	0.560	B	0.651	C	0.672	C	0.654	C	0.676	C
Mira Mesa Blvd to Mercy Rd	NB	0.750	C	0.675	C	0.752	C	0.676	C	0.753	C	0.678	C	0.788	C	0.709	C	0.790	C	0.711	C	0.817	D	0.735	C	0.819	D	0.736	C	0.985	E	0.887	D	0.989	E	0.890	D
	SB	0.532	B	0.542	B	0.532	B	0.544	B	0.534	B	0.546	B	0.566	B	0.577	B	0.567	B	0.579	B	0.591	B	0.605	B	0.593	B	0.607	B	0.712	C	0.726	C	0.715	C	0.731	C

TABLE 13-4: SUMMARY OF FREEWAY METERED ON-RAMP ANALYSIS

On-Ramp	Peak Hour	Most Restrictive or Calibrated Meter Flow Rate (vphpl)	Number of Lanes		Existing Delay Per Lane (Minutes)		Existing Plus Phase 1 Project			Existing Plus Project Buildout			Near Term 2021 Without Project		Near Term 2021 With Phase 1 Project			Near Term 2025 With Phase 1 Project		Near Term 2025 With Project Buildout			Horizon Year 2050 Without Project		Horizon Year 2050 With Project		
							Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Delay Per Lane (Minutes)		Adj Fwy LOS	Delay Per Lane (Minutes)		Delay Per Lane (Minutes)		Adj Fwy LOS
			SOV	HOV	SOV	HOV	SOV	HOV		SOV	HOV		SOV	HOV	SOV	HOV		SOV	HOV	SOV	HOV		SOV	HOV	SOV	HOV	
SB I-805 from WB Miramar Road	AM	Ramp meter not activated.																									
	PM	C=687	1	1	5.45	0	6.93	0	B	8.52	0	B	8.17	0	9.48	0	B	12.09	0	12.95	0	B	16.07	0	17.66	0	C
NB I-805 from WB Miramar Road	AM	MR = 804	1	1	0	0	0	0	C	0	0	C	0	0	0	0	C	0	0	0	0	C	0	0	0	0	E
	PM	Ramp meter not activated.																									
SB I-805 from Nobel Drive	AM	Ramp meter not activated.																									
	PM	C=200	2	1	8.20	2.83	14.08	7.51	B	19.47	12.14	B	13.50	7.05	17.85	10.78	B	21.73	14.11	24.09	16.14	B	30.81	21.89	34.12	24.73	C
SB I-15 from EB Miramar Road	AM	C=242	2	1	0.07	0	0.98	0	B	2	0	B	1.49	0	2.29	0	B	3.59	0	6.34	0	B	5.26	0	7.63	0	C
	PM	C=539	2	1	0.17	0	0.77	0	B	1	0	B	6.43	0	6.78	0	B	9.49	0	12.06	0	B	14.04	0	15.81	0	C
NB I-15 from EB Miramar Road	AM	Ramp meter not activated.																									
	PM	C = 443	2	0	3.62	N/A	3.62	N/A	C	4.02	N/A	C	5.35	N/A	5.35	N/A	C	7.16	N/A	8.24	N/A	C	13.31	N/A	13.31	N/A	D

Notes:
N/A = Not Applicable
vphpl = vehicles per hour per lane
MR = most restrictive discharge rate
C = calibrated discharge rate

TABLE 13-5: SUMMARY OF FREEWAY OFF-RAMP QUEUING ANALYSIS

Off-Ramp Intersection Approach Lane	# Lanes	Length (feet)	Existing Conditions		Existing Plus Phase 1 Project		Existing Plus Project Buildout		Year 2021 Without Project		Year 2021 With Phase 1 Project		Year 2025 With Phase 1 Project		Year 2025 With Project Buildout		Year 2050 Without Project		Year 2050 With Project Buildout	
			AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)	AM 95% Queue (feet)	PM 95% Queue (feet)
SB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd																				
Southbound Left	2	1,016 (1)	227	99	228	106	233	112	243	101	250	107	259	111	270	115	289	119	289	119
Southbound Right	2	1,295 (1)	970	414	970	415	970	418	1,047	436	1,047	438	1,119	467	1,098	460	1,237	552	1,237	555
NB I-805 Off-Ramp at La Jolla Village Dr-Miramar Rd																				
Northbound Left	2	1,110 (1)	352	261	352	261	352	261	361	274	361	274	376	287	375	282	363	302	363	302
Northbound Right	2	899 (1)	108	32	113	36	125	38	115	32	119	36	125	36	128	36	118	35	127	39
NB I-805 Off-Ramp at Nobel Dr																				
Northbound Left	2	1,429 (1)	263	205	269	205	271	200	273	214	273	214	282	217	290	217	312	230	312	223
Northbound Right	2	1,429 (1)	79	82	100	132	117	168	114	113	125	164	153	185	184	204	213	176	233	202
SB I-15 Off-Ramp at Miramar Rd																				
Southbound Left	2	844 (1)	41	27	42	27	41	26	43	27	43	27	45	27	44	26	47	27	48	27
Southbound Right	2	894 (1)	428	175	432	185	443	205	471	210	473	220	519	250	525	292	532	297	560	314
NB I-15 Off-Ramp at Miramar Rd																				
Northbound Left	2	1,132 (1)	258	349	260	357	268	364	267	361	269	369	279	279	301	412	303	404	318	432
Northbound Right	2	1,132 (1)	56	100	56	103	56	114	56	138	56	141	56	186	55	184	56	293	55	291

Notes:

(1) Where an off-ramp has turn bays approaching the intersection, the storage length was calculated for both the turn bay length and total off-ramp length. Because all study off-ramp intersection approaches have more than one lane, the storage length for a dual lane movement was calculated as the average between the turn bay length and the total off-ramp length.

Significant Impacts and Mitigation Measures

The following intersections are forecast to be significantly impacted by the project (direct or cumulative) and require mitigation measures to reduce the impact to less than significant. **Figure 13-1** illustrates the study intersection recommended mitigation measures. **Table 13-6** summarizes the mitigation recommendations for the study intersections.

		Significantly Impacted in 2021		Significantly Impacted in 2025		Significantly Impacted in 2050	
		AM	PM	AM	PM	AM	PM
3	Pacific Heights Boulevard and Mira Mesa Boulevard		D				C
8	Camino Santa Fe and Mira Mesa Boulevard		D			C	C
16	Camino Santa Fe and Carroll Road	D	D	D	D	C	C
20	Towne Center Drive and La Jolla Village Drive		D		D		C
26	Eastgate Mall and Miramar Road				D		C
29	Camino Santa Fe and Miramar Road	D	D	D	D	C	C
31	Camino Ruiz and Miramar Road			D		C	
32	Mitscher Way and Miramar Road				D		C
34	Kearny Villa Road and Miramar Road			D	D	C	C
38	Flanders Drive and Camino Santa Fe		D				C
42	Trade Street and Camino Santa Fe				D		C
48	Carroll Canyon Road and Camino Ruiz			D			
49	Miralani Drive and Camino Ruiz			D	D		
50	Activity Road and Camino Ruiz				D		

Note: D = Direct Impact, C = Cumulative Impact

The following roadway segments are forecast to be significantly impacted by the project (direct or cumulative) and require mitigation measures to reduce the impact to less than significant. **Figure 13-2** illustrates and **Table 13-7** summarizes the recommended roadway segment mitigation measures for the study roadway segments.

		Significantly Impacted in 2021	Significantly Impacted in 2025	Significantly Impacted in 2050
C	Mira Mesa Boulevard from Pacific Heights Boulevard to Sequence Drive	D		
F	Mira Mesa Boulevard from Camino Santa Fe and Parkdale Avenue	D		C
H	Mira Mesa Boulevard from Reagan Road to Camino Ruiz	D		
P	Carroll Road from Nancy Ridge Drive to Rehco Road	D	D	C
Q	Carroll Road from Rehco Road and Camino Santa Fe	D	D	C
T	Eastgate Mall from Judicial Drive and Miramar Road	D	D	C
Y	Miramar Road from Nobel Drive to Eastgate Mall	D	D	C
Z	Miramar Road from Eastgate Mall to Camino Santa Fe	D	D	C
AA	Miramar Road from Carroll Road to Camino Ruiz	D		
AB	Miramar Road from Camino Ruiz to Mitscher Way	D	D	C
AC	Miramar Road from Mitscher Way to Black Mountain Road	D	D	C
AD	Miramar Road from Black Mountain Road to Kearny Villa Road	D	D	C
AE	Miramar Road from Kearny Villa Road to Kearny Mesa Road		D	C
AJ	Camino Santa Fe from Carroll Canyon Road to Trade Street		D	C
AK	Camino Santa Fe from Trade Street to Carroll Road		D	C
AL	Camino Santa Fe from Carroll Road to Miramar Road		D	C

Note: D=Direct Impact, C=Cumulative Impact

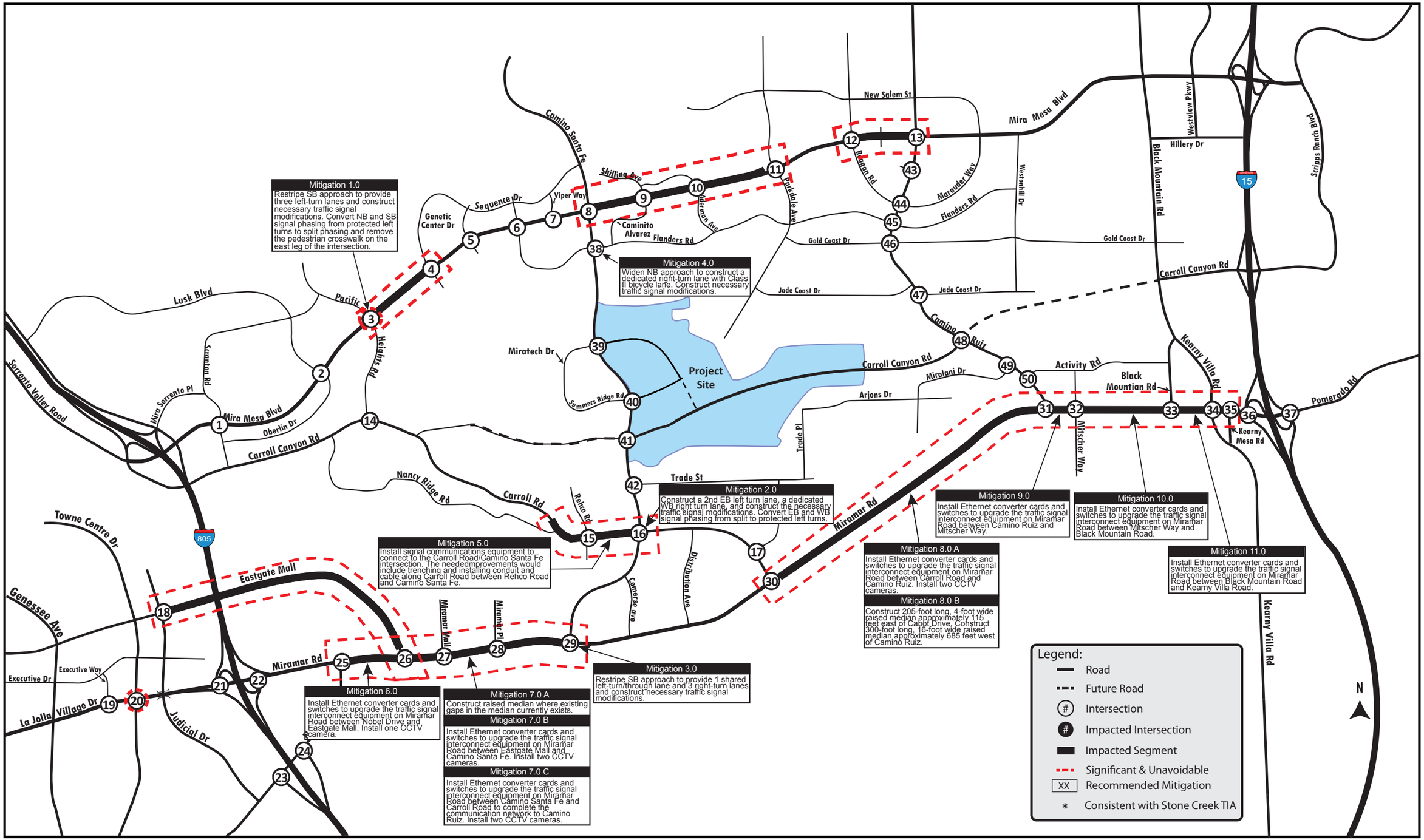

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Figure 13-1
2021 Mitigation Measures

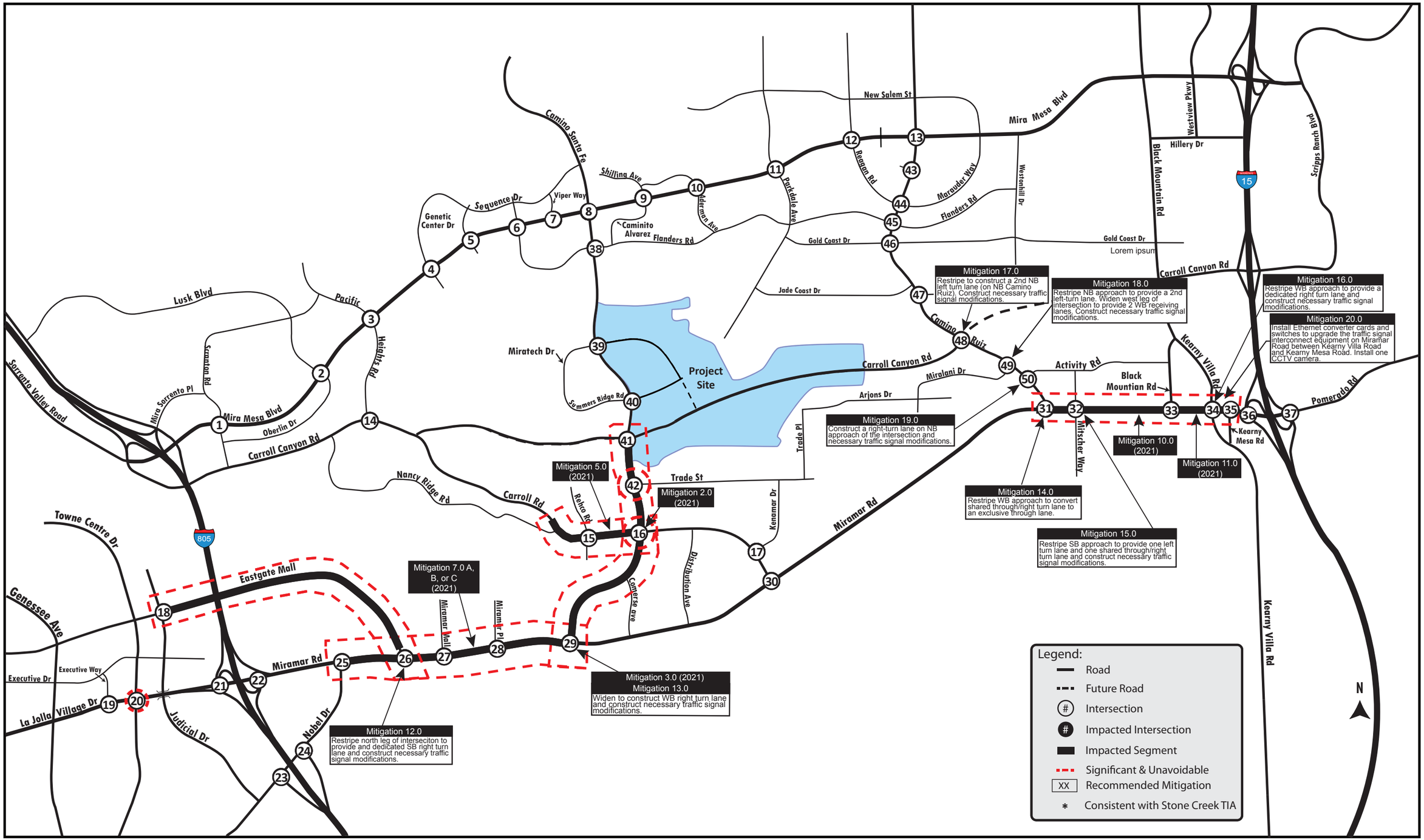

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Figure 13-2
2025 Mitigation Measures

TABLE 13-6: SUMMARY OF INTERSECTION SIGNIFICANT IMPACTS AND MITIGATION MEASURES

#	Significantly Impacted Intersection	Scenario Impacted			Recommended Mitigation	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Funding Mechanism/ Project Responsibility
		2021	2025	2050				
3	Pacific Heights Blvd & Mira Mesa Blvd	X		X	**Mitigation Measure 1.0:** Restripe SB approach to provide three left-turn lanes and construct necessary traffic signal modifications. Convert NB and SB signal phasing from protected left turns to split phasing and remove the pedestrian crosswalk on the east leg of the intersection (2021 & 2050 Mitigation).			Project Improvement: 100%
8	Camino Santa Fe & Mira Mesa Blvd	X			***Significant & Unavoidable (2021)***		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Fair Share: 27.6% (2050)
				X	***Partially Mitigated (2050)*** **Mitigation Measure 21.0:** Fair share payment toward the construction of a 2nd WB left turn lane. This includes widening the west left leg of the intersection and restriping the eastbound lanes to align lanes with proposed improvement. Construct associated traffic signal modifications (2050 Mitigation)			
16	Camino Santa Fe & Carroll Road	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 2.0:** Construct a second EB left turn lane, a dedicated WB right turn lane,and construct the necessary traffic signal modifications. Convert EB and WB signal phasing from split to protected left turns. (2021, 2025, & 2050 Mitigation)			Project Improvement: 100%
20	La Jolla Village Dr & Towne Center Dr	X	X	X	***Significant & Unavoidable***			
26	Eastgate Mall & Miramar Rd		X	X	**Mitigation Measure 12.0:** Restripe north leg of intersection to provide a dedicated SB right turn lane and construct necessary traffic signal modifications. (2025 & 2050 Mitigation)			Project Improvement: 100%
29	Camino Santa Fe & Miramar Road	X			***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 3.0:** Restripe SB approach to provide 1 shared left-turn/through lane and 3 right-turn lanes and construct necessary traffic signal modifications. (2021 Mitigation)	PFFP Project T-87: Restripe north leg to add SB right turn lane and widen east leg to add WB right turn lane (100% Funded by FY 2025).	Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%
			X	X	**Mitigation Measure 13.0:** Widen to construct a WB right turn lane and necessary traffic signal modifications. (2025 & 2050 Mitigation)			
31	Camino Ruiz & Miramar Rd		X	X	**Mitigation Measure 14.0:** Restripe WB approach to convert shared through/right turn lane to an exclusive through lane. (2025 & 2050 Mitigation)			Project Improvement: 100%
32	Mitscher Way & Miramar Rd		X	X	**Mitigation Measure 15.0**: Restripe SB approach to provide one left turn lane and one shared through/right turn lane and construct necessary traffic signal modifications. (2025 & 2050 Mitigation)			Project Improvement: 100%
34	Kearny Villa Rd & Miramar Rd		X		**Mitigation Measure 16.0**: Restripe WB approach to provide a dedicated right turn lane and construct necessary traffic signal modifications. (2025 Mitigation)		Yes (Phase 1 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2025)
				X	**Mitigation Measure 22.0:** Payment of FBA Fees. PFFP includes Project T-89 to construct a 2nd EB right turn lane. (2050 Mitigation)			Payment of FBA Fees
38	Flanders Dr & Camino Santa Fe	X		X	**Mitigation Measure 4.0:** Widen NB approach to construct a dedicated right-turn lane with Class II bicycle lane. Construct necessary traffic signal modifications. (2021 & 2050 Mitigation)			Project Improvement: 100%
42	Trade St & Camino Santa Fe		X	X	***Significant & Unavoidable***			
48	Carroll Canyon Rd & Camino Ruiz		X		**Mitigation Measure 17.0:** Restripe a 2nd NB left turn lane (on NB Camino Ruiz). Construct necessary traffic signal modifications. (2025 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%
49	Miralani Dr & Camino Ruiz		X		**Mitigation Measure 18.0:** Restripe NB approach to provide a 2nd left-turn lane. Widen the west leg of intersection to provide 2 WB receiving lanes. Construct necessary traffic signal modifications. (2025 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%
50	Activity Rd & Camino Ruiz		X		**Mitigation Measure 19.0:** Construct a right-turn lane on NB approach of the intersection and necessary traffic signal modifications. (2025 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100%

TABLE 13-7 SUMMARY OF ROADWAY SEGMENT SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significantly Impacted Roadway Segment		Scenario Impacted			Recommended Mitigation Measure	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Funding Mechanism/ Project Responsibility
		2021	2025	2050				
C	Mira Mesa Blvd from Pacific Heights Blvd to Sequence Dr	X			***Significant & Unavoidable***			
F	Mira Mesa Blvd from Camino Santa Fe to Parkdale Ave	X		X	***Significant & Unavoidable***			
H	Mira Mesa Blvd from Reagan Rd to Camino Ruiz	X			***Significant & Unavoidable***			
P	Carroll Road from Nancy Ridge Dr to Rehco Rd	X	X	X	***Significant & Unavoidable***.			
Q	Carroll Road from Rehco Rd to Camino Santa Fe	X	X	X	***Significant & Unavoidable / Partially Mitigated.*** **Mitigation Measure 5.0**: Address the existing signal communications gap at the Carroll Road/Rehco Road intersection by installing signal communications equipment to connect to the Carroll Road/Camino Santa Fe intersection. The needed improvements would include trenching and installing conduit and cable along Carroll Road between Rehco Road and Camino Santa Fe. (2021, 2025 & 2050 Mitigation)			Project Improvement: 100% (2021)
T	Eastgate Mall from Judicial Dr to Miramar Rd	X	X	X	***Significant & Unavoidable***			
Y	Miramar Rd from Nobel Dr to Eastgate Mall	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 6.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Nobel Drive and Eastgate Mall. Install one (1) CCTV camera. (2021, 2025 & 2050 Mitigation)			
Z	Miramar Rd from Eastgate Mall to Camino Santa Fe	X	X	X	***Significant & Unavoidable / Partially Mitigated.*** **Mitigation Measure 7.A:** Construct raised median where existing gaps in the median currently exist. (2021, 2025 & 2050 Mitigation). **AND** **Mitigation Measure 7.B:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Eastgate Mall and Camino Santa Fe. Install two (2) CCTV cameras. (2021, 2025 & 2050 Mitigation) **AND** **Mitigation Measure 7.C:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Santa Fe and Carroll Road to complete the communication network to Camino Ruiz. Install two (2) CCTV cameras. (2021, 2025 & 2050 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2021)
AA	Miramar Rd from Carroll Rd to Camino Ruiz	X			***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 8.A**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Carroll Road and Camino Ruiz. Install two (2) CCTV cameras. (2021 Mitigation) **AND** **Mitigation Measure 8.B**: Construct 205-foot long, 4-foot wide raised median approximately 115 feet east of Cabot Drive. Construct 300-foot long, 16-foot wide raised median approximately 685 feet west of Camino Ruiz (2021)			Project Improvement: 100% (2021)
AB	Miramar Rd from Camino Ruiz to Mitscher Way	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 9.0**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Ruiz and Mitscher Way. (2021, 2025 & 2050 Mitigation)			Project Improvement: 100% (2021)
AC	Miramar Rd from Mitscher Way to Black Mountain Rd	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 10.0**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Mitscher Way and Black Mountain Road. Install one (1) CCTV camera. (2021, 2025 & 2050 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2021)

Significantly Impacted Roadway Segment		Scenario Impacted			Recommended Mitigation Measure	PFFP Project to Construct for FBA In Lieu Fee Credit or to Contribute FBA Fees	Potential Mitigation For Other Pending Projects?	Funding Mechanism/ Project Responsibility
		2021	2025	2050				
AD	Miramar Rd from Black Mountain Rd to Kearny Villa Rd	X	X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 11.0**: Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Black Mountain Road and Kearny Villa Road. (2021, 2025 & 2050 Mitigation)		Yes (2030 mitigation required per Vulcan Stone Creek TIA)	Project Improvement: 100% (2021)
AE	Miramar Rd from Kearny Villa Rd to Kearny Mesa Rd		X	X	***Significant & Unavoidable / Partially Mitigated*** **Mitigation Measure 20.0:** Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Kearny Villa Road and Kearny Mesa Road. Install one (1) CCTV camera. (2025 & 2050 Mitigation)			Project Improvement: 100% (2025)
AJ	Camino Santa Fe from Carroll Canyon Rd to Trade St		X	X	***Significant & Unavoidable***			
AK	Camino Santa Fe from Trade St to Carroll Rd		X	X	***Significant & Unavoidable***			
AL	Camino Santa Fe from Carroll Rd to Miramar Rd		X	X	***Significant & Unavoidable***			

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We Make a Difference

Technical Memorandum

TO:	Allegra Parisi
FROM:	Dawn Wilson, PE TE
DATE:	June 24, 2019
SUBJECT:	EDU Calculations – Phase 1 (2021) and Project Buildout (2025)

This memorandum was prepared for the 3Roots project to summarize the methodology, calculations and recommendations for the phasing of off-site improvements in both Phase 1 (2021) and Project Buildout (2025).

Purpose & Need

The Environmental Impact Report (EIR) requires that each mitigation measure contain language to ensure mitigation will be completed by the time of the impact. This document is reviewed regularly by City of San Diego to ensure the project is meeting is mitigation requirements. The current mitigation measures indicate that improvements need to be permitted and bonded for by the first building permit and construction of the improvements must be completed by first occupancy. As some of the improvements require right-of-way acquisition, Michael Baker has prepared this sensitivity analysis to determine the point in time when the project trips exceed the threshold for environmental impacts. Trigger points were then calculated to identify the associated Equivalent Dwelling Unit (EDU) for each improvement in each phase to determine the level of development that could occur before the impact is determined to be significant.

Methodology

Equivalent dwelling units (EDU) are calculated to normalize all land use categories to the trip generation equivalent to one single family dwelling unit. Each single family dwelling unit generates 10 trips per day. Therefore 1 EDU equals 10 trips. To determine the EDU's for a specific land use, you would multiply the number of daily or peak hour trips for that land use by 0.1 EDU. For example, one condominium generates 8 trips per day. Multiplying 8 by 0.1, a condominium is 0.8 EDU. This same process is repeated for the peak hour trip generation in order to determine the peak period EDU, which may be difference than the daily EDU since the peak percentages vary by land use. To determine the number of EDU's by phase of the project, you would then sum the EDU for the individual land uses for the daily and peak periods.

This methodology was applied to the trip generation rates for the 3Roots project as discussed in the May 2019 TIA. The associated forecast cumulative trips by study scenario are provided in **Tables 1 and 2** for Phase 1 (2021) and Project Buildout (2025) respectively.

To determine the trigger point for project impacts, the following methodology was used:

Intersections

- **Project results in a change in Delay that results in a change in LOS from acceptable (LOS D or better) to deficient (LOS E/F)** - Project trips were added to the "No Project Volumes" at the impacted intersection incrementally to determine the point where the project trips triggered the change from acceptable to LOS E. This was done using Synchro for either the AM or PM peak period, depending upon when the impact was triggered. The maximum number of project trips before the significance threshold is reached (acceptable LOS to LOS E) are identified as the "Peak Hour Trips Associated with Threshold" in **Table 3** for 2021 and **Table 4** for 2025. The project trips for each movement were then added together to determine the total project peak hour volume for the intersection. The total project peak hour volume were then converted to EDU's using the EDU rates presented in Table 1.

- **Project results in an increase in Delay greater than 2.0 seconds when forecast to operate at LOS E with the project.** Project trips were then incrementally added to the intersection to determine the point where the delay increased by 2.0 seconds over the "No Project" condition. This was done using Synchro for either the AM or PM peak period, depending upon when the impact was triggered. The maximum number of project trips that can be added before the significance threshold reached (2.0 seconds at LOS E) are identified as "Peak Hour Trips Associated with Threshold" in Table 3 for 2021 and Table 4 for 2025. The project trips for each movement were then added together to determine the total project peak hour volume for the intersection. The total project peak hour volume were then converted to EDU's using the EDU rates presented in Table 1.

- **Project results in an increase in Delay greater than 1.0 second when forecast to operate at LOS F with the project.** Project trips were then incrementally added to the intersection to determine the point where the delay increased by 1.0 second over the "No Project" condition. This was done using Synchro for either the AM or PM peak period, depending upon when the impact was triggered. The maximum number of project trips that can be added before the significance threshold is reached (1.0 second at LOS F) is identified as "Peak Hour Trips Associated with Threshold" in Table 3 for 2021 and Table 4 for 2025. The project trips for each movement were then added together to determine the total project peak hour volume for the intersection. The total project peak hour volume were then converted to EDU's using the EDU rates presented in Table 1.

Roadway Segments

- **Project results in a change in V/C Ratio that results in a change in LOS from acceptable (LOS D or better) to deficient (LOS E/F)** – The LOS D capacity threshold was used to determine how many trips could be added to the segment before the LOS D capacity was reached. This was then set as the "Project Trips when Threshold is Exceeded" in **Tables 5 and 6** for 2021 and 2025, respectively. These peak hour trips were then converted to EDU's using the EDU rates presented in Table 1.

- **Project results in an increase in V/C Ratio greater than 0.02 when forecast to operate at LOS E with the project.** The LOS E capacity was multiplied by 0.02 to determine the maximum project trips that can be added to a segment before the impact is triggered. This then set as the "Project Trips when Threshold is Exceeded" in Tables 5 and 6 for 2021 and 2025, respectively. These peak hour trips were then converted to EDU's using the EDU rates presented in Table 1.

- **Project results in an increase in V/C Ratio greater than 0.01 when forecast to operate at LOS F with the project.** The LOS E capacity was multiplied by 0.01 to determine the maximum project trips

that can be added to a segment before the impact is triggered. This then set as the "Project Trips when Threshold is Exceeded" in Tables 5 and 6 for 2021 and 2025, respectively. These peak hour trips were then converted to EDU's using the EDU rates presented in Table 1.

Results and Discussion

Tables 3 through 6 summarize the results of the analysis. The findings demonstrate that in all cases a portion of the project trips can be added to the intersections and roadway segments before the impact is triggered. Intersection and segment EDU triggers were converted to project EDU's by applying the highest intersection or segment approach distribution percentage to the respective intersection or roadway segment. This yields the maximum number of EDU's that can be constructed before the threshold is reached.

That being said, it is feasible to complete the improvements at key stages of the project, which include building permit and occupancy. **Table 7 and Figure EDU-1** summarizes the recommended mitigation and the Total Phase 1 EDU per mitigation measure. **Table 8 and Figure EDU-2** summarizes the recommended mitigation and the Total Project EDU per mitigation measure for Phase 2 of the project.

The color coding in the table and on the figures relate to the following:

Green:	Permit & Bond Prior to 1st Phase 1 Building Permit; Improvements Complete Prior to 1st Occupancy for Phase 1
Yellow:	Permit & Bond Prior to 1st Phase 1 Building Permit; Improvement Complete Prior to EDU Occupancy for Phase 1. These locations require ROW acquisition.
Red:	Permit & Bond Prior to 1st Building Permit; Improvements Complete Prior to EDU Occupancy for Phase 1.
Blue:	Permit & Bond Prior to 1st Phase 2 Building Permit. Improvements complete prior to EDU Occupancy for Phase 2, subject to ROW acquisition

Supporting calculations for the peak hour intersection volumes that were used to calculate the EDU's for the 2021 and 2025 conditions are provided in **Figures EDU-3 and EDU-4**, respectively.

Table 1: EDU per Trip Rate

Land Use	Daily Trip Rate		AM Trip Rate			PM Trip Rate		
	Trip Rate	EDU	% of ADT	Trip Rate	EDU	% of ADT	Trip Rate	EDU
Residential (per DU)								
Single Family DU	10	1.0	8%	0.8	1.0	10%	1.0	1.0
Condominiums	8	0.8	8%	0.6	0.8	10%	0.8	0.8
Apartments	6	0.6	8%	0.5	0.6	9%	0.5	0.5
Commercial (per KSF)								
Specialty Retail	36	3.6	3%	1.1	1.4	9%	3.2	3.2
High Turnover Restaurant	104	10.4	8%	8.3	10.4	8%	8.3	8.3
Neighborhood Commercial	72	7.2	4%	2.9	3.6	11%	7.9	7.9
Office	24	2.4	13%	3.1	3.9	14%	3.4	3.4
Park (per acre)								
Park	50	5.0	4%	2.0	2.5	8%	4.0	4.0

Table 2: Phase 1 & Project Build Out EDUs

Land Use	Units	Daily EDUs	AM EDUs	PM EDUs
Phase 1 – 2021				
Single Family DU	435 du	435	435	435
Condominiums	393 du	314	314	314
Apartments	609 du	365	365	329
Specialty Retail	16 ksf	58	22	52
TOTAL PHASE 1 EDUs		**1,172**	**1,136**	**1,130**
Buildout (Phases 1 & 2) – 2025				
Single Family DU	548 du	548	548	548
Condominiums	643 du	514	514	514
Apartments	609 du	365	365	329
Specialty Retail	29.6 ksf	107	40	96
High Turnover Restaurant	86.4 ksf	899	899	719
Neighborhood Commercial	20.7 ksf	149	75	164
Office	23.5 ksf	56	92	79
Park	25.4 acres	127	64	102
TOTAL BUILDOUT EDUs		**2,765**	**2,596**	**2,551**
PHASE 2 ONLY EDUs		**1,592**	**1,460**	**1,421**

Table 3: Year 2021 EDU Calculations - Intersections

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2021 Without Project		Near Term Year 2021 With Phase 1 Project		Δ in Delay	Significant Impact?	Sign. Threshold	Peak Hour Trips Associated with Threshold [a]	Intersections EDU'S Triggering Impact [b]	Percent Project Trips	Phase 1 EDU's [c]
				Delay	LOS	Delay	LOS							
3	Pacific Heights Blvd & Mira Mesa Blvd	Signal	AM	38.6	D	39.1	D	0.5						
			PM	73.8	E	80.7	F	6.9	YES	1.0	62	56	11%	507
8	Camino Santa Fe & Mira Mesa Blvd	Signal	AM	47.1	D	54.7	D	7.6						
			PM	87.6	F	106.1	F	18.5	YES	1.0	23	21	23%	90
16	Camino Santa Fe & Carroll Rd	Signal	AM	50.6	D	85.2	F	34.6	YES	D-E	115	144	54%	266
			PM	45	D	78.3	E	33.3	YES	D-E	282	254	54%	470
20	Towne Center Dr & La Jolla Village Dr	Signal	AM	32.7	C	33	C	0.3						
			PM	82.1	F	85	F	2.9	YES	1.0	16	14	5%	288
29	Camino Santa Fe & Miramar Rd	Signal	AM	83.7	F	94	F	10.3	YES	1.0	136	170	31%	548
			PM	52.7	D	79.1	E	26.4	YES	D-E	174	157	31%	505
38	Flanders Dr & Camino Santa Fe	Signal	AM	36.4	D	41.5	D	5.1						
			PM	68.8	E	84.4	F	15.6	YES	1.0	24	22	38%	57

Notes:

[a] Number of trips that can be added before an impact is triggered. Calculated by conducting Synchro Analysis for level of service.

[b] Peak Hour EDU/Trips:

TOTAL 2021 AM trips =	911	(Table 4-2, 3Roots TIA)
TOTAL 2021 AM EDU=	1,136	
AM EDU/TRIP	**1.25**	
TOTAL 2021 PM trips =	1136	(Table 4-2, 3Roots TIA)
TOTAL 2021 PM EDU=	1,130	
PM EDU/TRIP	**0.99**	

[c] Phase 1 EDU = EDU Triggering Impact / Percent Project Trips

Table 4: Year 2025 EDU Calculations - Intersections

#	Intersection	Traffic Control	Peak Hour	Near Term Year 2025 Baseline With Phase 1 Project		Near Term Year 2025 With Project Buildout		Δ in Delay	Significant Impact?	Sign. Threshold	Peak Hour Trips Associated with Threshold [a]	EDU'S Triggering Impact [a]	Percent Project Trips	Phase 2 EDU (Buildout EDU) [c]
				Delay	LOS	Delay	LOS							
26	Eastgate Mall & Miramar Rd	Signal	AM	25.8	C	26.8	C	1.0						
			PM	51.1	D	61.3	E	10.2	YES	D-E	146	146	25%	584 (1,756)
29	Camino Santa Fe & Miramar Rd	Signal	AM	121.7	F	143.6	F	21.9	YES	1.0	12	15	25%	60 (1,232)
			PM	90.4	F	94.8	F	4.4	YES	1.0	24	24	25%	96 (1,268)
31	Camino Ruiz & Miramar Rd	Signal	AM	76.8	E	93.9	F	17.1	YES	1.0	53	66	17%	390 (1,562)
			PM	26	C	41.4	D	15.4						
32	Mitscher Way & Miramar Rd	Signal	AM	26.9	C	28.4	C	1.5						
			PM	56.9	E	61.8	E	4.9	YES	2.0	72	72	15%	480 (1,652)
34	Kearny Villa Rd & Miramar Rd	Signal	AM	80.6	F	88.2	F	7.6	YES	1.0	30	38	13%	288 (1,460)
			PM	56.4	E	59.7	E	3.3	YES	2.0	95	95	13%	731 (1,903)
42	Trade St & Camino Santa Fe	Signal	AM	23.5	C	53.2	D	29.7						
			PM	56.2	E	116.2	F	60.0	YES	1.0	26	26	40%	65 (1,237)
48	Carroll Canyon Rd & Camino Ruiz	Signal	AM	6.7	A	119.8	F	113.1	YES	1.0	126	158	21%	750 (1,922)
			PM	5.2	A	50	D	44.8						
49	Miralani Dr & Camino Ruiz	Signal	AM	120	F	208.9	F	88.9	YES	1.0	7	9	21%	42 (1,214)
			PM	47.5	D	94.1	F	46.6	YES	D-E	119	119	21%	567 (1,739)
50	Activity Rd & Camino Ruiz	Signal	AM	19.5	B	22.6	C	3.1						
			PM	82.1	F	175.4	F	93.3	YES	1.0	8	8	20%	40 (1,212)

Notes:

[a] Number of trips that can be added before an impact is triggered. Calculated by conducting Synchro Analysis for level of service.

[b] Peak Hour EDU/Trips (Phase 2 2025 Only = Total Project – Phase 1)

Phase 2 2025 ONLY AM trips =	1,160	(Table 4-5, 3Roots TIA)	Phase 2 2025 ONLY PM trips =	1,415	(Table 4-5, 3Roots TIA)
Phase 2 2025 ONLY AM EDU=	1,460		Phase 2 2025 ONLY PM EDU=	1,420	
AM EDU/TRIP	**1.25**		**PM EDU/TRIP**	**1.00**	

[c] Phase 2 EDU = EDU Triggering Impact / Percent Project Trips
Buildout EDU = Phase 1 EDU (1,172) + Phase 2 EDU)

Table 5: Year 2021 EDU Calculations – Roadway Segments

	Roadway Segment	Functional Classification	LOS E Capacity	Near Term Year 2021 Without Project			Near Term Year 2021 With Phase 1 Project			Δ in v/c Ratio	Significant Impact?	2021 project Volume	LOS D Threshold	D-E, LOS E, LOS F	Project Trips when threshold is exceeded [b]	EDU [c]	Percent Project Trips	Phase 1 EDU [d]
				ADT	v/c Ratio[a]	LOS	ADT	v/c Ratio[a]	LOS									
Mira Mesa Blvd																		
C	Pacific Heights Blvd to Sequence Dr	Primary Arterial/6	60,000	54,581	0.91	D	55,814	0.93	E	0.021	Yes	1,233	55,000	D-E	814	81	11%	740
F	Camino Santa Fe to Parkdale Ave	Major/6	50,000	59,771	1.195	F	61,345	1.227	F	0.031	Yes	1,574	45,000	LOS F	500	50	13%	385
H	Reagan Rd to Camino Ruiz	Major/6	50,000	47,821	0.956	E	48,951	0.979	E	0.023	Yes	1,130	45,000	LOS E	1,000	100	10%	1,000
Carroll Rd																		
P	Nancy Ridge Dr to Rehco Rd	Collector/2 (with TWLTL)	15,000	13,876	0.925	E	14,261	0.951	E	0.026	Yes	385	13,000	LOS E	300	30	3%	1,000
Q	Rehco Rd to Camino Santa Fe	Collector/2 (with TWLTL)	15,000	17,525	1.168	F	18,140	1.209	F	0.041	Yes	615	13,000	LOS F	150	15	5%	300
Eastgate Mall																		
T	Judicial Dr to Miramar Rd	Collector/2 (with TWLTL)	15,000	15,118	1.008	F	15,688	1.046	F	0.038	Yes	570	13,000	LOS F	150	15	5%	300
Miramar Rd																		
Y	Nobel Dr to Eastgate Mall	Primary Arterial/7	70,000	75,770	1.082	F	78,816	1.126	F	0.044	Yes	3,046	65,000	LOS F	700	70	26%	269
Z	Eastgate Mall to Camino Santa Fe	Major/6 (with TWLTL)	45,000	73,893	1.642	F	77,512	1.722	F	0.08	Yes	3,619	30,000	LOS F	450	45	31%	145
AA	Carroll Rd to Camino Ruiz	Major/6 (with TWLTL)	45,000	47,116	1.047	F	48,441	1.076	F	0.029	Yes	1,325	30,000	LOS F	450	45	12%	375
AB	Camino Ruiz to Mitscher Way	Major/6	50,000	62,553	1.251	F	63,522	1.27	F	0.019	Yes	969	45,000	LOS F	500	50	8%	625
AC	Mitscher Way to Black Mountain Rd	Major/6 (with TWLTL)	45,000	60,243	1.339	F	61,093	1.358	F	0.019	Yes	850	30,000	LOS F	450	45	7%	643
AD	Black Mountain Rd to Kearny Villa Rd	Major/6 (with TWLTL)	45,000	66,934	1.487	F	67,667	1.504	F	0.017	Yes	733	30,000	LOS F	450	45	6%	750

Notes:

[a] The v/c ratio is calculated by dividing the ADT volume by each respective roadway segments capacity.

[b] Thresholds determined based on with Project LOS. If a change in LOS from D to E occurred, the threshold is calculated by subtracting the LOS E capacity from the without Project volume. If the LOS is either LOS E or F with the project, the LOS E capacity was multiplied by 0.02 or 0.02, respectively.

[c] EDU is calculated as follows:

TOTAL PHASE 2021 ADT =	11,788	(Table 4-2, 3Roots TIA)
TOTAL DAILY EDU	1,172	
EDU/TRIP	**0.10**	

[d] Phase 1 EDU = EDU Triggering Impact / Percent Project Trips

Table 6: Year 2025 EDU Calculations – Roadway Segments

	Roadway Segment	Functional Classification	LOS E Capacity	Near Term Year 2021 Without Project			Near Term Year 2021 With Phase 1 Project			Δ in v/c Ra
				ADT	v/c Ratio[a]	LOS	ADT	v/c Ratio[a]	LOS	
Miramar Rd										
AE	Kearny Villa Rd to Kearny Mesa Rd	Major/6 (with TWLTL)	45,000	59,395	1.32	F	62,149	1.381	F	0.061

Notes:

[a] The v/c ratio is calculated by dividing the ADT volume by each respective roadway segments capacity.

[b] Thresholds determined based on with Project LOS. If a change in LOS from D to E occurred, the threshold is calculated by subtracting the LOS E capacity from the without Project volume. If the LOS is either LOS E or F with the project, the LOS E capacity was multiplied by 0.02 or 0.02, respectively.

[c] EDU is calculated as follows (Phase 2 2025 Only = Buildout - Phase 1):

Phase 2 2025 ONLY ADT =	15,857	(Table 4-2, 3Roots TIA)
Phase 2 2025 ONLY EDU	1,593	
EDU/TRIP	**0.10**	

[d] Phase 2 EDU = EDU Triggering Impact / Percent Project Trips
Buildout EDU = Phase 1 EDU (1,172) + Phase 2 EDU)

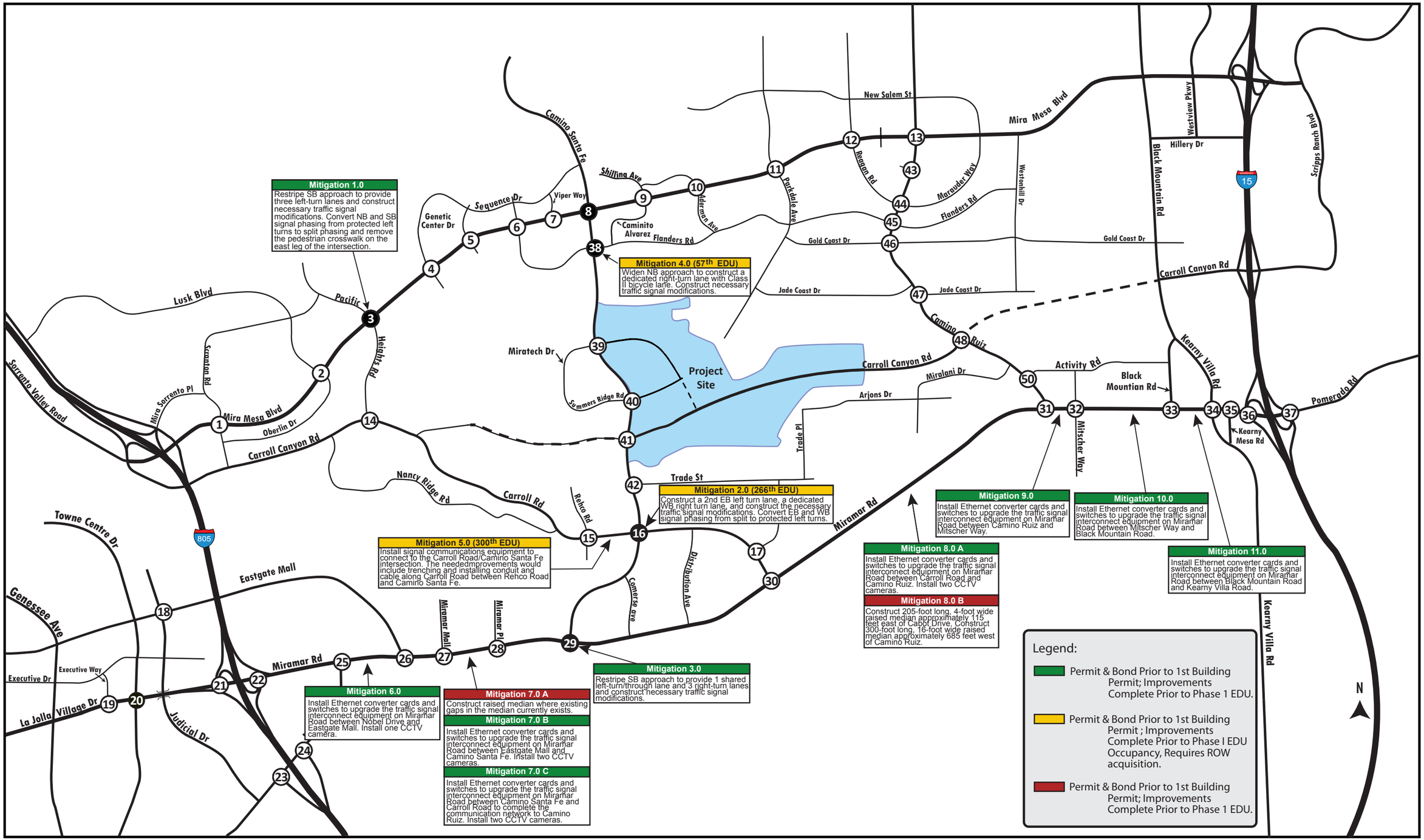

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Figure EDU-1
2021 Mitigation Measures

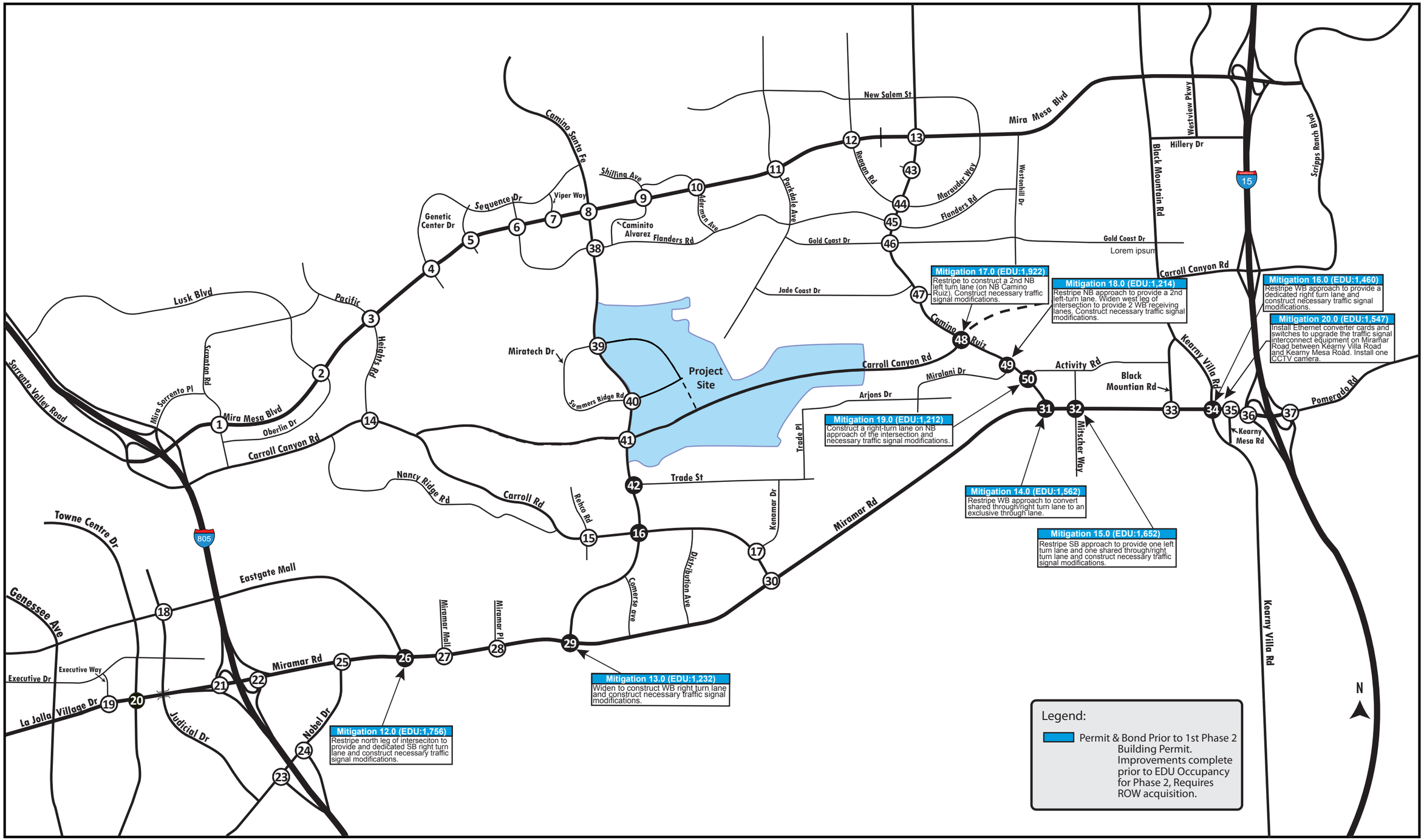

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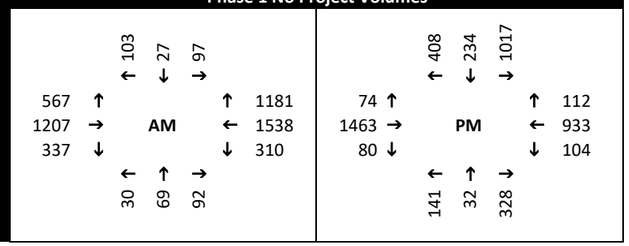
Figure EDU-2
2025 Mitigation Measures

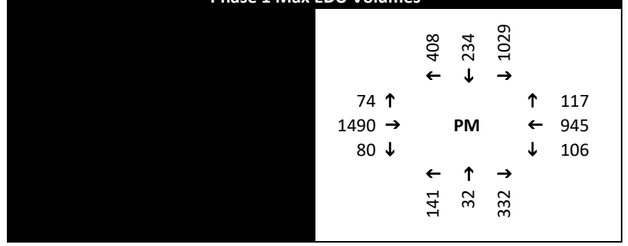
Figure EDU-3: Peak Hour Volume EDU Calculations (2021)

Intersection 3

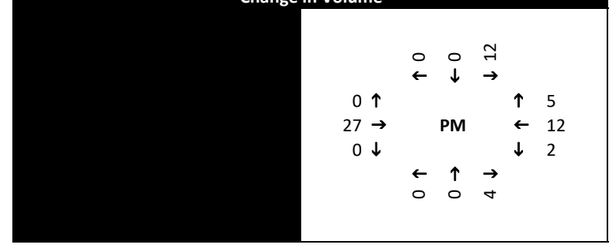
Phase 1 No Project Volumes



Phase 1 Max EDU Volumes



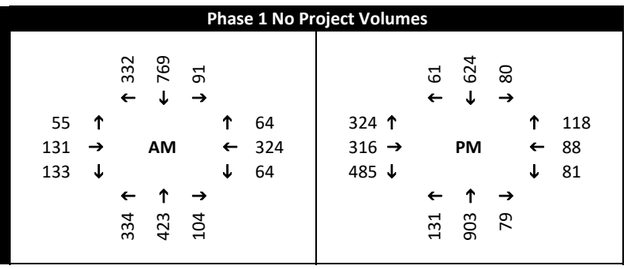
Change in Volume



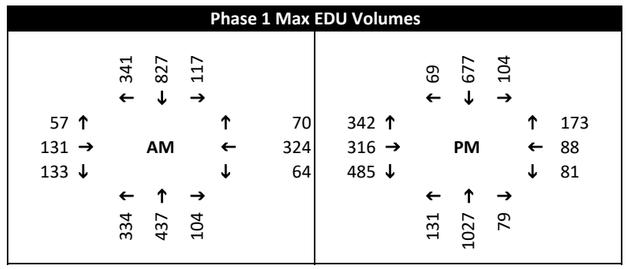
	PM
TOTAL TRIPS	62
Intersection EDU	56
% Distribution	11%
Project EDU	507

Intersection 16

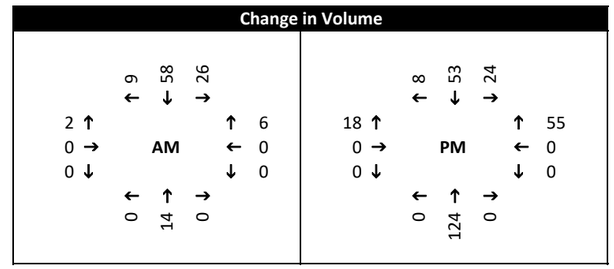
Phase 1 No Project Volumes



Phase 1 Max EDU Volumes



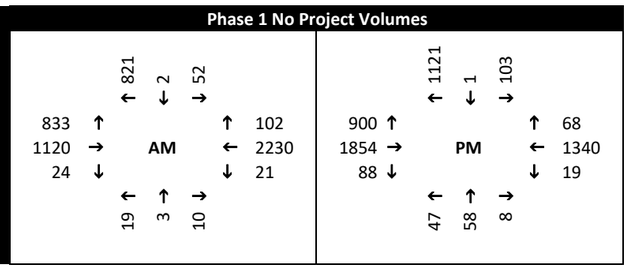
Change in Volume



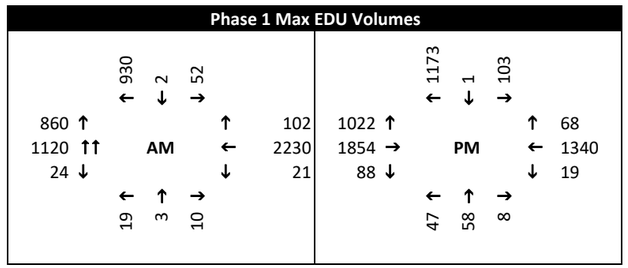
	AM	PM
TOTAL TRIPS	115	282
Intersection EDU	144	254
% Distribution	54%	54%
Project EDU	266	470

Intersection 29

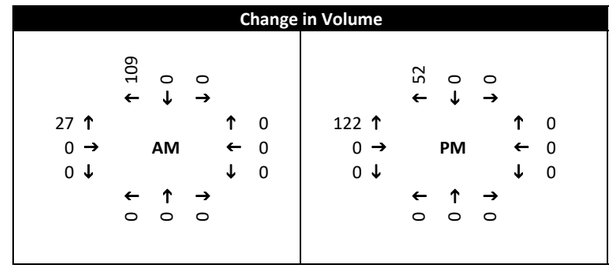
Phase 1 No Project Volumes



Phase 1 Max EDU Volumes



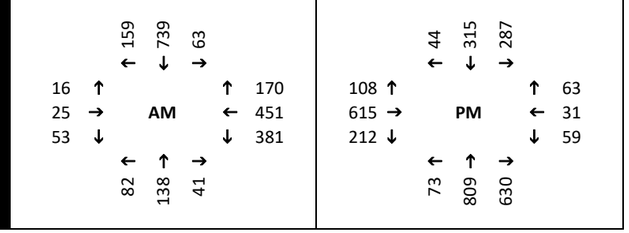
Change in Volume



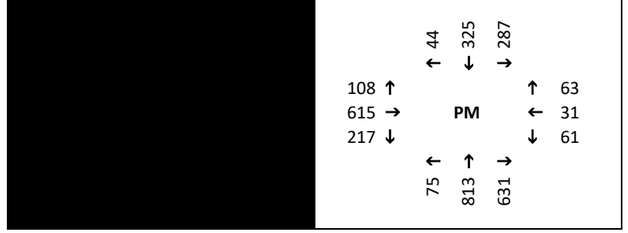
	AM	PM
TOTAL TRIPS	136	174
Intersection EDU	170	157
% Distribution	31%	31%
Project EDU	548	505

Intersection 38

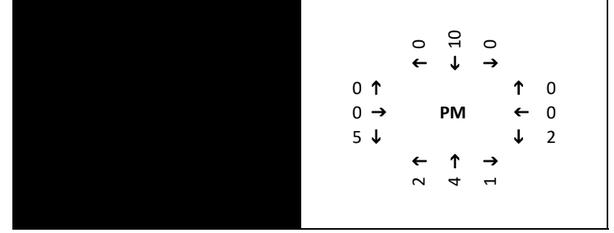
Phase 1 No Project Volumes



Phase 1 Max EDU Volumes



Change in Volume



	PM
TOTAL TRIPS	24
Intersection EDU	22
% Distribution	38%
Project EDU	57

Note: AM EDU = 1.25; PM EDU = 0.9

Trip Percentages based on Figure 4-1 of the 3Roots TIA (June 2019)

Figure EDU-4: Peak Hour Volume EDU Calculations (2025)

Interseciton 26

Phase 2 Baseline (with CCR Diversion)

AM: ↑ 278, → 1941, ← 2283, ↓ 1, ← 162, → 168, ↑ 998

PM: ↑ 143, → 2113, ← 2681, ↓ 9, ← 351, → 957, ↑ 183

Phase 1 Max EDU Volumes

PM: ↑ 143, → 2193, ← 2727, ← 351, → 970, ↑ 190

Change in Volume

PM: ↑ 0, → 80, ← 46, ↑ 7, ← 0, ↓ 0, → 13

	PM
TOTAL TRIPS	146
Intersection EDU	146
% Distribution	25%
Project EDU	584

Intersection 29

Phase 2 Baseline (with CCR Diversion)

AM: ↑ 930, → 1170, ↓ 25, ← 2329, ↓ 22, ↑ 107, ← 20, → 3, ← 10, ↑ 1085, ↓ 2, → 54

PM: ↑ 1186, → 1936, ↓ 92, ← 2329, ↓ 20, ↑ 71, ← 49, → 61, ← 8, ↑ 1282, ↓ 1, → 108

Phase 1 Max EDU Volumes

AM: ↑ 935, → 1170, ↓ 25, ← 2329, ↓ 22, ↑ 107, ← 20, → 3, ← 10, ↑ 1092, ↓ 2, → 54

PM: ↑ 1201, → 1936, ↓ 92, ← 2329, ↓ 20, ↑ 71, ← 49, → 61, ← 8, ↑ 1291, ↓ 1, → 108

Change in Volume

AM: ↑ 5, → 0, ↓ 0, ← 0, ↓ 0, ↑ 0, ← 0, → 0, ← 7, ↓ 0, → 0

PM: ↑ 15, → 0, ↓ 0, ← 0, ↓ 0, ↑ 0, ← 0, → 0, ← 9, ↓ 0, → 0

	AM	PM
TOTAL TRIPS	12	24
Intersection EDU	15	24
% Distribution	25%	25%
Project EDU	60	96

Intersection 31

Phase 2 Baseline (with CCR Diversion)

AM: ↑ 172, → 821, ← 3250, ↑ 286, ← 547, → 685

PM: ↑ 395, → 2580, ← 1046, ↑ 658, ← 184, → 441

Phase 1 Max EDU Volumes

AM: ↑ 173, ↕→ 821, ← 3250, ↑ 308, ← 549, → 713

Change in Volume

AM: ↑ 1, → 0, ← 22, ← 0, ← 2, → 28

	AM
TOTAL TRIPS	53
Intersection EDU	66
% Distribution	17%
Project EDU	390

Intersection 32

Phase 1 No Project Volumes

AM: ↑ 23, → 1253, ↓ 231, ← 2779, ↓ 198, ↑ 30, ← 196, → 25, ← 146, ↑ 81, ↓ 74, → 34

PM: ↑ 43, → 2771, ↓ 162, ← 1642, ↓ 128, ↑ 41, ← 305, → 55, ← 308, ↑ 33, ↓ 44, → 84

Phase 1 Max EDU Volumes

PM: ↑ 44, → 2797, ↓ 162, ← 1684, ↓ 128, ↑ 41, ← 305, → 55, ← 308, ↑ 36, ↓ 44, → 84

Change in Volume

PM: ↑ 1, → 26, ↓ 0, ← 42, ↓ 0, ↑ 0, ← 0, → 0, ← 0, ↑ 0, → 0, ← 3, ↓ 0, → 0

	PM
TOTAL TRIPS	72
Intersection EDU	72
% Distribution	15%
Project EDU	480

Intersection 34

Phase 1 No Project Volumes

AM: ↑ 43, → 1007, ↓ 498, ← 117, ← 2523, ↓ 9, ↑ 937, → 336, ← 9, ↑ 133, ↓ 301, → 195

PM: ↑ 55, → 2206, ↓ 1061, ← 163, ← 1153, ↓ 36, ↑ 553, → 444, ← 32, ↑ 46, ↓ 571, → 278

Phase 1 Max EDU Volumes

AM: ↑ 44, ↕→ 1018, ↓ 503, ← 117, ← 2532, ↓ 9, ↑ 940, → 336, ← 9, ↑ 134, ↓ 301, → 195

PM: ↑ 57, → 2230, ↓ 1071, ← 163, ← 1193, ↓ 36, ↑ 569, → 444, ← 32, ↑ 49, ↓ 571, → 278

Change in Volume

AM: ↑ 1, → 11, ↓ 5, ← 0, ← 9, ↓ 0, ↑ 3, → 0, ← 0, ↑ 1, ↓ 0, → 0

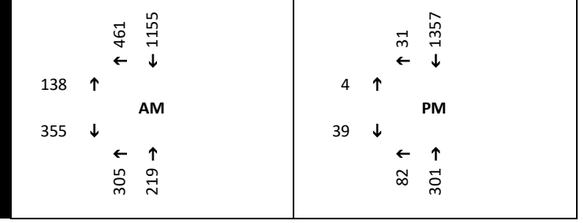
PM: ↑ 2, → 24, ↓ 10, ← 0, ← 40, ↓ 0, ↑ 16, → 0, ← 0, ↑ 3, ↓ 0, → 0

	AM	PM
TOTAL TRIPS	30	95
Intersection EDU	38	95 AM EDU = .9
% Distribution	13%	13% PM EDU = 1.0
Project EDU	288	731

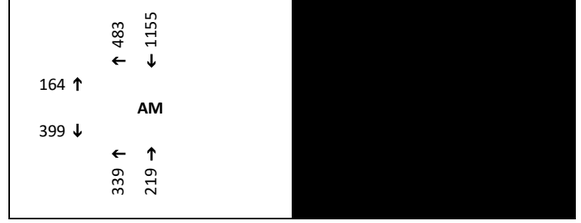
Figure EDU-4: Peak Hour Volume EDU Calculations (2025)

Intersection 48

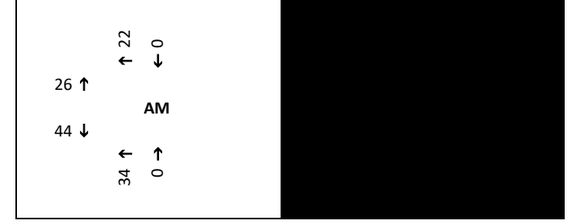
Phase 1 No Project Volumes



Phase 1 Max EDU Volumes



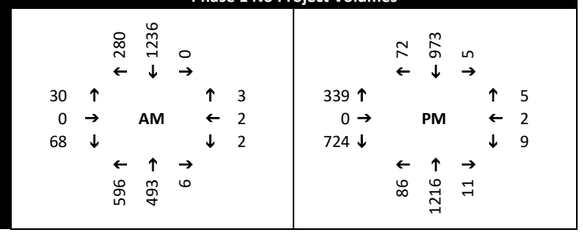
Change in Volume



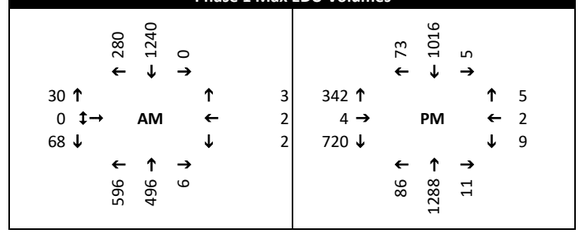
	AM
TOTAL TRIPS	126
Intersection EDU	158
% Distribution	21%
Project EDU	750

Intersection 49

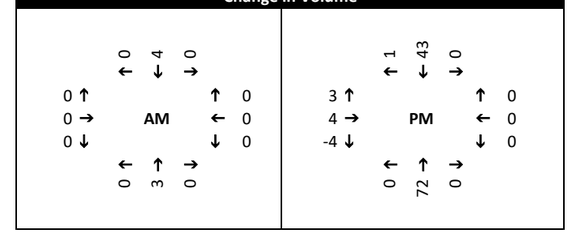
Phase 1 No Project Volumes



Phase 1 Max EDU Volumes



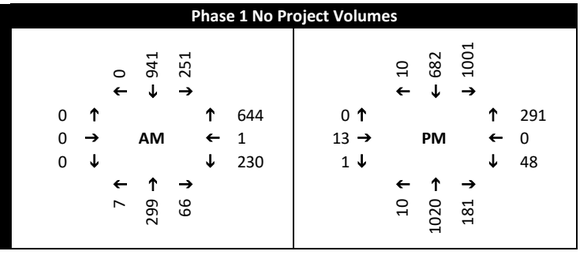
Change in Volume



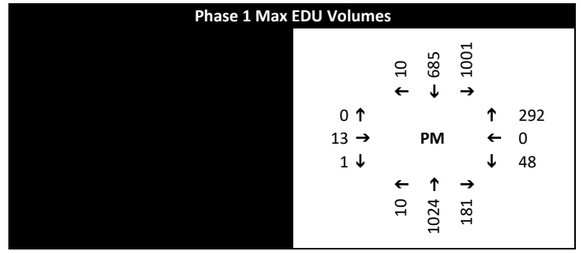
	AM	PM
TOTAL TRIPS	7	119
Intersection EDU	9	119
% Distribution	21%	21%
Project EDU	42	567

Intesection 50

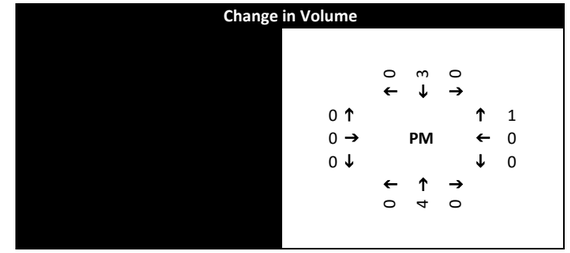
Phase 1 No Project Volumes



Phase 1 Max EDU Volumes



Change in Volume



	PM
TOTAL TRIPS	8
Intersection EDU	8
% Distribution	20%
Project EDU	40

Table 7: Year 2021 Project Mitigation & Recommended Phasing

#	Significantly Impacted Location	Scenario Impacted			Mitigated in Year…	EIR Mitigation	TIA Mitigation	Recommended Mitigation	No Feasible Mitigation or Mitigation Does Not Fully Mitigate Impact	Restripe	Widen	Signal Modification	ROW. AQ. SF	Project EDU
		2021	2025	2050										
2021														
3	Pacific Heights Blvd & Mira Mesa Blvd	X		X	2021	TRA-1	1.0	Restripe SB approach to provide three left-turn lanes and construct necessary traffic signal modifications. Convert NB and SB signal phasing from protected left turns to split phasing and remove the pedestrian crosswalk on the east leg of the intersection. (2021 & 2050 Mitigation)		X		X		505
8	Camino Santa Fe & Mira Mesa Blvd	X			2021				Significant & Unavoidable (2021)					
16	Camino Santa Fe & Carroll Road	X	X	X	2021	TRA-2	2.0	Construct a second EB left turn lane, a dedicated WB right turn lane,and construct the necessary traffic signal modifications. Convert EB and WB signal phasing from split to protected left turns. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated		X	X	5,070	266
20	La Jolla Village Dr & Towne Center Dr	X	X	X	2021				Significant & Unavoidable					
29	Camino Santa Fe & Miramar Road	X			2021	TRA-3	3.0	Restripe SB approach to provide 1 shared left-turn/through lane and 3 right-turn lanes and construct necessary traffic signal modifications. (2021 Mitigation)	Significant & Unavoidable / Partially Mitigated	X		X		505
38	Flanders Dr & Camino Santa Fe	X		X	2021	TRA-4	4.0	Widen NB approach to construct a dedicated right-turn lane with Class II bicycle lane. Construct necessary traffic signal modifications. (2021 & 2050 Mitigation)			X	X	1,456	57
C	Mira Mesa Blvd from Pacific Heights Blvd to Sequence Dr	X			2021				Significant & Unavoidable					
F	Mira Mesa Blvd from Camino Santa Fe to Parkdale Ave	X		X	2021				Significant & Unavoidable					
H	Mira Mesa Blvd from Reagan Rd to Camino Ruiz	X			2021				Significant & Unavoidable					
P	Carroll Road from Nancy Ridge Dr to Rehco Rd	X	X	X	2021				Significant & Unavoidable.					
Q	Carroll Road from Rehco Rd to Camino Santa Fe	X	X	X	2021	TRA-5	5.0	Address the existing signal communications gap at the Carroll Road/Rehco Road intersection by installing signal communications equipment to connect to the Carroll Road/Camino Santa Fe intersection. The needed improvements would include trenching and installing conduit and cable along Carroll Road between Rehco Road and Camino Santa Fe. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated			X		300
T	Eastgate Mall from Judicial Dr to Miramar Rd	X	X		2021				Significant & Unavoidable					
Y	Miramar Rd from Nobel Dr to Eastgate Mall	X	X	X	2021	TRA-6	6.0	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Nobel Drive and Eastgate Mall. Install one (1) CCTV Camera. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated			X		269

Green = Permit & Bond Prior to 1st Building Permit; Improvements Complete Prior to 1st Occupancy

Yellow = Permit & Bond Prior to 1st Building; Improvements Complete Prior to EDU Occupancy. Improvements require ROW acquisition.

Red = Permit & Bond Prior to 1st Building Permit; Improvements Complete Prior to EDU Occupancy.

#	Significantly Impacted Location	Scenario Impacted			Mitigated in Year…	EIR Mitigation	TIA Mitigation	Recommended Mitigation	No Feasible Mitigation or Mitigation Does Not Fully Mitigate Impact	Restripe	Widen	Signal Modification	ROW. AQ. SF	Project EDU
		2021	2025	2050										
Z	Miramar Rd from Eastgate Mall to Camino Santa Fe	X	X	X	2021	TRA-7	7A	Construct raised median where existing gaps in the median currently exist. (2021, 2025 & 2050 Mitigation).	Significant & Unavoidable / Partially Mitigated.		X			145
Z							7B	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Eastgate Mall and Camino Santa Fe. Install two (2) CCTV cameras. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated.			X		145
Z							7C	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Santa Fe and Carroll Road to complete the communication network to Camino Ruiz. Install two (2) CCTV cameras. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated.			X		145
AA	Miramar Rd from Carroll Rd to Camino Ruiz	X			2021	TRA-8	8A	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Carroll Road and Camino Ruiz. Install two (2) CCTV cameras. (2021 Mitigation)	Significant & Unavoidable / Partially Mitigated			X		375
AA							8B	Construct 205-foot long, 4-foot wide raised median approximately 115 feet east of Cabot Drive. Construct 300-foot long, 16-foot wide raised median approximately 685 feet west of Camino Ruiz (2021)	Significant & Unavoidable / Partially Mitigated					375
AB	Miramar Rd from Camino Ruiz to Mitscher Way	X	X	X	2021	TRA-9	9.0	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Camino Ruiz and Mitscher Way. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated			X		625
AC	Miramar Rd from Mitscher Way to Black Mountain Rd	X	X	X	2021	TRA-10	10.0	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Mitscher Way and Black Mountain Road. Install one (1) CCTV camera. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated			X		643
AD	Miramar Rd from Black Mountain Rd to Kearny Villa Rd	X	X	X	2021	TRA-11	11.0	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Black Mountain Road and Kearny Villa Road. (2021, 2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated			X		750

Green = Permit & Bond Prior to 1st Building Permit; Improvements Complete Prior to 1st Occupancy

Yellow = Permit & Bond Prior to 1st Building; Improvements Complete Prior to EDU Occupancy. Improvements require ROW acquisition.

Red = Permit & Bond Prior to 1st Building Permit; Improvements Complete Prior to EDU Occupancy.

Table 8: Year 2025 Project Mitigation & Recommended Phasing

#	Significantly Impacted Location	Scenario Impacted			Mitigated in Year…	EIR Mitigation	TIA Mitigation	Recommended Mitigation	No Feasible Mitigation or Mitigation Does Not Fully Mitigate Impact	Restripe	Widen	Signal Modification	ROW. AQ. SF	Project EDU
		2021	2025	2050										
2025 (EDU = 1,172 Phase 1 EDU + Phase 2 Project EDU)														
26	Eastgate Mall & Miramar Rd		X	X		TRA-12	12.0	Restripe north leg of intersection to provide a dedicated SB right turn lane and construct necessary traffic signal modifications. (2025 & 2050 Mitigation)		X		X		1,756
29	Camino Santa Fe & Miramar Road		X	X		TRA-13	13.0	Widen to construct a WB right turn lane and necessary traffic signal modifications. (2025 & 2050 Mitigation)			X	X	1,977	1,232
31	Camino Ruiz & Miramar Rd		X	X		TRA-14	14.0	Restripe WB approach to convert shared through/right turn lane to an exclusive through lane. (2025 & 2050 Mitigation)		X				1,562
32	Mitscher Way & Miramar Rd		X	X		TRA-15	15.0	Restripe SB approach to provide one left turn lane and one shared through/right turn lane and construct necessary traffic signal modifications. (2025 & 2050 Mitigation)		X		X		1,652
34	Kearny Villa Rd & Miramar Rd		X			TRA-16	16.0	Restripe WB approach to provide a dedicated right turn lane and construct necessary traffic signal modifications. (2025 Mitigation)		X		X		1,460
42	Trade St & Camino Santa Fe		X	X					Significant & Unavoidable					
48	Carroll Canyon Rd & Camino Ruiz		X			TRA-17	17.0	Restripe a 2nd NB left turn lane (on NB Camino Ruiz). Construct necessary traffic signal modifications. (2025 Mitigation)		X		X		1,922
49	Miralani Dr & Camino Ruiz		X			TRA-18	18.0	Restripe NB approach to provide a 2nd left-turn lane. Widen the west leg of intersection to provide 2 WB receiving lanes. Construct necessary traffic signal modifications. (2025 Mitigation)		X	X	X	1,504	1,214
50	Activity Rd & Camino Ruiz		X			TRA-19	19.0	Construct a right-turn lane on NB approach of the intersection and necessary traffic signal modifications. (2025 Mitigation)			X	X		1,212
AE	Miramar Rd from Kearny Villa Rd to Kearny Mesa Rd		X	X		TRA-20	20.0	Install Ethernet converter cards and switches to upgrade the traffic signal interconnect equipment on Miramar Road between Kearny Villa Road and Kearny Mesa Road. Install one (1) CCTV camera. (2025 & 2050 Mitigation)	Significant & Unavoidable / Partially Mitigated					1,547
2050 (Assumes Fees are Paid at Completion of Phase 2)														
8	Camino Santa Fe & Mira Mesa Blvd			X		TRA-21	21.0	Fair share payment toward the construction of a 2nd WB left turn lane. This includes widening the west left leg of the intersection and restriping the eastbound lanes to align lanes with proposed improvement. Construct associated traffic signal modifications (2050 Mitigation)	Partially Mitigated (2050)					2,765
34	Kearny Villa Rd & Miramar Rd			X		TRA-22	22.0	Payment of FBA Fees. PFFP includes Project T-89 to construct a 2nd EB right turn lane. (2050 Mitigation)						2,765

Blue: Permit & Bond Prior to Phase 2 Building Permit. Improvements complete prior to EDU Occupancy for Phase 2. Improvements may include ROW acquisition.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1490	80	106	945	117	141	32	332	1029	234	408
Future Volume (vph)	74	1490	80	106	945	117	141	32	332	1029	234	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0	6.0	4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5085	1478	1652	5085	1583	1652	2865	1489	3204	3893	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5085	1478	1652	5085	1583	1652	2865	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	85	1713	92	122	1086	134	162	37	382	1183	269	469
RTOR Reduction (vph)	0	0	56	0	0	0	0	109	116	0	0	187
Lane Group Flow (vph)	85	1713	36	122	1086	134	162	119	75	1183	269	282
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			4
Actuated Green, G (s)	17.8	68.0	68.0	20.7	71.0	190.0	23.5	16.0	16.0	65.6	58.1	58.1
Effective Green, g (s)	17.8	68.0	68.0	20.7	71.0	190.0	23.5	16.0	16.0	65.6	58.1	58.1
Actuated g/C Ratio	0.09	0.36	0.36	0.11	0.37	1.00	0.12	0.08	0.08	0.35	0.31	0.31
Clearance Time (s)	4.4	6.0	6.0	4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	154	1819	528	179	1900	1583	204	241	125	1106	1190	484
v/s Ratio Prot	0.05	c0.34		c0.07	0.21		0.10	0.04		c0.37	0.07	
v/s Ratio Perm			0.02			0.08			0.05			c0.18
v/c Ratio	0.55	0.94	0.07	0.68	0.57	0.08	0.79	0.49	0.60	1.07	0.23	0.58
Uniform Delay, d1	82.3	59.1	40.2	81.5	47.4	0.0	80.9	83.1	83.9	62.2	49.2	55.7
Progression Factor	1.01	0.99	1.39	0.96	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	10.4	0.2	8.1	1.2	0.1	18.8	1.9	8.1	47.7	0.2	2.7
Delay (s)	84.9	68.7	56.1	86.2	50.2	0.1	99.7	85.1	92.0	109.9	49.4	58.4
Level of Service	F	E	E	F	D	A	F	F	F	F	D	E
Approach Delay (s)		68.8			48.4			91.4			88.9	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	73.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	2370	102	164	416	179	152	304	530	422	208	42
Future Volume (vph)	59	2370	102	164	416	179	152	304	530	422	208	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	11	10	10	11	11	10	10	10
Total Lost time (s)	4.4	6.1	6.1	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.4	6.4
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4746	1478	1652	4916	1478	1652	3421	1531	3204	3303	1478
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4746	1478	1652	4916	1478	1652	3421	1531	3204	3303	1478
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	60	2418	104	167	424	183	155	310	541	431	212	43
RTOR Reduction (vph)	0	0	55	0	0	90	0	0	30	0	0	39
Lane Group Flow (vph)	60	2418	49	167	424	93	155	310	511	431	212	4
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	10.8	89.5	89.5	17.6	96.2	96.2	43.9	38.0	61.6	24.0	17.7	17.7
Effective Green, g (s)	10.8	89.5	89.5	17.6	96.2	96.2	43.9	38.0	61.6	24.0	17.7	17.7
Actuated g/C Ratio	0.06	0.47	0.47	0.09	0.51	0.51	0.23	0.20	0.32	0.13	0.09	0.09
Clearance Time (s)	4.4	6.1	6.1	4.4	6.2	6.2	4.4	6.0		4.4	6.4	6.4
Vehicle Extension (s)	2.0	4.3	4.3	2.0	4.2	4.2	3.0	3.5		2.0	3.2	3.2
Lane Grp Cap (vph)	93	2235	696	153	2489	748	381	684	496	404	307	137
v/s Ratio Prot	0.04	c0.51		c0.10	0.09		c0.09	0.09	c0.33	c0.13	0.06	
v/s Ratio Perm			0.03			0.06						0.00
v/c Ratio	0.65	1.08	0.07	1.09	0.17	0.12	0.41	0.45	1.03	1.07	0.69	0.03
Uniform Delay, d1	87.7	50.2	27.5	86.2	25.3	24.7	62.0	66.9	64.2	83.0	83.5	78.3
Progression Factor	1.28	0.61	0.67	1.31	1.00	2.59	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.2	43.5	0.1	98.8	0.1	0.3	0.7	0.6	48.5	63.7	6.6	0.1
Delay (s)	120.6	74.0	18.5	211.4	25.4	64.2	62.7	67.4	112.7	146.7	90.1	78.4
Level of Service	F	E	B	F	C	E	E	E	F	F	F	E
Approach Delay (s)		72.8			74.7			91.1			124.9	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	83.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	131	133	64	324	70	334	437	104	117	827	341
Future Volume (vph)	57	131	133	64	324	70	334	437	104	117	827	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2055		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2055		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	61	141	143	69	348	75	359	470	112	126	889	367
RTOR Reduction (vph)	0	0	92	0	5	0	0	0	43	0	0	60
Lane Group Flow (vph)	61	141	51	69	418	0	359	470	69	126	889	307
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	16.4	16.4	47.3	29.5	29.5		30.9	52.9	82.4	13.8	35.8	57.9
Effective Green, g (s)	16.4	16.4	47.3	29.5	29.5		30.9	52.9	82.4	13.8	35.8	57.9
Actuated g/C Ratio	0.12	0.12	0.35	0.22	0.22		0.23	0.40	0.62	0.10	0.27	0.43
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	202	213	542	365	454		396	1308	977	170	917	664
v/s Ratio Prot	0.04	c0.08	0.03	0.04	c0.20		c0.21	0.14	0.04	0.08	c0.26	0.20
v/s Ratio Perm												
v/c Ratio	0.30	0.66	0.09	0.19	0.92		0.91	0.36	0.07	0.74	0.97	0.46
Uniform Delay, d1	53.3	55.9	28.8	42.3	50.9		49.9	28.4	10.2	58.1	48.3	26.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	6.2	0.0	0.2	24.1		23.3	0.2	0.0	14.1	22.4	0.7
Delay (s)	53.8	62.1	28.8	42.5	75.0		73.2	28.6	10.3	72.2	70.7	27.5
Level of Service	D	E	C	D	E		E	C	B	E	E	C
Approach Delay (s)		46.8			70.4			43.4			59.3	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	55.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	133.5	Sum of lost time (s)	20.9
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	342	316	485	81	88	173	131	1027	79	104	677	69
Future Volume (veh/h)	342	316	485	81	88	173	131	1027	79	104	677	69
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1937	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	376	347	533	89	97	190	144	1129	87	114	744	76
Adj No. of Lanes	1	1	1	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	463	487	562	320	106	207	166	1212	828	129	1137	922
Arrive On Green	0.26	0.26	0.26	0.18	0.18	0.18	0.09	0.34	0.34	0.07	0.32	0.32
Sat Flow, veh/h	1774	1863	1583	1774	586	1148	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	376	347	533	89	0	287	144	1129	87	114	744	76
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1735	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	29.0	24.7	38.1	6.3	0.0	23.7	11.7	44.9	4.0	9.3	26.3	3.1
Cycle Q Clear(g_c), s	29.0	24.7	38.1	6.3	0.0	23.7	11.7	44.9	4.0	9.3	26.3	3.1
Prop In Lane	1.00		1.00	1.00		0.66	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	463	487	562	320	0	313	166	1212	828	129	1137	922
V/C Ratio(X)	0.81	0.71	0.95	0.28	0.00	0.92	0.87	0.93	0.11	0.88	0.65	0.08
Avail Cap(c_a), veh/h	463	487	562	353	0	345	203	1247	844	129	1137	922
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	48.9	45.7	51.6	0.0	58.7	65.2	46.3	17.6	67.0	42.5	13.4
Incr Delay (d2), s/veh	10.0	4.4	25.4	0.4	0.0	27.1	23.3	12.4	0.1	45.0	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	13.3	24.9	3.1	0.0	13.8	6.8	24.0	2.5	6.2	13.2	2.2
LnGrp Delay(d),s/veh	60.5	53.3	71.1	52.0	0.0	85.8	88.4	58.7	17.6	112.0	44.1	13.4
LnGrp LOS	E	D	E	D		F	F	E	B	F	D	B
Approach Vol, veh/h		1256			376			1360			934	
Approach Delay, s/veh		63.0			77.8			59.3			49.9	
Approach LOS		E			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.0	55.6		44.0	18.1	52.5		31.2
Change Period (Y+Rc), s	4.4	5.7		5.9	4.4	5.7		4.9
Max Green Setting (Gmax), s	10.6	51.4		38.1	16.7	45.3		29.0
Max Q Clear Time (g_c+I1), s	11.3	46.9		40.1	13.7	28.3		25.7
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	13.3		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	60.0
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1437	165	436	1394	279	204	57	682	932	233	174
Future Volume (vph)	24	1437	165	436	1394	279	204	57	682	932	233	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	1545	177	469	1499	300	219	61	733	1002	251	187
RTOR Reduction (vph)	0	0	108	0	0	107	0	0	50	0	0	48
Lane Group Flow (vph)	26	1545	69	469	1499	193	219	61	683	1002	251	139
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.2	40.5	40.5	18.5	55.5	96.4	13.4	35.6	59.1	35.6	57.5	67.0
Effective Green, g (s)	4.2	40.5	40.5	18.5	55.5	96.4	13.4	35.6	59.1	35.6	57.5	67.0
Actuated g/C Ratio	0.03	0.27	0.27	0.12	0.37	0.64	0.09	0.24	0.39	0.24	0.38	0.45
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	96	1372	427	423	1881	1791	306	839	1098	814	1356	707
v/s Ratio Prot	0.01	c0.30		c0.14	0.29	0.07	0.06	0.02	c0.25	c0.29	0.07	0.09
v/s Ratio Perm			0.04									
v/c Ratio	0.27	1.13	0.16	1.11	0.80	0.11	0.72	0.07	0.62	1.23	0.19	0.20
Uniform Delay, d1	71.4	54.8	41.8	65.8	42.2	10.3	66.4	44.4	36.5	57.2	30.7	25.2
Progression Factor	1.19	0.72	0.35	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	65.8	0.7	76.6	3.6	0.0	6.5	0.1	1.6	114.6	0.1	0.2
Delay (s)	85.4	105.3	15.3	142.4	45.8	10.3	72.9	44.5	38.1	171.8	30.8	25.4
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		95.9			61.1			46.0			128.2	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	83.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	860	1120	24	21	2230	102	19	3	10	52	2	930
Future Volume (vph)	860	1120	24	21	2230	102	19	3	10	52	2	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	11	10	12	12	11	11	15
Total Lost time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3433	5085	1583	3204	4746	1531	1652	1643		1625	1635	3065
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3433	5085	1583	3204	4746	1531	1652	1643		1625	1635	3065
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	905	1179	25	22	2347	107	20	3	11	55	2	979
RTOR Reduction (vph)	0	0	8	0	0	64	0	11	0	0	0	308
Lane Group Flow (vph)	905	1179	17	22	2347	43	20	3	0	29	28	671
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases			2			6						
Actuated Green, G (s)	41.7	99.3	99.3	2.7	60.4	60.4	4.5	4.5		22.9	22.9	70.1
Effective Green, g (s)	41.7	99.3	99.3	2.7	60.4	60.4	4.5	4.5		22.9	22.9	70.1
Actuated g/C Ratio	0.28	0.66	0.66	0.02	0.40	0.40	0.03	0.03		0.15	0.15	0.47
Clearance Time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8	4.8	2.0	5.4	5.4	2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	954	3366	1047	57	1911	616	49	49		248	249	1432
v/s Ratio Prot	c0.26	0.23		0.01	c0.49		c0.01	0.00		0.02	0.02	c0.22
v/s Ratio Perm			0.01			0.03						
v/c Ratio	0.95	0.35	0.02	0.39	1.23	0.07	0.41	0.07		0.12	0.11	0.47
Uniform Delay, d1	53.1	11.2	8.7	72.8	44.8	27.5	71.4	70.7		54.8	54.8	27.2
Progression Factor	0.88	1.26	1.00	1.17	0.84	0.48	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	16.5	0.3	0.0	1.1	106.1	0.2	2.0	0.2		0.2	0.2	0.2
Delay (s)	63.3	14.3	8.7	86.3	143.5	13.4	73.5	70.9		55.0	55.0	27.5
Level of Service	E	B	A	F	F	B	E	E		E	D	C
Approach Delay (s)		35.2			137.3			72.4			29.0	
Approach LOS		D			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	79.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1022	1854	88	19	1340	68	47	58	8	103	1	1173
Future Volume (vph)	1022	1854	88	19	1340	68	47	58	8	103	1	1173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	11	10	12	12	11	11	15
Total Lost time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3433	5085	1583	3204	4746	1531	1652	1827		1625	1631	3065
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3433	5085	1583	3204	4746	1531	1652	1827		1625	1631	3065
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1099	1994	95	20	1441	73	51	62	9	111	1	1261
RTOR Reduction (vph)	0	0	33	0	0	51	0	4	0	0	0	255
Lane Group Flow (vph)	1099	1994	62	20	1441	22	51	67	0	55	57	1006
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases			2			6						
Actuated Green, G (s)	47.5	94.0	94.0	2.4	49.0	49.0	10.3	10.3		32.7	32.7	85.7
Effective Green, g (s)	47.5	94.0	94.0	2.4	49.0	49.0	10.3	10.3		32.7	32.7	85.7
Actuated g/C Ratio	0.30	0.59	0.59	0.01	0.31	0.31	0.06	0.06		0.20	0.20	0.54
Clearance Time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8	4.8	2.0	5.4	5.4	2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	1019	2987	930	48	1453	468	106	117		332	333	1641
v/s Ratio Prot	c0.32	0.39		0.01	c0.30		0.03	c0.04		0.03	0.03	c0.33
v/s Ratio Perm			0.04			0.01						
v/c Ratio	1.08	0.67	0.07	0.42	0.99	0.05	0.48	0.57		0.17	0.17	0.61
Uniform Delay, d1	56.2	22.4	14.2	78.1	55.3	39.1	72.3	72.7		52.4	52.5	25.7
Progression Factor	0.93	1.04	1.23	1.03	1.14	2.08	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	49.2	1.0	0.1	2.1	21.5	0.2	1.3	4.2		0.2	0.2	0.6
Delay (s)	101.7	24.2	17.6	82.4	84.5	81.5	73.5	76.9		52.6	52.7	26.3
Level of Service	F	C	B	F	F	F	E	E		D	D	C
Approach Delay (s)		50.7			84.4			75.5			28.5	
Approach LOS		D			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	54.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	615	217	61	31	63	75	813	631	287	325	44
Future Volume (vph)	108	615	217	61	31	63	75	813	631	287	325	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.97			0.94		1.00	0.93		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3397			3260		1770	4752		1770	4995	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3397			3260		1770	4752		1770	4995	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	114	647	228	64	33	66	79	856	664	302	342	46
RTOR Reduction (vph)	0	18	0	0	60	0	0	91	0	0	11	0
Lane Group Flow (vph)	0	971	0	0	103	0	79	1429	0	302	377	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		36.1			11.5		9.8	36.1		19.6	45.5	
Effective Green, g (s)		36.1			11.5		9.8	36.1		19.6	45.5	
Actuated g/C Ratio		0.29			0.09		0.08	0.29		0.16	0.37	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		992			303		140	1389		280	1840	
v/s Ratio Prot		c0.29			c0.03		0.04	c0.30		c0.17	0.08	
v/s Ratio Perm												
v/c Ratio		0.98			0.34		0.56	1.20dr		1.08	0.21	
Uniform Delay, d1		43.3			52.4		54.8	43.7		52.0	26.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		23.5			1.6		3.7	31.9		76.3	0.1	
Delay (s)		66.8			54.1		58.5	75.6		128.2	26.7	
Level of Service		E			D		E	E		F	C	
Approach Delay (s)		66.8			54.1			74.8			71.1	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	70.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	20.6
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	143	2193	0	2727	190	970	351
Future Volume (vph)	143	2193	0	2727	190	970	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (prot)	3433	5085		5085	1583	3347	
Flt Permitted	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (perm)	3433	5085		5085	1583	3347	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	144	2215	0	2755	192	980	355
RTOR Reduction (vph)	0	0	0	0	2	24	0
Lane Group Flow (vph)	144	2215	0	2755	190	1311	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	92.5		81.4	143.6	56.8	
Effective Green, g (s)	7.6	92.5		81.4	143.6	56.8	
Actuated g/C Ratio	0.05	0.58		0.51	0.90	0.35	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	163	2939		2586	1420	1188	
v/s Ratio Prot	0.04	c0.44		c0.54	0.12	c0.39	
v/s Ratio Perm							
v/c Ratio	0.88	0.75		1.07	0.13	1.10	
Uniform Delay, d1	75.8	25.2		39.3	1.0	51.6	
Progression Factor	0.84	0.92		0.45	1.26	1.00	
Incremental Delay, d2	33.1	1.5		35.8	0.1	59.3	
Delay (s)	97.0	24.7		53.6	1.3	110.9	
Level of Service	F	C		D	A	F	
Approach Delay (s)		29.1		50.2		110.9	
Approach LOS		C		D		F	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	935	1170	25	22	2329	107	20	3	10	54	2	1092
Future Volume (vph)	935	1170	25	22	2329	107	20	3	10	54	2	1092
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	11	10	12	12	11	11	15
Total Lost time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3433	5085	1583	3204	4746	1531	1652	1643		1625	1635	3065
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3433	5085	1583	3204	4746	1531	1652	1643		1625	1635	3065
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	984	1232	26	23	2452	113	21	3	11	57	2	1149
RTOR Reduction (vph)	0	0	10	0	0	67	0	11	0	0	0	307
Lane Group Flow (vph)	984	1232	16	23	2452	46	21	3	0	30	29	842
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases			2			6						
Actuated Green, G (s)	34.7	93.7	93.7	2.4	61.5	61.5	4.5	4.5		28.8	28.8	69.0
Effective Green, g (s)	34.7	93.7	93.7	2.4	61.5	61.5	4.5	4.5		28.8	28.8	69.0
Actuated g/C Ratio	0.23	0.62	0.62	0.02	0.41	0.41	0.03	0.03		0.19	0.19	0.46
Clearance Time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8	4.8	2.0	5.4	5.4	2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	794	3176	988	51	1945	627	49	49		312	313	1409
v/s Ratio Prot	c0.29	0.24		0.01	c0.52		c0.01	0.00		0.02	0.02	c0.27
v/s Ratio Perm			0.01			0.03						
v/c Ratio	1.24	0.39	0.02	0.45	1.26	0.07	0.43	0.07		0.10	0.09	0.60
Uniform Delay, d1	57.6	13.9	10.7	73.1	44.2	26.9	71.5	70.7		49.9	49.9	30.2
Progression Factor	0.96	1.25	1.00	1.14	0.78	0.55	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	117.3	0.3	0.0	1.4	119.9	0.1	2.2	0.2		0.1	0.1	0.6
Delay (s)	172.5	17.8	10.7	84.8	154.4	15.0	73.7	70.9		50.0	50.0	30.8
Level of Service	F	B	B	F	F	B	E	E		D	D	C
Approach Delay (s)		85.6			147.7			72.6			31.7	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	101.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1201	1936	92	20	1400	71	49	61	8	108	1	1291
Future Volume (vph)	1201	1936	92	20	1400	71	49	61	8	108	1	1291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	11	10	12	12	11	11	15
Total Lost time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3433	5085	1583	3204	4746	1531	1652	1829		1625	1630	3065
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3433	5085	1583	3204	4746	1531	1652	1829		1625	1630	3065
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1291	2082	99	22	1505	76	53	66	9	116	1	1388
RTOR Reduction (vph)	0	0	34	0	0	53	0	4	0	0	0	253
Lane Group Flow (vph)	1291	2082	65	22	1505	23	53	71	0	58	59	1135
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases			2			6						
Actuated Green, G (s)	45.0	91.5	91.5	2.4	49.0	49.0	10.6	10.6		34.9	34.9	85.4
Effective Green, g (s)	45.0	91.5	91.5	2.4	49.0	49.0	10.6	10.6		34.9	34.9	85.4
Actuated g/C Ratio	0.28	0.57	0.57	0.01	0.31	0.31	0.07	0.07		0.22	0.22	0.53
Clearance Time (s)	4.4	5.8	5.8	4.4	5.7	5.7	4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8	4.8	2.0	5.4	5.4	2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	965	2907	905	48	1453	468	109	121		354	355	1635
v/s Ratio Prot	c0.38	0.41		0.01	c0.32		0.03	c0.04		0.04	0.04	c0.37
v/s Ratio Perm			0.04			0.02						
v/c Ratio	1.34	0.72	0.07	0.46	1.04	0.05	0.49	0.59		0.16	0.17	0.69
Uniform Delay, d1	57.5	24.8	15.3	78.2	55.5	39.1	72.1	72.6		50.7	50.7	27.6
Progression Factor	1.00	1.05	1.40	1.03	1.05	1.14	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	156.9	1.1	0.1	2.4	33.1	0.2	1.2	4.7		0.2	0.2	1.3
Delay (s)	214.1	27.2	21.4	83.3	91.5	44.6	73.3	77.2		50.9	50.9	28.9
Level of Service	F	C	C	F	F	D	E	E		D	D	C
Approach Delay (s)		96.5			89.2			75.6			30.6	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	79.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	173	821	3250	308	713	549
Future Volume (vph)	173	821	3250	308	713	549
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4639	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4639	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	177	838	3316	314	728	560
RTOR Reduction (vph)	0	0	1	47	0	1
Lane Group Flow (vph)	177	838	3346	236	728	559
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	7.6	108.0	96.2	96.2	31.0	43.6
Effective Green, g (s)	7.6	108.0	96.2	96.2	31.0	43.6
Actuated g/C Ratio	0.05	0.72	0.64	0.64	0.21	0.29
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	162	3417	2975	815	662	756
v/s Ratio Prot	c0.06	0.18	c0.72		c0.23	0.22
v/s Ratio Perm				0.19		
v/c Ratio	1.09	0.25	1.12	0.29	1.10	0.74
Uniform Delay, d1	71.2	7.1	26.9	11.8	59.5	48.1
Progression Factor	0.88	1.43	1.20	0.87	1.00	1.00
Incremental Delay, d2	96.9	0.2	59.6	0.6	65.4	3.3
Delay (s)	159.8	10.4	92.0	10.9	124.9	51.4
Level of Service	F	B	F	B	F	D
Approach Delay (s)		36.5	85.7		92.9	
Approach LOS		D	F		F	

Intersection Summary			
HCM 2000 Control Delay	78.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	103.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	2797	162	128	1684	41	305	55	308	84	44	36
Future Volume (vph)	44	2797	162	128	1684	41	305	55	308	84	44	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.98	
Satd. Flow (prot)	1770	5085	1583	3433	5067		1681	1559	1504		1762	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.98	
Satd. Flow (perm)	1770	5085	1583	3433	5067		1681	1559	1504		1762	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	2944	171	135	1773	43	321	58	324	88	46	38
RTOR Reduction (vph)	0	0	34	0	1	0	0	18	94	0	6	0
Lane Group Flow (vph)	46	2944	137	135	1815	0	244	221	126	0	166	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	7.1	89.0	89.0	9.4	90.9		27.7	27.7	27.7		14.5	
Effective Green, g (s)	7.1	89.0	89.0	9.4	90.9		27.7	27.7	27.7		14.5	
Actuated g/C Ratio	0.04	0.56	0.56	0.06	0.57		0.17	0.17	0.17		0.09	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	78	2828	880	201	2878		291	269	260		159	
v/s Ratio Prot	0.03	c0.58		c0.04	0.36		c0.15	0.14			c0.09	
v/s Ratio Perm			0.09						0.08			
v/c Ratio	0.59	1.04	0.16	0.67	0.63		0.84	0.82	0.48		1.04	
Uniform Delay, d1	75.0	35.5	17.2	73.8	23.3		64.0	63.8	59.7		72.8	
Progression Factor	1.16	0.86	0.60	0.60	2.26		1.00	1.00	1.00		1.00	
Incremental Delay, d2	5.2	26.6	0.3	5.6	0.9		17.9	17.1	0.5		82.8	
Delay (s)	92.4	56.9	10.7	49.6	53.4		81.9	80.9	60.2		155.6	
Level of Service	F	E	B	D	D		F	F	E		F	
Approach Delay (s)		55.0			53.1			74.7			155.6	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	59.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	1018	503	9	2532	117	940	336	9	195	301	134
Future Volume (vph)	44	1018	503	9	2532	117	940	336	9	195	301	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	11	10	13	12	12	10	11	12	10	12	12
Storage Length (ft)	125		200	95		0	165		0	210		0
Storage Lanes	1		1	1		0	2		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.86	0.86	0.95	0.97	0.95	0.95
Frt			0.850		0.993			0.998			0.954	
Flt Protected	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (prot)	1947	4916	1478	1829	5050	0	2841	3020	0	3204	3376	0
Flt Permitted	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (perm)	1947	4916	1478	1829	5050	0	2841	3020	0	3204	3376	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157		6			1			38	
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		1065			501			900			779	
Travel Time (s)		16.1			7.6			15.3			11.8	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	45	1039	513	9	2584	119	959	343	9	199	307	137
Shared Lane Traffic (%)							32%					
Lane Group Flow (vph)	45	1039	513	9	2703	0	652	659	0	199	444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		15			15			20			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	0.88	1.04	1.09	0.96	1.00	1.00	1.09	1.04	1.00	1.09	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	5	2	2 8	1	6		8	8		7	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0		4.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	39.7		8.4	40.1		42.9	42.9		22.5	22.5	
Total Split (s)	9.5	76.2		8.4	75.1		42.9	42.9		22.5	22.5	
Total Split (%)	6.3%	50.8%		5.6%	50.1%		28.6%	28.6%		15.0%	15.0%	
Maximum Green (s)	5.1	70.5		4.0	69.3		36.9	36.9		16.7	16.7	
Yellow Time (s)	3.4	4.7		3.4	4.8		5.0	5.0		4.8	4.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		5.0	5.0				
Flash Dont Walk (s)		27.0			20.0		24.0	24.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.1	75.5	116.2	4.0	71.2		36.9	36.9		16.7	16.7	
Actuated g/C Ratio	0.03	0.50	0.77	0.03	0.47		0.25	0.25		0.11	0.11	
v/c Ratio	0.68	0.42	0.44	0.19	1.13		0.93	0.89		0.56	1.09	
Control Delay	107.5	42.8	15.0	94.7	92.9		76.4	69.3		69.8	124.5	
Queue Delay	0.0	0.0	0.0	0.0	0.2		0.0	0.0		0.0	0.0	
Total Delay	107.5	42.8	15.0	94.7	93.1		76.4	69.3		69.8	124.5	
LOS	F	D	B	F	F		E	E		E	F	
Approach Delay		35.7			93.1			72.8			107.5	
Approach LOS		D			F			E			F	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 136 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 75.7 Intersection LOS: E
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 34: Kearny Villa Rd & Miramar Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2230	1071	36	1193	163	569	444	32	278	571	49
Future Volume (vph)	57	2230	1071	36	1193	163	569	444	32	278	571	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4993		2841	3053		3204	3498	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4993		2841	3053		3204	3498	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	58	2253	1082	36	1205	165	575	448	32	281	577	49
RTOR Reduction (vph)	0	0	16	0	11	0	0	2	0	0	4	0
Lane Group Flow (vph)	58	2253	1066	36	1359	0	517	536	0	281	622	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.5	71.7	108.6	3.3	67.4		36.9	36.9		26.2	26.2	
Effective Green, g (s)	7.5	71.7	108.6	3.3	67.4		36.9	36.9		26.2	26.2	
Actuated g/C Ratio	0.05	0.45	0.68	0.02	0.42		0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	91	2202	1003	37	2103		655	704		524	572	
v/s Ratio Prot	c0.03	0.46	c0.72	0.02	0.27		0.18	0.18		0.09	c0.18	
v/s Ratio Perm												
v/c Ratio	0.64	1.02	1.06	0.97	0.65		0.79	0.76		0.54	1.09	
Uniform Delay, d1	74.9	44.1	25.7	78.3	36.8		57.9	57.4		61.3	66.9	
Progression Factor	1.22	0.69	0.54	1.15	0.71		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	21.6	41.6	130.1	1.4		6.3	4.9		1.1	63.5	
Delay (s)	100.5	52.0	55.4	219.9	27.7		64.2	62.3		62.4	130.4	
Level of Service	F	D	E	F	C		E	E		E	F	
Approach Delay (s)		53.9			32.6			63.2			109.3	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	58.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	20	201	2	183	7	1764	116	98	925	4
Future Volume (vph)	15	5	20	201	2	183	7	1764	116	98	925	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	5.3
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1705		1681	1525		1770	3539	1583	1770	3539	1583
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1705		1681	1525		1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	17	6	23	234	2	213	8	2051	135	114	1076	5
RTOR Reduction (vph)	0	22	0	0	174	0	0	0	46	0	0	2
Lane Group Flow (vph)	0	24	0	211	64	0	8	2051	89	114	1076	3
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)		5.1		19.4	19.4		0.7	55.6	55.6	6.7	61.6	61.6
Effective Green, g (s)		5.1		19.4	19.4		0.7	55.6	55.6	6.7	61.6	61.6
Actuated g/C Ratio		0.05		0.18	0.18		0.01	0.52	0.52	0.06	0.58	0.58
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	5.3
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	4.4
Lane Grp Cap (vph)		81		305	277		11	1844	824	111	2043	913
v/s Ratio Prot		c0.01		c0.13	0.04		0.00	c0.58		c0.06	0.30	
v/s Ratio Perm									0.06			0.00
v/c Ratio		0.30		0.69	0.23		0.73	1.11	0.11	1.03	0.53	0.00
Uniform Delay, d1		49.1		40.9	37.3		52.9	25.6	13.0	50.0	13.7	9.5
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8		7.5	0.7		110.3	58.8	0.1	92.9	0.4	0.0
Delay (s)		49.8		48.4	38.0		163.2	84.4	13.1	142.9	14.1	9.6
Level of Service		D		D	D		F	F	B	F	B	A
Approach Delay (s)		49.8			42.9			80.3			26.3	
Approach LOS		D			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	59.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	106.7	Sum of lost time (s)	19.9
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	138	355	305	219	1155	461
Future Volume (vph)	138	355	305	219	1155	461
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3388	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3388	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	147	378	324	233	1229	490
RTOR Reduction (vph)	0	303	0	0	28	0
Lane Group Flow (vph)	147	75	324	233	1691	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.5	12.5	29.8	106.7	71.4	
Effective Green, g (s)	12.5	12.5	29.8	106.7	71.4	
Actuated g/C Ratio	0.10	0.10	0.23	0.82	0.55	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	330	152	405	2904	1860	
v/s Ratio Prot	0.04		c0.18	0.07	c0.50	
v/s Ratio Perm		c0.05				
v/c Ratio	0.45	0.49	0.80	0.08	0.91	
Uniform Delay, d1	55.5	55.8	47.3	2.2	26.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.9	10.2	0.1	8.1	
Delay (s)	55.8	56.7	57.5	2.3	34.5	
Level of Service	E	E	E	A	C	
Approach Delay (s)	56.4			34.4	34.5	
Approach LOS	E			C	C	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	164	399	339	219	1155	483
Future Volume (vph)	164	399	339	219	1155	483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3383	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3383	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	174	424	361	233	1229	514
RTOR Reduction (vph)	0	295	0	0	34	0
Lane Group Flow (vph)	174	129	361	233	1709	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	15.7	15.7	33.6	103.5	64.4	
Effective Green, g (s)	15.7	15.7	33.6	103.5	64.4	
Actuated g/C Ratio	0.12	0.12	0.26	0.80	0.50	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	414	191	457	2817	1675	
v/s Ratio Prot	0.05		c0.20	0.07	c0.51	
v/s Ratio Perm		c0.08				
v/c Ratio	0.42	0.68	0.79	0.08	1.02	
Uniform Delay, d1	52.9	54.7	44.9	2.9	32.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	7.3	8.2	0.1	27.3	
Delay (s)	53.2	62.0	53.1	2.9	60.1	
Level of Service	D	E	D	A	E	
Approach Delay (s)	59.4			33.4	60.1	
Approach LOS	E			C	E	

Intersection Summary			
HCM 2000 Control Delay	54.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	0	68	2	2	3	596	493	6	0	1236	280
Future Volume (vph)	30	0	68	2	2	3	596	493	6	0	1236	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3441	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3441	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	0	73	2	2	3	641	530	6	0	1329	301
RTOR Reduction (vph)	0	0	70	0	3	0	0	0	1	0	24	0
Lane Group Flow (vph)	16	16	3	0	4	0	641	530	5	0	1606	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Effective Green, g (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.33	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		702	2728	1220		1120	
v/s Ratio Prot	c0.01	0.01			c0.00		c0.36	0.15			c0.47	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.22	0.22	0.05		0.27		0.91	0.19	0.00		1.43	
Uniform Delay, d1	41.5	41.5	41.2		44.3		25.7	2.8	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.93	0.78	1.00		1.00	
Incremental Delay, d2	0.5	0.5	0.1		3.5		14.8	0.1	0.0		200.6	
Delay (s)	42.0	42.0	41.3		47.8		38.6	2.3	2.4		230.9	
Level of Service	D	D	D		D		D	A	A		F	
Approach Delay (s)		41.5			47.8			22.1			230.9	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	139.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	0	68	2	2	3	596	496	6	0	1240	280
Future Volume (vph)	30	0	68	2	2	3	596	496	6	0	1240	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3441	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3441	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	0	73	2	2	3	641	533	6	0	1333	301
RTOR Reduction (vph)	0	0	70	0	3	0	0	0	1	0	24	0
Lane Group Flow (vph)	16	16	3	0	4	0	641	533	5	0	1610	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Effective Green, g (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.33	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		702	2728	1220		1120	
v/s Ratio Prot	c0.01	0.01			c0.00		c0.36	0.15			c0.47	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.22	0.22	0.05		0.27		0.91	0.20	0.00		1.44	
Uniform Delay, d1	41.5	41.5	41.2		44.3		25.7	2.8	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.93	0.78	1.00		1.00	
Incremental Delay, d2	0.5	0.5	0.1		3.5		14.8	0.1	0.0		202.2	
Delay (s)	42.0	42.0	41.3		47.8		38.6	2.3	2.4		232.5	
Level of Service	D	D	D		D		D	A	A		F	
Approach Delay (s)		41.5			47.8			22.0			232.5	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	140.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	4	720	9	2	5	86	1288	11	5	1016	73
Future Volume (vph)	342	4	720	9	2	5	86	1288	11	5	1016	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3504	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3504	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	353	4	742	9	2	5	89	1328	11	5	1047	75
RTOR Reduction (vph)	0	0	99	0	5	0	0	0	7	0	4	0
Lane Group Flow (vph)	180	177	643	0	11	0	89	1328	4	5	1118	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	53.7	53.7	53.7		1.6		8.9	48.7	48.7	0.8	40.6	
Effective Green, g (s)	53.7	53.7	53.7		1.6		8.9	48.7	48.7	0.8	40.6	
Actuated g/C Ratio	0.43	0.43	0.43		0.01		0.07	0.39	0.39	0.01	0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	722	724	680		22		126	1378	616	11	1138	
v/s Ratio Prot	0.11	0.10			c0.01		c0.05	c0.38		0.00	0.32	
v/s Ratio Perm			c0.41						0.00			
v/c Ratio	0.25	0.24	0.95		0.50		0.71	0.96	0.01	0.45	0.98	
Uniform Delay, d1	22.8	22.7	34.3		61.3		56.8	37.3	23.4	61.9	41.8	
Progression Factor	1.00	1.00	1.00		1.00		0.67	1.22	1.00	0.99	0.96	
Incremental Delay, d2	0.1	0.1	21.8		6.4		8.0	11.5	0.0	10.3	22.6	
Delay (s)	22.8	22.8	56.1		67.7		46.0	56.9	23.4	71.7	62.7	
Level of Service	C	C	E		E		D	E	C	E	E	
Approach Delay (s)		45.3			67.7			55.9			62.7	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	4	720	9	2	5	86	1288	11	5	1016	73
Future Volume (vph)	342	4	720	9	2	5	86	1288	11	5	1016	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3504	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3504	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	353	4	742	9	2	5	89	1328	11	5	1047	75
RTOR Reduction (vph)	0	0	99	0	5	0	0	0	7	0	4	0
Lane Group Flow (vph)	180	177	643	0	11	0	89	1328	4	5	1118	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	53.7	53.7	53.7		1.6		8.9	48.7	48.7	0.8	40.6	
Effective Green, g (s)	53.7	53.7	53.7		1.6		8.9	48.7	48.7	0.8	40.6	
Actuated g/C Ratio	0.43	0.43	0.43		0.01		0.07	0.39	0.39	0.01	0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	722	724	680		22		126	1378	616	11	1138	
v/s Ratio Prot	0.11	0.10			c0.01		c0.05	c0.38		0.00	0.32	
v/s Ratio Perm			c0.41						0.00			
v/c Ratio	0.25	0.24	0.95		0.50		0.71	0.96	0.01	0.45	0.98	
Uniform Delay, d1	22.8	22.7	34.3		61.3		56.8	37.3	23.4	61.9	41.8	
Progression Factor	1.00	1.00	1.00		1.00		0.61	1.26	1.00	0.99	0.96	
Incremental Delay, d2	0.1	0.1	21.8		6.4		1.3	2.7	0.0	10.3	22.6	
Delay (s)	22.8	22.8	56.1		67.7		36.0	49.7	23.4	71.7	62.7	
Level of Service	C	C	E		E		D	D	C	E	E	
Approach Delay (s)		45.3			67.7			48.6			62.7	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	48	0	291	10	1020	181	1001	682	10
Future Volume (vph)	0	13	1	48	0	291	10	1020	181	1001	682	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3459		1770	3532	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3459		1770	3532	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	49	0	300	10	1052	187	1032	703	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	12	0	0	0	0
Lane Group Flow (vph)	0	13	0	0	49	294	10	1227	0	1032	713	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		14.0			14.0	83.5	1.3	32.1		64.6	95.4	
Effective Green, g (s)		14.0			14.0	83.5	1.3	32.1		64.6	95.4	
Actuated g/C Ratio		0.11			0.11	0.67	0.01	0.26		0.52	0.76	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		206			156	1057	18	888		914	2695	
v/s Ratio Prot		0.01				c0.19	0.01	c0.35		c0.58	0.20	
v/s Ratio Perm					0.04							
v/c Ratio		0.06			0.31	0.28	0.56	1.38		1.13	0.26	
Uniform Delay, d1		49.6			51.1	8.5	61.6	46.5		30.2	4.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.72	0.62	
Incremental Delay, d2		0.0			0.4	0.1	19.4	178.9		64.2	0.1	
Delay (s)		49.7			51.5	8.5	80.9	225.3		86.1	2.8	
Level of Service		D			D	A	F	F		F	A	
Approach Delay (s)		49.7			14.6			224.2			52.1	
Approach LOS		D			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	112.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	48	0	292	10	1024	181	1001	685	10
Future Volume (vph)	0	13	1	48	0	292	10	1024	181	1001	685	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3459		1770	3532	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3459		1770	3532	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	49	0	301	10	1056	187	1032	706	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	12	0	0	0	0
Lane Group Flow (vph)	0	13	0	0	49	295	10	1231	0	1032	716	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		14.1			14.1	83.5	1.3	32.1		64.5	95.3	
Effective Green, g (s)		14.1			14.1	83.5	1.3	32.1		64.5	95.3	
Actuated g/C Ratio		0.11			0.11	0.67	0.01	0.26		0.52	0.76	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		208			157	1057	18	888		913	2692	
v/s Ratio Prot		0.01				c0.19	0.01	c0.36		c0.58	0.20	
v/s Ratio Perm					0.04							
v/c Ratio		0.06			0.31	0.28	0.56	1.39		1.13	0.27	
Uniform Delay, d1		49.5			51.0	8.5	61.6	46.5		30.2	4.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.72	0.62	
Incremental Delay, d2		0.0			0.4	0.1	19.4	180.9		64.7	0.1	
Delay (s)		49.6			51.4	8.5	80.9	227.3		86.7	2.8	
Level of Service		D			D	A	F	F		F	A	
Approach Delay (s)		49.6			14.5			226.1			52.3	
Approach LOS		D			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	113.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

3Roots
Transportation Impact Analysis
Technical Appendices

Prepared for:
Mesa Community Partners, LLC

Revised: October 25, 2018

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INTERNATIONAL

Appendix A
Ramp Meter Discharge Rates

Location (I.D.)	Route	Dir	Period	Cars per green	Sec./ Cycle	(per lane) Veh./hr	Total # lanes	HOV
EB Miramar Rd (11901)	15	NB	1400 - 1900	2	9.4 - 16.7	768 - 432	2	No
EB Miramar Rd (11904)	15	SB	0530 - 0930	2	7.5 - 13.8	960 - 523	3	Lt
			1500 - 1900		7.2 - 12.9	996 - 559		
Miramar Rd (73)	805	SB	1430 - 1900	2	10.2	704	2	Lt
WB Miramar Rd (171)	805	NB	0530 - 0930	2	6.3 - 8.9	1,140 - 804	2	Lt
Nobel Dr (300)	805	SB	1430 - 1900	1	12.5 - 16.2	288 - 222	3	Lt

The meters normally operate in a traffic responsive mode.
There are usually 15 separate rates or steps between the slowest and the fastest discharge rate that depend on the mainlane volumes.

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Appendix B
Camino Santa Fe Road Diet
Fact Sheet

CAMINO SANTA FE CLASS II BICYCLE LANES/ROAD DIET

FACT SHEET

Location

Camino Santa Fe between Carroll Road and Summers Ridge Road (see Figure 1). This segment lies within the Mira Mesa Community in Council District 6.

Project Overview

As an operational pilot project, Camino Santa Fe between Summers Ridge Rd and Carroll Rd will be restriped to allow for Class II Buffered Bicycle Lanes. The installation of bike lanes would require the removal of a travel lane (road diet) on Camino Santa Fe between Carroll Rd and Carroll Canyon Rd in the northbound and southbound directions. The existing and proposed lane configuration is shown below (see Figure 2). This project will be implemented in coordination with the City's Pavement Preservation Program.

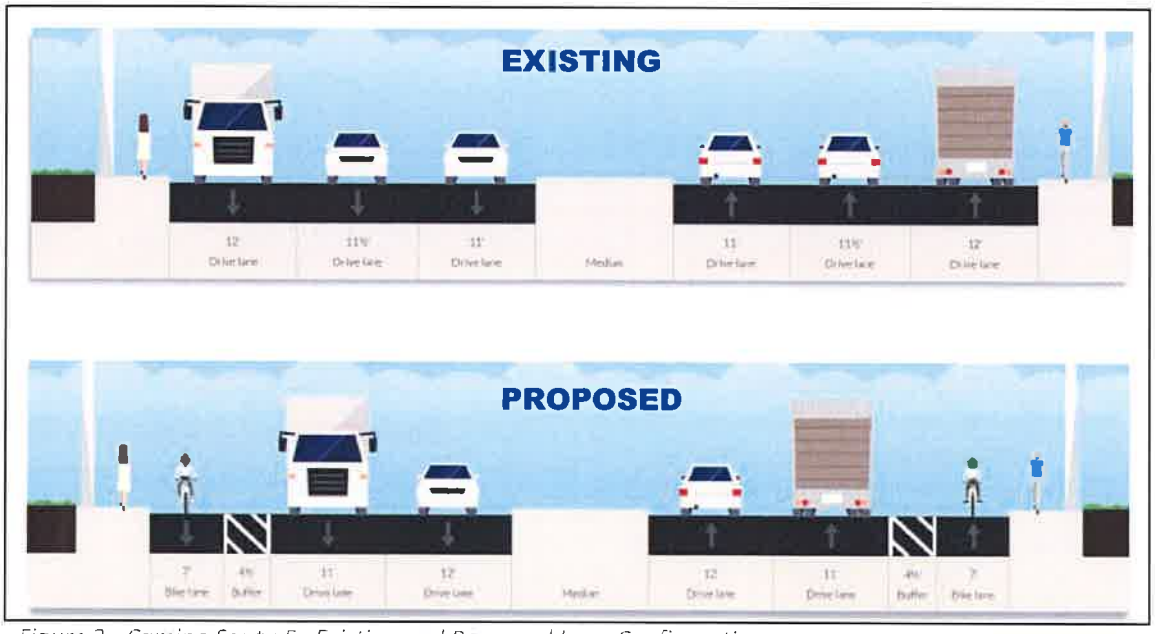


Figure 2 - Camino Santa Fe Existing and Proposed Lane Configuration

The Need

Collected data indicates a demand for bicycle ridership along this segment*. The implementation of Class II Bicycle Lanes would help fulfill the goals and objectives of the Bicycle Master Plan which creates a safe and comprehensive local and regional bikeway network.

Background

Camino Santa Fe between Carroll Rd and Summers Ridge Rd is currently classified as a six lane major roadway in the Mira Mesa Community Plan. The Community Plan also identifies a Class II Bicycle facility to be implemented on this roadway. Between Carroll Canyon Road (future) and Carroll Rd, the current roadway cross section does not have the necessary width for six lanes of motor vehicle traffic and class II bicycle facilities. A road diet will be necessary to implement class II bicycle facilities within the existing cross section. The segment immediately south of Carroll Rd is striped as a four lane major roadway.

(Continued on reverse)

Figure 1 - Project Location

Impacts

Camino Santa Fe will continue to operate at an acceptable Level of Service (LOS) with the proposed road diet. Projected future volumes indicate a drop in LOS as shown in Table 1. Should projected volumes be realized, striping this segment back to a six lane facility may be considered.

Table 1: Existing and Future LOS on Camino Santa Fe between Carroll Rd and Carroll Canyon Rd

		Existing 6 lane Major LOS	Proposed 4 Lane Major LOS
Existing ADT (11/5/2013)	20,900	B	B
Future ADT (2035)**	32,600	C	D

*Source: Strava Labs Global Heat Map

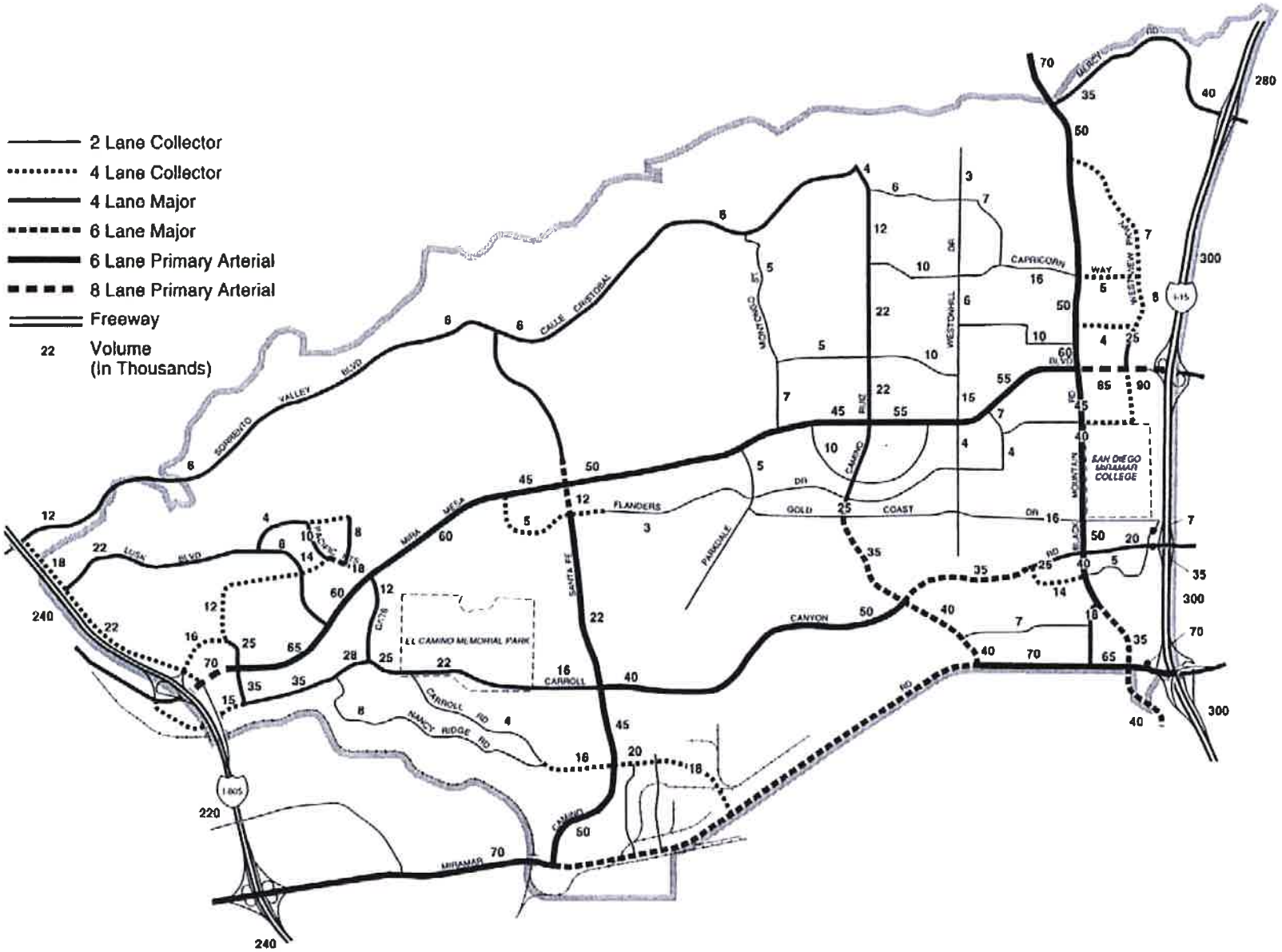
**Source: SANDAG's "Traffic Forecast Information Center", Series 12, adjusted volumes.

Status

This section of roadway is part of the City's Slurry Seal Group 1501 contract and is scheduled to be resurfaced by December 2015 and the proposed striping plan would follow.

More Information

Contact The City of San Diego Transportation Engineering Operations, Bicycle Program, at (619)533-3126.

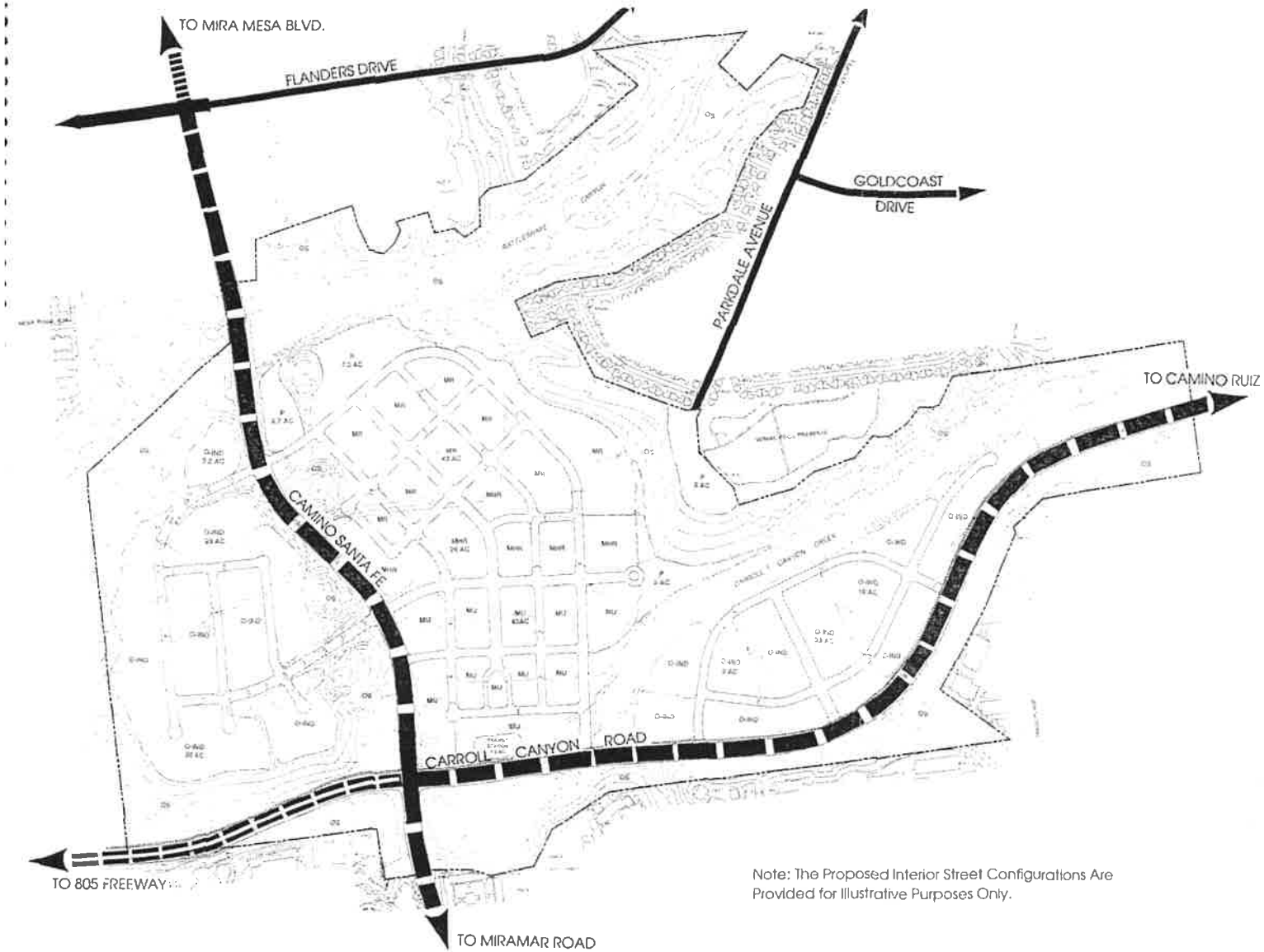


Horizon Year Average Daily Traffic and Recommended Street Classifications

Mira Mesa Community Plan

10 FIGURE

CIRCULATION PLAN



LEGEND

- EXISTING 2 LANE COLLECTOR
- EXISTING 4 LANE COLLECTOR
- EXISTING 6 LANE MAJOR
- PROPOSED 4 LANE MAJOR
- PROPOSED 6 LANE PRIMARY ARTERIAL

Note: The Proposed Interior Street Configurations Are Provided for Illustrative Purposes Only.

FIGURE 13

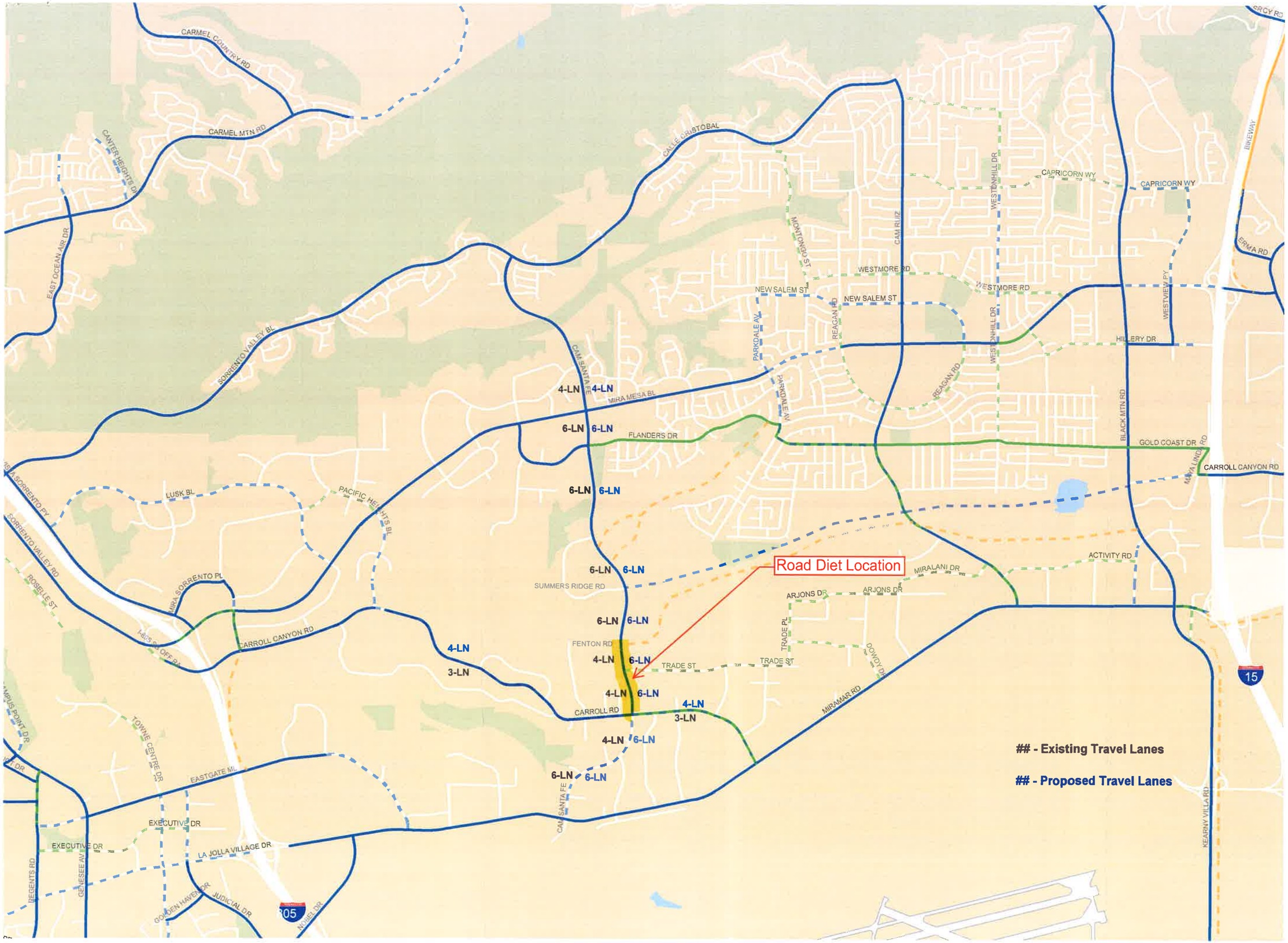
CARROLL CANYON

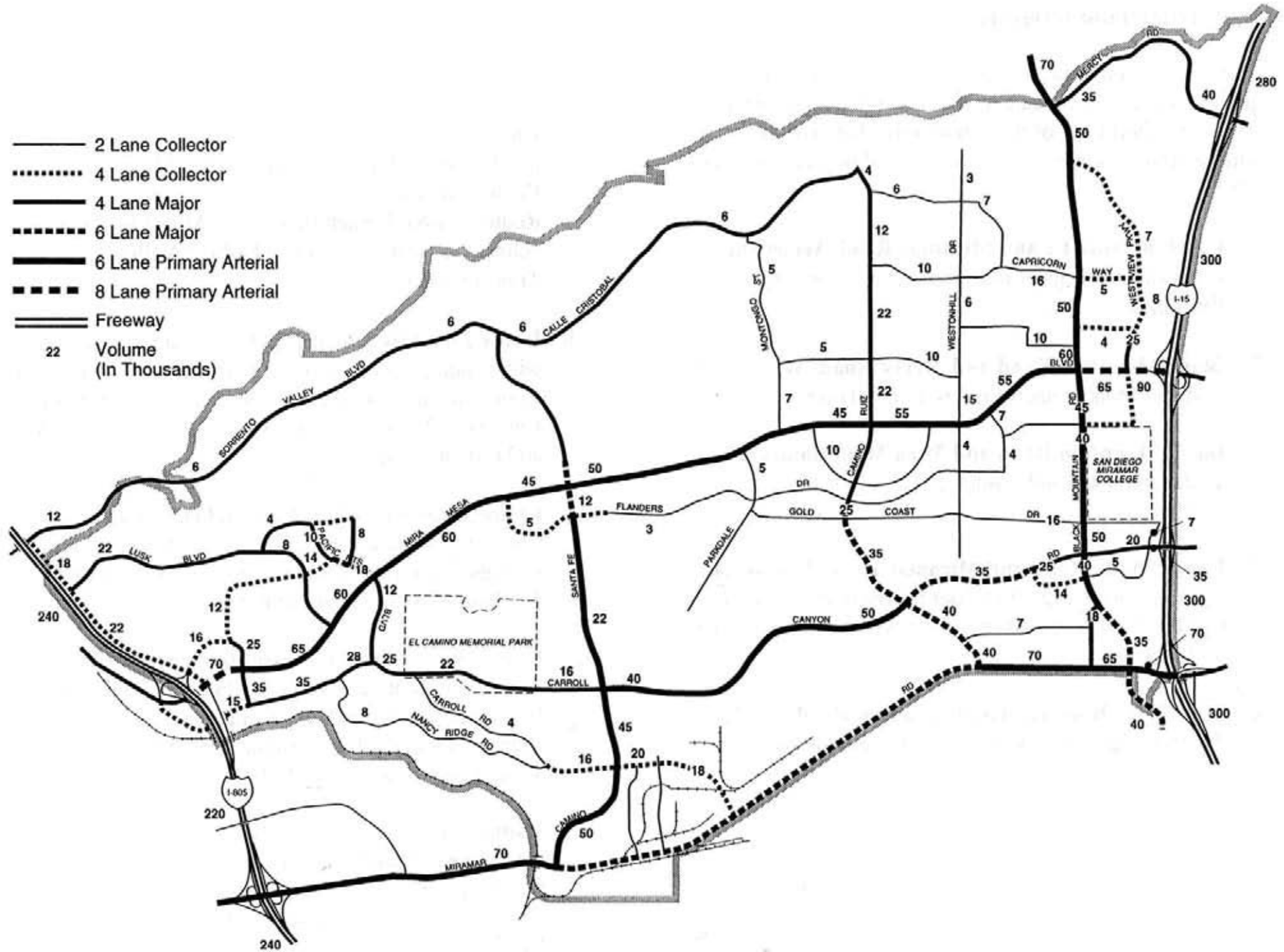
Prepared for: H.G.FENTON MATERIAL CO. 7220 TRADE ST STE. 300 SAN DIEGO, CA 92121

hydroseed mix

T&B Planning Consultants
3242 HALLADAY, SUITE 100
SANTA ANA, CALIF. 92705 (714) 662 2774
5879 OBERLIN DRIVE, SUITE 203
SAN DIEGO, CALIF. 92121 (619) 546 8366

SAN DIEGO BICYCLE MASTER PLAN (SDBMP) NETWORK



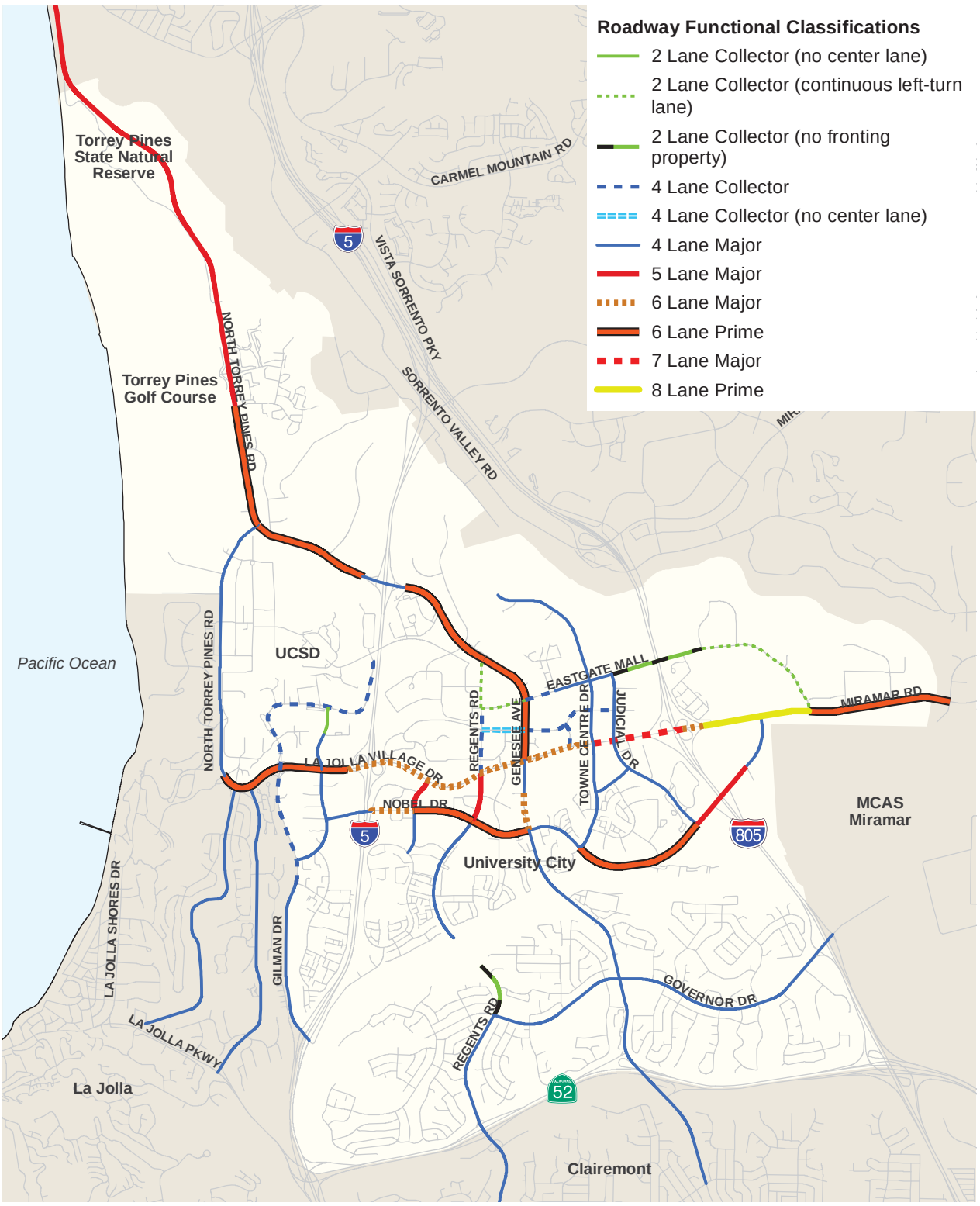


Horizon Year Average Daily Traffic and Recommended Street Classifications

Mira Mesa Community Plan

10 FIGURE

FIGURE 4-3



Roadway Functional Classifications

ROADWAY SEGMENT CAPACITY LEVEL OF SERVICE ANALYSIS

In order to determine the operations along the study area roadway segments, capacity thresholds and associated LOS have been developed by the City of San Diego and is used as a reference. **Table 3-9** presents this information. The segment traffic volumes under LOS E as shown in this table are considered to be the capacity of the roadway. It should be noted that the values listed in the table are planning-level estimates only. The actual operations of a roadway segment would be affected by the type and frequency of traffic control, terrain, lane width, percent of heavy vehicles, and other factors.

Table 3-9 City of San Diego Roadway Segment Capacity and LOS Summary

Road Class	Lanes	Cross Section[1]	A	B	C	D	E
Freeway	8		60,000	84,000	120,000	140,000	150,000
Freeway	6		45,000	63,000	90,000	110,000	120,000
Freeway	4		30,000	42,000	60,000	70,000	80,000
Expressway	6	102/122	30,000	42,000	60,0000	70,000	80,000
Prime Arterial*	8		35,000	50,000	70,000	75,000	80,000
Prime Arterial	6	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial*	7		22,500	31,500	45,000	50,000	55,000
Major Arterial	6	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial*	5		17,500	24,500	35,000	40,000	45,000
Major Arterial	4	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4	72/92	10,000	14,000	20,000	25,000	30,000
Collector (continuous left-turn lane)*	3		7,500	10,500	15,000	18,750	22,500
Collector(No center lane) (continuous left-turn lane)	4 2	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (No fronting property)	2	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2	50/70	2,500	3,500	5,00	6,500	8,000
Collector (multifamily)	2	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2	36/56	---	---	2,200	---	---

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline.

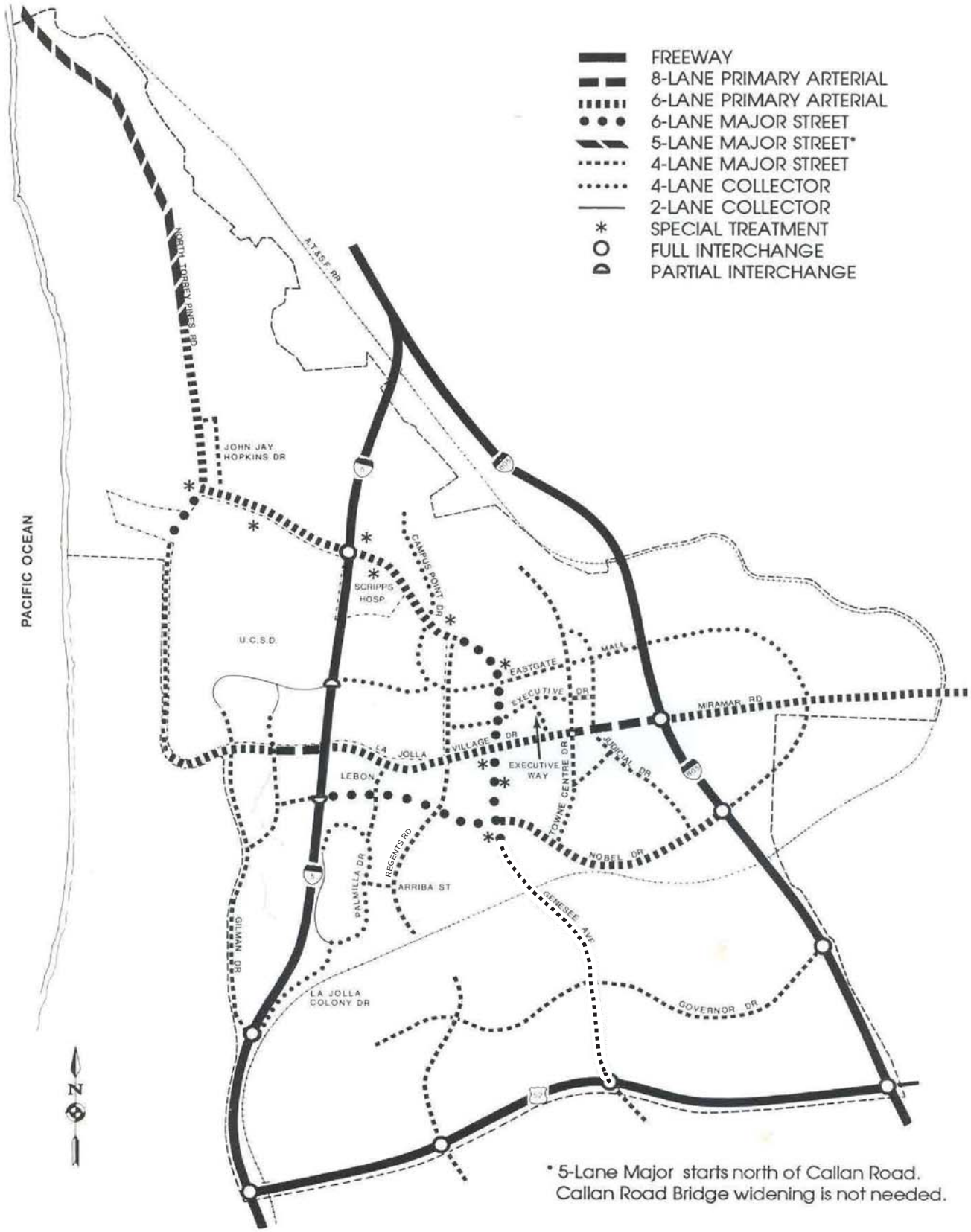
Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

[1]Cross Section: Curb to Curb width (feet)/Right-of-way width (feet)

Sources:

City of San Diego Traffic Impact Study Manual, Table 2, Page 8, July 1998.

*City of San Diego Planning Department Mobility Staff Input



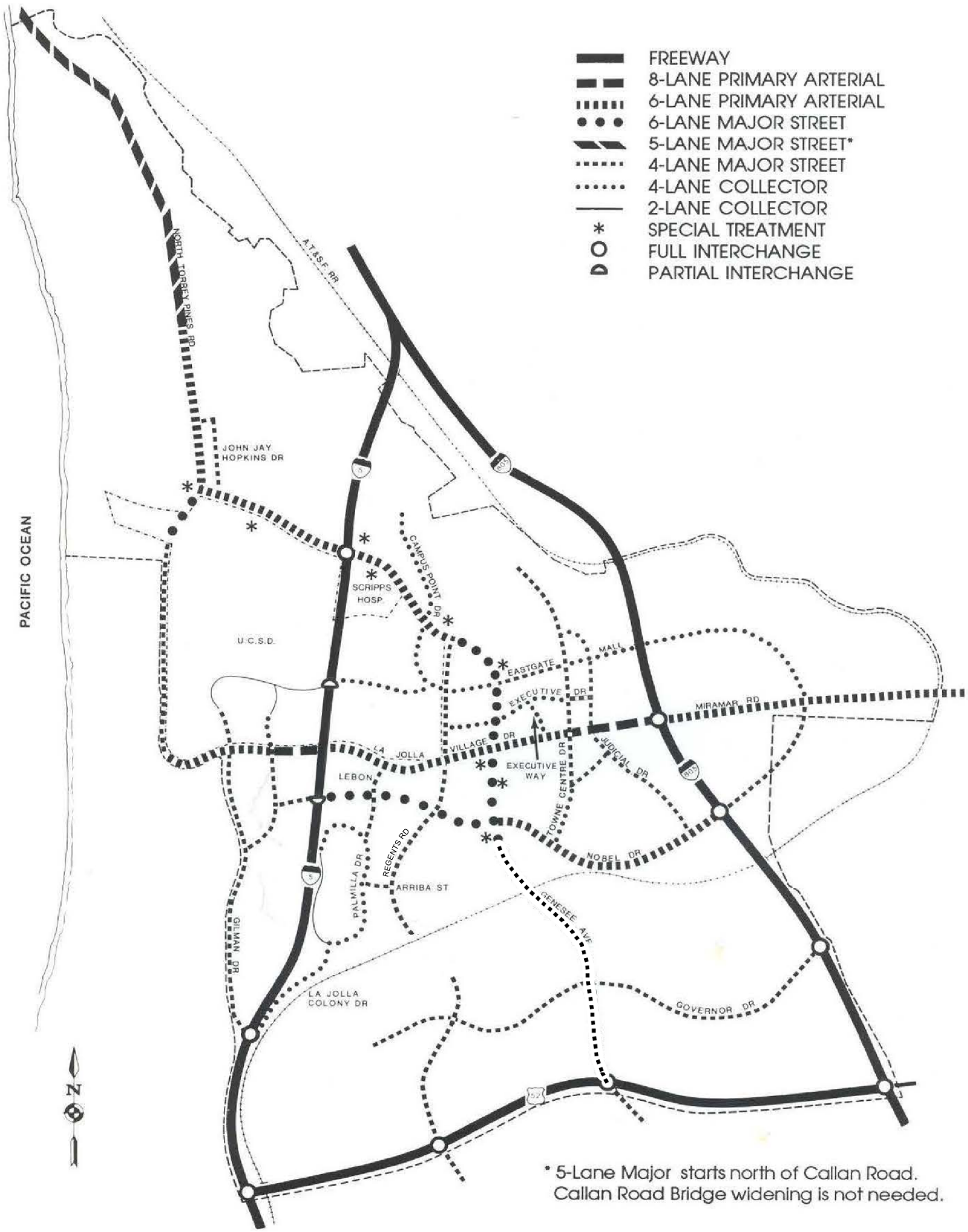
Recommeded Street Network (Based on Community Plan Build-Out Land Uses/Development Intesities)

University Community Plan

20
FIGURE

Michael Baker
INTERNATIONAL

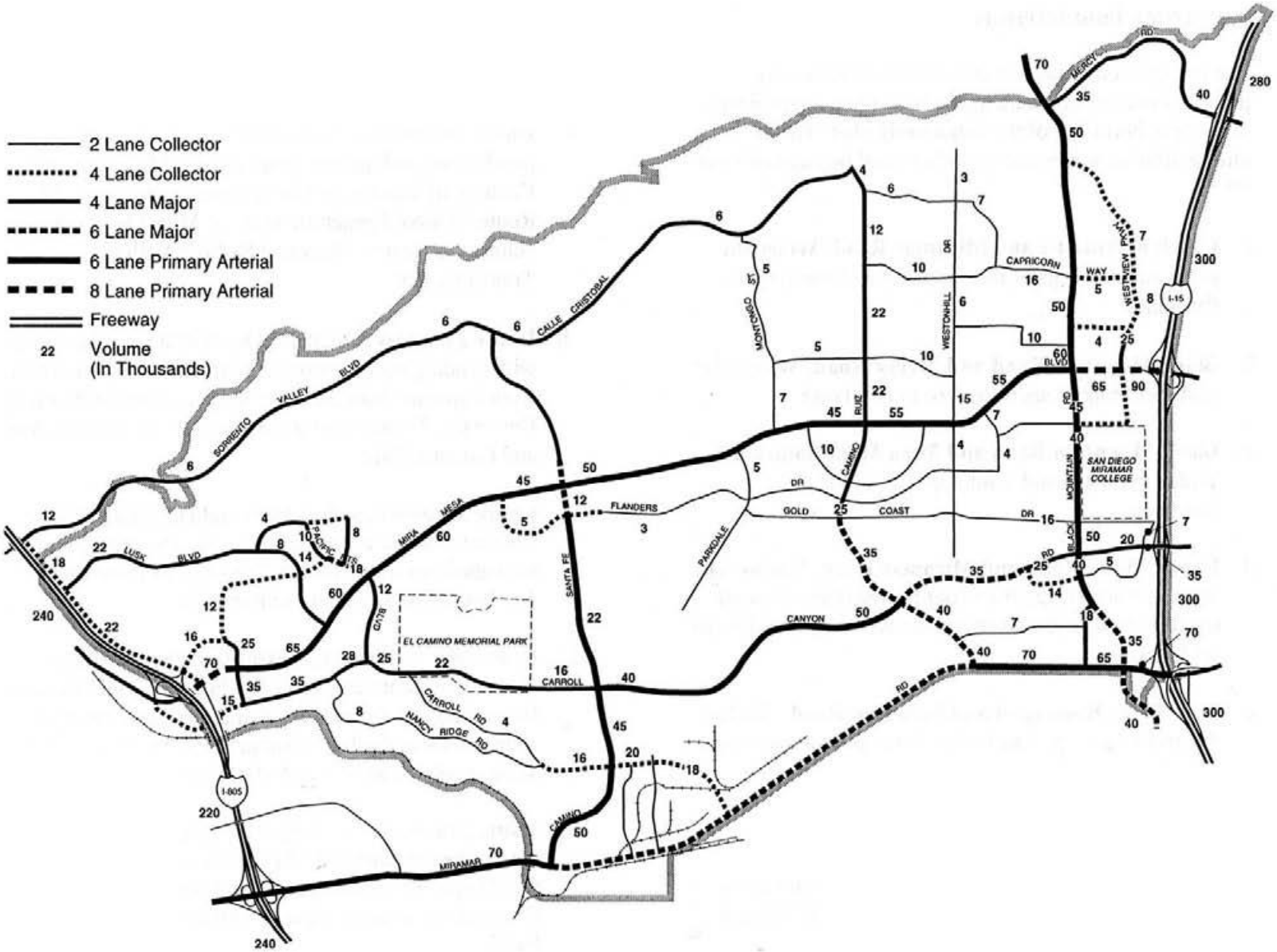
Appendix C
Community Plan
Circulation Element Maps



Recommeded Street Network (Based on Community Plan Build-Out Land Uses/Development Intesities)

University Community Plan

20
FIGURE



Horizon Year Average Daily Traffic and Recommended Street Classifications

Mira Mesa Community Plan

10
FIGURE

Michael Baker
INTERNATIONAL

Appendix D
Traffic Volume Data

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Scranton Rd and Mira Mesa Blvd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-001

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Scranton Rd)

	Lanes 2.5	0.5	2		
AM	117	51	54	1007	AM
NOON	0	0	0	0	NOON
PM	370	154	95	357	PM

Eastbound Approach (Mira Mesa Blvd)

Lanes	AM	NOON	PM
	1132	0	2119
2	852	0	181
3	2272	0	885
1	633	0	143

Westbound Approach

Lanes	AM	NOON	PM
0	89	0	85
4	948	0	1382
1	32	0	80
	2339	0	998

CONTROL: Signalized

Northbound Approach

AM	716	67	66	13
NOON	0	0	0	0
PM	377	367	91	18
Lanes		2.5	1	0.5

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	222	0	619
	1007	0	357
East Leg	1069	0	1547
	2339	0	998
West Leg	1132	0	2119
	3757	0	1209
South Leg	716	0	377
	146	0	476

Total Volume Per Leg

	AM	NOON	PM
North Leg	1229	0	976
East Leg	3408	0	2545
West Leg	4889	0	3328
South Leg	862	0	853

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Lusk Blvd-Oberlin Dr and Mira Mesa Blvd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-002

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Lusk Blvd-Oberlin Dr)

Lanes	1	1	2		
AM	48	17	55	744	AM
NOON	0	0	0	0	NOON
PM	224	100	453	205	PM

Eastbound Approach (Mira Mesa Blvd)

Lanes	AM	NOON	PM
	1055	0	1570
2	242	0	90
3	2074	0	916
0	40	0	9

Westbound Approach

AM	NOON	PM	Lanes
482	0	92	0
1001	0	1329	3
150	0	31	2
2152	0	1545	

CONTROL: Signalized

Northbound Approach

AM	207	6	20	23
NOON	0	0	0	0
PM	140	17	23	176
Lanes		1	1	1

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	120	744	AM
	0	0	NOON
	777	205	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
1055	0	1570		1633	0	1452
2356	0	1015		2152	0	1545

	South Leg	
AM	207	49
NOON	0	0
PM	140	216

Total Volume Per Leg

	North Leg
AM	864
NOON	0
PM	982

West Leg AM	NOON	PM		East Leg AM	NOON	PM
3411	0	2585		3785	0	2997

	South Leg
AM	256
NOON	0
PM	356

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Pacific Heights Rd and Mira Mesa Blvd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-003

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Pacific Heights Rd)

	Lanes 0	2	2		
AM	100	26	94	1757	AM
NOON	0	0	0	0	NOON
PM	395	226	984	211	PM

Eastbound Approach (Mira Mesa Blvd)

	AM	NOON	PM
	1616	0	1433
1	548	0	72
3	1167	0	1415
0	326	0	77
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	1142	0	108	1
	1487	0	902	3
	300	0	101	1
	1350	0	2716	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	652	29	67	89
NOON	0	0	0	0
PM	404	136	31	317
Lanes		1	1.5	1.5

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
220	1757	AM
0	0	NOON
1605	211	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
1616	0	1433	2929	0	1111
2041	0	1564	1350	0	2716

South Leg	
AM 652	185
NOON 0	0
PM 404	484

Total Volume Per Leg

North Leg	
1977	AM
0	NOON
1816	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
3657	0	2997	4279	0	3827

South Leg	
AM	837
NOON	0
PM	888

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Sequence Dr and Mira Mesa Blvd , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-001

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Sequence Dr)

Lanes	1	1	1		
AM	227	14	10	375	AM
NOON	0	0	0	0	NOON
PM	259	7	76	237	PM

Eastbound Approach (Mira Mesa Blvd)

	AM	NOON	PM
	2756	0	1019
1	303	0	211
4	792	0	2495
0	277	0	88
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	66	0	9	0
	2448	0	599	4
	87	0	19	1
	817	0	2645	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	378	81	6	15	AM
NOON	0	0	0	0	NOON
PM	114	161	17	74	PM
		1.3	0.3	0.3	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	251	375	AM
	0	0	NOON
	342	237	PM

West Leg	AM	NOON	PM
	2756	0	1019
	1372	0	2794

East Leg	AM	NOON	PM
	2601	0	627
	817	0	2645

South Leg		
AM	378	102
NOON	0	0
PM	114	252

Total Volume Per Leg

North Leg		
626		AM
0		NOON
579		PM

West Leg	AM	NOON	PM
	4128	0	3813

East Leg	AM	NOON	PM
	3418	0	3272

South Leg	
AM	480
NOON	0
PM	366

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Steadman St/Genetic Center Dr and Mira Mesa Blvd , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-002

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Southbound Approach (Steadman St/Genetic Center Dr)

	Lanes 1	1	1		
AM	34	8	41	252	AM
NOON	0	0	0	0	NOON
PM	65	3	83	86	PM

Eastbound Approach (Mira Mesa Blvd)

Lanes	AM	NOON	PM
	2638	0	711
1	92	0	47
4	687	0	2465
0	42	0	11

Westbound Approach

AM	NOON	PM	Lanes
156	0	26	0
2597	0	622	4
141	0	32	1
756	0	2827	

CONTROL: Signalized

Northbound Approach

AM	191	7	4	28	AM
NOON	0	0	0	0	NOON
PM	46	24	13	279	PM
		1	1	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	83	252	AM
	0	0	NOON
	151	86	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
2638	0	711		2894	0	680
821	0	2523		756	0	2827

South Leg		
AM	191	39
NOON	0	0
PM	46	316

Total Volume Per Leg

	North Leg	
	335	AM
	0	NOON
	237	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
3459	0	3234		3650	0	3507

South Leg	
AM	230
NOON	0
PM	362

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Flanders Dr and Mira Mesa Blvd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-004

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Flanders Dr)

Lanes	1	1	1		
AM	34	15	19	243	AM
NOON	0	0	0	0	NOON
PM	43	76	120	118	PM

Eastbound Approach (Mira Mesa Blvd)

	AM	NOON	PM
	3009	0	641
1	60	0	58
3	434	0	2256
0	286	0	468
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	144	0	23	0
	2678	0	448	3
	41	0	45	1
	487	0	2489	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	342	297	39	34	AM
NOON	0	0	0	0	NOON
PM	589	150	37	113	PM
		1.5	0.5	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	68	243	AM
	0	0	NOON
	239	118	PM

West Leg			East Leg		
AM	NOON	PM			
3009	0	641	2863	0	516
780	0	2782	487	0	2489
			AM	NOON	PM

	South Leg	
AM	342	370
NOON	0	0
PM	589	300

Total Volume Per Leg

	North Leg	
	311	AM
	0	NOON
	357	PM

West Leg			East Leg		
AM	NOON	PM			
3789	0	3423	3350	0	3005
			AM	NOON	PM

	South Leg
AM	712
NOON	0
PM	889

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Viper Way and Mira Mesa Blvd , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-003

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	415 PM

Peak Hour Summary

Southbound Approach

Viper Way

Lanes	0	1	1		
AM	15	11	4	127	AM
NOON	0	0	0	0	NOON
PM	18	12	19	85	PM

Eastbound Approach

Mira Mesa Blvd

Lanes	AM	NOON	PM
	2765	0	533
1	30	0	26
4	295	0	2328
0	76	0	130

Westbound Approach

AM	NOON	PM	Lanes
73	0	34	0
2587	0	422	4
44	0	55	1
355	0	2530	

CONTROL

Signalized

Northbound Approach

AM	131	163	24	56	AM
NOON	0	0	0	0	NOON
PM	197	93	25	183	PM
		2	1	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
30	127	AM
0	0	NOON
49	85	PM

West Leg			East Leg		
AM	NOON	PM			
2765	0	533	2704	0	511
401	0	2484	355	0	2530
			AM	NOON	PM

South Leg	
131	243
0	0
197	301

Total Volume Per Leg

North Leg
157
0
134

West Leg			East Leg		
AM	NOON	PM			
3166	0	3017	3059	0	3041
			AM	NOON	PM

South Leg
374
0
498

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Mira Mesa Blvd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-005

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Camino Santa Fe)

	Lanes 0	2	2		
AM	58	272	108	482	AM
NOON	0	0	0	0	NOON
PM	41	198	408	523	PM

Eastbound Approach (Mira Mesa Blvd)

	AM	NOON	PM
	2858	0	588
1	23	0	57
3	299	0	2292
0	92	0	95
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
328	0	173	0
2665	0	402	3
706	0	150	1
469	0	3209	
AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	1070	135	131	62	AM
NOON	0	0	0	0	NOON
PM	443	145	293	509	PM
		1	2	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

438	482	AM
0	0	NOON
647	523	PM

West Leg

AM	NOON	PM
2858	0	588
414	0	2444

East Leg

AM	NOON	PM
3699	0	725
469	0	3209

South Leg

AM	1070	328
NOON	0	0
PM	443	947

Total Volume Per Leg

North Leg

920	AM
0	NOON
1170	PM

West Leg

AM	NOON	PM
3272	0	3032

East Leg

AM	NOON	PM
4168	0	3934

South Leg

AM	1398
NOON	0
PM	1390

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Schilling Ave/Caminito Alvarez and Mira Mesa Blvd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-001

City: San Diego

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach

Schilling Ave/Caminito Alvarez

Lanes	0	1	1		
AM	111	5	62	50	AM
NOON	0	0	0	0	NOON
PM	19	3	56	227	PM

Eastbound Approach

Mira Mesa Blvd

Lanes	AM	NOON	PM
	3671	0	764
1	22	0	130
3	448	0	3048
0	11	0	30

Westbound Approach

AM	NOON	PM	Lanes
22	0	77	0
3526	0	732	3
30	0	58	1
555	0	3146	

CONTROL

Signalized

Northbound Approach

AM	46	34	6	45	AM
NOON	0	0	0	0	NOON
PM	91	13	20	42	PM
		0.5	0.5	1	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
178	50	AM
0	0	NOON
78	227	PM

West Leg			East Leg		
AM	NOON	PM			
3671	0	764	3578	0	867
481	0	3208	555	0	3146
			AM	NOON	PM

South Leg		
46	85	AM
0	0	NOON
91	75	PM

Total Volume Per Leg

North Leg
228
0
305

West Leg			East Leg		
AM	NOON	PM			
4152	0	3972	4133	0	4013
			AM	NOON	PM

South Leg
131
0
166

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Aderman Ave and Mira Mesa Blvd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-002

City: San Diego

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Aderman Ave)

Lanes	0	1	1		
AM	37	13	111	47	AM
NOON	0	0	0	0	NOON
PM	12	4	42	96	PM

Eastbound Approach (Mira Mesa Blvd)

	AM	NOON	PM
	3566	0	853
1	7	0	35
3	497	0	3118
0	9	0	20
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	31	0	43	0
	3514	0	837	3
	18	0	47	1
	646	0	3219	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	40	15	9	38	AM
NOON	0	0	0	0	NOON
PM	71	4	18	59	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

161	47	AM
0	0	NOON
58	96	PM

West Leg

AM	NOON	PM
3566	0	853
513	0	3173

East Leg

AM	NOON	PM
3563	0	927
646	0	3219

South Leg

40	62	AM
0	0	NOON
71	81	PM

Total Volume Per Leg

North Leg

208	AM
0	NOON
154	PM

West Leg

AM	NOON	PM
4079	0	4026

East Leg

AM	NOON	PM
4209	0	4146

South Leg

102	AM
0	NOON
152	PM

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Parkdale Ave and Mira Mesa Blvd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-003

City: San Diego

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Parkdale Ave)

	Lanes 1	Lanes 1	Lanes 1		
AM	192	87	66	95	AM
NOON	0	0	0	0	NOON
PM	58	44	25	257	PM

Eastbound Approach (Mira Mesa Blvd)

Lanes	AM	NOON	PM
	3587	0	964
1	32	0	97
3	625	0	2914
0	30	0	199

Westbound Approach

AM	NOON	PM	Lanes
33	0	79	0
3301	0	866	3
52	0	94	1
766	0	3049	

CONTROL: Signalized

Northbound Approach

AM	169	94	30	75	AM
NOON	0	0	0	0	NOON
PM	337	40	81	110	PM
		1	1	1	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
345	95	AM
0	0	NOON
127	257	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
3587	0	964	3386	0	1039
687	0	3210	766	0	3049

South Leg		
169	199	AM
0	0	NOON
337	231	PM

Total Volume Per Leg

North Leg
440 AM
0 NOON
384 PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
4274	0	4174	4152	0	4088

South Leg
368 AM
0 NOON
568 PM

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Reagan Rd and Mira Mesa Blvd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-004

City: San Diego

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Reagan Rd)

Lanes	0	2	1		
AM	213	119	52	100	AM
NOON	0	0	0	0	NOON
PM	69	121	47	338	PM

Eastbound Approach (Mira Mesa Blvd)

	AM	NOON	PM
	3286	0	1106
1	41	0	132
3	578	0	2465
0	60	0	255
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
14	0	70	1
2921	0	898	3
21	0	68	1
646	0	2546	
AM	NOON	PM	

Northbound Approach

AM	200	152	45	16	AM
NOON	0	0	0	0	NOON
PM	444	139	136	34	PM
		1	2	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
384	100	AM
0	0	NOON
237	338	PM

West Leg			East Leg		
AM	NOON	PM			
3286	0	1106	2956	0	1036
679	0	2852	646	0	2546
			AM	NOON	PM

South Leg		
200	213	AM
0	0	NOON
444	309	PM

Total Volume Per Leg

North Leg
484 AM
0 NOON
575 PM

West Leg			East Leg		
AM	NOON	PM			
3965	0	3958	3602	0	3582
			AM	NOON	PM

South Leg
413 AM
0 NOON
753 PM

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Mira Mesa Blvd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-006

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

	Lanes 0	2	2		
AM	200	483	395	484	AM
NOON	0	0	0	0	NOON
PM	120	416	303	1024	PM

Eastbound Approach (Mira Mesa Blvd)

Lanes	AM	NOON	PM
	2935	0	1178
2	81	0	223
3	684	0	2046
0	23	0	60

Westbound Approach

AM	NOON	PM	Lanes
121	0	244	1
2651	0	927	3
168	0	280	2
1219	0	2471	

Northbound Approach

AM	674	84	282	140
NOON	0	0	0	0
PM	756	131	557	122
Lanes		1	3	1

CONTROL: Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	1078	0	839
	484	0	1024
East Leg	2940	0	1451
	1219	0	2471
West Leg	2935	0	1178
	788	0	2329
South Leg	674	0	756
	506	0	810

Total Volume Per Leg

	AM	NOON	PM
North Leg	1562	0	1863
East Leg	4159	0	3922
West Leg	3723	0	3507
South Leg	1180	0	1566

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Pacific Heights Blvd and Carroll Canyon Rd , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-004

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Pacific Heights Blvd)

	Lanes 1.3	0.3	0.3		
AM	97	0	55	325	AM
NOON	0	0	0	0	NOON
PM	405	0	229	117	PM

Eastbound Approach (Carroll Canyon Rd)

Lanes	AM	NOON	PM
	211	0	658
1	242	0	59
1	394	0	285
0	0	0	0

Westbound Approach

	AM	NOON	PM	Lanes
	83	0	58	0
	114	0	253	3
	0	0	0	0
	449	0	514	

Northbound Approach

AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM
		0	0	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	152	325	AM
	0	0	NOON
	634	117	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
211	0	658		197	0	311
636	0	344		449	0	514

	South Leg	
AM	0	0
NOON	0	0
PM	0	0

Total Volume Per Leg

	North Leg
AM	477
NOON	0
PM	751

West Leg AM	NOON	PM		East Leg AM	NOON	PM
847	0	1002		646	0	825

	South Leg
AM	0
NOON	0
PM	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Rehco Rd and Carroll Rd , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-005

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Rehco Rd)

	Lanes 0	1	0		
AM	9	1	35	227	AM
NOON	0	0	0	0	NOON
PM	37	2	221	25	PM

Eastbound Approach (Carroll Rd)

Lanes	AM	NOON	PM
	656	0	258
1	53	0	5
1	267	0	898
0	6	0	14

Westbound Approach

AM	NOON	PM	Lanes
173	0	19	0
646	0	210	1
47	0	13	1
310	0	1166	

CONTROL: Signalized

Northbound Approach

AM	54	1	1	8
NOON	0	0	0	0
PM	29	11	1	47
Lanes		0	1	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	45	227	AM
	0	0	NOON
	260	25	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
656	0	258	866	0	242
326	0	917	310	0	1166

	South Leg	
AM	54	10
NOON	0	0
PM	29	59

Total Volume Per Leg

	North Leg
AM	272
NOON	0
PM	285

West Leg AM	NOON	PM	East Leg AM	NOON	PM
982	0	1175	1176	0	1408

	South Leg
AM	64
NOON	0
PM	88

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Carroll Rd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-008

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach

Camino Santa Fe

Lanes	1	2	1		
AM	315	731	86	516	AM
NOON	0	0	0	0	NOON
PM	58	593	76	1280	PM

Eastbound Approach

Carroll Rd

Lanes	AM	NOON	PM
	942	0	266
1	53	0	310
1	125	0	302
1	127	0	464

Westbound Approach

AM	NOON	PM	Lanes
61	0	113	0
310	0	84	1
61	0	77	1
310	0	453	

CONTROL

Signalized

Northbound Approach

AM	919	317	402	99	AM
NOON	0	0	0	0	NOON
PM	1134	124	857	75	PM
		1	2	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
1132	516	AM
0	0	NOON
727	1280	PM

West Leg			East Leg		
AM	NOON	PM	AM	NOON	PM
942	0	266	432	0	274
305	0	1076	310	0	453

South Leg	
919	818
0	0
1134	1056

Total Volume Per Leg

North Leg	
1648	AM
0	NOON
2007	PM

West Leg			East Leg		
AM	NOON	PM	AM	NOON	PM
1247	0	1342	742	0	727

South Leg	
1737	AM
0	NOON
2190	PM

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Carroll Rd and Kenamar Dr , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-006

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Southbound Approach (Carroll Rd)

	Lanes 0	1	1		
AM	1	151	19	517	AM
NOON	0	0	0	0	NOON
PM	0	563	17	167	PM

Eastbound Approach (Kenamar Dr)

	AM	NOON	PM
	2	0	0
0	0	0	1
1	0	0	0
0	1	0	1
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	12	0	15	0
	1	0	0	2
	105	0	149	0
	196	0	87	
	AM	NOON	PM	

CONTROL: Signalized

Northbound Approach

AM	257	0	505	177	AM
NOON	0	0	0	0	NOON
PM	713	0	151	70	PM
		1	1	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	171	517	AM
	0	0	NOON
	580	167	PM

West Leg	AM	NOON	PM
	2	0	0
	1	0	2

East Leg	AM	NOON	PM
	118	0	164
	196	0	87

	South Leg	
AM	257	682
NOON	0	0
PM	713	221

Total Volume Per Leg

North Leg	
688	AM
0	NOON
747	PM

West Leg	AM	NOON	PM
	3	0	2

East Leg	AM	NOON	PM
	314	0	251

	South Leg
AM	939
NOON	0
PM	934

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Judicial Dr and Eastgate Mall , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-009

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Judicial Dr)

Lanes	0	1	1		
AM	20	12	3	247	AM
NOON	0	0	0	0	NOON
PM	101	68	60	30	PM

Eastbound Approach (Eastgate Mall)

	AM	NOON	PM
	812	0	417
1	122	0	17
2	220	0	644
0	62	0	176
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	35	0	6	0
	592	0	213	2
	79	0	74	1
	300	0	853	
	AM	NOON	PM	

CONTROL: Signalized

Northbound Approach

AM	153	200	90	77	AM
NOON	0	0	0	0	NOON
PM	318	103	7	149	PM
		1	1	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	35	247	AM
	0	0	NOON
	229	30	PM

West Leg			East Leg		
AM	NOON	PM			
812	0	417	706	0	293
404	0	837	300	0	853
			AM	NOON	PM

	South Leg	
AM	153	367
NOON	0	0
PM	318	259

Total Volume Per Leg

	North Leg
AM	282
NOON	0
PM	259

West Leg			East Leg		
AM	NOON	PM			
1216	0	1254	1006	0	1146
			AM	NOON	PM

	South Leg
AM	520
NOON	0
PM	577

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Executive Way and La Jolla Village Dr , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-010

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Executive Way)

Lanes	0.5	1.5	1		
AM	49	13	55	594	AM
NOON	0	0	0	0	NOON
PM	324	72	388	172	PM

Eastbound Approach (La Jolla Village Dr)

Lanes	AM	NOON	PM
	1175	0	1931
1	136	0	58
4	1228	0	908
0	79	0	334

Westbound Approach

AM	NOON	PM	Lanes
433	0	93	0
1105	0	1383	3
34	0	209	2
1309	0	1501	

Northbound Approach

AM	126	21	25	26	AM
NOON	0	0	0	0	NOON
PM	615	224	21	205	PM
		1.5	0.5	1	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	117	0	784
	594	0	172
West Leg	1175	0	1931
	1443	0	1300
East Leg	1572	0	1685
	1309	0	1501
South Leg	126	0	615
	72	0	450

Total Volume Per Leg

	AM	NOON	PM
North Leg	711	0	956
West Leg	2618	0	3231
East Leg	2881	0	3186
South Leg	198	0	1065

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Towne Centre Dr and La Jolla Village Dr , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-011

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Towne Centre Dr)

Lanes	0	2	2		
AM	35	42	200	1856	AM
NOON	0	0	0	0	NOON
PM	167	223	892	345	PM

Eastbound Approach (La Jolla Village Dr)

	AM	NOON	PM
	1573	0	1693
2	317	0	23
3	883	0	1367
1	130	0	158
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	1326	0	267	2
	1426	0	1331	3
	337	0	416	2
	1391	0	2910	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	509	112	213	308	AM
NOON	0	0	0	0	NOON
PM	797	195	55	651	PM
		2	1	2	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	277	0	1282
	1856	0	345
West Leg	1573	0	1693
	1330	0	1548
East Leg	3089	0	2014
	1391	0	2910
South Leg	509	0	797
	633	0	901

Total Volume Per Leg

	AM	NOON	PM
North Leg	2133	0	1627
West Leg	2903	0	3241
East Leg	4480	0	4924
South Leg	1142	0	1698

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

I 805 SB Ramps and La Jolla Village Dr , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-012

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach

I 805 SB Ramps

Lanes	2	0	2		
AM	1544	0	722	502	AM
NOON	0	0	0	0	NOON
PM	756	0	209	779	PM

Eastbound Approach

La Jolla Village Dr

	AM	NOON	PM
	3131	0	1969
0	0	0	0
3	1001	0	1824
2	400	0	1040
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	502	0	779	1
	1587	0	1213	3
	0	0	0	0
	1723	0	2033	
	AM	NOON	PM	

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Northbound Approach

AM	400	0	0	0	AM
NOON	0	0	0	0	NOON
PM	1040	0	0	0	PM
		0	0	0	Lanes

Total Ins & Outs

	AM	NOON	PM
North Leg	2266	0	965
	502	0	779
East Leg	2089	0	1992
	1723	0	2033
West Leg	3131	0	1969
	1401	0	2864
South Leg	400	0	1040
	0	0	0

Total Volume Per Leg

	AM	NOON	PM
North Leg	2768	0	1744
East Leg	3812	0	4025
West Leg	4532	0	4833
South Leg	400	0	1040

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

I 805 NB Ramps and Miramar Rd , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-013

City: San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach — I 805 NB Ramps

	Lanes 0	0	0		
AM	0	0	0	542	AM
NOON	0	0	0	0	NOON
PM	0	0	0	773	PM

Eastbound Approach — Miramar Rd

Lanes	AM	NOON	PM
	2092	0	1928
0	0	0	0
3	1044	0	958
1	678	0	1164

Westbound Approach

AM	NOON	PM	Lanes
542	0	772	1
1255	0	1478	4
0	0	0	0
1341	0	1100	

CONTROL: Signalized

Northbound Approach

AM	678	837	0	297	AM
NOON	0	0	0	0	NOON
PM	1164	450	1	142	PM
		2	0	2	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg	
AM	0	542
NOON	0	0
PM	0	773

	AM	NOON	PM
West Leg	2092	0	1928
	1722	0	2122
East Leg	1797	0	2250
	1341	0	1100

	South Leg	
AM	678	1134
NOON	0	0
PM	1164	593

Total Volume Per Leg

	North Leg
AM	542
NOON	0
PM	773

	AM	NOON	PM
West Leg	3814	0	4050
East Leg	3138	0	3350

	South Leg
AM	1812
NOON	0
PM	1757

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

I 805 SB On Ramps and Nobel Dr , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-014

City: San Diego

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (I 805 SB On Ramps)

	Lanes 0	0	0		
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

Eastbound Approach (Nobel Dr)

Lanes	AM	NOON	PM
	1335	0	969
0	0	0	0
2	294	0	480
2	541	0	469

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	0
1335	0	969	3
142	0	198	2
294	0	480	

CONTROL: Signalized

Northbound Approach

AM	683	0	0	0	AM
NOON	0	0	0	0	NOON
PM	667	0	0	0	PM
		0	0	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
AM	0	0	
NOON	0	0	
PM	0	0	

West Leg AM	NOON	PM		East Leg AM	NOON	PM
1335	0	969		1477	0	1167
835	0	949		294	0	480

	South Leg	
AM	683	0
NOON	0	0
PM	667	0

Total Volume Per Leg

	North Leg
AM	0
NOON	0
PM	0

West Leg AM	NOON	PM		East Leg AM	NOON	PM
2170	0	1918		1771	0	1647

	South Leg
AM	683
NOON	0
PM	667

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

I 805 NB Off Ramps and Nobel Dr , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-015

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (I 805 NB Off Ramps)

	Lanes 0	0	0		
AM	0	0	0	2	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

Eastbound Approach (Nobel Dr)

Lanes	AM	NOON	PM
	1434	0	1196
1	2	0	0
2	287	0	453
0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	0
559	0	634	3
0	0	0	0
1121	0	1010	

Northbound Approach

AM	0	875	0	834	AM
NOON	0	0	0	0	NOON
PM	0	562	0	557	PM
		2	0	2	Lanes

CONTROL: Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
AM	0	2	
NOON	0	0	
PM	0	0	

West Leg	AM	NOON	PM
	1434	0	1196
	289	0	453

East Leg	AM	NOON	PM
	559	0	634
	1121	0	1010

South Leg		
AM	0	1709
NOON	0	0
PM	0	1119

Total Volume Per Leg

North Leg	
AM	2
NOON	0
PM	0

West Leg	AM	NOON	PM
	1723	0	1649

East Leg	AM	NOON	PM
	1680	0	1644

South Leg	
AM	1709
NOON	0
PM	1119

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Nobel Dr and Miramar Rd , San Diego

Date:	6/1/2017
Day:	Thursday

Project #:	17-4200-016
City:	San Diego

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Nobel Dr)

	Lanes	0	0	0		
AM		0	0	0	0	AM
NOON		0	0	0	0	NOON
PM		0	0	0	0	PM

Eastbound Approach (Miramar Rd)

	AM	NOON	PM
	1808	0	2269
0	0	0	0
4	1098	0	1010
0	253	0	59
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	0
1710	0	2106	4
416	0	588	2
1931	0	1853	
AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	669	98	0	833
NOON	0	0	0	0
PM	647	163	0	843
Lanes		1	1	1

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	0	0	AM
	0	0	NOON
	0	0	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
1808	0	2269		2126	0	2694
1351	0	1069		1931	0	1853

	South Leg	
AM	669	931
NOON	0	0
PM	647	1006

Total Volume Per Leg

	North Leg	
	0	AM
	0	NOON
	0	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
3159	0	3338		4057	0	4547

	South Leg
AM	1600
NOON	0
PM	1653

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Eastgate Mall and Miramar Rd , San Diego

Date:	6/1/2017
Day:	Thursday

Project #:	17-4200-017
City:	San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Eastgate Mall)

	Lanes 0.5	0	1.5		
AM	148	0	145	1136	AM
NOON	0	0	0	0	NOON
PM	322	0	841	282	PM

Eastbound Approach (Miramar Rd)

Lanes	AM	NOON	PM
	2067	0	2694
2	255	0	131
3	1733	0	1748
0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
881	0	151	1
1919	0	2372	3
1	0	9	1
1878	0	2589	

CONTROL: Signalized

Northbound Approach

AM	1	0	0	0
NOON	0	0	0	0
PM	9	0	0	0
Lanes		0	0	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	293	1136	AM
	0	0	NOON
	1163	282	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
2067	0	2694	2801	0	2532
1988	0	1879	1878	0	2589

	South Leg	
AM	1	0
NOON	0	0
PM	9	0

Total Volume Per Leg

	North Leg	
	1429	AM
	0	NOON
	1445	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
4055	0	4573	4679	0	5121

	South Leg
AM	1
NOON	0
PM	9

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Miramar Mall and Miramar Rd , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-018

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Miramar Mall)

	Lanes 0	1	0		
AM	66	0	33	123	AM
NOON	0	0	0	0	NOON
PM	66	0	95	52	PM

Eastbound Approach (Miramar Rd)

Lanes	AM	NOON	PM
	2777	0	2555
1	63	0	24
3	1778	0	2463
0	0	0	0

Westbound Approach

	AM	NOON	PM	Lanes
	60	0	28	1
	2711	0	2489	3
	0	0	0	0
	1811	0	2558	

CONTROL: Signalized

Northbound Approach

AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM
		0	0	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	99	123	AM
	0	0	NOON
	161	52	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
2777	0	2555		2771	0	2517
1841	0	2487		1811	0	2558

	South Leg	
AM	0	0
NOON	0	0
PM	0	0

Total Volume Per Leg

	North Leg	
	222	AM
	0	NOON
	213	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
4618	0	5042		4582	0	5075

	South Leg
AM	0
NOON	0
PM	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Miramar Pl and Miramar Rd , San Diego

Date:	6/1/2017
Day:	Thursday

Project #:	17-4200-019
City:	San Diego

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach

Miramar Pl

	Lanes 1.5	0	1.5		
AM	81	0	36	175	AM
NOON	0	0	0	0	NOON
PM	99	0	84	61	PM

Miramar Rd

Eastbound Approach

Lanes	AM	NOON	PM
	2644	0	2446
1	105	0	28
3	1842	0	2655
0	0	0	0

CONTROL

Signalized

Westbound Approach

AM	NOON	PM	Lanes
70	0	33	0
2563	0	2347	3
17	0	5	1
1878	0	2739	

Northbound Approach

AM	17	0	0	0	AM
NOON	0	0	0	0	NOON
PM	5	0	0	0	PM
		0	0	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	117	175	AM
	0	0	NOON
	183	61	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
2644	0	2446		2650	0	2385
1947	0	2683		1878	0	2739

	South Leg	
AM	17	0
NOON	0	0
PM	5	0

Total Volume Per Leg

	North Leg	
	292	AM
	0	NOON
	244	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
4591	0	5129		4528	0	5124

	South Leg
AM	17
NOON	0
PM	5

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Miramar Rd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-009

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach

Camino Santa Fe

Lanes	2	0.5	1.5		
AM	786	2	50	899	AM
NOON	0	0	0	0	NOON
PM	1073	1	99	983	PM

Eastbound Approach

Miramar Rd

Lanes	AM	NOON	PM
	2939	0	2401
2	798	0	862
3	1072	0	1775
0	23	0	84

Westbound Approach

Lanes	AM	NOON	PM
0	98	0	65
3	2135	0	1283
2	20	0	18
	1132	0	1882

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Northbound Approach

					Lanes
AM	45	18	3	10	AM
NOON	0	0	0	0	NOON
PM	103	45	56	8	PM
		1	1	0	Lanes

Total Ins & Outs

	North Leg		
	838	899	AM
	0	0	NOON
	1173	983	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
2939	0	2401	2253	0	1366
1893	0	2721	1132	0	1882

	South Leg	
AM	45	31
NOON	0	0
PM	103	109

Total Volume Per Leg

	North Leg	
	1737	AM
	0	NOON
	2156	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
4832	0	5122	3385	0	3248

	South Leg
AM	76
NOON	0
PM	212

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Carroll Rd and Miramar Rd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-010

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Carroll Rd)

	Lanes 0	2	1		
AM	103	0	137	742	AM
NOON	0	0	0	0	NOON
PM	168	0	458	210	PM

Eastbound Approach (Miramar Rd)

Lanes	AM	NOON	PM
	2432	0	1132
1	139	0	87
3	795	0	1869
0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
603	0	123	1
2329	0	964	3
0	0	5	1
932	0	2327	

CONTROL: Signalized

Northbound Approach

AM	0	0	0	0
NOON	0	0	0	0
PM	5	0	0	0
Lanes		0	0	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	240	742	AM
	0	0	NOON
	626	210	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
2432	0	1132	2932	0	1092
934	0	1956	932	0	2327

	South Leg	
AM	0	0
NOON	0	0
PM	5	0

Total Volume Per Leg

	North Leg
AM	982
NOON	0
PM	836

West Leg AM	NOON	PM	East Leg AM	NOON	PM
3366	0	3088	3864	0	3419

	South Leg
AM	0
NOON	0
PM	5

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Miramar Rd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-011

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Southbound Approach — Camino Ruiz

	Left	Thru	Right		
Lanes	2	0	2		
AM	516	0	649	413	AM
NOON	0	0	0	0	NOON
PM	166	0	418	961	PM

Eastbound Approach — Miramar Rd

	AM	NOON	PM
	3481	0	1066
2	151	0	358
3	699	0	2338
0	0	0	0
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	262	0	603	1.5
	2965	0	900	2.5
	0	0	0	0
	1348	0	2756	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

	Left	Thru	Right	
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM
		0	0	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
AM	1165	413	AM
NOON	0	0	NOON
PM	584	961	PM

West Leg			East Leg		
AM	NOON	PM			
3481	0	1066	3227	0	1503
850	0	2696	1348	0	2756
			AM	NOON	PM

	South Leg	
AM	0	0
NOON	0	0
PM	0	0

Total Volume Per Leg

	North Leg
AM	1578
NOON	0
PM	1545

West Leg			East Leg		
AM	NOON	PM			
4331	0	3762	4575	0	4259
			AM	NOON	PM

	South Leg
AM	0
NOON	0
PM	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Clayton Dr/Mitscher Way and Miramar Rd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-005

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach

Clayton Dr/Mitscher Way

Lanes	0	1	0		
AM	73	68	32	65	AM
NOON	0	0	0	0	NOON
PM	23	40	77	123	PM

Eastbound Approach

Miramar Rd

Lanes	AM	NOON	PM
	2787	0	1756
1	14	0	35
3	1102	0	2517
1	212	0	148

Westbound Approach

AM	NOON	PM	Lanes
28	0	37	0
2534	0	1453	3
182	0	118	2
1268	0	2876	

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Northbound Approach

AM	462	180	23	134
NOON	0	0	0	0
PM	306	280	51	282
Lanes		1.3	0.3	1.3

Total Ins & Outs

	AM	NOON	PM
North Leg	173	0	140
	65	0	123
East Leg	2744	0	1608
	1268	0	2876
West Leg	2787	0	1756
	1328	0	2700
South Leg	462	0	306
	337	0	613

Total Volume Per Leg

	AM	NOON	PM
North Leg	238	0	263
East Leg	4012	0	4484
West Leg	4115	0	4456
South Leg	799	0	919

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Black Mountain Rd and Miramar Rd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-006

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Black Mountain Rd)

	Lanes 2	0	2		
AM	293	0	161	259	AM
NOON	0	0	0	0	NOON
PM	165	0	503	347	PM

Eastbound Approach (Miramar Rd)

Lanes	AM	NOON	PM
	2777	0	1682
2	90	0	193
3	1169	0	2505
0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
169	0	154	0
2484	0	1517	3
1	0	14	1
1330	0	3008	

Northbound Approach

					Lanes
AM	1	0	0	0	AM
NOON	0	0	0	0	NOON
PM	14	0	0	0	PM
		0	0	0	

CONTROL: Signalized

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	454	259	AM
	0	0	NOON
	668	347	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
2777	0	1682	2654	0	1685
1259	0	2698	1330	0	3008

	South Leg	
AM	1	0
NOON	0	0
PM	14	0

Total Volume Per Leg

	North Leg
AM	713
NOON	0
PM	1015

West Leg AM	NOON	PM	East Leg AM	NOON	PM
4036	0	4380	3984	0	4693

	South Leg
AM	1
NOON	0
PM	14

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Kearny Villa Rd and Miramar Rd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-012

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Southbound Approach (Kearny Villa Rd)

	Lanes 0	2	2		
AM	122	276	179	454	AM
NOON	0	0	0	0	NOON
PM	42	524	255	607	PM

Eastbound Approach (Miramar Rd)

Lanes	AM	NOON	PM
	3282	0	1561
1	39	0	51
3	903	0	2012
1	437	0	962

Westbound Approach

AM	NOON	PM	Lanes
107	0	149	0
2307	0	1035	3
9	0	33	1
1091	0	2297	

CONTROL: Signalized

Northbound Approach

AM	722	853	308	9	AM
NOON	0	0	0	0	NOON
PM	1519	484	407	30	PM
		2.5	1	0.5	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

577	454	AM
0	0	NOON
821	607	PM

West Leg

AM	NOON	PM
3282	0	1561
1379	0	3025

East Leg

AM	NOON	PM
2423	0	1217
1091	0	2297

South Leg

722	1170	AM
0	0	NOON
1519	921	PM

Total Volume Per Leg

North Leg

1031	AM
0	NOON
1428	PM

West Leg

AM	NOON	PM
4661	0	4586

East Leg

AM	NOON	PM
3514	0	3514

South Leg

1892	AM
0	NOON
2440	PM

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Kearny Mesa Rd and Miramar Rd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-007

City: San Diego

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Kearny Mesa Rd)

	Lanes 0	1	0		
AM	37	1	38	55	AM
NOON	0	0	0	0	NOON
PM	38	10	81	61	PM

Eastbound Approach (Miramar Rd)

	AM	NOON	PM
	1734	0	1403
1	32	0	32
3	913	0	2316
0	34	0	93
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	14	0	20	0
	1544	0	1333	3
	20	0	40	1
	1007	0	2521	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	55	153	9	56	AM
NOON	0	0	0	0	NOON
PM	143	32	9	124	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg	
AM	76	55
NOON	0	0
PM	129	61

West Leg	AM	NOON	PM
	1734	0	1403
	979	0	2441

East Leg	AM	NOON	PM
	1578	0	1393
	1007	0	2521

South Leg		
AM	55	218
NOON	0	0
PM	143	165

Total Volume Per Leg

North Leg	
AM	131
NOON	0
PM	190

West Leg	AM	NOON	PM
	2713	0	3844

East Leg	AM	NOON	PM
	2585	0	3914

South Leg	
AM	273
NOON	0
PM	308

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

I-15 SB Ramps and Miramar Rd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-008

City: San Diego

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	415 PM

Peak Hour Summary

Southbound Approach

I-15 SB Ramps

	Lanes 2	0	2		
AM	1061	0	133	835	AM
NOON	0	0	0	0	NOON
PM	527	0	25	800	PM

Eastbound Approach

Miramar Rd

Lanes	AM	NOON	PM
	1595	0	1333
0	0	0	0
2	495	0	1334
1	512	0	1175

Westbound Approach

	AM	NOON	PM	Lanes
	835	0	800	2
	534	0	806	2
	0	0	0	0
	628	0	1359	

CONTROL

Signalized

Northbound Approach

AM	512	0	0	0
NOON	0	0	0	0
PM	1175	0	0	0
Lanes		0	0	0

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
1194	835	AM
0	0	NOON
552	800	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
1595	0	1333	1369	0	1606
1007	0	2509	628	0	1359

South Leg	
AM 512	0
NOON 0	0
PM 1175	0

Total Volume Per Leg

North Leg	
2029	AM
0	NOON
1352	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
2602	0	3842	1997	0	2965

South Leg	
AM	512
NOON	0
PM	1175

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

I-15 NB Ramps and Miramar Rd/Pomerado Rd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-009

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	415 PM

Peak Hour Summary

Southbound Approach (I-15 NB Ramps)

Lanes	0	0	0		
AM	0	0	0	109	AM
NOON	0	0	0	0	NOON
PM	0	0	0	143	PM

Eastbound Approach (Miramar Rd/Pomerado Rd)

Lanes	AM	NOON	PM
	1553	0	1598
0	0	0	0
2	186	0	383
1	401	0	975

Westbound Approach

Lanes	AM	NOON	PM
1	109	0	143
4	1151	0	1036
0	1	0	0
	774	0	1019

Northbound Approach

AM	402	402	0	588
NOON	0	0	0	0
PM	975	562	0	636
Lanes		2	0	2

CONTROL: Signalized

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
AM	0	109	
NOON	0	0	
PM	0	143	

West Leg	AM	NOON	PM
	1553	0	1598
	587	0	1358

East Leg	AM	NOON	PM
	1261	0	1179
	774	0	1019

South Leg		
AM	402	990
NOON	0	0
PM	975	1198

Total Volume Per Leg

	North Leg
AM	109
NOON	0
PM	143

West Leg	AM	NOON	PM
	2140	0	2956

East Leg	AM	NOON	PM
	2035	0	2198

South Leg	
AM	1392
NOON	0
PM	2173

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Flanders Dr , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-007

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Camino Santa Fe)

	Lanes 0	4	1		
AM	153	711	61	311	AM
NOON	0	0	0	0	NOON
PM	42	303	276	943	PM

Eastbound Approach (Flanders Dr)

Lanes	AM	NOON	PM
	666	0	142
0.5	15	0	104
1	24	0	591
0.5	51	0	204

Westbound Approach

AM	NOON	PM	Lanes
163	0	61	0.5
434	0	30	1
366	0	57	0.5
124	0	1473	

CONTROL: Signalized

Northbound Approach

AM	1128	79	133	39	AM
NOON	0	0	0	0	NOON
PM	564	70	778	606	PM
		1	4	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	925	311	AM
	0	0	NOON
	621	943	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
666	0	142		963	0	148
90	0	899		124	0	1473

	South Leg	
AM	1128	251
NOON	0	0
PM	564	1454

Total Volume Per Leg

	North Leg
AM	1236
NOON	0
PM	1564

West Leg AM	NOON	PM	East Leg AM	NOON	PM
756	0	1041	1087	0	1621

	South Leg
AM	1379
NOON	0
PM	2018

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Miratech Dr , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-013

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Camino Santa Fe)

	Lanes 0	3	1		
AM	158	1051	2	252	AM
NOON	0	0	0	0	NOON
PM	17	541	1	1346	PM

Eastbound Approach (Miratech Dr)

	AM	NOON	PM
	201	0	22
1.5	9	0	127
0	0	0	0
1.5	3	0	30
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	0	0	0	0
	0	0	0	0
	0	0	0	0
	2	0	1	
	AM	NOON	PM	

CONTROL: Signalized

Northbound Approach

AM	1054	43	243	0	AM
NOON	0	0	0	0	NOON
PM	571	5	1219	0	PM
		2	3	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	1211	252	AM
	0	0	NOON
	559	1346	PM

West Leg	AM	NOON	PM
	201	0	22
	12	0	157

East Leg	AM	NOON	PM
	0	0	0
	2	0	1

	South Leg	
AM	1054	286
NOON	0	0
PM	571	1224

Total Volume Per Leg

	North Leg
AM	1463
NOON	0
PM	1905

West Leg	AM	NOON	PM
	213	0	179

East Leg	AM	NOON	PM
	2	0	1

	South Leg
AM	1340
NOON	0
PM	1795

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Summers Ridge Rd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-014

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach

Camino Santa Fe

Lanes	0	3	1		
AM	6	1046	0	285	AM
NOON	0	0	0	0	NOON
PM	1	542	0	1267	PM

Eastbound Approach

Summers Ridge Rd

Lanes	AM	NOON	PM
	98	0	7
1	1	0	7
0	0	0	0
2	11	0	82

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Northbound Approach

AM	1057	92	284	0
NOON	0	0	0	0
PM	624	6	1260	0
Lanes		2	3	0

Total Ins & Outs

	North Leg		
	1052	285	AM
	0	0	NOON
	543	1267	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
98	0	7		0	0	0
12	0	89		0	0	0

	South Leg	
AM	1057	376
NOON	0	0
PM	624	1266

Total Volume Per Leg

	North Leg
AM	1337
NOON	0
PM	1810

West Leg AM	NOON	PM	East Leg AM	NOON	PM
110	0	96	0	0	0

	South Leg
AM	1433
NOON	0
PM	1890

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Carroll Canyon Rd , San Diego

Date: 2/8/2017

Day: Wednesday

Project #: 17-4029-015

City: San Diego

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Camino Santa Fe)

	Lanes 0	3	1		
AM	0	1054	6	375	AM
NOON	0	0	0	0	NOON
PM	0	628	1	1255	PM

Eastbound Approach (Carroll Canyon Rd)

Lanes	AM	NOON	PM
	2	0	0
0	0	0	0
1	0	0	0
0	0	0	0

Westbound Approach

	AM	NOON	PM	Lanes
	5	0	1	0
	0	0	0	1
	30	0	9	0
	28	0	2	

CONTROL: Signalized

Northbound Approach

AM	1084	2	370	22	AM
NOON	0	0	0	0	NOON
PM	637	0	1254	1	PM
		1	2	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	1060	375	AM
	0	0	NOON
	629	1255	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
2	0	0		35	0	10
0	0	0		28	0	2

	South Leg	
AM	1084	394
NOON	0	0
PM	637	1255

Total Volume Per Leg

	North Leg
AM	1435
NOON	0
PM	1884

West Leg AM	NOON	PM	East Leg AM	NOON	PM
2	0	0	63	0	12

	South Leg
AM	1478
NOON	0
PM	1892

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Santa Fe and Trade St , San Diego

Date: 6/1/2017

Day: Thursday

Project #: 17-4200-008

City: San Diego

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach

Camino Santa Fe

Lanes	0	3	1		
AM	10	892	96	403	AM
NOON	0	0	0	0	NOON
PM	4	651	75	1337	PM

Eastbound Approach

Trade St

	AM	NOON	PM
	40	0	13
0	1	0	13
1	2	0	5
0	3	0	18
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	48	0	135	0.3
	12	0	2	0.3
	157	0	181	1.3
	259	0	184	
	AM	NOON	PM	

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Northbound Approach

AM	1052	18	354	161	AM
NOON	0	0	0	0	NOON
PM	850	7	1189	104	PM
		1	3	0	Lanes

Total Ins & Outs

	North Leg		
	998	403	AM
	0	0	NOON
	730	1337	PM

West Leg	AM	NOON	PM
	40	0	13
	6	0	36

East Leg	AM	NOON	PM
	217	0	318
	259	0	184

South Leg		
AM	1052	533
NOON	0	0
PM	850	1300

Total Volume Per Leg

North Leg	
1401	AM
0	NOON
2067	PM

West Leg	AM	NOON	PM
	46	0	49

East Leg	AM	NOON	PM
	476	0	502

South Leg	
AM	1585
NOON	0
PM	2150

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Mira Mesa Mall Entrance , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-010

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

	Lanes 0	2	0		
AM	25	562	0	480	AM
NOON	0	0	0	0	NOON
PM	59	571	0	802	PM

Eastbound Approach (Mira Mesa Mall Entrance)

Lanes	AM	NOON	PM
	76	0	187
1	34	0	137
0	0	0	0
1	17	0	83

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

Northbound Approach

AM	579	51	446	0
NOON	0	0	0	0
PM	654	128	665	0
Lanes		2	2	0

CONTROL: Signalized

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
587	480	AM
0	0	NOON
630	802	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
76	0	187	0	0	0
51	0	220	0	0	0

South Leg	
AM 579	497
NOON 0	0
PM 654	793

Total Volume Per Leg

North Leg
AM 1067
NOON 0
PM 1432

West Leg AM	NOON	PM	East Leg AM	NOON	PM
127	0	407	0	0	0

South Leg
AM 1076
NOON 0
PM 1447

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Regan Rd/Marauder Way , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-011

City: San Diego

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

Lanes	0	2	1		
AM	14	507	45	470	AM
NOON	0	0	0	0	NOON
PM	39	562	105	790	PM

Eastbound Approach (Regan Rd/Marauder Way)

	AM	NOON	PM
	319	0	351
1	17	0	23
2	143	0	215
0	170	0	208
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	74	0	75	0
	193	0	134	2
	125	0	48	1
	250	0	421	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	802	112	379	62	AM
NOON	0	0	0	0	NOON
PM	818	178	692	101	PM
		2	2	0	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

566	470	AM
0	0	NOON
706	790	PM

West Leg

AM	NOON	PM
319	0	351
330	0	446

East Leg

AM	NOON	PM
392	0	257
250	0	421

South Leg

AM	802	553
NOON	0	0
PM	818	971

Total Volume Per Leg

North Leg

1036	AM
0	NOON
1496	PM

West Leg

AM	NOON	PM
649	0	797

East Leg

AM	NOON	PM
642	0	678

South Leg

AM	1355
NOON	0
PM	1789

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Flanders Dr , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-012

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

	Lanes 0	2	1		
AM	39	762	21	569	AM
NOON	0	0	0	0	NOON
PM	28	740	55	976	PM

Eastbound Approach (Flanders Dr)

Lanes	AM	NOON	PM
	297	0	127
1	31	0	87
1	46	0	291
0	95	0	120

Westbound Approach

AM	NOON	PM	Lanes
52	0	25	0
199	0	46	1
83	0	22	1
119	0	394	

CONTROL: Signalized

Northbound Approach

AM	940	59	486	52	AM
NOON	0	0	0	0	NOON
PM	882	53	864	48	PM
		1	2	0	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	822	569	AM
	0	0	NOON
	823	976	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
297	0	127	334	0	93
172	0	498	119	0	394

	South Leg	
AM	940	597
NOON	0	0
PM	882	965

Total Volume Per Leg

	North Leg
AM	1391
NOON	0
PM	1799

West Leg AM	NOON	PM	East Leg AM	NOON	PM
469	0	625	453	0	487

	South Leg
AM	1537
NOON	0
PM	1847

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Gold Coast Dr , San Diego

Date:	5/17/2017
Day:	Wednesday

Project #:	17-4197-013
City:	San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

	Lanes 0	2	1		
AM	126	731	71	583	AM
NOON	0	0	0	0	NOON
PM	92	578	183	990	PM

Eastbound Approach (Gold Coast Dr)

Lanes	AM	NOON	PM
	344	0	276
1	222	0	71
1	137	0	322
0	104	0	178

Westbound Approach

AM	NOON	PM	Lanes
120	0	62	0
183	0	104	1
135	0	26	1
234	0	579	

CONTROL: Signalized

Northbound Approach

AM	970	35	241	26	AM
NOON	0	0	0	0	NOON
PM	782	80	857	74	PM
		1	2	0	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	928	0	853
	583	0	990
West Leg	344	0	276
	463	0	571
East Leg	438	0	192
	234	0	579
South Leg	970	0	782
	302	0	1011

Total Volume Per Leg

	AM	NOON	PM
North Leg	1511	0	1843
West Leg	807	0	847
East Leg	672	0	771
South Leg	1272	0	1793

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Jade Coast Dr , San Diego

Date:	5/17/2017
Day:	Wednesday

Project #:	17-4197-014
City:	San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

	Lanes 0	2	1		
AM	0	1045	27	286	AM
NOON	0	0	0	0	NOON
PM	6	721	68	1121	PM

Eastbound Approach (Jade Coast Dr)

Lanes	AM	NOON	PM
	2	0	10
0	3	0	0
1	1	0	0
0	14	0	4

Westbound Approach

AM	NOON	PM	Lanes
49	0	35	1
1	0	1	0.5
267	0	39	0.5
84	0	311	

CONTROL: Signalized

Northbound Approach

AM	1326	1	234	56
NOON	0	0	0	0
PM	764	3	1086	243
Lanes		1	2	0

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	1072	286	AM
	0	0	NOON
	795	1121	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
2	0	10		317	0	75
18	0	4		84	0	311

	South Leg	
AM	1326	291
NOON	0	0
PM	764	1332

Total Volume Per Leg

	North Leg
AM	1358
NOON	0
PM	1916

West Leg AM	NOON	PM	East Leg AM	NOON	PM
20	0	14	401	0	386

	South Leg
AM	1617
NOON	0
PM	2096

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Carroll Canyon Rd , San Diego

Date:	5/17/2017
Day:	Wednesday

Project #:	17-4197-015
City:	San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

Lanes	0	2	0		
AM	29	1286	0	289	AM
NOON	0	0	0	0	NOON
PM	5	757	0	1334	PM

Eastbound Approach (Carroll Canyon Rd)

	AM	NOON	PM
	107	0	27
2	4	0	33
0	0	0	0
1	37	0	58
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	
	AM	NOON	PM	

CONTROL

Signalized

Northbound Approach

AM	1323	78	285	0	AM
NOON	0	0	0	0	NOON
PM	815	22	1301	0	PM
		1	2	0	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	1315	289	AM
	0	0	NOON
	762	1334	PM

West Leg	AM	NOON	PM
	107	0	27
	41	0	91

East Leg	AM	NOON	PM
	0	0	0
	0	0	0

	South Leg	
AM	1323	363
NOON	0	0
PM	815	1323

Total Volume Per Leg

	North Leg
AM	1604
NOON	0
PM	2096

West Leg	AM	NOON	PM
	148	0	118

East Leg	AM	NOON	PM
	0	0	0

	South Leg
AM	1686
NOON	0
PM	2138

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Miralani Rd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-016

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

	Lanes 0	2	1		
AM	272	1053	0	362	AM
NOON	0	0	0	0	NOON
PM	70	749	5	1330	PM

Eastbound Approach (Miralani Rd)

Lanes	AM	NOON	PM
	836	0	153
1.5	31	0	349
0.5	0	0	4
1	70	0	744

Westbound Approach

AM	NOON	PM	Lanes
3	0	5	0.3
2	0	2	0.3
2	0	9	0.3
6	0	20	

CONTROL: Signalized

Northbound Approach

AM	1125	562	328	6	AM
NOON	0	0	0	0	NOON
PM	1502	81	976	11	PM
		1	2	1	Lanes

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	1325	362	AM
	0	0	NOON
	824	1330	PM

West Leg	AM	NOON	PM
	836	0	153
	101	0	1097

East Leg	AM	NOON	PM
	7	0	16
	6	0	20

	South Leg	
AM	1125	896
NOON	0	0
PM	1502	1068

Total Volume Per Leg

	North Leg
AM	1687
NOON	0
PM	2154

West Leg	AM	NOON	PM
	937	0	1250

East Leg	AM	NOON	PM
	13	0	36

	South Leg
AM	2021
NOON	0
PM	2570

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Camino Ruiz and Activity Rd , San Diego

Date: 5/17/2017

Day: Wednesday

Project #: 17-4197-017

City: San Diego

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Peak Hour Summary

Southbound Approach (Camino Ruiz)

	Lanes 0	2	1		
AM	0	892	237	893	AM
NOON	0	0	0	0	NOON
PM	10	567	924	1056	PM

Eastbound Approach (Activity Rd)

Lanes	AM	NOON	PM
	8	0	21
0	0	0	0
1	0	0	13
0	0	0	1

Westbound Approach

AM	NOON	PM	Lanes
610	0	237	1
1	0	0	0.5
216	0	47	0.5
292	0	1126	

Northbound Approach

					Lanes
AM	1108	7	283	55	AM
NOON	0	0	0	0	NOON
PM	615	11	819	189	PM
		1	2	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 PM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	1129	0	1501
	893	0	1056
East Leg	827	0	284
	292	0	1126
West Leg	8	0	21
	0	0	14
South Leg	1108	0	615
	345	0	1019

Total Volume Per Leg

	AM	NOON	PM
North Leg	2022	0	2557
East Leg	1119	0	1410
West Leg	8	0	35
South Leg	1453	0	1634

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Scranton Rd & Lusk Blvd-Oberlin Dr

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,903	19,792	42,695

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			42		61		103		12:00			306		311		617	
00:15			25		54		79		12:15			298		327		625	
00:30			18		53		71		12:30			322		293		615	
00:45			27	112	25	193	52	305	12:45			344	1270	272	1203	616	2473
01:00			23		24		47		13:00			308		347		655	
01:15			11		22		33		13:15			303		340		643	
01:30			18		41		59		13:30			334		376		710	
01:45			19	71	17	104	36	175	13:45			337	1282	310	1373	647	2655
02:00			24		22		46		14:00			280		361		641	
02:15			23		12		35		14:15			308		303		611	
02:30			28		41		69		14:30			280		514		794	
02:45			25	100	31	106	56	206	14:45			266	1134	354	1532	620	2666
03:00			19		24		43		15:00			248		380		628	
03:15			22		26		48		15:15			289		343		632	
03:30			37		19		56		15:30			279		402		681	
03:45			47	125	26	95	73	220	15:45			277	1093	279	1404	556	2497
04:00			58		20		78		16:00			262		397		659	
04:15			78		24		102		16:15			270		324		594	
04:30			128		47		175		16:30			245		400		645	
04:45			202	466	51	142	253	608	16:45			259	1036	336	1457	595	2493
05:00			136		56		192		17:00			252		465		717	
05:15			193		79		272		17:15			253		378		631	
05:30			293		85		378		17:30			240		351		591	
05:45			481	1103	89	309	570	1412	17:45			298	1043	323	1517	621	2560
06:00			376		109		485		18:00			236		391		627	
06:15			403		147		550		18:15			223		374		597	
06:30			425		142		567		18:30			209		412		621	
06:45			583	1787	189	587	772	2374	18:45			201	869	378	1555	579	2424
07:00			532		199		731		19:00			181		404		585	
07:15			599		245		844		19:15			161		309		470	
07:30			556		274		830		19:30			134		279		413	
07:45			651	2338	318	1036	969	3374	19:45			140	616	220	1212	360	1828
08:00			572		261		833		20:00			158		223		381	
08:15			620		259		879		20:15			133		176		309	
08:30			506		233		739		20:30			116		192		308	
08:45			591	2289	236	989	827	3278	20:45			135	542	133	724	268	1266
09:00			559		237		796		21:00			129		133		262	
09:15			558		239		797		21:15			114		153		267	
09:30			470		233		703		21:30			122		107		229	
09:45			473	2060	228	937	701	2997	21:45			103	468	103	496	206	964
10:00			431		260		691		22:00			97		106		203	
10:15			333		237		570		22:15			71		99		170	
10:30			319		219		538		22:30			66		105		171	
10:45			347	1430	225	941	572	2371	22:45			65	299	91	401	156	700
11:00			283		301		584		23:00			43		61		104	
11:15			316		257		573		23:15			44		54		98	
11:30			298		350		648		23:30			39		95		134	
11:45			304	1201	289	1197	593	2398	23:45			43	169	72	282	115	451
TOTALS				13082		6636		19718	TOTALS				9821		13156		22977
SPLIT %				66.3%		33.7%		46.2%	SPLIT %				42.7%		57.3%		53.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,903	19,792	42,695

AM Peak Hour			07:30	11:30	07:30	PM Peak Hour			12:45	14:30	13:45
AM Pk Volume			2399	1277	3511	PM Pk Volume			1289	1591	2693
Pk Hr Factor			0.921	0.912	0.906	Pk Hr Factor			0.937	0.774	0.848
7 - 9 Volume	0	0	4627	2025	6652	4 - 6 Volume	0	0	2079	2974	5053
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	16:30	16:30
7 - 9 Pk Volume	0	0	2399	1112	3511	4 - 6 Pk Volume	0	0	1043	1579	2588
Pk Hr Factor	0.000	0.000	0.921	0.874	0.906	Pk Hr Factor	0.000	0.000	0.875	0.849	0.902

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Lusk Blvd-Oberlin Dr & Pacific Heights Rd

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	24,711	21,275	45,986

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			51		47		98		12:00			385		343		728	
00:15			29		54		83		12:15			367		345		712	
00:30			22		51		73		12:30			360		299		659	
00:45			28	130	21	173	49	303	12:45			359	1471	369	1356	728	2827
01:00			28		22		50		13:00			326		368		694	
01:15			11		26		37		13:15			341		384		725	
01:30			20		26		46		13:30			342		414		756	
01:45			22	81	14	88	36	169	13:45			348	1357	304	1470	652	2827
02:00			34		22		56		14:00			318		359		677	
02:15			26		16		42		14:15			323		319		642	
02:30			24		38		62		14:30			343		484		827	
02:45			23	107	29	105	52	212	14:45			320	1304	385	1547	705	2851
03:00			21		26		47		15:00			308		376		684	
03:15			26		27		53		15:15			365		323		688	
03:30			34		17		51		15:30			380		356		736	
03:45			49	130	30	100	79	230	15:45			352	1405	272	1327	624	2732
04:00			54		22		76		16:00			391		367		758	
04:15			75		29		104		16:15			343		343		686	
04:30			114		60		174		16:30			381		359		740	
04:45			185	428	76	187	261	615	16:45			367	1482	337	1406	704	2888
05:00			128		66		194		17:00			407		426		833	
05:15			172		107		279		17:15			389		336		725	
05:30			272		127		399		17:30			394		334		728	
05:45			459	1031	134	434	593	1465	17:45			390	1580	294	1390	684	2970
06:00			388		139		527		18:00			355		328		683	
06:15			366		192		558		18:15			340		314		654	
06:30			443		211		654		18:30			313		330		643	
06:45			596	1793	230	772	826	2565	18:45			263	1271	344	1316	607	2587
07:00			541		266		807		19:00			271		344		615	
07:15			556		307		863		19:15			228		285		513	
07:30			512		372		884		19:30			178		260		438	
07:45			593	2202	419	1364	1012	3566	19:45			171	848	191	1080	362	1928
08:00			537		418		955		20:00			205		204		409	
08:15			567		366		933		20:15			169		146		315	
08:30			484		428		912		20:30			134		173		307	
08:45			458	2046	401	1613	859	3659	20:45			139	647	123	646	262	1293
09:00			529		395		924		21:00			141		133		274	
09:15			435		439		874		21:15			130		142		272	
09:30			425		335		760		21:30			125		111		236	
09:45			397	1786	324	1493	721	3279	21:45			102	498	104	490	206	988
10:00			330		297		627		22:00			112		115		227	
10:15			305		272		577		22:15			75		96		171	
10:30			295		236		531		22:30			79		102		181	
10:45			338	1268	244	1049	582	2317	22:45			62	328	89	402	151	730
11:00			297		290		587		23:00			41		60		101	
11:15			344		290		634		23:15			48		46		94	
11:30			327		325		652		23:30			45		79		124	
11:45			375	1343	310	1215	685	2558	23:45			41	175	67	252	108	427
TOTALS				12345		8593		20938	TOTALS				12366		12682		25048
SPLIT %				59.0%		41.0%		45.5%	SPLIT %				49.4%		50.6%		54.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	24,711	21,275	45,986

AM Peak Hour			07:30	08:30	07:45	PM Peak Hour			17:00	14:30	16:30
AM Pk Volume			2209	1663	3812	PM Pk Volume			1580	1568	3002
Pk Hr Factor			0.931	0.947	0.942	Pk Hr Factor			0.971	0.810	0.901
7 - 9 Volume	0	0	4248	2977	7225	4 - 6 Volume	0	0	3062	2796	5858
7 - 9 Peak Hour			07:30	07:45	07:45	4 - 6 Peak Hour			17:00	16:15	16:30
7 - 9 Pk Volume	0	0	2209	1631	3812	4 - 6 Pk Volume	0	0	1580	1465	3002
Pk Hr Factor	0.000	0.000	0.931	0.953	0.942	Pk Hr Factor	0.000	0.000	0.971	0.860	0.901

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Pacific Heights Rd & Sequence Dr

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	28,285	24,497	52,782

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			32		28		60		12:00			525		379		904	
00:15			42		24		66		12:15			510		367		877	
00:30			39		48		87		12:30			426		431		857	
00:45			17	130	27	127	44	257	12:45			399	1860	486	1663	885	3523
01:00			24		19		43		13:00			431		462		893	
01:15			19		16		35		13:15			382		446		828	
01:30			22		41		63		13:30			398		442		840	
01:45			29	94	23	99	52	193	13:45			432	1643	396	1746	828	3389
02:00			28		18		46		14:00			374		382		756	
02:15			12		20		32		14:15			335		350		685	
02:30			21		14		35		14:30			481		515		996	
02:45			24	85	24	76	48	161	14:45			359	1549	336	1583	695	3132
03:00			25		17		42		15:00			404		370		774	
03:15			28		19		47		15:15			458		318		776	
03:30			25		21		46		15:30			561		338		899	
03:45			54	132	33	90	87	222	15:45			499	1922	261	1287	760	3209
04:00			38		27		65		16:00			643		301		944	
04:15			60		41		101		16:15			630		239		869	
04:30			70		48		118		16:30			598		269		867	
04:45			137	305	102	218	239	523	16:45			707	2578	279	1088	986	3666
05:00			102		80		182		17:00			733		307		1040	
05:15			131		95		226		17:15			589		268		857	
05:30			201		161		362		17:30			733		278		1011	
05:45			428	862	206	542	634	1404	17:45			661	2716	272	1125	933	3841
06:00			276		204		480		18:00			685		309		994	
06:15			327		278		605		18:15			656		296		952	
06:30			309		280		589		18:30			570		259		829	
06:45			482	1394	357	1119	839	2513	18:45			553	2464	232	1096	785	3560
07:00			390		410		800		19:00			397		262		659	
07:15			403		462		865		19:15			395		209		604	
07:30			432		505		937		19:30			313		194		507	
07:45			406	1631	560	1937	966	3568	19:45			316	1421	158	823	474	2244
08:00			415		651		1066		20:00			215		162		377	
08:15			333		637		970		20:15			244		141		385	
08:30			356		669		1025		20:30			214		146		360	
08:45			348	1452	684	2641	1032	4093	20:45			175	848	127	576	302	1424
09:00			318		668		986		21:00			173		126		299	
09:15			288		720		1008		21:15			139		131		270	
09:30			297		698		995		21:30			131		97		228	
09:45			276	1179	531	2617	807	3796	21:45			111	554	85	439	196	993
10:00			271		531		802		22:00			129		95		224	
10:15			276		446		722		22:15			108		75		183	
10:30			266		406		672		22:30			91		87		178	
10:45			347	1160	323	1706	670	2866	22:45			70	398	51	308	121	706
11:00			329		330		659		23:00			62		68		130	
11:15			354		278		632		23:15			67		59		126	
11:30			453		386		839		23:30			58		75		133	
11:45			537	1673	345	1339	882	3012	23:45			48	235	50	252	98	487
TOTALS				10097		12511		22608	TOTALS				18188		11986		30174
SPLIT %				44.7%		55.3%		42.8%	SPLIT %				60.3%		39.7%		57.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	28,285	24,497	52,782

AM Peak Hour			11:30	08:45	08:00	PM Peak Hour			16:45	12:45	16:45
AM Pk Volume			2025	2770	4093	PM Pk Volume			2762	1836	3894
Pk Hr Factor			0.943	0.962	0.960	Pk Hr Factor			0.942	0.944	0.936
7 - 9 Volume	0	0	3083	4578	7661	4 - 6 Volume	0	0	5294	2213	7507
7 - 9 Peak Hour			07:15	08:00	08:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	1656	2641	4093	4 - 6 Pk Volume	0	0	2762	1132	3894
Pk Hr Factor	0.000	0.000	0.958	0.965	0.960	Pk Hr Factor	0.000	0.000	0.942	0.922	0.936

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Pacific Heights Rd & Camino Santa Fe

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	25,061	23,432	48,493

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			65		21		86		12:00			528		313		841	
00:15			52		19		71		12:15			475		363		838	
00:30			28		25		53		12:30			441		371		812	
00:45			21	166	16	81	37	247	12:45			368	1812	471	1518	839	3330
01:00			32		11		43		13:00			394		457		851	
01:15			14		12		26		13:15			339		440		779	
01:30			16		9		25		13:30			368		385		753	
01:45			24	86	12	44	36	130	13:45			339	1440	357	1639	696	3079
02:00			31		11		42		14:00			316		326		642	
02:15			17		12		29		14:15			349		296		645	
02:30			20		21		41		14:30			501		319		820	
02:45			14	82	19	63	33	145	14:45			374	1540	299	1240	673	2780
03:00			13		19		32		15:00			467		241		708	
03:15			14		13		27		15:15			455		216		671	
03:30			19		23		42		15:30			618		197		815	
03:45			24	70	40	95	64	165	15:45			542	2082	174	828	716	2910
04:00			28		28		56		16:00			712		188		900	
04:15			27		42		69		16:15			639		188		827	
04:30			43		98		141		16:30			689		169		858	
04:45			68	166	133	301	201	467	16:45			685	2725	159	704	844	3429
05:00			62		105		167		17:00			618		180		798	
05:15			84		149		233		17:15			627		158		785	
05:30			107		222		329		17:30			771		146		917	
05:45			159	412	320	796	479	1208	17:45			616	2632	182	666	798	3298
06:00			151		279		430		18:00			635		193		828	
06:15			155		372		527		18:15			662		184		846	
06:30			166		432		598		18:30			602		183		785	
06:45			184	656	450	1533	634	2189	18:45			462	2361	187	747	649	3108
07:00			201		470		671		19:00			461		207		668	
07:15			207		652		859		19:15			431		158		589	
07:30			190		748		938		19:30			344		170		514	
07:45			206	804	766	2636	972	3440	19:45			308	1544	135	670	443	2214
08:00			230		730		960		20:00			284		117		401	
08:15			197		746		943		20:15			242		118		360	
08:30			179		795		974		20:30			194		138		332	
08:45			183	789	841	3112	1024	3901	20:45			186	906	95	468	281	1374
09:00			211		773		984		21:00			195		103		298	
09:15			213		703		916		21:15			158		113		271	
09:30			198		636		834		21:30			141		80		221	
09:45			211	833	580	2692	791	3525	21:45			110	604	69	365	179	969
10:00			234		518		752		22:00			124		90		214	
10:15			222		404		626		22:15			111		63		174	
10:30			235		330		565		22:30			107		42		149	
10:45			271	962	331	1583	602	2545	22:45			83	425	52	247	135	672
11:00			338		309		647		23:00			79		34		113	
11:15			377		285		662		23:15			71		46		117	
11:30			467		310		777		23:30			89		43		132	
11:45			485	1667	347	1251	832	2918	23:45			58	297	30	153	88	450
TOTALS				6693		14187		20880	TOTALS				18368		9245		27613
SPLIT %				32.1%		67.9%		43.1%	SPLIT %				66.5%		33.5%		56.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	25,061	23,432	48,493

AM Peak Hour			11:30	08:15	08:15	PM Peak Hour			16:00	12:45	16:00
AM Pk Volume			1955	3155	3925	PM Pk Volume			2725	1753	3429
Pk Hr Factor			0.926	0.938	0.958	Pk Hr Factor			0.957	0.930	0.953
7 - 9 Volume	0	0	1593	5748	7341	4 - 6 Volume	0	0	5357	1370	6727
7 - 9 Peak Hour			07:15	08:00	08:00	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	833	3112	3901	4 - 6 Pk Volume	0	0	2725	704	3429
Pk Hr Factor	0.000	0.000	0.905	0.925	0.952	Pk Hr Factor	0.000	0.000	0.957	0.936	0.953

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Flanders Dr & Camino Santa Fe

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,175	17,958	37,133

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			40		15		55		12:00			374		248		622	
0:15			35		23		58		12:15			336		276		612	
0:30			55		13		68		12:30			311		283		594	
0:45			25	155	14	65	39	220	12:45			286	1307	331	1138	617	2445
1:00			26		13		39		13:00			275		325		600	
1:15			22		10		32		13:15			275		293		568	
1:30			32		16		48		13:30			275		279		554	
1:45			35	115	12	51	47	166	13:45			249	1074	259	1156	508	2230
2:00			29		10		39		14:00			290		241		531	
2:15			12		9		21		14:15			260		195		455	
2:30			17		15		32		14:30			344		226		570	
2:45			14	72	20	54	34	126	14:45			322	1216	177	839	499	2055
3:00			20		11		31		15:00			328		182		510	
3:15			11		13		24		15:15			385		155		540	
3:30			10		31		41		15:30			496		141		637	
3:45			16	57	48	103	64	160	15:45			449	1658	132	610	581	2268
4:00			12		36		48		16:00			627		114		741	
4:15			13		58		71		16:15			601		105		706	
4:30			12		83		95		16:30			642		119		761	
4:45			16	53	118	295	134	348	16:45			629	2499	117	455	746	2954
5:00			21		84		105		17:00			543		125		668	
5:15			24		98		122		17:15			583		138		721	
5:30			17		214		231		17:30			640		121		761	
5:45			45	107	285	681	330	788	17:45			639	2405	117	501	756	2906
6:00			48		252		300		18:00			410		133		543	
6:15			48		331		379		18:15			460		127		587	
6:30			60		301		361		18:30			473		108		581	
6:45			60	216	333	1217	393	1433	18:45			385	1728	116	484	501	2212
7:00			72		440		512		19:00			381		116		497	
7:15			84		547		631		19:15			351		117		468	
7:30			79		549		628		19:30			287		98		385	
7:45			74	309	660	2196	734	2505	19:45			300	1319	97	428	397	1747
8:00			100		672		772		20:00			233		85		318	
8:15			95		652		747		20:15			225		78		303	
8:30			94		651		745		20:30			234		72		306	
8:45			107	396	666	2641	773	3037	20:45			178	870	67	302	245	1172
9:00			106		567		673		21:00			159		82		241	
9:15			140		538		678		21:15			156		95		251	
9:30			112		452		564		21:30			124		59		183	
9:45			125	483	466	2023	591	2506	21:45			120	559	66	302	186	861
10:00			148		380		528		22:00			118		49		167	
10:15			156		319		475		22:15			112		48		160	
10:30			192		279		471		22:30			105		47		152	
10:45			207	703	264	1242	471	1945	22:45			90	425	44	188	134	613
11:00			239		195		434		23:00			84		33		117	
11:15			261		196		457		23:15			64		30		94	
11:30			337		217		554		23:30			90		28		118	
11:45			324	1161	264	872	588	2033	23:45			50	288	24	115	74	403
TOTALS				3827		11440		15267	TOTALS				15348		6518		21866
SPLIT %				25.1%		74.9%		41.1%	SPLIT %				70.2%		29.8%		58.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,175	17,958	37,133

AM Peak Hour			11:30	8:00	8:00	PM Peak Hour			16:00	12:30	16:00
AM Pk Volume			1371	2641	3037	PM Pk Volume			2499	1232	2954
Pk Hr Factor			0.916	0.983	0.982	Pk Hr Factor			0.973	0.931	0.970
7 - 9 Volume	0	0	705	4837	5542	4 - 6 Volume	0	0	4904	956	5860
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:00	16:45	16:00
7 - 9 Pk Volume	0	0	396	2641	3037	4 - 6 Pk Volume	0	0	2499	501	2954
Pk Hr Factor	0.000	0.000	0.925	0.983	0.982	Pk Hr Factor	0.000	0.000	0.973	0.908	0.970

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Camino Santa Fe & Camino Ruiz

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	29,471	28,330	57,801

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			61		31		92		12:00			560		392		952	
00:15			60		21		81		12:15			482		427		909	
00:30			26		27		53		12:30			502		521		1023	
00:45			33	180	31	110	64	290	12:45			433	1977	487	1827	920	3804
01:00			27		21		48		13:00			426		555		981	
01:15			22		22		44		13:15			387		473		860	
01:30			11		14		25		13:30			365		409		774	
01:45			19	79	16	73	35	152	13:45			414	1592	394	1831	808	3423
02:00			30		9		39		14:00			479		374		853	
02:15			14		12		26		14:15			446		285		731	
02:30			29		15		44		14:30			563		337		900	
02:45			19	92	20	56	39	148	14:45			465	1953	325	1321	790	3274
03:00			12		24		36		15:00			586		264		850	
03:15			19		15		34		15:15			591		279		870	
03:30			10		31		41		15:30			770		257		1027	
03:45			24	65	40	110	64	175	15:45			692	2639	255	1055	947	3694
04:00			21		29		50		16:00			835		253		1088	
04:15			27		47		74		16:15			839		279		1118	
04:30			39		101		140		16:30			877		226		1103	
04:45			33	120	167	344	200	464	16:45			821	3372	255	1013	1076	4385
05:00			31		139		170		17:00			849		265		1114	
05:15			48		223		271		17:15			826		279		1105	
05:30			67		326		393		17:30			811		239		1050	
05:45			72	218	384	1072	456	1290	17:45			796	3282	289	1072	1085	4354
06:00			93		361		454		18:00			730		278		1008	
06:15			90		417		507		18:15			791		279		1070	
06:30			202		447		649		18:30			669		246		915	
06:45			221	606	499	1724	720	2330	18:45			669	2859	255	1058	924	3917
07:00			290		473		763		19:00			558		220		778	
07:15			284		812		1096		19:15			519		237		756	
07:30			226		881		1107		19:30			432		244		676	
07:45			226	1026	936	3102	1162	4128	19:45			397	1906	241	942	638	2848
08:00			190		964		1154		20:00			340		198		538	
08:15			211		916		1127		20:15			323		174		497	
08:30			221		919		1140		20:30			271		196		467	
08:45			181	803	881	3680	1062	4483	20:45			200	1134	174	742	374	1876
09:00			270		843		1113		21:00			263		172		435	
09:15			238		831		1069		21:15			192		167		359	
09:30			250		698		948		21:30			193		168		361	
09:45			261	1019	635	3007	896	4026	21:45			133	781	126	633	259	1414
10:00			230		489		719		22:00			135		118		253	
10:15			252		421		673		22:15			113		89		202	
10:30			265		387		652		22:30			178		64		242	
10:45			300	1047	361	1658	661	2705	22:45			108	534	56	327	164	861
11:00			398		319		717		23:00			102		55		157	
11:15			383		344		727		23:15			87		58		145	
11:30			525		345		870		23:30			97		38		135	
11:45			519	1825	360	1368	879	3193	23:45			76	362	54	205	130	567
TOTALS				7080		16304		23384	TOTALS				22391		12026		34417
SPLIT %				30.3%		69.7%		40.5%	SPLIT %				65.1%		34.9%		59.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	29,471	28,330	57,801

AM Peak Hour			11:30	07:45	07:45	PM Peak Hour			16:15	12:30	16:15
AM Pk Volume			2086	3735	4583	PM Pk Volume			3386	2036	4411
Pk Hr Factor			0.931	0.969	0.986	Pk Hr Factor			0.965	0.917	0.986
7 - 9 Volume	0	0	1829	6782	8611	4 - 6 Volume	0	0	6654	2085	8739
7 - 9 Peak Hour			07:00	07:45	07:45	4 - 6 Peak Hour			16:15	17:00	16:15
7 - 9 Pk Volume	0	0	1026	3735	4583	4 - 6 Pk Volume	0	0	3386	1072	4411
Pk Hr Factor	0.000	0.000	0.884	0.969	0.986	Pk Hr Factor	0.000	0.000	0.965	0.927	0.986

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Parkdale Ave & Reagan Rd

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	25,057	25,750	50,807

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			54		42		96		12:00			432		313		745	
00:15			45		29		74		12:15			485		409		894	
00:30			58		31		89		12:30			374		471		845	
00:45			33	190	25	127	58	317	12:45			272	1563	458	1651	730	3214
01:00			22		23		45		13:00			267		477		744	
01:15			23		17		40		13:15			273		377		650	
01:30			19		19		38		13:30			277		393		670	
01:45			20	84	11	70	31	154	13:45			291	1108	356	1603	647	2711
02:00			12		12		24		14:00			427		285		712	
02:15			9		17		26		14:15			316		331		647	
02:30			10		16		26		14:30			468		304		772	
02:45			9	40	23	68	32	108	14:45			456	1667	275	1195	731	2862
03:00			17		26		43		15:00			479		249		728	
03:15			17		15		32		15:15			525		260		785	
03:30			12		38		50		15:30			661		225		886	
03:45			23	69	41	120	64	189	15:45			604	2269	205	939	809	3208
04:00			22		36		58		16:00			792		214		1006	
04:15			25		57		82		16:15			776		266		1042	
04:30			28		86		114		16:30			671		227		898	
04:45			30	105	151	330	181	435	16:45			720	2959	248	955	968	3914
05:00			35		119		154		17:00			814		238		1052	
05:15			42		161		203		17:15			776		292		1068	
05:30			67		300		367		17:30			748		260		1008	
05:45			66	210	358	938	424	1148	17:45			703	3041	273	1063	976	4104
06:00			74		286		360		18:00			633		222		855	
06:15			83		371		454		18:15			646		254		900	
06:30			125		457		582		18:30			526		249		775	
06:45			157	439	493	1607	650	2046	18:45			540	2345	241	966	781	3311
07:00			260		509		769		19:00			430		219		649	
07:15			242		711		953		19:15			425		203		628	
07:30			212		832		1044		19:30			383		237		620	
07:45			189	903	855	2907	1044	3810	19:45			356	1594	194	853	550	2447
08:00			205		857		1062		20:00			319		234		553	
08:15			196		842		1038		20:15			293		202		495	
08:30			213		790		1003		20:30			236		230		466	
08:45			172	786	802	3291	974	4077	20:45			216	1064	186	852	402	1916
09:00			176		731		907		21:00			221		164		385	
09:15			210		580		790		21:15			229		178		407	
09:30			198		519		717		21:30			196		167		363	
09:45			173	757	524	2354	697	3111	21:45			138	784	163	672	301	1456
10:00			192		433		625		22:00			143		118		261	
10:15			186		353		539		22:15			128		119		247	
10:30			187		351		538		22:30			154		58		212	
10:45			242	807	311	1448	553	2255	22:45			110	535	72	367	182	902
11:00			289		239		528		23:00			94		56		150	
11:15			310		298		608		23:15			84		57		141	
11:30			362		281		643		23:30			109		52		161	
11:45			422	1383	336	1154	758	2537	23:45			68	355	55	220	123	575
TOTALS				5773		14414		20187	TOTALS				19284		11336		30620
SPLIT %				28.6%		71.4%		39.7%	SPLIT %				63.0%		37.0%		60.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	25,057	25,750	50,807

AM Peak Hour			11:45	07:30	07:30	PM Peak Hour			16:45	12:15	17:00
AM Pk Volume			1713	3386	4188	PM Pk Volume			3058	1815	4104
Pk Hr Factor			0.883	0.988	0.986	Pk Hr Factor			0.939	0.951	0.961
7 - 9 Volume	0	0	1689	6198	7887	4 - 6 Volume	0	0	6000	2018	8018
7 - 9 Peak Hour			07:00	07:30	07:30	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	903	3386	4188	4 - 6 Pk Volume	0	0	3058	1063	4104
Pk Hr Factor	0.000	0.000	0.868	0.988	0.986	Pk Hr Factor	0.000	0.000	0.939	0.910	0.961

Prepared by NDS/ATD

VOLUME

Mira Mesa Blvd Bet. Reagan Rd & Camino Ruiz

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,428	23,817	46,245

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			62		40		102		12:00			343		311		654	
00:15			42		31		73		12:15			365		378		743	
00:30			58		30		88		12:30			346		432		778	
00:45			28	190	23	124	51	314	12:45			286	1340	392	1513	678	2853
01:00			20		25		45		13:00			297		403		700	
01:15			21		22		43		13:15			286		358		644	
01:30			20		17		37		13:30			306		324		630	
01:45			18	79	10	74	28	153	13:45			301	1190	344	1429	645	2619
02:00			15		12		27		14:00			402		269		671	
02:15			10		16		26		14:15			345		318		663	
02:30			6		12		18		14:30			381		304		685	
02:45			10	41	23	63	33	104	14:45			428	1556	277	1168	705	2724
03:00			15		21		36		15:00			454		253		707	
03:15			17		22		39		15:15			501		270		771	
03:30			13		34		47		15:30			580		233		813	
03:45			20	65	35	112	55	177	15:45			553	2088	215	971	768	3059
04:00			21		34		55		16:00			623		220		843	
04:15			27		56		83		16:15			664		210		874	
04:30			27		80		107		16:30			616		221		837	
04:45			35	110	129	299	164	409	16:45			588	2491	254	905	842	3396
05:00			32		118		150		17:00			584		230		814	
05:15			37		136		173		17:15			586		259		845	
05:30			71		275		346		17:30			591		235		826	
05:45			65	205	293	822	358	1027	17:45			581	2342	255	979	836	3321
06:00			69		266		335		18:00			530		254		784	
06:15			84		354		438		18:15			556		243		799	
06:30			125		379		504		18:30			440		238		678	
06:45			166	444	491	1490	657	1934	18:45			430	1956	244	979	674	2935
07:00			261		445		706		19:00			393		246		639	
07:15			233		540		773		19:15			387		206		593	
07:30			150		723		873		19:30			364		245		609	
07:45			175	819	706	2414	881	3233	19:45			312	1456	215	912	527	2368
08:00			167		695		862		20:00			304		261		565	
08:15			153		649		802		20:15			281		191		472	
08:30			173		728		901		20:30			235		215		450	
08:45			157	650	672	2744	829	3394	20:45			223	1043	180	847	403	1890
09:00			175		653		828		21:00			203		193		396	
09:15			163		481		644		21:15			205		160		365	
09:30			202		493		695		21:30			186		188		374	
09:45			173	713	455	2082	628	2795	21:45			132	726	154	695	286	1421
10:00			203		406		609		22:00			149		114		263	
10:15			202		321		523		22:15			129		107		236	
10:30			197		338		535		22:30			153		60		213	
10:45			238	840	301	1366	539	2206	22:45			110	541	72	353	182	894
11:00			257		263		520		23:00			86		72		158	
11:15			329		305		634		23:15			74		61		135	
11:30			305		294		599		23:30			84		56		140	
11:45			343	1234	372	1234	715	2468	23:45			65	309	53	242	118	551
TOTALS				5390		12824		18214	TOTALS				17038		10993		28031
SPLIT %				29.6%		70.4%		39.4%	SPLIT %				60.8%		39.2%		60.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,428	23,817	46,245

AM Peak Hour			11:45	07:45	07:45	PM Peak Hour			16:00	12:15	16:00
AM Pk Volume			1397	2778	3446	PM Pk Volume			2491	1605	3396
Pk Hr Factor			0.957	0.954	0.956	Pk Hr Factor			0.938	0.929	0.971
7 - 9 Volume	0	0	1469	5158	6627	4 - 6 Volume	0	0	4833	1884	6717
7 - 9 Peak Hour			07:00	07:45	07:45	4 - 6 Peak Hour			16:00	17:00	16:00
7 - 9 Pk Volume	0	0	819	2778	3446	4 - 6 Pk Volume	0	0	2491	979	3396
Pk Hr Factor	0.000	0.000	0.784	0.954	0.956	Pk Hr Factor	0.000	0.000	0.938	0.945	0.971

Prepared by NDS/ATD

VOLUME

Flanders Dr Bet. Mira Mesa Blvd & Camino Santa Fe

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,083	3,987	8,070

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			2		3		5		12:00			72		89		161	
0:15			2		1		3		12:15			73		97		170	
0:30			8		2		10		12:30			59		75		134	
0:45			1	13	1	7	2	20	12:45			46	250	109	370	155	620
1:00			2		0		2		13:00			63		66		129	
1:15			3		0		3		13:15			44		77		121	
1:30			4		1		5		13:30			48		78		126	
1:45			1	10	1	2	2	12	13:45			56	211	67	288	123	499
2:00			0		1		1		14:00			51		47		98	
2:15			1		0		1		14:15			55		52		107	
2:30			0		0		0		14:30			113		58		171	
2:45			1	2	2	3	3	5	14:45			91	310	43	200	134	510
3:00			0		1		1		15:00			98		43		141	
3:15			1		1		2		15:15			72		27		99	
3:30			0		1		1		15:30			113		43		156	
3:45			0	1	2	5	2	6	15:45			103	386	27	140	130	526
4:00			2		8		10		16:00			188		27		215	
4:15			1		2		3		16:15			165		35		200	
4:30			2		9		11		16:30			199		33		232	
4:45			6	11	16	35	22	46	16:45			151	703	31	126	182	829
5:00			6		16		22		17:00			221		38		259	
5:15			6		20		26		17:15			224		47		271	
5:30			8		27		35		17:30			197		27		224	
5:45			7	27	56	119	63	146	17:45			161	803	35	147	196	950
6:00			8		51		59		18:00			124		36		160	
6:15			8		58		66		18:15			117		29		146	
6:30			11		57		68		18:30			97		20		117	
6:45			21	48	95	261	116	309	18:45			74	412	24	109	98	521
7:00			17		106		123		19:00			51		19		70	
7:15			19		108		127		19:15			42		17		59	
7:30			23		126		149		19:30			44		16		60	
7:45			18	77	169	509	187	586	19:45			19	156	12	64	31	220
8:00			30		156		186		20:00			31		10		41	
8:15			31		130		161		20:15			19		7		26	
8:30			27		138		165		20:30			17		7		24	
8:45			20	108	176	600	196	708	20:45			16	83	9	33	25	116
9:00			20		133		153		21:00			10		3		13	
9:15			24		148		172		21:15			13		7		20	
9:30			28		107		135		21:30			13		4		17	
9:45			29	101	82	470	111	571	21:45			10	46	2	16	12	62
10:00			22		63		85		22:00			12		2		14	
10:15			25		64		89		22:15			6		4		10	
10:30			24		50		74		22:30			8		2		10	
10:45			18	89	45	222	63	311	22:45			7	33	1	9	8	42
11:00			39		48		87		23:00			6		3		9	
11:15			41		48		89		23:15			4		2		6	
11:30			50		63		113		23:30			5		3		8	
11:45			56	186	83	242	139	428	23:45			2	17	2	10	4	27
TOTALS				673		2475		3148	TOTALS				3410		1512		4922
SPLIT %				21.4%		78.6%		39.0%	SPLIT %				69.3%		30.7%		61.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,083	3,987	8,070

AM Peak Hour			11:45	8:00	8:00	PM Peak Hour			17:00	12:00	17:00
AM Pk Volume			260	600	708	PM Pk Volume			803	370	950
Pk Hr Factor			0.890	0.852	0.903	Pk Hr Factor			0.896	0.849	0.876
7 - 9 Volume	0	0	185	1109	1294	4 - 6 Volume	0	0	1506	273	1779
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			17:00	16:30	17:00
7 - 9 Pk Volume	0	0	108	600	708	4 - 6 Pk Volume	0	0	803	149	950
Pk Hr Factor	0.000	0.000	0.871	0.852	0.903	Pk Hr Factor	0.000	0.000	0.896	0.793	0.876

Prepared by NDS/ATD

VOLUME

Carroll Canyon Rd Bet. Pacific Heights Rd & Fenton Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,644	3,543	8,187

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			5		5		10		12:00			72		80		152	
0:15			5		3		8		12:15			74		69		143	
0:30			2		1		3		12:30			87		72		159	
0:45			1	13	4	13	5	26	12:45			103	336	68	289	171	625
1:00			2		3		5		13:00			69		83		152	
1:15			5		2		7		13:15			91		46		137	
1:30			2		7		9		13:30			60		102		162	
1:45			1	10	3	15	4	25	13:45			65	285	87	318	152	603
2:00			2		2		4		14:00			67		126		193	
2:15			4		1		5		14:15			65		74		139	
2:30			3		2		5		14:30			65		83		148	
2:45			3	12	3	8	6	20	14:45			69	266	71	354	140	620
3:00			6		6		12		15:00			61		97		158	
3:15			9		8		17		15:15			59		71		130	
3:30			4		4		8		15:30			78		87		165	
3:45			9	28	10	28	19	56	15:45			83	281	63	318	146	599
4:00			4		5		9		16:00			110		95		205	
4:15			4		5		9		16:15			147		61		208	
4:30			8		6		14		16:30			117		82		199	
4:45			30	46	9	25	39	71	16:45			92	466	56	294	148	760
5:00			26		5		31		17:00			106		85		191	
5:15			48		5		53		17:15			93		74		167	
5:30			38		7		45		17:30			92		66		158	
5:45			34	146	11	28	45	174	17:45			100	391	62	287	162	678
6:00			51		8		59		18:00			65		73		138	
6:15			70		22		92		18:15			58		48		106	
6:30			73		24		97		18:30			59		40		99	
6:45			101	295	20	74	121	369	18:45			31	213	40	201	71	414
7:00			84		35		119		19:00			18		30		48	
7:15			106		36		142		19:15			17		20		37	
7:30			109		37		146		19:30			25		25		50	
7:45			96	395	38	146	134	541	19:45			20	80	22	97	42	177
8:00			97		36		133		20:00			13		29		42	
8:15			96		61		157		20:15			14		22		36	
8:30			104		38		142		20:30			17		50		67	
8:45			100	397	53	188	153	585	20:45			13	57	26	127	39	184
9:00			97		47		144		21:00			16		10		26	
9:15			81		63		144		21:15			10		12		22	
9:30			85		49		134		21:30			5		15		20	
9:45			77	340	55	214	132	554	21:45			8	39	14	51	22	90
10:00			57		36		93		22:00			7		10		17	
10:15			61		39		100		22:15			12		9		21	
10:30			64		49		113		22:30			4		9		13	
10:45			56	238	55	179	111	417	22:45			5	28	8	36	13	64
11:00			60		49		109		23:00			6		2		8	
11:15			69		57		126		23:15			3		9		12	
11:30			75		66		141		23:30			2		9		11	
11:45			62	266	56	228	118	494	23:45			5	16	5	25	10	41
TOTALS				2186		1146		3332	TOTALS				2458		2397		4855
SPLIT %				65.6%		34.4%		40.7%	SPLIT %				50.6%		49.4%		59.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,644	3,543	8,187

AM Peak Hour			7:15	11:45	8:15	PM Peak Hour			16:00	13:30	16:00
AM Pk Volume			408	277	596	PM Pk Volume			466	389	760
Pk Hr Factor			0.936	0.866	0.949	Pk Hr Factor			0.793	0.772	0.913
7 - 9 Volume	0	0	792	334	1126	4 - 6 Volume	0	0	857	581	1438
7 - 9 Peak Hour			7:15	8:00	8:00	4 - 6 Peak Hour			16:00	16:30	16:00
7 - 9 Pk Volume	0	0	408	188	585	4 - 6 Pk Volume	0	0	466	297	760
Pk Hr Factor	0.000	0.000	0.936	0.770	0.932	Pk Hr Factor	0.000	0.000	0.793	0.874	0.913

Prepared by NDS/ATD

VOLUME

Carroll Rd Bet. Fenton Rd & Camino Santa Fe

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,614	2,743	6,357

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		0		1		12:00			63		43		106	
00:15			2		1		3		12:15			74		60		134	
00:30			0		1		1		12:30			61		64		125	
00:45			0	3	3	5	3	8	12:45			77	275	59	226	136	501
01:00			3		3		6		13:00			57		47		104	
01:15			0		1		1		13:15			40		46		86	
01:30			1		1		2		13:30			52		67		119	
01:45			4	8	2	7	6	15	13:45			49	198	52	212	101	410
02:00			1		0		1		14:00			63		46		109	
02:15			1		2		3		14:15			50		50		100	
02:30			1		2		3		14:30			59		76		135	
02:45			1	4	1	5	2	9	14:45			63	235	60	232	123	467
03:00			2		1		3		15:00			54		71		125	
03:15			0		1		1		15:15			69		52		121	
03:30			2		1		3		15:30			65		65		130	
03:45			3	7	6	9	9	16	15:45			66	254	54	242	120	496
04:00			3		1		4		16:00			98		34		132	
04:15			6		6		12		16:15			101		53		154	
04:30			7		1		8		16:30			69		75		144	
04:45			12	28	4	12	16	40	16:45			73	341	51	213	124	554
05:00			15		5		20		17:00			103		45		148	
05:15			15		9		24		17:15			88		48		136	
05:30			18		8		26		17:30			112		43		155	
05:45			33	81	8	30	41	111	17:45			73	376	42	178	115	554
06:00			29		17		46		18:00			66		36		102	
06:15			42		19		61		18:15			82		36		118	
06:30			55		24		79		18:30			42		29		71	
06:45			60	186	27	87	87	273	18:45			41	231	26	127	67	358
07:00			70		37		107		19:00			39		17		56	
07:15			82		39		121		19:15			21		19		40	
07:30			67		67		134		19:30			16		17		33	
07:45			65	284	60	203	125	487	19:45			12	88	14	67	26	155
08:00			73		61		134		20:00			8		11		19	
08:15			57		52		109		20:15			15		14		29	
08:30			75		42		117		20:30			5		15		20	
08:45			64	269	65	220	129	489	20:45			3	31	10	50	13	81
09:00			62		53		115		21:00			7		9		16	
09:15			62		50		112		21:15			4		11		15	
09:30			71		44		115		21:30			1		7		8	
09:45			55	250	52	199	107	449	21:45			4	16	9	36	13	52
10:00			53		48		101		22:00			1		2		3	
10:15			46		31		77		22:15			4		4		8	
10:30			51		48		99		22:30			9		6		15	
10:45			47	197	28	155	75	352	22:45			1	15	4	16	5	31
11:00			51		59		110		23:00			1		5		6	
11:15			48		39		87		23:15			1		2		3	
11:30			69		51		120		23:30			2		1		3	
11:45			62	230	53	202	115	432	23:45			3	7	2	10	5	17
TOTALS				1547		1134		**2681**	**TOTALS**				2067		1609		**3676**
SPLIT %				57.7%		42.3%		**42.2%**	**SPLIT %**				56.2%		43.8%		**57.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,614	2,743	6,357

AM Peak Hour			07:15	07:30	**07:15**	**PM Peak Hour**			16:45	14:30	**16:15**
AM Pk Volume			287	240	**514**	**PM Pk Volume**			376	259	**570**
Pk Hr Factor			0.875	0.896	**0.959**	**Pk Hr Factor**			0.839	0.852	**0.925**
7 - 9 Volume	0	0	553	423	**976**	**4 - 6 Volume**	0	0	717	391	**1108**
7 - 9 Peak Hour			07:15	07:30	**07:15**	**4 - 6 Peak Hour**			16:45	16:15	**16:15**
7 - 9 Pk Volume	0	0	287	240	**514**	**4 - 6 Pk Volume**	0	0	376	224	**570**
Pk Hr Factor	0.000	0.000	0.875	0.896	**0.959**	**Pk Hr Factor**	0.000	0.000	0.839	0.747	**0.925**

Prepared by NDS/ATD

VOLUME

Carroll Rd Bet. Nancy Ridge Dr & Rehco Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,209	6,056	13,265

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			16		15		31		12:00			128		125		253	
00:15			11		6		17		12:15			109		125		234	
00:30			5		4		9		12:30			123		126		249	
00:45			7	39	8	33	15	72	12:45			119	479	138	514	257	993
01:00			5		7		12		13:00			131		141		272	
01:15			9		11		20		13:15			116		94		210	
01:30			10		18		28		13:30			126		134		260	
01:45			5	29	11	47	16	76	13:45			134	507	104	473	238	980
02:00			7		5		12		14:00			168		115		283	
02:15			11		25		36		14:15			94		89		183	
02:30			10		25		35		14:30			100		100		200	
02:45			13	41	37	92	50	133	14:45			78	440	87	391	165	831
03:00			12		13		25		15:00			124		86		210	
03:15			4		14		18		15:15			107		81		188	
03:30			6		11		17		15:30			143		69		212	
03:45			10	32	25	63	35	95	15:45			153	527	69	305	222	832
04:00			8		9		17		16:00			205		79		284	
04:15			5		25		30		16:15			191		71		262	
04:30			15		12		27		16:30			215		80		295	
04:45			15	43	38	84	53	127	16:45			199	810	44	274	243	1084
05:00			19		43		62		17:00			232		64		296	
05:15			32		76		108		17:15			261		57		318	
05:30			31		53		84		17:30			255		48		303	
05:45			51	133	92	264	143	397	17:45			202	950	45	214	247	1164
06:00			68		73		141		18:00			181		49		230	
06:15			89		102		191		18:15			122		29		151	
06:30			95		88		183		18:30			116		33		149	
06:45			91	343	102	365	193	708	18:45			64	483	39	150	103	633
07:00			81		124		205		19:00			50		26		76	
07:15			56		134		190		19:15			29		26		55	
07:30			85		124		209		19:30			37		40		77	
07:45			99	321	138	520	237	841	19:45			36	152	24	116	60	268
08:00			93		154		247		20:00			19		10		29	
08:15			72		165		237		20:15			20		17		37	
08:30			85		143		228		20:30			30		36		66	
08:45			92	342	185	647	277	989	20:45			15	84	24	87	39	171
09:00			134		185		319		21:00			20		19		39	
09:15			101		141		242		21:15			12		23		35	
09:30			84		125		209		21:30			12		19		31	
09:45			96	415	113	564	209	979	21:45			12	56	27	88	39	144
10:00			118		85		203		22:00			22		13		35	
10:15			92		86		178		22:15			25		19		44	
10:30			76		85		161		22:30			18		7		25	
10:45			88	374	87	343	175	717	22:45			9	74	17	56	26	130
11:00			110		89		199		23:00			10		11		21	
11:15			132		78		210		23:15			8		10		18	
11:30			102		83		185		23:30			13		5		18	
11:45			151	495	82	332	233	827	23:45			9	40	8	34	17	74
TOTALS				2607		3354		5961	TOTALS				4602		2702		7304
SPLIT %				43.7%		56.3%		44.9%	SPLIT %				63.0%		37.0%		55.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,209	6,056	13,265

AM Peak Hour			11:15	08:15	08:30	PM Peak Hour			17:00	12:15	17:00
AM Pk Volume			513	678	1066	PM Pk Volume			950	530	1164
Pk Hr Factor			0.849	0.916	0.835	Pk Hr Factor			0.910	0.940	0.915
7 - 9 Volume	0	0	663	1167	1830	4 - 6 Volume	0	0	1760	488	2248
7 - 9 Peak Hour			07:30	08:00	08:00	4 - 6 Peak Hour			17:00	16:00	17:00
7 - 9 Pk Volume	0	0	349	647	989	4 - 6 Pk Volume	0	0	950	274	1164
Pk Hr Factor	0.000	0.000	0.881	0.874	0.893	Pk Hr Factor	0.000	0.000	0.910	0.856	0.915

Prepared by NDS/ATD

VOLUME

Carroll Rd Bet. Rehco Rd & Camino Santa Fe

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	8,946	7,808	16,754

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			3		10		13		12:00			199		152		351	
0:15			11		8		19		12:15			179		143		322	
0:30			13		5		18		12:30			160		163		323	
0:45			7	34	8	31	15	65	12:45			139	677	157	615	296	1292
1:00			8		4		12		13:00			137		149		286	
1:15			17		11		28		13:15			125		117		242	
1:30			18		11		29		13:30			139		160		299	
1:45			6	49	14	40	20	89	13:45			112	513	140	566	252	1079
2:00			4		6		10		14:00			224		111		335	
2:15			8		5		13		14:15			125		104		229	
2:30			15		5		20		14:30			221		94		315	
2:45			17	44	8	24	25	68	14:45			148	718	96	405	244	1123
3:00			5		14		19		15:00			207		78		285	
3:15			8		14		22		15:15			192		95		287	
3:30			16		15		31		15:30			228		91		319	
3:45			10	39	26	69	36	108	15:45			206	833	67	331	273	1164
4:00			15		10		25		16:00			296		81		377	
4:15			22		29		51		16:15			260		67		327	
4:30			25		23		48		16:30			292		69		361	
4:45			35	97	77	139	112	236	16:45			231	1079	47	264	278	1343
5:00			25		106		131		17:00			306		78		384	
5:15			36		152		188		17:15			237		66		303	
5:30			44		152		196		17:30			249		55		304	
5:45			56	161	161	571	217	732	17:45			241	1033	55	254	296	1287
6:00			45		129		174		18:00			192		53		245	
6:15			59		168		227		18:15			159		35		194	
6:30			80		134		214		18:30			147		36		183	
6:45			90	274	175	606	265	880	18:45			111	609	51	175	162	784
7:00			70		193		263		19:00			105		34		139	
7:15			74		192		266		19:15			69		39		108	
7:30			72		195		267		19:30			65		33		98	
7:45			84	300	222	802	306	1102	19:45			47	286	29	135	76	421
8:00			73		222		295		20:00			36		10		46	
8:15			95		240		335		20:15			46		15		61	
8:30			85		209		294		20:30			60		24		84	
8:45			82	335	250	921	332	1256	20:45			45	187	20	69	65	256
9:00			86		245		331		21:00			40		15		55	
9:15			98		183		281		21:15			31		11		42	
9:30			106		165		271		21:30			12		19		31	
9:45			84	374	156	749	240	1123	21:45			21	104	40	85	61	189
10:00			98		102		200		22:00			34		16		50	
10:15			94		109		203		22:15			39		16		55	
10:30			102		106		208		22:30			32		10		42	
10:45			106	400	118	435	224	835	22:45			14	119	16	58	30	177
11:00			142		114		256		23:00			27		15		42	
11:15			129		96		225		23:15			15		8		23	
11:30			169		108		277		23:30			10		7		17	
11:45			180	620	111	429	291	1049	23:45			9	61	5	35	14	96
TOTALS				2727		4816		7543	TOTALS				6219		2992		9211
SPLIT %				36.2%		63.8%		45.0%	SPLIT %				67.5%		32.5%		55.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	8,946	7,808	16,754

AM Peak Hour			11:30	8:15	8:15	PM Peak Hour			16:15	12:00	16:15
AM Pk Volume			727	944	1292	PM Pk Volume			1089	615	1350
Pk Hr Factor			0.913	0.944	0.964	Pk Hr Factor			0.890	0.943	0.879
7 - 9 Volume	0	0	635	1723	2358	4 - 6 Volume	0	0	2112	518	2630
7 - 9 Peak Hour			7:45	8:00	8:00	4 - 6 Peak Hour			16:15	16:00	16:15
7 - 9 Pk Volume	0	0	337	921	1256	4 - 6 Pk Volume	0	0	1089	264	1350
Pk Hr Factor	0.000	0.000	0.887	0.921	0.937	Pk Hr Factor	0.000	0.000	0.890	0.815	0.879

Prepared by NDS/ATD

VOLUME

Carroll Rd Bet. Camino Santa Fe & Miramar Rd

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,509	4,451	9,960

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			7		4		11		12:00			113		84		197	
00:15			3		5		8		12:15			107		83		190	
00:30			0		2		2		12:30			91		93		184	
00:45			5	15	3	14	8	29	12:45			96	407	73	333	169	740
01:00			1		7		8		13:00			100		85		185	
01:15			1		2		3		13:15			109		89		198	
01:30			1		2		3		13:30			96		84		180	
01:45			2	5	3	14	5	19	13:45			98	403	59	317	157	720
02:00			1		2		3		14:00			109		70		179	
02:15			5		6		11		14:15			110		77		187	
02:30			3		2		5		14:30			118		62		180	
02:45			3	12	1	11	4	23	14:45			94	431	71	280	165	711
03:00			6		4		10		15:00			127		63		190	
03:15			2		5		7		15:15			120		65		185	
03:30			3		3		6		15:30			161		69		230	
03:45			9	20	8	20	17	40	15:45			126	534	50	247	176	781
04:00			13		7		20		16:00			161		84		245	
04:15			8		3		11		16:15			115		43		158	
04:30			14		11		25		16:30			139		54		193	
04:45			12	47	29	50	41	97	16:45			119	534	35	216	154	750
05:00			13		19		32		17:00			152		58		210	
05:15			30		40		70		17:15			108		51		159	
05:30			47		29		76		17:30			115		46		161	
05:45			51	141	52	140	103	281	17:45			104	479	40	195	144	674
06:00			39		55		94		18:00			115		38		153	
06:15			68		84		152		18:15			107		26		133	
06:30			47		51		98		18:30			84		38		122	
06:45			53	207	98	288	151	495	18:45			60	366	30	132	90	498
07:00			38		117		155		19:00			58		20		78	
07:15			57		110		167		19:15			39		15		54	
07:30			79		127		206		19:30			40		13		53	
07:45			67	241	134	488	201	729	19:45			27	164	20	68	47	232
08:00			54		127		181		20:00			30		14		44	
08:15			72		121		193		20:15			35		20		55	
08:30			63		114		177		20:30			27		21		48	
08:45			69	258	115	477	184	735	20:45			19	111	18	73	37	184
09:00			58		120		178		21:00			25		12		37	
09:15			51		108		159		21:15			16		13		29	
09:30			82		83		165		21:30			13		12		25	
09:45			82	273	79	390	161	663	21:45			20	74	19	56	39	130
10:00			77		71		148		22:00			18		11		29	
10:15			75		68		143		22:15			9		10		19	
10:30			88		74		162		22:30			8		15		23	
10:45			90	330	66	279	156	609	22:45			10	45	10	46	20	91
11:00			69		66		135		23:00			5		23		28	
11:15			103		71		174		23:15			4		19		23	
11:30			122		53		175		23:30			4		14		18	
11:45			101	395	65	255	166	650	23:45			4	17	6	62	10	79
TOTALS				1944		2426		4370	TOTALS				3565		2025		5590
SPLIT %				44.5%		55.5%		43.9%	SPLIT %				63.8%		36.2%		56.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,509	4,451	9,960

AM Peak Hour			11:30	07:30	07:30	PM Peak Hour			15:15	12:30	15:15
AM Pk Volume			443	509	781	PM Pk Volume			568	340	836
Pk Hr Factor			0.908	0.950	0.948	Pk Hr Factor			0.882	0.914	0.853
7 - 9 Volume	0	0	499	965	1464	4 - 6 Volume	0	0	1013	411	1424
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	272	509	781	4 - 6 Pk Volume	0	0	534	216	750
Pk Hr Factor	0.000	0.000	0.861	0.950	0.948	Pk Hr Factor	0.000	0.000	0.829	0.643	0.765

Prepared by NDS/ATD

VOLUME

Carroll Rd Bet. Kenamar Pl & Miramar Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_007

DAILY TOTALS	NB	SB	EB	WB	Total
	6,643	7,384	0	0	14,027

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	4		11						15		12:00	94		127						221	
0:15	3		11						14		12:15	100		157						257	
0:30	6		11						17		12:30	120		140						260	
0:45	3	16	10	43					13	59	12:45	119	433	140	564					259	997
1:00	8		7						15		13:00	92		108						200	
1:15	3		8						11		13:15	105		134						239	
1:30	6		11						17		13:30	124		123						247	
1:45	8	25	4	30					12	55	13:45	110	431	130	495					240	926
2:00	7		2						9		14:00	100		178						278	
2:15	3		5						8		14:15	97		163						260	
2:30	2		7						9		14:30	77		210						287	
2:45	5	17	4	18					9	35	14:45	65	339	138	689					203	1028
3:00	5		19						24		15:00	88		169						257	
3:15	11		5						16		15:15	78		165						243	
3:30	10		7						17		15:30	78		216						294	
3:45	20	46	4	35					24	81	15:45	62	306	157	707					219	1013
4:00	12		8						20		16:00	56		213						269	
4:15	15		17						32		16:15	50		158						208	
4:30	21		10						31		16:30	63		212						275	
4:45	45	93	19	54					64	147	16:45	57	226	146	729					203	955
5:00	56		16						72		17:00	72		181						253	
5:15	94		23						117		17:15	65		141						206	
5:30	110		33						143		17:30	61		121						182	
5:45	145	405	14	86					159	491	17:45	49	247	116	559					165	806
6:00	101		30						131		18:00	50		120						170	
6:15	165		42						207		18:15	41		130						171	
6:30	138		47						185		18:30	48		110						158	
6:45	198	602	41	160					239	762	18:45	43	182	106	466					149	648
7:00	172		58						230		19:00	49		75						124	
7:15	159		58						217		19:15	21		69						90	
7:30	173		75						248		19:30	28		81						109	
7:45	201	705	78	269					279	974	19:45	27	125	50	275					77	400
8:00	164		67						231		20:00	21		57						78	
8:15	187		72						259		20:15	29		48						77	
8:30	168		71						239		20:30	23		47						70	
8:45	194	713	66	276					260	989	20:45	21	94	46	198					67	292
9:00	188		89						277		21:00	15		54						69	
9:15	158		81						239		21:15	10		45						55	
9:30	165		117						282		21:30	16		21						37	
9:45	152	663	113	400					265	1063	21:45	19	60	31	151					50	211
10:00	110		115						225		22:00	9		42						51	
10:15	113		103						216		22:15	7		19						26	
10:30	95		104						199		22:30	9		49						58	
10:45	129	447	108	430					237	877	22:45	5	30	33	143					38	173
11:00	91		145						236		23:00	14		23						37	
11:15	104		120						224		23:15	5		10						15	
11:30	104		139						243		23:30	6		15						21	
11:45	108	407	143	547					251	954	23:45	6	31	12	60					18	91
TOTALS		4139		2348						6487	TOTALS		2504		5036						7540
SPLIT %		63.8%		36.2%						46.2%	SPLIT %		33.2%		66.8%						53.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	6,643	7,384	0	0	14,027

AM Peak Hour	8:15	11:45			9:00	PM Peak Hour	12:45	15:15			13:45
AM Pk Volume	737	567			1063	PM Pk Volume	440	751			1065
Pk Hr Factor	0.950	0.903			0.942	Pk Hr Factor	0.887	0.869			0.928
7 - 9 Volume	1418	545	0	0	1963	4 - 6 Volume	473	1288	0	0	1761
7 - 9 Peak Hour	7:30	7:30			7:30	4 - 6 Peak Hour	16:30	16:00			16:00
7 - 9 Pk Volume	725	292	0	0	1017	4 - 6 Pk Volume	257	729	0	0	955
Pk Hr Factor	0.902	0.936	0.000	0.000	0.911	Pk Hr Factor	0.892	0.856	0.000	0.000	0.868

Prepared by NDS/ATD

VOLUME

Carroll Canyon Rd Bet. Camino Ruiz & End

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	902	890	1,792

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		0		1		12:00			21		18		39	
00:15			0		0		0		12:15			20		19		39	
00:30			0		0		0		12:30			17		17		34	
00:45			0	1	0		0	1	12:45			24	82	9	63	33	145
01:00			0		0		0		13:00			23		19		42	
01:15			1		0		1		13:15			18		25		43	
01:30			0		0		0		13:30			19		23		42	
01:45			0	1	0		0	1	13:45			18	78	28	95	46	173
02:00			0		1		1		14:00			24		13		37	
02:15			0		0		0		14:15			14		16		30	
02:30			0		0		0		14:30			19		20		39	
02:45			1	1	0	1	1	2	14:45			24	81	17	66	41	147
03:00			0		0		0		15:00			20		22		42	
03:15			0		0		0		15:15			25		10		35	
03:30			0		0		0		15:30			31		13		44	
03:45			0		1	1	1	1	15:45			15	91	10	55	25	146
04:00			1		2		3		16:00			43		10		53	
04:15			0		0		0		16:15			19		10		29	
04:30			0		0		0		16:30			32		4		36	
04:45			3	4	6	8	9	12	16:45			22	116	5	29	27	145
05:00			1		4		5		17:00			34		8		42	
05:15			0		12		12		17:15			18		3		21	
05:30			1		11		12		17:30			18		6		24	
05:45			3	5	10	37	13	42	17:45			16	86	5	22	21	108
06:00			2		14		16		18:00			17		2		19	
06:15			1		18		19		18:15			7		5		12	
06:30			4		29		33		18:30			6		5		11	
06:45			2	9	31	92	33	101	18:45			7	37	0	12	7	49
07:00			5		19		24		19:00			6		2		8	
07:15			26		31		57		19:15			4		1		5	
07:30			10		20		30		19:30			9		4		13	
07:45			3	44	27	97	30	141	19:45			1	20	1	8	2	28
08:00			3		28		31		20:00			2		0		2	
08:15			11		17		28		20:15			2		0		2	
08:30			9		20		29		20:30			0		1		1	
08:45			15	38	27	92	42	130	20:45			1	5	1	2	2	7
09:00			10		18		28		21:00			2		1		3	
09:15			7		14		21		21:15			2		6		8	
09:30			8		18		26		21:30			6		3		9	
09:45			13	38	14	64	27	102	21:45			3	13	2	12	5	25
10:00			13		17		30		22:00			7		8		15	
10:15			14		19		33		22:15			2		1		3	
10:30			11		15		26		22:30			2		2		4	
10:45			16	54	17	68	33	122	22:45			1	12	0	11	1	23
11:00			20		10		30		23:00			4		1		5	
11:15			22		17		39		23:15			5		1		6	
11:30			15		14		29		23:30			0		0		0	
11:45			19	76	11	52	30	128	23:45			1	10	1	3	2	13
TOTALS				271		512		783	TOTALS				631		378		1009
SPLIT %				34.6%		65.4%		43.7%	SPLIT %				62.5%		37.5%		56.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	902	890	1,792

AM Peak Hour			11:15	06:30	07:15	PM Peak Hour			16:00	13:00	13:00
AM Pk Volume			77	110	148	PM Pk Volume			116	95	173
Pk Hr Factor			0.875	0.887	0.649	Pk Hr Factor			0.674	0.848	0.940
7 - 9 Volume	0	0	82	189	271	4 - 6 Volume	0	0	202	51	253
7 - 9 Peak Hour			07:00	07:15	07:15	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	44	106	148	4 - 6 Pk Volume	0	0	116	29	145
Pk Hr Factor	0.000	0.000	0.423	0.855	0.649	Pk Hr Factor	0.000	0.000	0.674	0.725	0.684

Prepared by NDS/ATD

VOLUME

Eastgate Mall Bet. Judicial Dr & Miramar Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,660	6,657	14,317

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			18		2		20		12:00			136		96		232	
0:15			12		9		21		12:15			125		78		203	
0:30			9		11		20		12:30			116		83		199	
0:45			13	52	13	35	26	87	12:45			111	488	117	374	228	862
1:00			12		7		19		13:00			108		136		244	
1:15			7		9		16		13:15			116		81		197	
1:30			15		17		32		13:30			100		88		188	
1:45			8	42	14	47	22	89	13:45			114	438	99	404	213	842
2:00			17		8		25		14:00			112		69		181	
2:15			6		10		16		14:15			116		67		183	
2:30			8		9		17		14:30			136		69		205	
2:45			8	39	8	35	16	74	14:45			133	497	64	269	197	766
3:00			4		13		17		15:00			186		48		234	
3:15			9		17		26		15:15			163		59		222	
3:30			3		15		18		15:30			181		60		241	
3:45			6	22	31	76	37	98	15:45			178	708	63	230	241	938
4:00			8		29		37		16:00			234		64		298	
4:15			15		41		56		16:15			223		66		289	
4:30			17		21		38		16:30			253		57		310	
4:45			14	54	41	132	55	186	16:45			298	1008	77	264	375	1272
5:00			10		37		47		17:00			308		62		370	
5:15			12		56		68		17:15			305		67		372	
5:30			18		70		88		17:30			260		62		322	
5:45			17	57	95	258	112	315	17:45			229	1102	52	243	281	1345
6:00			30		94		124		18:00			186		48		234	
6:15			33		149		182		18:15			138		35		173	
6:30			42		121		163		18:30			142		52		194	
6:45			50	155	162	526	212	681	18:45			118	584	39	174	157	758
7:00			50		169		219		19:00			74		38		112	
7:15			66		206		272		19:15			76		33		109	
7:30			61		193		254		19:30			74		34		108	
7:45			71	248	275	843	346	1091	19:45			57	281	31	136	88	417
8:00			62		276		338		20:00			52		17		69	
8:15			64		213		277		20:15			48		19		67	
8:30			71		248		319		20:30			35		15		50	
8:45			81	278	198	935	279	1213	20:45			26	161	10	61	36	222
9:00			74		197		271		21:00			26		15		41	
9:15			66		172		238		21:15			16		12		28	
9:30			77		168		245		21:30			19		16		35	
9:45			75	292	144	681	219	973	21:45			29	90	13	56	42	146
10:00			125		106		231		22:00			42		13		55	
10:15			125		105		230		22:15			18		17		35	
10:30			102		93		195		22:30			23		18		41	
10:45			89	441	80	384	169	825	22:45			24	107	13	61	37	168
11:00			99		99		198		23:00			17		15		32	
11:15			112		96		208		23:15			10		16		26	
11:30			112		88		200		23:30			21		13		34	
11:45			127	450	96	379	223	829	23:45			18	66	10	54	28	120
TOTALS				2130		4331		**6461**	**TOTALS**				5530		2326		**7856**
SPLIT %				33.0%		67.0%		**45.1%**	**SPLIT %**				70.4%		29.6%		**54.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,660	6,657	14,317

AM Peak Hour			11:45	7:45	**7:45**	**PM Peak Hour**			16:45	12:45	**16:45**
AM Pk Volume			504	1012	**1280**	**PM Pk Volume**			1171	422	**1439**
Pk Hr Factor			0.926	0.917	**0.925**	**Pk Hr Factor**			0.950	0.776	**0.959**
7 - 9 Volume	0	0	526	1778	**2304**	**4 - 6 Volume**	0	0	2110	507	**2617**
7 - 9 Peak Hour			8:00	7:45	**7:45**	**4 - 6 Peak Hour**			16:45	16:45	**16:45**
7 - 9 Pk Volume	0	0	278	1012	**1280**	**4 - 6 Pk Volume**	0	0	1171	268	**1439**
Pk Hr Factor	0.000	0.000	0.858	0.917	**0.925**	**Pk Hr Factor**	0.000	0.000	0.950	0.870	**0.959**

Prepared by NDS/ATD

VOLUME

La Jolla Village Dr Bet. Executive Way & Towne Center Dr

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,678	19,666	39,344

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			59		43		102		12:00			367		345		712	
0:15			49		34		83		12:15			349		315		664	
0:30			31		27		58		12:30			349		325		674	
0:45			29	168	22	126	51	294	12:45			309	1374	345	1330	654	2704
1:00			25		17		42		13:00			324		327		651	
1:15			24		15		39		13:15			347		304		651	
1:30			28		13		41		13:30			348		287		635	
1:45			17	94	20	65	37	159	13:45			358	1377	289	1207	647	2584
2:00			22		15		37		14:00			372		262		634	
2:15			24		11		35		14:15			365		257		622	
2:30			25		20		45		14:30			331		277		608	
2:45			10	81	11	57	21	138	14:45			351	1419	363	1159	714	2578
3:00			9		14		23		15:00			382		293		675	
3:15			16		13		29		15:15			330		314		644	
3:30			9		23		32		15:30			360		312		672	
3:45			10	44	24	74	34	118	15:45			298	1370	320	1239	618	2609
4:00			11		21		32		16:00			369		315		684	
4:15			11		33		44		16:15			348		349		697	
4:30			15		44		59		16:30			335		350		685	
4:45			19	56	74	172	93	228	16:45			351	1403	379	1393	730	2796
5:00			26		66		92		17:00			387		376		763	
5:15			35		95		130		17:15			356		412		768	
5:30			44		154		198		17:30			356		396		752	
5:45			70	175	199	514	269	689	17:45			342	1441	342	1526	684	2967
6:00			76		182		258		18:00			325		316		641	
6:15			107		220		327		18:15			323		284		607	
6:30			146		218		364		18:30			349		282		631	
6:45			193	522	259	879	452	1401	18:45			283	1280	247	1129	530	2409
7:00			192		263		455		19:00			302		199		501	
7:15			230		299		529		19:15			282		194		476	
7:30			286		321		607		19:30			247		192		439	
7:45			309	1017	324	1207	633	2224	19:45			214	1045	167	752	381	1797
8:00			330		351		681		20:00			235		146		381	
8:15			323		378		701		20:15			213		126		339	
8:30			327		380		707		20:30			207		129		336	
8:45			328	1308	363	1472	691	2780	20:45			171	826	134	535	305	1361
9:00			249		337		586		21:00			172		138		310	
9:15			295		315		610		21:15			177		110		287	
9:30			277		278		555		21:30			139		122		261	
9:45			276	1097	326	1256	602	2353	21:45			134	622	103	473	237	1095
10:00			230		316		546		22:00			111		110		221	
10:15			258		266		524		22:15			110		97		207	
10:30			243		298		541		22:30			99		85		184	
10:45			273	1004	286	1166	559	2170	22:45			93	413	71	363	164	776
11:00			301		306		607		23:00			102		66		168	
11:15			289		304		593		23:15			77		54		131	
11:30			311		353		664		23:30			90		56		146	
11:45			317	1218	384	1347	701	2565	23:45			55	324	49	225	104	549
TOTALS				6784		8335		15119	TOTALS				12894		11331		24225
SPLIT %				44.9%		55.1%		38.4%	SPLIT %				53.2%		46.8%		61.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,678	19,666	39,344

AM Peak Hour			11:45	8:00	8:00	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			1382	1472	2780	PM Pk Volume			1450	1563	3013
Pk Hr Factor			0.941	0.968	0.983	Pk Hr Factor			0.937	0.948	0.981
7 - 9 Volume	0	0	2325	2679	5004	4 - 6 Volume	0	0	2844	2919	5763
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	1308	1472	2780	4 - 6 Pk Volume	0	0	1450	1563	3013
Pk Hr Factor	0.000	0.000	0.991	0.968	0.983	Pk Hr Factor	0.000	0.000	0.937	0.948	0.981

Prepared by NDS/ATD

VOLUME

La Jolla Village Dr Bet. Towne Center Dr & I 805 SB Ramps

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	28,902	30,549	59,451

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			59		42		101		12:00			496		499		995	
0:15			66		41		107		12:15			471		467		938	
0:30			39		37		76		12:30			480		481		961	
0:45			39	203	24	144	63	347	12:45			451	1898	533	1980	984	3878
1:00			28		23		51		13:00			480		492		972	
1:15			28		19		47		13:15			477		444		921	
1:30			42		16		58		13:30			504		417		921	
1:45			20	118	23	81	43	199	13:45			512	1973	441	1794	953	3767
2:00			16		15		31		14:00			537		362		899	
2:15			40		17		57		14:15			558		371		929	
2:30			38		20		58		14:30			598		399		997	
2:45			14	108	17	69	31	177	14:45			575	2268	454	1586	1029	3854
3:00			17		19		36		15:00			676		370		1046	
3:15			21		17		38		15:15			576		409		985	
3:30			14		30		44		15:30			595		407		1002	
3:45			10	62	37	103	47	165	15:45			547	2394	379	1565	926	3959
4:00			13		30		43		16:00			661		403		1064	
4:15			15		52		67		16:15			626		405		1031	
4:30			27		70		97		16:30			659		501		1160	
4:45			19	74	138	290	157	364	16:45			675	2621	421	1730	1096	4351
5:00			41		112		153		17:00			674		508		1182	
5:15			37		214		251		17:15			699		500		1199	
5:30			58		331		389		17:30			628		491		1119	
5:45			66	202	416	1073	482	1275	17:45			644	2645	469	1968	1113	4613
6:00			92		376		468		18:00			642		418		1060	
6:15			121		476		597		18:15			600		411		1011	
6:30			157		485		642		18:30			558		397		955	
6:45			182	552	534	1871	716	2423	18:45			479	2279	350	1576	829	3855
7:00			215		528		743		19:00			451		281		732	
7:15			254		649		903		19:15			439		262		701	
7:30			322		674		996		19:30			374		239		613	
7:45			372	1163	750	2601	1122	3764	19:45			302	1566	238	1020	540	2586
8:00			341		697		1038		20:00			324		192		516	
8:15			364		756		1120		20:15			306		184		490	
8:30			323		730		1053		20:30			238		159		397	
8:45			359	1387	745	2928	1104	4315	20:45			265	1133	161	696	426	1829
9:00			302		700		1002		21:00			247		170		417	
9:15			391		579		970		21:15			235		146		381	
9:30			364		544		908		21:30			193		164		357	
9:45			340	1397	531	2354	871	3751	21:45			177	852	118	598	295	1450
10:00			319		506		825		22:00			144		126		270	
10:15			364		450		814		22:15			115		129		244	
10:30			336		440		776		22:30			123		101		224	
10:45			379	1398	457	1853	836	3251	22:45			113	495	93	449	206	944
11:00			422		466		888		23:00			119		76		195	
11:15			397		486		883		23:15			89		57		146	
11:30			440		481		921		23:30			114		57		171	
11:45			467	1726	537	1970	1004	3696	23:45			66	388	60	250	126	638
TOTALS				8390		15337		23727	TOTALS				20512		15212		35724
SPLIT %				35.4%		64.6%		39.9%	SPLIT %				57.4%		42.6%		60.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	28,902	30,549	59,451

AM Peak Hour			11:45	7:45	7:45	PM Peak Hour			16:30	12:00	16:30
AM Pk Volume			1914	2933	4333	PM Pk Volume			2707	1980	4637
Pk Hr Factor			0.965	0.970	0.965	Pk Hr Factor			0.968	0.929	0.967
7 - 9 Volume	0	0	2550	5529	8079	4 - 6 Volume	0	0	5266	3698	8964
7 - 9 Peak Hour			7:45	7:45	7:45	4 - 6 Peak Hour			16:30	17:00	16:30
7 - 9 Pk Volume	0	0	1400	2933	4333	4 - 6 Pk Volume	0	0	2707	1968	4637
Pk Hr Factor	0.000	0.000	0.941	0.970	0.965	Pk Hr Factor	0.000	0.000	0.968	0.969	0.967

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. I 805 NB Off Ramp & Miramar Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_011

DAILY TOTALS	NB	SB	EB	WB	Total
	16,116	6,511	0	0	22,627

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	21		25						46		12:00	231		74						305	
0:15	14		8						22		12:15	207		89						296	
0:30	7		9						16		12:30	232		92						324	
0:45	17	59	4	46					21	105	12:45	241	911	96	351					337	1262
1:00	9		10						19		13:00	270		72						342	
1:15	7		4						11		13:15	258		85						343	
1:30	12		7						19		13:30	259		84						343	
1:45	13	41	3	24					16	65	13:45	259	1046	120	361					379	1407
2:00	26		5						31		14:00	215		124						339	
2:15	15		3						18		14:15	238		97						335	
2:30	16		4						20		14:30	235		131						366	
2:45	22	79	3	15					25	94	14:45	233	921	103	455					336	1376
3:00	39		4						43		15:00	279		78						357	
3:15	47		4						51		15:15	214		93						307	
3:30	53		4						57		15:30	203		110						313	
3:45	108	247	8	20					116	267	15:45	229	925	97	378					326	1303
4:00	62		5						67		16:00	242		120						362	
4:15	85		6						91		16:15	221		129						350	
4:30	98		8						106		16:30	247		142						389	
4:45	187	432	19	38					206	470	16:45	225	935	138	529					363	1464
5:00	171		14						185		17:00	250		145						395	
5:15	291		18						309		17:15	268		189						457	
5:30	331		46						377		17:30	282		131						413	
5:45	397	1190	50	128					447	1318	17:45	225	1025	110	575					335	1600
6:00	339		41						380		18:00	212		146						358	
6:15	376		64						440		18:15	166		95						261	
6:30	341		52						393		18:30	172		90						262	
6:45	358	1414	72	229					430	1643	18:45	146	696	95	426					241	1122
7:00	293		75						368		19:00	120		78						198	
7:15	300		104						404		19:15	111		59						170	
7:30	279		127						406		19:30	104		53						157	
7:45	276	1148	176	482					452	1630	19:45	93	428	36	226					129	654
8:00	239		178						417		20:00	91		44						135	
8:15	229		166						395		20:15	81		45						126	
8:30	229		138						367		20:30	82		43						125	
8:45	240	937	174	656					414	1593	20:45	75	329	44	176					119	505
9:00	253		128						381		21:00	62		48						110	
9:15	244		119						363		21:15	59		36						95	
9:30	255		89						344		21:30	82		43						125	
9:45	278	1030	79	415					357	1445	21:45	82	285	40	167					122	452
10:00	268		80						348		22:00	64		36						100	
10:15	234		82						316		22:15	53		24						77	
10:30	216		80						296		22:30	42		40						82	
10:45	221	939	65	307					286	1246	22:45	42	201	22	122					64	323
11:00	192		68						260		23:00	20		16						36	
11:15	196		87						283		23:15	23		12						35	
11:30	215		77						292		23:30	17		24						41	
11:45	204	807	88	320					292	1127	23:45	31	91	13	65					44	156
TOTALS		8323		2680						11003	TOTALS		7793		3831						11624
SPLIT %		75.6%		24.4%						48.6%	SPLIT %		67.0%		33.0%						51.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	16,116	6,511	0	0	22,627

AM Peak Hour	5:45	7:45			7:15	PM Peak Hour	13:00	16:30			16:45
AM Pk Volume	1453	658			1679	PM Pk Volume	1046	614			1628
Pk Hr Factor	0.915	0.924			0.929	Pk Hr Factor	0.969	0.812			0.891
7 - 9 Volume	2085	1138	0	0	3223	4 - 6 Volume	1960	1104	0	0	3064
7 - 9 Peak Hour	7:00	7:45			7:15	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	1148	658	0	0	1679	4 - 6 Pk Volume	1025	614	0	0	1628
Pk Hr Factor	0.957	0.924	0.000	0.000	0.929	Pk Hr Factor	0.909	0.812	0.000	0.000	0.891

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. I 805 Ramps & Nobel Dr

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_012

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,120	27,920	45,040

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			38		46		84		12:00			259		470		729	
0:15			28		37		65		12:15			317		417		734	
0:30			23		37		60		12:30			285		462		747	
0:45			13	102	27	147	40	249	12:45			303	1164	480	1829	783	2993
1:00			21		23		44		13:00			269		468		737	
1:15			17		23		40		13:15			268		466		734	
1:30			30		31		61		13:30			286		488		774	
1:45			23	91	15	92	38	183	13:45			288	1111	484	1906	772	3017
2:00			11		24		35		14:00			244		513		757	
2:15			11		21		32		14:15			271		513		784	
2:30			18		17		35		14:30			270		633		903	
2:45			12	52	19	81	31	133	14:45			264	1049	532	2191	796	3240
3:00			14		33		47		15:00			247		516		763	
3:15			30		21		51		15:15			270		551		821	
3:30			31		15		46		15:30			232		551		783	
3:45			31	106	31	100	62	206	15:45			206	955	464	2082	670	3037
4:00			33		20		53		16:00			254		581		835	
4:15			40		37		77		16:15			224		534		758	
4:30			54		66		120		16:30			239		567		806	
4:45			88	215	57	180	145	395	16:45			250	967	519	2201	769	3168
5:00			87		65		152		17:00			267		571		838	
5:15			157		84		241		17:15			251		550		801	
5:30			177		111		288		17:30			309		537		846	
5:45			243	664	129	389	372	1053	17:45			230	1057	490	2148	720	3205
6:00			223		189		412		18:00			241		436		677	
6:15			237		270		507		18:15			208		433		641	
6:30			297		313		610		18:30			195		392		587	
6:45			322	1079	287	1059	609	2138	18:45			186	830	325	1586	511	2416
7:00			296		321		617		19:00			176		317		493	
7:15			326		390		716		19:15			161		300		461	
7:30			290		394		684		19:30			120		300		420	
7:45			384	1296	455	1560	839	2856	19:45			118	575	247	1164	365	1739
8:00			338		444		782		20:00			120		271		391	
8:15			346		475		821		20:15			124		214		338	
8:30			293		443		736		20:30			111		195		306	
8:45			367	1344	466	1828	833	3172	20:45			119	474	190	870	309	1344
9:00			301		431		732		21:00			87		206		293	
9:15			283		396		679		21:15			83		153		236	
9:30			251		408		659		21:30			101		138		239	
9:45			294	1129	418	1653	712	2782	21:45			71	342	140	637	211	979
10:00			242		467		709		22:00			66		136		202	
10:15			260		430		690		22:15			52		129		181	
10:30			250		441		691		22:30			39		97		136	
10:45			285	1037	419	1757	704	2794	22:45			46	203	84	446	130	649
11:00			273		428		701		23:00			48		87		135	
11:15			300		417		717		23:15			46		57		103	
11:30			258		438		696		23:30			44		64		108	
11:45			276	1107	464	1747	740	2854	23:45			33	171	59	267	92	438
TOTALS				8222		10593		**18815**	**TOTALS**				8898		17327		**26225**
SPLIT %				43.7%		56.3%		**41.8%**	**SPLIT %**				33.9%		66.1%		**58.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,120	27,920	45,040

AM Peak Hour			7:45	8:00	**7:45**	**PM Peak Hour**			12:15	14:30	**14:30**
AM Pk Volume			1361	1828	**3178**	**PM Pk Volume**			1174	2232	**3283**
Pk Hr Factor			0.886	0.962	**0.947**	**Pk Hr Factor**			0.926	0.882	**0.909**
7 - 9 Volume	0	0	2640	3388	**6028**	**4 - 6 Volume**	0	0	2024	4349	**6373**
7 - 9 Peak Hour			7:45	8:00	**7:45**	**4 - 6 Peak Hour**			16:45	16:30	**16:45**
7 - 9 Pk Volume	0	0	1361	1828	**3178**	**4 - 6 Pk Volume**	0	0	1077	2207	**3254**
Pk Hr Factor	0.000	0.000	0.886	0.962	**0.947**	**Pk Hr Factor**	0.000	0.000	0.871	0.966	**0.962**

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. Nobel Dr & Eastgate Mall

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	34,349	38,194	72,543

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			50		47		97		12:00			591		582		1173	
00:15			45		35		80		12:15			553		641		1194	
00:30			38		40		78		12:30			579		608		1187	
00:45			30	163	30	152	60	315	12:45			577	2300	644	2475	1221	4775
01:00			33		29		62		13:00			541		596		1137	
01:15			33		25		58		13:15			498		622		1120	
01:30			35		37		72		13:30			642		624		1266	
01:45			21	122	53	144	74	266	13:45			555	2236	612	2454	1167	4690
02:00			33		46		79		14:00			650		558		1208	
02:15			22		36		58		14:15			645		639		1284	
02:30			21		39		60		14:30			756		546		1302	
02:45			32	108	53	174	85	282	14:45			641	2692	582	2325	1223	5017
03:00			26		57		83		15:00			624		601		1225	
03:15			41		76		117		15:15			642		551		1193	
03:30			52		105		157		15:30			766		534		1300	
03:45			72	191	116	354	188	545	15:45			633	2665	581	2267	1214	4932
04:00			84		107		191		16:00			606		562		1168	
04:15			96		110		206		16:15			670		586		1256	
04:30			104		178		282		16:30			637		559		1196	
04:45			116	400	335	730	451	1130	16:45			716	2629	532	2239	1248	4868
05:00			126		305		431		17:00			711		640		1351	
05:15			149		480		629		17:15			709		630		1339	
05:30			158		603		761		17:30			682		568		1250	
05:45			170	603	705	2093	875	2696	17:45			594	2696	545	2383	1139	5079
06:00			179		646		825		18:00			542		432		974	
06:15			340		656		996		18:15			473		518		991	
06:30			374		644		1018		18:30			432		388		820	
06:45			387	1280	686	2632	1073	3912	18:45			398	1845	373	1711	771	3556
07:00			404		590		994		19:00			404		263		667	
07:15			539		650		1189		19:15			336		319		655	
07:30			551		661		1212		19:30			297		243		540	
07:45			579	2073	722	2623	1301	4696	19:45			257	1294	207	1032	464	2326
08:00			612		753		1365		20:00			233		244		477	
08:15			538		645		1183		20:15			234		230		464	
08:30			592		698		1290		20:30			211		200		411	
08:45			618	2360	722	2818	1340	5178	20:45			202	880	203	877	405	1757
09:00			529		633		1162		21:00			245		158		403	
09:15			537		594		1131		21:15			199		200		399	
09:30			553		585		1138		21:30			197		193		390	
09:45			519	2138	649	2461	1168	4599	21:45			166	807	189	740	355	1547
10:00			461		565		1026		22:00			162		123		285	
10:15			462		604		1066		22:15			123		125		248	
10:30			500		555		1055		22:30			152		131		283	
10:45			534	1957	625	2349	1159	4306	22:45			122	559	88	467	210	1026
11:00			513		561		1074		23:00			96		94		190	
11:15			494		600		1094		23:15			55		59		114	
11:30			579		632		1211		23:30			70		77		147	
11:45			482	2068	612	2405	1094	4473	23:45			62	283	59	289	121	572
TOTALS				13463		18935		32398	TOTALS				20886		19259		40145
SPLIT %				41.6%		58.4%		44.7%	SPLIT %				52.0%		48.0%		55.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	34,349	38,194	72,543

AM Peak Hour			08:00	07:45	08:00	PM Peak Hour			16:45	12:15	16:45
AM Pk Volume			2360	2818	5178	PM Pk Volume			2818	2489	5188
Pk Hr Factor			0.955	0.936	0.948	Pk Hr Factor			0.984	0.966	0.960
7 - 9 Volume	0	0	4433	5441	9874	4 - 6 Volume	0	0	5325	4622	9947
7 - 9 Peak Hour			08:00	07:45	08:00	4 - 6 Peak Hour			16:45	17:00	16:45
7 - 9 Pk Volume	0	0	2360	2818	5178	4 - 6 Pk Volume	0	0	2818	2383	5188
Pk Hr Factor	0.000	0.000	0.955	0.936	0.948	Pk Hr Factor	0.000	0.000	0.984	0.931	0.960

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. Eastgate Mall & Camino Santa Fe

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	34,737	36,009	70,746

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			41		42		83		12:00			484		567		1051	
00:15			36		53		89		12:15			584		535		1119	
00:30			28		38		66		12:30			489		574		1063	
00:45			26	131	35	168	61	299	12:45			542	2099	523	2199	1065	4298
01:00			27		36		63		13:00			521		561		1082	
01:15			23		31		54		13:15			527		520		1047	
01:30			37		38		75		13:30			524		631		1155	
01:45			53	140	13	118	66	258	13:45			508	2080	547	2259	1055	4339
02:00			41		27		68		14:00			447		641		1088	
02:15			31		34		65		14:15			547		605		1152	
02:30			29		28		57		14:30			502		771		1273	
02:45			39	140	30	119	69	259	14:45			527	2023	614	2631	1141	4654
03:00			55		32		87		15:00			559		591		1150	
03:15			60		46		106		15:15			530		593		1123	
03:30			71		25		96		15:30			550		693		1243	
03:45			83	269	31	134	114	403	15:45			555	2194	590	2467	1145	4661
04:00			75		23		98		16:00			556		637		1193	
04:15			83		33		116		16:15			651		588		1239	
04:30			139		65		204		16:30			663		622		1285	
04:45			261	558	94	215	355	773	16:45			656	2526	544	2391	1200	4917
05:00			235		88		323		17:00			682		719		1401	
05:15			396		125		521		17:15			775		635		1410	
05:30			535		211		746		17:30			762		594		1356	
05:45			611	1777	228	652	839	2429	17:45			641	2860	559	2507	1200	5367
06:00			555		285		840		18:00			586		590		1176	
06:15			566		457		1023		18:15			595		522		1117	
06:30			596		497		1093		18:30			444		471		915	
06:45			617	2334	519	1758	1136	4092	18:45			407	2032	391	1974	798	4006
07:00			529		520		1049		19:00			285		401		686	
07:15			515		685		1200		19:15			320		403		723	
07:30			546		700		1246		19:30			266		309		575	
07:45			605	2195	741	2646	1346	4841	19:45			240	1111	278	1391	518	2502
08:00			506		834		1340		20:00			232		225		457	
08:15			487		721		1208		20:15			208		250		458	
08:30			452		749		1201		20:30			201		241		442	
08:45			484	1929	729	3033	1213	4962	20:45			196	837	248	964	444	1801
09:00			564		693		1257		21:00			150		248		398	
09:15			516		621		1137		21:15			177		220		397	
09:30			509		651		1160		21:30			171		214		385	
09:45			516	2105	595	2560	1111	4665	21:45			169	667	167	849	336	1516
10:00			490		473		963		22:00			130		175		305	
10:15			493		472		965		22:15			107		139		246	
10:30			460		531		991		22:30			124		171		295	
10:45			501	1944	526	2002	1027	3946	22:45			98	459	128	613	226	1072
11:00			495		512		1007		23:00			87		102		189	
11:15			481		494		975		23:15			61		61		122	
11:30			551		564		1115		23:30			70		79		149	
11:45			519	2046	488	2058	1007	4104	23:45			63	281	59	301	122	582
TOTALS				15568		15463		31031	TOTALS				19169		20546		39715
SPLIT %				50.2%		49.8%		43.9%	SPLIT %				48.3%		51.7%		56.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	34,737	36,009	70,746

AM Peak Hour			06:00	07:45	07:30	PM Peak Hour			16:45	14:00	16:45
AM Pk Volume			2334	3045	5140	PM Pk Volume			2875	2631	5367
Pk Hr Factor			0.946	0.913	0.955	Pk Hr Factor			0.927	0.853	0.952
7 - 9 Volume	0	0	4124	5679	9803	4 - 6 Volume	0	0	5386	4898	10284
7 - 9 Peak Hour			07:00	07:45	07:30	4 - 6 Peak Hour			16:45	16:30	16:45
7 - 9 Pk Volume	0	0	2195	3045	5140	4 - 6 Pk Volume	0	0	2875	2520	5367
Pk Hr Factor	0.000	0.000	0.907	0.913	0.955	Pk Hr Factor	0.000	0.000	0.927	0.876	0.952

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. Carroll Rd & Camino Ruiz

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_011

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,519	22,590	45,109

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			51		12		63		12:00			353		320		673	
00:15			26		14		40		12:15			367		345		712	
00:30			17		19		36		12:30			371		341		712	
00:45			38	132	19	64	57	196	12:45			326	1417	347	1353	673	2770
01:00			27		19		46		13:00			363		365		728	
01:15			16		17		33		13:15			344		305		649	
01:30			22		20		42		13:30			376		334		710	
01:45			12	77	29	85	41	162	13:45			340	1423	332	1336	672	2759
02:00			18		26		44		14:00			436		318		754	
02:15			18		16		34		14:15			433		245		678	
02:30			17		12		29		14:30			562		306		868	
02:45			23	76	19	73	42	149	14:45			443	1874	301	1170	744	3044
03:00			26		19		45		15:00			502		243		745	
03:15			23		29		52		15:15			559		303		862	
03:30			14		22		36		15:30			584		226		810	
03:45			12	75	34	104	46	179	15:45			524	2169	265	1037	789	3206
04:00			16		32		48		16:00			594		278		872	
04:15			18		52		70		16:15			540		234		774	
04:30			36		78		114		16:30			559		265		824	
04:45			41	111	159	321	200	432	16:45			512	2205	239	1016	751	3221
05:00			36		139		175		17:00			543		246		789	
05:15			48		196		244		17:15			572		261		833	
05:30			67		262		329		17:30			499		240		739	
05:45			71	222	341	938	412	1160	17:45			514	2128	269	1016	783	3144
06:00			88		348		436		18:00			534		234		768	
06:15			123		374		497		18:15			485		209		694	
06:30			124		450		574		18:30			421		192		613	
06:45			163	498	515	1687	678	2185	18:45			399	1839	211	846	610	2685
07:00			162		600		762		19:00			313		166		479	
07:15			194		613		807		19:15			286		158		444	
07:30			185		648		833		19:30			284		140		424	
07:45			241	782	696	2557	937	3339	19:45			223	1106	134	598	357	1704
08:00			205		685		890		20:00			197		126		323	
08:15			212		641		853		20:15			217		130		347	
08:30			239		668		907		20:30			190		120		310	
08:45			235	891	615	2609	850	3500	20:45			147	751	116	492	263	1243
09:00			261		558		819		21:00			168		86		254	
09:15			219		478		697		21:15			160		89		249	
09:30			237		499		736		21:30			149		98		247	
09:45			254	971	387	1922	641	2893	21:45			128	605	61	334	189	939
10:00			310		346		656		22:00			134		72		206	
10:15			277		346		623		22:15			98		49		147	
10:30			302		327		629		22:30			97		33		130	
10:45			285	1174	333	1352	618	2526	22:45			93	422	38	192	131	614
11:00			315		345		660		23:00			93		35		128	
11:15			321		332		653		23:15			61		20		81	
11:30			335		353		688		23:30			64		30		94	
11:45			338	1309	341	1371	679	2680	23:45			44	262	32	117	76	379
TOTALS				6318		13083		19401	TOTALS				16201		9507		25708
SPLIT %				32.6%		67.4%		43.0%	SPLIT %				63.0%		37.0%		57.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,519	22,590	45,109

AM Peak Hour			11:45	07:45	07:45	PM Peak Hour			15:15	12:15	15:15
AM Pk Volume			1429	2690	3587	PM Pk Volume			2261	1398	3333
Pk Hr Factor			0.963	0.966	0.957	Pk Hr Factor			0.952	0.958	0.956
7 - 9 Volume	0	0	1673	5166	6839	4 - 6 Volume	0	0	4333	2032	6365
7 - 9 Peak Hour			07:45	07:45	07:45	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	897	2690	3587	4 - 6 Pk Volume	0	0	2205	1016	3221
Pk Hr Factor	0.000	0.000	0.930	0.966	0.957	Pk Hr Factor	0.000	0.000	0.928	0.914	0.923

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. Camino Ruiz & Clayton Dr/Mitscher way

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	30,014	29,875	59,889

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			74		52		126		12:00			440		483		923	
00:15			65		43		108		12:15			530		434		964	
00:30			51		33		84		12:30			482		461		943	
00:45			39	229	58	186	97	415	12:45			466	1918	445	1823	911	3741
01:00			44		36		80		13:00			511		447		958	
01:15			38		25		63		13:15			462		434		896	
01:30			34		42		76		13:30			507		428		935	
01:45			27	143	31	134	58	277	13:45			494	1974	434	1743	928	3717
02:00			36		25		61		14:00			565		388		953	
02:15			32		27		59		14:15			577		428		1005	
02:30			23		40		63		14:30			630		398		1028	
02:45			26	117	37	129	63	246	14:45			581	2353	356	1570	937	3923
03:00			44		26		70		15:00			600		400		1000	
03:15			35		31		66		15:15			580		380		960	
03:30			25		55		80		15:30			636		357		993	
03:45			45	149	60	172	105	321	15:45			601	2417	373	1510	974	3927
04:00			51		61		112		16:00			607		379		986	
04:15			47		69		116		16:15			644		391		1035	
04:30			65		111		176		16:30			614		390		1004	
04:45			56	219	185	426	241	645	16:45			669	2534	375	1535	1044	4069
05:00			76		188		264		17:00			655		413		1068	
05:15			123		269		392		17:15			579		429		1008	
05:30			147		351		498		17:30			750		450		1200	
05:45			125	471	492	1300	617	1771	17:45			686	2670	426	1718	1112	4388
06:00			161		430		591		18:00			582		326		908	
06:15			238		481		719		18:15			636		315		951	
06:30			258		494		752		18:30			603		320		923	
06:45			254	911	590	1995	844	2906	18:45			508	2329	311	1272	819	3601
07:00			259		677		936		19:00			431		288		719	
07:15			312		711		1023		19:15			388		255		643	
07:30			334		681		1015		19:30			346		196		542	
07:45			374	1279	680	2749	1054	4028	19:45			363	1528	238	977	601	2505
08:00			308		691		999		20:00			373		204		577	
08:15			315		678		993		20:15			304		229		533	
08:30			304		652		956		20:30			273		179		452	
08:45			341	1268	682	2703	1023	3971	20:45			260	1210	176	788	436	1998
09:00			298		602		900		21:00			268		130		398	
09:15			344		559		903		21:15			248		174		422	
09:30			340		531		871		21:30			199		166		365	
09:45			334	1316	497	2189	831	3505	21:45			204	919	126	596	330	1515
10:00			322		531		853		22:00			194		153		347	
10:15			360		435		795		22:15			146		91		237	
10:30			372		470		842		22:30			170		86		256	
10:45			372	1426	477	1913	849	3339	22:45			129	639	87	417	216	1056
11:00			411		462		873		23:00			123		66		189	
11:15			388		428		816		23:15			74		62		136	
11:30			436		416		852		23:30			80		58		138	
11:45			425	1660	488	1794	913	3454	23:45			58	335	50	236	108	571
TOTALS				9188		15690		24878	TOTALS				20826		14185		35011
SPLIT %				36.9%		63.1%		41.5%	SPLIT %				59.5%		40.5%		58.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	30,014	29,875	59,889

AM Peak Hour			11:45	07:15	07:15	PM Peak Hour			17:00	12:00	17:00
AM Pk Volume			1877	2763	4091	PM Pk Volume			2670	1823	4388
Pk Hr Factor			0.885	0.972	0.970	Pk Hr Factor			0.890	0.944	0.914
7 - 9 Volume	0	0	2547	5452	7999	4 - 6 Volume	0	0	5204	3253	8457
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	1331	2763	4091	4 - 6 Pk Volume	0	0	2670	1718	4388
Pk Hr Factor	0.000	0.000	0.890	0.972	0.970	Pk Hr Factor	0.000	0.000	0.890	0.954	0.914

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. Camino Ruiz & Black Mountain Rd

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_012

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	29,462	28,215	57,677

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			57		38		95		12:00			417		438		855	
00:15			52		33		85		12:15			523		414		937	
00:30			35		40		75		12:30			479		429		908	
00:45			47	191	35	146	82	337	12:45			462	1881	419	1700	881	3581
01:00			46		31		77		13:00			464		409		873	
01:15			28		36		64		13:15			421		417		838	
01:30			31		30		61		13:30			463		424		887	
01:45			21	126	36	133	57	259	13:45			482	1830	409	1659	891	3489
02:00			24		25		49		14:00			593		393		986	
02:15			24		27		51		14:15			555		397		952	
02:30			27		15		42		14:30			700		396		1096	
02:45			29	104	40	107	69	211	14:45			639	2487	374	1560	1013	4047
03:00			27		26		53		15:00			641		365		1006	
03:15			40		30		70		15:15			701		347		1048	
03:30			24		33		57		15:30			728		363		1091	
03:45			38	129	52	141	90	270	15:45			670	2740	408	1483	1078	4223
04:00			37		38		75		16:00			670		338		1008	
04:15			36		71		107		16:15			663		385		1048	
04:30			61		115		176		16:30			646		358		1004	
04:45			74	208	213	437	287	645	16:45			619	2598	350	1431	969	4029
05:00			70		199		269		17:00			578		377		955	
05:15			85		297		382		17:15			518		326		844	
05:30			127		353		480		17:30			640		344		984	
05:45			135	417	417	1266	552	1683	17:45			637	2373	348	1395	985	3768
06:00			147		423		570		18:00			587		286		873	
06:15			222		438		660		18:15			680		281		961	
06:30			241		464		705		18:30			549		281		830	
06:45			281	891	531	1856	812	2747	18:45			476	2292	252	1100	728	3392
07:00			291		704		995		19:00			410		186		596	
07:15			344		746		1090		19:15			367		174		541	
07:30			338		787		1125		19:30			351		163		514	
07:45			355	1328	829	3066	1184	4394	19:45			276	1404	154	677	430	2081
08:00			353		792		1145		20:00			280		157		437	
08:15			312		737		1049		20:15			267		163		430	
08:30			362		749		1111		20:30			257		128		385	
08:45			332	1359	729	3007	1061	4366	20:45			209	1013	156	604	365	1617
09:00			331		652		983		21:00			223		113		336	
09:15			320		537		857		21:15			188		106		294	
09:30			315		539		854		21:30			224		102		326	
09:45			336	1302	474	2202	810	3504	21:45			169	804	86	407	255	1211
10:00			384		417		801		22:00			147		85		232	
10:15			350		403		753		22:15			122		70		192	
10:30			359		412		771		22:30			116		71		187	
10:45			402	1495	425	1657	827	3152	22:45			111	496	50	276	161	772
11:00			392		419		811		23:00			103		51		154	
11:15			424		457		881		23:15			65		39		104	
11:30			441		444		885		23:30			74		33		107	
11:45			438	1695	404	1724	842	3419	23:45			57	299	58	181	115	480
TOTALS				9245		15742		24987	TOTALS				20217		12473		32690
SPLIT %				37.0%		63.0%		43.3%	SPLIT %				61.8%		38.2%		56.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	29,462	28,215	57,677

AM Peak Hour			11:45	07:15	07:15	PM Peak Hour			15:15	12:00	15:15
AM Pk Volume			1857	3154	4544	PM Pk Volume			2769	1700	4225
Pk Hr Factor			0.888	0.951	0.959	Pk Hr Factor			0.951	0.970	0.968
7 - 9 Volume	0	0	2687	6073	8760	4 - 6 Volume	0	0	4971	2826	7797
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:00	16:15	16:00
7 - 9 Pk Volume	0	0	1390	3154	4544	4 - 6 Pk Volume	0	0	2598	1470	4029
Pk Hr Factor	0.000	0.000	0.979	0.951	0.959	Pk Hr Factor	0.000	0.000	0.969	0.955	0.961

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. Black Mountain Rd & Kearny Villa Rd

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	33,376	30,707	64,083

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			83		60		143		12:00			445		463		908	
00:15			75		55		130		12:15			534		441		975	
00:30			71		35		106		12:30			489		431		920	
00:45			56	285	30	180	86	465	12:45			507	1975	443	1778	950	3753
01:00			62		34		96		13:00			555		392		947	
01:15			37		31		68		13:15			487		416		903	
01:30			35		39		74		13:30			565		406		971	
01:45			42	176	22	126	64	302	13:45			517	2124	424	1638	941	3762
02:00			50		32		82		14:00			655		376		1031	
02:15			36		34		70		14:15			656		439		1095	
02:30			34		37		71		14:30			693		377		1070	
02:45			28	148	39	142	67	290	14:45			702	2706	419	1611	1121	4317
03:00			42		35		77		15:00			745		367		1112	
03:15			31		52		83		15:15			766		351		1117	
03:30			31		64		95		15:30			762		363		1125	
03:45			37	141	91	242	128	383	15:45			784	3057	423	1504	1207	4561
04:00			57		72		129		16:00			776		370		1146	
04:15			43		95		138		16:15			745		405		1150	
04:30			72		151		223		16:30			721		350		1071	
04:45			60	232	280	598	340	830	16:45			741	2983	448	1573	1189	4556
05:00			77		297		374		17:00			759		421		1180	
05:15			117		424		541		17:15			774		431		1205	
05:30			141		523		664		17:30			716		399		1115	
05:45			129	464	638	1882	767	2346	17:45			748	2997	398	1649	1146	4646
06:00			154		554		708		18:00			698		336		1034	
06:15			210		627		837		18:15			728		335		1063	
06:30			233		582		815		18:30			748		321		1069	
06:45			265	862	639	2402	904	3264	18:45			553	2727	340	1332	893	4059
07:00			283		596		879		19:00			523		261		784	
07:15			339		632		971		19:15			414		267		681	
07:30			356		638		994		19:30			395		227		622	
07:45			334	1312	702	2568	1036	3880	19:45			346	1678	227	982	573	2660
08:00			314		640		954		20:00			446		198		644	
08:15			309		655		964		20:15			367		211		578	
08:30			313		654		967		20:30			292		178		470	
08:45			340	1276	588	2537	928	3813	20:45			286	1391	169	756	455	2147
09:00			307		606		913		21:00			312		152		464	
09:15			338		526		864		21:15			270		171		441	
09:30			341		493		834		21:30			202		145		347	
09:45			313	1299	556	2181	869	3480	21:45			257	1041	149	617	406	1658
10:00			334		508		842		22:00			271		131		402	
10:15			354		430		784		22:15			183		103		286	
10:30			369		485		854		22:30			206		102		308	
10:45			395	1452	469	1892	864	3344	22:45			188	848	103	439	291	1287
11:00			412		444		856		23:00			182		74		256	
11:15			459		458		917		23:15			83		85		168	
11:30			436		434		870		23:30			104		73		177	
11:45			451	1758	447	1783	898	3541	23:45			75	444	63	295	138	739
TOTALS				9405		16533		25938	TOTALS				23971		14174		38145
SPLIT %				36.3%		63.7%		40.5%	SPLIT %				62.8%		37.2%		59.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	33,376	30,707	64,083

AM Peak Hour			11:45	07:45	07:15	PM Peak Hour			15:15	12:00	16:45
AM Pk Volume			1919	2651	3955	PM Pk Volume			3088	1778	4689
Pk Hr Factor			0.898	0.944	0.954	Pk Hr Factor			0.985	0.960	0.973
7 - 9 Volume	0	0	2588	5105	7693	4 - 6 Volume	0	0	5980	3222	9202
7 - 9 Peak Hour			07:15	07:45	07:15	4 - 6 Peak Hour			17:00	16:45	16:45
7 - 9 Pk Volume	0	0	1343	2651	3955	4 - 6 Pk Volume	0	0	2997	1699	4689
Pk Hr Factor	0.000	0.000	0.943	0.944	0.954	Pk Hr Factor	0.000	0.000	0.968	0.948	0.973

Prepared by NDS/ATD

VOLUME

Miramar Rd Bet. Kearny Villa Rd & Kearny Mesa Rd

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	28,470	25,632	54,102

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			81		90		171		12:00			420		401		821	
00:15			71		83		154		12:15			493		409		902	
00:30			71		76		147		12:30			394		375		769	
00:45			57	280	64	313	121	593	12:45			498	1805	407	1592	905	3397
01:00			71		47		118		13:00			466		379		845	
01:15			37		55		92		13:15			444		361		805	
01:30			34		41		75		13:30			505		391		896	
01:45			40	182	46	189	86	371	13:45			472	1887	398	1529	870	3416
02:00			49		35		84		14:00			593		303		896	
02:15			34		39		73		14:15			611		391		1002	
02:30			25		42		67		14:30			565		341		906	
02:45			22	130	45	161	67	291	14:45			626	2395	400	1435	1026	3830
03:00			37		41		78		15:00			627		324		951	
03:15			35		44		79		15:15			558		296		854	
03:30			35		60		95		15:30			634		325		959	
03:45			28	135	91	236	119	371	15:45			521	2340	356	1301	877	3641
04:00			48		74		122		16:00			564		312		876	
04:15			39		99		138		16:15			600		323		923	
04:30			60		149		209		16:30			580		299		879	
04:45			56	203	263	585	319	788	16:45			605	2349	353	1287	958	3636
05:00			52		288		340		17:00			641		369		1010	
05:15			79		380		459		17:15			568		347		915	
05:30			109		458		567		17:30			624		363		987	
05:45			113	353	557	1683	670	2036	17:45			537	2370	344	1423	881	3793
06:00			122		500		622		18:00			492		280		772	
06:15			163		509		672		18:15			569		274		843	
06:30			187		445		632		18:30			514		281		795	
06:45			234	706	424	1878	658	2584	18:45			458	2033	307	1142	765	3175
07:00			193		457		650		19:00			483		236		719	
07:15			271		470		741		19:15			400		239		639	
07:30			240		386		626		19:30			381		194		575	
07:45			277	981	419	1732	696	2713	19:45			339	1603	192	861	531	2464
08:00			234		385		619		20:00			399		176		575	
08:15			273		401		674		20:15			373		178		551	
08:30			265		411		676		20:30			286		147		433	
08:45			215	987	386	1583	601	2570	20:45			291	1349	136	637	427	1986
09:00			280		386		666		21:00			296		139		435	
09:15			306		373		679		21:15			274		146		420	
09:30			309		386		695		21:30			206		130		336	
09:45			293	1188	420	1565	713	2753	21:45			254	1030	112	527	366	1557
10:00			314		453		767		22:00			255		100		355	
10:15			356		400		756		22:15			176		93		269	
10:30			323		408		731		22:30			196		87		283	
10:45			356	1349	440	1701	796	3050	22:45			181	808	91	371	272	1179
11:00			371		424		795		23:00			166		62		228	
11:15			402		393		795		23:15			81		80		161	
11:30			408		415		823		23:30			102		67		169	
11:45			407	1588	398	1630	805	3218	23:45			70	419	62	271	132	690
TOTALS				8082		13256		21338	TOTALS				20388		12376		32764
SPLIT %				37.9%		62.1%		39.4%	SPLIT %				62.2%		37.8%		60.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	28,470	25,632	54,102

AM Peak Hour			11:30	05:30	11:30	PM Peak Hour			14:45	12:00	14:15
AM Pk Volume			1728	2024	3351	PM Pk Volume			2445	1592	3885
Pk Hr Factor			0.876	0.908	0.929	Pk Hr Factor			0.964	0.973	0.947
7 - 9 Volume	0	0	1968	3315	5283	4 - 6 Volume	0	0	4719	2710	7429
7 - 9 Peak Hour			07:45	07:00	07:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	1049	1732	2713	4 - 6 Pk Volume	0	0	2438	1432	3870
Pk Hr Factor	0.000	0.000	0.947	0.921	0.915	Pk Hr Factor	0.000	0.000	0.951	0.970	0.958

Prepared by NDS/ATD

VOLUME

Camino Sante Fe Bet. Mira Mesa Blvd & Flanders Dr

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_013

DAILY TOTALS	NB	SB	EB	WB	Total
	7,992	9,529	0	0	17,521

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	14		11						25		12:00	190		198						388	
0:15	10		8						18		12:15	166		217						383	
0:30	20		5						25		12:30	148		205						353	
0:45	4	48	2	26					6	74	12:45	147	651	218	838					365	1489
1:00	8		4						12		13:00	132		190						322	
1:15	7		6						13		13:15	145		178						323	
1:30	6		2						8		13:30	128		179						307	
1:45	7	28	6	18					13	46	13:45	109	514	174	721					283	1235
2:00	2		4						6		14:00	123		143						266	
2:15	3		2						5		14:15	121		133						254	
2:30	4		3						7		14:30	155		163						318	
2:45	5	14	4	13					9	27	14:45	134	533	108	547					242	1080
3:00	3		4						7		15:00	162		127						289	
3:15	3		3						6		15:15	153		130						283	
3:30	3		3						6		15:30	183		126						309	
3:45	3	12	11	21					14	33	15:45	158	656	133	516					291	1172
4:00	2		8						10		16:00	197		112						309	
4:15	7		10						17		16:15	190		153						343	
4:30	6		24						30		16:30	211		130						341	
4:45	10	25	39	81					49	106	16:45	210	808	127	522					337	1330
5:00	10		52						62		17:00	252		123						375	
5:15	10		78						88		17:15	255		142						397	
5:30	23		86						109		17:30	220		141						361	
5:45	35	78	123	339					158	417	17:45	174	901	134	540					308	1441
6:00	30		107						137		18:00	195		122						317	
6:15	36		148						184		18:15	150		117						267	
6:30	52		129						181		18:30	122		126						248	
6:45	67	185	181	565					248	750	18:45	131	598	114	479					245	1077
7:00	52		199						251		19:00	104		85						189	
7:15	64		224						288		19:15	104		91						195	
7:30	88		236						324		19:30	94		71						165	
7:45	75	279	280	939					355	1218	19:45	74	376	67	314					141	690
8:00	92		239						331		20:00	78		69						147	
8:15	82		239						321		20:15	81		48						129	
8:30	90		193						283		20:30	60		50						110	
8:45	95	359	197	868					292	1227	20:45	54	273	35	202					89	475
9:00	80		172						252		21:00	55		47						102	
9:15	95		162						257		21:15	52		43						95	
9:30	87		150						237		21:30	43		37						80	
9:45	71	333	120	604					191	937	21:45	32	182	35	162					67	344
10:00	90		117						207		22:00	36		27						63	
10:15	63		130						193		22:15	35		23						58	
10:30	90		102						192		22:30	44		20						64	
10:45	99	342	117	466					216	808	22:45	24	139	19	89					43	228
11:00	108		126						234		23:00	20		10						30	
11:15	128		125						253		23:15	16		12						28	
11:30	176		154						330		23:30	29		15						44	
11:45	171	583	197	602					368	1185	23:45	10	75	20	57					30	132
TOTALS		2286		4542						6828	TOTALS		5706		4987						10693
SPLIT %		33.5%		66.5%						39.0%	SPLIT %		53.4%		46.6%						61.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,992	9,529	0	0	17,521

AM Peak Hour	11:30	7:30			11:45	PM Peak Hour	16:45	12:00			12:00
AM Pk Volume	703	994			1492	PM Pk Volume	937	838			1489
Pk Hr Factor	0.925	0.888			0.961	Pk Hr Factor	0.919	0.961			0.959
7 - 9 Volume	638	1807	0	0	2445	4 - 6 Volume	1709	1062	0	0	2771
7 - 9 Peak Hour	8:00	7:30			7:30	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	359	994	0	0	1331	4 - 6 Pk Volume	937	540	0	0	1470
Pk Hr Factor	0.945	0.888	0.000	0.000	0.937	Pk Hr Factor	0.919	0.951	0.000	0.000	0.926

Prepared by NDS/ATD

VOLUME

Camino Sante Fe Bet. Mira Mesa Blvd & Flanders Dr

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_013

DAILY TOTALS	NB	SB	EB	WB	Total
	7,992	9,529	0	0	17,521

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	14		11						25		12:00	190		198						388	
0:15	10		8						18		12:15	166		217						383	
0:30	20		5						25		12:30	148		205						353	
0:45	4	48	2	26					6	74	12:45	147	651	218	838					365	1489
1:00	8		4						12		13:00	132		190						322	
1:15	7		6						13		13:15	145		178						323	
1:30	6		2						8		13:30	128		179						307	
1:45	7	28	6	18					13	46	13:45	109	514	174	721					283	1235
2:00	2		4						6		14:00	123		143						266	
2:15	3		2						5		14:15	121		133						254	
2:30	4		3						7		14:30	155		163						318	
2:45	5	14	4	13					9	27	14:45	134	533	108	547					242	1080
3:00	3		4						7		15:00	162		127						289	
3:15	3		3						6		15:15	153		130						283	
3:30	3		3						6		15:30	183		126						309	
3:45	3	12	11	21					14	33	15:45	158	656	133	516					291	1172
4:00	2		8						10		16:00	197		112						309	
4:15	7		10						17		16:15	190		153						343	
4:30	6		24						30		16:30	211		130						341	
4:45	10	25	39	81					49	106	16:45	210	808	127	522					337	1330
5:00	10		52						62		17:00	252		123						375	
5:15	10		78						88		17:15	255		142						397	
5:30	23		86						109		17:30	220		141						361	
5:45	35	78	123	339					158	417	17:45	174	901	134	540					308	1441
6:00	30		107						137		18:00	195		122						317	
6:15	36		148						184		18:15	150		117						267	
6:30	52		129						181		18:30	122		126						248	
6:45	67	185	181	565					248	750	18:45	131	598	114	479					245	1077
7:00	52		199						251		19:00	104		85						189	
7:15	64		224						288		19:15	104		91						195	
7:30	88		236						324		19:30	94		71						165	
7:45	75	279	280	939					355	1218	19:45	74	376	67	314					141	690
8:00	92		239						331		20:00	78		69						147	
8:15	82		239						321		20:15	81		48						129	
8:30	90		193						283		20:30	60		50						110	
8:45	95	359	197	868					292	1227	20:45	54	273	35	202					89	475
9:00	80		172						252		21:00	55		47						102	
9:15	95		162						257		21:15	52		43						95	
9:30	87		150						237		21:30	43		37						80	
9:45	71	333	120	604					191	937	21:45	32	182	35	162					67	344
10:00	90		117						207		22:00	36		27						63	
10:15	63		130						193		22:15	35		23						58	
10:30	90		102						192		22:30	44		20						64	
10:45	99	342	117	466					216	808	22:45	24	139	19	89					43	228
11:00	108		126						234		23:00	20		10						30	
11:15	128		125						253		23:15	16		12						28	
11:30	176		154						330		23:30	29		15						44	
11:45	171	583	197	602					368	1185	23:45	10	75	20	57					30	132
TOTALS		2286		4542						6828	TOTALS		5706		4987						10693
SPLIT %		33.5%		66.5%						39.0%	SPLIT %		53.4%		46.6%						61.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,992	9,529	0	0	17,521

AM Peak Hour	11:30	7:30			11:45	PM Peak Hour	16:45	12:00			12:00
AM Pk Volume	703	994			1492	PM Pk Volume	937	838			1489
Pk Hr Factor	0.925	0.888			0.961	Pk Hr Factor	0.919	0.961			0.959
7 - 9 Volume	638	1807	0	0	2445	4 - 6 Volume	1709	1062	0	0	2771
7 - 9 Peak Hour	8:00	7:30			7:30	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	359	994	0	0	1331	4 - 6 Pk Volume	937	540	0	0	1470
Pk Hr Factor	0.945	0.888	0.000	0.000	0.937	Pk Hr Factor	0.919	0.951	0.000	0.000	0.926

Prepared by NDS/ATD

VOLUME

Camino Sante Fe Bet. Miratech Dr & Summer Ridge Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_015

DAILY TOTALS	NB	SB	EB	WB	Total
	7,946	8,294	0	0	16,240

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	13		7						20		12:00	179		133						312	
0:15	7		5						12		12:15	157		130						287	
0:30	7		9						16		12:30	130		137						267	
0:45	4	31	2	23					6	54	12:45	155	621	136	536					291	1157
1:00	6		1						7		13:00	126		148						274	
1:15	3		6						9		13:15	127		129						256	
1:30	6		2						8		13:30	104		121						225	
1:45	7	22	5	14					12	36	13:45	122	479	133	531					255	1010
2:00	3		3						6		14:00	130		137						267	
2:15	3		1						4		14:15	145		124						269	
2:30	2		3						5		14:30	136		131						267	
2:45	4	12	4	11					8	23	14:45	126	537	118	510					244	1047
3:00	3		5						8		15:00	151		109						260	
3:15	3		2						5		15:15	155		114						269	
3:30	2		4						6		15:30	223		113						336	
3:45	3	11	6	17					9	28	15:45	186	715	120	456					306	1171
4:00	4		9						13		16:00	271		126						397	
4:15	8		14						22		16:15	223		146						369	
4:30	5		22						27		16:30	235		143						378	
4:45	12	29	30	75					42	104	16:45	284	1013	130	545					414	1558
5:00	8		53						61		17:00	301		157						458	
5:15	3		85						88		17:15	330		131						461	
5:30	11		86						97		17:30	255		131						386	
5:45	25	47	103	327					128	374	17:45	231	1117	118	537					349	1654
6:00	30		98						128		18:00	209		116						325	
6:15	29		129						158		18:15	163		97						260	
6:30	37		129						166		18:30	122		88						210	
6:45	32	128	174	530					206	658	18:45	123	617	73	374					196	991
7:00	36		169						205		19:00	85		66						151	
7:15	43		223						266		19:15	79		45						124	
7:30	68		211						279		19:30	64		58						122	
7:45	64	211	281	884					345	1095	19:45	47	275	46	215					93	490
8:00	65		275						340		20:00	72		38						110	
8:15	51		221						272		20:15	69		30						99	
8:30	64		230						294		20:30	45		27						72	
8:45	62	242	215	941					277	1183	20:45	53	239	27	122					80	361
9:00	82		171						253		21:00	48		30						78	
9:15	82		147						229		21:15	50		23						73	
9:30	91		137						228		21:30	38		33						71	
9:45	75	330	118	573					193	903	21:45	31	167	41	127					72	294
10:00	95		104						199		22:00	32		21						53	
10:15	88		112						200		22:15	31		13						44	
10:30	92		97						189		22:30	35		13						48	
10:45	107	382	83	396					190	778	22:45	16	114	12	59					28	173
11:00	95		109						204		23:00	25		11						36	
11:15	117		97						214		23:15	26		10						36	
11:30	139		111						250		23:30	29		8						37	
11:45	164	515	131	448					295	963	23:45	12	92	14	43					26	135
TOTALS		1960		4239						6199	TOTALS		5986		4055						10041
SPLIT %		31.6%		68.4%						38.2%	SPLIT %		59.6%		40.4%						61.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,946	8,294	0	0	16,240

AM Peak Hour	11:30	7:45			7:45	PM Peak Hour	16:45	16:15			16:45
AM Pk Volume	639	1007			1251	PM Pk Volume	1170	576			1719
Pk Hr Factor	0.892	0.896			0.907	Pk Hr Factor	0.886	0.917			0.932
7 - 9 Volume	453	1825	0	0	2278	4 - 6 Volume	2130	1082	0	0	3212
7 - 9 Peak Hour	7:30	7:45			7:45	4 - 6 Peak Hour	16:45	16:15			16:45
7 - 9 Pk Volume	248	1007	0	0	1251	4 - 6 Pk Volume	1170	576	0	0	1719
Pk Hr Factor	0.912	0.896	0.000	0.000	0.907	Pk Hr Factor	0.886	0.917	0.000	0.000	0.932

Prepared by NDS/ATD

VOLUME

Camino Sante Fe Bet. Summer Ridge Rd & Carroll Canyon Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_016

DAILY TOTALS	NB	SB	EB	WB	Total
	8,300	8,770	0	0	17,070

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	16		8						24		12:00	153		148						301	
0:15	10		6						16		12:15	142		131						273	
0:30	13		9						22		12:30	130		145						275	
0:45	6	45	3	26					9	71	12:45	132	557	150	574					282	1131
1:00	7		2						9		13:00	113		158						271	
1:15	7		9						16		13:15	119		128						247	
1:30	8		6						14		13:30	106		143						249	
1:45	8	30	4	21					12	51	13:45	112	450	139	568					251	1018
2:00	5		2						7		14:00	136		145						281	
2:15	2		1						3		14:15	119		124						243	
2:30	4		3						7		14:30	131		153						284	
2:45	6	17	4	10					10	27	14:45	124	510	130	552					254	1062
3:00	3		5						8		15:00	162		132						294	
3:15	4		2						6		15:15	146		123						269	
3:30	4		4						8		15:30	215		135						350	
3:45	3	14	6	17					9	31	15:45	168	691	131	521					299	1212
4:00	4		9						13		16:00	254		152						406	
4:15	8		14						22		16:15	247		163						410	
4:30	10		22						32		16:30	226		161						387	
4:45	31	53	30	75					61	128	16:45	300	1027	149	625					449	1652
5:00	13		51						64		17:00	361		181						542	
5:15	11		86						97		17:15	310		147						457	
5:30	31		93						124		17:30	269		143						412	
5:45	52	107	106	336					158	443	17:45	228	1168	135	606					363	1774
6:00	41		100						141		18:00	220		124						344	
6:15	52		131						183		18:15	136		120						256	
6:30	54		131						185		18:30	135		101						236	
6:45	57	204	173	535					230	739	18:45	119	610	82	427					201	1037
7:00	61		164						225		19:00	88		67						155	
7:15	67		229						296		19:15	86		49						135	
7:30	105		204						309		19:30	74		58						132	
7:45	96	329	271	868					367	1197	19:45	70	318	50	224					120	542
8:00	99		272						371		20:00	73		38						111	
8:15	77		225						302		20:15	79		32						111	
8:30	86		225						311		20:30	54		28						82	
8:45	80	342	221	943					301	1285	20:45	66	272	31	129					97	401
9:00	79		175						254		21:00	52		29						81	
9:15	87		141						228		21:15	57		30						87	
9:30	80		146						226		21:30	44		37						81	
9:45	75	321	120	582					195	903	21:45	43	196	44	140					87	336
10:00	80		107						187		22:00	36		22						58	
10:15	74		111						185		22:15	33		15						48	
10:30	84		102						186		22:30	42		15						57	
10:45	91	329	93	413					184	742	22:45	25	136	15	67					40	203
11:00	89		117						206		23:00	24		11						35	
11:15	99		104						203		23:15	23		10						33	
11:30	138		108						246		23:30	35		12						47	
11:45	152	478	133	462					285	940	23:45	14	96	16	49					30	145
TOTALS		2269		4288						6557	TOTALS		6031		4482						10513
SPLIT %		34.6%		65.4%						38.4%	SPLIT %		57.4%		42.6%						61.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	8,300	8,770	0	0	17,070

AM Peak Hour	11:30	7:45			7:45	PM Peak Hour	16:45	16:15			16:45
AM Pk Volume	585	993			1351	PM Pk Volume	1240	654			1860
Pk Hr Factor	0.956	0.913			0.910	Pk Hr Factor	0.859	0.903			0.858
7 - 9 Volume	671	1811	0	0	2482	4 - 6 Volume	2195	1231	0	0	3426
7 - 9 Peak Hour	7:30	7:45			7:45	4 - 6 Peak Hour	16:45	16:15			16:45
7 - 9 Pk Volume	377	993	0	0	1351	4 - 6 Pk Volume	1240	654	0	0	1860
Pk Hr Factor	0.898	0.913	0.000	0.000	0.910	Pk Hr Factor	0.859	0.903	0.000	0.000	0.858

Prepared by NDS/ATD

VOLUME

Camino Sante Fe Bet. Carroll Canyon Rd & Trade St

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_017

DAILY TOTALS	NB	SB	EB	WB	Total
	9,176	9,519	0	0	18,695

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	15		9						24		12:00	192		168						360	
0:15	10		6						16		12:15	164		141						305	
0:30	14		9						23		12:30	144		164						308	
0:45	6	45	3	27					9	72	12:45	151	651	179	652					330	1303
1:00	7		1						8		13:00	135		174						309	
1:15	7		8						15		13:15	133		146						279	
1:30	8		7						15		13:30	121		167						288	
1:45	8	30	4	20					12	50	13:45	135	524	167	654					302	1178
2:00	5		2						7		14:00	151		168						319	
2:15	2		1						3		14:15	129		150						279	
2:30	4		3						7		14:30	165		174						339	
2:45	6	17	2	8					8	25	14:45	156	601	141	633					297	1234
3:00	3		7						10		15:00	162		152						314	
3:15	4		2						6		15:15	150		142						292	
3:30	4		4						8		15:30	215		135						350	
3:45	3	14	6	19					9	33	15:45	174	701	133	562					307	1263
4:00	5		9						14		16:00	271		156						427	
4:15	8		14						22		16:15	257		175						432	
4:30	10		19						29		16:30	262		164						426	
4:45	33	56	30	72					63	128	16:45	298	1088	151	646					449	1734
5:00	14		53						67		17:00	387		181						568	
5:15	26		81						107		17:15	329		151						480	
5:30	36		95						131		17:30	279		144						423	
5:45	66	142	112	341					178	483	17:45	238	1233	132	608					370	1841
6:00	58		99						157		18:00	230		132						362	
6:15	64		143						207		18:15	150		120						270	
6:30	60		143						203		18:30	131		102						233	
6:45	81	263	176	561					257	824	18:45	125	636	82	436					207	1072
7:00	73		183						256		19:00	89		66						155	
7:15	73		246						319		19:15	93		50						143	
7:30	104		217						321		19:30	71		63						134	
7:45	111	361	303	949					414	1310	19:45	79	332	52	231					131	563
8:00	131		283						414		20:00	67		36						103	
8:15	100		243						343		20:15	78		35						113	
8:30	101		245						346		20:30	62		27						89	
8:45	96	428	233	1004					329	1432	20:45	62	269	30	128					92	397
9:00	97		207						304		21:00	56		30						86	
9:15	104		159						263		21:15	54		30						84	
9:30	111		153						264		21:30	46		36						82	
9:45	100	412	152	671					252	1083	21:45	40	196	45	141					85	337
10:00	84		119						203		22:00	36		23						59	
10:15	107		141						248		22:15	37		14						51	
10:30	99		132						231		22:30	39		14						53	
10:45	106	396	114	506					220	902	22:45	25	137	16	67					41	204
11:00	102		140						242		23:00	23		11						34	
11:15	118		113						231		23:15	25		11						36	
11:30	165		122						287		23:30	33		10						43	
11:45	165	550	161	536					326	1086	23:45	13	94	15	47					28	141
TOTALS		2714		4714						7428	TOTALS		6462		4805						11267
SPLIT %		36.5%		63.5%						39.7%	SPLIT %		57.4%		42.6%						60.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,176	9,519	0	0	18,695

AM Peak Hour	11:30	7:45			7:45	PM Peak Hour	16:45	16:15			16:30
AM Pk Volume	686	1074			1517	PM Pk Volume	1293	671			1923
Pk Hr Factor	0.893	0.886			0.916	Pk Hr Factor	0.835	0.927			0.846
7 - 9 Volume	789	1953	0	0	2742	4 - 6 Volume	2321	1254	0	0	3575
7 - 9 Peak Hour	7:30	7:45			7:45	4 - 6 Peak Hour	16:45	16:15			16:30
7 - 9 Pk Volume	446	1074	0	0	1517	4 - 6 Pk Volume	1293	671	0	0	1923
Pk Hr Factor	0.851	0.886	0.000	0.000	0.916	Pk Hr Factor	0.835	0.927	0.000	0.000	0.846

Prepared by NDS/ATD

VOLUME

Camino Sante Fe Bet. Trade St & Carroll Rd

Day: Thursday
Date: 6/1/2017

City: San Diego
Project #: CA17_4201_018

DAILY TOTALS	NB	SB	EB	WB	Total
	10,303	10,583	0	0	20,886

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
0:00	20		13						33		12:00	191		175						366	
0:15	19		8						27		12:15	168		164						332	
0:30	17		9						26		12:30	164		177						341	
0:45	7	63	12	42					19	105	12:45	186	709	189	705					375	1414
1:00	11		3						14		13:00	141		211						352	
1:15	9		9						18		13:15	144		149						293	
1:30	10		10						20		13:30	147		180						327	
1:45	11	41	5	27					16	68	13:45	140	572	189	729					329	1301
2:00	6		2						8		14:00	167		193						360	
2:15	7		4						11		14:15	139		172						311	
2:30	8		7						15		14:30	166		196						362	
2:45	11	32	6	19					17	51	14:45	167	639	162	723					329	1362
3:00	6		9						15		15:00	176		183						359	
3:15	9		2						11		15:15	166		170						336	
3:30	4		6						10		15:30	228		190						418	
3:45	5	24	7	24					12	48	15:45	174	744	156	699					330	1443
4:00	9		11						20		16:00	263		189						452	
4:15	9		23						32		16:15	265		196						461	
4:30	17		23						40		16:30	272		186						458	
4:45	47	82	33	90					80	172	16:45	294	1094	169	740					463	1834
5:00	27		49						76		17:00	364		226						590	
5:15	43		77						120		17:15	336		189						525	
5:30	67		85						152		17:30	298		168						466	
5:45	100	237	93	304					193	541	17:45	245	1243	156	739					401	1982
6:00	84		94						178		18:00	232		148						380	
6:15	101		137						238		18:15	153		134						287	
6:30	101		138						239		18:30	133		118						251	
6:45	135	421	173	542					308	963	18:45	130	648	111	511					241	1159
7:00	104		203						307		19:00	96		69						165	
7:15	114		235						349		19:15	88		92						180	
7:30	157		228						385		19:30	83		90						173	
7:45	157	532	329	995					486	1527	19:45	65	332	73	324					138	656
8:00	145		290						435		20:00	71		39						110	
8:15	129		244						373		20:15	84		43						127	
8:30	120		256						376		20:30	62		37						99	
8:45	130	524	247	1037					377	1561	20:45	65	282	39	158					104	440
9:00	125		233						358		21:00	61		40						101	
9:15	137		183						320		21:15	57		36						93	
9:30	135		165						300		21:30	41		38						79	
9:45	137	534	158	739					295	1273	21:45	46	205	47	161					93	366
10:00	114		128						242		22:00	48		27						75	
10:15	132		150						282		22:15	41		16						57	
10:30	128		154						282		22:30	46		19						65	
10:45	121	495	125	557					246	1052	22:45	30	165	28	90					58	255
11:00	125		155						280		23:00	25		15						40	
11:15	117		135						252		23:15	23		14						37	
11:30	176		139						315		23:30	34		10						44	
11:45	172	590	146	575					318	1165	23:45	13	95	14	53					27	148
TOTALS		3575		4951						8526	TOTALS		6728		5632						12360
SPLIT %		41.9%		58.1%						40.8%	SPLIT %		54.4%		45.6%						59.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	10,303	10,583	0	0	20,886

AM Peak Hour	11:30	7:45			7:30	PM Peak Hour	16:45	16:15			16:45
AM Pk Volume	707	1119			1679	PM Pk Volume	1292	777			2044
Pk Hr Factor	0.925	0.850			0.864	Pk Hr Factor	0.887	0.860			0.866
7 - 9 Volume	1056	2032	0	0	3088	4 - 6 Volume	2337	1479	0	0	3816
7 - 9 Peak Hour	7:30	7:45			7:30	4 - 6 Peak Hour	16:45	16:15			16:45
7 - 9 Pk Volume	588	1119	0	0	1679	4 - 6 Pk Volume	1292	777	0	0	2044
Pk Hr Factor	0.936	0.850	0.000	0.000	0.864	Pk Hr Factor	0.887	0.860	0.000	0.000	0.866

Prepared by NDS/ATD

VOLUME

Camino Santa Fe Bet. Carroll Rd & Miramar Rd

Day: Wednesday
Date: 2/8/2017

City: San Diego
Project #: CA17_4030_008

DAILY TOTALS	NB	SB	EB	WB	Total
	11,877	12,522	0	0	24,399

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	15		19						34		12:00	185		225						410	
00:15	15		16						31		12:15	245		172						417	
00:30	11		12						23		12:30	185		208						393	
00:45	8	49	14	61					22	110	12:45	228	843	160	765					388	1608
01:00	13		14						27		13:00	192		213						405	
01:15	7		15						22		13:15	220		183						403	
01:30	11		14						25		13:30	226		225						451	
01:45	17	48	5	48					22	96	13:45	204	842	180	801					384	1643
02:00	12		7						19		14:00	141		237						378	
02:15	8		11						19		14:15	154		234						388	
02:30	11		17						28		14:30	144		272						416	
02:45	12	43	11	46					23	89	14:45	172	611	203	946					375	1557
03:00	12		11						23		15:00	195		261						456	
03:15	9		11						20		15:15	151		245						396	
03:30	10		12						22		15:30	144		267						411	
03:45	34	65	14	48					48	113	15:45	195	685	231	1004					426	1689
04:00	30		15						45		16:00	162		303						465	
04:15	24		19						43		16:15	243		279						522	
04:30	47		31						78		16:30	201		298						499	
04:45	94	195	31	96					125	291	16:45	261	867	248	1128					509	1995
05:00	85		35						120		17:00	230		357						587	
05:15	135		41						176		17:15	269		274						543	
05:30	207		84						291		17:30	289		269						558	
05:45	238	665	84	244					322	909	17:45	238	1026	231	1131					469	2157
06:00	144		89						233		18:00	145		253						398	
06:15	174		118						292		18:15	163		151						314	
06:30	152		180						332		18:30	119		182						301	
06:45	207	677	148	535					355	1212	18:45	74	501	142	728					216	1229
07:00	168		157						325		19:00	79		131						210	
07:15	196		203						399		19:15	94		143						237	
07:30	201		224						425		19:30	79		93						172	
07:45	235	800	251	835					486	1635	19:45	53	305	83	450					136	755
08:00	196		267						463		20:00	58		62						120	
08:15	195		198						393		20:15	67		67						134	
08:30	187		213						400		20:30	69		42						111	
08:45	214	792	225	903					439	1695	20:45	59	253	57	228					116	481
09:00	223		188						411		21:00	57		60						117	
09:15	187		152						339		21:15	44		58						102	
09:30	181		168						349		21:30	64		48						112	
09:45	179	770	163	671					342	1441	21:45	71	236	51	217					122	453
10:00	165		168						333		22:00	43		42						85	
10:15	173		140						313		22:15	30		51						81	
10:30	156		141						297		22:30	31		58						89	
10:45	155	649	158	607					313	1256	22:45	38	142	50	201					88	343
11:00	149		177						326		23:00	12		40						52	
11:15	175		160						335		23:15	20		16						36	
11:30	202		215						417		23:30	33		21						54	
11:45	197	723	182	734					379	1457	23:45	25	90	18	95					43	185
TOTALS		5476		4828						10304	TOTALS		6401		7694						14095
SPLIT %		53.1%		46.9%						42.2%	SPLIT %		45.4%		54.6%						57.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	11,877	12,522	0	0	24,399

AM Peak Hour	11:30	07:15			07:15	PM Peak Hour	16:45	16:15			16:45
AM Pk Volume	829	945			1773	PM Pk Volume	1049	1182			2197
Pk Hr Factor	0.846	0.885			0.912	Pk Hr Factor	0.907	0.828			0.936
7 - 9 Volume	1592	1738	0	0	3330	4 - 6 Volume	1893	2259	0	0	4152
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	16:15			16:45
7 - 9 Pk Volume	828	945	0	0	1773	4 - 6 Pk Volume	1049	1182	0	0	2197
Pk Hr Factor	0.881	0.885	0.000	0.000	0.912	Pk Hr Factor	0.907	0.828	0.000	0.000	0.936

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Mira Mesa Blvd & Mira Mesa Mall Entrance

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_008

DAILY TOTALS	NB	SB	EB	WB	Total
	9,408	9,022	0	0	18,430

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	30		25						55		12:00	187		153						340	
00:15	18		16						34		12:15	173		183						356	
00:30	16		11						27		12:30	184		158						342	
00:45	16	80	16	68					32	148	12:45	158	702	194	688					352	1390
01:00	6		8						14		13:00	158		156						314	
01:15	10		11						21		13:15	117		154						271	
01:30	10		5						15		13:30	135		148						283	
01:45	10	36	5	29					15	65	13:45	153	563	123	581					276	1144
02:00	5		2						7		14:00	129		144						273	
02:15	3		2						5		14:15	161		160						321	
02:30	4		2						6		14:30	216		144						360	
02:45	4	16	4	10					8	26	14:45	186	692	153	601					339	1293
03:00	1		5						6		15:00	139		152						291	
03:15	10		5						15		15:15	147		121						268	
03:30	7		7						14		15:30	158		126						284	
03:45	5	23	9	26					14	49	15:45	156	600	133	532					289	1132
04:00	4		11						15		16:00	150		134						284	
04:15	8		8						16		16:15	193		142						335	
04:30	11		10						21		16:30	183		127						310	
04:45	9	32	14	43					23	75	16:45	198	724	150	553					348	1277
05:00	9		20						29		17:00	189		128						317	
05:15	22		39						61		17:15	216		160						376	
05:30	25		37						62		17:30	192		155						347	
05:45	24	80	50	146					74	226	17:45	196	793	154	597					350	1390
06:00	39		57						96		18:00	200		182						382	
06:15	64		73						137		18:15	157		174						331	
06:30	63		81						144		18:30	166		168						334	
06:45	75	241	94	305					169	546	18:45	143	666	124	648					267	1314
07:00	83		124						207		19:00	163		156						319	
07:15	135		180						315		19:15	139		141						280	
07:30	126		147						273		19:30	148		126						274	
07:45	119	463	126	577					245	1040	19:45	148	598	116	539					264	1137
08:00	94		131						225		20:00	148		136						284	
08:15	107		110						217		20:15	133		121						254	
08:30	81		118						199		20:30	143		111						254	
08:45	96	378	113	472					209	850	20:45	107	531	117	485					224	1016
09:00	113		109						222		21:00	86		117						203	
09:15	115		115						230		21:15	94		87						181	
09:30	104		100						204		21:30	62		81						143	
09:45	94	426	129	453					223	879	21:45	96	338	73	358					169	696
10:00	102		113						215		22:00	86		67						153	
10:15	129		105						234		22:15	59		55						114	
10:30	90		123						213		22:30	48		41						89	
10:45	112	433	109	450					221	883	22:45	34	227	31	194					65	421
11:00	138		137						275		23:00	27		28						55	
11:15	163		131						294		23:15	22		26						48	
11:30	181		137						318		23:30	26		24						50	
11:45	178	660	164	569					342	1229	23:45	31	106	20	98					51	204
TOTALS		2868		3148						6016	TOTALS		6540		5874						12414
SPLIT %		47.7%		52.3%						32.6%	SPLIT %		52.7%		47.3%						67.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,408	9,022	0	0	18,430

AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	17:15	12:15			17:15
AM Pk Volume	722	658			1380	PM Pk Volume	804	691			1455
Pk Hr Factor	0.965	0.899			0.969	Pk Hr Factor	0.931	0.890			0.952
7 - 9 Volume	841	1049	0	0	1890	4 - 6 Volume	1517	1150	0	0	2667
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	474	584	0	0	1058	4 - 6 Pk Volume	795	597	0	0	1390
Pk Hr Factor	0.878	0.811	0.000	0.000	0.840	Pk Hr Factor	0.920	0.933	0.000	0.000	0.924

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Mira Mesa Mall Entrance & Reagan Rd/Marauder Way

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_009

DAILY TOTALS	NB	SB	EB	WB	Total
	9,343	8,659	0	0	18,002

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	29		28						57		12:00	206		150						356	
00:15	17		16						33		12:15	178		185						363	
00:30	15		11						26		12:30	199		151						350	
00:45	16	77	16	71					32	148	12:45	149	732	191	677					340	1409
01:00	6		7						13		13:00	160		163						323	
01:15	10		13						23		13:15	124		149						273	
01:30	11		6						17		13:30	135		144						279	
01:45	10	37	4	30					14	67	13:45	154	573	128	584					282	1157
02:00	5		2						7		14:00	130		129						259	
02:15	5		2						7		14:15	145		167						312	
02:30	3		2						5		14:30	208		137						345	
02:45	4	17	3	9					7	26	14:45	177	660	161	594					338	1254
03:00	1		6						7		15:00	132		147						279	
03:15	11		4						15		15:15	139		122						261	
03:30	9		7						16		15:30	149		136						285	
03:45	6	27	10	27					16	54	15:45	172	592	149	554					321	1146
04:00	5		9						14		16:00	165		145						310	
04:15	8		5						13		16:15	177		157						334	
04:30	11		11						22		16:30	164		145						309	
04:45	10	34	13	38					23	72	16:45	180	686	151	598					331	1284
05:00	10		17						27		17:00	213		140						353	
05:15	22		36						58		17:15	206		159						365	
05:30	25		29						54		17:30	190		172						362	
05:45	30	87	42	124					72	211	17:45	196	805	141	612					337	1417
06:00	35		48						83		18:00	203		179						382	
06:15	60		68						128		18:15	168		166						334	
06:30	58		74						132		18:30	147		149						296	
06:45	76	229	90	280					166	509	18:45	120	638	128	622					248	1260
07:00	81		115						196		19:00	155		137						292	
07:15	133		166						299		19:15	140		129						269	
07:30	125		130						255		19:30	152		114						266	
07:45	137	476	140	551					277	1027	19:45	133	580	110	490					243	1070
08:00	97		121						218		20:00	141		114						255	
08:15	98		119						217		20:15	115		91						206	
08:30	90		109						199		20:30	138		106						244	
08:45	100	385	102	451					202	836	20:45	104	498	104	415					208	913
09:00	116		91						207		21:00	85		97						182	
09:15	112		99						211		21:15	94		83						177	
09:30	101		93						194		21:30	60		80						140	
09:45	86	415	123	406					209	821	21:45	92	331	74	334					166	665
10:00	105		91						196		22:00	86		60						146	
10:15	122		97						219		22:15	56		48						104	
10:30	100		100						200		22:30	51		37						88	
10:45	116	443	107	395					223	838	22:45	36	229	28	173					64	402
11:00	150		133						283		23:00	30		22						52	
11:15	172		125						297		23:15	22		22						44	
11:30	180		127						307		23:30	28		25						53	
11:45	181	683	151	536					332	1219	23:45	29	109	19	88					48	197
TOTALS		2910		2918						5828	TOTALS		6433		5741						12174
SPLIT %		49.9%		50.1%						32.4%	SPLIT %		52.8%		47.2%						67.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,343	8,659	0	0	18,002

AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	17:00	12:15			17:15
AM Pk Volume	764	637			1401	PM Pk Volume	805	690			1446
Pk Hr Factor	0.927	0.861			0.965	Pk Hr Factor	0.945	0.903			0.946
7 - 9 Volume	861	1002	0	0	1863	4 - 6 Volume	1491	1210	0	0	2701
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	17:00	16:45			17:00
7 - 9 Pk Volume	492	557	0	0	1049	4 - 6 Pk Volume	805	622	0	0	1417
Pk Hr Factor	0.898	0.839	0.000	0.000	0.877	Pk Hr Factor	0.945	0.904	0.000	0.000	0.971

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Reagan Rd/Marauder Way & Flanders Dr

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_010

DAILY TOTALS	NB	SB	EB	WB	Total
	10,771	11,108	0	0	21,879

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	30		34						64		12:00	212		172						384	
00:15	19		22						41		12:15	206		217						423	
00:30	19		13						32		12:30	228		183						411	
00:45	19	87	18	87					37	174	12:45	173	819	225	797					398	1616
01:00	11		10						21		13:00	162		190						352	
01:15	14		14						28		13:15	150		184						334	
01:30	14		9						23		13:30	158		177						335	
01:45	11	50	5	38					16	88	13:45	168	638	168	719					336	1357
02:00	5		2						7		14:00	162		164						326	
02:15	5		2						7		14:15	166		208						374	
02:30	4		3						7		14:30	222		198						420	
02:45	6	20	5	12					11	32	14:45	197	747	188	758					385	1505
03:00	3		10						13		15:00	158		198						356	
03:15	10		8						18		15:15	159		150						309	
03:30	6		10						16		15:30	180		179						359	
03:45	10	29	15	43					25	72	15:45	219	716	184	711					403	1427
04:00	8		15						23		16:00	200		167						367	
04:15	9		11						20		16:15	232		198						430	
04:30	8		18						26		16:30	201		197						398	
04:45	16	41	22	66					38	107	16:45	242	875	157	719					399	1594
05:00	9		26						35		17:00	264		206						470	
05:15	24		51						75		17:15	225		213						438	
05:30	30		51						81		17:30	253		211						464	
05:45	47	110	68	196					115	306	17:45	232	974	192	822					424	1796
06:00	39		74						113		18:00	222		215						437	
06:15	69		93						162		18:15	213		214						427	
06:30	77		124						201		18:30	159		192						351	
06:45	94	279	135	426					229	705	18:45	160	754	158	779					318	1533
07:00	93		170						263		19:00	163		175						338	
07:15	131		221						352		19:15	163		154						317	
07:30	165		209						374		19:30	149		143						292	
07:45	163	552	188	788					351	1340	19:45	139	614	142	614					281	1228
08:00	108		171						279		20:00	152		144						296	
08:15	119		177						296		20:15	135		124						259	
08:30	101		152						253		20:30	139		118						257	
08:45	106	434	143	643					249	1077	20:45	109	535	128	514					237	1049
09:00	121		109						230		21:00	87		115						202	
09:15	120		139						259		21:15	98		104						202	
09:30	112		117						229		21:30	79		97						176	
09:45	105	458	152	517					257	975	21:45	105	369	79	395					184	764
10:00	119		114						233		22:00	95		77						172	
10:15	154		127						281		22:15	77		62						139	
10:30	104		116						220		22:30	57		60						117	
10:45	130	507	130	487					260	994	22:45	51	280	43	242					94	522
11:00	171		140						311		23:00	33		33						66	
11:15	175		158						333		23:15	41		29						70	
11:30	201		155						356		23:30	36		36						72	
11:45	199	746	159	612					358	1358	23:45	27	137	25	123					52	260
TOTALS		3313		3915						7228	TOTALS		7458		7193						14651
SPLIT %		45.8%		54.2%						33.0%	SPLIT %		50.9%		49.1%						67.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	10,771	11,108	0	0	21,879

AM Peak Hour	11:45	07:15			11:45	PM Peak Hour	16:45	17:30			17:00
AM Pk Volume	845	789			1576	PM Pk Volume	984	832			1796
Pk Hr Factor	0.927	0.893			0.931	Pk Hr Factor	0.932	0.967			0.955
7 - 9 Volume	986	1431	0	0	2417	4 - 6 Volume	1849	1541	0	0	3390
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	567	789	0	0	1356	4 - 6 Pk Volume	984	822	0	0	1796
Pk Hr Factor	0.859	0.893	0.000	0.000	0.906	Pk Hr Factor	0.932	0.965	0.000	0.000	0.955

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Flanders Dr & Gold Coast Dr

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_011

DAILY TOTALS	NB	SB	EB	WB	Total
	10,650	11,039	0	0	21,689

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	30		29						59		12:00	194		160						354	
00:15	20		22						42		12:15	204		215						419	
00:30	21		11						32		12:30	217		185						402	
00:45	21	92	16	78					37	170	12:45	180	795	213	773					393	1568
01:00	11		9						20		13:00	154		181						335	
01:15	15		13						28		13:15	146		162						308	
01:30	16		11						27		13:30	162		176						338	
01:45	11	53	4	37					15	90	13:45	172	634	158	677					330	1311
02:00	7		2						9		14:00	154		155						309	
02:15	5		3						8		14:15	169		187						356	
02:30	5		5						10		14:30	217		192						409	
02:45	8	25	5	15					13	40	14:45	184	724	186	720					370	1444
03:00	2		9						11		15:00	147		183						330	
03:15	10		10						20		15:15	151		148						299	
03:30	5		12						17		15:30	184		168						352	
03:45	10	27	15	46					25	73	15:45	207	689	191	690					398	1379
04:00	7		17						24		16:00	198		178						376	
04:15	10		12						22		16:15	238		186						424	
04:30	9		19						28		16:30	210		205						415	
04:45	17	43	28	76					45	119	16:45	236	882	173	742					409	1624
05:00	8		34						42		17:00	266		222						488	
05:15	22		47						69		17:15	232		212						444	
05:30	31		63						94		17:30	251		234						485	
05:45	48	109	72	216					120	325	17:45	221	970	189	857					410	1827
06:00	43		82						125		18:00	199		205						404	
06:15	65		87						152		18:15	199		218						417	
06:30	78		132						210		18:30	147		194						341	
06:45	92	278	142	443					234	721	18:45	153	698	172	789					325	1487
07:00	94		141						235		19:00	166		160						326	
07:15	148		233						381		19:15	159		141						300	
07:30	167		292						459		19:30	150		141						291	
07:45	179	588	203	869					382	1457	19:45	148	623	132	574					280	1197
08:00	107		190						297		20:00	145		139						284	
08:15	115		144						259		20:15	140		107						247	
08:30	106		191						297		20:30	124		117						241	
08:45	107	435	142	667					249	1102	20:45	111	520	119	482					230	1002
09:00	121		101						222		21:00	86		111						197	
09:15	123		142						265		21:15	100		90						190	
09:30	109		121						230		21:30	82		82						164	
09:45	110	463	134	498					244	961	21:45	105	373	78	361					183	734
10:00	105		122						227		22:00	101		71						172	
10:15	147		129						276		22:15	71		62						133	
10:30	102		112						214		22:30	53		53						106	
10:45	122	476	129	492					251	968	22:45	50	275	42	228					92	503
11:00	171		145						316		23:00	38		33						71	
11:15	161		150						311		23:15	44		26						70	
11:30	215		136						351		23:30	36		28						64	
11:45	183	730	161	592					344	1322	23:45	30	148	30	117					60	265
TOTALS		3319		4029						7348	TOTALS		7331		7010						14341
SPLIT %		45.2%		54.8%						33.9%	SPLIT %		51.1%		48.9%						66.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	10,650	11,039	0	0	21,689

AM Peak Hour	11:45	07:15			07:15	PM Peak Hour	16:45	17:00			17:00
AM Pk Volume	798	918			1519	PM Pk Volume	985	857			1827
Pk Hr Factor	0.919	0.786			0.827	Pk Hr Factor	0.926	0.916			0.936
7 - 9 Volume	1023	1536	0	0	2559	4 - 6 Volume	1852	1599	0	0	3451
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	601	918	0	0	1519	4 - 6 Pk Volume	985	857	0	0	1827
Pk Hr Factor	0.839	0.786	0.000	0.000	0.827	Pk Hr Factor	0.926	0.916	0.000	0.000	0.936

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Gold Coast Dr & Jade Coast Dr

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_012

DAILY TOTALS	NB	SB	EB	WB	Total
	9,827	10,923	0	0	20,750

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	32		21						53		12:00	200		158						358	
00:15	22		18						40		12:15	176		222						398	
00:30	21		8						29		12:30	204		201						405	
00:45	19	94	12	59					31	153	12:45	145	725	223	804					368	1529
01:00	14		13						27		13:00	138		177						315	
01:15	12		10						22		13:15	148		163						311	
01:30	20		11						31		13:30	143		174						317	
01:45	8	54	2	36					10	90	13:45	164	593	157	671					321	1264
02:00	10		3						13		14:00	154		141						295	
02:15	5		4						9		14:15	149		152						301	
02:30	4		4						8		14:30	172		209						381	
02:45	5	24	2	13					7	37	14:45	172	647	178	680					350	1327
03:00	2		10						12		15:00	150		179						329	
03:15	8		11						19		15:15	149		153						302	
03:30	5		13						18		15:30	188		156						344	
03:45	10	25	15	49					25	74	15:45	216	703	182	670					398	1373
04:00	6		17						23		16:00	202		153						355	
04:15	9		14						23		16:15	210		191						401	
04:30	9		26						35		16:30	215		186						401	
04:45	17	41	28	85					45	126	16:45	221	848	157	687					378	1535
05:00	8		42						50		17:00	262		196						458	
05:15	22		60						82		17:15	260		198						458	
05:30	25		77						102		17:30	257		207						464	
05:45	38	93	83	262					121	355	17:45	228	1007	184	785					412	1792
06:00	42		93						135		18:00	207		213						420	
06:15	56		103						159		18:15	191		214						405	
06:30	73		166						239		18:30	159		204						363	
06:45	61	232	157	519					218	751	18:45	137	694	163	794					300	1488
07:00	66		174						240		19:00	157		139						296	
07:15	79		236						315		19:15	163		121						284	
07:30	71		266						337		19:30	137		129						266	
07:45	71	287	264	940					335	1227	19:45	135	592	126	515					261	1107
08:00	73		212						285		20:00	144		109						253	
08:15	81		163						244		20:15	139		98						237	
08:30	87		186						273		20:30	127		101						228	
08:45	78	319	172	733					250	1052	20:45	107	517	83	391					190	908
09:00	75		135						210		21:00	96		97						193	
09:15	99		156						255		21:15	108		89						197	
09:30	91		125						216		21:30	84		76						160	
09:45	90	355	152	568					242	923	21:45	81	369	67	329					148	698
10:00	99		126						225		22:00	103		60						163	
10:15	128		113						241		22:15	74		51						125	
10:30	103		114						217		22:30	61		46						107	
10:45	119	449	136	489					255	938	22:45	62	300	33	190					95	490
11:00	151		134						285		23:00	49		33						82	
11:15	159		145						304		23:15	46		26						72	
11:30	208		133						341		23:30	41		21						62	
11:45	175	693	141	553					316	1246	23:45	30	166	21	101					51	267
TOTALS		2666		4306						6972	TOTALS		7161		6617						13778
SPLIT %		38.2%		61.8%						33.6%	SPLIT %		52.0%		48.0%						66.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,827	10,923	0	0	20,750

AM Peak Hour	11:30	07:15			11:45	PM Peak Hour	17:00	12:15			17:00
AM Pk Volume	759	978			1477	PM Pk Volume	1007	823			1792
Pk Hr Factor	0.912	0.919			0.912	Pk Hr Factor	0.961	0.923			0.966
7 - 9 Volume	606	1673	0	0	2279	4 - 6 Volume	1855	1472	0	0	3327
7 - 9 Peak Hour	08:00	07:15			07:15	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	319	978	0	0	1272	4 - 6 Pk Volume	1007	785	0	0	1792
Pk Hr Factor	0.917	0.919	0.000	0.000	0.944	Pk Hr Factor	0.961	0.948	0.000	0.000	0.966

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Jade Coast Dr & Carroll Canyon Rd

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_013

DAILY TOTALS	NB	SB	EB	WB	Total
	11,535	12,167	0	0	23,702

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	39		14						53		12:00	234		168						402	
00:15	28		17						45		12:15	204		253						457	
00:30	27		10						37		12:30	238		224						462	
00:45	28	122	7	48					35	170	12:45	161	837	215	860					376	1697
01:00	19		10						29		13:00	158		180						338	
01:15	15		7						22		13:15	151		184						335	
01:30	23		8						31		13:30	169		202						371	
01:45	11	68	1	26					12	94	13:45	178	656	166	732					344	1388
02:00	14		1						15		14:00	155		152						307	
02:15	7		3						10		14:15	172		155						327	
02:30	7		4						11		14:30	216		197						413	
02:45	6	34	4	12					10	46	14:45	194	737	193	697					387	1434
03:00	4		11						15		15:00	187		160						347	
03:15	10		15						25		15:15	183		144						327	
03:30	7		13						20		15:30	247		179						426	
03:45	9	30	20	59					29	89	15:45	249	866	155	638					404	1504
04:00	5		17						22		16:00	259		154						413	
04:15	8		23						31		16:15	294		180						474	
04:30	5		37						42		16:30	303		195						498	
04:45	13	31	44	121					57	152	16:45	332	1188	169	698					501	1886
05:00	5		55						60		17:00	326		203						529	
05:15	13		95						108		17:15	356		202						558	
05:30	22		101						123		17:30	319		187						506	
05:45	32	72	120	371					152	443	17:45	293	1294	181	773					474	2067
06:00	33		133						166		18:00	266		188						454	
06:15	43		156						199		18:15	230		218						448	
06:30	61		224						285		18:30	207		196						403	
06:45	49	186	243	756					292	942	18:45	175	878	174	776					349	1654
07:00	58		250						308		19:00	184		144						328	
07:15	81		309						390		19:15	195		120						315	
07:30	70		352						422		19:30	147		111						258	
07:45	74	283	366	1277					440	1560	19:45	169	695	122	497					291	1192
08:00	64		296						360		20:00	154		113						267	
08:15	66		239						305		20:15	168		81						249	
08:30	78		256						334		20:30	149		84						233	
08:45	71	279	243	1034					314	1313	20:45	125	596	74	352					199	948
09:00	69		176						245		21:00	127		82						209	
09:15	89		193						282		21:15	129		87						216	
09:30	95		161						256		21:30	117		61						178	
09:45	98	351	170	700					268	1051	21:45	101	474	63	293					164	767
10:00	102		145						247		22:00	138		59						197	
10:15	130		142						272		22:15	82		37						119	
10:30	116		140						256		22:30	62		38						100	
10:45	140	488	147	574					287	1062	22:45	86	368	34	168					120	536
11:00	167		149						316		23:00	65		21						86	
11:15	178		152						330		23:15	53		25						78	
11:30	238		164						402		23:30	48		16						64	
11:45	212	795	158	623					370	1418	23:45	41	207	20	82					61	289
TOTALS		2739		5601						8340	TOTALS		8796		6566						15362
SPLIT %		32.8%		67.2%						35.2%	SPLIT %		57.3%		42.7%						64.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	11,535	12,167	0	0	23,702

AM Peak Hour	11:30	07:15			11:45	PM Peak Hour	16:45	12:15			16:45
AM Pk Volume	888	1323			1691	PM Pk Volume	1333	872			2094
Pk Hr Factor	0.933	0.904			0.915	Pk Hr Factor	0.936	0.862			0.938
7 - 9 Volume	562	2311	0	0	2873	4 - 6 Volume	2482	1471	0	0	3953
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	289	1323	0	0	1612	4 - 6 Pk Volume	1333	773	0	0	2094
Pk Hr Factor	0.892	0.904	0.000	0.000	0.916	Pk Hr Factor	0.936	0.952	0.000	0.000	0.938

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Carroll Canyon Rd & Miralani Dr

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_014

DAILY TOTALS	NB	SB	EB	WB	Total
	11,950	12,569	0	0	24,519

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	40		15						55		12:00	241		168						409	
00:15	30		16						46		12:15	214		250						464	
00:30	27		11						38		12:30	240		242						482	
00:45	28	125	6	48					34	173	12:45	150	845	224	884					374	1729
01:00	17		10						27		13:00	158		191						349	
01:15	15		10						25		13:15	165		169						334	
01:30	25		8						33		13:30	183		217						400	
01:45	10	67	1	29					11	96	13:45	191	697	178	755					369	1452
02:00	14		1						15		14:00	161		167						328	
02:15	6		3						9		14:15	177		159						336	
02:30	7		3						10		14:30	221		210						431	
02:45	6	33	6	13					12	46	14:45	198	757	195	731					393	1488
03:00	5		11						16		15:00	203		173						376	
03:15	10		15						25		15:15	182		165						347	
03:30	9		12						21		15:30	252		195						447	
03:45	8	32	19	57					27	89	15:45	243	880	169	702					412	1582
04:00	6		17						23		16:00	258		185						443	
04:15	7		23						30		16:15	297		194						491	
04:30	5		37						42		16:30	294		216						510	
04:45	17	35	42	119					59	154	16:45	340	1189	181	776					521	1965
05:00	10		52						62		17:00	313		229						542	
05:15	22		94						116		17:15	351		205						556	
05:30	34		99						133		17:30	322		203						525	
05:45	38	104	122	367					160	471	17:45	292	1278	185	822					477	2100
06:00	51		133						184		18:00	276		196						472	
06:15	58		151						209		18:15	207		218						425	
06:30	85		229						314		18:30	221		208						429	
06:45	76	270	225	738					301	1008	18:45	177	881	186	808					363	1689
07:00	72		254						326		19:00	191		150						341	
07:15	103		322						425		19:15	193		113						306	
07:30	85		356						441		19:30	157		125						282	
07:45	90	350	361	1293					451	1643	19:45	168	709	123	511					291	1220
08:00	85		293						378		20:00	172		118						290	
08:15	74		242						316		20:15	162		84						246	
08:30	90		255						345		20:30	141		82						223	
08:45	83	332	246	1036					329	1368	20:45	126	601	80	364					206	965
09:00	78		179						257		21:00	134		79						213	
09:15	98		199						297		21:15	131		83						214	
09:30	105		156						261		21:30	111		68						179	
09:45	108	389	171	705					279	1094	21:45	108	484	61	291					169	775
10:00	115		158						273		22:00	131		64						195	
10:15	137		148						285		22:15	80		40						120	
10:30	129		146						275		22:30	63		32						95	
10:45	149	530	149	601					298	1131	22:45	86	360	40	176					126	536
11:00	168		160						328		23:00	59		19						78	
11:15	190		159						349		23:15	51		28						79	
11:30	230		169						399		23:30	49		17						66	
11:45	213	801	171	659					384	1460	23:45	42	201	20	84					62	285
TOTALS		3068		5665						8733	TOTALS		8882		6904						15786
SPLIT %		35.1%		64.9%						35.6%	SPLIT %		56.3%		43.7%						64.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	11,950	12,569	0	0	24,519

AM Peak Hour	11:45	07:15			11:45	PM Peak Hour	16:45	12:15			16:45
AM Pk Volume	908	1332			1739	PM Pk Volume	1326	907			2144
Pk Hr Factor	0.942	0.922			0.902	Pk Hr Factor	0.944	0.907			0.964
7 - 9 Volume	682	2329	0	0	3011	4 - 6 Volume	2467	1598	0	0	4065
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	363	1332	0	0	1695	4 - 6 Pk Volume	1326	831	0	0	2144
Pk Hr Factor	0.881	0.922	0.000	0.000	0.940	Pk Hr Factor	0.944	0.907	0.000	0.000	0.964

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Miralani Dr & Activity Rd

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_015

DAILY TOTALS	NB	SB	EB	WB	Total
	13,353	15,580	0	0	28,933

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	37		16						53		12:00	212		191						403	
00:15	28		19						47		12:15	228		268						496	
00:30	24		11						35		12:30	236		254						490	
00:45	29	118	14	60					43	178	12:45	173	849	239	952					412	1801
01:00	14		8						22		13:00	188		235						423	
01:15	14		11						25		13:15	186		188						374	
01:30	23		5						28		13:30	207		242						449	
01:45	10	61	3	27					13	88	13:45	214	795	200	865					414	1660
02:00	12		1						13		14:00	178		236						414	
02:15	7		4						11		14:15	203		233						436	
02:30	11		2						13		14:30	209		330						539	
02:45	7	37	7	14					14	51	14:45	204	794	354	1153					558	1947
03:00	8		12						20		15:00	196		322						518	
03:15	13		14						27		15:15	166		318						484	
03:30	10		14						24		15:30	222		360						582	
03:45	9	40	21	61					30	101	15:45	210	794	374	1374					584	2168
04:00	8		20						28		16:00	208		369						577	
04:15	8		20						28		16:15	251		363						614	
04:30	14		35						49		16:30	252		368						620	
04:45	28	58	37	112					65	170	16:45	282	993	362	1462					644	2455
05:00	19		51						70		17:00	245		390						635	
05:15	43		88						131		17:15	281		384						665	
05:30	69		85						154		17:30	256		357						613	
05:45	114	245	113	337					227	582	17:45	235	1017	375	1506					610	2523
06:00	125		133						258		18:00	246		332						578	
06:15	160		139						299		18:15	205		331						536	
06:30	185		200						385		18:30	210		277						487	
06:45	215	685	199	671					414	1356	18:45	200	861	222	1162					422	2023
07:00	186		229						415		19:00	181		188						369	
07:15	243		291						534		19:15	177		147						324	
07:30	208		307						515		19:30	147		141						288	
07:45	226	863	306	1133					532	1996	19:45	162	667	144	620					306	1287
08:00	214		223						437		20:00	160		128						288	
08:15	179		217						396		20:15	148		101						249	
08:30	207		233						440		20:30	134		108						242	
08:45	211	811	226	899					437	1710	20:45	127	569	103	440					230	1009
09:00	184		168						352		21:00	126		100						226	
09:15	176		191						367		21:15	128		91						219	
09:30	162		180						342		21:30	109		77						186	
09:45	150	672	161	700					311	1372	21:45	113	476	64	332					177	808
10:00	141		161						302		22:00	123		70						193	
10:15	157		163						320		22:15	75		37						112	
10:30	142		183						325		22:30	57		41						98	
10:45	171	611	161	668					332	1279	22:45	83	338	43	191					126	529
11:00	187		192						379		23:00	53		24						77	
11:15	184		185						369		23:15	46		27						73	
11:30	237		183						420		23:30	47		20						67	
11:45	206	814	189	749					395	1563	23:45	39	185	21	92					60	277
TOTALS		5015		5431						10446	TOTALS		8338		10149						18487
SPLIT %		48.0%		52.0%						36.1%	SPLIT %		45.1%		54.9%						63.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	13,353	15,580	0	0	28,933

AM Peak Hour	07:15	07:00			07:15	PM Peak Hour	16:45	17:00			16:30
AM Pk Volume	891	1133			2018	PM Pk Volume	1064	1506			2564
Pk Hr Factor	0.917	0.923			0.945	Pk Hr Factor	0.943	0.965			0.964
7 - 9 Volume	1674	2032	0	0	3706	4 - 6 Volume	2010	2968	0	0	4978
7 - 9 Peak Hour	07:15	07:00			07:15	4 - 6 Peak Hour	16:45	17:00			16:30
7 - 9 Pk Volume	891	1133	0	0	2018	4 - 6 Pk Volume	1064	1506	0	0	2564
Pk Hr Factor	0.917	0.923	0.000	0.000	0.945	Pk Hr Factor	0.943	0.965	0.000	0.000	0.964

Prepared by NDS/ATD

VOLUME

Camino Ruiz Bet. Activity Rd & Miramar Rd

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_016

DAILY TOTALS	NB	SB	EB	WB	Total
	10,294	10,934	0	0	21,228

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	36		17						53		12:00	167		137						304	
00:15	30		15						45		12:15	177		191						368	
00:30	22		10						32		12:30	172		189						361	
00:45	29	117	10	52					39	169	12:45	126	642	169	686					295	1328
01:00	15		11						26		13:00	142		167						309	
01:15	10		11						21		13:15	140		152						292	
01:30	23		5						28		13:30	149		174						323	
01:45	9	57	0	27					9	84	13:45	171	602	146	639					317	1241
02:00	12		4						16		14:00	167		154						321	
02:15	9		5						14		14:15	172		166						338	
02:30	11		3						14		14:30	196		191						387	
02:45	5	37	8	20					13	57	14:45	167	702	185	696					352	1398
03:00	4		16						20		15:00	188		154						342	
03:15	12		14						26		15:15	184		130						314	
03:30	12		15						27		15:30	193		147						340	
03:45	7	35	23	68					30	103	15:45	224	789	127	558					351	1347
04:00	6		19						25		16:00	202		161						363	
04:15	6		16						22		16:15	238		140						378	
04:30	5		34						39		16:30	244		171						415	
04:45	18	35	34	103					52	138	16:45	253	937	138	610					391	1547
05:00	15		48						63		17:00	223		162						385	
05:15	27		88						115		17:15	269		146						415	
05:30	50		84						134		17:30	249		160						409	
05:45	64	156	102	322					166	478	17:45	246	987	144	612					390	1599
06:00	72		116						188		18:00	222		149						371	
06:15	78		133						211		18:15	201		172						373	
06:30	92		188						280		18:30	192		172						364	
06:45	78	320	179	616					257	936	18:45	168	783	143	636					311	1419
07:00	76		227						303		19:00	159		138						297	
07:15	107		272						379		19:15	150		103						253	
07:30	92		324						416		19:30	129		102						231	
07:45	67	342	276	1099					343	1441	19:45	150	588	104	447					254	1035
08:00	75		228						303		20:00	129		101						230	
08:15	66		232						298		20:15	131		92						223	
08:30	88		224						312		20:30	127		94						221	
08:45	66	295	244	928					310	1223	20:45	112	499	94	381					206	880
09:00	85		196						281		21:00	106		89						195	
09:15	98		191						289		21:15	112		80						192	
09:30	83		173						256		21:30	88		66						154	
09:45	97	363	150	710					247	1073	21:45	90	396	62	297					152	693
10:00	96		141						237		22:00	101		65						166	
10:15	125		152						277		22:15	70		38						108	
10:30	132		140						272		22:30	54		41						95	
10:45	146	499	135	568					281	1067	22:45	72	297	38	182					110	479
11:00	147		150						297		23:00	57		29						86	
11:15	139		148						287		23:15	44		26						70	
11:30	198		139						337		23:30	43		18						61	
11:45	149	633	151	588					300	1221	23:45	39	183	16	89					55	272
TOTALS		2889		5101						7990	TOTALS		7405		5833						13238
SPLIT %		36.2%		63.8%						37.6%	SPLIT %		55.9%		44.1%						62.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	10,294	10,934	0	0	21,228

AM Peak Hour	11:30	07:15			07:00	PM Peak Hour	16:45	12:15			16:30
AM Pk Volume	691	1100			1441	PM Pk Volume	994	716			1606
Pk Hr Factor	0.872	0.849			0.866	Pk Hr Factor	0.924	0.937			0.967
7 - 9 Volume	637	2027	0	0	2664	4 - 6 Volume	1924	1222	0	0	3146
7 - 9 Peak Hour	07:00	07:15			07:00	4 - 6 Peak Hour	16:45	16:30			16:30
7 - 9 Pk Volume	342	1100	0	0	1441	4 - 6 Pk Volume	994	617	0	0	1606
Pk Hr Factor	0.799	0.849	0.000	0.000	0.866	Pk Hr Factor	0.924	0.902	0.000	0.000	0.967

Prepared by NDS/ATD

VOLUME

Kearny Villa Rd Bet. Miramar Rd & Kearny Mesa Rd

Day: Wednesday
Date: 5/17/2017

City: San Diego
Project #: CA17_4198_007

DAILY TOTALS	NB	SB	EB	WB	Total
	10,803	12,508	0	0	23,311

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	22		12						34		12:00	111		94						205	
00:15	15		19						34		12:15	97		119						216	
00:30	18		20						38		12:30	115		139						254	
00:45	11	66	15	66					26	132	12:45	96	419	113	465					209	884
01:00	15		8						23		13:00	86		122						208	
01:15	9		7						16		13:15	86		125						211	
01:30	17		11						28		13:30	107		139						246	
01:45	9	50	12	38					21	88	13:45	107	386	126	512					233	898
02:00	10		11						21		14:00	127		159						286	
02:15	11		5						16		14:15	168		174						342	
02:30	3		6						9		14:30	132		245						377	
02:45	6	30	5	27					11	57	14:45	119	546	289	867					408	1413
03:00	10		10						20		15:00	148		347						495	
03:15	11		10						21		15:15	135		398						533	
03:30	10		8						18		15:30	144		398						542	
03:45	9	40	17	45					26	85	15:45	209	636	426	1569					635	2205
04:00	4		10						14		16:00	183		422						605	
04:15	7		13						20		16:15	213		423						636	
04:30	27		20						47		16:30	184		356						540	
04:45	36	74	22	65					58	139	16:45	211	791	394	1595					605	2386
05:00	44		43						87		17:00	179		433						612	
05:15	91		53						144		17:15	224		441						665	
05:30	119		65						184		17:30	183		391						574	
05:45	166	420	61	222					227	642	17:45	185	771	419	1684					604	2455
06:00	165		80						245		18:00	133		353						486	
06:15	230		112						342		18:15	110		325						435	
06:30	269		151						420		18:30	83		345						428	
06:45	313	977	129	472					442	1449	18:45	89	415	203	1226					292	1641
07:00	295		150						445		19:00	57		139						196	
07:15	301		187						488		19:15	68		93						161	
07:30	312		176						488		19:30	56		72						128	
07:45	275	1183	182	695					457	1878	19:45	65	246	62	366					127	612
08:00	312		153						465		20:00	63		84						147	
08:15	312		137						449		20:15	55		46						101	
08:30	337		126						463		20:30	48		51						99	
08:45	297	1258	137	553					434	1811	20:45	53	219	30	211					83	430
09:00	296		149						445		21:00	51		37						88	
09:15	227		163						390		21:15	42		39						81	
09:30	191		151						342		21:30	47		42						89	
09:45	194	908	103	566					297	1474	21:45	77	217	41	159					118	376
10:00	120		111						231		22:00	47		51						98	
10:15	132		102						234		22:15	44		37						81	
10:30	116		114						230		22:30	29		29						58	
10:45	97	465	110	437					207	902	22:45	31	151	21	138					52	289
11:00	110		108						218		23:00	24		26						50	
11:15	114		108						222		23:15	23		22						45	
11:30	99		114						213		23:30	24		23						47	
11:45	116	439	115	445					231	884	23:45	25	96	14	85					39	181
TOTALS		5910		3631						9541	TOTALS		4893		8877						13770
SPLIT %		61.9%		38.1%						40.9%	SPLIT %		35.5%		64.5%						59.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	10,803	12,508	0	0	23,311

AM Peak Hour	08:00	07:15			07:15	PM Peak Hour	16:30	17:00			16:45
AM Pk Volume	1258	698			1898	PM Pk Volume	798	1684			2456
Pk Hr Factor	0.933	0.933			0.972	Pk Hr Factor	0.891	0.955			0.923
7 - 9 Volume	2441	1248	0	0	3689	4 - 6 Volume	1562	3279	0	0	4841
7 - 9 Peak Hour	08:00	07:15			07:15	4 - 6 Peak Hour	16:30	17:00			16:45
7 - 9 Pk Volume	1258	698	0	0	1898	4 - 6 Pk Volume	798	1684	0	0	2456
Pk Hr Factor	0.933	0.933	0.000	0.000	0.972	Pk Hr Factor	0.891	0.955	0.000	0.000	0.923

Michael Baker
INTERNATIONAL

Appendix E
Intersection LOS Worksheets

Michael Baker
INTERNATIONAL

Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	852	2272	633	32	948	89	67	66	13	54	51	117
Future Volume (vph)	852	2272	633	32	948	89	67	66	13	54	51	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6325		2841	3014		3204	1594	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6325		2841	3014		3204	1594	2882
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	906	2417	673	34	1009	95	71	70	14	57	54	124
RTOR Reduction (vph)	0	0	111	0	6	0	0	7	0	0	0	0
Lane Group Flow (vph)	906	2417	562	34	1098	0	64	84	0	57	66	112
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	60.4	134.1	134.1	7.4	80.9		13.0	13.0		14.9	14.9	80.6
Effective Green, g (s)	60.4	134.1	134.1	7.4	80.9		13.0	13.0		14.9	14.9	80.6
Actuated g/C Ratio	0.32	0.71	0.71	0.04	0.43		0.07	0.07		0.08	0.08	0.42
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1018	3469	1117	64	2693		194	206		251	125	1222
v/s Ratio Prot	c0.28	c0.49		0.02	0.17		0.02	c0.03		0.02	c0.04	0.04
v/s Ratio Perm			0.35									
v/c Ratio	0.89	0.70	0.50	0.53	0.41		0.33	0.41		0.23	0.53	0.09
Uniform Delay, d1	61.6	16.2	12.8	89.6	37.9		84.3	84.8		82.1	84.2	32.8
Progression Factor	1.00	1.00	1.00	1.11	0.18		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.7	1.2	1.6	3.9	0.4		2.4	3.1		0.7	5.4	0.0
Delay (s)	71.3	17.4	14.4	103.7	7.1		86.7	87.9		82.8	89.6	32.8
Level of Service	E	B	B	F	A		F	F		F	F	C
Approach Delay (s)		29.1			9.9			87.4			60.9	
Approach LOS		C			A			F			E	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	2074	40	150	1001	482	6	20	23	55	17	48
Future Volume (vph)	242	2074	40	150	1001	482	6	20	23	55	17	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4838		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4838		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	255	2183	42	158	1054	507	6	21	24	58	18	51
RTOR Reduction (vph)	0	1	0	0	29	0	0	0	23	0	0	47
Lane Group Flow (vph)	255	2224	0	158	1532	0	6	21	1	58	18	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	19.5	139.6		13.7	133.6		1.9	8.9	8.9	7.6	14.3	14.3
Effective Green, g (s)	19.5	139.6		13.7	133.6		1.9	8.9	8.9	7.6	14.3	14.3
Actuated g/C Ratio	0.10	0.73		0.07	0.70		0.01	0.05	0.05	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	328	3725		231	3401		16	81	74	128	140	119
v/s Ratio Prot	c0.08	c0.44		0.05	0.32		0.00	c0.01		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.78	0.60		0.68	0.45		0.38	0.26	0.02	0.45	0.13	0.03
Uniform Delay, d1	83.1	11.9		86.0	12.3		93.5	87.4	86.4	89.2	82.0	81.4
Progression Factor	0.92	0.71		1.04	2.58		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.5	0.5		5.0	0.3		14.1	1.4	0.1	0.9	0.2	0.1
Delay (s)	84.4	9.0		94.2	31.9		107.6	88.8	86.4	90.1	82.3	81.5
Level of Service	F	A		F	C		F	F	F	F	F	F
Approach Delay (s)		16.7			37.6			89.9			85.5	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	548	1167	326	300	1487	1142	29	67	89	94	26	100
Future Volume (vph)	548	1167	326	300	1487	1142	29	67	89	94	26	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4919		1652	5085	1583	1652	3094	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4919		1652	5085	1583	1652	3094	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	565	1203	336	309	1533	1177	30	69	92	97	27	103
RTOR Reduction (vph)	0	19	0	0	0	0	0	39	48	0	0	95
Lane Group Flow (vph)	565	1520	0	309	1533	1177	30	71	3	97	27	8
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	69.6	111.2		40.0	81.7	190.0	4.8	11.1	11.1	8.0	14.3	14.3
Effective Green, g (s)	69.6	111.2		40.0	81.7	190.0	4.8	11.1	11.1	8.0	14.3	14.3
Actuated g/C Ratio	0.37	0.59		0.21	0.43	1.00	0.03	0.06	0.06	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	605	2878		347	2186	1583	41	180	86	134	292	119
v/s Ratio Prot	c0.34	0.31		c0.19	0.30		0.02	0.02		0.03	0.01	
v/s Ratio Perm						c0.74			0.00			0.00
v/c Ratio	0.93	0.53		0.89	0.70	0.74	0.73	0.40	0.03	0.72	0.09	0.07
Uniform Delay, d1	58.0	23.7		72.9	44.2	0.0	92.0	86.2	84.4	89.9	81.8	81.6
Progression Factor	1.06	1.35		1.03	0.51	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.6	0.6		16.0	1.2	2.0	49.4	1.8	0.2	15.1	0.3	0.5
Delay (s)	80.3	32.6		91.1	23.7	2.0	141.4	88.0	84.6	105.0	82.1	82.1
Level of Service	F	C		F	C	A	F	F	F	F	F	F
Approach Delay (s)		45.4			22.2			95.5			91.9	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	303	792	277	87	2448	66	81	6	15	10	14	227
Future Volume (vph)	303	792	277	87	2448	66	81	6	15	10	14	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	1770	4887		1770	5065		1681	1644		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	1770	4887		1770	5065		1681	1644		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	312	816	286	90	2524	68	84	6	15	10	14	234
RTOR Reduction (vph)	0	21	0	0	1	0	0	9	0	0	0	118
Lane Group Flow (vph)	312	1081	0	90	2591	0	53	43	0	10	14	116
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	41.7	140.1		14.0	112.6		10.4	10.4		5.3	5.3	47.0
Effective Green, g (s)	41.7	140.1		14.0	112.6		10.4	10.4		5.3	5.3	47.0
Actuated g/C Ratio	0.22	0.74		0.07	0.59		0.05	0.05		0.03	0.03	0.25
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	388	3603		130	3001		92	89		46	51	391
v/s Ratio Prot	c0.18	0.22		0.05	c0.51		c0.03	0.03		0.01	0.01	c0.07
v/s Ratio Perm												
v/c Ratio	0.80	0.30		0.69	0.86		0.58	0.49		0.22	0.27	0.30
Uniform Delay, d1	70.3	8.4		85.9	32.3		87.6	87.2		90.3	90.5	58.1
Progression Factor	0.93	2.44		1.21	0.63		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.6	0.2		8.0	2.4		5.3	1.5		0.9	1.1	0.2
Delay (s)	74.7	20.7		111.7	22.6		93.0	88.8		91.2	91.5	58.2
Level of Service	E	C		F	C		F	F		F	F	E
Approach Delay (s)		32.6			25.6			90.9			61.3	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	687	42	141	2597	156	7	4	28	41	8	34
Future Volume (vph)	92	687	42	141	2597	156	7	4	28	41	8	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5041		1770	5042		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5041		1770	5042		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	98	731	45	150	2763	166	7	4	30	44	9	36
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	29	0	0	33
Lane Group Flow (vph)	98	774	0	150	2927	0	7	4	1	44	9	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.0	135.6		20.4	141.3		0.8	8.2	8.2	6.1	13.5	13.5
Effective Green, g (s)	15.0	135.6		20.4	141.3		0.8	8.2	8.2	6.1	13.5	13.5
Actuated g/C Ratio	0.08	0.71		0.11	0.74		0.00	0.04	0.04	0.03	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	139	3597		190	3749		7	80	68	56	132	112
v/s Ratio Prot	0.06	0.15		c0.08	c0.58		0.00	0.00		c0.02	c0.00	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.71	0.22		0.79	0.78		1.00	0.05	0.02	0.79	0.07	0.02
Uniform Delay, d1	85.3	9.2		82.7	14.9		94.6	87.2	87.0	91.3	82.4	82.1
Progression Factor	1.15	0.21		1.05	0.22		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.1	0.1		10.3	0.9		340.2	0.1	0.0	47.4	0.1	0.0
Delay (s)	110.5	2.0		97.0	4.1		434.8	87.3	87.1	138.7	82.5	82.1
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		14.2			8.7			146.5			110.1	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	434	286	41	2678	144	297	39	34	19	15	34
Future Volume (vph)	60	434	286	41	2678	144	297	39	34	19	15	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4782		1652	5046		1625	1704	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4782		1652	5046		1625	1704	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	443	292	42	2733	147	303	40	35	19	15	35
RTOR Reduction (vph)	0	37	0	0	2	0	0	0	31	0	0	34
Lane Group Flow (vph)	61	698	0	42	2878	0	170	173	4	19	15	1
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	14.4	130.7		8.2	124.0		24.3	24.3	24.3	6.6	6.6	6.6
Effective Green, g (s)	14.4	130.7		8.2	124.0		24.3	24.3	24.3	6.6	6.6	6.6
Actuated g/C Ratio	0.08	0.69		0.04	0.65		0.13	0.13	0.13	0.03	0.03	0.03
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	125	3289		71	3293		207	217	202	57	64	58
v/s Ratio Prot	c0.04	0.15		0.03	c0.57		c0.10	0.10		c0.01	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.21		0.59	0.87		0.82	0.80	0.02	0.33	0.23	0.02
Uniform Delay, d1	84.3	10.8		89.3	26.7		80.7	80.5	72.5	89.6	89.2	88.6
Progression Factor	1.17	0.19		1.31	0.39		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.1		6.4	2.7		21.3	17.0	0.0	3.4	1.9	0.1
Delay (s)	99.6	2.3		123.2	13.0		102.1	97.5	72.5	93.0	91.1	88.7
Level of Service	F	A		F	B		F	F	E	F	F	F
Approach Delay (s)		9.7			14.6			97.2			90.4	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	295	76	44	2587	73	163	24	56	4	11	15
Future Volume (vph)	30	295	76	44	2587	73	163	24	56	4	11	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.89		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4928		1770	5064		3433	1666		1770	1702	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4928		1770	5064		3433	1666		1770	1702	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	31	301	78	45	2640	74	166	24	57	4	11	15
RTOR Reduction (vph)	0	15	0	0	1	0	0	51	0	0	14	0
Lane Group Flow (vph)	31	364	0	45	2713	0	166	30	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.8	141.5		8.2	142.9		12.9	19.8		0.8	7.7	
Effective Green, g (s)	6.8	141.5		8.2	142.9		12.9	19.8		0.8	7.7	
Actuated g/C Ratio	0.04	0.74		0.04	0.75		0.07	0.10		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	63	3670		76	3808		233	173		7	68	
v/s Ratio Prot	0.02	0.07		c0.03	c0.54		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.49	0.10		0.59	0.71		0.71	0.17		0.57	0.17	
Uniform Delay, d1	89.9	6.7		89.3	12.6		86.7	77.6		94.4	88.1	
Progression Factor	0.88	0.61		1.27	0.11		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.1		2.7	0.4		8.3	0.2		55.0	0.4	
Delay (s)	81.2	4.1		116.1	1.8		95.0	77.8		149.4	88.5	
Level of Service	F	A		F	A		F	E		F	F	
Approach Delay (s)		9.9			3.7			89.4			96.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	299	92	706	2665	328	135	131	62	108	272	58
Future Volume (vph)	23	299	92	706	2665	328	135	131	62	108	272	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4906		1652	5002		1652	3421	1531	3204	3446	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4906		1652	5002		1652	3421	1531	3204	3446	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	23	305	94	720	2719	335	138	134	63	110	278	59
RTOR Reduction (vph)	0	29	0	0	7	0	0	0	19	0	10	0
Lane Group Flow (vph)	23	370	0	720	3047	0	138	134	44	110	327	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	4.6	32.9		90.9	119.1		21.4	35.0	131.9	10.3	23.5	
Effective Green, g (s)	4.6	32.9		90.9	119.1		21.4	35.0	131.9	10.3	23.5	
Actuated g/C Ratio	0.02	0.17		0.48	0.63		0.11	0.18	0.69	0.05	0.12	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	39	849		790	3135		186	630	1062	173	426	
v/s Ratio Prot	0.01	0.08		c0.44	c0.61		c0.08	0.04	0.03	0.03	c0.09	
v/s Ratio Perm												
v/c Ratio	0.59	0.44		0.91	0.97		0.74	0.21	0.04	0.64	0.77	
Uniform Delay, d1	91.8	70.3		45.8	33.8		81.6	65.8	9.1	88.0	80.6	
Progression Factor	0.99	1.00		0.76	0.50		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	13.8	0.6		9.2	6.4		14.7	0.2	0.0	5.5	8.2	
Delay (s)	104.8	70.7		44.0	23.3		96.3	66.0	9.2	93.5	88.8	
Level of Service	F	E		D	C		F	E	A	F	F	
Approach Delay (s)		72.5			27.3			67.8			90.0	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	448	11	30	3526	22	34	6	45	62	5	111
Future Volume (vph)	22	448	11	30	3526	22	34	6	45	62	5	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5068		1770	5080			1786	1583	1770	1595	
Flt Permitted	0.95	1.00		0.95	1.00			0.33	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5068		1770	5080			606	1583	1360	1595	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	23	462	11	31	3635	23	35	6	46	64	5	114
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	42	0	34	0
Lane Group Flow (vph)	23	472	0	31	3658	0	0	41	4	64	85	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.2	153.4		6.8	154.0			14.5	14.5	14.5	14.5	
Effective Green, g (s)	6.2	153.4		6.8	154.0			14.5	14.5	14.5	14.5	
Actuated g/C Ratio	0.03	0.81		0.04	0.81			0.08	0.08	0.08	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	57	4091		63	4117			46	120	103	121	
v/s Ratio Prot	0.01	0.09		c0.02	c0.72						0.05	
v/s Ratio Perm								c0.07	0.00	0.05		
v/c Ratio	0.40	0.12		0.49	0.89			0.89	0.03	0.62	0.70	
Uniform Delay, d1	90.1	3.9		89.9	12.2			87.0	81.2	85.1	85.6	
Progression Factor	0.75	3.46		1.12	0.13			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.1		1.0	1.6			90.4	0.0	8.1	13.9	
Delay (s)	69.3	13.5		101.7	3.2			177.3	81.3	93.2	99.5	
Level of Service	E	B		F	A			F	F	F	F	
Approach Delay (s)		16.1			4.0			126.5			97.3	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	497	9	18	3514	31	15	9	38	111	13	37
Future Volume (vph)	7	497	9	18	3514	31	15	9	38	111	13	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5072		1770	5079			1688		1770	1655	
Flt Permitted	0.95	1.00		0.95	1.00			0.92		0.63	1.00	
Satd. Flow (perm)	1770	5072		1770	5079			1576		1180	1655	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	512	9	19	3623	32	16	9	39	114	13	38
RTOR Reduction (vph)	0	1	0	0	0	0	0	32	0	0	34	0
Lane Group Flow (vph)	7	520	0	19	3655	0	0	32	0	114	17	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	148.6		4.6	151.5			21.5		21.5	21.5	
Effective Green, g (s)	1.4	148.6		4.6	151.5			21.5		21.5	21.5	
Actuated g/C Ratio	0.01	0.78		0.02	0.80			0.11		0.11	0.11	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	3966		42	4049			178		133	187	
v/s Ratio Prot	0.00	0.10		c0.01	c0.72						0.01	
v/s Ratio Perm								0.02		c0.10		
v/c Ratio	0.54	0.13		0.45	0.90			0.18		0.86	0.09	
Uniform Delay, d1	94.0	5.0		91.5	13.9			76.3		82.7	75.5	
Progression Factor	1.51	0.28		1.12	0.24			1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.1		1.0	1.4			0.2		37.5	0.1	
Delay (s)	161.6	1.5		103.3	4.7			76.4		120.2	75.6	
Level of Service	F	A		F	A			E		F	E	
Approach Delay (s)		3.6			5.2			76.4			106.4	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	625	30	52	3301	33	94	30	75	66	87	192
Future Volume (vph)	32	625	30	52	3301	33	94	30	75	66	87	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5050		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5050		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	33	644	31	54	3403	34	97	31	77	68	90	198
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	69	0	0	87
Lane Group Flow (vph)	33	673	0	54	3436	0	97	31	8	68	90	111
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	6.5	132.0		9.0	134.0		11.7	19.1	19.1	10.2	17.6	17.6
Effective Green, g (s)	6.5	132.0		9.0	134.0		11.7	19.1	19.1	10.2	17.6	17.6
Actuated g/C Ratio	0.03	0.69		0.05	0.71		0.06	0.10	0.10	0.05	0.09	0.09
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	60	3508		83	3581		108	187	159	95	172	146
v/s Ratio Prot	0.02	0.13		c0.03	c0.68		c0.05	0.02		0.04	0.05	
v/s Ratio Perm									0.00			c0.07
v/c Ratio	0.55	0.19		0.65	0.96		0.90	0.17	0.05	0.72	0.52	0.76
Uniform Delay, d1	90.3	10.2		89.0	25.5		88.6	78.2	77.2	88.5	82.2	84.1
Progression Factor	1.08	0.23		1.16	0.19		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.0	0.1		4.4	3.2		54.1	0.2	0.0	19.1	1.3	18.0
Delay (s)	103.6	2.5		107.9	8.2		142.6	78.3	77.3	107.6	83.5	102.2
Level of Service	F	A		F	A		F	E	E	F	F	F
Approach Delay (s)		7.2			9.7			108.4			98.5	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	578	60	21	2921	14	152	45	16	52	119	213
Future Volume (vph)	41	578	60	21	2921	14	152	45	16	52	119	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5013		1770	5085	1583	1770	3400		1770	3199	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5013		1770	5085	1583	1770	3400		1770	3199	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	44	615	64	22	3107	15	162	48	17	55	127	227
RTOR Reduction (vph)	0	6	0	0	0	6	0	15	0	0	51	0
Lane Group Flow (vph)	44	673	0	22	3107	9	162	50	0	55	303	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	6.2	120.3		4.0	118.1	118.1	21.4	21.4		24.4	24.4	
Effective Green, g (s)	6.2	120.3		4.0	118.1	118.1	21.4	21.4		24.4	24.4	
Actuated g/C Ratio	0.03	0.63		0.02	0.62	0.62	0.11	0.11		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	57	3174		37	3160	983	199	382		227	410	
v/s Ratio Prot	c0.02	0.13		0.01	c0.61		c0.09	0.01		0.03	c0.09	
v/s Ratio Perm						0.01						
v/c Ratio	0.77	0.21		0.59	0.98	0.01	0.81	0.13		0.24	0.89dr	
Uniform Delay, d1	91.2	14.8		92.2	35.0	13.7	82.4	75.9		74.5	79.7	
Progression Factor	0.74	1.74		1.32	0.29	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	43.0	0.2		4.3	5.1	0.0	22.6	0.2		0.8	7.4	
Delay (s)	110.8	25.9		125.9	15.2	13.7	104.9	76.1		75.3	87.1	
Level of Service	F	C		F	B	B	F	E		E	F	
Approach Delay (s)		31.0			16.0			96.7			85.6	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	684	23	168	2651	121	84	282	140	395	483	200
Future Volume (vph)	81	684	23	168	2651	121	84	282	140	395	483	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4724		3204	4916	1478	1711	4746	1478	3433	3384	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4724		3204	4916	1478	1711	4746	1478	3433	3384	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	86	728	24	179	2820	129	89	300	149	420	514	213
RTOR Reduction (vph)	0	2	0	0	0	39	0	0	124	0	24	0
Lane Group Flow (vph)	86	750	0	179	2820	90	89	300	25	420	703	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	6.4	100.3		14.5	108.5	108.5	11.2	32.3	32.3	23.1	44.0	
Effective Green, g (s)	6.4	100.3		14.5	108.5	108.5	11.2	32.3	32.3	23.1	44.0	
Actuated g/C Ratio	0.03	0.53		0.08	0.57	0.57	0.06	0.17	0.17	0.12	0.23	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	107	2493		244	2807	844	100	806	251	417	783	
v/s Ratio Prot	0.03	0.16		c0.06	c0.57		0.05	0.06		c0.12	c0.21	
v/s Ratio Perm						0.06			0.02			
v/c Ratio	0.80	0.30		0.73	1.00	0.11	0.89	0.37	0.10	1.01	0.90	
Uniform Delay, d1	91.2	25.2		85.9	40.8	18.6	88.8	69.9	66.6	83.5	70.8	
Progression Factor	0.96	1.02		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	32.1	0.3		9.4	18.1	0.3	55.2	0.5	0.3	45.9	13.4	
Delay (s)	119.9	25.9		95.3	58.9	18.9	144.0	70.4	66.9	129.3	84.2	
Level of Service	F	C		F	E	B	F	E	E	F	F	
Approach Delay (s)		35.6			59.3			81.6			100.7	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	66.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	242	394	114	83	55	97
Future Volume (vph)	242	394	114	83	55	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3316		1717	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3316		1717	1504
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	266	433	125	91	60	107
RTOR Reduction (vph)	0	0	75	0	23	33
Lane Group Flow (vph)	266	433	141	0	64	47
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	13.2	24.3	7.1		5.4	23.1
Effective Green, g (s)	13.2	24.3	7.1		5.4	23.1
Actuated g/C Ratio	0.34	0.62	0.18		0.14	0.59
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	596	1154	600		236	886
v/s Ratio Prot	c0.15	c0.23	0.04		c0.04	0.03
v/s Ratio Perm						
v/c Ratio	0.45	0.38	0.24		0.27	0.05
Uniform Delay, d1	10.1	3.7	13.7		15.1	3.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.4	0.4		0.6	0.0
Delay (s)	10.3	4.1	14.2		15.8	3.4
Level of Service	B	A	B		B	A
Approach Delay (s)		6.5	14.2		9.9	
Approach LOS		A	B		A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	39.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	267	6	47	646	173	1	1	8	35	1	9
Future Volume (vph)	53	267	6	47	646	173	1	1	8	35	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.89			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1857		1770	1804			1653			1745	
Flt Permitted	0.27	1.00		0.59	1.00			1.00			1.00	
Satd. Flow (perm)	510	1857		1094	1804			1662			1814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	275	6	48	666	178	1	1	8	36	1	9
RTOR Reduction (vph)	0	1	0	0	10	0	0	8	0	0	9	0
Lane Group Flow (vph)	55	280	0	48	834	0	0	2	0	0	37	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	24.9	24.9		24.3	24.3			1.9			1.9	
Effective Green, g (s)	24.9	24.9		24.3	24.3			1.9			1.9	
Actuated g/C Ratio	0.68	0.68		0.66	0.66			0.05			0.05	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	346	1263		726	1197			86			94	
v/s Ratio Prot		0.15			c0.46							
v/s Ratio Perm	0.11			0.04				0.00			c0.02	
v/c Ratio	0.16	0.22		0.07	0.70			0.03			0.40	
Uniform Delay, d1	2.1	2.2		2.2	3.8			16.5			16.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	1.7			0.0			1.0	
Delay (s)	2.3	2.3		2.2	5.6			16.5			17.8	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		2.3			5.4			16.5			17.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	36.6	Sum of lost time (s)	10.4
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	125	127	61	310	61	317	402	99	86	731	315
Future Volume (vph)	53	125	127	61	310	61	317	402	99	86	731	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2059		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2059		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	57	134	137	66	333	66	341	432	106	92	786	339
RTOR Reduction (vph)	0	0	89	0	5	0	0	0	39	0	0	68
Lane Group Flow (vph)	57	134	48	66	394	0	341	432	67	92	786	271
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	15.3	15.3	45.3	29.0	29.0		30.0	53.8	82.8	11.5	35.3	56.3
Effective Green, g (s)	15.3	15.3	45.3	29.0	29.0		30.0	53.8	82.8	11.5	35.3	56.3
Actuated g/C Ratio	0.12	0.12	0.35	0.22	0.22		0.23	0.41	0.63	0.09	0.27	0.43
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	193	203	531	367	457		393	1361	1004	145	925	660
v/s Ratio Prot	0.03	c0.08	0.03	0.04	c0.19		c0.20	0.13	0.04	0.06	c0.23	0.18
v/s Ratio Perm												
v/c Ratio	0.30	0.66	0.09	0.18	0.86		0.87	0.32	0.07	0.63	0.85	0.41
Uniform Delay, d1	52.7	55.1	28.7	41.1	48.8		48.3	25.9	9.1	57.5	45.1	25.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	6.5	0.0	0.2	15.4		17.4	0.2	0.0	6.5	7.6	0.6
Delay (s)	53.1	61.6	28.7	41.3	64.2		65.7	26.1	9.1	64.0	52.7	26.2
Level of Service	D	E	C	D	E		E	C	A	E	D	C
Approach Delay (s)		46.4			61.0			39.4			46.2	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.5	Sum of lost time (s)	20.9
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	105	1	12	0	505	177	19	151	1
Future Volume (vph)	1	0	1	105	1	12	0	505	177	19	151	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1775	1583		1863	1583	1770	1861	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1775	1583		1863	1583	1770	1861	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1	0	1	118	1	13	0	567	199	21	170	1
RTOR Reduction (vph)	0	2	0	0	0	11	0	0	54	0	0	0
Lane Group Flow (vph)	0	0	0	0	119	2	0	567	145	21	171	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.6			8.0	8.0		22.7	35.2	0.5	27.2	
Effective Green, g (s)		0.6			8.0	8.0		22.7	35.2	0.5	27.2	
Actuated g/C Ratio		0.01			0.17	0.17		0.47	0.73	0.01	0.56	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		21			293	262		875	1153	18	1048	
v/s Ratio Prot		c0.00			c0.07			c0.30	0.09	c0.01	0.09	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.41	0.01		0.65	0.13	1.17	0.16	
Uniform Delay, d1		23.6			18.0	16.8		9.8	2.0	23.9	5.1	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.3	0.0		1.7	0.0	269.7	0.1	
Delay (s)		23.6			18.4	16.8		11.4	2.0	293.6	5.1	
Level of Service		C			B	B		B	A	F	A	
Approach Delay (s)		23.6			18.2			9.0			36.7	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	16.5
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	220	62	79	592	35	200	90	77	3	12	20
Future Volume (vph)	122	220	62	79	592	35	200	90	77	3	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3426		1770	3511		1770	1863	1583	1770	1687	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3426		1770	3511		1770	1863	1583	1770	1687	
Peak-hour factor, PHF	0.89	0.89	0.92	0.89	0.89	0.92	0.89	0.89	0.89	0.89	0.89	0.92
Adj. Flow (vph)	137	247	67	89	665	38	225	101	87	3	13	22
RTOR Reduction (vph)	0	27	0	0	5	0	0	0	58	0	21	0
Lane Group Flow (vph)	137	287	0	89	698	0	225	101	29	3	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	6.9	21.2		4.3	19.1		7.4	9.4	18.6	0.6	2.6	
Effective Green, g (s)	6.9	21.2		4.3	19.1		7.4	9.4	18.6	0.6	2.6	
Actuated g/C Ratio	0.12	0.38		0.08	0.35		0.13	0.17	0.34	0.01	0.05	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	220	1313		137	1212		236	316	532	19	79	
v/s Ratio Prot	c0.08	c0.08		0.05	c0.20		c0.13	c0.05	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.62	0.22		0.65	0.58		0.95	0.32	0.06	0.16	0.18	
Uniform Delay, d1	23.0	11.5		24.8	14.8		23.8	20.1	12.4	27.1	25.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.9	0.1		7.7	0.7		45.1	0.2	0.0	1.4	0.4	
Delay (s)	26.9	11.5		32.5	15.5		68.9	20.4	12.4	28.5	25.7	
Level of Service	C	B		C	B		E	C	B	C	C	
Approach Delay (s)		16.2			17.4			45.1			25.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	19.8
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	1228	79	34	1105	433	21	25	26	55	13	49
Future Volume (vph)	136	1228	79	34	1105	433	21	25	26	55	13	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3036	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3036	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Adj. Flow (vph)	151	1364	88	38	1228	481	23	28	29	61	14	53
RTOR Reduction (vph)	0	0	27	0	32	0	0	0	28	0	48	0
Lane Group Flow (vph)	151	1364	61	38	1677	0	21	30	1	45	35	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	16.2	97.0	97.0	5.1	85.9		6.0	6.0	6.0	12.4	12.4	
Effective Green, g (s)	16.2	97.0	97.0	5.1	85.9		6.0	6.0	6.0	12.4	12.4	
Actuated g/C Ratio	0.12	0.69	0.69	0.04	0.61		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	204	3523	1096	125	2988		72	75	67	142	268	
v/s Ratio Prot	c0.09	0.27		0.01	c0.34		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.74	0.39	0.06	0.30	0.56		0.29	0.40	0.02	0.32	0.13	
Uniform Delay, d1	59.9	9.0	6.9	65.7	15.9		64.9	65.2	64.2	59.8	58.8	
Progression Factor	1.00	1.00	1.00	0.88	0.63		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.9	0.3	0.1	0.4	0.7		0.8	1.3	0.0	3.7	0.6	
Delay (s)	71.7	9.3	7.0	58.1	10.7		65.8	66.5	64.2	63.5	59.5	
Level of Service	E	A	A	E	B		E	E	E	E	E	
Approach Delay (s)		15.1			11.7			65.5			60.9	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	883	130	337	1426	1326	112	213	308	200	42	35
Future Volume (vph)	317	883	130	337	1426	1326	112	213	308	200	42	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	330	920	135	351	1485	1381	117	222	321	208	44	36
RTOR Reduction (vph)	0	0	64	0	0	174	0	0	36	0	0	25
Lane Group Flow (vph)	330	920	71	351	1485	1207	117	222	285	208	44	11
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	17.9	68.3	68.3	18.8	69.9	86.5	13.1	21.8	45.6	11.3	19.7	42.9
Effective Green, g (s)	17.9	68.3	68.3	18.8	69.9	86.5	13.1	21.8	45.6	11.3	19.7	42.9
Actuated g/C Ratio	0.13	0.49	0.49	0.13	0.50	0.62	0.09	0.16	0.33	0.08	0.14	0.31
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	438	2480	772	461	2538	1721	321	551	907	277	497	485
v/s Ratio Prot	0.10	0.18		c0.10	0.29	c0.43	0.03	c0.06	0.10	0.06	0.01	0.01
v/s Ratio Perm			0.04									
v/c Ratio	0.75	0.37	0.09	0.76	0.59	0.70	0.36	0.40	0.31	0.75	0.09	0.02
Uniform Delay, d1	58.9	22.4	19.2	58.4	24.8	18.0	59.5	53.2	35.4	63.0	52.3	33.9
Progression Factor	1.02	0.65	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	0.4	0.2	6.6	1.0	1.1	0.3	1.1	0.4	9.7	0.1	0.0
Delay (s)	66.2	14.9	17.0	65.0	25.8	19.1	59.8	54.3	35.9	72.7	52.5	33.9
Level of Service	E	B	B	E	C	B	E	D	D	E	D	C
Approach Delay (s)		27.4			27.2			46.3			64.8	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1001	400	0	1587	502	0	0	0	722	0	1544
Future Volume (vph)	0	1001	400	0	1587	502	0	0	0	722	0	1544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1065	426	0	1688	534	0	0	0	768	0	1643
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	19
Lane Group Flow (vph)	0	1065	426	0	1688	534	0	0	0	768	0	1624
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		44.7	120.0		44.7	120.0				63.1		63.1
Effective Green, g (s)		44.7	120.0		44.7	115.3				63.1		63.1
Actuated g/C Ratio		0.37	1.00		0.37	0.96				0.53		0.53
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		1894	2787		1894	1520				1805		1465
v/s Ratio Prot		0.21			c0.33	0.34				0.22		c0.58
v/s Ratio Perm			0.15									
v/c Ratio		0.56	0.15		0.89	0.35				0.43		1.11
Uniform Delay, d1		29.9	0.0		35.4	0.1				17.4		28.4
Progression Factor		1.00	1.00		1.11	1.00				1.00		1.00
Incremental Delay, d2		1.2	0.1		6.3	0.0				0.1		59.1
Delay (s)		31.1	0.1		45.6	0.2				17.4		87.5
Level of Service		C	A		D	A				B		F
Approach Delay (s)		22.2			34.7			0.0			65.2	
Approach LOS		C			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	43.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1044	678	0	1255	542	837	0	297	0	0	0
Future Volume (vph)	0	1044	678	0	1255	542	837	0	297	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1099	714	0	1321	571	881	0	313	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	47	0	0	0
Lane Group Flow (vph)	0	1099	714	0	1321	571	881	0	266	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		69.0	120.0		69.0	120.0	38.8		38.8			
Effective Green, g (s)		69.0	115.3		69.0	120.0	38.8		38.8			
Actuated g/C Ratio		0.58	0.96		0.58	1.00	0.32		0.32			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2923	1520		3684	1583	1110		901			
v/s Ratio Prot		0.22	c0.45		0.21		c0.26					
v/s Ratio Perm						0.36			0.10			
v/c Ratio		0.38	0.47		0.36	0.36	0.79		0.30			
Uniform Delay, d1		13.8	0.2		13.7	0.0	37.0		30.4			
Progression Factor		0.81	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.3	0.1		0.3	0.6	3.7		0.1			
Delay (s)		11.5	0.2		13.9	0.6	40.7		30.4			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		7.1			9.9			38.0			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	294	541	142	1335	0	0
Future Volume (vph)	294	541	142	1335	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	313	576	151	1420	0	0
RTOR Reduction (vph)	0	211	0	0	0	0
Lane Group Flow (vph)	313	365	151	1420	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	57.0	57.0	21.3	90.0		
Effective Green, g (s)	57.0	57.0	21.3	90.0		
Actuated g/C Ratio	0.63	0.63	0.24	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2241	1765	812	5085		
v/s Ratio Prot	0.09		0.04	c0.28		
v/s Ratio Perm		0.13				
v/c Ratio	0.14	0.21	0.19	0.28		
Uniform Delay, d1	6.6	7.0	27.4	0.0		
Progression Factor	1.00	1.00	0.80	1.00		
Incremental Delay, d2	0.1	0.3	0.0	0.1		
Delay (s)	6.8	7.2	21.9	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	7.1			2.2	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	2	287	0	0	559	875	834
Future Volume (vph)	2	287	0	0	559	875	834
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	7.0			7.0	4.7	4.7
Lane Util. Factor	1.00	0.95			0.91	0.97	0.88
Frt	1.00	1.00			1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	0.95	1.00
Satd. Flow (prot)	1770	3539			5085	3433	2787
Flt Permitted	0.95	1.00			1.00	0.95	1.00
Satd. Flow (perm)	1770	3539			5085	3433	2787
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	2	299	0	0	582	911	869
RTOR Reduction (vph)	0	0	0	0	0	0	450
Lane Group Flow (vph)	2	299	0	0	582	911	419
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)	1.0	47.0			41.3	31.3	31.3
Effective Green, g (s)	1.0	47.0			41.3	31.3	31.3
Actuated g/C Ratio	0.01	0.52			0.46	0.35	0.35
Clearance Time (s)	4.7	7.0			7.0	4.7	4.7
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	19	1848			2333	1193	969
v/s Ratio Prot	0.00	c0.08			c0.11	c0.27	
v/s Ratio Perm							0.15
v/c Ratio	0.11	0.16			0.25	0.76	0.43
Uniform Delay, d1	44.1	11.2			14.9	26.1	22.5
Progression Factor	1.69	0.75			1.00	1.00	1.00
Incremental Delay, d2	0.9	0.2			0.3	2.7	0.1
Delay (s)	75.2	8.6			15.1	28.7	22.6
Level of Service	E	A			B	C	C
Approach Delay (s)		9.0			15.1	25.8	
Approach LOS		A			B	C	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1098	253	416	1710	98	833
Future Volume (vph)	1098	253	416	1710	98	833
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6223		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6223		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1156	275	438	1800	103	877
RTOR Reduction (vph)	25	0	0	0	0	0
Lane Group Flow (vph)	1406	0	438	1800	103	877
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	65.8		24.3	94.8	44.8	73.5
Effective Green, g (s)	65.8		24.3	94.8	44.8	73.5
Actuated g/C Ratio	0.44		0.16	0.63	0.30	0.49
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2729		556	4049	528	1365
v/s Ratio Prot	c0.23		c0.13	0.28	0.06	c0.31
v/s Ratio Perm						
v/c Ratio	0.52		0.79	0.44	0.20	0.64
Uniform Delay, d1	30.5		60.4	14.1	39.2	28.5
Progression Factor	1.00		1.45	0.32	1.00	1.00
Incremental Delay, d2	0.7		5.6	0.3	0.1	0.8
Delay (s)	31.2		93.4	4.8	39.2	29.3
Level of Service	C		F	A	D	C
Approach Delay (s)	31.2			22.1	30.3	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	255	1733	1	1919	881	145	148
Future Volume (vph)	255	1733	1	1919	881	145	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	4.4	5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91	1.00	0.91	1.00	0.97	
Frt	1.00	1.00	1.00	1.00	0.85	0.92	
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.98	
Satd. Flow (prot)	3433	5085	1770	5085	1583	3259	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.98	
Satd. Flow (perm)	3433	5085	1770	5085	1583	3259	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	268	1824	1	2020	927	153	156
RTOR Reduction (vph)	0	0	0	0	10	134	0
Lane Group Flow (vph)	268	1824	1	2020	917	175	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	16.0	112.9	1.0	98.8	125.2	21.0	
Effective Green, g (s)	16.0	112.9	1.0	98.8	125.2	21.0	
Actuated g/C Ratio	0.11	0.75	0.01	0.66	0.83	0.14	
Clearance Time (s)	4.4	6.3	4.4	5.4		4.4	
Vehicle Extension (s)	2.0	5.0	2.0	6.1		4.5	
Lane Grp Cap (vph)	366	3827	11	3349	1321	456	
v/s Ratio Prot	c0.08	0.36	0.00	0.40	c0.58	0.05	
v/s Ratio Perm							
v/c Ratio	0.73	0.48	0.09	0.60	0.69	0.38	
Uniform Delay, d1	64.9	7.2	74.0	14.5	4.9	58.6	
Progression Factor	0.98	0.56	1.15	2.17	3.01	1.00	
Incremental Delay, d2	5.5	0.4	1.0	0.6	1.4	0.9	
Delay (s)	69.4	4.4	86.1	32.1	16.1	59.5	
Level of Service	E	A	F	C	B	E	
Approach Delay (s)		12.7		27.1		59.5	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	63	1778	2711	60	33	66
Future Volume (vph)	63	1778	2711	60	33	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	66	1852	2824	62	34	69
RTOR Reduction (vph)	0	0	0	6	0	66
Lane Group Flow (vph)	66	1852	2824	57	34	3
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	8.9	132.5	119.6	119.6	7.2	7.2
Effective Green, g (s)	8.9	132.5	119.6	119.6	7.2	7.2
Actuated g/C Ratio	0.06	0.88	0.80	0.80	0.05	0.05
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	105	4491	4054	1262	84	75
v/s Ratio Prot	c0.04	0.36	c0.56		c0.02	
v/s Ratio Perm				0.04		0.00
v/c Ratio	0.63	0.41	0.70	0.04	0.40	0.04
Uniform Delay, d1	68.9	1.6	6.9	3.2	69.3	68.1
Progression Factor	1.09	0.45	1.12	0.22	1.00	1.00
Incremental Delay, d2	7.5	0.3	0.7	0.0	3.2	0.2
Delay (s)	82.6	1.0	8.5	0.8	72.5	68.4
Level of Service	F	A	A	A	E	E
Approach Delay (s)		3.8	8.3		69.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	105	1842	17	2563	70	36	81
Future Volume (vph)	105	1842	17	2563	70	36	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7	4.4	5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91	1.00	0.91	1.00	0.97	0.91
Frt	1.00	1.00	1.00	1.00	0.85	0.92	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085	1770	5085	1583	3250	1441
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085	1770	5085	1583	3250	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	112	1960	18	2727	74	38	86
RTOR Reduction (vph)	0	0	0	0	5	41	41
Lane Group Flow (vph)	112	1960	18	2727	69	40	2
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	14.8	124.2	3.4	112.3	112.3	7.4	7.4
Effective Green, g (s)	14.8	124.2	3.4	112.3	112.3	7.4	7.4
Actuated g/C Ratio	0.10	0.83	0.02	0.75	0.75	0.05	0.05
Clearance Time (s)	4.9	5.7	4.4	5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8	2.0	5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	174	4210	40	3806	1185	160	71
v/s Ratio Prot	c0.06	0.39	0.01	c0.54		c0.01	
v/s Ratio Perm					0.04		0.00
v/c Ratio	0.64	0.47	0.45	0.72	0.06	0.25	0.03
Uniform Delay, d1	65.1	3.6	72.4	10.2	5.0	68.6	67.9
Progression Factor	0.89	1.17	1.36	2.93	2.39	1.00	1.00
Incremental Delay, d2	7.5	0.4	0.9	0.4	0.0	0.8	0.2
Delay (s)	65.7	4.6	99.2	30.4	11.9	69.5	68.1
Level of Service	E	A	F	C	B	E	E
Approach Delay (s)		7.9		30.3		69.0	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	798	1072	23	20	2135	98	18	3	10	50	2	786
Future Volume (vph)	798	1072	23	20	2135	98	18	3	10	50	2	786
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	840	1128	24	21	2247	103	19	3	11	53	2	827
RTOR Reduction (vph)	0	1	0	0	4	0	0	11	0	0	0	311
Lane Group Flow (vph)	840	1151	0	21	2346	0	19	3	0	28	27	516
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	46.6	103.9		3.1	60.5		4.4	4.4		18.0	18.0	70.1
Effective Green, g (s)	46.6	103.9		3.1	60.5		4.4	4.4		18.0	18.0	70.1
Actuated g/C Ratio	0.31	0.69		0.02	0.40		0.03	0.03		0.12	0.12	0.47
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	995	3511		66	2037		48	48		195	196	1302
v/s Ratio Prot	c0.26	0.23		0.01	c0.46		c0.01	0.00		0.02	0.02	c0.19
v/s Ratio Perm												
v/c Ratio	0.84	0.33		0.32	1.15		0.40	0.07		0.14	0.14	0.40
Uniform Delay, d1	48.3	9.2		72.4	44.8		71.5	70.8		59.1	59.1	26.1
Progression Factor	0.83	1.27		1.16	0.88		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.9	0.2		0.7	73.0		2.0	0.2		0.3	0.3	0.2
Delay (s)	45.9	11.9		84.9	112.1		73.4	71.0		59.4	59.3	26.3
Level of Service	D	B		F	F		E	E		E	E	C
Approach Delay (s)		26.2			111.9			72.4			28.4	
Approach LOS		C			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	65.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	139	795	0	2329	603	137	103
Future Volume (vph)	139	795	0	2329	603	137	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.97	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3156	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3156	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	143	820	0	2401	622	141	106
RTOR Reduction (vph)	0	0	0	0	46	14	71
Lane Group Flow (vph)	143	820	0	2401	576	156	6
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	16.8	127.4		105.9	123.9	12.0	12.0
Effective Green, g (s)	16.8	127.4		105.9	123.9	12.0	12.0
Actuated g/C Ratio	0.11	0.85		0.71	0.83	0.08	0.08
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	191	4175		3470	1220	252	126
v/s Ratio Prot	c0.08	0.17		c0.49	0.39	c0.05	
v/s Ratio Perm							0.00
v/c Ratio	0.75	0.20		0.69	0.47	0.62	0.05
Uniform Delay, d1	64.6	2.0		12.7	3.7	66.8	63.7
Progression Factor	1.23	0.23		1.65	2.12	1.00	1.00
Incremental Delay, d2	12.7	0.1		0.3	0.0	3.2	0.1
Delay (s)	92.2	0.6		21.2	7.9	70.0	63.8
Level of Service	F	A		C	A	E	E
Approach Delay (s)		14.2		18.5		68.0	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	151	699	2965	262	649	516
Future Volume (vph)	151	699	2965	262	649	516
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4640	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4640	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	154	713	3026	267	662	527
RTOR Reduction (vph)	0	0	1	44	0	1
Lane Group Flow (vph)	154	713	3052	196	662	526
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	8.3	107.1	94.6	94.6	31.9	45.2
Effective Green, g (s)	8.3	107.1	94.6	94.6	31.9	45.2
Actuated g/C Ratio	0.06	0.71	0.63	0.63	0.21	0.30
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	177	3388	2926	801	681	783
v/s Ratio Prot	0.05	0.15	c0.66		c0.21	c0.20
v/s Ratio Perm				0.15		
v/c Ratio	0.87	0.21	1.04	0.24	0.97	0.67
Uniform Delay, d1	70.3	7.2	27.7	12.1	58.6	45.9
Progression Factor	0.84	1.56	1.28	1.10	1.00	1.00
Incremental Delay, d2	33.0	0.1	27.4	0.6	27.4	1.8
Delay (s)	92.2	11.4	62.8	13.9	86.0	47.7
Level of Service	F	B	E	B	F	D
Approach Delay (s)		25.8	59.2		69.0	
Approach LOS		C	E		E	

Intersection Summary			
HCM 2000 Control Delay	56.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	90	1169	1	2484	169	161	293
Future Volume (vph)	90	1169	1	2484	169	161	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2	4.0	5.8		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.91		0.97	0.88
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	5085	1770	5037		3433	2787
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	5085	1770	5037		3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	96	1244	1	2643	180	171	312
RTOR Reduction (vph)	0	0	0	4	0	0	72
Lane Group Flow (vph)	96	1244	1	2819	0	171	240
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	8.8	116.2	1.0	107.8		19.1	19.1
Effective Green, g (s)	8.8	116.2	1.0	107.8		19.1	19.1
Actuated g/C Ratio	0.06	0.77	0.01	0.72		0.13	0.13
Clearance Time (s)	4.0	5.2	4.0	5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2	2.0	4.5		4.0	4.0
Lane Grp Cap (vph)	201	3939	11	3619		437	354
v/s Ratio Prot	c0.03	0.24	0.00	c0.56		0.05	
v/s Ratio Perm							c0.09
v/c Ratio	0.48	0.32	0.09	0.78		0.39	0.68
Uniform Delay, d1	68.4	5.0	74.0	13.5		60.1	62.5
Progression Factor	0.92	0.41	1.24	0.54		1.00	1.00
Incremental Delay, d2	0.6	0.2	0.4	0.5		0.8	5.6
Delay (s)	63.8	2.3	92.4	7.7		60.9	68.1
Level of Service	E	A	F	A		E	E
Approach Delay (s)		6.7		7.7		65.6	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	903	437	9	2307	107	853	308	9	179	276	122
Future Volume (vph)	39	903	437	9	2307	107	853	308	9	179	276	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5052		2841	3020		3204	3377	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5052		2841	3020		3204	3377	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	40	921	446	9	2354	109	870	314	9	183	282	124
RTOR Reduction (vph)	0	0	44	0	3	0	0	1	0	0	33	0
Lane Group Flow (vph)	40	921	402	9	2460	0	592	600	0	183	373	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.3	73.0	109.7	1.6	70.2		36.7	36.7		16.8	16.8	
Effective Green, g (s)	4.3	73.0	109.7	1.6	70.2		36.7	36.7		16.8	16.8	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47		0.24	0.24		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	2392	1080	19	2364		695	738		358	378	
v/s Ratio Prot	c0.02	c0.19	0.27	0.00	c0.49		c0.21	0.20		0.06	c0.11	
v/s Ratio Perm												
v/c Ratio	0.73	0.39	0.37	0.47	1.04		0.85	0.81		0.51	0.99	
Uniform Delay, d1	72.3	24.3	7.4	73.8	39.9		54.1	53.4		62.7	66.5	
Progression Factor	0.87	1.64	4.02	1.24	0.82		1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.9	0.5	0.2	6.3	29.6		9.9	6.8		1.2	42.5	
Delay (s)	99.8	40.3	30.1	97.9	62.2		63.9	60.3		64.0	108.9	
Level of Service	F	D	C	F	E		E	E		E	F	
Approach Delay (s)		38.8			62.4			62.1			95.0	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	59.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1102	212	182	2534	28	180	23	134	32	68	73
Future Volume (vph)	14	1102	212	182	2534	28	180	23	134	32	68	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1587	1504		1741	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1587	1504		1741	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	14	1124	216	186	2586	29	184	23	137	33	69	74
RTOR Reduction (vph)	0	0	85	0	1	0	0	10	96	0	17	0
Lane Group Flow (vph)	14	1124	131	186	2614	0	120	107	11	0	159	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	2.8	88.4	88.4	12.5	97.7		15.1	15.1	15.1		14.6	
Effective Green, g (s)	2.8	88.4	88.4	12.5	97.7		15.1	15.1	15.1		14.6	
Actuated g/C Ratio	0.02	0.59	0.59	0.08	0.65		0.10	0.10	0.10		0.10	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	33	2996	932	286	3306		169	159	151		169	
v/s Ratio Prot	0.01	0.22		c0.05	c0.51		c0.07	0.07			c0.09	
v/s Ratio Perm			0.08						0.01			
v/c Ratio	0.42	0.38	0.14	0.65	0.79		0.71	0.67	0.07		0.94	
Uniform Delay, d1	72.8	16.2	13.8	66.6	18.8		65.3	65.1	61.1		67.3	
Progression Factor	1.41	0.32	0.10	1.07	0.69		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.6	0.3	0.3	2.6	1.3		11.1	8.5	0.1		50.9	
Delay (s)	105.0	5.5	1.6	73.7	14.2		76.4	73.6	61.2		118.1	
Level of Service	F	A	A	E	B		E	E	E		F	
Approach Delay (s)		5.9			18.1			70.7			118.1	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	913	34	20	1544	14	153	9	56	38	1	37
Future Volume (vph)	32	913	34	20	1544	14	153	9	56	38	1	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5058		1770	5079			1737			1698	
Flt Permitted	0.95	1.00		0.95	1.00			0.73			0.81	
Satd. Flow (perm)	1770	5058		1770	5079			1315			1401	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	992	37	22	1678	15	166	10	61	41	1	40
RTOR Reduction (vph)	0	2	0	0	0	0	0	10	0	0	27	0
Lane Group Flow (vph)	35	1027	0	22	1693	0	0	227	0	0	55	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	100.5		4.5	98.0			30.4			30.4	
Effective Green, g (s)	6.5	100.5		4.5	98.0			30.4			30.4	
Actuated g/C Ratio	0.04	0.67		0.03	0.65			0.20			0.20	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	76	3388		53	3318			266			283	
v/s Ratio Prot	c0.02	0.20		0.01	c0.33							
v/s Ratio Perm								c0.17			0.04	
v/c Ratio	0.46	0.30		0.42	0.51			0.86			0.19	
Uniform Delay, d1	70.0	10.2		71.5	13.5			57.7			49.6	
Progression Factor	1.56	0.04		0.97	1.33			1.00			1.00	
Incremental Delay, d2	1.5	0.2		1.6	0.5			21.8			0.1	
Delay (s)	110.7	0.6		70.6	18.5			79.5			49.8	
Level of Service	F	A		E	B			E			D	
Approach Delay (s)		4.2			19.2			79.5			49.8	
Approach LOS		A			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	495	512	0	534	835	0	0	0	133	0	1061
Future Volume (vph)	0	495	512	0	534	835	0	0	0	133	0	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				4.7		4.7
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	556	575	0	600	938	0	0	0	149	0	1192
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	65
Lane Group Flow (vph)	0	556	575	0	600	938	0	0	0	149	0	1127
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		61.8	150.0		61.8	150.0				77.5		77.5
Effective Green, g (s)		61.8	150.0		61.8	150.0				77.5		77.5
Actuated g/C Ratio		0.41	1.00		0.41	1.00				0.52		0.52
Clearance Time (s)		6.0			6.0					4.7		4.7
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1458	1583		1458	2787				1773		1439
v/s Ratio Prot		0.16			c0.17					0.04		
v/s Ratio Perm			0.36			0.34						c0.40
v/c Ratio		0.38	0.36		0.41	0.34				0.08		0.78
Uniform Delay, d1		30.8	0.0		31.2	0.0				18.3		29.4
Progression Factor		0.94	1.00		0.82	1.00				1.00		1.00
Incremental Delay, d2		0.7	0.6		0.8	0.3				0.0		2.6
Delay (s)		29.8	0.6		26.5	0.3				18.3		32.1
Level of Service		C	A		C	A				B		C
Approach Delay (s)		15.0			10.5			0.0			30.5	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	186	401	0	1152	109	402	0	588	0	0	0
Future Volume (vph)	0	186	401	0	1152	109	402	0	588	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	196	422	0	1213	115	423	0	619	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	525	0	0	0
Lane Group Flow (vph)	0	196	422	0	1213	115	423	0	94	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		114.2	150.0		114.2	150.0	22.7		22.7			
Effective Green, g (s)		114.2	150.0		114.2	150.0	22.7		22.7			
Actuated g/C Ratio		0.76	1.00		0.76	1.00	0.15		0.15			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2694	1583		4878	1583	519		421			
v/s Ratio Prot		0.06			0.19		c0.12					
v/s Ratio Perm			c0.27			0.07			0.03			
v/c Ratio		0.07	0.27		0.25	0.07	0.82		0.22			
Uniform Delay, d1		4.5	0.0		5.3	0.0	61.6		55.9			
Progression Factor		0.81	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.4		0.1	0.1	9.1		0.1			
Delay (s)		3.7	0.4		5.4	0.1	70.7		56.0			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		1.5			4.9			62.0			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	24	51	366	434	163	79	133	39	61	711	153
Future Volume (vph)	15	24	51	366	434	163	79	133	39	61	711	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.92			0.97		1.00	0.97		1.00	0.97	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3213			3385		1770	4912		1770	4951	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3213			3385		1770	4912		1770	4951	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	25	53	381	452	170	82	139	41	64	741	159
RTOR Reduction (vph)	0	48	0	0	11	0	0	30	0	0	24	0
Lane Group Flow (vph)	0	46	0	0	992	0	82	150	0	64	876	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.5			40.6		7.8	27.0		6.5	25.3	
Effective Green, g (s)		9.5			40.6		7.8	27.0		6.5	25.3	
Actuated g/C Ratio		0.09			0.39		0.08	0.26		0.06	0.24	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		294			1323		133	1277		110	1206	
v/s Ratio Prot		c0.01			c0.29		c0.05	0.03		0.04	c0.18	
v/s Ratio Perm												
v/c Ratio		0.16			0.75		0.62	0.12		0.58	0.73	
Uniform Delay, d1		43.5			27.2		46.5	29.3		47.3	36.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			3.0		6.6	0.0		5.0	2.3	
Delay (s)		44.1			30.3		53.1	29.4		52.3	38.3	
Level of Service		D			C		D	C		D	D	
Approach Delay (s)		44.1			30.3			36.8			39.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	20.6
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	9	3	43	243	2	1051	158
Future Volume (vph)	9	3	43	243	2	1051	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0	4.4	6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3319	1633	3204	4916	1652	4986	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3319	1633	3204	4916	1652	4986	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	3	46	259	2	1118	168
RTOR Reduction (vph)	0	3	0	0	0	13	0
Lane Group Flow (vph)	10	0	46	259	2	1273	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	0.9	0.9	1.3	25.1	0.6	24.4	
Effective Green, g (s)	0.9	0.9	1.3	25.1	0.6	24.4	
Actuated g/C Ratio	0.02	0.02	0.03	0.60	0.01	0.58	
Clearance Time (s)	4.9	4.9	4.4	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5	2.0	3.3	
Lane Grp Cap (vph)	71	35	99	2944	23	2903	
v/s Ratio Prot	c0.00		c0.01	0.05	0.00	c0.26	
v/s Ratio Perm		0.00					
v/c Ratio	0.14	0.00	0.46	0.09	0.09	0.44	
Uniform Delay, d1	20.1	20.1	20.0	3.6	20.4	4.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.0	1.3	0.0	0.6	0.1	
Delay (s)	20.5	20.1	21.2	3.6	21.0	5.0	
Level of Service	C	C	C	A	C	A	
Approach Delay (s)	20.4			6.2		5.1	
Approach LOS	C			A		A	

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	41.9	Sum of lost time (s)	17.3
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1	11	92	284	0	1046	6
Future Volume (vph)	1	11	92	284	0	1046	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5081	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5081	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	12	101	312	0	1149	7
RTOR Reduction (vph)	0	12	0	0	0	1	0
Lane Group Flow (vph)	1	0	101	312	0	1155	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	0.9	0.9	4.7	27.8		18.3	
Effective Green, g (s)	0.9	0.9	4.7	27.8		18.3	
Actuated g/C Ratio	0.02	0.02	0.12	0.70		0.46	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	37	69	380	3451		2348	
v/s Ratio Prot	c0.00		c0.03	0.06		c0.23	
v/s Ratio Perm		0.00					
v/c Ratio	0.03	0.00	0.27	0.09		0.49	
Uniform Delay, d1	18.9	18.9	15.9	1.9		7.4	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.0	0.1	0.0		0.2	
Delay (s)	19.0	18.9	16.0	1.9		7.6	
Level of Service	B	B	B	A		A	
Approach Delay (s)	18.9			5.3		7.6	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	39.6	Sum of lost time (s)	15.7
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	5	370	22	6	1054
Future Volume (vph)	30	5	370	22	6	1054
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		6.4	6.4	4.4	6.0
Lane Util. Factor	1.00		0.95	1.00	1.00	0.91
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1754		3539	1583	1770	5085
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1754		3539	1583	1770	5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	5	402	24	7	1146
RTOR Reduction (vph)	5	0	0	13	0	0
Lane Group Flow (vph)	33	0	402	11	7	1146
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	0.8		14.3	14.3	0.6	19.7
Effective Green, g (s)	0.8		14.3	14.3	0.6	19.7
Actuated g/C Ratio	0.03		0.46	0.46	0.02	0.63
Clearance Time (s)	4.9		6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0		3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	44		1611	720	33	3190
v/s Ratio Prot	c0.02		0.11		0.00	c0.23
v/s Ratio Perm				0.01		
v/c Ratio	0.75		0.25	0.02	0.21	0.36
Uniform Delay, d1	15.2		5.3	4.7	15.2	2.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	47.2		0.1	0.0	1.2	0.1
Delay (s)	62.4		5.3	4.7	16.3	2.9
Level of Service	E		A	A	B	A
Approach Delay (s)	62.4		5.3			3.0
Approach LOS	E		A			A

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	31.4	Sum of lost time (s)	15.7
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	157	12	48	18	354	161	96	892	10
Future Volume (vph)	1	2	3	157	12	48	18	354	161	96	892	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1615		1770	3539	1583	1770	3534	
Flt Permitted		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1615		1770	3539	1583	1770	3534	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	2	3	164	12	50	19	369	168	100	929	10
RTOR Reduction (vph)	0	3	0	0	33	0	0	0	109	0	1	0
Lane Group Flow (vph)	0	3	0	116	78	0	19	369	59	100	938	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		0.7		8.3	8.3		0.5	19.5	19.5	7.1	26.1	
Effective Green, g (s)		0.7		8.3	8.3		0.5	19.5	19.5	7.1	26.1	
Actuated g/C Ratio		0.01		0.15	0.15		0.01	0.35	0.35	0.13	0.47	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		21		251	241		15	1243	556	226	1661	
v/s Ratio Prot		c0.00		c0.07	0.05		0.01	0.10		c0.06	c0.27	
v/s Ratio Perm									0.04			
v/c Ratio		0.14		0.46	0.32		1.27	0.30	0.11	0.44	0.57	
Uniform Delay, d1		27.1		21.6	21.1		27.5	13.0	12.1	22.4	10.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.2		2.2	1.3		328.3	0.2	0.1	0.5	0.6	
Delay (s)		28.3		23.8	22.4		355.8	13.3	12.3	22.9	11.2	
Level of Service		C		C	C		F	B	B	C	B	
Approach Delay (s)		28.3			23.1			24.7			12.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	19.9
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	17	51	446	562	25
Future Volume (vph)	34	17	51	446	562	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3517	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	18	55	485	611	27
RTOR Reduction (vph)	0	17	0	0	2	0
Lane Group Flow (vph)	37	1	55	485	636	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.5	4.5	5.0	75.4	66.0	
Effective Green, g (s)	4.5	4.5	5.0	75.4	66.0	
Actuated g/C Ratio	0.05	0.05	0.06	0.84	0.73	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	88	79	190	2964	2579	
v/s Ratio Prot	c0.02		c0.02	0.14	c0.18	
v/s Ratio Perm		0.00				
v/c Ratio	0.42	0.01	0.29	0.16	0.25	
Uniform Delay, d1	41.5	40.6	40.8	1.4	3.9	
Progression Factor	1.00	1.00	0.84	1.91	1.00	
Incremental Delay, d2	1.2	0.0	0.3	0.1	0.2	
Delay (s)	42.7	40.7	34.7	2.7	4.1	
Level of Service	D	D	C	A	A	
Approach Delay (s)	42.0			6.0	4.1	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	143	170	125	193	74	112	379	62	45	507	14
Future Volume (vph)	17	143	170	125	193	74	112	379	62	45	507	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3251		1770	3392		3433	3464		1770	3525	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3251		1770	3392		3433	3464		1770	3525	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	159	189	139	214	82	124	421	69	50	563	16
RTOR Reduction (vph)	0	163	0	0	56	0	0	10	0	0	2	0
Lane Group Flow (vph)	19	185	0	139	240	0	124	480	0	50	577	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.6	12.2		10.2	20.8		7.6	43.6		5.0	41.0	
Effective Green, g (s)	1.6	12.2		10.2	20.8		7.6	43.6		5.0	41.0	
Actuated g/C Ratio	0.02	0.14		0.11	0.23		0.08	0.48		0.06	0.46	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	31	440		200	783		289	1678		98	1605	
v/s Ratio Prot	0.01	c0.06		c0.08	0.07		c0.04	c0.14		0.03	c0.16	
v/s Ratio Perm												
v/c Ratio	0.61	0.42		0.69	0.31		0.43	0.29		0.51	0.36	
Uniform Delay, d1	43.9	35.7		38.4	28.6		39.1	13.9		41.3	16.0	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.84		1.45	0.74	
Incremental Delay, d2	22.6	0.2		8.2	0.1		0.4	0.4		1.8	0.6	
Delay (s)	66.5	35.9		46.6	28.7		45.8	12.1		61.8	12.5	
Level of Service	E	D		D	C		D	B		E	B	
Approach Delay (s)		37.5			34.4			18.9			16.4	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	46	95	83	199	52	59	486	52	21	762	39
Future Volume (vph)	31	46	95	83	199	52	59	486	52	21	762	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1675		1770	1805		1770	3488		1770	3513	
Flt Permitted	0.33	1.00		0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	612	1675		1007	1805		1770	3488		1770	3513	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	35	52	107	93	224	58	66	546	58	24	856	44
RTOR Reduction (vph)	0	87	0	0	12	0	0	7	0	0	3	0
Lane Group Flow (vph)	35	72	0	93	270	0	66	597	0	24	897	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.4	17.0		21.4	18.0		6.8	47.8		2.8	43.8	
Effective Green, g (s)	19.4	17.0		21.4	18.0		6.8	47.8		2.8	43.8	
Actuated g/C Ratio	0.22	0.19		0.24	0.20		0.08	0.53		0.03	0.49	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	162	316		268	361		133	1852		55	1709	
v/s Ratio Prot	0.01	0.04		c0.01	c0.15		c0.04	c0.17		0.01	c0.26	
v/s Ratio Perm	0.04			0.07								
v/c Ratio	0.22	0.23		0.35	0.75		0.50	0.32		0.44	0.52	
Uniform Delay, d1	28.6	30.9		27.9	33.9		40.0	11.9		42.8	15.9	
Progression Factor	1.00	1.00		1.00	1.00		0.97	1.14		1.39	0.89	
Incremental Delay, d2	0.2	0.1		0.3	7.2		0.9	0.4		1.9	1.1	
Delay (s)	28.8	31.1		28.2	41.1		39.7	14.0		61.5	15.2	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.7			37.9			16.6			16.4	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	137	104	135	183	120	35	241	26	71	731	126
Future Volume (vph)	222	137	104	135	183	120	35	241	26	71	731	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1742		1770	1752		1770	3487		1770	3461	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1742		1770	1752		1770	3487		1770	3461	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	239	147	112	145	197	129	38	259	28	76	786	135
RTOR Reduction (vph)	0	34	0	0	30	0	0	8	0	0	14	0
Lane Group Flow (vph)	239	225	0	145	296	0	38	279	0	76	907	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2	22.8		9.9	19.5		3.8	31.8		6.6	34.6	
Effective Green, g (s)	13.2	22.8		9.9	19.5		3.8	31.8		6.6	34.6	
Actuated g/C Ratio	0.15	0.25		0.11	0.22		0.04	0.35		0.07	0.38	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	259	441		194	379		74	1232		129	1330	
v/s Ratio Prot	c0.14	c0.13		0.08	c0.17		0.02	0.08		c0.04	c0.26	
v/s Ratio Perm												
v/c Ratio	0.92	0.51		0.75	0.78		0.51	0.23		0.59	0.68	
Uniform Delay, d1	37.9	28.8		38.8	33.2		42.2	20.5		40.4	23.1	
Progression Factor	1.00	1.00		1.00	1.00		0.97	0.77		1.43	0.59	
Incremental Delay, d2	35.3	0.3		12.8	9.3		2.5	0.4		4.0	2.6	
Delay (s)	73.2	29.1		51.7	42.6		43.5	16.1		61.9	16.2	
Level of Service	E	C		D	D		D	B		E	B	
Approach Delay (s)		50.3			45.4			19.3			19.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	14	267	1	49	1	234	56	27	1045	0
Future Volume (vph)	3	1	14	267	1	49	1	234	56	27	1045	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.89			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1774	1583	1770	3436		1770	3539	
Flt Permitted		0.96			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1596			1329	1583	1770	3436		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1	15	290	1	53	1	254	61	29	1136	0
RTOR Reduction (vph)	0	11	0	0	0	38	0	19	0	0	0	0
Lane Group Flow (vph)	0	8	0	0	291	15	1	296	0	29	1136	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		26.3			26.3	26.3	1.0	46.7		2.3	48.2	
Effective Green, g (s)		26.3			26.3	26.3	1.0	46.7		2.3	48.2	
Actuated g/C Ratio		0.29			0.29	0.29	0.01	0.52		0.03	0.54	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		466			388	462	19	1782		45	1895	
v/s Ratio Prot							0.00	0.09		c0.02	c0.32	
v/s Ratio Perm		0.01			c0.22	0.01						
v/c Ratio		0.02			0.75	0.03	0.05	0.17		0.64	0.60	
Uniform Delay, d1		22.7			28.9	22.8	44.0	11.4		43.4	14.3	
Progression Factor		1.00			1.00	1.00	1.13	0.70		1.01	0.83	
Incremental Delay, d2		0.0			9.8	0.1	0.4	0.2		18.0	1.2	
Delay (s)		22.7			38.6	22.8	50.3	8.2		61.7	13.1	
Level of Service		C			D	C	D	A		E	B	
Approach Delay (s)		22.7			36.2			8.3			14.3	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	37	78	285	1286	29
Future Volume (vph)	4	37	78	285	1286	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3527	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3527	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	39	83	303	1368	31
RTOR Reduction (vph)	0	37	0	0	1	0
Lane Group Flow (vph)	4	2	83	303	1398	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.5	3.5	7.8	75.7	62.4	
Effective Green, g (s)	3.5	3.5	7.8	75.7	62.4	
Actuated g/C Ratio	0.04	0.04	0.09	0.84	0.69	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	133	61	153	2976	2445	
v/s Ratio Prot	c0.00		c0.05	0.09	c0.40	
v/s Ratio Perm		0.00				
v/c Ratio	0.03	0.02	0.54	0.10	0.57	
Uniform Delay, d1	41.6	41.6	39.4	1.2	7.0	
Progression Factor	1.00	1.00	0.97	0.59	0.55	
Incremental Delay, d2	0.0	0.1	2.1	0.1	0.8	
Delay (s)	41.7	41.7	40.2	0.8	4.7	
Level of Service	D	D	D	A	A	
Approach Delay (s)	41.7			9.3	4.7	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	70	2	2	3	562	328	6	0	1053	272
Future Volume (vph)	31	0	70	2	2	3	562	328	6	0	1053	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3429	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3429	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	33	0	75	2	2	3	604	353	6	0	1132	296
RTOR Reduction (vph)	0	0	72	0	3	0	0	0	1	0	28	0
Lane Group Flow (vph)	16	17	3	0	4	0	604	353	5	0	1400	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		35.9	69.4	69.4		29.1	
Effective Green, g (s)	4.0	4.0	4.0		0.8		35.9	69.4	69.4		29.1	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		706	2728	1220		1108	
v/s Ratio Prot	0.01	c0.01			c0.00		c0.34	0.10			c0.41	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.22	0.23	0.05		0.27		0.86	0.13	0.00		1.26	
Uniform Delay, d1	41.5	41.5	41.2		44.3		24.7	2.6	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.93	0.82	1.00		1.32	
Incremental Delay, d2	0.5	0.6	0.1		3.5		8.5	0.1	0.0		125.1	
Delay (s)	42.0	42.1	41.3		47.8		31.6	2.2	2.4		165.3	
Level of Service	D	D	D		D		C	A	A		F	
Approach Delay (s)		41.5			47.8			20.6			165.3	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	104.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	216	1	610	7	283	55	237	892	0
Future Volume (vph)	0	0	0	216	1	610	7	283	55	237	892	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95		1.00	0.95	
Frt					1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3453		1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3453		1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	227	1	642	7	298	58	249	939	0
RTOR Reduction (vph)	0	0	0	0	0	83	0	15	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	228	559	7	341	0	249	939	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					28.0	50.1	0.8	30.5		17.2	46.9	
Effective Green, g (s)					28.0	50.1	0.8	30.5		17.2	46.9	
Actuated g/C Ratio					0.31	0.56	0.01	0.34		0.19	0.52	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					421	881	15	1170		338	1844	
v/s Ratio Prot						c0.35	0.00	0.10		c0.14	c0.27	
v/s Ratio Perm					0.17							
v/c Ratio					0.54	0.63	0.47	0.29		0.74	0.51	
Uniform Delay, d1					25.7	13.7	44.4	21.8		34.3	14.0	
Progression Factor					1.00	1.00	1.00	1.00		1.59	0.66	
Incremental Delay, d2					0.8	1.1	8.1	0.6		0.7	0.1	
Delay (s)					26.4	14.8	52.5	22.5		55.2	9.4	
Level of Service					C	B	D	C		E	A	
Approach Delay (s)		0.0			17.8			23.0			19.0	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	885	143	80	1382	85	367	91	18	95	154	370
Future Volume (vph)	181	885	143	80	1382	85	367	91	18	95	154	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6352		2841	2982		3204	1591	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6352		2841	2982		3204	1591	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	187	912	147	82	1425	88	378	94	19	98	159	381
RTOR Reduction (vph)	0	0	69	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	187	912	78	82	1510	0	253	235	0	98	197	343
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	16.4	97.8	97.8	13.8	95.0		26.2	26.2		31.6	31.6	53.3
Effective Green, g (s)	16.4	97.8	97.8	13.8	95.0		26.2	26.2		31.6	31.6	53.3
Actuated g/C Ratio	0.09	0.51	0.51	0.07	0.50		0.14	0.14		0.17	0.17	0.28
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	276	2530	814	119	3176		391	411		532	264	808
v/s Ratio Prot	c0.06	c0.19		0.05	c0.24		c0.09	0.08		0.03	c0.12	0.12
v/s Ratio Perm			0.05									
v/c Ratio	0.68	0.36	0.10	0.69	0.48		0.65	0.57		0.18	0.75	0.42
Uniform Delay, d1	84.2	27.5	23.5	86.0	31.2		77.5	76.6		68.1	75.4	55.8
Progression Factor	1.00	1.00	1.00	1.11	0.73		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.4	0.2	10.9	0.4		5.4	3.3		0.2	11.7	0.5
Delay (s)	90.7	27.9	23.8	106.0	23.2		82.9	80.0		68.4	87.1	56.3
Level of Service	F	C	C	F	C		F	E		E	F	E
Approach Delay (s)		36.8			27.5			81.5			67.7	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	916	9	31	1329	92	17	23	176	453	100	224
Future Volume (vph)	90	916	9	31	1329	92	17	23	176	453	100	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	1018	10	34	1477	102	19	26	196	503	111	249
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	90	0	0	105
Lane Group Flow (vph)	100	1028	0	34	1576	0	19	26	106	503	111	144
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.3	110.9		5.5	105.9		19.7	19.2	19.2	34.2	33.4	33.4
Effective Green, g (s)	10.3	110.9		5.5	105.9		19.7	19.2	19.2	34.2	33.4	33.4
Actuated g/C Ratio	0.05	0.58		0.03	0.56		0.10	0.10	0.10	0.18	0.18	0.18
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	173	2963		92	2806		171	175	159	576	327	278
v/s Ratio Prot	c0.03	0.20		0.01	c0.31		0.01	0.01		c0.16	0.06	
v/s Ratio Perm									c0.07			0.09
v/c Ratio	0.58	0.35		0.37	0.56		0.11	0.15	0.67	0.87	0.34	0.52
Uniform Delay, d1	87.7	20.6		90.5	27.1		77.2	77.9	82.3	75.8	68.6	71.0
Progression Factor	1.08	0.68		0.75	1.40		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.3		0.8	0.7		0.3	0.3	9.5	13.4	0.4	1.0
Delay (s)	98.0	14.3		68.9	38.5		77.5	78.3	91.9	89.2	69.0	72.0
Level of Service	F	B		E	D		E	E	F	F	E	E
Approach Delay (s)		21.8			39.1			89.3			81.6	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1415	77	101	902	108	136	31	317	984	226	395
Future Volume (vph)	72	1415	77	101	902	108	136	31	317	984	226	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5046		1652	5085	1583	1652	2867	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5046		1652	5085	1583	1652	2867	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	83	1626	89	116	1037	124	156	36	364	1131	260	454
RTOR Reduction (vph)	0	3	0	0	0	0	0	112	117	0	0	187
Lane Group Flow (vph)	83	1712	0	116	1037	124	156	106	65	1131	260	267
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	17.6	70.5		19.4	72.4	190.0	22.7	14.8	14.8	65.6	57.7	57.7
Effective Green, g (s)	17.6	70.5		19.4	72.4	190.0	22.7	14.8	14.8	65.6	57.7	57.7
Actuated g/C Ratio	0.09	0.37		0.10	0.38	1.00	0.12	0.08	0.08	0.35	0.30	0.30
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	153	1872		168	1937	1583	197	223	115	1106	1182	480
v/s Ratio Prot	0.05	c0.34		c0.07	0.20		0.09	0.04		c0.35	0.07	
v/s Ratio Perm						0.08			0.04			c0.17
v/c Ratio	0.54	0.91		0.69	0.54	0.08	0.79	0.48	0.56	1.02	0.22	0.56
Uniform Delay, d1	82.4	56.9		82.4	45.7	0.0	81.4	83.9	84.5	62.2	49.4	55.4
Progression Factor	1.00	0.98		0.95	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	7.8		9.3	1.0	0.1	19.2	2.0	6.9	32.9	0.2	2.3
Delay (s)	84.5	63.6		87.5	48.0	0.1	100.6	85.9	91.4	95.1	49.5	57.8
Level of Service	F	E		F	D	A	F	F	F	F	D	E
Approach Delay (s)		64.6			47.0			91.8			79.5	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	68.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	2495	88	19	599	9	161	17	74	76	7	259
Future Volume (vph)	211	2495	88	19	599	9	161	17	74	76	7	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5059		1770	5074		1681	1585		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5059		1770	5074		1681	1585		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	218	2572	91	20	618	9	166	18	80	78	7	267
RTOR Reduction (vph)	0	2	0	0	0	0	0	34	0	0	0	169
Lane Group Flow (vph)	218	2661	0	20	627	0	136	94	0	78	7	98
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	27.7	132.2		4.7	109.4		19.8	19.8		13.1	13.1	40.8
Effective Green, g (s)	27.7	132.2		4.7	109.4		19.8	19.8		13.1	13.1	40.8
Actuated g/C Ratio	0.15	0.70		0.02	0.58		0.10	0.10		0.07	0.07	0.21
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	258	3519		43	2921		175	165		113	128	339
v/s Ratio Prot	c0.12	c0.53		0.01	0.12		c0.08	0.06		c0.05	0.00	0.06
v/s Ratio Perm												
v/c Ratio	0.84	0.76		0.47	0.21		0.78	0.57		0.69	0.05	0.29
Uniform Delay, d1	79.1	18.6		91.4	19.5		82.9	81.0		86.5	82.7	62.5
Progression Factor	0.92	1.71		0.77	1.15		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.8	0.7		2.8	0.2		17.7	2.7		13.6	0.1	0.2
Delay (s)	82.8	32.4		73.4	22.6		100.6	83.7		100.1	82.7	62.6
Level of Service	F	C		E	C		F	F		F	F	E
Approach Delay (s)		36.2			24.2			92.4			71.3	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	2465	11	32	622	26	24	13	279	83	3	65
Future Volume (vph)	47	2465	11	32	622	26	24	13	279	83	3	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5054		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5054		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	48	2515	11	33	635	27	24	13	285	85	3	66
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	80	0	0	53
Lane Group Flow (vph)	48	2526	0	33	660	0	24	13	205	85	3	13
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	8.1	121.2		6.3	119.7		4.1	30.0	30.0	12.8	38.7	38.7
Effective Green, g (s)	8.1	121.2		6.3	119.7		4.1	30.0	30.0	12.8	38.7	38.7
Actuated g/C Ratio	0.04	0.64		0.03	0.63		0.02	0.16	0.16	0.07	0.20	0.20
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	75	3241		58	3184		38	294	249	119	379	322
v/s Ratio Prot	c0.03	c0.50		0.02	0.13		0.01	0.01		c0.05	0.00	
v/s Ratio Perm									c0.13			0.01
v/c Ratio	0.64	0.78		0.57	0.21		0.63	0.04	0.82	0.71	0.01	0.04
Uniform Delay, d1	89.5	24.8		90.5	15.0		92.2	67.8	77.4	86.8	60.3	60.8
Progression Factor	0.97	1.55		1.21	0.44		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.0	1.3		7.4	0.1		22.5	0.0	18.5	15.5	0.0	0.0
Delay (s)	95.9	39.6		116.7	6.8		114.7	67.9	95.9	102.3	60.3	60.8
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		40.7			12.0			96.2			83.7	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	2256	468	45	448	23	150	37	113	120	76	43
Future Volume (vph)	58	2256	468	45	448	23	150	37	113	120	76	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4954		1652	5048		1625	1718	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4954		1652	5048		1625	1718	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	2375	493	47	472	24	158	39	119	126	80	45
RTOR Reduction (vph)	0	12	0	0	2	0	0	0	109	0	0	40
Lane Group Flow (vph)	61	2856	0	47	494	0	98	99	10	126	80	5
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.4	123.3		10.8	122.2		15.9	15.9	15.9	19.8	19.8	19.8
Effective Green, g (s)	11.4	123.3		10.8	122.2		15.9	15.9	15.9	19.8	19.8	19.8
Actuated g/C Ratio	0.06	0.65		0.06	0.64		0.08	0.08	0.08	0.10	0.10	0.10
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	99	3214		93	3246		135	143	132	172	194	176
v/s Ratio Prot	c0.04	c0.58		0.03	0.10		c0.06	0.06		c0.08	0.04	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.62	0.89		0.51	0.15		0.73	0.69	0.08	0.73	0.41	0.03
Uniform Delay, d1	87.2	27.7		87.0	13.4		84.9	84.7	80.3	82.5	79.7	76.4
Progression Factor	1.30	0.37		1.20	0.82		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.1	2.8		1.6	0.1		15.1	11.1	0.1	14.9	1.4	0.1
Delay (s)	118.1	13.0		105.5	11.0		100.0	95.7	80.4	97.4	81.1	76.5
Level of Service	F	B		F	B		F	F	F	F	F	E
Approach Delay (s)		15.2			19.2			91.3			88.4	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	2328	130	55	422	34	93	25	183	19	12	18
Future Volume (vph)	26	2328	130	55	422	34	93	25	183	19	12	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5045		1770	5029		3433	1617		1770	1697	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5045		1770	5029		3433	1617		1770	1697	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	2425	135	57	440	35	97	26	191	20	12	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	98	0	0	18	0
Lane Group Flow (vph)	27	2558	0	57	472	0	97	119	0	20	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.5	137.0		10.5	141.0		9.5	18.8		4.0	13.3	
Effective Green, g (s)	6.5	137.0		10.5	141.0		9.5	18.8		4.0	13.3	
Actuated g/C Ratio	0.03	0.72		0.06	0.74		0.05	0.10		0.02	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	60	3637		97	3732		171	159		37	118	
v/s Ratio Prot	0.02	c0.51		c0.03	c0.09		c0.03	c0.07		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.45	0.70		0.59	0.13		0.57	0.75		0.54	0.12	
Uniform Delay, d1	90.0	15.0		87.6	7.0		88.2	83.3		92.1	82.9	
Progression Factor	1.14	0.19		1.05	0.96		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.6		5.6	0.1		2.6	15.3		8.4	0.2	
Delay (s)	103.3	3.4		97.5	6.8		90.8	98.6		100.5	83.0	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		4.4			16.5			96.2			89.7	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2292	95	150	402	173	145	293	509	408	198	41
Future Volume (vph)	57	2292	95	150	402	173	145	293	509	408	198	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5055		1652	4855		1652	3539	1583	3204	3448	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5055		1652	4855		1652	3539	1583	3204	3448	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	58	2339	97	153	410	177	148	299	519	416	202	42
RTOR Reduction (vph)	0	2	0	0	40	0	0	0	30	0	10	0
Lane Group Flow (vph)	58	2434	0	153	547	0	148	299	489	416	234	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.6	90.7		16.8	96.8		42.8	38.0	60.8	23.6	18.4	
Effective Green, g (s)	10.6	90.7		16.8	96.8		42.8	38.0	60.8	23.6	18.4	
Actuated g/C Ratio	0.06	0.48		0.09	0.51		0.23	0.20	0.32	0.12	0.10	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	92	2413		146	2473		372	707	506	397	333	
v/s Ratio Prot	0.04	c0.48		c0.09	0.11		c0.09	0.08	c0.31	c0.13	0.07	
v/s Ratio Perm												
v/c Ratio	0.63	1.01		1.05	0.22		0.40	0.42	0.97	1.05	0.70	
Uniform Delay, d1	87.8	49.6		86.6	25.8		62.6	66.4	63.6	83.2	83.2	
Progression Factor	1.27	0.60		1.29	1.01		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.3	17.8		87.3	0.2		0.7	0.5	31.4	58.2	6.7	
Delay (s)	118.9	47.7		199.2	26.1		63.3	66.9	95.0	141.4	89.8	
Level of Service	F	D		F	C		E	E	F	F	F	
Approach Delay (s)		49.4			61.9			81.5			122.4	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	67.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	3048	30	58	732	77	13	20	42	56	3	19
Future Volume (vph)	130	3048	30	58	732	77	13	20	42	56	3	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5013			1828	1583	1770	1620	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5013			1640	1583	1369	1620	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	134	3142	31	60	755	79	13	21	43	58	3	20
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	40	0	19	0
Lane Group Flow (vph)	134	3173	0	60	830	0	0	34	3	58	4	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	18.7	151.3		10.9	143.5			12.5	12.5	12.5	12.5	
Effective Green, g (s)	18.7	151.3		10.9	143.5			12.5	12.5	12.5	12.5	
Actuated g/C Ratio	0.10	0.80		0.06	0.76			0.07	0.07	0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	174	4043		101	3786			107	104	90	106	
v/s Ratio Prot	c0.08	c0.62		0.03	0.17						0.00	
v/s Ratio Perm								0.02	0.00	c0.04		
v/c Ratio	0.77	0.78		0.59	0.22			0.32	0.03	0.64	0.04	
Uniform Delay, d1	83.6	10.5		87.4	6.8			84.7	83.1	86.6	83.1	
Progression Factor	1.09	0.28		0.98	0.92			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	0.1		6.0	0.1			0.6	0.0	11.2	0.1	
Delay (s)	92.6	3.1		91.8	6.4			85.3	83.1	97.8	83.2	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		6.7			12.1			84.1			93.7	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	3118	20	47	837	43	4	18	59	42	4	12
Future Volume (vph)	35	3118	20	47	837	43	4	18	59	42	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5048			1674		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.34	1.00	
Satd. Flow (perm)	1770	5080		1770	5048			1657		631	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	36	3214	21	48	863	44	4	19	64	43	4	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	60	0	0	11	0
Lane Group Flow (vph)	36	3235	0	48	906	0	0	27	0	43	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.3	154.4		8.5	155.3			11.8		11.8	11.8	
Effective Green, g (s)	7.3	154.4		8.5	155.3			11.8		11.8	11.8	
Actuated g/C Ratio	0.04	0.81		0.04	0.82			0.06		0.06	0.06	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	68	4128		79	4126			102		39	102	
v/s Ratio Prot	0.02	c0.64		c0.03	0.18						0.00	
v/s Ratio Perm								0.02		c0.07		
v/c Ratio	0.53	0.78		0.61	0.22			0.26		1.10	0.05	
Uniform Delay, d1	89.7	9.2		89.1	3.9			85.0		89.1	83.8	
Progression Factor	1.25	0.28		0.76	2.30			1.00		1.00	1.00	
Incremental Delay, d2	2.2	1.0		8.5	0.1			0.5		176.2	0.1	
Delay (s)	114.4	3.6		76.0	9.0			85.5		265.3	83.9	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		4.8			12.4			85.5			216.1	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	2914	199	94	866	79	40	81	110	25	44	58
Future Volume (vph)	97	2914	199	94	866	79	40	81	110	25	44	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5037		1770	5022		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5037		1770	5022		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	3067	209	99	912	83	42	85	116	26	46	61
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	107	0	0	57
Lane Group Flow (vph)	102	3273	0	99	991	0	42	85	9	26	46	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.3	135.3		16.1	135.6		6.0	14.6	14.6	4.3	12.9	12.9
Effective Green, g (s)	15.3	135.3		16.1	135.6		6.0	14.6	14.6	4.3	12.9	12.9
Actuated g/C Ratio	0.08	0.71		0.08	0.71		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	142	3586		149	3584		55	143	121	40	126	107
v/s Ratio Prot	c0.06	c0.65		0.06	0.20		c0.02	c0.05		0.01	0.02	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.72	0.91		0.66	0.28		0.76	0.59	0.07	0.65	0.37	0.04
Uniform Delay, d1	85.2	22.5		84.3	9.7		91.3	84.8	81.4	92.1	84.6	82.8
Progression Factor	0.91	0.55		0.93	0.60		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	3.1		7.9	0.2		42.3	4.4	0.1	25.2	0.7	0.1
Delay (s)	86.4	15.4		86.1	6.0		133.6	89.2	81.5	117.3	85.3	82.8
Level of Service	F	B		F	A		F	F	F	F	F	F
Approach Delay (s)		17.5			13.3			93.2			90.4	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	2465	255	68	898	70	139	136	34	47	121	69
Future Volume (vph)	132	2465	255	68	898	70	139	136	34	47	121	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3434		1770	3347	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3434		1770	3347	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	140	2622	271	72	955	74	148	145	36	50	129	73
RTOR Reduction (vph)	0	6	0	0	0	30	0	11	0	0	46	0
Lane Group Flow (vph)	140	2887	0	72	955	44	148	170	0	50	156	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	19.1	120.4		11.4	112.7	112.7	22.9	22.9		15.4	15.4	
Effective Green, g (s)	19.1	120.4		11.4	112.7	112.7	22.9	22.9		15.4	15.4	
Actuated g/C Ratio	0.10	0.63		0.06	0.59	0.59	0.12	0.12		0.08	0.08	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	177	3177		106	3016	938	213	413		143	271	
v/s Ratio Prot	c0.08	c0.58		0.04	0.19		c0.08	0.05		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.79	0.91		0.68	0.32	0.05	0.69	0.41		0.35	0.58	
Uniform Delay, d1	83.5	30.1		87.5	19.4	16.2	80.2	77.3		82.6	84.2	
Progression Factor	1.26	0.37		1.10	0.66	0.13	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.7	2.4		11.6	0.2	0.1	9.9	0.8		2.2	3.8	
Delay (s)	114.8	13.6		108.0	12.9	2.3	90.1	78.1		84.8	87.9	
Level of Service	F	B		F	B	A	F	E		F	F	
Approach Delay (s)		18.2			18.4			83.5			87.3	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	2046	60	280	927	244	131	557	122	303	416	120
Future Volume (vph)	223	2046	60	280	927	244	131	557	122	303	416	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	230	2109	62	289	956	252	135	574	126	312	429	124
RTOR Reduction (vph)	0	1	0	0	0	114	0	0	57	0	14	0
Lane Group Flow (vph)	230	2170	0	289	956	138	135	574	69	312	539	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	17.6	97.8		20.0	100.3	100.3	17.9	32.3	32.3	20.1	34.3	
Effective Green, g (s)	17.6	97.8		20.0	100.3	100.3	17.9	32.3	32.3	20.1	34.3	
Actuated g/C Ratio	0.09	0.51		0.11	0.53	0.53	0.09	0.17	0.17	0.11	0.18	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	296	2432		337	2595	780	161	806	251	363	617	
v/s Ratio Prot	0.07	c0.46		c0.09	0.19		0.08	0.12		c0.09	c0.16	
v/s Ratio Perm						0.09			0.05			
v/c Ratio	0.78	0.89		0.86	0.37	0.18	0.84	0.71	0.27	0.86	0.87	
Uniform Delay, d1	84.3	41.4		83.6	26.3	23.4	84.6	74.5	68.6	83.6	75.7	
Progression Factor	1.23	0.60		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.1	2.5		18.3	0.4	0.5	28.8	3.4	1.0	17.4	13.5	
Delay (s)	108.6	27.4		101.9	26.7	23.9	113.5	77.9	69.7	100.9	89.2	
Level of Service	F	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		35.2			40.7			82.4			93.5	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	52.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	59	285	253	58	229	405
Future Volume (vph)	59	285	253	58	229	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3441		1717	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3441		1717	1504
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	66	317	281	64	254	450
RTOR Reduction (vph)	0	0	33	0	24	156
Lane Group Flow (vph)	66	317	312	0	343	181
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	5.6	22.1	12.5		14.7	24.8
Effective Green, g (s)	5.6	22.1	12.5		14.7	24.8
Actuated g/C Ratio	0.12	0.48	0.27		0.32	0.54
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	214	889	928		545	805
v/s Ratio Prot	0.04	c0.17	0.09		c0.20	0.12
v/s Ratio Perm						
v/c Ratio	0.31	0.36	0.34		0.63	0.22
Uniform Delay, d1	18.6	7.6	13.6		13.5	5.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.5	0.5		2.3	0.1
Delay (s)	18.9	8.1	14.0		15.8	5.8
Level of Service	B	A	B		B	A
Approach Delay (s)		10.0	14.0		11.0	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	46.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	898	14	13	210	19	11	1	47	221	2	37
Future Volume (vph)	5	898	14	13	210	19	11	1	47	221	2	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1858		1770	1840			1647			1752	
Flt Permitted	0.61	1.00		0.12	1.00			0.92			0.71	
Satd. Flow (perm)	1129	1858		221	1840			1533			1303	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	966	15	14	226	20	12	1	51	238	2	40
RTOR Reduction (vph)	0	1	0	0	4	0	0	38	0	0	10	0
Lane Group Flow (vph)	5	980	0	14	242	0	0	26	0	0	270	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.3	34.3		33.7	33.7			15.7			15.7	
Effective Green, g (s)	34.3	34.3		33.7	33.7			15.7			15.7	
Actuated g/C Ratio	0.57	0.57		0.56	0.56			0.26			0.26	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	647	1065		124	1036			402			342	
v/s Ratio Prot		c0.53			0.13							
v/s Ratio Perm	0.00			0.06				0.02			c0.21	
v/c Ratio	0.01	0.92		0.11	0.23			0.07			0.79	
Uniform Delay, d1	5.5	11.5		6.1	6.6			16.5			20.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	12.6		0.4	0.1			0.0			10.6	
Delay (s)	5.5	24.1		6.4	6.7			16.6			31.1	
Level of Service	A	C		A	A			B			C	
Approach Delay (s)		24.0			6.6			16.6			31.1	
Approach LOS		C			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	10.4
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	302	464	77	84	113	124	857	75	76	593	58
Future Volume (vph)	310	302	464	77	84	113	124	857	75	76	593	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1929		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1929		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	341	332	510	85	92	124	136	942	82	84	652	64
RTOR Reduction (vph)	0	0	176	0	34	0	0	0	27	0	0	24
Lane Group Flow (vph)	341	332	334	85	182	0	136	942	55	84	652	40
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	32.0	32.0	46.6	17.5	17.5		14.6	43.3	60.8	10.1	38.8	76.5
Effective Green, g (s)	32.0	32.0	46.6	17.5	17.5		14.6	43.3	60.8	10.1	38.8	76.5
Actuated g/C Ratio	0.26	0.26	0.38	0.14	0.14		0.12	0.35	0.49	0.08	0.31	0.62
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	427	449	576	233	272		201	1155	777	134	1072	946
v/s Ratio Prot	c0.21	0.19	0.22	0.05	c0.09		c0.08	c0.29	0.03	0.05	0.19	0.03
v/s Ratio Perm												
v/c Ratio	0.80	0.74	0.58	0.36	0.67		0.68	0.82	0.07	0.63	0.61	0.04
Uniform Delay, d1	42.9	42.1	30.8	48.1	50.4		52.3	36.6	16.6	55.0	36.1	9.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5	5.6	1.0	0.9	6.0		6.9	4.7	0.0	6.4	1.1	0.0
Delay (s)	52.4	47.7	31.8	49.0	56.4		59.2	41.3	16.7	61.5	37.2	9.3
Level of Service	D	D	C	D	E		E	D	B	E	D	A
Approach Delay (s)		42.2			54.3			41.7			37.5	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	123.8	Sum of lost time (s)	20.9
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	149	0	15	0	151	70	17	563	0
Future Volume (vph)	1	0	1	149	0	15	0	151	70	17	563	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	0	1	173	0	17	0	176	81	20	655	0
RTOR Reduction (vph)	0	2	0	0	0	14	0	0	20	0	0	0
Lane Group Flow (vph)	0	0	0	0	173	3	0	176	61	20	655	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			8.9	8.9		26.1	39.5	0.6	30.7	
Effective Green, g (s)		0.7			8.9	8.9		26.1	39.5	0.6	30.7	
Actuated g/C Ratio		0.01			0.17	0.17		0.49	0.75	0.01	0.58	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		22			298	266		920	1184	20	1083	
v/s Ratio Prot		c0.00			c0.10			0.09	0.04	0.01	c0.35	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.58	0.01		0.19	0.05	1.00	0.60	
Uniform Delay, d1		25.7			20.2	18.3		7.5	1.7	26.1	7.1	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.9	0.0		0.1	0.0	201.2	1.0	
Delay (s)		25.7			22.1	18.3		7.6	1.8	227.3	8.1	
Level of Service		C			C	B		A	A	F	A	
Approach Delay (s)		25.7			21.7			5.7			14.6	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	52.8	Sum of lost time (s)	16.5
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	644	176	74	213	6	103	7	149	60	68	101
Future Volume (vph)	17	644	176	74	213	6	103	7	149	60	68	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3425		1770	3525		1770	1863	1583	1770	1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3425		1770	3525		1770	1863	1583	1770	1696	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	671	183	77	222	6	107	7	155	62	71	105
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	81	0	72	0
Lane Group Flow (vph)	18	827	0	77	226	0	107	7	74	63	104	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	0.6	25.0		4.9	29.8		6.3	13.4	23.2	3.2	10.3	
Effective Green, g (s)	0.6	25.0		4.9	29.8		6.3	13.4	23.2	3.2	10.3	
Actuated g/C Ratio	0.01	0.38		0.07	0.45		0.10	0.20	0.35	0.05	0.16	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	16	1291		130	1584		168	376	553	85	263	
v/s Ratio Prot	0.01	c0.24		c0.04	c0.06		c0.06	0.00	c0.05	0.04	c0.06	
v/s Ratio Perm												
v/c Ratio	1.12	0.64		0.59	0.14		0.64	0.02	0.13	0.74	0.40	
Uniform Delay, d1	32.9	17.0		29.7	10.7		28.9	21.2	14.7	31.1	25.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	268.4	1.0		4.7	0.0		5.7	0.0	0.0	25.8	0.4	
Delay (s)	301.3	18.0		34.5	10.8		34.6	21.2	14.7	57.0	25.6	
Level of Service	F	B		C	B		C	C	B	E	C	
Approach Delay (s)		23.8			16.8			22.8			33.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	19.8
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	908	334	209	1383	93	224	21	205	388	72	324
Future Volume (vph)	58	908	334	209	1383	93	224	21	205	388	72	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5037		1681	1699	1583	1610	3034	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5037		1681	1699	1583	1610	3034	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	59	927	341	213	1411	95	229	21	209	396	73	331
RTOR Reduction (vph)	0	0	205	0	4	0	0	0	187	0	184	0
Lane Group Flow (vph)	59	927	136	213	1502	0	124	126	22	277	339	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	8.3	59.8	59.8	13.2	64.7		16.0	16.0	16.0	41.5	41.5	
Effective Green, g (s)	8.3	59.8	59.8	13.2	64.7		16.0	16.0	16.0	41.5	41.5	
Actuated g/C Ratio	0.06	0.40	0.40	0.09	0.43		0.11	0.11	0.11	0.28	0.28	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	97	2027	631	302	2172		179	181	168	445	839	
v/s Ratio Prot	0.03	0.18		c0.06	c0.30		0.07	c0.07		c0.17	0.11	
v/s Ratio Perm			0.09						0.01			
v/c Ratio	0.61	0.46	0.22	0.71	0.69		0.69	0.70	0.13	0.62	0.40	
Uniform Delay, d1	69.3	33.2	29.7	66.5	34.6		64.6	64.7	60.7	47.4	44.2	
Progression Factor	1.00	1.00	1.00	1.32	0.60		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.2	0.7	0.8	4.4	1.3		9.0	9.0	0.1	4.6	0.9	
Delay (s)	76.5	33.9	30.4	92.2	22.0		73.6	73.7	60.8	52.1	45.1	
Level of Service	E	C	C	F	C		E	E	E	D	D	
Approach Delay (s)		34.9			30.7			67.8			47.5	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1367	158	416	1331	267	195	55	651	892	223	167
Future Volume (vph)	23	1367	158	416	1331	267	195	55	651	892	223	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	25	1470	170	447	1431	287	210	59	700	959	240	180
RTOR Reduction (vph)	0	0	108	0	0	101	0	0	50	0	0	48
Lane Group Flow (vph)	25	1470	62	447	1431	186	210	59	650	959	240	132
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.3	40.5	40.5	19.3	56.2	97.1	13.1	34.8	59.1	35.6	57.0	66.6
Effective Green, g (s)	4.3	40.5	40.5	19.3	56.2	97.1	13.1	34.8	59.1	35.6	57.0	66.6
Actuated g/C Ratio	0.03	0.27	0.27	0.13	0.37	0.65	0.09	0.23	0.39	0.24	0.38	0.44
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	98	1372	427	441	1905	1804	299	821	1098	814	1344	702
v/s Ratio Prot	0.01	c0.29		c0.13	0.28	0.07	0.06	0.02	c0.23	c0.28	0.07	0.08
v/s Ratio Perm			0.04									
v/c Ratio	0.26	1.07	0.15	1.01	0.75	0.10	0.70	0.07	0.59	1.18	0.18	0.19
Uniform Delay, d1	71.3	54.8	41.6	65.3	40.8	10.0	66.6	45.0	35.9	57.2	30.9	25.3
Progression Factor	1.20	0.75	0.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	45.0	0.7	46.3	2.8	0.0	6.0	0.1	1.4	92.8	0.1	0.2
Delay (s)	86.1	86.0	17.2	111.7	43.6	10.0	72.5	45.1	37.3	150.0	31.0	25.5
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		78.9			53.2			45.4			113.0	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	72.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1824	1040	0	1213	779	0	0	0	209	0	756
Future Volume (vph)	0	1824	1040	0	1213	779	0	0	0	209	0	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1940	1106	0	1290	829	0	0	0	222	0	804
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	48
Lane Group Flow (vph)	0	1940	1106	0	1290	829	0	0	0	222	0	756
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		83.4	138.0		83.4	138.0				42.4		42.4
Effective Green, g (s)		83.4	138.0		83.4	133.3				42.4		42.4
Actuated g/C Ratio		0.60	1.00		0.60	0.97				0.31		0.31
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		3073	2787		3073	1529				1054		856
v/s Ratio Prot		c0.38			0.25	0.52				0.06		c0.27
v/s Ratio Perm			0.40									
v/c Ratio		0.63	0.40		0.42	0.54				0.21		0.88
Uniform Delay, d1		17.5	0.0		14.5	0.2				35.4		45.4
Progression Factor		1.00	1.00		0.87	1.00				1.00		1.00
Incremental Delay, d2		1.0	0.4		0.4	0.2				0.0		10.4
Delay (s)		18.5	0.4		13.1	0.4				35.4		55.8
Level of Service		B	A		B	A				D		E
Approach Delay (s)		11.9			8.1			0.0			51.4	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	958	1164	0	1478	772	450	0	142	0	0	0
Future Volume (vph)	0	958	1164	0	1478	772	450	0	142	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	988	1200	0	1524	796	464	0	146	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	120	0	0	0
Lane Group Flow (vph)	0	988	1200	0	1524	796	464	0	26	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		100.9	138.0		100.9	138.0	24.9		24.9			
Effective Green, g (s)		100.9	133.3		100.9	138.0	24.9		24.9			
Actuated g/C Ratio		0.73	0.97		0.73	1.00	0.18		0.18			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3717	1529		4685	1583	619		502			
v/s Ratio Prot		0.19	c0.76		0.24		0.14					
v/s Ratio Perm						0.50			0.01			
v/c Ratio		0.27	0.78		0.33	0.50	0.75		0.05			
Uniform Delay, d1		6.2	0.3		6.5	0.0	53.6		46.8			
Progression Factor		0.66	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	2.1		0.2	1.1	4.4		0.0			
Delay (s)		4.3	2.4		6.7	1.1	58.0		46.8			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		3.2			4.8			55.3			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	480	469	198	969	0	0
Future Volume (vph)	480	469	198	969	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	495	484	204	999	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	495	484	204	999	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	68.6	68.6	9.7	90.0		
Effective Green, g (s)	68.6	68.6	9.7	90.0		
Actuated g/C Ratio	0.76	0.76	0.11	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2697	2124	370	5085		
v/s Ratio Prot	0.14		c0.06	0.20		
v/s Ratio Perm		c0.17				
v/c Ratio	0.18	0.23	0.55	0.20		
Uniform Delay, d1	3.0	3.1	38.1	0.0		
Progression Factor	1.00	1.00	0.70	1.00		
Incremental Delay, d2	0.1	0.2	1.0	0.1		
Delay (s)	3.1	3.3	27.7	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	3.2			4.8	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	453	0	0	634	562	557
Future Volume (vph)	0	453	0	0	634	562	557
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	498	0	0	697	618	612
RTOR Reduction (vph)	0	0	0	0	0	0	351
Lane Group Flow (vph)	0	498	0	0	697	618	261
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		56.5			56.5	21.8	21.8
Effective Green, g (s)		56.5			56.5	21.8	21.8
Actuated g/C Ratio		0.63			0.63	0.24	0.24
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2221			3192	831	675
v/s Ratio Prot		c0.14			0.14	c0.18	
v/s Ratio Perm							0.09
v/c Ratio		0.22			0.22	0.74	0.39
Uniform Delay, d1		7.3			7.2	31.5	28.5
Progression Factor		1.01			1.00	1.00	1.00
Incremental Delay, d2		0.2			0.2	3.2	0.1
Delay (s)		7.5			7.4	34.7	28.6
Level of Service		A			A	C	C
Approach Delay (s)		7.5			7.4	31.7	
Approach LOS		A			A	C	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1010	59	588	2106	163	843
Future Volume (vph)	1010	59	588	2106	163	843
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6355		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6355		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1031	60	600	2149	166	860
RTOR Reduction (vph)	4	0	0	0	0	6
Lane Group Flow (vph)	1087	0	600	2149	166	854
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	64.8		33.8	103.3	46.3	84.5
Effective Green, g (s)	64.8		33.8	103.3	46.3	84.5
Actuated g/C Ratio	0.40		0.21	0.65	0.29	0.53
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2573		725	4137	512	1471
v/s Ratio Prot	0.17		c0.17	c0.34	0.09	c0.31
v/s Ratio Perm						
v/c Ratio	0.42		0.83	0.52	0.32	0.58
Uniform Delay, d1	34.2		60.3	15.1	44.6	25.7
Progression Factor	1.00		0.54	1.34	1.00	1.00
Incremental Delay, d2	0.5		2.9	0.2	0.1	0.4
Delay (s)	34.7		35.4	20.4	44.7	26.1
Level of Service	C		D	C	D	C
Approach Delay (s)	34.7			23.7	29.1	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	131	1748	9	2372	151	841	322
Future Volume (vph)	131	1748	9	2372	151	841	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	4.4	5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91	1.00	0.91	1.00	0.97	
Frt	1.00	1.00	1.00	1.00	0.85	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.97	
Satd. Flow (prot)	3433	5085	1770	5085	1583	3343	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.97	
Satd. Flow (perm)	3433	5085	1770	5085	1583	3343	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	132	1766	9	2396	153	849	325
RTOR Reduction (vph)	0	0	0	0	3	26	0
Lane Group Flow (vph)	132	1766	9	2396	150	1148	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	86.7	1.6	81.6	143.6	56.6	
Effective Green, g (s)	7.6	86.7	1.6	81.6	143.6	56.6	
Actuated g/C Ratio	0.05	0.54	0.01	0.51	0.90	0.35	
Clearance Time (s)	4.4	6.3	4.4	5.4		4.4	
Vehicle Extension (s)	2.0	5.0	2.0	6.1		4.5	
Lane Grp Cap (vph)	163	2755	17	2593	1420	1182	
v/s Ratio Prot	c0.04	0.35	0.01	c0.47	0.10	c0.34	
v/s Ratio Perm							
v/c Ratio	0.81	0.64	0.53	0.92	0.11	0.97	
Uniform Delay, d1	75.5	25.7	78.8	36.3	0.9	50.9	
Progression Factor	0.84	1.04	1.40	0.38	1.37	1.00	
Incremental Delay, d2	21.7	1.0	10.3	5.7	0.0	19.7	
Delay (s)	85.2	27.7	120.7	19.7	1.3	70.6	
Level of Service	F	C	F	B	A	E	
Approach Delay (s)		31.7		18.9		70.6	
Approach LOS		C		B		E	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	2463	2489	28	95	66
Future Volume (vph)	24	2463	2489	28	95	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	25	2566	2593	29	99	69
RTOR Reduction (vph)	0	0	0	3	0	63
Lane Group Flow (vph)	25	2566	2593	26	99	6
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.8	135.9	127.1	127.1	13.4	13.4
Effective Green, g (s)	4.8	135.9	127.1	127.1	13.4	13.4
Actuated g/C Ratio	0.03	0.85	0.79	0.79	0.08	0.08
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	53	4319	4039	1257	148	132
v/s Ratio Prot	0.01	c0.50	c0.51		c0.06	
v/s Ratio Perm				0.02		0.00
v/c Ratio	0.47	0.59	0.64	0.02	0.67	0.04
Uniform Delay, d1	76.4	3.7	6.9	3.4	71.1	67.4
Progression Factor	1.10	0.37	0.82	0.74	1.00	1.00
Incremental Delay, d2	1.6	0.4	0.7	0.0	8.6	0.0
Delay (s)	85.7	1.7	6.3	2.6	79.7	67.5
Level of Service	F	A	A	A	E	E
Approach Delay (s)		2.6	6.3		74.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	28	2655	5	2347	33	84	99
Future Volume (vph)	28	2655	5	2347	33	84	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7	4.4	5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91	1.00	0.91	1.00	0.97	0.91
Frt	1.00	1.00	1.00	1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085	1770	5085	1583	3324	1441
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085	1770	5085	1583	3324	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	2795	5	2471	35	88	104
RTOR Reduction (vph)	0	0	0	0	2	40	57
Lane Group Flow (vph)	29	2795	5	2471	33	91	4
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	5.6	134.1	1.2	129.2	129.2	9.7	9.7
Effective Green, g (s)	5.6	134.1	1.2	129.2	129.2	9.7	9.7
Actuated g/C Ratio	0.03	0.84	0.01	0.81	0.81	0.06	0.06
Clearance Time (s)	4.9	5.7	4.4	5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8	2.0	5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	61	4261	13	4106	1278	201	87
v/s Ratio Prot	c0.02	c0.55	0.00	0.49		c0.03	
v/s Ratio Perm					0.02		0.00
v/c Ratio	0.48	0.66	0.38	0.60	0.03	0.45	0.04
Uniform Delay, d1	75.8	4.7	79.0	5.8	3.0	72.6	70.8
Progression Factor	0.80	1.35	1.00	0.78	0.76	1.00	1.00
Incremental Delay, d2	4.9	0.7	3.9	0.4	0.0	1.6	0.2
Delay (s)	65.6	6.9	82.6	4.9	2.3	74.2	71.0
Level of Service	E	A	F	A	A	E	E
Approach Delay (s)		7.5		5.0		73.2	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	862	1775	84	18	1283	65	45	56	8	99	1	1073
Future Volume (vph)	862	1775	84	18	1283	65	45	56	8	99	1	1073
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5048		1652	1826		1625	1631	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5048		1652	1826		1625	1631	2787
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	927	1909	90	19	1380	70	48	60	9	106	1	1154
RTOR Reduction (vph)	0	3	0	0	3	0	0	4	0	0	0	260
Lane Group Flow (vph)	927	1996	0	19	1447	0	48	65	0	53	54	894
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	49.2	95.0		2.5	48.4		10.1	10.1		31.8	31.8	86.5
Effective Green, g (s)	49.2	95.0		2.5	48.4		10.1	10.1		31.8	31.8	86.5
Actuated g/C Ratio	0.31	0.59		0.02	0.30		0.06	0.06		0.20	0.20	0.54
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	985	2999		50	1527		104	115		322	324	1506
v/s Ratio Prot	c0.29	0.40		0.01	c0.29		0.03	c0.04		0.03	0.03	c0.32
v/s Ratio Perm												
v/c Ratio	0.94	0.67		0.38	0.95		0.46	0.57		0.16	0.17	0.59
Uniform Delay, d1	54.0	21.8		78.0	54.6		72.3	72.8		53.1	53.1	24.9
Progression Factor	0.95	1.03		1.02	1.18		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	13.6	0.9		1.7	13.3		1.2	3.8		0.2	0.2	0.6
Delay (s)	64.8	23.4		81.6	77.5		73.5	76.6		53.3	53.3	25.5
Level of Service	E	C		F	E		E	E		D	D	C
Approach Delay (s)		36.5			77.6			75.3			27.8	
Approach LOS		D			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	87	1869	5	964	123	458	168
Future Volume (vph)	87	1869	5	964	123	458	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7	4.4	6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91	1.00	0.91	1.00	0.97	0.91
Frt	1.00	1.00	1.00	1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916	1711	4916	1478	3200	1585
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916	1711	4916	1478	3200	1585
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	91	1947	5	1004	128	477	175
RTOR Reduction (vph)	0	0	0	0	18	2	128
Lane Group Flow (vph)	91	1947	5	1004	110	493	29
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	12.9	114.4	1.2	102.4	137.8	29.4	29.4
Effective Green, g (s)	12.9	114.4	1.2	102.4	137.8	29.4	29.4
Actuated g/C Ratio	0.08	0.72	0.01	0.64	0.86	0.18	0.18
Clearance Time (s)	4.4	5.7	4.4	6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6	2.0	4.2		2.0	2.0
Lane Grp Cap (vph)	137	3514	12	3146	1272	588	291
v/s Ratio Prot	c0.05	c0.40	0.00	0.20	0.07	c0.15	
v/s Ratio Perm							0.02
v/c Ratio	0.66	0.55	0.42	0.32	0.09	0.84	0.10
Uniform Delay, d1	71.4	10.8	79.1	13.0	1.7	63.0	54.3
Progression Factor	1.38	0.15	0.72	1.39	0.00	1.00	1.00
Incremental Delay, d2	7.2	0.5	7.9	0.3	0.0	9.8	0.1
Delay (s)	105.4	2.1	65.1	18.4	0.0	72.8	54.3
Level of Service	F	A	E	B	A	E	D
Approach Delay (s)		6.7		16.5		68.3	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	358	2338	900	603	418	166
Future Volume (vph)	358	2338	900	603	418	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.97	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4490	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4490	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	362	2362	909	609	422	168
RTOR Reduction (vph)	0	0	23	137	0	102
Lane Group Flow (vph)	362	2362	1148	210	422	66
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	22.4	123.5	96.9	96.9	25.5	52.9
Effective Green, g (s)	22.4	123.5	96.9	96.9	25.5	52.9
Actuated g/C Ratio	0.14	0.77	0.61	0.61	0.16	0.33
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	448	3663	2719	769	510	859
v/s Ratio Prot	c0.11	c0.50	0.26		c0.13	0.03
v/s Ratio Perm				0.17		
v/c Ratio	0.81	0.64	0.42	0.27	0.83	0.08
Uniform Delay, d1	66.7	8.3	16.7	14.9	65.1	36.8
Progression Factor	0.93	1.78	0.78	1.07	1.00	1.00
Incremental Delay, d2	8.7	0.8	0.4	0.7	10.1	0.0
Delay (s)	70.9	15.5	13.5	16.8	75.2	36.8
Level of Service	E	B	B	B	E	D
Approach Delay (s)		22.9	14.2		64.3	
Approach LOS		C	B		E	

Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	2517	148	118	1453	37	280	51	282	77	40	23
Future Volume (vph)	35	2517	148	118	1453	37	280	51	282	77	40	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1770	5085	1583	3433	5066		1681	1560	1504		1773	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1770	5085	1583	3433	5066		1681	1560	1504		1773	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	2649	156	124	1529	39	295	54	297	81	42	24
RTOR Reduction (vph)	0	0	32	0	1	0	0	18	95	0	5	0
Lane Group Flow (vph)	37	2649	124	124	1567	0	224	202	107	0	142	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.4	91.9	91.9	9.2	94.3		26.0	26.0	26.0		13.5	
Effective Green, g (s)	6.4	91.9	91.9	9.2	94.3		26.0	26.0	26.0		13.5	
Actuated g/C Ratio	0.04	0.57	0.57	0.06	0.59		0.16	0.16	0.16		0.08	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	70	2920	909	197	2985		273	253	244		149	
v/s Ratio Prot	0.02	c0.52		c0.04	c0.31		c0.13	0.13			c0.08	
v/s Ratio Perm			0.08						0.07			
v/c Ratio	0.53	0.91	0.14	0.63	0.52		0.82	0.80	0.44		0.96	
Uniform Delay, d1	75.3	30.3	15.7	73.7	19.5		64.7	64.5	60.4		73.0	
Progression Factor	1.15	0.90	0.65	0.63	2.33		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.6	4.3	0.2	3.9	0.6		16.9	14.9	0.5		59.7	
Delay (s)	89.4	31.4	10.4	50.3	46.1		81.6	79.3	60.9		132.6	
Level of Service	F	C	B	D	D		F	E	E		F	
Approach Delay (s)		31.0			46.4			74.4			132.6	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	193	2505	14	1517	154	503	165
Future Volume (vph)	193	2505	14	1517	154	503	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2	4.0	5.8		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.91		0.97	0.88
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	5085	1770	5015		3433	2787
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	5085	1770	5015		3433	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	199	2582	14	1564	159	519	170
RTOR Reduction (vph)	0	0	0	7	0	0	137
Lane Group Flow (vph)	199	2582	14	1716	0	519	33
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	13.1	113.1	2.3	101.7		30.9	30.9
Effective Green, g (s)	13.1	113.1	2.3	101.7		30.9	30.9
Actuated g/C Ratio	0.08	0.71	0.01	0.64		0.19	0.19
Clearance Time (s)	4.0	5.2	4.0	5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2	2.0	4.5		4.0	4.0
Lane Grp Cap (vph)	281	3594	25	3187		662	538
v/s Ratio Prot	c0.06	c0.51	0.01	0.34		c0.15	
v/s Ratio Perm							0.01
v/c Ratio	0.71	0.72	0.56	0.54		0.78	0.06
Uniform Delay, d1	71.6	14.0	78.3	16.2		61.4	52.7
Progression Factor	1.25	0.58	1.06	0.63		1.00	1.00
Incremental Delay, d2	3.1	0.6	13.6	0.6		6.4	0.1
Delay (s)	92.3	8.7	97.0	10.7		67.8	52.8
Level of Service	F	A	F	B		E	D
Approach Delay (s)		14.7		11.4		64.1	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2012	962	33	1035	149	484	407	30	255	524	42
Future Volume (vph)	51	2012	962	33	1035	149	484	407	30	255	524	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4989		2841	3053		3204	3500	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4989		2841	3053		3204	3500	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	2032	972	33	1045	151	489	411	30	258	529	42
RTOR Reduction (vph)	0	0	16	0	12	0	0	2	0	0	3	0
Lane Group Flow (vph)	52	2032	956	33	1184	0	440	488	0	258	568	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.3	71.5	108.4	3.3	67.4		36.9	36.9		26.4	26.4	
Effective Green, g (s)	7.3	71.5	108.4	3.3	67.4		36.9	36.9		26.4	26.4	
Actuated g/C Ratio	0.05	0.45	0.68	0.02	0.42		0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	88	2196	1001	37	2101		655	704		528	577	
v/s Ratio Prot	c0.03	0.41	c0.65	0.02	0.24		0.15	0.16		0.08	c0.16	
v/s Ratio Perm												
v/c Ratio	0.59	0.93	0.96	0.89	0.56		0.67	0.69		0.49	0.98	
Uniform Delay, d1	74.9	41.7	23.6	78.2	35.1		56.0	56.4		60.7	66.6	
Progression Factor	1.22	0.73	0.63	1.09	0.73		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	6.1	14.5	99.5	1.0		2.7	3.0		0.7	33.1	
Delay (s)	98.5	36.5	29.3	184.6	26.8		58.8	59.3		61.4	99.7	
Level of Service	F	D	C	F	C		E	E		E	F	
Approach Delay (s)		35.2			31.0			59.1			87.8	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	45.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	2316	93	40	1333	20	32	9	124	81	10	38
Future Volume (vph)	32	2316	93	40	1333	20	32	9	124	81	10	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5056		1770	5074			1658			1734	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.47	
Satd. Flow (perm)	1770	5056		1770	5074			1525			845	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	2363	95	41	1360	20	33	9	127	83	10	39
RTOR Reduction (vph)	0	2	0	0	1	0	0	71	0	0	10	0
Lane Group Flow (vph)	33	2456	0	41	1379	0	0	98	0	0	122	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	115.5		7.2	115.7			22.7			22.7	
Effective Green, g (s)	6.5	115.5		7.2	115.7			22.7			22.7	
Actuated g/C Ratio	0.04	0.72		0.05	0.72			0.14			0.14	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	71	3649		79	3669			216			119	
v/s Ratio Prot	0.02	c0.49		c0.02	0.27							
v/s Ratio Perm								0.06			c0.14	
v/c Ratio	0.46	0.67		0.52	0.38			0.45			1.02	
Uniform Delay, d1	75.0	12.0		74.7	8.4			63.0			68.7	
Progression Factor	1.01	0.38		1.02	1.11			1.00			1.00	
Incremental Delay, d2	1.0	0.6		2.3	0.3			0.6			88.7	
Delay (s)	76.8	5.2		78.2	9.6			63.5			157.4	
Level of Service	E	A		E	A			E			F	
Approach Delay (s)		6.1			11.6			63.5			157.4	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1334	1175	0	806	800	0	0	0	25	0	527
Future Volume (vph)	0	1334	1175	0	806	800	0	0	0	25	0	527
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1375	1211	0	831	825	0	0	0	26	0	543
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	335
Lane Group Flow (vph)	0	1375	1211	0	831	825	0	0	0	26	0	208
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		133.1	160.0		133.1	160.0				15.8		15.8
Effective Green, g (s)		133.1	160.0		133.1	160.0				15.8		15.8
Actuated g/C Ratio		0.83	1.00		0.83	1.00				0.10		0.10
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2944	1583		2944	2787				339		275
v/s Ratio Prot		0.39			0.23					0.01		
v/s Ratio Perm			c0.76			0.30						0.07
v/c Ratio		0.47	0.77		0.28	0.30				0.08		0.76
Uniform Delay, d1		3.7	0.0		3.0	0.0				65.5		70.2
Progression Factor		1.20	1.00		0.59	1.00				1.00		1.00
Incremental Delay, d2		0.4	2.7		0.2	0.3				0.0		10.0
Delay (s)		4.8	2.7		2.0	0.3				65.5		80.2
Level of Service		A	A		A	A				E		F
Approach Delay (s)		3.8			1.1			0.0			79.6	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	383	975	0	1036	143	562	0	636	0	0	0
Future Volume (vph)	0	383	975	0	1036	143	562	0	636	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	391	995	0	1057	146	573	0	649	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	458	0	0	0
Lane Group Flow (vph)	0	391	995	0	1057	146	573	0	191	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		114.9	160.0		114.9	160.0	32.0		32.0			
Effective Green, g (s)		114.9	160.0		114.9	160.0	32.0		32.0			
Actuated g/C Ratio		0.72	1.00		0.72	1.00	0.20		0.20			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2541	1583		4601	1583	686		557			
v/s Ratio Prot		0.11			0.16		c0.17					
v/s Ratio Perm			c0.63			0.09			0.07			
v/c Ratio		0.15	0.63		0.23	0.09	0.84		0.34			
Uniform Delay, d1		7.1	0.0		7.6	0.0	61.5		55.0			
Progression Factor		1.14	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	1.7		0.1	0.1	8.3		0.1			
Delay (s)		8.3	1.7		7.7	0.1	69.8		55.1			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		3.6			6.8			62.0			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	591	204	57	30	61	70	778	606	276	303	42
Future Volume (vph)	104	591	204	57	30	61	70	778	606	276	303	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.97			0.94		1.00	0.93		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3399			3259		1770	4751		1770	4993	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3399			3259		1770	4751		1770	4993	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	109	622	215	60	32	64	74	819	638	291	319	44
RTOR Reduction (vph)	0	18	0	0	58	0	0	91	0	0	11	0
Lane Group Flow (vph)	0	928	0	0	98	0	74	1366	0	291	352	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		35.1			11.3		8.3	38.0		19.6	48.9	
Effective Green, g (s)		35.1			11.3		8.3	38.0		19.6	48.9	
Actuated g/C Ratio		0.28			0.09		0.07	0.31		0.16	0.39	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		960			296		118	1453		279	1965	
v/s Ratio Prot		c0.27			c0.03		0.04	c0.29		c0.16	0.07	
v/s Ratio Perm												
v/c Ratio		0.97			0.33		0.63	1.13dr		1.04	0.18	
Uniform Delay, d1		44.0			52.9		56.4	42.0		52.3	24.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		21.6			1.6		8.1	12.3		65.6	0.0	
Delay (s)		65.6			54.5		64.6	54.2		117.9	24.6	
Level of Service		E			D		E	D		F	C	
Approach Delay (s)		65.6			54.5			54.7			66.1	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	60.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	124.2	Sum of lost time (s)	20.6
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	127	30	5	1219	1	541	17
Future Volume (vph)	127	30	5	1219	1	541	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0	4.4	6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3320	1633	3204	4916	1652	5062	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3320	1633	3204	4916	1652	5062	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.94	0.93	0.93
Adj. Flow (vph)	137	32	5	1311	1	582	18
RTOR Reduction (vph)	2	26	0	0	0	2	0
Lane Group Flow (vph)	138	3	5	1311	1	598	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	5.3	5.3	0.6	23.7	0.7	23.8	
Effective Green, g (s)	5.3	5.3	0.6	23.7	0.7	23.8	
Actuated g/C Ratio	0.12	0.12	0.01	0.53	0.02	0.53	
Clearance Time (s)	4.9	4.9	4.4	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5	2.0	3.3	
Lane Grp Cap (vph)	391	192	42	2589	25	2677	
v/s Ratio Prot	c0.04		c0.00	c0.27	0.00	0.12	
v/s Ratio Perm		0.00					
v/c Ratio	0.35	0.02	0.12	0.51	0.04	0.22	
Uniform Delay, d1	18.3	17.5	21.9	6.9	21.8	5.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.5	0.2	0.2	0.0	
Delay (s)	18.5	17.6	22.4	7.1	22.1	5.7	
Level of Service	B	B	C	A	C	A	
Approach Delay (s)	18.3			7.1		5.7	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	7	82	6	1260	0	542	1
Future Volume (vph)	7	82	6	1260	0	542	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5084	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.91
Adj. Flow (vph)	8	89	7	1370	0	589	1
RTOR Reduction (vph)	0	78	0	0	0	0	0
Lane Group Flow (vph)	8	11	7	1370	0	590	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	5.0	5.0	0.7	25.0		19.5	
Effective Green, g (s)	5.0	5.0	0.7	25.0		19.5	
Actuated g/C Ratio	0.12	0.12	0.02	0.61		0.48	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	201	374	54	3004		2423	
v/s Ratio Prot	c0.00		0.00	c0.28		0.12	
v/s Ratio Perm		0.00					
v/c Ratio	0.04	0.03	0.13	0.46		0.24	
Uniform Delay, d1	15.8	15.8	19.8	4.3		6.3	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.0	0.4	0.1		0.1	
Delay (s)	15.9	15.8	20.2	4.4		6.4	
Level of Service	B	B	C	A		A	
Approach Delay (s)	15.8			4.5		6.4	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	40.9	Sum of lost time (s)	15.7
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	1	1254	1	1	628
Future Volume (vph)	9	1	1254	1	1	628
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		6.4	6.4	4.4	6.0
Lane Util. Factor	1.00		0.95	1.00	1.00	0.91
Frt	0.99		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1758		3539	1583	1770	5085
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1758		3539	1583	1770	5085
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	9	1	1306	1	1	654
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	9	0	1306	1	1	654
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	0.6		23.1	23.1	0.4	28.3
Effective Green, g (s)	0.6		23.1	23.1	0.4	28.3
Actuated g/C Ratio	0.02		0.58	0.58	0.01	0.71
Clearance Time (s)	4.9		6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0		3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	26		2054	918	17	3615
v/s Ratio Prot	c0.01		c0.37		0.00	c0.13
v/s Ratio Perm				0.00		
v/c Ratio	0.35		0.64	0.00	0.06	0.18
Uniform Delay, d1	19.4		5.6	3.5	19.5	1.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9		0.7	0.0	0.5	0.0
Delay (s)	22.3		6.2	3.5	20.0	1.9
Level of Service	C		A	A	C	A
Approach Delay (s)	22.3		6.2			2.0
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	39.8	Sum of lost time (s)	15.7
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	5	18	181	2	135	7	1189	104	75	651	4
Future Volume (vph)	13	5	18	181	2	135	7	1189	104	75	651	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707		1681	1529		1770	3539	1583	1770	3536	
Flt Permitted		0.98		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1707		1681	1529		1770	3539	1583	1770	3536	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	15	6	21	210	2	157	8	1383	121	87	757	5
RTOR Reduction (vph)	0	20	0	0	130	0	0	0	46	0	0	0
Lane Group Flow (vph)	0	22	0	189	50	0	8	1383	75	87	762	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		3.9		17.9	17.9		0.7	54.5	54.5	7.2	61.0	
Effective Green, g (s)		3.9		17.9	17.9		0.7	54.5	54.5	7.2	61.0	
Actuated g/C Ratio		0.04		0.17	0.17		0.01	0.53	0.53	0.07	0.59	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		64		291	264		11	1865	834	123	2086	
v/s Ratio Prot		c0.01		c0.11	0.03		0.00	c0.39		c0.05	0.22	
v/s Ratio Perm									0.05			
v/c Ratio		0.34		0.65	0.19		0.73	0.74	0.09	0.71	0.37	
Uniform Delay, d1		48.5		39.8	36.6		51.3	19.0	12.1	47.1	11.1	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.2		5.9	0.6		110.3	1.8	0.1	14.1	0.2	
Delay (s)		49.7		45.8	37.1		161.6	20.8	12.2	61.1	11.3	
Level of Service		D		D	D		F	C	B	E	B	
Approach Delay (s)		49.7			41.6			20.9			16.4	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	103.4	Sum of lost time (s)	19.9
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	83	128	665	571	59
Future Volume (vph)	137	83	128	665	571	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3489	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3489	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	151	91	141	731	627	65
RTOR Reduction (vph)	0	79	0	0	5	0
Lane Group Flow (vph)	151	12	141	731	687	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.4	13.4	8.7	81.5	68.4	
Effective Green, g (s)	13.4	13.4	8.7	81.5	68.4	
Actuated g/C Ratio	0.13	0.13	0.08	0.78	0.65	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	225	202	284	2746	2272	
v/s Ratio Prot	c0.09		c0.04	0.21	c0.20	
v/s Ratio Perm		0.01				
v/c Ratio	0.67	0.06	0.50	0.27	0.30	
Uniform Delay, d1	43.7	40.3	46.1	3.3	7.9	
Progression Factor	1.00	1.00	1.05	0.56	1.00	
Incremental Delay, d2	6.1	0.0	0.5	0.2	0.3	
Delay (s)	49.8	40.3	48.6	2.1	8.3	
Level of Service	D	D	D	A	A	
Approach Delay (s)	46.2			9.6	8.3	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	215	208	48	134	75	178	692	101	105	562	39
Future Volume (vph)	23	215	208	48	134	75	178	692	101	105	562	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3278		1770	3349		3433	3472		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3278		1770	3349		3433	3472		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	226	219	51	141	79	187	728	106	111	592	41
RTOR Reduction (vph)	0	190	0	0	66	0	0	8	0	0	3	0
Lane Group Flow (vph)	24	255	0	51	154	0	187	826	0	111	630	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.3	14.1		5.7	17.5		10.1	55.3		10.9	56.1	
Effective Green, g (s)	2.3	14.1		5.7	17.5		10.1	55.3		10.9	56.1	
Actuated g/C Ratio	0.02	0.13		0.05	0.17		0.10	0.53		0.10	0.53	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	38	440		96	558		330	1828		183	1872	
v/s Ratio Prot	0.01	c0.08		c0.03	c0.05		0.05	c0.24		c0.06	0.18	
v/s Ratio Perm												
v/c Ratio	0.63	0.58		0.53	0.28		0.57	0.45		0.61	0.34	
Uniform Delay, d1	50.9	42.7		48.3	38.2		45.4	15.4		45.0	13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.47		1.18	0.74	
Incremental Delay, d2	22.5	1.3		2.8	0.1		1.2	0.7		3.8	0.5	
Delay (s)	73.4	43.9		51.2	38.3		53.9	8.0		56.9	10.8	
Level of Service	E	D		D	D		D	A		E	B	
Approach Delay (s)		45.4			40.7			16.4			17.6	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	291	120	22	46	25	53	864	48	55	740	28
Future Volume (vph)	87	291	120	22	46	25	53	864	48	55	740	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1765		1770	3511		1770	3520	
Flt Permitted	0.64	1.00		0.18	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1184	1781		338	1765		1770	3511		1770	3520	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	91	303	125	23	48	26	55	900	50	57	771	29
RTOR Reduction (vph)	0	15	0	0	20	0	0	3	0	0	2	0
Lane Group Flow (vph)	91	413	0	23	54	0	55	947	0	57	798	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.6	28.0		26.8	25.1		6.4	49.9		6.4	49.9	
Effective Green, g (s)	32.6	28.0		26.8	25.1		6.4	49.9		6.4	49.9	
Actuated g/C Ratio	0.31	0.27		0.26	0.24		0.06	0.48		0.06	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	393	474		109	421		107	1668		107	1672	
v/s Ratio Prot	c0.01	c0.23		0.00	0.03		0.03	c0.27		c0.03	0.23	
v/s Ratio Perm	0.06			0.05								
v/c Ratio	0.23	0.87		0.21	0.13		0.51	0.57		0.53	0.48	
Uniform Delay, d1	26.4	36.8		30.8	31.4		47.8	19.8		47.8	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.38	0.29		1.20	0.66	
Incremental Delay, d2	0.1	15.5		0.4	0.1		1.1	0.9		2.4	0.9	
Delay (s)	26.5	52.2		31.1	31.4		67.2	6.6		59.9	13.2	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		47.7			31.4			9.9			16.3	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	322	178	26	104	62	80	857	74	183	578	92
Future Volume (vph)	71	322	178	26	104	62	80	857	74	183	578	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1763		1770	1759		1770	3497		1770	3466	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1763		1770	1759		1770	3497		1770	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	350	193	28	113	67	87	932	80	199	628	100
RTOR Reduction (vph)	0	19	0	0	20	0	0	6	0	0	11	0
Lane Group Flow (vph)	77	524	0	28	160	0	87	1006	0	199	717	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.9	32.7		2.5	29.3		8.0	37.4		13.5	42.9	
Effective Green, g (s)	5.9	32.7		2.5	29.3		8.0	37.4		13.5	42.9	
Actuated g/C Ratio	0.06	0.31		0.02	0.28		0.08	0.36		0.13	0.41	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	99	549		42	490		134	1245		227	1416	
v/s Ratio Prot	c0.04	c0.30		0.02	0.09		0.05	c0.29		c0.11	0.21	
v/s Ratio Perm												
v/c Ratio	0.78	0.95		0.67	0.33		0.65	0.81		0.88	0.51	
Uniform Delay, d1	48.9	35.4		50.8	30.0		47.1	30.6		44.9	23.2	
Progression Factor	1.00	1.00		1.00	1.00		1.30	0.78		1.32	0.63	
Incremental Delay, d2	28.7	26.9		26.8	0.1		6.7	4.9		26.3	1.2	
Delay (s)	77.6	62.3		77.6	30.2		67.8	28.6		85.4	15.8	
Level of Service	E	E		E	C		E	C		F	B	
Approach Delay (s)		64.2			36.5			31.7			30.8	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	39	1	35	3	1086	243	68	721	6
Future Volume (vph)	0	0	4	39	1	35	3	1086	243	68	721	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	3442		1770	3535	
Flt Permitted		1.00			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1358	1583	1770	3442		1770	3535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	4	41	1	37	3	1155	259	72	767	6
RTOR Reduction (vph)	0	4	0	0	0	34	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	42	3	3	1403	0	72	773	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		9.4			9.4	9.4	1.1	73.3		7.6	80.0	
Effective Green, g (s)		9.4			9.4	9.4	1.1	73.3		7.6	80.0	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.70		0.07	0.76	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		144			121	141	18	2402		128	2693	
v/s Ratio Prot		0.00					0.00	c0.41		c0.04	0.22	
v/s Ratio Perm					c0.03	0.00						
v/c Ratio		0.00			0.35	0.02	0.17	0.58		0.56	0.29	
Uniform Delay, d1		43.5			44.9	43.6	51.5	8.1		47.1	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.90	1.38	
Incremental Delay, d2		0.0			4.1	0.2	1.6	1.0		2.7	0.2	
Delay (s)		43.5			49.0	43.8	53.1	9.1		44.9	5.5	
Level of Service		D			D	D	D	A		D	A	
Approach Delay (s)		43.5			46.6			9.2			8.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	58	22	1301	757	5
Future Volume (vph)	33	58	22	1301	757	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3536	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	61	23	1369	797	5
RTOR Reduction (vph)	0	58	0	0	0	0
Lane Group Flow (vph)	35	3	23	1369	802	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.2	5.2	4.3	109.0	99.2	
Effective Green, g (s)	5.2	5.2	4.3	109.0	99.2	
Actuated g/C Ratio	0.04	0.04	0.03	0.87	0.79	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	142	65	60	3086	2806	
v/s Ratio Prot	c0.01		0.01	c0.39	0.23	
v/s Ratio Perm		0.00				
v/c Ratio	0.25	0.04	0.38	0.44	0.29	
Uniform Delay, d1	58.0	57.5	59.1	1.7	3.4	
Progression Factor	1.00	1.00	1.22	0.30	1.00	
Incremental Delay, d2	0.3	0.1	1.3	0.4	0.3	
Delay (s)	58.3	57.6	73.4	0.9	3.7	
Level of Service	E	E	E	A	A	
Approach Delay (s)	57.9			2.1	3.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	4	744	9	2	5	81	976	11	5	749	70
Future Volume (vph)	349	4	744	9	2	5	81	976	11	5	749	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	360	4	767	9	2	5	84	1006	11	5	772	72
RTOR Reduction (vph)	0	0	114	0	5	0	0	0	7	0	5	0
Lane Group Flow (vph)	184	180	653	0	11	0	84	1006	4	5	839	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	54.5	54.5	54.5		1.6		8.7	47.9	47.9	0.8	40.0	
Effective Green, g (s)	54.5	54.5	54.5		1.6		8.7	47.9	47.9	0.8	40.0	
Actuated g/C Ratio	0.44	0.44	0.44		0.01		0.07	0.38	0.38	0.01	0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	732	735	690		22		123	1356	606	11	1118	
v/s Ratio Prot	0.11	0.11			c0.01		c0.05	c0.28		0.00	0.24	
v/s Ratio Perm			c0.41						0.00			
v/c Ratio	0.25	0.24	0.95		0.50		0.68	0.74	0.01	0.45	0.75	
Uniform Delay, d1	22.3	22.3	33.8		61.3		56.8	33.2	23.8	61.9	38.0	
Progression Factor	1.00	1.00	1.00		1.00		0.60	1.24	1.00	0.98	0.93	
Incremental Delay, d2	0.1	0.1	21.7		6.4		3.7	1.1	0.0	10.2	4.5	
Delay (s)	22.4	22.3	55.5		67.7		37.9	42.5	23.8	70.8	40.1	
Level of Service	C	C	E		E		D	D	C	E	D	
Approach Delay (s)		44.8			67.7			41.9			40.2	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	47	0	237	11	819	189	924	567	10
Future Volume (vph)	0	13	1	47	0	237	11	819	189	924	567	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3440		1770	3530	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3440		1770	3530	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	48	0	244	11	844	195	953	585	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	16	0	0	1	0
Lane Group Flow (vph)	0	13	0	0	48	238	11	1023	0	953	594	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.0			12.0	84.5	1.4	31.1		67.6	97.3	
Effective Green, g (s)		12.0			12.0	84.5	1.4	31.1		67.6	97.3	
Actuated g/C Ratio		0.10			0.10	0.68	0.01	0.25		0.54	0.78	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		177			133	1070	19	855		957	2747	
v/s Ratio Prot		0.01				0.15	0.01	c0.30		c0.54	0.17	
v/s Ratio Perm					c0.03							
v/c Ratio		0.07			0.36	0.22	0.58	1.20		1.00	0.22	
Uniform Delay, d1		51.4			52.9	7.7	61.5	46.9		28.6	3.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.88	0.78	
Incremental Delay, d2		0.1			0.6	0.0	23.8	99.9		20.7	0.1	
Delay (s)		51.5			53.5	7.8	85.3	146.8		45.8	3.0	
Level of Service		D			D	A	F	F		D	A	
Approach Delay (s)		51.5			15.3			146.2			29.3	
Approach LOS		D			B			F			C	

Intersection Summary			
HCM 2000 Control Delay	70.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Existing Plus Project Phase 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	852	2281	633	32	984	96	67	66	13	56	51	117
Future Volume (vph)	852	2281	633	32	984	96	67	66	13	56	51	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	6.4	6.2		5.9	4.9		6.3	5.3	6.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6323		2841	3014		3204	1594	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6323		2841	3014		3204	1594	2882
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	906	2427	673	34	1047	102	71	70	14	60	54	124
RTOR Reduction (vph)	0	0	110	0	6	0	0	7	0	0	0	0
Lane Group Flow (vph)	906	2427	563	34	1143	0	64	84	0	60	66	112
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	60.4	134.1	134.1	7.4	80.9		13.0	13.0		14.9	14.9	80.6
Effective Green, g (s)	60.4	134.1	134.1	5.4	80.9		12.0	13.0		13.9	14.9	79.6
Actuated g/C Ratio	0.32	0.71	0.71	0.03	0.43		0.06	0.07		0.07	0.08	0.42
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1018	3469	1117	46	2692		179	206		234	125	1207
v/s Ratio Prot	c0.28	c0.49		0.02	0.18		0.02	c0.03		0.02	c0.04	0.04
v/s Ratio Perm			0.36									
v/c Ratio	0.89	0.70	0.50	0.74	0.42		0.36	0.41		0.26	0.53	0.09
Uniform Delay, d1	61.6	16.2	12.8	91.6	38.2		85.3	84.8		83.2	84.2	33.4
Progression Factor	1.00	1.00	1.00	1.08	0.17		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.7	1.2	1.6	38.4	0.5		2.9	3.1		0.8	5.4	0.0
Delay (s)	71.3	17.4	14.4	137.8	6.9		88.2	87.9		84.0	89.6	33.4
Level of Service	E	B	B	F	A		F	F		F	F	C
Approach Delay (s)		29.1			10.7			88.0			61.7	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	2085	40	157	1044	482	6	20	25	55	17	48
Future Volume (vph)	242	2085	40	157	1044	482	6	20	25	55	17	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4844		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4844		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	255	2195	42	165	1099	507	6	21	26	58	18	51
RTOR Reduction (vph)	0	1	0	0	28	0	0	0	25	0	0	47
Lane Group Flow (vph)	255	2236	0	165	1578	0	6	21	1	58	18	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	19.5	139.2		14.1	133.6		1.9	8.9	8.9	7.6	14.3	14.3
Effective Green, g (s)	19.5	139.2		14.1	133.6		1.9	8.9	8.9	7.6	14.3	14.3
Actuated g/C Ratio	0.10	0.73		0.07	0.70		0.01	0.05	0.05	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	328	3715		237	3406		16	81	74	128	140	119
v/s Ratio Prot	c0.08	c0.44		0.05	0.33		0.00	c0.01		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.78	0.60		0.70	0.46		0.38	0.26	0.02	0.45	0.13	0.03
Uniform Delay, d1	83.1	12.1		85.9	12.4		93.5	87.4	86.4	89.2	82.0	81.4
Progression Factor	0.92	0.71		1.05	2.56		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.5	0.5		5.2	0.3		14.1	1.4	0.1	0.9	0.2	0.1
Delay (s)	84.2	9.1		95.5	32.1		107.6	88.8	86.4	90.1	82.3	81.5
Level of Service	F	A		F	C		F	F	F	F	F	F
Approach Delay (s)		16.8			38.0			89.8			85.5	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	548	1180	326	307	1537	1164	29	67	91	100	26	100
Future Volume (vph)	548	1180	326	307	1537	1164	29	67	91	100	26	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4920		1652	5085	1583	1652	3088	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4920		1652	5085	1583	1652	3088	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	565	1216	336	316	1585	1200	30	69	94	103	27	103
RTOR Reduction (vph)	0	19	0	0	0	0	0	40	48	0	0	95
Lane Group Flow (vph)	565	1533	0	316	1585	1200	30	72	3	103	27	8
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	69.6	110.3		40.8	81.6	190.0	4.8	11.1	11.1	8.1	14.4	14.4
Effective Green, g (s)	69.6	110.3		40.8	81.6	190.0	4.8	11.1	11.1	8.1	14.4	14.4
Actuated g/C Ratio	0.37	0.58		0.21	0.43	1.00	0.03	0.06	0.06	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	605	2856		354	2183	1583	41	180	86	136	295	119
v/s Ratio Prot	c0.34	0.31		c0.19	0.31		0.02	0.02		0.03	0.01	
v/s Ratio Perm						c0.76			0.00			0.00
v/c Ratio	0.93	0.54		0.89	0.73	0.76	0.73	0.40	0.03	0.76	0.09	0.07
Uniform Delay, d1	58.0	24.3		72.5	44.9	0.0	92.0	86.2	84.4	90.0	81.7	81.6
Progression Factor	1.06	1.34		1.03	0.52	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.6	0.6		15.3	1.3	2.1	49.4	1.8	0.2	19.0	0.3	0.5
Delay (s)	80.1	33.1		90.2	24.7	2.1	141.4	88.0	84.6	109.0	82.0	82.0
Level of Service	F	C		F	C	A	F	F	F	F	F	F
Approach Delay (s)		45.6			22.6			95.4			93.9	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	303	813	277	94	2527	66	81	6	15	10	14	227
Future Volume (vph)	303	813	277	94	2527	66	81	6	15	10	14	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	1770	4891		1770	5066		1681	1644		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	1770	4891		1770	5066		1681	1644		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	312	838	286	97	2605	68	84	6	15	10	14	234
RTOR Reduction (vph)	0	21	0	0	1	0	0	9	0	0	0	118
Lane Group Flow (vph)	312	1103	0	97	2672	0	53	43	0	10	14	116
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	41.7	139.3		14.8	112.6		10.4	10.4		5.3	5.3	47.0
Effective Green, g (s)	41.7	139.3		14.8	112.6		10.4	10.4		5.3	5.3	47.0
Actuated g/C Ratio	0.22	0.73		0.08	0.59		0.05	0.05		0.03	0.03	0.25
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	388	3585		137	3002		92	89		46	51	391
v/s Ratio Prot	c0.18	0.23		0.05	c0.53		c0.03	0.03		0.01	0.01	c0.07
v/s Ratio Perm												
v/c Ratio	0.80	0.31		0.71	0.89		0.58	0.49		0.22	0.27	0.30
Uniform Delay, d1	70.3	8.7		85.5	33.4		87.6	87.2		90.3	90.5	58.1
Progression Factor	0.92	2.43		1.20	0.61		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.5	0.2		8.1	2.8		5.3	1.5		0.9	1.1	0.2
Delay (s)	74.2	21.4		110.8	23.3		93.0	88.8		91.2	91.5	58.2
Level of Service	E	C		F	C		F	F		F	F	E
Approach Delay (s)		32.9			26.4			90.9			61.3	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	710	42	141	2684	156	7	4	30	41	8	34
Future Volume (vph)	92	710	42	141	2684	156	7	4	30	41	8	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5042		1770	5043		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5042		1770	5043		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	98	755	45	150	2855	166	7	4	32	44	9	36
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	31	0	0	33
Lane Group Flow (vph)	98	798	0	150	3019	0	7	4	1	44	9	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.0	135.6		20.4	141.3		0.8	8.2	8.2	6.1	13.5	13.5
Effective Green, g (s)	15.0	135.6		20.4	141.3		0.8	8.2	8.2	6.1	13.5	13.5
Actuated g/C Ratio	0.08	0.71		0.11	0.74		0.00	0.04	0.04	0.03	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	139	3598		190	3750		7	80	68	56	132	112
v/s Ratio Prot	0.06	0.16		c0.08	c0.60		0.00	0.00		c0.02	c0.00	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.71	0.22		0.79	0.81		1.00	0.05	0.02	0.79	0.07	0.02
Uniform Delay, d1	85.3	9.3		82.7	15.6		94.6	87.2	87.1	91.3	82.4	82.1
Progression Factor	1.15	0.19		1.01	0.31		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.1	0.1		9.4	0.9		340.2	0.1	0.0	47.4	0.1	0.0
Delay (s)	110.5	1.9		93.3	5.7		434.8	87.3	87.1	138.7	82.5	82.1
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		13.8			9.9			143.7			110.1	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	445	297	41	2721	144	340	46	34	19	17	34
Future Volume (vph)	60	445	297	41	2721	144	340	46	34	19	17	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4780		1652	5047		1625	1704	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4780		1652	5047		1625	1704	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	454	303	42	2777	147	347	47	35	19	17	35
RTOR Reduction (vph)	0	39	0	0	2	0	0	0	30	0	0	34
Lane Group Flow (vph)	61	718	0	42	2922	0	194	200	5	19	17	1
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	14.4	128.0		8.2	121.3		27.0	27.0	27.0	6.6	6.6	6.6
Effective Green, g (s)	14.4	128.0		8.2	121.3		27.0	27.0	27.0	6.6	6.6	6.6
Actuated g/C Ratio	0.08	0.67		0.04	0.64		0.14	0.14	0.14	0.03	0.03	0.03
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	125	3220		71	3222		230	242	224	57	64	58
v/s Ratio Prot	c0.04	0.15		0.03	c0.58		c0.12	0.12		c0.01	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.22		0.59	0.91		0.84	0.83	0.02	0.33	0.27	0.02
Uniform Delay, d1	84.3	11.9		89.3	29.5		79.4	79.2	70.1	89.6	89.3	88.6
Progression Factor	1.19	0.19		1.30	0.39		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2		6.3	3.7		22.7	19.2	0.0	3.4	2.2	0.1
Delay (s)	101.4	2.4		122.1	15.2		102.1	98.4	70.2	93.0	91.6	88.7
Level of Service	F	A		F	B		F	F	E	F	F	F
Approach Delay (s)		9.8			16.7			97.8			90.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	306	76	44	2630	73	163	24	56	4	11	15
Future Volume (vph)	30	306	76	44	2630	73	163	24	56	4	11	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.89		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4933		1770	5065		3433	1666		1770	1702	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4933		1770	5065		3433	1666		1770	1702	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	31	312	78	45	2684	74	166	24	57	4	11	15
RTOR Reduction (vph)	0	14	0	0	1	0	0	51	0	0	14	0
Lane Group Flow (vph)	31	376	0	45	2757	0	166	30	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.8	141.5		8.2	142.9		12.9	19.8		0.8	7.7	
Effective Green, g (s)	6.8	141.5		8.2	142.9		12.9	19.8		0.8	7.7	
Actuated g/C Ratio	0.04	0.74		0.04	0.75		0.07	0.10		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	63	3673		76	3809		233	173		7	68	
v/s Ratio Prot	0.02	0.08		c0.03	c0.54		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.49	0.10		0.59	0.72		0.71	0.17		0.57	0.17	
Uniform Delay, d1	89.9	6.7		89.3	12.8		86.7	77.6		94.4	88.1	
Progression Factor	0.86	0.63		1.24	0.14		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.1		2.1	0.3		8.3	0.2		55.0	0.4	
Delay (s)	79.7	4.3		112.7	2.1		95.0	77.8		149.4	88.5	
Level of Service	E	A		F	A		F	E		F	F	
Approach Delay (s)		9.8			3.9			89.4			96.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	299	103	731	2665	328	178	160	156	108	280	58
Future Volume (vph)	23	299	103	731	2665	328	178	160	156	108	280	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4890		1652	5002		1652	3421	1531	3204	3448	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4890		1652	5002		1652	3421	1531	3204	3448	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	23	305	105	746	2719	335	182	163	159	110	286	59
RTOR Reduction (vph)	0	32	0	0	8	0	0	0	31	0	10	0
Lane Group Flow (vph)	23	378	0	746	3046	0	182	163	128	110	335	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.9	32.9		85.2	114.1		26.7	40.7	131.9	10.3	23.9	
Effective Green, g (s)	3.9	32.9		85.2	114.1		26.7	40.7	131.9	10.3	23.9	
Actuated g/C Ratio	0.02	0.17		0.45	0.60		0.14	0.21	0.69	0.05	0.13	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	33	846		740	3003		232	732	1062	173	433	
v/s Ratio Prot	0.01	0.08		c0.45	c0.61		c0.11	0.05	0.08	0.03	c0.10	
v/s Ratio Perm												
v/c Ratio	0.70	0.45		1.01	1.01		0.78	0.22	0.12	0.64	0.77	
Uniform Delay, d1	92.5	70.4		52.4	38.0		78.9	61.6	9.7	88.0	80.4	
Progression Factor	1.00	1.00		0.76	0.54		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	40.7	0.6		24.7	15.0		15.8	0.2	0.1	5.5	8.5	
Delay (s)	133.3	71.3		64.5	35.3		94.7	61.8	9.8	93.5	89.0	
Level of Service	F	E		E	D		F	E	A	F	F	
Approach Delay (s)		74.6			41.1			57.3			90.1	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	542	11	30	3551	22	34	6	45	62	5	111
Future Volume (vph)	22	542	11	30	3551	22	34	6	45	62	5	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		5.4	6.0			4.9	4.9	5.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5071		1770	5081			1786	1583	1770	1595	
Flt Permitted	0.95	1.00		0.95	1.00			0.33	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5071		1770	5081			606	1583	1360	1595	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	23	559	11	31	3661	23	35	6	46	64	5	114
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	42	0	34	0
Lane Group Flow (vph)	23	569	0	31	3684	0	0	41	4	64	85	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.5	153.4		6.8	153.7			14.5	14.5	14.5	14.5	
Effective Green, g (s)	5.5	153.4		5.8	153.7			14.5	14.5	13.5	14.5	
Actuated g/C Ratio	0.03	0.81		0.03	0.81			0.08	0.08	0.07	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	51	4094		54	4110			46	120	96	121	
v/s Ratio Prot	0.01	0.11		c0.02	c0.73						0.05	
v/s Ratio Perm								c0.07	0.00	0.05		
v/c Ratio	0.45	0.14		0.57	0.90			0.89	0.03	0.67	0.70	
Uniform Delay, d1	90.8	4.0		90.9	12.6			87.0	81.2	86.1	85.6	
Progression Factor	0.82	2.93		1.11	0.14			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.2	0.1		4.2	1.7			90.4	0.0	12.7	13.9	
Delay (s)	77.0	11.7		104.9	3.4			177.3	81.3	98.8	99.5	
Level of Service	E	B		F	A			F	F	F	F	
Approach Delay (s)		14.2			4.3			126.5			99.3	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	591	9	18	3539	31	15	9	38	111	13	37
Future Volume (vph)	7	591	9	18	3539	31	15	9	38	111	13	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5074		1770	5079			1688		1770	1655	
Flt Permitted	0.95	1.00		0.95	1.00			0.92		0.63	1.00	
Satd. Flow (perm)	1770	5074		1770	5079			1576		1180	1655	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	609	9	19	3648	32	16	9	39	114	13	38
RTOR Reduction (vph)	0	1	0	0	0	0	0	32	0	0	34	0
Lane Group Flow (vph)	7	617	0	19	3680	0	0	32	0	114	17	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	148.6		4.6	151.5			21.5		21.5	21.5	
Effective Green, g (s)	1.4	148.6		4.6	151.5			21.5		21.5	21.5	
Actuated g/C Ratio	0.01	0.78		0.02	0.80			0.11		0.11	0.11	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	3968		42	4049			178		133	187	
v/s Ratio Prot	0.00	0.12		c0.01	c0.72						0.01	
v/s Ratio Perm								0.02		c0.10		
v/c Ratio	0.54	0.16		0.45	0.91			0.18		0.86	0.09	
Uniform Delay, d1	94.0	5.1		91.5	14.2			76.3		82.7	75.5	
Progression Factor	1.43	0.36		1.10	0.28			1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.1		0.8	1.2			0.2		37.5	0.1	
Delay (s)	154.5	1.9		101.5	5.2			76.4		120.2	75.6	
Level of Service	F	A		F	A			E		F	E	
Approach Delay (s)		3.6			5.7			76.4			106.4	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	704	30	52	3322	33	94	30	75	66	87	196
Future Volume (vph)	46	704	30	52	3322	33	94	30	75	66	87	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5054		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5054		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	47	726	31	54	3425	34	97	31	77	68	90	202
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	69	0	0	87
Lane Group Flow (vph)	47	755	0	54	3459	0	97	31	8	68	90	115
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.3	131.7		8.9	129.8		11.7	19.5	19.5	10.2	18.0	18.0
Effective Green, g (s)	10.3	131.7		8.9	129.8		11.7	19.5	19.5	10.2	18.0	18.0
Actuated g/C Ratio	0.05	0.69		0.05	0.68		0.06	0.10	0.10	0.05	0.09	0.09
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	95	3503		82	3469		108	191	162	95	176	149
v/s Ratio Prot	0.03	0.15		c0.03	c0.68		c0.05	0.02		0.04	0.05	
v/s Ratio Perm									0.00			c0.07
v/c Ratio	0.49	0.22		0.66	1.00		0.90	0.16	0.05	0.72	0.51	0.77
Uniform Delay, d1	87.3	10.5		89.1	29.9		88.6	77.8	76.9	88.5	81.8	84.0
Progression Factor	1.07	0.30		1.16	0.20		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.1		4.4	7.8		54.1	0.1	0.0	19.1	1.0	19.9
Delay (s)	94.7	3.3		108.1	13.7		142.6	77.9	76.9	107.6	82.9	103.9
Level of Service	F	A		F	B		F	E	E	F	F	F
Approach Delay (s)		8.7			15.2			108.2			99.3	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	650	67	21	2940	14	154	45	16	52	119	213
Future Volume (vph)	41	650	67	21	2940	14	154	45	16	52	119	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3400		1770	3199	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3400		1770	3199	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	44	691	71	22	3128	15	164	48	17	55	127	227
RTOR Reduction (vph)	0	6	0	0	0	6	0	15	0	0	51	0
Lane Group Flow (vph)	44	756	0	22	3128	9	164	50	0	55	303	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	6.1	120.0		4.0	117.9	117.9	21.7	21.7		24.4	24.4	
Effective Green, g (s)	6.1	120.0		4.0	117.9	117.9	21.7	21.7		24.4	24.4	
Actuated g/C Ratio	0.03	0.63		0.02	0.62	0.62	0.11	0.11		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	56	3166		37	3155	982	202	388		227	410	
v/s Ratio Prot	c0.02	0.15		0.01	c0.62		c0.09	0.01		0.03	c0.09	
v/s Ratio Perm						0.01						
v/c Ratio	0.79	0.24		0.59	0.99	0.01	0.81	0.13		0.24	0.89dr	
Uniform Delay, d1	91.3	15.2		92.2	35.6	13.8	82.2	75.7		74.5	79.7	
Progression Factor	0.75	1.71		1.31	0.29	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	46.7	0.2		4.1	6.2	0.0	22.1	0.2		0.8	7.4	
Delay (s)	115.3	26.1		124.7	16.6	13.8	104.2	75.8		75.3	87.1	
Level of Service	F	C		F	B	B	F	E		E	F	
Approach Delay (s)		30.9			17.4			96.2			85.6	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	749	23	168	2668	121	84	282	140	395	483	200
Future Volume (vph)	81	749	23	168	2668	121	84	282	140	395	483	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4725		3204	4916	1478	1711	4746	1478	3433	3384	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4725		3204	4916	1478	1711	4746	1478	3433	3384	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	86	797	24	179	2838	129	89	300	149	420	514	213
RTOR Reduction (vph)	0	1	0	0	0	39	0	0	124	0	24	0
Lane Group Flow (vph)	86	820	0	179	2838	90	89	300	25	420	703	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	6.4	100.3		14.5	108.5	108.5	11.2	32.3	32.3	23.1	44.0	
Effective Green, g (s)	6.4	100.3		14.5	108.5	108.5	11.2	32.3	32.3	23.1	44.0	
Actuated g/C Ratio	0.03	0.53		0.08	0.57	0.57	0.06	0.17	0.17	0.12	0.23	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	107	2494		244	2807	844	100	806	251	417	783	
v/s Ratio Prot	0.03	0.17		c0.06	c0.58		0.05	0.06		c0.12	c0.21	
v/s Ratio Perm						0.06			0.02			
v/c Ratio	0.80	0.33		0.73	1.01	0.11	0.89	0.37	0.10	1.01	0.90	
Uniform Delay, d1	91.2	25.6		85.9	40.8	18.6	88.8	69.9	66.6	83.5	70.8	
Progression Factor	0.97	0.97		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	32.0	0.3		9.4	19.7	0.3	55.2	0.5	0.3	45.9	13.4	
Delay (s)	120.2	25.3		95.3	60.5	18.9	144.0	70.4	66.9	129.3	84.2	
Level of Service	F	C		F	E	B	F	E	E	F	F	
Approach Delay (s)		34.3			60.8			81.6			100.7	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	66.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	242	396	121	83	55	97
Future Volume (vph)	242	396	121	83	55	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3324		1717	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3324		1717	1504
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	266	435	133	91	60	107
RTOR Reduction (vph)	0	0	75	0	23	33
Lane Group Flow (vph)	266	435	149	0	64	47
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	13.2	24.3	7.1		5.4	23.1
Effective Green, g (s)	13.2	24.3	7.1		5.4	23.1
Actuated g/C Ratio	0.34	0.62	0.18		0.14	0.59
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	596	1154	602		236	886
v/s Ratio Prot	c0.15	c0.23	0.04		c0.04	0.03
v/s Ratio Perm						
v/c Ratio	0.45	0.38	0.25		0.27	0.05
Uniform Delay, d1	10.1	3.7	13.8		15.1	3.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.4	0.5		0.6	0.0
Delay (s)	10.3	4.1	14.2		15.8	3.4
Level of Service	B	A	B		B	A
Approach Delay (s)		6.5	14.2		9.9	
Approach LOS		A	B		A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	39.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	273	6	47	668	187	1	1	8	39	1	9
Future Volume (vph)	53	273	6	47	668	187	1	1	8	39	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1857		1770	1802			1653			1748	
Flt Permitted	0.25	1.00		0.58	1.00			1.00			1.00	
Satd. Flow (perm)	475	1857		1088	1802			1662			1817	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	281	6	48	689	193	1	1	8	40	1	9
RTOR Reduction (vph)	0	1	0	0	10	0	0	8	0	0	9	0
Lane Group Flow (vph)	55	286	0	48	872	0	0	2	0	0	41	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	26.8	26.8		26.2	26.2			2.1			2.1	
Effective Green, g (s)	26.8	26.8		26.2	26.2			2.1			2.1	
Actuated g/C Ratio	0.69	0.69		0.68	0.68			0.05			0.05	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	328	1285		736	1219			90			98	
v/s Ratio Prot		0.15			c0.48							
v/s Ratio Perm	0.12			0.04				0.00			c0.02	
v/c Ratio	0.17	0.22		0.07	0.72			0.03			0.42	
Uniform Delay, d1	2.1	2.2		2.1	3.9			17.3			17.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	2.0			0.0			1.1	
Delay (s)	2.3	2.2		2.1	5.9			17.4			18.8	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		2.2			5.7			17.4			18.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	10.4
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	125	127	61	310	89	317	467	99	194	976	351
Future Volume (vph)	62	125	127	61	310	89	317	467	99	194	976	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2040		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2040		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	67	134	137	66	333	96	341	502	106	209	1049	377
RTOR Reduction (vph)	0	0	90	0	7	0	0	0	41	0	0	68
Lane Group Flow (vph)	67	134	47	66	422	0	341	502	65	209	1049	309
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	15.7	15.7	45.7	29.8	29.8		30.0	49.2	79.0	16.4	35.6	57.0
Effective Green, g (s)	15.7	15.7	45.7	29.8	29.8		30.0	49.2	79.0	16.4	35.6	57.0
Actuated g/C Ratio	0.12	0.12	0.35	0.23	0.23		0.23	0.37	0.60	0.12	0.27	0.43
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	196	206	530	372	460		388	1231	947	205	922	661
v/s Ratio Prot	0.04	c0.08	0.03	0.04	c0.21		c0.20	0.15	0.04	c0.13	c0.31	0.20
v/s Ratio Perm												
v/c Ratio	0.34	0.65	0.09	0.18	0.92		0.88	0.41	0.07	1.02	1.14	0.47
Uniform Delay, d1	53.4	55.5	29.1	41.2	49.9		49.2	30.6	11.1	57.8	48.2	26.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	5.9	0.0	0.2	23.0		19.1	0.3	0.0	68.0	75.3	0.7
Delay (s)	53.9	61.4	29.2	41.4	72.9		68.3	30.9	11.1	125.8	123.5	27.4
Level of Service	D	E	C	D	E		E	C	B	F	F	C
Approach Delay (s)		46.8			68.7			42.1			101.6	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	74.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	105	1	12	0	528	177	19	238	1
Future Volume (vph)	0	0	1	105	1	12	0	528	177	19	238	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.5	5.5		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1862	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1862	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	1	118	1	13	0	593	199	21	267	1
RTOR Reduction (vph)	0	1	0	0	0	11	0	0	54	0	0	0
Lane Group Flow (vph)	0	0	0	0	119	2	0	593	145	21	268	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.6			8.0	8.0		24.0	36.5	0.5	28.5	
Effective Green, g (s)		0.6			8.0	7.0		24.0	36.5	0.5	28.5	
Actuated g/C Ratio		0.01			0.16	0.14		0.48	0.73	0.01	0.57	
Clearance Time (s)		4.0			4.5	4.5		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		19			283	221		892	1153	17	1059	
v/s Ratio Prot		c0.00			c0.07			c0.32	0.09	c0.01	0.14	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.42	0.01		0.66	0.13	1.24	0.25	
Uniform Delay, d1		24.5			19.0	18.6		10.0	2.0	24.8	5.4	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.4	0.0		1.9	0.0	301.3	0.1	
Delay (s)		24.5			19.3	18.6		11.9	2.1	326.1	5.6	
Level of Service		C			B	B		B	A	F	A	
Approach Delay (s)		24.5			19.3			9.4			28.9	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	17.5
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	228	62	86	621	35	200	90	79	3	12	20
Future Volume (vph)	122	228	62	86	621	35	200	90	79	3	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3512		1770	1863	1583	1770	1687	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3429		1770	3512		1770	1863	1583	1770	1687	
Peak-hour factor, PHF	0.89	0.89	0.92	0.89	0.89	0.92	0.89	0.89	0.89	0.89	0.89	0.92
Adj. Flow (vph)	137	256	67	97	698	38	225	101	89	3	13	22
RTOR Reduction (vph)	0	25	0	0	4	0	0	0	59	0	21	0
Lane Group Flow (vph)	137	298	0	97	732	0	225	101	30	3	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	6.9	21.9		4.3	19.8		7.5	9.4	18.6	0.6	2.5	
Effective Green, g (s)	6.9	21.9		4.3	19.8		7.5	9.4	18.6	0.6	2.5	
Actuated g/C Ratio	0.12	0.39		0.08	0.35		0.13	0.17	0.33	0.01	0.04	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	218	1340		135	1241		237	312	525	18	75	
v/s Ratio Prot	c0.08	c0.09		0.05	c0.21		c0.13	c0.05	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.63	0.22		0.72	0.59		0.95	0.32	0.06	0.17	0.19	
Uniform Delay, d1	23.3	11.4		25.3	14.8		24.1	20.5	12.7	27.5	25.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.0	0.1		14.1	0.7		43.6	0.2	0.0	1.6	0.4	
Delay (s)	27.4	11.4		39.3	15.5		67.7	20.7	12.7	29.0	26.2	
Level of Service	C	B		D	B		E	C	B	C	C	
Approach Delay (s)		16.2			18.3			44.5			26.4	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	56.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	1234	79	34	1127	440	21	25	26	57	13	49
Future Volume (vph)	136	1234	79	34	1127	440	21	25	26	57	13	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3041	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3041	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Adj. Flow (vph)	151	1371	88	38	1252	489	23	28	29	63	14	53
RTOR Reduction (vph)	0	0	27	0	32	0	0	0	28	0	48	0
Lane Group Flow (vph)	151	1371	61	38	1709	0	21	30	1	45	37	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	16.2	97.0	97.0	5.1	85.9		6.0	6.0	6.0	12.4	12.4	
Effective Green, g (s)	16.2	97.0	97.0	5.1	85.9		6.0	6.0	6.0	12.4	12.4	
Actuated g/C Ratio	0.12	0.69	0.69	0.04	0.61		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	204	3523	1096	125	2988		72	75	67	142	269	
v/s Ratio Prot	c0.09	0.27		0.01	c0.35		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.74	0.39	0.06	0.30	0.57		0.29	0.40	0.02	0.32	0.14	
Uniform Delay, d1	59.9	9.0	6.9	65.7	16.1		64.9	65.2	64.2	59.8	58.9	
Progression Factor	1.00	1.00	1.00	0.88	0.64		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.9	0.3	0.1	0.4	0.7		0.8	1.3	0.0	3.7	0.7	
Delay (s)	71.7	9.4	7.0	58.0	11.0		65.8	66.5	64.2	63.5	59.5	
Level of Service	E	A	A	E	B		E	E	E	E	E	
Approach Delay (s)		15.1			12.0			65.5			60.9	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	891	130	344	1455	1326	112	213	310	200	42	35
Future Volume (vph)	317	891	130	344	1455	1326	112	213	310	200	42	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	330	928	135	358	1516	1381	117	222	323	208	44	36
RTOR Reduction (vph)	0	0	64	0	0	174	0	0	36	0	0	25
Lane Group Flow (vph)	330	928	71	358	1516	1207	117	222	287	208	44	11
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	17.9	68.0	68.0	19.1	69.9	86.5	13.1	21.8	45.9	11.3	19.7	42.9
Effective Green, g (s)	17.9	68.0	68.0	19.1	69.9	86.5	13.1	21.8	45.9	11.3	19.7	42.9
Actuated g/C Ratio	0.13	0.49	0.49	0.14	0.50	0.62	0.09	0.16	0.33	0.08	0.14	0.31
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	438	2469	768	468	2538	1721	321	551	913	277	497	485
v/s Ratio Prot	0.10	0.18		c0.10	0.30	c0.43	0.03	c0.06	0.10	0.06	0.01	0.01
v/s Ratio Perm			0.04									
v/c Ratio	0.75	0.38	0.09	0.76	0.60	0.70	0.36	0.40	0.31	0.75	0.09	0.02
Uniform Delay, d1	58.9	22.6	19.4	58.3	25.0	18.0	59.5	53.2	35.3	63.0	52.3	33.9
Progression Factor	1.02	0.65	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	0.4	0.2	6.6	1.0	1.1	0.3	1.1	0.4	9.7	0.1	0.0
Delay (s)	66.3	15.2	17.4	64.9	26.1	19.1	59.8	54.3	35.7	72.7	52.5	33.9
Level of Service	E	B	B	E	C	B	E	D	D	E	D	C
Approach Delay (s)		27.5			27.4			46.2			64.8	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1010	400	0	1623	538	0	0	0	726	0	1544
Future Volume (vph)	0	1010	400	0	1623	538	0	0	0	726	0	1544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1074	426	0	1727	572	0	0	0	772	0	1643
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	19
Lane Group Flow (vph)	0	1074	426	0	1727	572	0	0	0	772	0	1624
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		44.7	120.0		44.7	120.0				63.1		63.1
Effective Green, g (s)		44.7	120.0		44.7	115.3				63.1		63.1
Actuated g/C Ratio		0.37	1.00		0.37	0.96				0.53		0.53
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		1894	2787		1894	1520				1805		1465
v/s Ratio Prot		0.21			c0.34	0.36				0.22		c0.58
v/s Ratio Perm			0.15									
v/c Ratio		0.57	0.15		0.91	0.38				0.43		1.11
Uniform Delay, d1		30.0	0.0		35.8	0.1				17.4		28.4
Progression Factor		1.00	1.00		1.09	1.00				1.00		1.00
Incremental Delay, d2		1.2	0.1		7.5	0.1				0.1		59.1
Delay (s)		31.2	0.1		46.5	0.2				17.5		87.5
Level of Service		C	A		D	A				B		F
Approach Delay (s)		22.4			35.0			0.0			65.1	
Approach LOS		C			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	43.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1057	678	0	1327	556	837	0	306	0	0	0
Future Volume (vph)	0	1057	678	0	1327	556	837	0	306	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1113	714	0	1397	585	881	0	322	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	45	0	0	0
Lane Group Flow (vph)	0	1113	714	0	1397	585	881	0	277	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		69.0	120.0		69.0	120.0	38.8		38.8			
Effective Green, g (s)		69.0	115.3		69.0	120.0	38.8		38.8			
Actuated g/C Ratio		0.58	0.96		0.58	1.00	0.32		0.32			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2923	1520		3684	1583	1110		901			
v/s Ratio Prot		0.22	c0.45		0.22		c0.26					
v/s Ratio Perm						0.37			0.10			
v/c Ratio		0.38	0.47		0.38	0.37	0.79		0.31			
Uniform Delay, d1		13.9	0.2		13.9	0.0	37.0		30.5			
Progression Factor		0.82	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.3	0.1		0.3	0.7	3.7		0.1			
Delay (s)		11.7	0.2		14.2	0.7	40.7		30.6			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		7.2			10.2			38.0			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	296	541	236	1342	0	0
Future Volume (vph)	296	541	236	1342	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	315	576	251	1428	0	0
RTOR Reduction (vph)	0	177	0	0	0	0
Lane Group Flow (vph)	315	399	251	1428	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	57.0	57.0	21.3	90.0		
Effective Green, g (s)	57.0	57.0	21.3	90.0		
Actuated g/C Ratio	0.63	0.63	0.24	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2241	1765	812	5085		
v/s Ratio Prot	0.09		0.07	c0.28		
v/s Ratio Perm		0.14				
v/c Ratio	0.14	0.23	0.31	0.28		
Uniform Delay, d1	6.6	7.1	28.3	0.0		
Progression Factor	1.00	1.00	0.85	1.00		
Incremental Delay, d2	0.1	0.3	0.1	0.1		
Delay (s)	6.8	7.4	24.2	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	7.2			3.7	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	289	0	0	660	875	859
Future Volume (vph)	0	289	0	0	660	875	859
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0	5.7	5.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	301	0	0	688	911	895
RTOR Reduction (vph)	0	0	0	0	0	0	440
Lane Group Flow (vph)	0	301	0	0	688	911	455
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		47.0			47.0	31.3	31.3
Effective Green, g (s)		46.0			46.0	30.3	30.3
Actuated g/C Ratio		0.51			0.51	0.34	0.34
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1808			2599	1155	938
v/s Ratio Prot		0.09			c0.14	c0.27	
v/s Ratio Perm							0.16
v/c Ratio		0.17			0.26	0.79	0.48
Uniform Delay, d1		11.8			12.4	27.0	23.7
Progression Factor		0.76			1.00	1.00	1.00
Incremental Delay, d2		0.2			0.2	3.4	0.1
Delay (s)		9.1			12.7	30.3	23.8
Level of Service		A			B	C	C
Approach Delay (s)		9.1			12.7	27.1	
Approach LOS		A			B	C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1121	253	517	1797	98	860
Future Volume (vph)	1121	253	517	1797	98	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6226		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6226		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1180	275	544	1892	103	905
RTOR Reduction (vph)	25	0	0	0	0	0
Lane Group Flow (vph)	1430	0	544	1892	103	905
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	62.4		29.2	96.3	43.3	76.9
Effective Green, g (s)	62.4		29.2	96.3	43.3	76.9
Actuated g/C Ratio	0.42		0.19	0.64	0.29	0.51
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2590		668	4113	510	1428
v/s Ratio Prot	c0.23		c0.16	0.30	0.06	c0.32
v/s Ratio Perm						
v/c Ratio	0.55		0.81	0.46	0.20	0.63
Uniform Delay, d1	33.2		57.8	13.6	40.3	26.4
Progression Factor	1.00		1.43	0.41	1.00	1.00
Incremental Delay, d2	0.9		5.6	0.3	0.1	0.7
Delay (s)	34.1		88.4	5.9	40.4	27.1
Level of Service	C		F	A	D	C
Approach Delay (s)	34.1			24.3	28.4	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	255	1782	0	2106	917	154	148
Future Volume (vph)	255	1782	0	2106	917	154	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.93	
Flt Protected	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (prot)	3433	5085		5085	1583	3265	
Flt Permitted	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (perm)	3433	5085		5085	1583	3265	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	268	1876	0	2217	965	162	156
RTOR Reduction (vph)	0	0	0	0	10	129	0
Lane Group Flow (vph)	268	1876	0	2217	955	189	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	15.8	116.4		97.1	125.4	22.9	
Effective Green, g (s)	15.8	116.4		97.1	125.4	22.9	
Actuated g/C Ratio	0.11	0.78		0.65	0.84	0.15	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	361	3945		3291	1323	498	
v/s Ratio Prot	c0.08	0.37		0.44	c0.60	0.06	
v/s Ratio Perm							
v/c Ratio	0.74	0.48		0.67	0.72	0.38	
Uniform Delay, d1	65.1	6.0		16.5	5.1	57.2	
Progression Factor	0.96	0.61		2.01	2.76	1.00	
Incremental Delay, d2	5.9	0.3		0.8	1.6	0.8	
Delay (s)	68.5	4.0		34.0	15.6	58.0	
Level of Service	E	A		C	B	E	
Approach Delay (s)		12.1		28.4		58.0	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	63	1837	2935	60	33	66
Future Volume (vph)	63	1837	2935	60	33	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	66	1914	3057	62	34	69
RTOR Reduction (vph)	0	0	0	6	0	66
Lane Group Flow (vph)	66	1914	3057	57	34	3
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	8.9	132.5	119.6	119.6	7.2	7.2
Effective Green, g (s)	8.9	132.5	119.6	119.6	7.2	7.2
Actuated g/C Ratio	0.06	0.88	0.80	0.80	0.05	0.05
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	105	4491	4054	1262	84	75
v/s Ratio Prot	c0.04	0.38	c0.60		c0.02	
v/s Ratio Perm				0.04		0.00
v/c Ratio	0.63	0.43	0.75	0.05	0.40	0.04
Uniform Delay, d1	68.9	1.6	7.7	3.2	69.3	68.1
Progression Factor	1.16	0.35	1.03	0.20	1.00	1.00
Incremental Delay, d2	7.4	0.3	0.9	0.0	3.2	0.2
Delay (s)	87.6	0.8	8.8	0.7	72.5	68.4
Level of Service	F	A	A	A	E	E
Approach Delay (s)		3.7	8.7		69.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	105	1901	0	2787	70	36	81
Future Volume (vph)	105	1901	0	2787	70	36	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.9		6.9	5.9	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.92	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3250	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3250	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	112	2022	0	2965	74	38	86
RTOR Reduction (vph)	0	0	0	0	5	41	41
Lane Group Flow (vph)	112	2022	0	2965	69	40	2
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	14.8	131.8		112.1	112.1	7.4	7.4
Effective Green, g (s)	14.8	131.8		111.1	112.1	7.4	7.4
Actuated g/C Ratio	0.10	0.88		0.74	0.75	0.05	0.05
Clearance Time (s)	4.9	5.9		5.9	5.9	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	174	4468		3766	1183	160	71
v/s Ratio Prot	c0.06	0.40		c0.58		c0.01	
v/s Ratio Perm					0.04		0.00
v/c Ratio	0.64	0.45		0.79	0.06	0.25	0.03
Uniform Delay, d1	65.1	1.8		12.1	5.0	68.6	67.9
Progression Factor	0.87	2.27		2.53	2.14	1.00	1.00
Incremental Delay, d2	7.5	0.3		0.5	0.0	0.8	0.2
Delay (s)	64.0	4.5		31.2	10.7	69.5	68.1
Level of Service	E	A		C	B	E	E
Approach Delay (s)		7.6		30.7		69.0	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.7
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	857	1072	23	20	2135	98	18	3	10	50	2	1010
Future Volume (vph)	857	1072	23	20	2135	98	18	3	10	50	2	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	902	1128	24	21	2247	103	19	3	11	53	2	1063
RTOR Reduction (vph)	0	1	0	0	4	0	0	11	0	0	0	310
Lane Group Flow (vph)	902	1151	0	21	2346	0	19	3	0	28	27	753
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	37.8	95.7		2.4	60.4		4.4	4.4		26.9	26.9	70.2
Effective Green, g (s)	37.8	95.7		2.4	60.4		4.4	4.4		26.9	26.9	70.2
Actuated g/C Ratio	0.25	0.64		0.02	0.40		0.03	0.03		0.18	0.18	0.47
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	807	3234		51	2034		48	48		291	293	1304
v/s Ratio Prot	c0.28	0.23		0.01	c0.46		c0.01	0.00		0.02	0.02	c0.27
v/s Ratio Perm												
v/c Ratio	1.12	0.36		0.41	1.15		0.40	0.07		0.10	0.09	0.58
Uniform Delay, d1	56.1	12.7		73.1	44.8		71.5	70.8		51.4	51.4	29.1
Progression Factor	0.88	1.26		1.18	0.80		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	68.0	0.3		1.4	73.5		2.0	0.2		0.1	0.1	0.6
Delay (s)	117.4	16.3		87.7	109.2		73.4	71.0		51.5	51.5	29.7
Level of Service	F	B		F	F		E	E		D	D	C
Approach Delay (s)		60.7			109.0			72.4			30.7	
Approach LOS		E			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	75.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	139	795	0	2329	626	224	103
Future Volume (vph)	139	795	0	2329	626	224	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3197	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3197	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	143	820	0	2401	645	231	106
RTOR Reduction (vph)	0	0	0	0	46	3	85
Lane Group Flow (vph)	143	820	0	2401	599	239	10
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	16.8	123.4		101.9	123.9	16.0	16.0
Effective Green, g (s)	16.8	123.4		101.9	123.9	16.0	16.0
Actuated g/C Ratio	0.11	0.82		0.68	0.83	0.11	0.11
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	191	4044		3339	1220	341	169
v/s Ratio Prot	c0.08	0.17		c0.49	0.41	c0.07	
v/s Ratio Perm							0.01
v/c Ratio	0.75	0.20		0.72	0.49	0.70	0.06
Uniform Delay, d1	64.6	2.8		15.1	3.8	64.7	60.2
Progression Factor	1.22	0.24		1.58	2.04	1.00	1.00
Incremental Delay, d2	12.6	0.1		0.3	0.0	5.3	0.1
Delay (s)	91.2	0.8		24.1	7.8	70.0	60.3
Level of Service	F	A		C	A	E	E
Approach Delay (s)		14.2		20.7		67.2	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	158	757	2980	262	649	518
Future Volume (vph)	158	757	2980	262	649	518
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4640	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4640	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	161	772	3041	267	662	529
RTOR Reduction (vph)	0	0	1	44	0	1
Lane Group Flow (vph)	161	772	3067	196	662	528
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	8.3	107.1	94.6	94.6	31.9	45.2
Effective Green, g (s)	8.3	107.1	94.6	94.6	31.9	45.2
Actuated g/C Ratio	0.06	0.71	0.63	0.63	0.21	0.30
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	177	3388	2926	801	681	783
v/s Ratio Prot	c0.05	0.16	c0.66		c0.21	0.20
v/s Ratio Perm				0.15		
v/c Ratio	0.91	0.23	1.05	0.25	0.97	0.67
Uniform Delay, d1	70.5	7.3	27.7	12.1	58.6	45.9
Progression Factor	0.90	1.25	1.24	1.02	1.00	1.00
Incremental Delay, d2	41.0	0.2	29.1	0.5	27.4	1.8
Delay (s)	104.5	9.3	63.6	12.8	86.0	47.7
Level of Service	F	A	E	B	F	D
Approach Delay (s)		25.7	59.9		69.0	
Approach LOS		C	E		E	

Intersection Summary			
HCM 2000 Control Delay	56.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	1152	212	182	2547	28	180	23	134	32	68	75
Future Volume (vph)	21	1152	212	182	2547	28	180	23	134	32	68	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1587	1504		1739	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1587	1504		1739	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	21	1176	216	186	2599	29	184	23	137	33	69	77
RTOR Reduction (vph)	0	0	81	0	1	0	0	10	96	0	18	0
Lane Group Flow (vph)	21	1176	135	186	2627	0	120	107	11	0	161	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	4.4	88.4	88.4	12.5	96.1		15.1	15.1	15.1		14.6	
Effective Green, g (s)	4.4	88.4	88.4	12.5	96.1		15.1	15.1	15.1		14.6	
Actuated g/C Ratio	0.03	0.59	0.59	0.08	0.64		0.10	0.10	0.10		0.10	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	51	2996	932	286	3252		169	159	151		169	
v/s Ratio Prot	0.01	0.23		c0.05	c0.52		c0.07	0.07			c0.09	
v/s Ratio Perm			0.09						0.01			
v/c Ratio	0.41	0.39	0.14	0.65	0.81		0.71	0.67	0.07		0.95	
Uniform Delay, d1	71.5	16.5	13.8	66.6	20.1		65.3	65.1	61.1		67.4	
Progression Factor	1.36	0.48	0.16	1.06	0.67		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.6	0.3	0.3	2.6	1.5		11.1	8.5	0.1		54.8	
Delay (s)	99.3	8.2	2.4	73.2	14.9		76.4	73.6	61.2		122.1	
Level of Service	F	A	A	E	B		E	E	E		F	
Approach Delay (s)		8.7			18.8			70.7			122.1	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	97	1212	0	2495	169	161	295
Future Volume (vph)	97	1212	0	2495	169	161	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5037		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5037		3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	103	1289	0	2654	180	171	314
RTOR Reduction (vph)	0	0	0	4	0	0	71
Lane Group Flow (vph)	103	1289	0	2830	0	171	243
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	9.1	120.9		107.2		19.4	19.4
Effective Green, g (s)	9.1	120.9		107.2		19.4	19.4
Actuated g/C Ratio	0.06	0.81		0.71		0.13	0.13
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	208	4098		3599		444	360
v/s Ratio Prot	c0.03	0.25		c0.56		0.05	
v/s Ratio Perm							c0.09
v/c Ratio	0.50	0.31		0.79		0.39	0.67
Uniform Delay, d1	68.2	3.8		13.9		59.8	62.3
Progression Factor	0.93	0.39		0.54		1.00	1.00
Incremental Delay, d2	0.6	0.2		0.5		0.8	5.4
Delay (s)	64.0	1.7		8.0		60.6	67.6
Level of Service	E	A		A		E	E
Approach Delay (s)		6.3		8.0		65.2	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	925	459	9	2313	107	859	308	9	179	276	122
Future Volume (vph)	39	925	459	9	2313	107	859	308	9	179	276	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5052		2841	3020		3204	3377	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5052		2841	3020		3204	3377	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	40	944	468	9	2360	109	877	314	9	183	282	124
RTOR Reduction (vph)	0	0	44	0	3	0	0	1	0	0	33	0
Lane Group Flow (vph)	40	944	424	9	2466	0	596	603	0	183	373	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.3	73.0	109.7	1.6	70.2		36.7	36.7		16.8	16.8	
Effective Green, g (s)	4.3	73.0	109.7	1.6	70.2		36.7	36.7		16.8	16.8	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47		0.24	0.24		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	2392	1080	19	2364		695	738		358	378	
v/s Ratio Prot	c0.02	c0.19	0.29	0.00	c0.49		c0.21	0.20		0.06	c0.11	
v/s Ratio Perm												
v/c Ratio	0.73	0.39	0.39	0.47	1.04		0.86	0.82		0.51	0.99	
Uniform Delay, d1	72.3	24.5	7.6	73.8	39.9		54.2	53.5		62.7	66.5	
Progression Factor	0.89	1.65	4.23	1.25	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.9	0.5	0.2	6.2	30.4		10.2	7.0		1.2	42.5	
Delay (s)	101.2	40.8	32.4	98.2	62.8		64.4	60.5		64.0	108.9	
Level of Service	F	D	C	F	E		E	E		E	F	
Approach Delay (s)		39.8			62.9			62.4			95.0	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	60.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	935	34	20	1550	14	153	9	56	38	1	37
Future Volume (vph)	32	935	34	20	1550	14	153	9	56	38	1	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.3		5.5	6.0			5.0			5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5058		1770	5079			1737			1698	
Flt Permitted	0.95	1.00		0.95	1.00			0.73			0.80	
Satd. Flow (perm)	1770	5058		1770	5079			1317			1400	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	1016	37	22	1685	15	166	10	61	41	1	40
RTOR Reduction (vph)	0	2	0	0	0	0	0	10	0	0	27	0
Lane Group Flow (vph)	35	1051	0	22	1700	0	0	227	0	0	55	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	100.4		4.5	97.7			30.3			30.3	
Effective Green, g (s)	5.5	99.4		3.5	97.7			30.3			30.3	
Actuated g/C Ratio	0.04	0.66		0.02	0.65			0.20			0.20	
Clearance Time (s)	4.5	5.3		4.5	6.0			5.0			5.0	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	64	3351		41	3308			266			282	
v/s Ratio Prot	c0.02	0.21		0.01	c0.33							
v/s Ratio Perm								c0.17			0.04	
v/c Ratio	0.55	0.31		0.54	0.51			0.85			0.19	
Uniform Delay, d1	71.0	10.8		72.4	13.7			57.7			49.7	
Progression Factor	1.54	0.07		0.96	1.33			1.00			1.00	
Incremental Delay, d2	4.7	0.2		5.4	0.5			21.8			0.1	
Delay (s)	114.2	1.0		74.9	18.7			79.6			49.8	
Level of Service	F	A		E	B			E			D	
Approach Delay (s)		4.6			19.4			79.6			49.8	
Approach LOS		A			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	502	526	0	540	835	0	0	0	133	0	1061
Future Volume (vph)	0	502	526	0	540	835	0	0	0	133	0	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	5.0		6.0	5.0				6.0		5.0
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	564	591	0	607	938	0	0	0	149	0	1192
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	62
Lane Group Flow (vph)	0	564	591	0	607	938	0	0	0	149	0	1130
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		61.5	150.0		61.5	150.0				77.5		77.5
Effective Green, g (s)		61.5	150.0		61.5	150.0				76.5		77.5
Actuated g/C Ratio		0.41	1.00		0.41	1.00				0.51		0.52
Clearance Time (s)		6.0			6.0					5.0		5.0
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1450	1583		1450	2787				1750		1439
v/s Ratio Prot		0.16			c0.17					0.04		
v/s Ratio Perm			0.37			0.34						c0.41
v/c Ratio		0.39	0.37		0.42	0.34				0.09		0.79
Uniform Delay, d1		31.1	0.0		31.5	0.0				18.8		29.5
Progression Factor		0.92	1.00		0.83	1.00				1.00		1.00
Incremental Delay, d2		0.8	0.7		0.9	0.3				0.0		2.7
Delay (s)		29.5	0.7		27.0	0.3				18.8		32.1
Level of Service		C	A		C	A				B		C
Approach Delay (s)		14.7			10.8			0.0			30.7	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	193	401	0	1154	109	406	0	588	0	0	0
Future Volume (vph)	0	193	401	0	1154	109	406	0	588	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	203	422	0	1215	115	427	0	619	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	524	0	0	0
Lane Group Flow (vph)	0	203	422	0	1215	115	427	0	95	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		114.0	150.0		114.0	150.0	22.9		22.9			
Effective Green, g (s)		114.0	150.0		114.0	150.0	22.9		22.9			
Actuated g/C Ratio		0.76	1.00		0.76	1.00	0.15		0.15			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2689	1583		4870	1583	524		425			
v/s Ratio Prot		0.06			0.19		c0.12					
v/s Ratio Perm			c0.27			0.07			0.03			
v/c Ratio		0.08	0.27		0.25	0.07	0.81		0.22			
Uniform Delay, d1		4.6	0.0		5.3	0.0	61.5		55.7			
Progression Factor		0.79	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.4		0.1	0.1	9.0		0.1			
Delay (s)		3.7	0.4		5.5	0.1	70.5		55.8			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		1.5			5.0			61.8			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	24	72	374	434	163	158	299	68	61	755	153
Future Volume (vph)	15	24	72	374	434	163	158	299	68	61	755	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.90			0.97		1.00	0.97		1.00	0.97	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3174			3385		1770	4944		1770	4957	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3174			3385		1770	4944		1770	4957	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	25	75	390	452	170	165	311	71	64	786	159
RTOR Reduction (vph)	0	68	0	0	11	0	0	25	0	0	22	0
Lane Group Flow (vph)	0	48	0	0	1001	0	165	357	0	64	923	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.6			40.2		11.6	33.0		6.8	27.8	
Effective Green, g (s)		9.6			40.2		11.6	33.0		6.8	27.8	
Actuated g/C Ratio		0.09			0.37		0.11	0.30		0.06	0.25	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		277			1239		186	1485		109	1255	
v/s Ratio Prot		c0.01			c0.30		c0.09	0.07		0.04	c0.19	
v/s Ratio Perm												
v/c Ratio		0.17			0.81		0.89	0.24		0.59	0.74	
Uniform Delay, d1		46.4			31.3		48.5	28.9		50.1	37.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			4.6		35.6	0.1		5.1	2.3	
Delay (s)		47.1			35.9		84.0	29.0		55.3	40.0	
Level of Service		D			D		F	C		E	D	
Approach Delay (s)		47.1			35.9			45.6			40.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	20.6
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	3	95	0	132	45	402	25	37	1146	166
Future Volume (vph)	9	0	3	95	0	132	45	402	25	37	1146	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770		1583	3204	4872		1770	4989	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770		1583	3204	4872		1770	4989	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	0	3	101	0	140	48	428	27	39	1219	177
RTOR Reduction (vph)	0	0	3	0	0	124	0	5	0	0	14	0
Lane Group Flow (vph)	10	0	0	101	0	16	48	450	0	39	1382	0
Turn Type	Prot		Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	0.6		1.0	6.0		6.4	2.0	27.8		2.0	27.8	
Effective Green, g (s)	0.6		1.0	6.0		6.4	2.0	27.8		2.0	27.8	
Actuated g/C Ratio	0.01		0.02	0.11		0.11	0.04	0.49		0.04	0.49	
Clearance Time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	18		31	187		179	113	2397		62	2454	
v/s Ratio Prot	0.01			c0.06			0.01	0.09		c0.02	c0.28	
v/s Ratio Perm			0.00			c0.01						
v/c Ratio	0.56		0.00	0.54		0.09	0.42	0.19		0.63	0.56	
Uniform Delay, d1	27.8		27.3	23.9		22.4	26.7	8.0		26.9	10.1	
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.4		0.0	1.7		0.1	0.9	0.0		13.5	0.3	
Delay (s)	47.2		27.3	25.6		22.5	27.6	8.1		40.4	10.4	
Level of Service	D		C	C		C	C	A		D	B	
Approach Delay (s)		42.6			23.8			9.9			11.2	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	19.7
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	12	205	0	88	97	383	54	21	1214	6
Future Volume (vph)	1	0	12	205	0	88	97	383	54	21	1214	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00		1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00		0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652		1742	3433	1583		3204	4916	1583	1770	5081	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652		1742	3433	1583		3204	4916	1583	1770	5081	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	0	13	225	0	97	107	421	59	23	1334	7
RTOR Reduction (vph)	0	0	13	0	82	0	0	0	29	0	1	0
Lane Group Flow (vph)	1	0	0	225	15	0	107	421	30	23	1340	0
Turn Type	Prot		Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.6		1.1	8.9	9.4		4.0	31.0	31.0	0.9	27.5	
Effective Green, g (s)	0.6		1.1	8.9	9.4		4.0	31.0	31.0	0.9	27.5	
Actuated g/C Ratio	0.01		0.02	0.14	0.15		0.06	0.50	0.50	0.01	0.45	
Clearance Time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0		2.0	3.0	3.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	16		31	496	241		208	2473	796	25	2268	
v/s Ratio Prot	0.00			c0.07	c0.01		c0.03	c0.09		0.01	c0.26	
v/s Ratio Perm			0.00						0.02			
v/c Ratio	0.06		0.01	0.45	0.06		0.51	0.17	0.04	0.92	0.59	
Uniform Delay, d1	30.2		29.7	24.1	22.3		27.9	8.3	7.7	30.3	12.8	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6		0.0	0.7	0.1		0.9	0.0	0.0	142.7	0.4	
Delay (s)	30.8		29.7	24.8	22.4		28.8	8.4	7.8	173.1	13.3	
Level of Service	C		C	C	C		C	A	A	F	B	
Approach Delay (s)		29.8			24.1			12.0			15.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	20.1
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	156	64	469	56	23	1410
Future Volume (vph)	156	64	469	56	23	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	70	510	61	25	1533
RTOR Reduction (vph)	0	59	0	31	0	0
Lane Group Flow (vph)	170	11	510	30	25	1533
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	7.3	7.3	23.2	23.2	1.0	29.0
Effective Green, g (s)	7.3	7.3	23.2	23.2	1.0	29.0
Actuated g/C Ratio	0.15	0.15	0.49	0.49	0.02	0.61
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	530	244	2499	778	37	3124
v/s Ratio Prot	c0.05		0.10		0.01	c0.30
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.32	0.04	0.20	0.04	0.68	0.49
Uniform Delay, d1	17.7	17.0	6.8	6.2	22.9	5.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.0	0.0	32.1	0.1
Delay (s)	17.9	17.0	6.8	6.2	55.0	5.2
Level of Service	B	B	A	A	E	A
Approach Delay (s)	17.6		6.8			6.0
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	47.2	Sum of lost time (s)	15.7
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	157	12	56	18	457	161	125	1281	10
Future Volume (vph)	1	2	3	157	12	56	18	457	161	125	1281	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.92		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1604		1770	3539	1583	1770	3535	
Flt Permitted		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1604		1770	3539	1583	1770	3535	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	2	3	164	12	58	19	476	168	130	1334	10
RTOR Reduction (vph)	0	3	0	0	41	0	0	0	110	0	1	0
Lane Group Flow (vph)	0	3	0	121	73	0	19	476	58	130	1343	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		0.8		10.8	10.8		0.6	19.7	19.7	6.8	25.9	
Effective Green, g (s)		0.8		10.8	10.8		0.6	19.7	19.7	6.8	25.9	
Actuated g/C Ratio		0.01		0.19	0.19		0.01	0.34	0.34	0.12	0.45	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		23		313	298		18	1202	537	207	1578	
v/s Ratio Prot		c0.00		c0.07	0.05		0.01	0.13		c0.07	c0.38	
v/s Ratio Perm									0.04			
v/c Ratio		0.13		0.39	0.25		1.06	0.40	0.11	0.63	0.85	
Uniform Delay, d1		28.3		20.7	20.1		28.7	14.6	13.1	24.4	14.3	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0		1.3	0.7		230.8	0.4	0.1	4.2	5.0	
Delay (s)		29.2		22.0	20.8		259.5	15.0	13.3	28.6	19.3	
Level of Service		C		C	C		F	B	B	C	B	
Approach Delay (s)		29.2			21.4			21.5			20.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	17	51	446	562	25
Future Volume (vph)	34	17	51	446	562	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3517	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	18	55	485	611	27
RTOR Reduction (vph)	0	17	0	0	2	0
Lane Group Flow (vph)	37	1	55	485	636	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.5	4.5	5.0	75.4	66.0	
Effective Green, g (s)	4.5	4.5	5.0	75.4	66.0	
Actuated g/C Ratio	0.05	0.05	0.06	0.84	0.73	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	88	79	190	2964	2579	
v/s Ratio Prot	c0.02		c0.02	0.14	c0.18	
v/s Ratio Perm		0.00				
v/c Ratio	0.42	0.01	0.29	0.16	0.25	
Uniform Delay, d1	41.5	40.6	40.8	1.4	3.9	
Progression Factor	1.00	1.00	0.84	1.89	1.00	
Incremental Delay, d2	1.2	0.0	0.3	0.1	0.2	
Delay (s)	42.7	40.7	34.7	2.7	4.1	
Level of Service	D	D	C	A	A	
Approach Delay (s)	42.0			6.0	4.1	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	143	170	125	193	74	112	379	62	45	507	14
Future Volume (vph)	17	143	170	125	193	74	112	379	62	45	507	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3251		1770	3392		3433	3464		1770	3525	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3251		1770	3392		3433	3464		1770	3525	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	159	189	139	214	82	124	421	69	50	563	16
RTOR Reduction (vph)	0	163	0	0	56	0	0	10	0	0	2	0
Lane Group Flow (vph)	19	185	0	139	240	0	124	480	0	50	577	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.6	12.2		10.2	20.8		7.6	43.6		5.0	41.0	
Effective Green, g (s)	1.6	12.2		10.2	20.8		7.6	43.6		5.0	41.0	
Actuated g/C Ratio	0.02	0.14		0.11	0.23		0.08	0.48		0.06	0.46	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	31	440		200	783		289	1678		98	1605	
v/s Ratio Prot	0.01	c0.06		c0.08	0.07		c0.04	c0.14		0.03	c0.16	
v/s Ratio Perm												
v/c Ratio	0.61	0.42		0.69	0.31		0.43	0.29		0.51	0.36	
Uniform Delay, d1	43.9	35.7		38.4	28.6		39.1	13.9		41.3	16.0	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.85		1.45	0.74	
Incremental Delay, d2	22.6	0.2		8.2	0.1		0.4	0.4		1.8	0.6	
Delay (s)	66.5	35.9		46.6	28.7		45.9	12.2		61.8	12.5	
Level of Service	E	D		D	C		D	B		E	B	
Approach Delay (s)		37.5			34.4			19.0			16.4	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	46	95	83	199	52	59	486	52	21	762	39
Future Volume (vph)	31	46	95	83	199	52	59	486	52	21	762	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1675		1770	1805		1770	3488		1770	3513	
Flt Permitted	0.33	1.00		0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	612	1675		1007	1805		1770	3488		1770	3513	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	35	52	107	93	224	58	66	546	58	24	856	44
RTOR Reduction (vph)	0	87	0	0	12	0	0	7	0	0	3	0
Lane Group Flow (vph)	35	72	0	93	270	0	66	597	0	24	897	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.4	17.0		21.4	18.0		6.8	47.8		2.8	43.8	
Effective Green, g (s)	19.4	17.0		21.4	18.0		6.8	47.8		2.8	43.8	
Actuated g/C Ratio	0.22	0.19		0.24	0.20		0.08	0.53		0.03	0.49	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	162	316		268	361		133	1852		55	1709	
v/s Ratio Prot	0.01	0.04		c0.01	c0.15		c0.04	c0.17		0.01	c0.26	
v/s Ratio Perm	0.04			0.07								
v/c Ratio	0.22	0.23		0.35	0.75		0.50	0.32		0.44	0.52	
Uniform Delay, d1	28.6	30.9		27.9	33.9		40.0	11.9		42.8	15.9	
Progression Factor	1.00	1.00		1.00	1.00		0.97	1.14		1.39	0.89	
Incremental Delay, d2	0.2	0.1		0.3	7.2		0.9	0.4		1.9	1.1	
Delay (s)	28.8	31.1		28.2	41.1		39.6	14.0		61.5	15.2	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.7			37.9			16.5			16.4	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	151	104	135	187	120	35	241	26	71	731	126
Future Volume (vph)	222	151	104	135	187	120	35	241	26	71	731	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1749		1770	1754		1770	3487		1770	3461	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1749		1770	1754		1770	3487		1770	3461	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	239	162	112	145	201	129	38	259	28	76	786	135
RTOR Reduction (vph)	0	31	0	0	29	0	0	8	0	0	14	0
Lane Group Flow (vph)	239	243	0	145	301	0	38	279	0	76	907	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2	23.0		9.9	19.7		3.8	31.6		6.6	34.4	
Effective Green, g (s)	13.2	23.0		9.9	19.7		3.8	31.6		6.6	34.4	
Actuated g/C Ratio	0.15	0.26		0.11	0.22		0.04	0.35		0.07	0.38	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	259	446		194	383		74	1224		129	1322	
v/s Ratio Prot	c0.14	c0.14		0.08	c0.17		0.02	0.08		c0.04	c0.26	
v/s Ratio Perm												
v/c Ratio	0.92	0.54		0.75	0.79		0.51	0.23		0.59	0.69	
Uniform Delay, d1	37.9	29.0		38.8	33.2		42.2	20.6		40.4	23.3	
Progression Factor	1.00	1.00		1.00	1.00		0.96	0.77		1.43	0.59	
Incremental Delay, d2	35.3	0.7		12.8	9.4		2.5	0.4		4.0	2.6	
Delay (s)	73.2	29.7		51.7	42.6		42.9	16.2		61.8	16.4	
Level of Service	E	C		D	D		D	B		E	B	
Approach Delay (s)		50.0			45.4			19.3			19.9	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	14	267	1	49	1	234	56	27	1045	0
Future Volume (vph)	3	1	14	267	1	49	1	234	56	27	1045	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.89			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1774	1583	1770	3436		1770	3539	
Flt Permitted		0.96			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1596			1329	1583	1770	3436		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1	15	290	1	53	1	254	61	29	1136	0
RTOR Reduction (vph)	0	11	0	0	0	38	0	19	0	0	0	0
Lane Group Flow (vph)	0	8	0	0	291	15	1	296	0	29	1136	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		26.3			26.3	26.3	1.0	46.7		2.3	48.2	
Effective Green, g (s)		26.3			26.3	26.3	1.0	46.7		2.3	48.2	
Actuated g/C Ratio		0.29			0.29	0.29	0.01	0.52		0.03	0.54	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		466			388	462	19	1782		45	1895	
v/s Ratio Prot							0.00	0.09		c0.02	c0.32	
v/s Ratio Perm		0.01			c0.22	0.01						
v/c Ratio		0.02			0.75	0.03	0.05	0.17		0.64	0.60	
Uniform Delay, d1		22.7			28.9	22.8	44.0	11.4		43.4	14.3	
Progression Factor		1.00			1.00	1.00	1.13	0.70		1.01	0.84	
Incremental Delay, d2		0.0			9.8	0.1	0.4	0.2		17.9	1.2	
Delay (s)		22.7			38.6	22.8	50.3	8.2		61.9	13.1	
Level of Service		C			D	C	D	A		E	B	
Approach Delay (s)		22.7			36.2			8.3			14.4	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	37	78	285	1286	29
Future Volume (vph)	4	37	78	285	1286	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3527	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3527	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	39	83	303	1368	31
RTOR Reduction (vph)	0	37	0	0	1	0
Lane Group Flow (vph)	4	2	83	303	1398	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.5	3.5	7.8	75.7	62.4	
Effective Green, g (s)	3.5	3.5	7.8	75.7	62.4	
Actuated g/C Ratio	0.04	0.04	0.09	0.84	0.69	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	133	61	153	2976	2445	
v/s Ratio Prot	c0.00		c0.05	0.09	c0.40	
v/s Ratio Perm		0.00				
v/c Ratio	0.03	0.02	0.54	0.10	0.57	
Uniform Delay, d1	41.6	41.6	39.4	1.2	7.0	
Progression Factor	1.00	1.00	0.97	0.59	0.55	
Incremental Delay, d2	0.0	0.1	2.1	0.1	0.8	
Delay (s)	41.7	41.7	40.2	0.8	4.7	
Level of Service	D	D	D	A	A	
Approach Delay (s)	41.7			9.3	4.7	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	70	2	2	3	562	328	6	0	1053	272
Future Volume (vph)	31	0	70	2	2	3	562	328	6	0	1053	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3429	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3429	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	33	0	75	2	2	3	604	353	6	0	1132	296
RTOR Reduction (vph)	0	0	72	0	3	0	0	0	1	0	28	0
Lane Group Flow (vph)	16	17	3	0	4	0	604	353	5	0	1400	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		35.9	69.4	69.4		29.1	
Effective Green, g (s)	4.0	4.0	4.0		0.8		35.9	69.4	69.4		29.1	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		706	2728	1220		1108	
v/s Ratio Prot	0.01	c0.01			c0.00		c0.34	0.10			c0.41	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.22	0.23	0.05		0.27		0.86	0.13	0.00		1.26	
Uniform Delay, d1	41.5	41.5	41.2		44.3		24.7	2.6	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.93	0.83	1.00		1.32	
Incremental Delay, d2	0.5	0.6	0.1		3.5		8.5	0.1	0.0		125.1	
Delay (s)	42.0	42.1	41.3		47.8		31.5	2.2	2.4		165.4	
Level of Service	D	D	D		D		C	A	A		F	
Approach Delay (s)		41.5			47.8			20.6			165.4	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	104.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	218	1	610	7	283	62	237	892	0
Future Volume (vph)	0	0	0	218	1	610	7	283	62	237	892	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95		1.00	0.95	
Frt					1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3444		1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3444		1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	229	1	642	7	298	65	249	939	0
RTOR Reduction (vph)	0	0	0	0	0	83	0	18	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	230	559	7	345	0	249	939	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					28.0	50.1	0.8	30.5		17.2	46.9	
Effective Green, g (s)					28.0	50.1	0.8	30.5		17.2	46.9	
Actuated g/C Ratio					0.31	0.56	0.01	0.34		0.19	0.52	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					421	881	15	1167		338	1844	
v/s Ratio Prot						c0.35	0.00	0.10		c0.14	c0.27	
v/s Ratio Perm					0.17							
v/c Ratio					0.55	0.63	0.47	0.30		0.74	0.51	
Uniform Delay, d1					25.7	13.7	44.4	21.9		34.3	14.0	
Progression Factor					1.00	1.00	1.00	1.00		1.59	0.66	
Incremental Delay, d2					0.8	1.1	8.1	0.6		0.7	0.1	
Delay (s)					26.5	14.8	52.5	22.5		55.2	9.4	
Level of Service					C	B	D	C		E	A	
Approach Delay (s)		0.0			17.9			23.1			19.0	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	924	143	80	1400	89	367	91	18	103	154	370
Future Volume (vph)	181	924	143	80	1400	89	367	91	18	103	154	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6350		2841	2982		3204	1591	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6350		2841	2982		3204	1591	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	187	953	147	82	1443	92	378	94	19	106	159	381
RTOR Reduction (vph)	0	0	66	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	187	953	81	82	1531	0	253	235	0	106	197	343
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	16.4	97.8	97.8	13.8	95.0		26.2	26.2		31.6	31.6	53.3
Effective Green, g (s)	16.4	97.8	97.8	13.8	95.0		26.2	26.2		31.6	31.6	53.3
Actuated g/C Ratio	0.09	0.51	0.51	0.07	0.50		0.14	0.14		0.17	0.17	0.28
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	276	2530	814	119	3175		391	411		532	264	808
v/s Ratio Prot	c0.06	c0.19		0.05	c0.24		c0.09	0.08		0.03	c0.12	0.12
v/s Ratio Perm			0.05									
v/c Ratio	0.68	0.38	0.10	0.69	0.48		0.65	0.57		0.20	0.75	0.42
Uniform Delay, d1	84.2	27.8	23.6	86.0	31.3		77.5	76.6		68.3	75.4	55.8
Progression Factor	1.00	1.00	1.00	1.09	0.77		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.4	0.2	10.7	0.5		5.4	3.3		0.3	11.7	0.5
Delay (s)	90.7	28.2	23.8	104.4	24.6		82.9	80.0		68.6	87.1	56.3
Level of Service	F	C	C	F	C		F	E		E	F	E
Approach Delay (s)		36.8			28.7			81.5			67.7	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	963	9	35	1350	92	17	23	184	453	100	224
Future Volume (vph)	90	963	9	35	1350	92	17	23	184	453	100	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5078		3204	5037		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5078		3204	5037		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	1070	10	39	1500	102	19	26	204	503	111	249
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	85	0	0	104
Lane Group Flow (vph)	100	1080	0	39	1599	0	19	26	119	503	111	145
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.3	109.1		5.8	104.4		20.7	20.7	20.7	34.2	33.9	33.9
Effective Green, g (s)	10.3	109.1		5.8	104.4		20.7	20.7	20.7	34.2	33.9	33.9
Actuated g/C Ratio	0.05	0.57		0.03	0.55		0.11	0.11	0.11	0.18	0.18	0.18
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	173	2915		97	2767		179	189	172	576	332	282
v/s Ratio Prot	c0.03	0.21		0.01	c0.32		0.01	0.01		c0.16	0.06	
v/s Ratio Perm									c0.08			0.09
v/c Ratio	0.58	0.37		0.40	0.58		0.11	0.14	0.69	0.87	0.33	0.51
Uniform Delay, d1	87.7	21.9		90.4	28.3		76.3	76.6	81.6	75.8	68.2	70.6
Progression Factor	1.09	0.70		0.75	1.38		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.3		0.8	0.7		0.3	0.3	11.0	13.4	0.3	1.0
Delay (s)	98.3	15.6		68.6	39.7		76.6	76.9	92.6	89.2	68.5	71.6
Level of Service	F	B		E	D		E	E	F	F	E	E
Approach Delay (s)		22.6			40.4			89.7			81.4	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1470	77	105	927	119	136	31	325	1008	226	395
Future Volume (vph)	72	1470	77	105	927	119	136	31	325	1008	226	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5047		1652	5085	1583	1652	2865	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5047		1652	5085	1583	1652	2865	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	83	1690	89	121	1066	137	156	36	374	1159	260	454
RTOR Reduction (vph)	0	3	0	0	0	0	0	110	117	0	0	185
Lane Group Flow (vph)	83	1776	0	121	1066	137	156	113	70	1159	260	269
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	17.6	68.7		20.5	71.7	190.0	22.7	15.5	15.5	65.6	58.4	58.4
Effective Green, g (s)	17.6	68.7		20.5	71.7	190.0	22.7	15.5	15.5	65.6	58.4	58.4
Actuated g/C Ratio	0.09	0.36		0.11	0.38	1.00	0.12	0.08	0.08	0.35	0.31	0.31
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	153	1824		178	1918	1583	197	233	121	1106	1196	486
v/s Ratio Prot	0.05	c0.35		c0.07	0.21		0.09	0.04		c0.36	0.07	
v/s Ratio Perm						0.09			0.05			c0.17
v/c Ratio	0.54	0.97		0.68	0.56	0.09	0.79	0.48	0.58	1.05	0.22	0.55
Uniform Delay, d1	82.4	59.8		81.6	46.6	0.0	81.4	83.4	84.1	62.2	48.8	54.9
Progression Factor	1.01	1.00		0.96	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	14.8		7.7	1.1	0.1	19.2	1.9	7.6	40.5	0.2	2.3
Delay (s)	85.5	74.5		85.9	49.8	0.1	100.6	85.4	91.7	102.7	49.0	57.2
Level of Service	F	E		F	D	A	F	F	F	F	D	E
Approach Delay (s)		75.0			48.0			91.6			84.2	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	73.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	2581	88	23	638	9	161	17	74	76	7	259
Future Volume (vph)	211	2581	88	23	638	9	161	17	74	76	7	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5060		1770	5075		1681	1585		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5060		1770	5075		1681	1585		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	218	2661	91	24	658	9	166	18	80	78	7	267
RTOR Reduction (vph)	0	2	0	0	0	0	0	34	0	0	0	158
Lane Group Flow (vph)	218	2750	0	24	667	0	136	94	0	78	7	109
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	27.7	131.9		5.0	109.4		19.8	19.8		13.1	13.1	40.8
Effective Green, g (s)	27.7	131.9		5.0	109.4		19.8	19.8		13.1	13.1	40.8
Actuated g/C Ratio	0.15	0.69		0.03	0.58		0.10	0.10		0.07	0.07	0.21
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	258	3512		46	2922		175	165		113	128	339
v/s Ratio Prot	c0.12	c0.54		0.01	0.13		c0.08	0.06		c0.05	0.00	0.07
v/s Ratio Perm												
v/c Ratio	0.84	0.78		0.52	0.23		0.78	0.57		0.69	0.05	0.32
Uniform Delay, d1	79.1	19.5		91.3	19.7		82.9	81.0		86.5	82.7	62.9
Progression Factor	0.91	1.75		0.77	1.14		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.2	0.6		4.8	0.2		17.7	2.7		13.6	0.1	0.2
Delay (s)	80.1	34.7		75.0	22.7		100.6	83.7		100.1	82.7	63.1
Level of Service	F	C		E	C		F	F		F	F	E
Approach Delay (s)		38.0			24.5			92.4			71.7	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	2559	11	32	664	26	24	13	287	83	3	65
Future Volume (vph)	47	2559	11	32	664	26	24	13	287	83	3	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	48	2611	11	33	678	27	24	13	293	85	3	66
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	79	0	0	52
Lane Group Flow (vph)	48	2622	0	33	703	0	24	13	214	85	3	14
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	8.1	120.4		6.3	118.9		4.1	30.8	30.8	12.8	39.5	39.5
Effective Green, g (s)	8.1	120.4		6.3	118.9		4.1	30.8	30.8	12.8	39.5	39.5
Actuated g/C Ratio	0.04	0.63		0.03	0.63		0.02	0.16	0.16	0.07	0.21	0.21
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	75	3220		58	3163		38	302	256	119	387	329
v/s Ratio Prot	c0.03	c0.52		0.02	0.14		0.01	0.01		c0.05	0.00	
v/s Ratio Perm									c0.14			0.01
v/c Ratio	0.64	0.81		0.57	0.22		0.63	0.04	0.84	0.71	0.01	0.04
Uniform Delay, d1	89.5	26.3		90.5	15.5		92.2	67.2	77.2	86.8	59.7	60.1
Progression Factor	0.99	1.52		1.20	0.44		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.5	1.5		7.3	0.2		22.5	0.0	19.7	15.5	0.0	0.0
Delay (s)	97.1	41.7		116.2	6.9		114.7	67.2	96.9	102.3	59.7	60.1
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		42.6			11.8			97.0			83.4	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	2303	515	45	469	23	171	41	113	120	84	43
Future Volume (vph)	58	2303	515	45	469	23	171	41	113	120	84	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4946		1652	5050		1625	1716	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4946		1652	5050		1625	1716	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	2424	542	47	494	24	180	43	119	126	88	45
RTOR Reduction (vph)	0	13	0	0	2	0	0	0	108	0	0	40
Lane Group Flow (vph)	61	2953	0	47	516	0	110	113	11	126	88	5
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.4	121.9		10.8	120.8		17.3	17.3	17.3	19.8	19.8	19.8
Effective Green, g (s)	11.4	121.9		10.8	120.8		17.3	17.3	17.3	19.8	19.8	19.8
Actuated g/C Ratio	0.06	0.64		0.06	0.64		0.09	0.09	0.09	0.10	0.10	0.10
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	99	3173		93	3210		147	156	144	172	194	176
v/s Ratio Prot	c0.04	c0.60		0.03	0.10		c0.07	0.07		c0.08	0.05	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.62	0.93		0.51	0.16		0.75	0.72	0.08	0.73	0.45	0.03
Uniform Delay, d1	87.2	30.3		87.0	14.0		84.2	84.0	79.0	82.5	80.0	76.4
Progression Factor	1.29	0.39		1.23	0.81		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	4.1		1.6	0.1		16.5	13.2	0.1	14.9	1.7	0.1
Delay (s)	117.0	15.9		108.7	11.5		100.7	97.2	79.1	97.4	81.7	76.5
Level of Service	F	B		F	B		F	F	E	F	F	E
Approach Delay (s)		17.9			19.6			92.0			88.4	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	2375	130	55	443	34	93	25	183	19	12	18
Future Volume (vph)	26	2375	130	55	443	34	93	25	183	19	12	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		5.4	6.0		5.4	4.9		5.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5046		1770	5031		3433	1617		1770	1697	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5046		1770	5031		3433	1617		1770	1697	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	2474	135	57	461	35	97	26	191	20	12	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	94	0	0	18	0
Lane Group Flow (vph)	27	2607	0	57	493	0	97	123	0	20	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.5	136.7		10.5	140.7		9.6	19.1		4.0	13.5	
Effective Green, g (s)	5.5	136.7		9.5	140.7		8.6	19.1		3.0	13.5	
Actuated g/C Ratio	0.03	0.72		0.05	0.74		0.05	0.10		0.02	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	51	3630		88	3725		155	162		27	120	
v/s Ratio Prot	0.02	c0.52		c0.03	c0.10		c0.03	c0.08		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.53	0.72		0.65	0.13		0.63	0.76		0.74	0.12	
Uniform Delay, d1	91.0	15.5		88.6	7.1		89.1	83.2		93.1	82.7	
Progression Factor	1.11	0.19		1.04	0.92		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.6		11.3	0.1		5.6	16.2		64.0	0.2	
Delay (s)	103.3	3.5		103.2	6.6		94.7	99.4		157.1	82.8	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		4.5			16.6			98.0			111.4	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.7
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2292	142	252	402	173	166	307	555	408	229	41
Future Volume (vph)	57	2292	142	252	402	173	166	307	555	408	229	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5041		1652	4855		1652	3421	1531	3204	3458	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5041		1652	4855		1652	3421	1531	3204	3458	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	58	2339	145	257	410	177	169	313	566	416	234	42
RTOR Reduction (vph)	0	4	0	0	40	0	0	0	30	0	8	0
Lane Group Flow (vph)	58	2480	0	257	547	0	169	313	536	416	268	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.6	90.7		16.8	96.8		41.0	38.0	60.8	23.6	20.2	
Effective Green, g (s)	10.6	90.7		16.8	96.8		41.0	38.0	60.8	23.6	20.2	
Actuated g/C Ratio	0.06	0.48		0.09	0.51		0.22	0.20	0.32	0.12	0.11	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	92	2406		146	2473		356	684	489	397	367	
v/s Ratio Prot	0.04	c0.49		c0.16	0.11		0.10	0.09	c0.35	c0.13	0.08	
v/s Ratio Perm												
v/c Ratio	0.63	1.03		1.76	0.22		0.47	0.46	1.10	1.05	0.73	
Uniform Delay, d1	87.8	49.6		86.6	25.8		65.1	66.9	64.6	83.2	82.3	
Progression Factor	1.26	0.63		1.31	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.2	24.1		368.2	0.2		1.0	0.6	69.5	58.2	7.4	
Delay (s)	117.9	55.3		481.4	25.3		66.1	67.5	134.1	141.4	89.6	
Level of Service	F	E		F	C		E	E	F	F	F	
Approach Delay (s)		56.8			164.2			103.2			120.8	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	92.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	107.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	3094	30	58	834	77	13	20	42	56	3	19
Future Volume (vph)	130	3094	30	58	834	77	13	20	42	56	3	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		5.4	6.0			4.9	5.9	5.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5021			1828	1583	1770	1620	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5021			1640	1583	1369	1620	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	134	3190	31	60	860	79	13	21	43	58	3	20
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	40	0	19	0
Lane Group Flow (vph)	134	3221	0	60	936	0	0	34	3	58	4	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	18.7	151.1		11.1	143.5			12.5	12.5	12.5	12.5	
Effective Green, g (s)	17.7	151.1		10.1	143.5			12.5	11.5	11.5	12.5	
Actuated g/C Ratio	0.09	0.80		0.05	0.76			0.07	0.06	0.06	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	164	4038		94	3792			107	95	82	106	
v/s Ratio Prot	c0.08	c0.63		0.03	0.19						0.00	
v/s Ratio Perm								0.02	0.00	c0.04		
v/c Ratio	0.82	0.80		0.64	0.25			0.32	0.03	0.71	0.04	
Uniform Delay, d1	84.6	10.9		88.2	7.0			84.7	84.0	87.6	83.1	
Progression Factor	1.08	0.29		0.96	0.89			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.8	0.2		9.8	0.2			0.6	0.0	20.2	0.1	
Delay (s)	94.2	3.3		94.9	6.4			85.3	84.0	107.8	83.2	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		6.9			11.7			84.6			100.8	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	3164	20	47	939	43	4	18	59	42	4	12
Future Volume (vph)	35	3164	20	47	939	43	4	18	59	42	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5052			1674		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.34	1.00	
Satd. Flow (perm)	1770	5080		1770	5052			1657		631	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	36	3262	21	48	968	44	4	19	64	43	4	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	60	0	0	11	0
Lane Group Flow (vph)	36	3283	0	48	1011	0	0	27	0	43	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.3	154.4		8.5	155.3			11.8		11.8	11.8	
Effective Green, g (s)	7.3	154.4		8.5	155.3			11.8		11.8	11.8	
Actuated g/C Ratio	0.04	0.81		0.04	0.82			0.06		0.06	0.06	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	68	4128		79	4129			102		39	102	
v/s Ratio Prot	0.02	c0.65		c0.03	0.20						0.00	
v/s Ratio Perm								0.02		c0.07		
v/c Ratio	0.53	0.80		0.61	0.24			0.26		1.10	0.05	
Uniform Delay, d1	89.7	9.4		89.1	4.0			85.0		89.1	83.8	
Progression Factor	1.25	0.32		0.76	2.28			1.00		1.00	1.00	
Incremental Delay, d2	2.1	1.0		8.4	0.1			0.5		176.2	0.1	
Delay (s)	114.4	4.1		76.6	9.2			85.5		265.3	83.9	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		5.2			12.2			85.5			216.1	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	2953	199	94	952	79	40	81	110	25	44	74
Future Volume (vph)	104	2953	199	94	952	79	40	81	110	25	44	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5037		1770	5027		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5037		1770	5027		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	109	3108	209	99	1002	83	42	85	116	26	46	78
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	107	0	0	73
Lane Group Flow (vph)	109	3314	0	99	1081	0	42	85	9	26	46	5
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.0	135.3		16.1	134.9		6.0	14.6	14.6	4.3	12.9	12.9
Effective Green, g (s)	16.0	135.3		16.1	134.9		6.0	14.6	14.6	4.3	12.9	12.9
Actuated g/C Ratio	0.08	0.71		0.08	0.71		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	149	3586		149	3569		55	143	121	40	126	107
v/s Ratio Prot	c0.06	c0.66		0.06	0.22		c0.02	c0.05		0.01	0.02	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.73	0.92		0.66	0.30		0.76	0.59	0.07	0.65	0.37	0.05
Uniform Delay, d1	84.9	23.0		84.3	10.2		91.3	84.8	81.4	92.1	84.6	82.8
Progression Factor	0.91	0.55		0.91	0.65		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5	3.5		7.8	0.2		42.3	4.4	0.1	25.2	0.7	0.1
Delay (s)	87.1	16.2		84.4	6.8		133.6	89.2	81.5	117.3	85.3	82.9
Level of Service	F	B		F	A		F	F	F	F	F	F
Approach Delay (s)		18.5			13.3			93.2			89.6	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	2500	259	68	976	70	147	136	34	47	121	69
Future Volume (vph)	132	2500	259	68	976	70	147	136	34	47	121	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3434		1770	3347	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3434		1770	3347	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	140	2660	276	72	1038	74	156	145	36	50	129	73
RTOR Reduction (vph)	0	6	0	0	0	31	0	11	0	0	46	0
Lane Group Flow (vph)	140	2930	0	72	1038	43	156	170	0	50	156	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	19.1	119.3		11.0	111.2	111.2	24.4	24.4		15.4	15.4	
Effective Green, g (s)	19.1	119.3		11.0	111.2	111.2	24.4	24.4		15.4	15.4	
Actuated g/C Ratio	0.10	0.63		0.06	0.59	0.59	0.13	0.13		0.08	0.08	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	177	3148		102	2976	926	227	440		143	271	
v/s Ratio Prot	c0.08	c0.58		0.04	0.20		c0.09	0.05		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.79	0.93		0.71	0.35	0.05	0.69	0.39		0.35	0.58	
Uniform Delay, d1	83.5	31.7		87.9	20.5	16.8	79.2	75.9		82.6	84.2	
Progression Factor	1.25	0.38		1.12	0.62	0.09	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.4	3.0		15.0	0.3	0.1	8.8	0.7		2.2	3.8	
Delay (s)	114.1	15.2		113.1	13.1	1.6	88.0	76.6		84.8	87.9	
Level of Service	F	B		F	B	A	F	E		F	F	
Approach Delay (s)		19.7			18.5			81.9			87.3	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	2078	60	280	998	244	131	557	122	303	416	120
Future Volume (vph)	223	2078	60	280	998	244	131	557	122	303	416	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	230	2142	62	289	1029	252	135	574	126	312	429	124
RTOR Reduction (vph)	0	1	0	0	0	106	0	0	57	0	14	0
Lane Group Flow (vph)	230	2203	0	289	1029	146	135	574	69	312	539	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	17.6	97.8		20.0	100.3	100.3	17.9	32.3	32.3	20.1	34.3	
Effective Green, g (s)	17.6	97.8		20.0	100.3	100.3	17.9	32.3	32.3	20.1	34.3	
Actuated g/C Ratio	0.09	0.51		0.11	0.53	0.53	0.09	0.17	0.17	0.11	0.18	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	296	2432		337	2595	780	161	806	251	363	617	
v/s Ratio Prot	0.07	c0.47		c0.09	0.21		0.08	0.12		c0.09	c0.16	
v/s Ratio Perm						0.10			0.05			
v/c Ratio	0.78	0.91		0.86	0.40	0.19	0.84	0.71	0.27	0.86	0.87	
Uniform Delay, d1	84.3	41.9		83.6	26.8	23.5	84.6	74.5	68.6	83.6	75.7	
Progression Factor	1.22	0.61		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	2.6		18.3	0.5	0.5	28.8	3.4	1.0	17.4	13.5	
Delay (s)	107.6	28.3		101.9	27.2	24.0	113.5	77.9	69.7	100.9	89.2	
Level of Service	F	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		35.8			40.5			82.4			93.5	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	52.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	59	293	257	58	229	405
Future Volume (vph)	59	293	257	58	229	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3442		1717	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3442		1717	1504
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	66	326	286	64	254	450
RTOR Reduction (vph)	0	0	32	0	24	157
Lane Group Flow (vph)	66	326	318	0	343	180
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	5.6	22.2	12.6		14.7	24.8
Effective Green, g (s)	5.6	22.2	12.6		14.7	24.8
Actuated g/C Ratio	0.12	0.48	0.27		0.32	0.53
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	213	891	934		543	803
v/s Ratio Prot	0.04	c0.18	0.09		c0.20	0.12
v/s Ratio Perm						
v/c Ratio	0.31	0.37	0.34		0.63	0.22
Uniform Delay, d1	18.6	7.6	13.6		13.5	5.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.5	0.5		2.4	0.1
Delay (s)	18.9	8.2	14.0		15.9	5.9
Level of Service	B	A	B		B	A
Approach Delay (s)		10.0	14.0		11.1	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	922	14	13	221	26	11	1	47	237	2	37
Future Volume (vph)	5	922	14	13	221	26	11	1	47	237	2	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1859		1770	1833			1647			1754	
Flt Permitted	0.60	1.00		0.12	1.00			0.92			0.71	
Satd. Flow (perm)	1109	1859		221	1833			1530			1301	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	991	15	14	238	28	12	1	51	255	2	40
RTOR Reduction (vph)	0	1	0	0	6	0	0	37	0	0	9	0
Lane Group Flow (vph)	5	1005	0	14	260	0	0	27	0	0	288	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.3	34.3		33.7	33.7			16.6			16.6	
Effective Green, g (s)	34.3	34.3		33.7	33.7			16.6			16.6	
Actuated g/C Ratio	0.57	0.57		0.56	0.56			0.27			0.27	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	626	1050		122	1017			418			355	
v/s Ratio Prot		c0.54			0.14							
v/s Ratio Perm	0.00			0.06				0.02			c0.22	
v/c Ratio	0.01	0.96		0.11	0.26			0.06			0.81	
Uniform Delay, d1	5.8	12.5		6.4	7.0			16.3			20.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	18.2		0.4	0.1			0.0			12.4	
Delay (s)	5.8	30.7		6.8	7.1			16.3			33.0	
Level of Service	A	C		A	A			B			C	
Approach Delay (s)		30.5			7.1			16.3			33.0	
Approach LOS		C			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.7	Sum of lost time (s)	10.4
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	302	464	77	84	231	124	1123	75	129	713	76
Future Volume (vph)	349	302	464	77	84	231	124	1123	75	129	713	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1879		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1879		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	384	332	510	85	92	254	136	1234	82	142	784	84
RTOR Reduction (vph)	0	0	173	0	68	0	0	0	25	0	0	32
Lane Group Flow (vph)	384	332	337	85	278	0	136	1234	57	142	784	52
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	36.3	36.3	51.8	24.8	24.8		15.5	50.6	75.4	11.6	46.7	88.7
Effective Green, g (s)	36.3	36.3	51.8	24.8	24.8		15.5	50.6	75.4	11.6	46.7	88.7
Actuated g/C Ratio	0.25	0.25	0.36	0.17	0.17		0.11	0.35	0.52	0.08	0.32	0.62
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	415	437	549	284	323		183	1159	827	132	1107	941
v/s Ratio Prot	c0.23	0.19	0.22	0.05	c0.15		0.08	c0.37	0.04	c0.09	0.23	0.03
v/s Ratio Perm												
v/c Ratio	0.93	0.76	0.61	0.30	0.86		0.74	1.06	0.07	1.08	0.71	0.05
Uniform Delay, d1	52.6	49.9	38.0	52.1	58.0		62.4	46.8	17.0	66.3	42.8	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.1	6.8	1.6	0.6	20.2		13.3	45.5	0.0	100.1	2.2	0.0
Delay (s)	78.7	56.7	39.5	52.7	78.2		75.7	92.3	17.1	166.4	45.0	11.1
Level of Service	E	E	D	D	E		E	F	B	F	D	B
Approach Delay (s)		56.5			73.2			86.5			59.2	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	69.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	144.2	Sum of lost time (s)	20.9
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	149	0	15	0	245	70	17	605	0
Future Volume (vph)	1	0	1	149	0	15	0	245	70	17	605	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.0	5.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	0	1	173	0	17	0	285	81	20	703	0
RTOR Reduction (vph)	0	2	0	0	0	14	0	0	21	0	0	0
Lane Group Flow (vph)	0	0	0	0	173	3	0	285	60	20	703	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			9.0	9.0		26.3	39.8	0.6	30.9	
Effective Green, g (s)		0.7			9.0	8.0		26.3	39.8	0.6	30.9	
Actuated g/C Ratio		0.01			0.17	0.15		0.49	0.75	0.01	0.58	
Clearance Time (s)		4.2			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		22			298	237		919	1182	19	1080	
v/s Ratio Prot		c0.00			c0.10			0.15	0.04	0.01	c0.38	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.58	0.01		0.31	0.05	1.05	0.65	
Uniform Delay, d1		26.0			20.4	19.3		8.1	1.8	26.3	7.6	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.9	0.0		0.2	0.0	224.0	1.4	
Delay (s)		26.0			22.3	19.3		8.3	1.8	250.4	9.0	
Level of Service		C			C	B		A	A	F	A	
Approach Delay (s)		26.0			22.0			6.8			15.7	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	16.7
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	675	176	78	227	6	103	7	157	60	68	101
Future Volume (vph)	17	675	176	78	227	6	103	7	157	60	68	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3430		1770	3526		1770	1863	1583	1770	1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3430		1770	3526		1770	1863	1583	1770	1696	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	703	183	81	236	6	107	7	164	62	71	105
RTOR Reduction (vph)	0	25	0	0	2	0	0	0	76	0	72	0
Lane Group Flow (vph)	18	861	0	81	240	0	107	7	88	63	104	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	0.6	26.0		4.9	30.8		6.3	13.5	23.3	3.2	10.4	
Effective Green, g (s)	0.6	26.0		4.9	30.8		6.3	13.5	23.3	3.2	10.4	
Actuated g/C Ratio	0.01	0.39		0.07	0.46		0.09	0.20	0.35	0.05	0.15	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	15	1323		128	1611		165	373	547	84	261	
v/s Ratio Prot	0.01	c0.25		c0.05	c0.07		c0.06	0.00	c0.06	0.04	c0.06	
v/s Ratio Perm												
v/c Ratio	1.20	0.65		0.63	0.15		0.65	0.02	0.16	0.75	0.40	
Uniform Delay, d1	33.4	17.0		30.4	10.7		29.5	21.6	15.3	31.7	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	303.5	1.1		7.3	0.0		6.4	0.0	0.1	27.8	0.4	
Delay (s)	336.9	18.1		37.7	10.7		35.9	21.6	15.3	59.5	26.0	
Level of Service	F	B		D	B		D	C	B	E	C	
Approach Delay (s)		24.4			17.5			23.4			34.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	67.4	Sum of lost time (s)	19.8
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	932	334	209	1394	97	224	21	205	396	72	324
Future Volume (vph)	58	932	334	209	1394	97	224	21	205	396	72	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	59	951	341	213	1422	99	229	21	209	404	73	331
RTOR Reduction (vph)	0	0	208	0	4	0	0	0	187	0	181	0
Lane Group Flow (vph)	59	951	133	213	1517	0	124	126	22	283	344	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	8.3	58.3	58.3	13.2	63.2		16.0	16.0	16.0	43.0	43.0	
Effective Green, g (s)	8.3	58.3	58.3	13.2	63.2		16.0	16.0	16.0	43.0	43.0	
Actuated g/C Ratio	0.06	0.39	0.39	0.09	0.42		0.11	0.11	0.11	0.29	0.29	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	97	1976	615	302	2121		179	181	168	461	870	
v/s Ratio Prot	0.03	0.19		c0.06	c0.30		0.07	c0.07		c0.18	0.11	
v/s Ratio Perm			0.08						0.01			
v/c Ratio	0.61	0.48	0.22	0.71	0.72		0.69	0.70	0.13	0.61	0.40	
Uniform Delay, d1	69.3	34.5	30.6	66.5	35.9		64.6	64.7	60.7	46.3	43.0	
Progression Factor	1.00	1.00	1.00	1.33	0.60		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.2	0.8	0.8	4.3	1.5		9.0	9.0	0.1	4.3	0.9	
Delay (s)	76.5	35.3	31.4	92.9	23.0		73.6	73.7	60.8	50.6	43.9	
Level of Service	E	D	C	F	C		E	E	E	D	D	
Approach Delay (s)		36.1			31.6			67.8			46.2	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1398	158	420	1345	267	195	55	659	892	223	167
Future Volume (vph)	23	1398	158	420	1345	267	195	55	659	892	223	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	25	1503	170	452	1446	287	210	59	709	959	240	180
RTOR Reduction (vph)	0	0	108	0	0	102	0	0	50	0	0	48
Lane Group Flow (vph)	25	1503	62	452	1446	185	210	59	659	959	240	132
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.3	40.4	40.4	19.2	56.0	96.9	13.1	35.0	59.2	35.6	57.2	66.8
Effective Green, g (s)	4.3	40.4	40.4	19.2	56.0	96.9	13.1	35.0	59.2	35.6	57.2	66.8
Actuated g/C Ratio	0.03	0.27	0.27	0.13	0.37	0.65	0.09	0.23	0.39	0.24	0.38	0.45
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	98	1369	426	439	1898	1800	299	825	1099	814	1349	704
v/s Ratio Prot	0.01	c0.30		c0.13	0.28	0.07	0.06	0.02	c0.24	c0.28	0.07	0.08
v/s Ratio Perm			0.04									
v/c Ratio	0.26	1.10	0.15	1.03	0.76	0.10	0.70	0.07	0.60	1.18	0.18	0.19
Uniform Delay, d1	71.3	54.8	41.7	65.4	41.2	10.1	66.6	44.8	36.0	57.2	30.8	25.2
Progression Factor	1.19	0.73	0.37	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	54.8	0.7	50.8	3.0	0.0	6.0	0.1	1.4	92.8	0.1	0.2
Delay (s)	85.4	95.0	16.1	116.2	44.1	10.1	72.5	44.9	37.4	150.0	30.9	25.4
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		86.9			54.5			45.4			113.0	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	74.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1863	1040	0	1231	797	0	0	0	225	0	756
Future Volume (vph)	0	1863	1040	0	1231	797	0	0	0	225	0	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1982	1106	0	1310	848	0	0	0	239	0	804
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	46
Lane Group Flow (vph)	0	1982	1106	0	1310	848	0	0	0	239	0	758
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		83.3	138.0		83.3	138.0				42.5		42.5
Effective Green, g (s)		83.3	138.0		83.3	133.3				42.5		42.5
Actuated g/C Ratio		0.60	1.00		0.60	0.97				0.31		0.31
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		3069	2787		3069	1529				1057		858
v/s Ratio Prot		c0.39			0.26	0.54				0.07		c0.27
v/s Ratio Perm			0.40									
v/c Ratio		0.65	0.40		0.43	0.55				0.23		0.88
Uniform Delay, d1		17.8	0.0		14.6	0.2				35.5		45.4
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		1.1	0.4		0.4	0.2				0.0		10.4
Delay (s)		18.8	0.4		15.1	0.4				35.6		55.8
Level of Service		B	A		B	A				D		E
Approach Delay (s)		12.2			9.3			0.0			51.1	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1013	1164	0	1513	779	450	0	181	0	0	0
Future Volume (vph)	0	1013	1164	0	1513	779	450	0	181	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1044	1200	0	1560	803	464	0	187	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	153	0	0	0
Lane Group Flow (vph)	0	1044	1200	0	1560	803	464	0	34	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		100.9	138.0		100.9	138.0	24.9		24.9			
Effective Green, g (s)		100.9	133.3		100.9	138.0	24.9		24.9			
Actuated g/C Ratio		0.73	0.97		0.73	1.00	0.18		0.18			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3717	1529		4685	1583	619		502			
v/s Ratio Prot		0.21	c0.76		0.24		0.14					
v/s Ratio Perm						0.51			0.01			
v/c Ratio		0.28	0.78		0.33	0.51	0.75		0.07			
Uniform Delay, d1		6.3	0.3		6.6	0.0	53.6		46.9			
Progression Factor		0.66	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.2	2.0		0.2	1.2	4.4		0.0			
Delay (s)		4.3	2.4		6.8	1.2	58.0		46.9			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		3.3			4.9			54.8			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	488	469	244	973	0	0
Future Volume (vph)	488	469	244	973	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	503	484	252	1003	0	0
RTOR Reduction (vph)	0	122	0	0	0	0
Lane Group Flow (vph)	503	362	252	1003	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	67.3	67.3	11.0	90.0		
Effective Green, g (s)	67.3	67.3	11.0	90.0		
Actuated g/C Ratio	0.75	0.75	0.12	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2646	2084	419	5085		
v/s Ratio Prot	0.14		c0.07	c0.20		
v/s Ratio Perm		0.13				
v/c Ratio	0.19	0.17	0.60	0.20		
Uniform Delay, d1	3.3	3.3	37.4	0.0		
Progression Factor	1.00	1.00	0.71	1.00		
Incremental Delay, d2	0.2	0.2	1.6	0.1		
Delay (s)	3.5	3.5	28.3	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	3.5			5.7	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	461	0	0	683	562	659
Future Volume (vph)	0	461	0	0	683	562	659
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	507	0	0	751	618	724
RTOR Reduction (vph)	0	0	0	0	0	0	341
Lane Group Flow (vph)	0	507	0	0	751	618	383
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		56.3			56.3	22.0	22.0
Effective Green, g (s)		56.3			56.3	22.0	22.0
Actuated g/C Ratio		0.63			0.63	0.24	0.24
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2213			3180	839	681
v/s Ratio Prot		0.14			c0.15	c0.18	
v/s Ratio Perm							0.14
v/c Ratio		0.23			0.24	0.74	0.56
Uniform Delay, d1		7.4			7.4	31.3	29.8
Progression Factor		1.01			1.00	1.00	1.00
Incremental Delay, d2		0.2			0.2	2.9	0.6
Delay (s)		7.6			7.6	34.3	30.4
Level of Service		A			A	C	C
Approach Delay (s)		7.6			7.6	32.2	
Approach LOS		A			A	C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1104	59	637	2148	163	953
Future Volume (vph)	1104	59	637	2148	163	953
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6359		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6359		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1127	60	650	2192	166	972
RTOR Reduction (vph)	4	0	0	0	0	3
Lane Group Flow (vph)	1183	0	650	2192	166	969
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	58.7		36.4	99.8	49.8	90.6
Effective Green, g (s)	58.7		36.4	99.8	49.8	90.6
Actuated g/C Ratio	0.37		0.23	0.62	0.31	0.57
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2332		781	3996	550	1578
v/s Ratio Prot	0.19		c0.19	c0.34	0.09	c0.35
v/s Ratio Perm						
v/c Ratio	0.51		0.83	0.55	0.30	0.61
Uniform Delay, d1	39.4		58.9	17.2	41.9	23.1
Progression Factor	1.00		0.51	1.35	1.00	1.00
Incremental Delay, d2	0.8		2.4	0.2	0.1	0.5
Delay (s)	40.2		32.5	23.4	42.0	23.6
Level of Service	D		C	C	D	C
Approach Delay (s)	40.2			25.5	26.3	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	131	1952	0	2464	169	880	322
Future Volume (vph)	131	1952	0	2464	169	880	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (prot)	3433	5085		5085	1583	3346	
Flt Permitted	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (perm)	3433	5085		5085	1583	3346	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	132	1972	0	2489	171	889	325
RTOR Reduction (vph)	0	0	0	0	3	25	0
Lane Group Flow (vph)	132	1972	0	2489	168	1189	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	92.7		81.6	143.6	56.6	
Effective Green, g (s)	7.6	92.7		81.6	143.6	56.6	
Actuated g/C Ratio	0.05	0.58		0.51	0.90	0.35	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	163	2946		2593	1420	1183	
v/s Ratio Prot	0.04	c0.39		c0.49	0.11	c0.36	
v/s Ratio Perm							
v/c Ratio	0.81	0.67		0.96	0.12	1.01	
Uniform Delay, d1	75.5	23.1		37.6	0.9	51.7	
Progression Factor	0.84	0.96		0.40	1.38	1.00	
Incremental Delay, d2	20.8	1.1		8.5	0.0	27.5	
Delay (s)	84.1	23.2		23.5	1.4	79.2	
Level of Service	F	C		C	A	E	
Approach Delay (s)		27.0		22.1		79.2	
Approach LOS		C		C		E	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	2706	2598	28	95	66
Future Volume (vph)	24	2706	2598	28	95	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	25	2819	2706	29	99	69
RTOR Reduction (vph)	0	0	0	3	0	62
Lane Group Flow (vph)	25	2819	2706	26	99	7
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.8	135.9	127.1	127.1	13.4	13.4
Effective Green, g (s)	4.8	135.9	127.1	127.1	13.4	13.4
Actuated g/C Ratio	0.03	0.85	0.79	0.79	0.08	0.08
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	53	4319	4039	1257	148	132
v/s Ratio Prot	0.01	c0.55	c0.53		c0.06	
v/s Ratio Perm				0.02		0.00
v/c Ratio	0.47	0.65	0.67	0.02	0.67	0.05
Uniform Delay, d1	76.4	4.1	7.2	3.4	71.1	67.4
Progression Factor	1.12	0.33	0.95	0.69	1.00	1.00
Incremental Delay, d2	1.5	0.5	0.7	0.0	8.6	0.1
Delay (s)	87.1	1.8	7.6	2.4	79.7	67.5
Level of Service	F	A	A	A	E	E
Approach Delay (s)		2.6	7.6		74.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	28	2898	0	2456	33	84	99
Future Volume (vph)	28	2898	0	2456	33	84	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	7.0		8.0	8.0	7.9	6.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3324	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3324	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	3051	0	2585	35	88	104
RTOR Reduction (vph)	0	0	0	0	2	41	58
Lane Group Flow (vph)	29	3051	0	2585	33	90	3
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	5.6	139.4		128.9	128.9	9.7	9.7
Effective Green, g (s)	3.6	138.4		126.9	126.9	6.7	7.7
Actuated g/C Ratio	0.02	0.87		0.79	0.79	0.04	0.05
Clearance Time (s)	4.9	6.0		6.0	6.0	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	39	4398		4033	1255	139	69
v/s Ratio Prot	0.02	c0.60		0.51		c0.03	
v/s Ratio Perm					0.02		0.00
v/c Ratio	0.74	0.69		0.64	0.03	0.65	0.04
Uniform Delay, d1	77.7	3.6		7.0	3.5	75.5	72.6
Progression Factor	0.83	1.41		0.73	0.65	1.00	1.00
Incremental Delay, d2	45.6	0.7		0.4	0.0	9.9	0.3
Delay (s)	110.4	5.9		5.5	2.3	85.4	72.9
Level of Service	F	A		A	A	F	E
Approach Delay (s)		6.9		5.4		81.4	
Approach LOS		A		A		F	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.8
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1105	1775	84	18	1283	65	45	56	8	99	1	1182
Future Volume (vph)	1105	1775	84	18	1283	65	45	56	8	99	1	1182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5048		1652	1826		1625	1631	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5048		1652	1826		1625	1631	2787
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1188	1909	90	19	1380	70	48	60	9	106	1	1271
RTOR Reduction (vph)	0	3	0	0	3	0	0	4	0	0	0	260
Lane Group Flow (vph)	1188	1996	0	19	1447	0	48	65	0	53	54	1011
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	46.0	91.9		2.4	48.4		10.1	10.1		35.0	35.0	86.5
Effective Green, g (s)	46.0	91.9		2.4	48.4		10.1	10.1		35.0	35.0	86.5
Actuated g/C Ratio	0.29	0.57		0.01	0.30		0.06	0.06		0.22	0.22	0.54
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	921	2901		48	1527		104	115		355	356	1506
v/s Ratio Prot	c0.37	0.40		0.01	c0.29		0.03	c0.04		0.03	0.03	c0.36
v/s Ratio Perm												
v/c Ratio	1.29	0.69		0.40	0.95		0.46	0.57		0.15	0.15	0.67
Uniform Delay, d1	57.0	24.0		78.1	54.6		72.3	72.8		50.5	50.5	26.5
Progression Factor	0.93	1.09		1.03	1.14		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	136.6	1.0		1.9	13.3		1.2	3.8		0.2	0.2	1.1
Delay (s)	189.8	27.0		82.6	75.7		73.5	76.6		50.7	50.7	27.6
Level of Service	F	C		F	E		E	E		D	D	C
Approach Delay (s)		87.7			75.8			75.3			29.4	
Approach LOS		F			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	71.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	87	1869	0	964	217	500	168
Future Volume (vph)	87	1869	0	964	217	500	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3201	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3201	1585
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	91	1947	0	1004	226	521	175
RTOR Reduction (vph)	0	0	0	0	31	2	126
Lane Group Flow (vph)	91	1947	0	1004	195	537	31
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	12.9	117.7		100.1	137.8	31.7	31.7
Effective Green, g (s)	12.9	117.7		100.1	137.8	31.7	31.7
Actuated g/C Ratio	0.08	0.74		0.63	0.86	0.20	0.20
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	137	3616		3075	1272	634	314
v/s Ratio Prot	c0.05	c0.40		0.20	0.13	c0.17	
v/s Ratio Perm							0.02
v/c Ratio	0.66	0.54		0.33	0.15	0.85	0.10
Uniform Delay, d1	71.4	9.3		14.1	1.8	61.8	52.5
Progression Factor	1.40	0.15		1.43	0.00	1.00	1.00
Incremental Delay, d2	7.0	0.4		0.3	0.0	9.8	0.1
Delay (s)	107.1	1.8		20.4	0.0	71.7	52.5
Level of Service	F	A		C	A	E	D
Approach Delay (s)		6.5		16.7		67.3	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	362	2366	963	603	418	174
Future Volume (vph)	362	2366	963	603	418	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.97	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4503	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4503	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	366	2390	973	609	422	176
RTOR Reduction (vph)	0	0	19	142	0	84
Lane Group Flow (vph)	366	2390	1204	217	422	92
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	22.6	123.5	96.7	96.7	25.5	53.1
Effective Green, g (s)	22.6	123.5	96.7	96.7	25.5	53.1
Actuated g/C Ratio	0.14	0.77	0.60	0.60	0.16	0.33
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	452	3663	2721	768	510	863
v/s Ratio Prot	c0.11	c0.50	0.27		c0.13	0.04
v/s Ratio Perm				0.17		
v/c Ratio	0.81	0.65	0.44	0.28	0.83	0.11
Uniform Delay, d1	66.6	8.4	17.1	15.1	65.1	37.0
Progression Factor	0.92	1.83	0.77	0.99	1.00	1.00
Incremental Delay, d2	8.7	0.8	0.4	0.8	10.1	0.0
Delay (s)	70.0	16.2	13.7	15.7	75.2	37.0
Level of Service	E	B	B	B	E	D
Approach Delay (s)		23.3	14.1		64.0	
Approach LOS		C	B		E	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	2542	148	118	1508	37	280	51	282	77	40	31
Future Volume (vph)	39	2542	148	118	1508	37	280	51	282	77	40	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1770	5085	1583	3433	5067		1681	1560	1504		1764	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1770	5085	1583	3433	5067		1681	1560	1504		1764	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	2676	156	124	1587	39	295	54	297	81	42	33
RTOR Reduction (vph)	0	0	32	0	1	0	0	18	94	0	6	0
Lane Group Flow (vph)	41	2676	124	124	1625	0	224	202	108	0	150	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.6	91.9	91.9	9.2	94.1		26.0	26.0	26.0		13.5	
Effective Green, g (s)	6.6	91.9	91.9	9.2	94.1		26.0	26.0	26.0		13.5	
Actuated g/C Ratio	0.04	0.57	0.57	0.06	0.59		0.16	0.16	0.16		0.08	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	73	2920	909	197	2980		273	253	244		148	
v/s Ratio Prot	0.02	c0.53		c0.04	c0.32		c0.13	0.13			c0.08	
v/s Ratio Perm			0.08						0.07			
v/c Ratio	0.56	0.92	0.14	0.63	0.55		0.82	0.80	0.44		1.01	
Uniform Delay, d1	75.3	30.6	15.7	73.7	20.0		64.7	64.5	60.5		73.2	
Progression Factor	1.17	0.86	0.57	0.61	2.41		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.5	4.7	0.2	3.8	0.6		16.9	14.9	0.5		76.8	
Delay (s)	92.3	30.9	9.3	49.0	48.8		81.6	79.3	60.9		150.1	
Level of Service	F	C	A	D	D		F	E	E		F	
Approach Delay (s)		30.6			48.8			74.4			150.1	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	197	2526	0	1564	154	503	173
Future Volume (vph)	197	2526	0	1564	154	503	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.2	8.0		7.0		7.3	7.3
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5017		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5017		3433	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	203	2604	0	1612	159	519	178
RTOR Reduction (vph)	0	0	0	7	0	0	146
Lane Group Flow (vph)	203	2604	0	1764	0	519	32
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	13.2	118.0		99.6		30.7	30.7
Effective Green, g (s)	11.2	116.0		98.6		28.7	28.7
Actuated g/C Ratio	0.07	0.72		0.62		0.18	0.18
Clearance Time (s)	5.2	6.0		6.0		5.3	5.3
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	240	3686		3091		615	499
v/s Ratio Prot	0.06	c0.51		0.35		c0.15	
v/s Ratio Perm							0.01
v/c Ratio	0.85	0.71		0.57		0.84	0.06
Uniform Delay, d1	73.5	12.4		18.2		63.5	54.5
Progression Factor	1.26	0.45		0.62		1.00	1.00
Incremental Delay, d2	11.2	0.5		0.6		10.7	0.1
Delay (s)	103.7	6.1		11.8		74.1	54.6
Level of Service	F	A		B		E	D
Approach Delay (s)		13.1		11.8		69.1	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2023	973	33	1059	149	508	407	30	255	524	42
Future Volume (vph)	51	2023	973	33	1059	149	508	407	30	255	524	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	6.7	4.4	5.8		8.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4991		2841	3053		3204	3500	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4991		2841	3053		3204	3500	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	2043	983	33	1070	151	513	411	30	258	529	42
RTOR Reduction (vph)	0	0	16	0	11	0	0	2	0	0	3	0
Lane Group Flow (vph)	52	2043	967	33	1210	0	462	490	0	258	568	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.3	71.5	108.4	3.3	67.4		36.9	36.9		26.4	26.4	
Effective Green, g (s)	7.3	71.5	106.4	3.3	67.4		34.9	36.9		26.4	26.4	
Actuated g/C Ratio	0.05	0.45	0.67	0.02	0.42		0.22	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	88	2196	982	37	2102		619	704		528	577	
v/s Ratio Prot	c0.03	0.42	c0.65	0.02	0.24		0.16	0.16		0.08	c0.16	
v/s Ratio Perm												
v/c Ratio	0.59	0.93	0.98	0.89	0.58		0.75	0.70		0.49	0.98	
Uniform Delay, d1	74.9	41.9	26.0	78.2	35.4		58.4	56.4		60.7	66.6	
Progression Factor	1.24	0.65	0.55	1.09	0.73		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.2	6.3	20.1	99.3	1.1		4.9	3.0		0.7	33.1	
Delay (s)	100.4	33.7	34.5	184.9	27.0		63.3	59.4		61.4	99.7	
Level of Service	F	C	C	F	C		E	E		E	F	
Approach Delay (s)		35.0			31.1			61.3			87.8	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.9
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	2327	93	40	1357	20	32	9	124	81	10	38
Future Volume (vph)	32	2327	93	40	1357	20	32	9	124	81	10	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5056		1770	5074			1658			1734	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.47	
Satd. Flow (perm)	1770	5056		1770	5074			1525			845	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	2374	95	41	1385	20	33	9	127	83	10	39
RTOR Reduction (vph)	0	2	0	0	1	0	0	71	0	0	10	0
Lane Group Flow (vph)	33	2467	0	41	1404	0	0	98	0	0	122	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	115.5		7.2	115.7			22.7			22.7	
Effective Green, g (s)	6.5	115.5		7.2	115.7			22.7			22.7	
Actuated g/C Ratio	0.04	0.72		0.05	0.72			0.14			0.14	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	71	3649		79	3669			216			119	
v/s Ratio Prot	0.02	c0.49		c0.02	0.28							
v/s Ratio Perm								0.06			c0.14	
v/c Ratio	0.46	0.68		0.52	0.38			0.45			1.02	
Uniform Delay, d1	75.0	12.1		74.7	8.5			63.0			68.7	
Progression Factor	1.01	0.39		1.01	1.13			1.00			1.00	
Incremental Delay, d2	1.0	0.6		2.2	0.3			0.6			88.7	
Delay (s)	76.9	5.3		77.7	9.8			63.5			157.4	
Level of Service	E	A		E	A			E			F	
Approach Delay (s)		6.2			11.8			63.5			157.4	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1338	1182	0	830	800	0	0	0	25	0	527
Future Volume (vph)	0	1338	1182	0	830	800	0	0	0	25	0	527
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1379	1219	0	856	825	0	0	0	26	0	543
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	317
Lane Group Flow (vph)	0	1379	1219	0	856	825	0	0	0	26	0	226
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		132.0	160.0		132.0	160.0				16.9		16.9
Effective Green, g (s)		132.0	160.0		132.0	160.0				16.9		16.9
Actuated g/C Ratio		0.82	1.00		0.82	1.00				0.11		0.11
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2919	1583		2919	2787				362		294
v/s Ratio Prot		0.39			0.24					0.01		
v/s Ratio Perm			c0.77			0.30						0.08
v/c Ratio		0.47	0.77		0.29	0.30				0.07		0.77
Uniform Delay, d1		4.0	0.0		3.2	0.0				64.5		69.7
Progression Factor		1.17	1.00		0.58	1.00				1.00		1.00
Incremental Delay, d2		0.4	2.8		0.2	0.3				0.0		10.8
Delay (s)		5.1	2.8		2.1	0.3				64.5		80.4
Level of Service		A	A		A	A				E		F
Approach Delay (s)		4.0			1.2			0.0			79.7	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	387	975	0	1044	143	578	0	636	0	0	0
Future Volume (vph)	0	387	975	0	1044	143	578	0	636	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	395	995	0	1065	146	590	0	649	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	449	0	0	0
Lane Group Flow (vph)	0	395	995	0	1065	146	590	0	200	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		114.0	160.0		114.0	160.0	32.9		32.9			
Effective Green, g (s)		114.0	160.0		114.0	160.0	32.9		32.9			
Actuated g/C Ratio		0.71	1.00		0.71	1.00	0.21		0.21			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2521	1583		4565	1583	705		573			
v/s Ratio Prot		0.11			0.17		c0.17					
v/s Ratio Perm			c0.63			0.09			0.07			
v/c Ratio		0.16	0.63		0.23	0.09	0.84		0.35			
Uniform Delay, d1		7.4	0.0		7.9	0.0	61.0		54.4			
Progression Factor		1.16	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	1.7		0.1	0.1	8.2		0.1			
Delay (s)		8.7	1.7		8.1	0.1	69.2		54.5			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		3.7			7.1			61.5			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	591	290	88	30	61	109	859	620	276	483	42
Future Volume (vph)	104	591	290	88	30	61	109	859	620	276	483	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.96			0.95		1.00	0.94		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3365			3279		1770	4765		1770	5024	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3365			3279		1770	4765		1770	5024	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	109	622	305	93	32	64	115	904	653	291	508	44
RTOR Reduction (vph)	0	30	0	0	53	0	0	84	0	0	6	0
Lane Group Flow (vph)	0	1006	0	0	136	0	115	1473	0	291	546	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		37.1			12.8		12.7	39.2		15.6	41.7	
Effective Green, g (s)		37.1			12.8		12.7	39.2		15.6	41.7	
Actuated g/C Ratio		0.30			0.10		0.10	0.31		0.12	0.33	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		999			336		179	1495		221	1677	
v/s Ratio Prot		c0.30			c0.04		0.06	c0.31		c0.16	c0.11	
v/s Ratio Perm												
v/c Ratio		1.01			0.40		0.64	1.13dr		1.32	0.33	
Uniform Delay, d1		43.9			52.5		53.9	42.6		54.7	31.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		30.3			2.0		6.4	19.7		170.8	0.1	
Delay (s)		74.2			54.4		60.3	62.2		225.4	31.2	
Level of Service		E			D		E	E		F	C	
Approach Delay (s)		74.2			54.4			62.1			98.3	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	73.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	124.9	Sum of lost time (s)	20.6
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	0	30	74	0	85	5	1268	165	189	541	17
Future Volume (vph)	127	0	30	74	0	85	5	1268	165	189	541	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770		1583	3204	4831		1770	5062	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770		1583	3204	4831		1770	5062	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	137	0	32	80	0	91	5	1363	177	203	582	18
RTOR Reduction (vph)	0	0	31	0	0	82	0	13	0	0	2	0
Lane Group Flow (vph)	137	0	1	80	0	9	5	1527	0	203	598	0
Turn Type	Prot		Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	6.6		3.3	10.7		7.4	0.8	33.9		7.6	40.7	
Effective Green, g (s)	6.6		3.3	10.7		7.4	0.8	33.9		7.6	40.7	
Actuated g/C Ratio	0.09		0.04	0.14		0.10	0.01	0.45		0.10	0.54	
Clearance Time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	3.0		2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	150		78	251		155	34	2177		178	2739	
v/s Ratio Prot	c0.08			0.05			0.00	c0.32		c0.11	0.12	
v/s Ratio Perm			0.00			c0.01						
v/c Ratio	0.91		0.02	0.32		0.06	0.15	0.70		1.14	0.22	
Uniform Delay, d1	34.0		34.4	29.0		30.7	36.9	16.6		33.8	9.0	
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	47.7		0.0	0.7		0.1	0.7	1.1		110.3	0.0	
Delay (s)	81.7		34.4	29.7		30.8	37.6	17.7		144.1	9.0	
Level of Service	F		C	C		C	D	B		F	A	
Approach Delay (s)		72.7			30.3			17.7			43.2	
Approach LOS		E			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	75.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	82	130	0	49	6	1425	290	110	616	1
Future Volume (vph)	7	0	82	130	0	49	6	1425	290	110	616	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00		1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00		0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652		1742	3433	1583		3204	4916	1583	1770	5084	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652		1742	3433	1583		3204	4916	1583	1770	5084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.91
Adj. Flow (vph)	8	0	89	141	0	53	7	1549	315	120	670	1
RTOR Reduction (vph)	0	0	80	0	44	0	0	0	166	0	0	0
Lane Group Flow (vph)	8	0	9	141	9	0	7	1549	149	120	671	0
Turn Type	Prot		Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.8		7.9	5.3	12.4		0.8	35.7	35.7	6.7	41.2	
Effective Green, g (s)	0.8		7.9	5.3	12.4		0.8	35.7	35.7	6.7	41.2	
Actuated g/C Ratio	0.01		0.10	0.07	0.16		0.01	0.47	0.47	0.09	0.55	
Clearance Time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0		2.0	2.0	2.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	17		182	241	260		34	2330	750	157	2781	
v/s Ratio Prot	0.00			c0.04	0.01		0.00	c0.32		c0.07	0.13	
v/s Ratio Perm			c0.01						0.09			
v/c Ratio	0.47		0.05	0.59	0.03		0.21	0.66	0.20	0.76	0.24	
Uniform Delay, d1	37.0		30.3	33.9	26.4		36.9	15.2	11.5	33.5	8.9	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.3		0.0	2.3	0.0		1.1	0.8	0.2	17.8	0.1	
Delay (s)	44.3		30.4	36.3	26.4		38.0	16.0	11.7	51.4	8.9	
Level of Service	D		C	D	C		D	B	B	D	A	
Approach Delay (s)		31.5			33.6			15.3			15.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	20.1
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	1	1708	1	1	832
Future Volume (vph)	9	1	1708	1	1	832
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	9	1	1779	1	1	867
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	9	0	1779	1	1	867
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	0.6	0.6	29.2	29.2	0.5	34.5
Effective Green, g (s)	0.6	0.6	29.2	29.2	0.5	34.5
Actuated g/C Ratio	0.01	0.01	0.63	0.63	0.01	0.75
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	44	20	3227	1004	19	3813
v/s Ratio Prot	c0.00		c0.35		0.00	c0.17
v/s Ratio Perm		0.00		0.00		
v/c Ratio	0.20	0.00	0.55	0.00	0.05	0.23
Uniform Delay, d1	22.5	22.4	4.7	3.1	22.5	1.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0	0.2	0.0	0.4	0.0
Delay (s)	23.3	22.4	4.9	3.1	22.9	1.8
Level of Service	C	C	A	A	C	A
Approach Delay (s)	23.2		4.9			1.8
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	46.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	5	18	181	2	166	7	1612	104	89	841	4
Future Volume (vph)	13	5	18	181	2	166	7	1612	104	89	841	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707		1681	1525		1770	3539	1583	1770	3537	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1707		1681	1525		1770	3539	1583	1770	3537	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	15	6	21	210	2	193	8	1874	121	103	978	5
RTOR Reduction (vph)	0	20	0	0	160	0	0	0	46	0	0	0
Lane Group Flow (vph)	0	22	0	189	56	0	8	1874	75	103	983	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		3.9		18.1	18.1		0.7	55.3	55.3	7.2	61.8	
Effective Green, g (s)		3.9		18.1	18.1		0.7	55.3	55.3	7.2	61.8	
Actuated g/C Ratio		0.04		0.17	0.17		0.01	0.53	0.53	0.07	0.59	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		63		291	264		11	1874	838	122	2093	
v/s Ratio Prot		c0.01		c0.11	0.04		0.00	c0.53		c0.06	0.28	
v/s Ratio Perm									0.05			
v/c Ratio		0.35		0.65	0.21		0.73	1.00	0.09	0.84	0.47	
Uniform Delay, d1		49.0		40.2	37.0		51.8	24.6	12.1	48.0	12.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.2		5.9	0.7		110.3	20.8	0.1	37.2	0.3	
Delay (s)		50.2		46.1	37.7		162.1	45.3	12.2	85.2	12.3	
Level of Service		D		D	D		F	D	B	F	B	
Approach Delay (s)		50.2			41.6			43.8			19.2	
Approach LOS		D			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	104.4	Sum of lost time (s)	19.9
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	83	128	665	571	59
Future Volume (vph)	137	83	128	665	571	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3489	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3489	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	151	91	141	731	627	65
RTOR Reduction (vph)	0	79	0	0	5	0
Lane Group Flow (vph)	151	12	141	731	687	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.4	13.4	8.7	81.5	68.4	
Effective Green, g (s)	13.4	13.4	8.7	81.5	68.4	
Actuated g/C Ratio	0.13	0.13	0.08	0.78	0.65	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	225	202	284	2746	2272	
v/s Ratio Prot	c0.09		c0.04	0.21	c0.20	
v/s Ratio Perm		0.01				
v/c Ratio	0.67	0.06	0.50	0.27	0.30	
Uniform Delay, d1	43.7	40.3	46.1	3.3	7.9	
Progression Factor	1.00	1.00	1.04	0.56	1.00	
Incremental Delay, d2	6.1	0.0	0.5	0.2	0.3	
Delay (s)	49.8	40.3	48.5	2.1	8.3	
Level of Service	D	D	D	A	A	
Approach Delay (s)	46.2			9.6	8.3	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	215	208	48	134	75	178	692	101	105	562	39
Future Volume (vph)	23	215	208	48	134	75	178	692	101	105	562	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3278		1770	3349		3433	3472		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3278		1770	3349		3433	3472		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	226	219	51	141	79	187	728	106	111	592	41
RTOR Reduction (vph)	0	190	0	0	66	0	0	8	0	0	3	0
Lane Group Flow (vph)	24	255	0	51	154	0	187	826	0	111	630	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.3	14.1		5.7	17.5		10.1	55.3		10.9	56.1	
Effective Green, g (s)	2.3	14.1		5.7	17.5		10.1	55.3		10.9	56.1	
Actuated g/C Ratio	0.02	0.13		0.05	0.17		0.10	0.53		0.10	0.53	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	38	440		96	558		330	1828		183	1872	
v/s Ratio Prot	0.01	c0.08		c0.03	c0.05		0.05	c0.24		c0.06	0.18	
v/s Ratio Perm												
v/c Ratio	0.63	0.58		0.53	0.28		0.57	0.45		0.61	0.34	
Uniform Delay, d1	50.9	42.7		48.3	38.2		45.4	15.4		45.0	13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.47		1.18	0.74	
Incremental Delay, d2	22.5	1.3		2.8	0.1		1.2	0.7		3.8	0.5	
Delay (s)	73.4	43.9		51.2	38.3		53.7	8.0		56.9	10.8	
Level of Service	E	D		D	D		D	A		E	B	
Approach Delay (s)		45.4			40.7			16.3			17.6	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	291	120	22	46	25	53	864	48	55	740	28
Future Volume (vph)	87	291	120	22	46	25	53	864	48	55	740	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1765		1770	3511		1770	3520	
Flt Permitted	0.64	1.00		0.18	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1184	1781		338	1765		1770	3511		1770	3520	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	91	303	125	23	48	26	55	900	50	57	771	29
RTOR Reduction (vph)	0	15	0	0	20	0	0	3	0	0	2	0
Lane Group Flow (vph)	91	413	0	23	54	0	55	947	0	57	798	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.6	28.0		26.8	25.1		6.4	49.9		6.4	49.9	
Effective Green, g (s)	32.6	28.0		26.8	25.1		6.4	49.9		6.4	49.9	
Actuated g/C Ratio	0.31	0.27		0.26	0.24		0.06	0.48		0.06	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	393	474		109	421		107	1668		107	1672	
v/s Ratio Prot	c0.01	c0.23		0.00	0.03		0.03	c0.27		c0.03	0.23	
v/s Ratio Perm	0.06			0.05								
v/c Ratio	0.23	0.87		0.21	0.13		0.51	0.57		0.53	0.48	
Uniform Delay, d1	26.4	36.8		30.8	31.4		47.8	19.8		47.8	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.38	0.29		1.20	0.66	
Incremental Delay, d2	0.1	15.5		0.4	0.1		1.1	0.9		2.4	0.9	
Delay (s)	26.5	52.2		31.1	31.4		67.2	6.6		59.9	13.2	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		47.7			31.4			9.9			16.3	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	329	178	26	120	62	80	857	74	183	578	92
Future Volume (vph)	71	329	178	26	120	62	80	857	74	183	578	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1765		1770	1768		1770	3497		1770	3466	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1765		1770	1768		1770	3497		1770	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	358	193	28	130	67	87	932	80	199	628	100
RTOR Reduction (vph)	0	18	0	0	18	0	0	6	0	0	11	0
Lane Group Flow (vph)	77	533	0	28	179	0	87	1006	0	199	717	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.9	33.2		2.5	29.8		8.0	36.9		13.5	42.4	
Effective Green, g (s)	5.9	33.2		2.5	29.8		8.0	36.9		13.5	42.4	
Actuated g/C Ratio	0.06	0.32		0.02	0.28		0.08	0.35		0.13	0.40	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	99	558		42	501		134	1228		227	1399	
v/s Ratio Prot	c0.04	c0.30		0.02	0.10		0.05	c0.29		c0.11	0.21	
v/s Ratio Perm												
v/c Ratio	0.78	0.95		0.67	0.36		0.65	0.82		0.88	0.51	
Uniform Delay, d1	48.9	35.2		50.8	30.0		47.1	31.0		44.9	23.5	
Progression Factor	1.00	1.00		1.00	1.00		1.30	0.78		1.32	0.63	
Incremental Delay, d2	28.7	26.7		26.8	0.2		6.7	5.3		26.3	1.2	
Delay (s)	77.6	61.9		77.6	30.1		68.0	29.4		85.7	16.1	
Level of Service	E	E		E	C		E	C		F	B	
Approach Delay (s)		63.8			36.0			32.4			31.0	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	39	1	35	3	1086	243	68	721	6
Future Volume (vph)	0	0	4	39	1	35	3	1086	243	68	721	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	3442		1770	3535	
Flt Permitted		1.00			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1358	1583	1770	3442		1770	3535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	4	41	1	37	3	1155	259	72	767	6
RTOR Reduction (vph)	0	4	0	0	0	34	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	42	3	3	1403	0	72	773	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		9.4			9.4	9.4	1.1	73.3		7.6	80.0	
Effective Green, g (s)		9.4			9.4	9.4	1.1	73.3		7.6	80.0	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.70		0.07	0.76	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		144			121	141	18	2402		128	2693	
v/s Ratio Prot		0.00					0.00	c0.41		c0.04	0.22	
v/s Ratio Perm					c0.03	0.00						
v/c Ratio		0.00			0.35	0.02	0.17	0.58		0.56	0.29	
Uniform Delay, d1		43.5			44.9	43.6	51.5	8.1		47.1	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.90	1.37	
Incremental Delay, d2		0.0			4.1	0.2	1.6	1.0		2.7	0.2	
Delay (s)		43.5			49.0	43.8	53.1	9.1		44.9	5.5	
Level of Service		D			D	D	D	A		D	A	
Approach Delay (s)		43.5			46.6			9.2			8.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	58	22	1301	757	5
Future Volume (vph)	33	58	22	1301	757	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3536	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	61	23	1369	797	5
RTOR Reduction (vph)	0	58	0	0	0	0
Lane Group Flow (vph)	35	3	23	1369	802	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.2	5.2	4.3	109.0	99.2	
Effective Green, g (s)	5.2	5.2	4.3	109.0	99.2	
Actuated g/C Ratio	0.04	0.04	0.03	0.87	0.79	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	142	65	60	3086	2806	
v/s Ratio Prot	c0.01		0.01	c0.39	0.23	
v/s Ratio Perm		0.00				
v/c Ratio	0.25	0.04	0.38	0.44	0.29	
Uniform Delay, d1	58.0	57.5	59.1	1.7	3.4	
Progression Factor	1.00	1.00	1.22	0.30	1.00	
Incremental Delay, d2	0.3	0.1	1.3	0.4	0.3	
Delay (s)	58.3	57.6	73.3	0.9	3.7	
Level of Service	E	E	E	A	A	
Approach Delay (s)	57.9			2.1	3.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	4	744	9	2	5	81	976	11	5	749	70
Future Volume (vph)	349	4	744	9	2	5	81	976	11	5	749	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	360	4	767	9	2	5	84	1006	11	5	772	72
RTOR Reduction (vph)	0	0	114	0	5	0	0	0	7	0	5	0
Lane Group Flow (vph)	184	180	653	0	11	0	84	1006	4	5	839	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	54.5	54.5	54.5		1.6		8.7	47.9	47.9	0.8	40.0	
Effective Green, g (s)	54.5	54.5	54.5		1.6		8.7	47.9	47.9	0.8	40.0	
Actuated g/C Ratio	0.44	0.44	0.44		0.01		0.07	0.38	0.38	0.01	0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	732	735	690		22		123	1356	606	11	1118	
v/s Ratio Prot	0.11	0.11			c0.01		c0.05	c0.28		0.00	0.24	
v/s Ratio Perm			c0.41						0.00			
v/c Ratio	0.25	0.24	0.95		0.50		0.68	0.74	0.01	0.45	0.75	
Uniform Delay, d1	22.3	22.3	33.8		61.3		56.8	33.2	23.8	61.9	38.0	
Progression Factor	1.00	1.00	1.00		1.00		0.60	1.24	1.00	0.98	0.93	
Incremental Delay, d2	0.1	0.1	21.7		6.4		3.6	1.1	0.0	10.2	4.5	
Delay (s)	22.4	22.3	55.5		67.7		37.8	42.4	23.8	70.8	40.1	
Level of Service	C	C	E		E		D	D	C	E	D	
Approach Delay (s)		44.8			67.7			41.9			40.2	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	55	0	237	11	819	193	924	567	10
Future Volume (vph)	0	13	1	55	0	237	11	819	193	924	567	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3438		1770	3530	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3438		1770	3530	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	57	0	244	11	844	199	953	585	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	17	0	0	1	0
Lane Group Flow (vph)	0	13	0	0	57	238	11	1026	0	953	594	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.0			12.0	84.5	1.4	31.1		67.6	97.3	
Effective Green, g (s)		12.0			12.0	84.5	1.4	31.1		67.6	97.3	
Actuated g/C Ratio		0.10			0.10	0.68	0.01	0.25		0.54	0.78	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		177			133	1070	19	855		957	2747	
v/s Ratio Prot		0.01				0.15	0.01	c0.30		c0.54	0.17	
v/s Ratio Perm					c0.04							
v/c Ratio		0.07			0.43	0.22	0.58	1.20		1.00	0.22	
Uniform Delay, d1		51.4			53.3	7.7	61.5	46.9		28.6	3.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.88	0.78	
Incremental Delay, d2		0.1			0.8	0.0	23.8	101.5		20.7	0.1	
Delay (s)		51.5			54.1	7.8	85.3	148.4		45.8	3.0	
Level of Service		D			D	A	F	F		D	A	
Approach Delay (s)		51.5			16.5			147.8			29.3	
Approach LOS		D			B			F			C	

Intersection Summary			
HCM 2000 Control Delay	70.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Existing Plus Project Buildout

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	852	2284	633	32	991	98	67	70	13	56	56	117
Future Volume (vph)	852	2284	633	32	991	98	67	70	13	56	56	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6322		2841	3018		3204	1598	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6322		2841	3018		3204	1598	2882
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	906	2430	673	34	1054	104	71	74	14	60	60	124
RTOR Reduction (vph)	0	0	112	0	7	0	0	7	0	0	0	0
Lane Group Flow (vph)	906	2430	561	34	1151	0	64	88	0	60	72	112
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	60.4	133.4	133.4	7.4	80.2		13.2	13.2		15.4	15.4	81.1
Effective Green, g (s)	60.4	133.4	133.4	7.4	80.2		13.2	13.2		15.4	15.4	81.1
Actuated g/C Ratio	0.32	0.70	0.70	0.04	0.42		0.07	0.07		0.08	0.08	0.43
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1018	3451	1111	64	2668		197	209		259	129	1230
v/s Ratio Prot	c0.28	c0.49		0.02	0.18		0.02	c0.03		0.02	c0.05	0.04
v/s Ratio Perm			0.35									
v/c Ratio	0.89	0.70	0.51	0.53	0.43		0.32	0.42		0.23	0.56	0.09
Uniform Delay, d1	61.6	16.7	13.1	89.6	38.8		84.2	84.7		81.8	84.0	32.5
Progression Factor	1.00	1.00	1.00	1.12	0.17		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.7	1.2	1.6	3.9	0.5		2.3	3.2		0.7	6.6	0.0
Delay (s)	71.3	17.9	14.7	103.8	7.1		86.4	87.9		82.4	90.6	32.5
Level of Service	E	B	B	F	A		F	F		F	F	C
Approach Delay (s)		29.4			9.9			87.3			61.9	
Approach LOS		C			A			F			E	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	2088	40	159	1053	482	6	20	25	55	17	48
Future Volume (vph)	242	2088	40	159	1053	482	6	20	25	55	17	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4846		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4846		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	255	2198	42	167	1108	507	6	21	26	58	18	51
RTOR Reduction (vph)	0	1	0	0	28	0	0	0	25	0	0	47
Lane Group Flow (vph)	255	2239	0	167	1587	0	6	21	1	58	18	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	19.5	139.0		14.3	133.6		1.9	8.9	8.9	7.6	14.3	14.3
Effective Green, g (s)	19.5	139.0		14.3	133.6		1.9	8.9	8.9	7.6	14.3	14.3
Actuated g/C Ratio	0.10	0.73		0.08	0.70		0.01	0.05	0.05	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	328	3709		241	3407		16	81	74	128	140	119
v/s Ratio Prot	c0.08	c0.44		0.05	0.33		0.00	c0.01		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.78	0.60		0.69	0.47		0.38	0.26	0.02	0.45	0.13	0.03
Uniform Delay, d1	83.1	12.3		85.7	12.4		93.5	87.4	86.4	89.2	82.0	81.4
Progression Factor	0.92	0.72		1.06	2.54		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4	0.5		5.0	0.3		14.1	1.4	0.1	0.9	0.2	0.1
Delay (s)	83.6	9.4		95.9	31.9		107.6	88.8	86.4	90.1	82.3	81.5
Level of Service	F	A		F	C		F	F	F	F	F	F
Approach Delay (s)		17.0			37.9			89.8			85.5	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	548	1184	326	309	1548	1172	29	71	91	106	31	100
Future Volume (vph)	548	1184	326	309	1548	1172	29	71	91	106	31	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.95	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4921		1652	5085	1583	1652	3098	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4921		1652	5085	1583	1652	3098	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	565	1221	336	319	1596	1208	30	73	94	109	32	103
RTOR Reduction (vph)	0	19	0	0	0	0	0	39	49	0	0	95
Lane Group Flow (vph)	565	1538	0	319	1596	1208	30	76	3	109	32	8
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	69.6	109.7		41.1	81.3	190.0	4.8	11.4	11.4	8.1	14.7	14.7
Effective Green, g (s)	69.6	109.7		41.1	81.3	190.0	4.8	11.4	11.4	8.1	14.7	14.7
Actuated g/C Ratio	0.37	0.58		0.22	0.43	1.00	0.03	0.06	0.06	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	605	2841		357	2175	1583	41	185	89	136	301	122
v/s Ratio Prot	c0.34	0.31		c0.19	0.31		0.02	0.02		0.03	0.01	
v/s Ratio Perm						c0.76			0.00			0.01
v/c Ratio	0.93	0.54		0.89	0.73	0.76	0.73	0.41	0.04	0.80	0.11	0.07
Uniform Delay, d1	58.0	24.7		72.3	45.3	0.0	92.0	86.0	84.1	90.2	81.5	81.3
Progression Factor	1.07	1.35		1.03	0.53	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.6	0.6		15.0	1.3	2.1	49.4	1.8	0.2	26.4	0.3	0.5
Delay (s)	80.8	33.9		89.7	25.2	2.1	141.4	87.8	84.3	116.5	81.9	81.7
Level of Service	F	C		F	C	A	F	F	F	F	F	F
Approach Delay (s)		46.4			22.9			95.1			97.3	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	303	823	277	100	2547	66	81	6	20	10	14	227
Future Volume (vph)	303	823	277	100	2547	66	81	6	20	10	14	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98		0.95	1.00	1.00
Satd. Flow (prot)	1770	4893		1770	5066		1681	1627		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98		0.95	1.00	1.00
Satd. Flow (perm)	1770	4893		1770	5066		1681	1627		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	312	848	286	103	2626	68	84	6	21	10	14	234
RTOR Reduction (vph)	0	21	0	0	1	0	0	13	0	0	0	117
Lane Group Flow (vph)	312	1113	0	103	2693	0	56	42	0	10	14	117
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	41.7	138.4		15.4	112.3		10.7	10.7		5.3	5.3	47.0
Effective Green, g (s)	41.7	138.4		15.4	112.3		10.7	10.7		5.3	5.3	47.0
Actuated g/C Ratio	0.22	0.73		0.08	0.59		0.06	0.06		0.03	0.03	0.25
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	388	3564		143	2994		94	91		46	51	391
v/s Ratio Prot	c0.18	0.23		0.06	c0.53		c0.03	0.03		0.01	0.01	c0.07
v/s Ratio Perm												
v/c Ratio	0.80	0.31		0.72	0.90		0.60	0.46		0.22	0.27	0.30
Uniform Delay, d1	70.3	9.1		85.2	33.9		87.5	86.8		90.3	90.5	58.1
Progression Factor	0.91	2.43		1.19	0.62		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.5	0.2		8.8	3.0		6.6	1.3		0.9	1.1	0.2
Delay (s)	73.3	22.2		110.5	24.0		94.1	88.2		91.2	91.5	58.3
Level of Service	E	C		F	C		F	F		F	F	E
Approach Delay (s)		33.2			27.2			91.2			61.3	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	725	42	141	2709	156	7	4	30	41	8	34
Future Volume (vph)	92	725	42	141	2709	156	7	4	30	41	8	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5043		1770	5044		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5043		1770	5044		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	98	771	45	150	2882	166	7	4	32	44	9	36
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	31	0	0	33
Lane Group Flow (vph)	98	814	0	150	3046	0	7	4	1	44	9	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.0	135.6		20.4	141.3		0.8	8.2	8.2	6.1	13.5	13.5
Effective Green, g (s)	15.0	135.6		20.4	141.3		0.8	8.2	8.2	6.1	13.5	13.5
Actuated g/C Ratio	0.08	0.71		0.11	0.74		0.00	0.04	0.04	0.03	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	139	3599		190	3751		7	80	68	56	132	112
v/s Ratio Prot	0.06	0.16		c0.08	c0.60		0.00	0.00		c0.02	c0.00	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.71	0.23		0.79	0.81		1.00	0.05	0.02	0.79	0.07	0.02
Uniform Delay, d1	85.3	9.3		82.7	15.8		94.6	87.2	87.1	91.3	82.4	82.1
Progression Factor	1.15	0.18		1.01	0.33		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.1	0.1		9.0	0.9		340.2	0.1	0.0	47.4	0.1	0.0
Delay (s)	110.5	1.8		92.5	6.2		434.8	87.3	87.1	138.7	82.5	82.1
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		13.5			10.2			143.7			110.1	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	458	300	41	2738	144	349	52	34	19	22	34
Future Volume (vph)	60	458	300	41	2738	144	349	52	34	19	22	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4783		1652	5047		1625	1706	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4783		1652	5047		1625	1706	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	467	306	42	2794	147	356	53	35	19	22	35
RTOR Reduction (vph)	0	40	0	0	2	0	0	0	30	0	0	34
Lane Group Flow (vph)	61	733	0	42	2939	0	203	206	5	19	22	1
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	14.4	126.9		8.2	120.2		28.0	28.0	28.0	6.7	6.7	6.7
Effective Green, g (s)	14.4	126.9		8.2	120.2		28.0	28.0	28.0	6.7	6.7	6.7
Actuated g/C Ratio	0.08	0.67		0.04	0.63		0.15	0.15	0.15	0.04	0.04	0.04
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	125	3194		71	3192		239	251	233	58	65	59
v/s Ratio Prot	c0.04	0.15		0.03	c0.58		c0.12	0.12		0.01	c0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.23		0.59	0.92		0.85	0.82	0.02	0.33	0.34	0.02
Uniform Delay, d1	84.3	12.4		89.3	30.7		78.9	78.6	69.3	89.5	89.5	88.5
Progression Factor	1.19	0.19		1.29	0.41		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2		6.3	4.3		22.7	18.1	0.0	3.3	3.1	0.1
Delay (s)	101.5	2.5		121.4	16.7		101.6	96.7	69.3	92.7	92.6	88.6
Level of Service	F	A		F	B		F	F	E	F	F	F
Approach Delay (s)		9.7			18.2			96.8			90.8	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	319	76	44	2647	73	163	24	56	4	11	15
Future Volume (vph)	30	319	76	44	2647	73	163	24	56	4	11	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.89		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4938		1770	5065		3433	1666		1770	1702	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4938		1770	5065		3433	1666		1770	1702	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	31	326	78	45	2701	74	166	24	57	4	11	15
RTOR Reduction (vph)	0	13	0	0	1	0	0	51	0	0	14	0
Lane Group Flow (vph)	31	391	0	45	2774	0	166	30	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.8	141.5		8.2	142.9		12.9	19.8		0.8	7.7	
Effective Green, g (s)	6.8	141.5		8.2	142.9		12.9	19.8		0.8	7.7	
Actuated g/C Ratio	0.04	0.74		0.04	0.75		0.07	0.10		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	63	3677		76	3809		233	173		7	68	
v/s Ratio Prot	0.02	0.08		c0.03	c0.55		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.49	0.11		0.59	0.73		0.71	0.17		0.57	0.17	
Uniform Delay, d1	89.9	6.7		89.3	12.9		86.7	77.6		94.4	88.1	
Progression Factor	0.86	0.70		1.24	0.15		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.1		2.0	0.3		8.3	0.2		55.0	0.4	
Delay (s)	79.2	4.7		112.6	2.3		95.0	77.8		149.4	88.5	
Level of Service	E	A		F	A		F	E		F	F	
Approach Delay (s)		10.1			4.1			89.4			96.6	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	299	116	832	2665	328	195	182	255	108	300	58
Future Volume (vph)	23	299	116	832	2665	328	195	182	255	108	300	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4873		1652	5002		1652	3421	1531	3204	3453	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4873		1652	5002		1652	3421	1531	3204	3453	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	23	305	118	849	2719	335	199	186	260	110	306	59
RTOR Reduction (vph)	0	36	0	0	8	0	0	0	31	0	9	0
Lane Group Flow (vph)	23	387	0	849	3046	0	199	186	229	110	356	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.9	32.9		85.2	114.1		25.6	40.7	131.9	10.3	25.0	
Effective Green, g (s)	3.9	32.9		85.2	114.1		25.6	40.7	131.9	10.3	25.0	
Actuated g/C Ratio	0.02	0.17		0.45	0.60		0.13	0.21	0.69	0.05	0.13	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	33	843		740	3003		222	732	1062	173	454	
v/s Ratio Prot	0.01	0.08		c0.51	c0.61		c0.12	0.05	0.15	0.03	c0.10	
v/s Ratio Perm												
v/c Ratio	0.70	0.46		1.15	1.01		0.90	0.25	0.22	0.64	0.78	
Uniform Delay, d1	92.5	70.6		52.4	38.0		80.9	62.0	10.4	88.0	79.9	
Progression Factor	1.00	1.01		0.79	0.52		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	40.7	0.6		73.5	14.4		33.6	0.2	0.1	5.5	8.8	
Delay (s)	133.2	71.8		114.6	34.2		114.5	62.3	10.6	93.5	88.6	
Level of Service	F	E		F	C		F	E	B	F	F	
Approach Delay (s)		75.0			51.7			57.5			89.8	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	57.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	637	11	30	3648	22	34	6	45	62	5	116
Future Volume (vph)	26	637	11	30	3648	22	34	6	45	62	5	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5073		1770	5081			1786	1583	1770	1595	
Flt Permitted	0.95	1.00		0.95	1.00			0.31	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5073		1770	5081			576	1583	1360	1595	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	27	657	11	31	3761	23	35	6	46	64	5	120
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	42	0	34	0
Lane Group Flow (vph)	27	667	0	31	3784	0	0	41	4	64	91	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.7	152.8		6.8	152.9			15.1	15.1	15.1	15.1	
Effective Green, g (s)	6.7	152.8		6.8	152.9			15.1	15.1	15.1	15.1	
Actuated g/C Ratio	0.04	0.80		0.04	0.80			0.08	0.08	0.08	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	62	4079		63	4088			45	125	108	126	
v/s Ratio Prot	0.02	0.13		c0.02	c0.74						0.06	
v/s Ratio Perm								c0.07	0.00	0.05		
v/c Ratio	0.44	0.16		0.49	0.93			0.91	0.03	0.59	0.72	
Uniform Delay, d1	89.8	4.2		89.9	14.2			86.8	80.7	84.5	85.4	
Progression Factor	0.89	2.45		1.14	0.13			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.7	0.1		0.9	2.2			98.9	0.0	5.7	15.8	
Delay (s)	81.6	10.3		103.2	4.0			185.7	80.7	90.2	101.2	
Level of Service	F	B		F	A			F	F	F	F	
Approach Delay (s)		13.1			4.8			130.2			97.5	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	686	9	18	3636	31	15	9	38	111	13	37
Future Volume (vph)	7	686	9	18	3636	31	15	9	38	111	13	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5076		1770	5079			1688		1770	1655	
Flt Permitted	0.95	1.00		0.95	1.00			0.92		0.63	1.00	
Satd. Flow (perm)	1770	5076		1770	5079			1576		1180	1655	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	707	9	19	3748	32	16	9	39	114	13	38
RTOR Reduction (vph)	0	0	0	0	0	0	0	32	0	0	34	0
Lane Group Flow (vph)	7	716	0	19	3780	0	0	32	0	114	17	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	148.6		4.6	151.5			21.5		21.5	21.5	
Effective Green, g (s)	1.4	148.6		4.6	151.5			21.5		21.5	21.5	
Actuated g/C Ratio	0.01	0.78		0.02	0.80			0.11		0.11	0.11	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	3969		42	4049			178		133	187	
v/s Ratio Prot	0.00	0.14		c0.01	c0.74						0.01	
v/s Ratio Perm								0.02		c0.10		
v/c Ratio	0.54	0.18		0.45	0.93			0.18		0.86	0.09	
Uniform Delay, d1	94.0	5.3		91.5	15.3			76.3		82.7	75.5	
Progression Factor	1.38	0.42		1.10	0.39			1.00		1.00	1.00	
Incremental Delay, d2	19.6	0.1		0.3	0.6			0.2		37.5	0.1	
Delay (s)	149.3	2.3		100.9	6.4			76.4		120.2	75.6	
Level of Service	F	A		F	A			E		F	E	
Approach Delay (s)		3.7			6.9			76.4			106.4	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	792	30	52	3413	33	94	30	75	66	87	202
Future Volume (vph)	53	792	30	52	3413	33	94	30	75	66	87	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5057		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5057		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	816	31	54	3519	34	97	31	77	68	90	208
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	69	0	0	87
Lane Group Flow (vph)	55	845	0	54	3553	0	97	31	8	68	90	121
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.5	131.2		8.7	127.9		11.7	20.2	20.2	10.2	18.7	18.7
Effective Green, g (s)	11.5	131.2		8.7	127.9		11.7	20.2	20.2	10.2	18.7	18.7
Actuated g/C Ratio	0.06	0.69		0.05	0.67		0.06	0.11	0.11	0.05	0.10	0.10
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	107	3491		81	3418		108	198	168	95	183	155
v/s Ratio Prot	0.03	c0.17		c0.03	c0.70		c0.05	0.02		0.04	0.05	
v/s Ratio Perm									0.01			c0.08
v/c Ratio	0.51	0.24		0.67	1.04		0.90	0.16	0.05	0.72	0.49	0.78
Uniform Delay, d1	86.5	10.9		89.2	31.0		88.6	77.2	76.3	88.5	81.1	83.7
Progression Factor	1.05	0.37		1.16	0.22		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.2		3.8	20.6		54.1	0.1	0.0	19.1	0.8	20.8
Delay (s)	92.5	4.2		107.2	27.3		142.6	77.3	76.3	107.6	81.9	104.5
Level of Service	F	A		F	C		F	E	E	F	F	F
Approach Delay (s)		9.6			28.5			107.8			99.5	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	709	93	21	2997	14	183	45	16	52	119	218
Future Volume (vph)	45	709	93	21	2997	14	183	45	16	52	119	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4997		1770	5085	1583	1770	3400		1770	3196	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4997		1770	5085	1583	1770	3400		1770	3196	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	754	99	22	3188	15	195	48	17	55	127	232
RTOR Reduction (vph)	0	8	0	0	0	6	0	15	0	0	47	0
Lane Group Flow (vph)	48	845	0	22	3188	9	195	50	0	55	312	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	5.6	118.0		4.0	116.4	116.4	23.2	23.2		24.9	24.9	
Effective Green, g (s)	5.6	118.0		4.0	116.4	116.4	23.2	23.2		24.9	24.9	
Actuated g/C Ratio	0.03	0.62		0.02	0.61	0.61	0.12	0.12		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	52	3103		37	3115	969	216	415		231	418	
v/s Ratio Prot	c0.03	0.17		0.01	c0.63		c0.11	0.01		0.03	c0.10	
v/s Ratio Perm						0.01						
v/c Ratio	0.92	0.27		0.59	1.02	0.01	0.90	0.12		0.24	0.91dr	
Uniform Delay, d1	92.0	16.4		92.2	36.8	14.3	82.3	74.3		74.0	79.5	
Progression Factor	0.75	1.63		1.31	0.32	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	93.7	0.2		1.5	12.5	0.0	36.3	0.2		0.8	7.7	
Delay (s)	163.0	27.0		122.7	24.2	14.3	118.6	74.5		74.8	87.3	
Level of Service	F	C		F	C	B	F	E		E	F	
Approach Delay (s)		34.3			24.8			107.6			85.6	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	786	31	168	2701	121	94	282	140	395	483	214
Future Volume (vph)	93	786	31	168	2701	121	94	282	140	395	483	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4719		3204	4916	1478	1711	4746	1478	3433	3376	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4719		3204	4916	1478	1711	4746	1478	3433	3376	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	99	836	33	179	2873	129	100	300	149	420	514	228
RTOR Reduction (vph)	0	2	0	0	0	39	0	0	123	0	27	0
Lane Group Flow (vph)	99	867	0	179	2873	90	100	300	26	420	715	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	6.9	99.7		14.5	107.4	107.4	11.4	32.9	32.9	23.1	44.4	
Effective Green, g (s)	6.9	99.7		14.5	107.4	107.4	11.4	32.9	32.9	23.1	44.4	
Actuated g/C Ratio	0.04	0.52		0.08	0.57	0.57	0.06	0.17	0.17	0.12	0.23	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	116	2476		244	2778	835	102	821	255	417	788	
v/s Ratio Prot	0.03	0.18		c0.06	c0.58		0.06	0.06		c0.12	c0.21	
v/s Ratio Perm						0.06			0.02			
v/c Ratio	0.85	0.35		0.73	1.03	0.11	0.98	0.37	0.10	1.01	0.91	
Uniform Delay, d1	91.0	26.3		85.9	41.3	19.1	89.2	69.3	66.1	83.5	70.8	
Progression Factor	0.97	0.94		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	40.3	0.4		9.4	26.7	0.3	82.3	0.5	0.3	45.9	14.5	
Delay (s)	128.4	25.2		95.3	68.0	19.4	171.5	69.8	66.4	129.3	85.3	
Level of Service	F	C		F	E	B	F	E	E	F	F	
Approach Delay (s)		35.8			67.6			87.4			101.2	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	70.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	242	415	139	91	65	97
Future Volume (vph)	242	415	139	91	65	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	3329		1732	1504
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	1863	3329		1732	1504
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	266	456	153	100	71	107
RTOR Reduction (vph)	0	0	81	0	18	36
Lane Group Flow (vph)	266	456	172	0	74	50
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	13.3	24.7	7.4		5.5	23.3
Effective Green, g (s)	13.3	24.7	7.4		5.5	23.3
Actuated g/C Ratio	0.34	0.62	0.19		0.14	0.59
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	592	1159	620		239	882
v/s Ratio Prot	c0.15	c0.24	0.05		c0.04	0.03
v/s Ratio Perm						
v/c Ratio	0.45	0.39	0.28		0.31	0.06
Uniform Delay, d1	10.3	3.8	13.9		15.4	3.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.5	0.5		0.7	0.0
Delay (s)	10.5	4.2	14.4		16.1	3.5
Level of Service	B	A	B		B	A
Approach Delay (s)		6.5	14.4		10.0	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	39.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	312	6	47	704	194	1	1	8	45	1	9
Future Volume (vph)	53	312	6	47	704	194	1	1	8	45	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1858		1770	1802			1653			1750	
Flt Permitted	0.23	1.00		0.56	1.00			0.96			1.00	
Satd. Flow (perm)	422	1858		1048	1802			1588			1822	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	322	6	48	726	200	1	1	8	46	1	9
RTOR Reduction (vph)	0	1	0	0	10	0	0	7	0	0	8	0
Lane Group Flow (vph)	55	327	0	48	916	0	0	3	0	0	48	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	31.3	31.3		30.7	30.7			3.6			3.6	
Effective Green, g (s)	31.3	31.3		30.7	30.7			3.6			3.6	
Actuated g/C Ratio	0.70	0.70		0.69	0.69			0.08			0.08	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	295	1301		719	1237			127			146	
v/s Ratio Prot		0.18			c0.51							
v/s Ratio Perm	0.13			0.05				0.00			c0.03	
v/c Ratio	0.19	0.25		0.07	0.74			0.02			0.33	
Uniform Delay, d1	2.3	2.4		2.3	4.5			18.9			19.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.3	0.1		0.0	2.4			0.0			0.5	
Delay (s)	2.6	2.5		2.3	6.8			19.0			19.9	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		2.5			6.6			19.0			19.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	44.7	Sum of lost time (s)	10.4
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	125	127	61	310	182	317	620	99	288	1142	394
Future Volume (vph)	108	125	127	61	310	182	317	620	99	288	1142	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1994		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1994		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	116	134	137	66	333	196	341	667	106	310	1228	424
RTOR Reduction (vph)	0	0	89	0	14	0	0	0	31	0	0	68
Lane Group Flow (vph)	116	134	48	66	515	0	341	667	75	310	1228	356
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	16.0	16.0	46.0	29.8	29.8		30.0	49.2	79.0	16.4	35.6	57.3
Effective Green, g (s)	16.0	16.0	46.0	29.8	29.8		30.0	49.2	79.0	16.4	35.6	57.3
Actuated g/C Ratio	0.12	0.12	0.35	0.23	0.23		0.23	0.37	0.60	0.12	0.27	0.43
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	199	210	532	372	449		387	1228	945	204	920	663
v/s Ratio Prot	0.07	c0.08	0.03	0.04	c0.26		c0.20	0.20	0.05	c0.19	c0.36	0.23
v/s Ratio Perm												
v/c Ratio	0.58	0.64	0.09	0.18	1.15		0.88	0.54	0.08	1.52	1.33	0.54
Uniform Delay, d1	55.0	55.4	29.1	41.4	51.3		49.4	32.7	11.3	58.0	48.4	27.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	5.0	0.0	0.2	89.4		19.7	0.6	0.0	257.3	158.1	1.0
Delay (s)	58.1	60.3	29.1	41.6	140.6		69.2	33.3	11.3	315.2	206.4	28.7
Level of Service	E	E	C	D	F		E	C	B	F	F	C
Approach Delay (s)		48.6			129.6			42.2			185.2	
Approach LOS		D			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	124.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	132.3	Sum of lost time (s)	20.9
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	105	1	12	0	614	177	19	323	1
Future Volume (vph)	0	0	1	105	1	12	0	614	177	19	323	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			5.5	5.5		4.6	5.6	4.5	5.6	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1862	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1862	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	1	118	1	13	0	690	199	21	363	1
RTOR Reduction (vph)	0	1	0	0	0	11	0	0	57	0	0	0
Lane Group Flow (vph)	0	0	0	0	119	2	0	690	142	21	364	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.6			8.0	8.0		27.8	40.4	0.6	32.9	
Effective Green, g (s)		0.6			7.0	7.0		27.8	39.4	0.6	31.9	
Actuated g/C Ratio		0.01			0.13	0.13		0.50	0.71	0.01	0.58	
Clearance Time (s)		4.7			4.5	4.5		4.6		4.5	4.6	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		17			224	200		936	1127	19	1074	
v/s Ratio Prot		c0.00			c0.07			c0.37	0.09	0.01	c0.20	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.53	0.01		0.74	0.13	1.11	0.34	
Uniform Delay, d1		27.1			22.6	21.1		10.9	2.5	27.3	6.2	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.2	0.0		3.1	0.1	242.0	0.2	
Delay (s)		27.1			23.8	21.1		13.9	2.6	269.4	6.3	
Level of Service		C			C	C		B	A	F	A	
Approach Delay (s)		27.1			23.6			11.4			20.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	20.3
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	234	62	92	631	35	200	90	84	3	12	20
Future Volume (vph)	122	234	62	92	631	35	200	90	84	3	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3431		1770	3512		1770	1863	1583	1770	1687	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3431		1770	3512		1770	1863	1583	1770	1687	
Peak-hour factor, PHF	0.89	0.89	0.92	0.89	0.89	0.92	0.89	0.89	0.89	0.89	0.89	0.92
Adj. Flow (vph)	137	263	67	103	709	38	225	101	94	3	13	22
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	63	0	21	0
Lane Group Flow (vph)	137	306	0	103	743	0	225	101	31	3	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	7.0	22.1		4.3	19.9		7.5	9.4	18.6	0.6	2.5	
Effective Green, g (s)	7.0	22.1		4.3	19.9		7.5	9.4	18.6	0.6	2.5	
Actuated g/C Ratio	0.12	0.39		0.08	0.35		0.13	0.17	0.33	0.01	0.04	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	220	1349		135	1243		236	311	523	18	75	
v/s Ratio Prot	c0.08	c0.09		0.06	c0.21		c0.13	c0.05	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.62	0.23		0.76	0.60		0.95	0.32	0.06	0.17	0.19	
Uniform Delay, d1	23.3	11.4		25.5	14.9		24.2	20.6	12.8	27.6	25.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.9	0.1		20.2	0.8		45.1	0.2	0.0	1.6	0.4	
Delay (s)	27.3	11.4		45.7	15.7		69.3	20.8	12.8	29.1	26.3	
Level of Service	C	B		D	B		E	C	B	C	C	
Approach Delay (s)		16.1			19.3			45.0			26.5	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	56.2	Sum of lost time (s)	19.8
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	1254	79	34	1147	446	21	25	26	62	13	49
Future Volume (vph)	136	1254	79	34	1147	446	21	25	26	62	13	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4872		1681	1764	1583	1610	3050	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4872		1681	1764	1583	1610	3050	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Adj. Flow (vph)	151	1393	88	38	1274	496	23	28	29	69	14	53
RTOR Reduction (vph)	0	0	27	0	31	0	0	0	28	0	48	0
Lane Group Flow (vph)	151	1393	61	38	1739	0	21	30	1	47	41	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	16.2	96.8	96.8	5.1	85.7		6.0	6.0	6.0	12.6	12.6	
Effective Green, g (s)	16.2	96.8	96.8	5.1	85.7		6.0	6.0	6.0	12.6	12.6	
Actuated g/C Ratio	0.12	0.69	0.69	0.04	0.61		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	204	3515	1094	125	2982		72	75	67	144	274	
v/s Ratio Prot	c0.09	0.27		0.01	c0.36		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.74	0.40	0.06	0.30	0.58		0.29	0.40	0.02	0.33	0.15	
Uniform Delay, d1	59.9	9.2	6.9	65.7	16.4		64.9	65.2	64.2	59.7	58.8	
Progression Factor	1.00	1.00	1.00	0.88	0.65		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.9	0.3	0.1	0.4	0.7		0.8	1.3	0.0	3.8	0.7	
Delay (s)	71.7	9.5	7.0	58.0	11.3		65.8	66.5	64.2	63.5	59.5	
Level of Service	E	A	A	E	B		E	E	E	E	E	
Approach Delay (s)		15.1			12.3			65.5			60.9	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	916	130	350	1481	1326	112	213	315	200	42	35
Future Volume (vph)	317	916	130	350	1481	1326	112	213	315	200	42	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	330	954	135	365	1543	1381	117	222	328	208	44	36
RTOR Reduction (vph)	0	0	65	0	0	175	0	0	36	0	0	25
Lane Group Flow (vph)	330	954	70	365	1543	1206	117	222	292	208	44	11
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	17.9	67.4	67.4	19.4	69.6	86.2	13.2	22.1	46.5	11.3	19.9	43.1
Effective Green, g (s)	17.9	67.4	67.4	19.4	69.6	86.2	13.2	22.1	46.5	11.3	19.9	43.1
Actuated g/C Ratio	0.13	0.48	0.48	0.14	0.50	0.62	0.09	0.16	0.33	0.08	0.14	0.31
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	438	2448	762	475	2527	1715	323	558	925	277	503	487
v/s Ratio Prot	0.10	0.19		c0.11	0.30	c0.43	0.03	c0.06	0.10	0.06	0.01	0.01
v/s Ratio Perm			0.04									
v/c Ratio	0.75	0.39	0.09	0.77	0.61	0.70	0.36	0.40	0.32	0.75	0.09	0.02
Uniform Delay, d1	58.9	23.2	19.7	58.1	25.4	18.2	59.5	53.0	34.9	63.0	52.2	33.8
Progression Factor	1.03	0.67	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	0.4	0.2	6.6	1.1	1.1	0.3	1.0	0.4	9.7	0.1	0.0
Delay (s)	66.7	15.9	17.5	64.8	26.5	19.3	59.7	54.0	35.3	72.7	52.3	33.8
Level of Service	E	B	B	E	C	B	E	D	D	E	D	C
Approach Delay (s)		27.9			27.7			45.8			64.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1042	400	0	1654	561	0	0	0	737	0	1544
Future Volume (vph)	0	1042	400	0	1654	561	0	0	0	737	0	1544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1109	426	0	1760	597	0	0	0	784	0	1643
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	19
Lane Group Flow (vph)	0	1109	426	0	1760	597	0	0	0	784	0	1624
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		44.7	120.0		44.7	120.0				63.1		63.1
Effective Green, g (s)		44.7	120.0		44.7	115.3				63.1		63.1
Actuated g/C Ratio		0.37	1.00		0.37	0.96				0.53		0.53
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		1894	2787		1894	1520				1805		1465
v/s Ratio Prot		0.22			c0.35	0.38				0.23		c0.58
v/s Ratio Perm			0.15									
v/c Ratio		0.59	0.15		0.93	0.39				0.43		1.11
Uniform Delay, d1		30.2	0.0		36.1	0.1				17.5		28.4
Progression Factor		1.00	1.00		1.08	1.00				1.00		1.00
Incremental Delay, d2		1.3	0.1		8.8	0.1				0.1		59.1
Delay (s)		31.5	0.1		47.7	0.2				17.5		87.5
Level of Service		C	A		D	A				B		F
Approach Delay (s)		22.8			35.7			0.0			64.9	
Approach LOS		C			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	43.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1099	678	0	1382	567	837	0	328	0	0	0
Future Volume (vph)	0	1099	678	0	1382	567	837	0	328	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1157	714	0	1455	597	881	0	345	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	39	0	0	0
Lane Group Flow (vph)	0	1157	714	0	1455	597	881	0	306	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		69.0	120.0		69.0	120.0	38.8		38.8			
Effective Green, g (s)		69.0	115.3		69.0	120.0	38.8		38.8			
Actuated g/C Ratio		0.58	0.96		0.58	1.00	0.32		0.32			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2923	1520		3684	1583	1110		901			
v/s Ratio Prot		0.23	c0.45		0.23		c0.26					
v/s Ratio Perm						0.38			0.11			
v/c Ratio		0.40	0.47		0.39	0.38	0.79		0.34			
Uniform Delay, d1		14.0	0.2		14.0	0.0	37.0		30.9			
Progression Factor		0.85	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.3	0.1		0.3	0.7	3.7		0.1			
Delay (s)		12.3	0.2		14.3	0.7	40.7		30.9			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		7.7			10.4			37.9			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	301	541	295	1348	0	0
Future Volume (vph)	301	541	295	1348	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	320	576	314	1434	0	0
RTOR Reduction (vph)	0	124	0	0	0	0
Lane Group Flow (vph)	320	452	314	1434	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	57.0	57.0	21.3	90.0		
Effective Green, g (s)	57.0	57.0	21.3	90.0		
Actuated g/C Ratio	0.63	0.63	0.24	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2241	1765	812	5085		
v/s Ratio Prot	0.09		c0.09	c0.28		
v/s Ratio Perm		0.16				
v/c Ratio	0.14	0.26	0.39	0.28		
Uniform Delay, d1	6.7	7.2	28.9	0.0		
Progression Factor	1.00	1.00	0.86	1.00		
Incremental Delay, d2	0.1	0.4	0.1	0.1		
Delay (s)	6.8	7.6	24.9	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	7.3			4.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	294	0	0	724	875	913
Future Volume (vph)	0	294	0	0	724	875	913
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	7.1	6.1
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	306	0	0	754	911	951
RTOR Reduction (vph)	0	0	0	0	0	0	440
Lane Group Flow (vph)	0	306	0	0	754	911	511
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		45.7			45.7	31.2	31.2
Effective Green, g (s)		45.7			45.7	30.2	31.2
Actuated g/C Ratio		0.51			0.51	0.34	0.35
Clearance Time (s)		7.0			7.0	6.1	6.1
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1797			2582	1151	966
v/s Ratio Prot		0.09			c0.15	c0.27	
v/s Ratio Perm							0.18
v/c Ratio		0.17			0.29	0.79	0.53
Uniform Delay, d1		11.9			12.8	27.1	23.5
Progression Factor		0.86			1.00	1.00	1.00
Incremental Delay, d2		0.2			0.3	3.5	0.2
Delay (s)		10.4			13.1	30.6	23.8
Level of Service		B			B	C	C
Approach Delay (s)		10.4			13.1	27.1	
Approach LOS		B			B	C	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1183	253	581	1862	98	918
Future Volume (vph)	1183	253	581	1862	98	918
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6234		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6234		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1245	275	612	1960	103	966
RTOR Reduction (vph)	25	0	0	0	0	0
Lane Group Flow (vph)	1495	0	612	1960	103	966
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	59.4		31.1	95.2	44.4	79.9
Effective Green, g (s)	59.4		31.1	95.2	44.4	79.9
Actuated g/C Ratio	0.40		0.21	0.63	0.30	0.53
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2468		711	4066	523	1484
v/s Ratio Prot	c0.24		c0.18	0.31	0.06	c0.35
v/s Ratio Perm						
v/c Ratio	0.61		0.86	0.48	0.20	0.65
Uniform Delay, d1	36.0		57.4	14.4	39.5	25.1
Progression Factor	1.00		1.38	0.46	1.00	1.00
Incremental Delay, d2	1.1		7.5	0.3	0.1	0.8
Delay (s)	37.1		86.9	6.9	39.5	25.9
Level of Service	D		F	A	D	C
Approach Delay (s)	37.1			25.9	27.2	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	255	1904	0	2237	932	167	148
Future Volume (vph)	255	1904	0	2237	932	167	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.93	
Flt Protected	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (prot)	3433	5085		5085	1583	3272	
Flt Permitted	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (perm)	3433	5085		5085	1583	3272	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	268	2004	0	2355	981	176	156
RTOR Reduction (vph)	0	0	0	0	10	117	0
Lane Group Flow (vph)	268	2004	0	2355	971	215	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	15.6	115.7		96.6	125.6	23.6	
Effective Green, g (s)	15.6	115.7		96.6	125.6	23.6	
Actuated g/C Ratio	0.10	0.77		0.64	0.84	0.16	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	357	3922		3274	1325	514	
v/s Ratio Prot	c0.08	0.39		0.46	c0.61	0.07	
v/s Ratio Perm							
v/c Ratio	0.75	0.51		0.72	0.73	0.42	
Uniform Delay, d1	65.3	6.5		17.7	5.1	57.0	
Progression Factor	0.96	0.63		1.91	2.60	1.00	
Incremental Delay, d2	6.2	0.4		0.9	1.6	1.0	
Delay (s)	68.8	4.5		34.7	14.9	58.0	
Level of Service	E	A		C	B	E	
Approach Delay (s)		12.1		28.9		58.0	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	63	1970	3080	60	33	66
Future Volume (vph)	63	1970	3080	60	33	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	66	2052	3208	62	34	69
RTOR Reduction (vph)	0	0	0	6	0	66
Lane Group Flow (vph)	66	2052	3208	57	34	3
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	8.9	132.5	119.6	119.6	7.2	7.2
Effective Green, g (s)	8.9	132.5	119.6	119.6	7.2	7.2
Actuated g/C Ratio	0.06	0.88	0.80	0.80	0.05	0.05
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	105	4491	4054	1262	84	75
v/s Ratio Prot	c0.04	0.40	c0.63		c0.02	
v/s Ratio Perm				0.04		0.00
v/c Ratio	0.63	0.46	0.79	0.05	0.40	0.04
Uniform Delay, d1	68.9	1.7	8.3	3.2	69.3	68.1
Progression Factor	1.19	0.33	0.94	0.17	1.00	1.00
Incremental Delay, d2	7.2	0.3	1.0	0.0	3.2	0.2
Delay (s)	89.4	0.9	8.8	0.6	72.5	68.4
Level of Service	F	A	A	A	E	E
Approach Delay (s)		3.6	8.6		69.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	105	2034	0	2932	74	41	81
Future Volume (vph)	105	2034	0	2932	74	41	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	7.0		7.0	7.0	5.9	5.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.93	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3263	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3263	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	112	2164	0	3119	79	44	86
RTOR Reduction (vph)	0	0	0	0	5	41	41
Lane Group Flow (vph)	112	2164	0	3119	74	46	2
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	14.8	131.5		111.8	111.8	7.6	7.6
Effective Green, g (s)	13.8	130.5		110.8	110.8	6.6	6.6
Actuated g/C Ratio	0.09	0.87		0.74	0.74	0.04	0.04
Clearance Time (s)	4.9	6.0		6.0	6.0	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	162	4423		3756	1169	143	63
v/s Ratio Prot	c0.06	0.43		c0.61		c0.01	
v/s Ratio Perm					0.05		0.00
v/c Ratio	0.69	0.49		0.83	0.06	0.32	0.03
Uniform Delay, d1	66.0	2.2		13.2	5.4	69.5	68.6
Progression Factor	0.87	1.99		2.27	2.00	1.00	1.00
Incremental Delay, d2	11.2	0.4		0.6	0.0	1.3	0.2
Delay (s)	68.9	4.7		30.7	10.8	70.8	68.8
Level of Service	E	A		C	B	E	E
Approach Delay (s)		7.9		30.2		70.2	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	995	1072	23	20	2135	98	18	3	10	50	2	1159
Future Volume (vph)	995	1072	23	20	2135	98	18	3	10	50	2	1159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1047	1128	24	21	2247	103	19	3	11	53	2	1220
RTOR Reduction (vph)	0	2	0	0	4	0	0	11	0	0	0	310
Lane Group Flow (vph)	1047	1150	0	21	2346	0	19	3	0	28	27	910
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	30.6	88.5		2.4	60.4		4.4	4.4		34.1	34.1	70.2
Effective Green, g (s)	30.6	88.5		2.4	60.4		4.4	4.4		34.1	34.1	70.2
Actuated g/C Ratio	0.20	0.59		0.02	0.40		0.03	0.03		0.23	0.23	0.47
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	653	2990		51	2034		48	48		369	371	1304
v/s Ratio Prot	c0.33	0.23		0.01	c0.46		c0.01	0.00		0.02	0.02	c0.33
v/s Ratio Perm												
v/c Ratio	1.60	0.38		0.41	1.15		0.40	0.07		0.08	0.07	0.70
Uniform Delay, d1	59.7	16.3		73.1	44.8		71.5	70.8		45.6	45.5	31.5
Progression Factor	0.93	1.21		1.15	0.76		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	277.9	0.3		1.3	73.3		2.0	0.2		0.1	0.1	1.6
Delay (s)	333.6	20.1		85.1	107.2		73.4	71.0		45.6	45.6	33.1
Level of Service	F	C		F	F		E	E		D	D	C
Approach Delay (s)		169.4			107.0			72.4			33.7	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	114.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	139	795	0	2329	712	309	103
Future Volume (vph)	139	795	0	2329	712	309	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3201	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3201	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	143	820	0	2401	734	319	106
RTOR Reduction (vph)	0	0	0	0	45	2	82
Lane Group Flow (vph)	143	820	0	2401	689	328	13
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	16.7	119.0		97.6	124.0	20.4	20.4
Effective Green, g (s)	16.7	119.0		97.6	124.0	20.4	20.4
Actuated g/C Ratio	0.11	0.79		0.65	0.83	0.14	0.14
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	190	3900		3198	1221	435	215
v/s Ratio Prot	c0.08	0.17		c0.49	0.47	c0.10	
v/s Ratio Perm							0.01
v/c Ratio	0.75	0.21		0.75	0.56	0.75	0.06
Uniform Delay, d1	64.6	3.8		17.9	4.2	62.4	56.4
Progression Factor	1.24	0.23		1.50	1.89	1.00	1.00
Incremental Delay, d2	13.2	0.1		0.2	0.0	6.5	0.0
Delay (s)	93.7	1.0		27.0	8.0	68.9	56.5
Level of Service	F	A		C	A	E	E
Approach Delay (s)		14.8		22.5		66.1	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	168	816	3041	262	649	528
Future Volume (vph)	168	816	3041	262	649	528
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4640	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4640	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	171	833	3103	267	662	539
RTOR Reduction (vph)	0	0	0	43	0	1
Lane Group Flow (vph)	171	833	3130	197	662	538
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	8.3	107.1	94.6	94.6	31.9	45.2
Effective Green, g (s)	8.3	107.1	94.6	94.6	31.9	45.2
Actuated g/C Ratio	0.06	0.71	0.63	0.63	0.21	0.30
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	177	3388	2926	801	681	783
v/s Ratio Prot	c0.05	0.18	c0.67		c0.21	0.21
v/s Ratio Perm				0.16		
v/c Ratio	0.97	0.25	1.07	0.25	0.97	0.69
Uniform Delay, d1	70.7	7.4	27.7	12.1	58.6	46.2
Progression Factor	0.91	1.37	1.23	0.96	1.00	1.00
Incremental Delay, d2	55.9	0.2	37.1	0.5	27.4	2.0
Delay (s)	120.3	10.4	71.0	12.1	86.0	48.2
Level of Service	F	B	E	B	F	D
Approach Delay (s)		29.1	66.8		69.0	
Approach LOS		C	E		E	

Intersection Summary			
HCM 2000 Control Delay	60.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	1207	212	182	2603	28	180	23	134	32	68	80
Future Volume (vph)	27	1207	212	182	2603	28	180	23	134	32	68	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1587	1504		1735	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1587	1504		1735	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	28	1232	216	186	2656	29	184	23	137	33	69	82
RTOR Reduction (vph)	0	0	78	0	0	0	0	10	96	0	19	0
Lane Group Flow (vph)	28	1232	138	186	2685	0	120	107	11	0	165	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	4.9	88.4	88.4	12.5	95.6		15.1	15.1	15.1		14.6	
Effective Green, g (s)	4.9	88.4	88.4	12.5	95.6		15.1	15.1	15.1		14.6	
Actuated g/C Ratio	0.03	0.59	0.59	0.08	0.64		0.10	0.10	0.10		0.10	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	57	2996	932	286	3235		169	159	151		168	
v/s Ratio Prot	0.02	0.24		c0.05	c0.53		c0.07	0.07			c0.10	
v/s Ratio Perm			0.09						0.01			
v/c Ratio	0.49	0.41	0.15	0.65	0.83		0.71	0.67	0.07		0.98	
Uniform Delay, d1	71.3	16.7	13.9	66.6	20.9		65.3	65.1	61.1		67.6	
Progression Factor	1.33	0.58	0.25	1.05	0.67		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.0	0.3	0.3	2.5	1.6		11.1	8.5	0.1		63.8	
Delay (s)	97.0	10.1	3.8	72.5	15.7		76.4	73.6	61.2		131.4	
Level of Service	F	B	A	E	B		E	E	E		F	
Approach Delay (s)		10.8			19.4			70.7			131.4	
Approach LOS		B			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	103	1261	0	2546	169	161	300
Future Volume (vph)	103	1261	0	2546	169	161	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5038		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5038		3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	110	1341	0	2709	180	171	319
RTOR Reduction (vph)	0	0	0	4	0	0	70
Lane Group Flow (vph)	110	1341	0	2885	0	171	249
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	9.6	120.6		106.4		19.7	19.7
Effective Green, g (s)	9.6	120.6		106.4		19.7	19.7
Actuated g/C Ratio	0.06	0.80		0.71		0.13	0.13
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	219	4088		3573		450	366
v/s Ratio Prot	c0.03	0.26		c0.57		0.05	
v/s Ratio Perm							c0.09
v/c Ratio	0.50	0.33		0.81		0.38	0.68
Uniform Delay, d1	67.9	3.9		14.8		59.6	62.1
Progression Factor	0.93	0.36		0.55		1.00	1.00
Incremental Delay, d2	0.6	0.2		0.5		0.7	5.4
Delay (s)	63.7	1.6		8.7		60.3	67.5
Level of Service	E	A		A		E	E
Approach Delay (s)		6.3		8.7		65.0	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	953	475	9	2343	107	874	308	9	179	276	127
Future Volume (vph)	43	953	475	9	2343	107	874	308	9	179	276	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5052		2841	3018		3204	3372	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5052		2841	3018		3204	3372	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	44	972	485	9	2391	109	892	314	9	183	282	130
RTOR Reduction (vph)	0	0	44	0	3	0	0	1	0	0	36	0
Lane Group Flow (vph)	44	972	441	9	2497	0	598	616	0	183	376	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.3	72.8	109.7	1.6	70.0		36.9	36.9		16.8	16.8	
Effective Green, g (s)	4.3	72.8	109.7	1.6	70.0		36.9	36.9		16.8	16.8	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47		0.25	0.25		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	2385	1080	19	2357		698	742		358	377	
v/s Ratio Prot	c0.02	0.20	c0.30	0.00	c0.49		c0.21	0.20		0.06	c0.11	
v/s Ratio Perm												
v/c Ratio	0.80	0.41	0.41	0.47	1.06		0.86	0.83		0.51	1.00	
Uniform Delay, d1	72.4	24.8	7.7	73.8	40.0		54.0	53.6		62.7	66.6	
Progression Factor	0.89	1.66	4.35	1.24	0.75		1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.7	0.5	0.2	6.2	36.1		10.1	7.8		1.2	45.6	
Delay (s)	118.4	41.5	33.8	97.4	66.1		64.2	61.4		64.0	112.2	
Level of Service	F	D	C	F	E		E	E		E	F	
Approach Delay (s)		41.3			66.2			62.8			97.4	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	62.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	963	34	20	1580	14	153	9	56	38	1	37
Future Volume (vph)	32	963	34	20	1580	14	153	9	56	38	1	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			5.9			5.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5059		1770	5079			1737			1698	
Flt Permitted	0.95	1.00		0.95	1.00			0.74			0.80	
Satd. Flow (perm)	1770	5059		1770	5079			1329			1391	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	1047	37	22	1717	15	166	10	61	41	1	40
RTOR Reduction (vph)	0	2	0	0	0	0	0	10	0	0	27	0
Lane Group Flow (vph)	35	1082	0	22	1732	0	0	227	0	0	55	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	100.7		4.5	98.2			30.2			30.2	
Effective Green, g (s)	6.5	100.7		4.5	98.2			29.2			29.2	
Actuated g/C Ratio	0.04	0.67		0.03	0.65			0.19			0.19	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	76	3396		53	3325			258			270	
v/s Ratio Prot	c0.02	0.21		0.01	c0.34							
v/s Ratio Perm								c0.17			0.04	
v/c Ratio	0.46	0.32		0.42	0.52			0.88			0.20	
Uniform Delay, d1	70.0	10.3		71.5	13.6			58.7			50.6	
Progression Factor	1.56	0.04		0.99	1.32			1.00			1.00	
Incremental Delay, d2	1.5	0.2		1.6	0.5			27.0			0.1	
Delay (s)	110.7	0.6		72.5	18.4			85.7			50.8	
Level of Service	F	A		E	B			F			D	
Approach Delay (s)		4.1			19.1			85.7			50.8	
Approach LOS		A			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	520	537	0	560	835	0	0	0	133	0	1071
Future Volume (vph)	0	520	537	0	560	835	0	0	0	133	0	1071
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				4.7		4.7
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	584	603	0	629	938	0	0	0	149	0	1203
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	56
Lane Group Flow (vph)	0	584	603	0	629	938	0	0	0	149	0	1147
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		60.6	150.0		60.6	150.0				78.7		78.7
Effective Green, g (s)		60.6	150.0		60.6	150.0				78.7		78.7
Actuated g/C Ratio		0.40	1.00		0.40	1.00				0.52		0.52
Clearance Time (s)		6.0			6.0					4.7		4.7
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1429	1583		1429	2787				1801		1462
v/s Ratio Prot		0.17			c0.18					0.04		
v/s Ratio Perm			0.38			0.34						c0.41
v/c Ratio		0.41	0.38		0.44	0.34				0.08		0.78
Uniform Delay, d1		31.9	0.0		32.4	0.0				17.7		28.8
Progression Factor		0.93	1.00		0.89	1.00				1.00		1.00
Incremental Delay, d2		0.8	0.7		1.0	0.3				0.0		2.6
Delay (s)		30.5	0.7		29.9	0.3				17.7		31.4
Level of Service		C	A		C	A				B		C
Approach Delay (s)		15.3			12.2			0.0			29.9	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	203	409	0	1164	109	417	0	588	0	0	0
Future Volume (vph)	0	203	409	0	1164	109	417	0	588	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	7.2		6.2			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	214	431	0	1225	115	439	0	619	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	522	0	0	0
Lane Group Flow (vph)	0	214	431	0	1225	115	439	0	97	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		113.3	150.0		113.3	150.0	23.5		23.5			
Effective Green, g (s)		113.3	150.0		113.3	150.0	22.5		23.5			
Actuated g/C Ratio		0.76	1.00		0.76	1.00	0.15		0.16			
Clearance Time (s)		7.0			7.0		6.2		6.2			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2673	1583		4840	1583	514		436			
v/s Ratio Prot		0.06			0.19		c0.13					
v/s Ratio Perm			c0.27			0.07			0.03			
v/c Ratio		0.08	0.27		0.25	0.07	0.85		0.22			
Uniform Delay, d1		4.8	0.0		5.6	0.0	62.1		55.3			
Progression Factor		0.19	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.4		0.1	0.1	12.6		0.1			
Delay (s)		1.0	0.4		5.7	0.1	74.7		55.4			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		0.6			5.2			63.4			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	24	101	385	434	163	194	437	82	61	889	153
Future Volume (vph)	15	24	101	385	434	163	194	437	82	61	889	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.89			0.98		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3140			3385		1770	4965		1770	4974	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3140			3385		1770	4965		1770	4974	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	25	105	401	452	170	202	455	85	64	926	159
RTOR Reduction (vph)	0	96	0	0	12	0	0	18	0	0	17	0
Lane Group Flow (vph)	0	50	0	0	1011	0	202	522	0	64	1068	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.7			40.1		11.6	35.5		6.9	30.4	
Effective Green, g (s)		9.7			40.1		11.6	35.5		6.9	30.4	
Actuated g/C Ratio		0.09			0.36		0.10	0.32		0.06	0.27	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		270			1207		182	1568		108	1345	
v/s Ratio Prot		c0.02			c0.30		c0.11	0.11		0.04	c0.21	
v/s Ratio Perm												
v/c Ratio		0.19			0.84		1.11	0.33		0.59	0.79	
Uniform Delay, d1		47.7			33.2		50.4	29.4		51.4	38.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			6.0		99.2	0.1		5.7	3.4	
Delay (s)		48.5			39.1		149.6	29.5		57.1	41.5	
Level of Service		D			D		F	C		E	D	
Approach Delay (s)		48.5			39.1			62.2			42.3	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	112.4	Sum of lost time (s)	20.6
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	3	113	0	156	43	584	31	45	1294	158
Future Volume (vph)	9	0	3	113	0	156	43	584	31	45	1294	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770		1583	3204	4879		1770	5002	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770		1583	3204	4879		1770	5002	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	0	3	120	0	166	46	621	33	48	1377	168
RTOR Reduction (vph)	0	0	3	0	0	141	0	4	0	0	11	0
Lane Group Flow (vph)	10	0	0	120	0	25	46	650	0	48	1534	0
Turn Type	Prot		Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	0.6		1.1	8.5		9.0	2.1	27.5		3.4	28.8	
Effective Green, g (s)	0.6		1.1	8.5		9.0	2.1	27.5		3.4	28.8	
Actuated g/C Ratio	0.01		0.02	0.14		0.15	0.03	0.46		0.06	0.48	
Clearance Time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	17		32	249		236	111	2228		99	2392	
v/s Ratio Prot	0.01			c0.07			0.01	0.13		c0.03	c0.31	
v/s Ratio Perm			0.00			c0.02						
v/c Ratio	0.59		0.00	0.48		0.11	0.41	0.29		0.48	0.64	
Uniform Delay, d1	29.7		29.0	23.8		22.1	28.4	10.2		27.6	11.8	
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	29.3		0.0	0.5		0.1	0.9	0.1		1.4	0.6	
Delay (s)	58.9		29.0	24.4		22.2	29.4	10.3		28.9	12.4	
Level of Service	E		C	C		C	C	B		C	B	
Approach Delay (s)		52.0			23.1			11.6			12.9	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	11	370	0	272	92	384	214	222	1180	6
Future Volume (vph)	1	0	11	370	0	272	92	384	214	222	1180	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00		1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00		0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652		1742	3433	1583		3204	4916	1583	1770	5081	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652		1742	3433	1583		3204	4916	1583	1770	5081	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	0	12	407	0	299	101	422	235	244	1297	7
RTOR Reduction (vph)	0	0	12	0	243	0	0	0	153	0	1	0
Lane Group Flow (vph)	1	0	0	407	56	0	101	422	82	244	1303	0
Turn Type	Prot		Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.6		1.1	10.9	11.4		3.5	21.0	21.0	7.8	24.9	
Effective Green, g (s)	0.6		1.1	10.9	11.4		3.5	21.0	21.0	7.8	24.9	
Actuated g/C Ratio	0.01		0.02	0.18	0.19		0.06	0.35	0.35	0.13	0.41	
Clearance Time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0		2.0	3.0	3.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	16		31	618	298		185	1706	549	228	2091	
v/s Ratio Prot	0.00			c0.12	c0.04		0.03	0.09		c0.14	c0.26	
v/s Ratio Perm			0.00						0.05			
v/c Ratio	0.06		0.01	0.66	0.19		0.55	0.25	0.15	1.07	0.62	
Uniform Delay, d1	29.7		29.2	23.1	20.7		27.7	14.1	13.6	26.4	14.1	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6		0.0	2.5	0.3		1.8	0.1	0.1	79.4	0.6	
Delay (s)	30.3		29.2	25.6	21.0		29.5	14.2	13.7	105.8	14.7	
Level of Service	C		C	C	C		C	B	B	F	B	
Approach Delay (s)		29.3			23.6			16.1			29.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	60.5	Sum of lost time (s)	20.1
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	366	74	615	281	27	1537
Future Volume (vph)	366	74	615	281	27	1537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	80	668	305	29	1671
RTOR Reduction (vph)	0	63	0	155	0	0
Lane Group Flow (vph)	398	17	668	150	29	1671
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.0	12.0	28.2	28.2	1.5	34.5
Effective Green, g (s)	12.0	12.0	28.2	28.2	1.5	34.5
Actuated g/C Ratio	0.21	0.21	0.49	0.49	0.03	0.60
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	717	330	2498	777	46	3056
v/s Ratio Prot	c0.12		0.13		0.02	c0.33
v/s Ratio Perm		0.01		0.09		
v/c Ratio	0.56	0.05	0.27	0.19	0.63	0.55
Uniform Delay, d1	20.3	18.1	8.6	8.2	27.7	6.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.0	0.1	0.1	18.8	0.2
Delay (s)	20.8	18.2	8.6	8.3	46.5	7.0
Level of Service	C	B	A	A	D	A
Approach Delay (s)	20.4		8.5			7.7
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	57.4	Sum of lost time (s)	15.7
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	157	12	86	18	749	161	155	1584	10
Future Volume (vph)	1	2	3	157	12	86	18	749	161	155	1584	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.89		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1568		1770	3539	1583	1770	3536	
Flt Permitted		0.99		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1568		1770	3539	1583	1770	3536	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	2	3	164	12	90	19	780	168	161	1650	10
RTOR Reduction (vph)	0	3	0	0	74	0	0	0	77	0	1	0
Lane Group Flow (vph)	0	3	0	139	54	0	19	780	91	161	1659	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		0.9		11.4	11.4		0.6	25.4	25.4	6.7	31.5	
Effective Green, g (s)		0.9		11.4	11.4		0.6	25.4	25.4	6.7	31.5	
Actuated g/C Ratio		0.01		0.18	0.18		0.01	0.40	0.40	0.10	0.49	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		24		298	277		16	1397	625	184	1732	
v/s Ratio Prot		c0.00		c0.08	0.03		0.01	0.22		c0.09	c0.47	
v/s Ratio Perm									0.06			
v/c Ratio		0.13		0.47	0.19		1.19	0.56	0.15	0.88	0.96	
Uniform Delay, d1		31.3		23.7	22.5		31.8	15.1	12.5	28.4	15.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9		1.9	0.6		291.0	0.7	0.2	33.0	13.1	
Delay (s)		32.2		25.6	23.1		322.8	15.8	12.7	61.4	28.9	
Level of Service		C		C	C		F	B	B	E	C	
Approach Delay (s)		32.2			24.4			21.3			31.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	19.9
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	17	51	456	570	25
Future Volume (vph)	34	17	51	456	570	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3517	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	18	55	496	620	27
RTOR Reduction (vph)	0	17	0	0	2	0
Lane Group Flow (vph)	37	1	55	496	645	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.5	4.5	5.0	75.4	66.0	
Effective Green, g (s)	4.5	4.5	5.0	75.4	66.0	
Actuated g/C Ratio	0.05	0.05	0.06	0.84	0.73	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	88	79	190	2964	2579	
v/s Ratio Prot	c0.02		c0.02	0.14	c0.18	
v/s Ratio Perm		0.00				
v/c Ratio	0.42	0.01	0.29	0.17	0.25	
Uniform Delay, d1	41.5	40.6	40.8	1.4	3.9	
Progression Factor	1.00	1.00	0.84	1.94	1.00	
Incremental Delay, d2	1.2	0.0	0.3	0.1	0.2	
Delay (s)	42.7	40.7	34.7	2.8	4.2	
Level of Service	D	D	C	A	A	
Approach Delay (s)	42.0			6.0	4.2	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	143	190	125	193	74	136	389	62	45	515	14
Future Volume (vph)	17	143	190	125	193	74	136	389	62	45	515	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.91		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3236		1770	3392		3433	3466		1770	3525	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3236		1770	3392		3433	3466		1770	3525	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	159	211	139	214	82	151	432	69	50	572	16
RTOR Reduction (vph)	0	182	0	0	56	0	0	10	0	0	2	0
Lane Group Flow (vph)	19	188	0	139	240	0	151	491	0	50	586	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.6	12.3		10.2	20.9		8.5	43.5		5.0	40.0	
Effective Green, g (s)	1.6	12.3		10.2	20.9		8.5	43.5		5.0	40.0	
Actuated g/C Ratio	0.02	0.14		0.11	0.23		0.09	0.48		0.06	0.44	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	31	442		200	787		324	1675		98	1566	
v/s Ratio Prot	0.01	c0.06		c0.08	0.07		c0.04	c0.14		0.03	c0.17	
v/s Ratio Perm												
v/c Ratio	0.61	0.42		0.69	0.30		0.47	0.29		0.51	0.37	
Uniform Delay, d1	43.9	35.6		38.4	28.5		38.6	14.0		41.3	16.7	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.90		1.44	0.75	
Incremental Delay, d2	22.6	0.2		8.2	0.1		0.4	0.4		1.8	0.7	
Delay (s)	66.5	35.8		46.6	28.6		45.2	13.0		61.3	13.2	
Level of Service	E	D		D	C		D	B		E	B	
Approach Delay (s)		37.3			34.4			20.4			17.0	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	46	95	83	199	57	59	515	52	25	786	39
Future Volume (vph)	31	46	95	83	199	57	59	515	52	25	786	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	4.9		5.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1675		1770	1801		1770	3491		1770	3514	
Flt Permitted	0.30	1.00		0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	565	1675		998	1801		1770	3491		1770	3514	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	35	52	107	93	224	64	66	579	58	28	883	44
RTOR Reduction (vph)	0	87	0	0	14	0	0	6	0	0	3	0
Lane Group Flow (vph)	35	72	0	93	274	0	66	631	0	28	924	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.6	17.2		21.6	18.2		6.8	47.5		2.9	43.6	
Effective Green, g (s)	17.6	17.2		19.6	18.2		6.8	47.5		2.9	43.6	
Actuated g/C Ratio	0.20	0.19		0.22	0.20		0.08	0.53		0.03	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	129	320		237	364		133	1842		57	1702	
v/s Ratio Prot	0.00	0.04		c0.01	c0.15		c0.04	c0.18		0.02	c0.26	
v/s Ratio Perm	0.05			0.07								
v/c Ratio	0.27	0.23		0.39	0.75		0.50	0.34		0.49	0.54	
Uniform Delay, d1	30.3	30.8		30.3	33.8		40.0	12.2		42.8	16.2	
Progression Factor	1.00	1.00		1.00	1.00		0.98	1.10		1.36	0.87	
Incremental Delay, d2	0.4	0.1		0.4	7.7		0.9	0.4		2.3	1.2	
Delay (s)	30.7	30.9		30.7	41.4		40.1	13.9		60.6	15.3	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.9			38.8			16.4			16.6	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	154	104	135	188	125	35	260	26	75	747	130
Future Volume (vph)	227	154	104	135	188	125	35	260	26	75	747	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1750		1770	1751		1770	3491		1770	3460	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1750		1770	1751		1770	3491		1770	3460	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	244	166	112	145	202	134	38	280	28	81	803	140
RTOR Reduction (vph)	0	30	0	0	30	0	0	8	0	0	14	0
Lane Group Flow (vph)	244	248	0	145	306	0	38	300	0	81	929	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2	23.3		9.9	20.0		3.7	30.0		7.9	34.2	
Effective Green, g (s)	13.2	23.3		9.9	20.0		3.7	30.0		7.9	34.2	
Actuated g/C Ratio	0.15	0.26		0.11	0.22		0.04	0.33		0.09	0.38	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	259	453		194	389		72	1163		155	1314	
v/s Ratio Prot	c0.14	c0.14		0.08	c0.17		0.02	0.09		c0.05	c0.27	
v/s Ratio Perm												
v/c Ratio	0.94	0.55		0.75	0.79		0.53	0.26		0.52	0.71	
Uniform Delay, d1	38.0	28.8		38.8	33.0		42.3	21.9		39.2	23.7	
Progression Factor	1.00	1.00		1.00	1.00		0.94	0.76		1.42	0.60	
Incremental Delay, d2	39.9	0.7		12.8	9.3		3.2	0.5		1.3	2.9	
Delay (s)	77.9	29.5		51.7	42.3		43.1	17.1		57.1	17.1	
Level of Service	E	C		D	D		D	B		E	B	
Approach Delay (s)		52.1			45.1			20.0			20.2	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	14	267	1	59	1	234	56	35	1045	0
Future Volume (vph)	3	1	14	267	1	59	1	234	56	35	1045	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.89			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1774	1583	1770	3436		1770	3539	
Flt Permitted		0.96			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1596			1329	1583	1770	3436		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1	15	290	1	64	1	254	61	38	1136	0
RTOR Reduction (vph)	0	11	0	0	0	45	0	20	0	0	0	0
Lane Group Flow (vph)	0	8	0	0	291	19	1	295	0	38	1136	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		26.3			26.3	26.3	1.0	45.4		3.6	48.2	
Effective Green, g (s)		26.3			26.3	26.3	1.0	45.4		3.6	48.2	
Actuated g/C Ratio		0.29			0.29	0.29	0.01	0.50		0.04	0.54	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		466			388	462	19	1733		70	1895	
v/s Ratio Prot							0.00	0.09		c0.02	c0.32	
v/s Ratio Perm		0.01			c0.22	0.01						
v/c Ratio		0.02			0.75	0.04	0.05	0.17		0.54	0.60	
Uniform Delay, d1		22.7			28.9	22.8	44.0	12.1		42.4	14.3	
Progression Factor		1.00			1.00	1.00	1.22	0.72		1.01	0.83	
Incremental Delay, d2		0.0			9.8	0.1	0.4	0.2		3.7	1.1	
Delay (s)		22.7			38.6	22.9	54.0	8.9		46.7	13.0	
Level of Service		C			D	C	D	A		D	B	
Approach Delay (s)		22.7			35.8			9.0			14.1	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	37	78	285	1286	29
Future Volume (vph)	4	37	78	285	1286	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3527	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3527	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	39	83	303	1368	31
RTOR Reduction (vph)	0	37	0	0	1	0
Lane Group Flow (vph)	4	2	83	303	1398	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.5	3.5	7.8	75.7	62.4	
Effective Green, g (s)	3.5	3.5	7.8	75.7	62.4	
Actuated g/C Ratio	0.04	0.04	0.09	0.84	0.69	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	133	61	153	2976	2445	
v/s Ratio Prot	c0.00		c0.05	0.09	c0.40	
v/s Ratio Perm		0.00				
v/c Ratio	0.03	0.02	0.54	0.10	0.57	
Uniform Delay, d1	41.6	41.6	39.4	1.2	7.0	
Progression Factor	1.00	1.00	0.97	0.60	0.54	
Incremental Delay, d2	0.0	0.1	2.1	0.1	0.8	
Delay (s)	41.7	41.7	40.2	0.8	4.6	
Level of Service	D	D	D	A	A	
Approach Delay (s)	41.7			9.3	4.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	74	2	2	3	567	328	6	0	1053	272
Future Volume (vph)	31	0	74	2	2	3	567	328	6	0	1053	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3429	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3429	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	33	0	80	2	2	3	610	353	6	0	1132	296
RTOR Reduction (vph)	0	0	76	0	3	0	0	0	1	0	28	0
Lane Group Flow (vph)	16	17	4	0	4	0	610	353	5	0	1400	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		36.3	69.4	69.4		28.7	
Effective Green, g (s)	4.0	4.0	4.0		0.8		36.3	69.4	69.4		28.7	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		713	2728	1220		1093	
v/s Ratio Prot	0.01	c0.01			c0.00		c0.34	0.10			c0.41	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.22	0.23	0.05		0.27		0.86	0.13	0.00		1.28	
Uniform Delay, d1	41.5	41.5	41.2		44.3		24.5	2.6	2.4		30.6	
Progression Factor	1.00	1.00	1.00		1.00		0.93	0.83	1.00		1.32	
Incremental Delay, d2	0.5	0.6	0.1		3.5		8.4	0.1	0.0		132.6	
Delay (s)	42.0	42.1	41.3		47.8		31.1	2.3	2.4		173.1	
Level of Service	D	D	D		D		C	A	A		F	
Approach Delay (s)		41.5			47.8			20.4			173.1	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	108.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	228	1	615	7	287	72	237	892	0
Future Volume (vph)	0	0	0	228	1	615	7	287	72	237	892	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95		1.00	0.95	
Frt					1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3432		1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3432		1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	240	1	647	7	302	76	249	939	0
RTOR Reduction (vph)	0	0	0	0	0	80	0	21	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	241	567	7	357	0	249	939	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					28.4	50.5	0.8	30.1		17.2	46.5	
Effective Green, g (s)					28.4	50.5	0.8	30.1		17.2	46.5	
Actuated g/C Ratio					0.32	0.56	0.01	0.33		0.19	0.52	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					427	888	15	1147		338	1828	
v/s Ratio Prot						c0.36	0.00	0.10		c0.14	c0.27	
v/s Ratio Perm					0.18							
v/c Ratio					0.56	0.64	0.47	0.31		0.74	0.51	
Uniform Delay, d1					25.6	13.5	44.4	22.2		34.3	14.3	
Progression Factor					1.00	1.00	1.00	1.00		1.59	0.66	
Incremental Delay, d2					1.0	1.1	8.1	0.7		0.7	0.1	
Delay (s)					26.7	14.6	52.5	23.0		55.3	9.5	
Level of Service					C	B	D	C		E	A	
Approach Delay (s)		0.0			17.9			23.5			19.1	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	931	143	80	1403	89	367	96	18	104	160	370
Future Volume (vph)	181	931	143	80	1403	89	367	96	18	104	160	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6350		2841	2984		3204	1593	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6350		2841	2984		3204	1593	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	187	960	147	82	1446	92	378	99	19	107	165	381
RTOR Reduction (vph)	0	0	66	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	187	960	81	82	1534	0	253	240	0	107	203	343
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	16.4	97.2	97.2	13.8	94.4		26.2	26.2		32.2	32.2	53.9
Effective Green, g (s)	16.4	97.2	97.2	13.8	94.4		26.2	26.2		32.2	32.2	53.9
Actuated g/C Ratio	0.09	0.51	0.51	0.07	0.50		0.14	0.14		0.17	0.17	0.28
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	276	2514	809	119	3154		391	411		542	269	817
v/s Ratio Prot	c0.06	c0.20		0.05	c0.24		c0.09	0.08		0.03	c0.13	0.12
v/s Ratio Perm			0.05									
v/c Ratio	0.68	0.38	0.10	0.69	0.49		0.65	0.58		0.20	0.75	0.42
Uniform Delay, d1	84.2	28.2	23.9	86.0	31.7		77.5	76.8		67.8	75.1	55.3
Progression Factor	1.00	1.00	1.00	1.09	0.78		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.4	0.2	10.7	0.5		5.4	3.6		0.3	12.2	0.5
Delay (s)	90.7	28.6	24.1	104.6	25.1		82.9	80.3		68.1	87.3	55.8
Level of Service	F	C	C	F	C		F	F		E	F	E
Approach Delay (s)		37.1			29.1			81.6			67.6	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	44.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	972	9	35	1355	92	17	23	185	453	100	224
Future Volume (vph)	90	972	9	35	1355	92	17	23	185	453	100	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5078		3204	5037		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5078		3204	5037		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	1080	10	39	1506	102	19	26	206	503	111	249
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	84	0	0	104
Lane Group Flow (vph)	100	1090	0	39	1605	0	19	26	122	503	111	145
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.3	108.7		5.8	104.0		20.9	21.1	21.1	34.2	34.1	34.1
Effective Green, g (s)	10.3	108.7		5.8	104.0		20.9	21.1	21.1	34.2	34.1	34.1
Actuated g/C Ratio	0.05	0.57		0.03	0.55		0.11	0.11	0.11	0.18	0.18	0.18
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	173	2905		97	2757		181	193	175	576	334	284
v/s Ratio Prot	c0.03	0.21		0.01	c0.32		0.01	0.01		c0.16	0.06	
v/s Ratio Perm									c0.08			0.09
v/c Ratio	0.58	0.38		0.40	0.58		0.10	0.13	0.70	0.87	0.33	0.51
Uniform Delay, d1	87.7	22.1		90.4	28.6		76.1	76.2	81.4	75.8	68.0	70.4
Progression Factor	1.08	0.72		0.75	1.38		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.4		0.8	0.7		0.3	0.3	11.0	13.4	0.3	0.8
Delay (s)	97.7	16.2		68.4	40.0		76.4	76.5	92.4	89.2	68.4	71.2
Level of Service	F	B		E	D		E	E	F	F	E	E
Approach Delay (s)		23.1			40.7			89.6			81.3	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1480	77	105	932	126	136	36	326	1018	232	395
Future Volume (vph)	72	1480	77	105	932	126	136	36	326	1018	232	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.88	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5047		1652	5085	1583	1652	2874	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5047		1652	5085	1583	1652	2874	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	83	1701	89	121	1071	145	156	41	375	1170	267	454
RTOR Reduction (vph)	0	3	0	0	0	0	0	110	117	0	0	185
Lane Group Flow (vph)	83	1787	0	121	1071	145	156	119	70	1170	267	269
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	17.6	68.5		20.5	71.5	190.0	22.7	15.7	15.7	65.6	58.6	58.6
Effective Green, g (s)	17.6	68.5		20.5	71.5	190.0	22.7	15.7	15.7	65.6	58.6	58.6
Actuated g/C Ratio	0.09	0.36		0.11	0.38	1.00	0.12	0.08	0.08	0.35	0.31	0.31
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	153	1819		178	1913	1583	197	237	123	1106	1200	488
v/s Ratio Prot	0.05	c0.35		c0.07	0.21		0.09	0.04		c0.37	0.07	
v/s Ratio Perm						0.09			0.05			c0.17
v/c Ratio	0.54	0.98		0.68	0.56	0.09	0.79	0.50	0.57	1.06	0.22	0.55
Uniform Delay, d1	82.4	60.2		81.6	46.8	0.0	81.4	83.4	83.9	62.2	48.8	54.8
Progression Factor	1.01	1.00		0.95	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	16.4		7.7	1.2	0.1	19.2	2.0	6.9	43.7	0.2	2.2
Delay (s)	85.4	76.7		85.4	49.8	0.1	100.6	85.4	90.9	105.9	49.0	57.0
Level of Service	F	E		F	D	A	F	F	F	F	D	E
Approach Delay (s)		77.1			47.7			91.3			86.1	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	74.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	2603	88	28	651	9	161	17	80	76	7	259
Future Volume (vph)	211	2603	88	28	651	9	161	17	80	76	7	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5060		1770	5075		1681	1577		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5060		1770	5075		1681	1577		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	218	2684	91	29	671	9	166	18	87	78	7	267
RTOR Reduction (vph)	0	2	0	0	0	0	0	42	0	0	0	155
Lane Group Flow (vph)	218	2773	0	29	680	0	141	88	0	78	7	112
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	27.7	129.7		6.7	108.9		20.3	20.3		13.1	13.1	40.8
Effective Green, g (s)	27.7	129.7		6.7	108.9		20.3	20.3		13.1	13.1	40.8
Actuated g/C Ratio	0.15	0.68		0.04	0.57		0.11	0.11		0.07	0.07	0.21
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	258	3454		62	2908		179	168		113	128	339
v/s Ratio Prot	c0.12	c0.55		0.02	0.13		c0.08	0.06		c0.05	0.00	0.07
v/s Ratio Perm												
v/c Ratio	0.84	0.80		0.47	0.23		0.79	0.52		0.69	0.05	0.33
Uniform Delay, d1	79.1	21.2		89.9	20.0		82.7	80.3		86.5	82.7	63.1
Progression Factor	0.91	1.72		0.77	1.17		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.8	0.7		2.0	0.2		18.7	1.4		13.6	0.1	0.2
Delay (s)	79.8	37.0		70.9	23.5		101.5	81.6		100.1	82.7	63.3
Level of Service	E	D		E	C		F	F		F	F	E
Approach Delay (s)		40.1			25.4			92.0			71.8	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	2588	11	32	683	26	24	13	288	83	3	65
Future Volume (vph)	47	2588	11	32	683	26	24	13	288	83	3	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5057		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5057		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	48	2641	11	33	697	27	24	13	294	85	3	66
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	79	0	0	52
Lane Group Flow (vph)	48	2652	0	33	722	0	24	13	215	85	3	14
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	8.1	120.3		6.3	118.8		4.1	30.9	30.9	12.8	39.6	39.6
Effective Green, g (s)	8.1	120.3		6.3	118.8		4.1	30.9	30.9	12.8	39.6	39.6
Actuated g/C Ratio	0.04	0.63		0.03	0.63		0.02	0.16	0.16	0.07	0.21	0.21
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	75	3217		58	3161		38	302	257	119	388	329
v/s Ratio Prot	c0.03	c0.52		0.02	0.14		0.01	0.01		c0.05	0.00	
v/s Ratio Perm									c0.14			0.01
v/c Ratio	0.64	0.82		0.57	0.23		0.63	0.04	0.84	0.71	0.01	0.04
Uniform Delay, d1	89.5	26.7		90.5	15.6		92.2	67.1	77.1	86.8	59.6	60.1
Progression Factor	1.01	1.44		1.21	0.45		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.1	1.6		7.3	0.2		22.5	0.0	19.7	15.5	0.0	0.0
Delay (s)	98.9	40.2		117.0	7.1		114.7	67.1	96.9	102.3	59.6	60.1
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		41.2			11.9			97.0			83.4	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	2324	524	45	484	23	176	46	113	120	91	43
Future Volume (vph)	58	2324	524	45	484	23	176	46	113	120	91	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4945		1652	5051		1625	1719	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4945		1652	5051		1625	1719	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	2446	552	47	509	24	185	48	119	126	96	45
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	108	0	0	40
Lane Group Flow (vph)	61	2984	0	47	531	0	115	118	11	126	96	5
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.4	121.4		10.8	120.3		17.8	17.8	17.8	19.8	19.8	19.8
Effective Green, g (s)	11.4	121.4		10.8	120.3		17.8	17.8	17.8	19.8	19.8	19.8
Actuated g/C Ratio	0.06	0.64		0.06	0.63		0.09	0.09	0.09	0.10	0.10	0.10
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	99	3159		93	3198		152	161	148	172	194	176
v/s Ratio Prot	c0.04	c0.60		0.03	0.11		c0.07	0.07		c0.08	0.05	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.62	0.94		0.51	0.17		0.76	0.73	0.08	0.73	0.49	0.03
Uniform Delay, d1	87.2	31.2		87.0	14.3		84.0	83.8	78.6	82.5	80.4	76.4
Progression Factor	1.29	0.39		1.25	0.81		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	4.8		1.6	0.1		17.2	13.8	0.1	14.9	2.0	0.1
Delay (s)	117.0	17.0		110.5	11.7		101.2	97.6	78.7	97.4	82.4	76.5
Level of Service	F	B		F	B		F	F	E	F	F	E
Approach Delay (s)		19.0			19.7			92.3			88.5	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	2396	130	55	458	34	93	25	183	19	12	18
Future Volume (vph)	26	2396	130	55	458	34	93	25	183	19	12	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.0		4.6	6.0		4.6	4.9		4.6	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5046		1770	5033		3433	1617		1770	1697	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5046		1770	5033		3433	1617		1770	1697	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	2496	135	57	477	35	97	26	191	20	12	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	88	0	0	18	0
Lane Group Flow (vph)	27	2629	0	57	509	0	97	129	0	20	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.5	136.4		10.5	140.4		9.2	19.8		3.2	13.8	
Effective Green, g (s)	6.5	136.4		10.5	140.4		9.2	19.8		3.2	13.8	
Actuated g/C Ratio	0.03	0.72		0.06	0.74		0.05	0.10		0.02	0.07	
Clearance Time (s)	4.6	6.0		4.6	6.0		4.6	4.9		4.6	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	60	3622		97	3719		166	168		29	123	
v/s Ratio Prot	0.02	c0.52		c0.03	c0.10		c0.03	c0.08		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.45	0.73		0.59	0.14		0.58	0.77		0.69	0.12	
Uniform Delay, d1	90.0	15.8		87.6	7.2		88.5	82.9		92.9	82.4	
Progression Factor	1.11	0.19		1.03	0.87		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.6		5.5	0.1		3.4	17.2		42.7	0.2	
Delay (s)	100.9	3.5		95.5	6.4		91.9	100.0		135.6	82.6	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		4.5			15.3			97.5			103.0	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2292	163	386	402	173	181	329	659	408	258	41
Future Volume (vph)	57	2292	163	386	402	173	181	329	659	408	258	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5035		1652	4855		1652	3421	1531	3204	3466	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5035		1652	4855		1652	3421	1531	3204	3466	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	58	2339	166	394	410	177	185	336	672	416	263	42
RTOR Reduction (vph)	0	4	0	0	40	0	0	0	30	0	7	0
Lane Group Flow (vph)	58	2501	0	394	547	0	185	336	642	416	298	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.6	90.7		16.8	96.8		39.4	38.0	60.8	23.6	21.8	
Effective Green, g (s)	10.6	90.7		16.8	96.8		39.4	38.0	60.8	23.6	21.8	
Actuated g/C Ratio	0.06	0.48		0.09	0.51		0.21	0.20	0.32	0.12	0.11	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	92	2403		146	2473		342	684	489	397	397	
v/s Ratio Prot	0.04	c0.50		c0.24	0.11		0.11	0.10	c0.42	c0.13	0.09	
v/s Ratio Perm												
v/c Ratio	0.63	1.04		2.70	0.22		0.54	0.49	1.31	1.05	0.75	
Uniform Delay, d1	87.8	49.6		86.6	25.8		67.2	67.4	64.6	83.2	81.5	
Progression Factor	1.25	0.64		1.30	0.99		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.1	27.4		783.0	0.2		1.7	0.7	154.9	58.2	7.9	
Delay (s)	117.0	59.0		895.3	25.7		69.0	68.1	219.5	141.4	89.3	
Level of Service	F	E		F	C		E	E	F	F	F	
Approach Delay (s)		60.3			374.9			153.5			119.4	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	145.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	3194	30	58	963	77	13	20	42	56	3	25
Future Volume (vph)	135	3194	30	58	963	77	13	20	42	56	3	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5029			1828	1583	1770	1612	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5029			1635	1583	1369	1612	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	139	3293	31	60	993	79	13	21	43	58	3	26
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	40	0	24	0
Lane Group Flow (vph)	139	3324	0	60	1069	0	0	34	3	58	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	19.2	151.3		10.9	143.0			12.5	12.5	12.5	12.5	
Effective Green, g (s)	19.2	151.3		10.9	143.0			12.5	12.5	12.5	12.5	
Actuated g/C Ratio	0.10	0.80		0.06	0.75			0.07	0.07	0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	178	4043		101	3784			107	104	90	106	
v/s Ratio Prot	c0.08	c0.65		0.03	0.21						0.00	
v/s Ratio Perm								0.02	0.00	c0.04		
v/c Ratio	0.78	0.82		0.59	0.28			0.32	0.03	0.64	0.04	
Uniform Delay, d1	83.3	11.4		87.4	7.4			84.7	83.1	86.6	83.2	
Progression Factor	1.08	0.35		0.94	0.73			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.9	0.2		6.0	0.2			0.6	0.0	11.2	0.1	
Delay (s)	92.3	4.2		87.9	5.5			85.3	83.1	97.8	83.2	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		7.7			9.9			84.1			93.0	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	3264	20	47	1068	43	4	18	59	42	4	12
Future Volume (vph)	35	3264	20	47	1068	43	4	18	59	42	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5081		1770	5056			1674		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.34	1.00	
Satd. Flow (perm)	1770	5081		1770	5056			1657		631	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	36	3365	21	48	1101	44	4	19	64	43	4	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	60	0	0	11	0
Lane Group Flow (vph)	36	3386	0	48	1144	0	0	27	0	43	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.3	154.4		8.5	155.3			11.8		11.8	11.8	
Effective Green, g (s)	7.3	154.4		8.5	155.3			11.8		11.8	11.8	
Actuated g/C Ratio	0.04	0.81		0.04	0.82			0.06		0.06	0.06	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	68	4128		79	4132			102		39	102	
v/s Ratio Prot	0.02	c0.67		c0.03	0.23						0.00	
v/s Ratio Perm								0.02		c0.07		
v/c Ratio	0.53	0.82		0.61	0.28			0.26		1.10	0.05	
Uniform Delay, d1	89.7	10.0		89.1	4.1			85.0		89.1	83.8	
Progression Factor	1.26	0.37		0.76	2.22			1.00		1.00	1.00	
Incremental Delay, d2	2.0	1.1		8.4	0.2			0.5		176.2	0.1	
Delay (s)	115.2	4.9		75.7	9.2			85.5		265.3	83.9	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		6.0			11.9			85.5			216.1	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	3047	199	94	1072	79	40	81	110	25	44	83
Future Volume (vph)	111	3047	199	94	1072	79	40	81	110	25	44	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5039		1770	5033		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5039		1770	5033		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	117	3207	209	99	1128	83	42	85	116	26	46	87
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	106	0	0	81
Lane Group Flow (vph)	117	3413	0	99	1208	0	42	85	10	26	46	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.9	135.3		16.1	134.0		6.0	14.6	14.6	4.3	12.9	12.9
Effective Green, g (s)	16.9	135.3		16.1	134.0		6.0	14.6	14.6	4.3	12.9	12.9
Actuated g/C Ratio	0.09	0.71		0.08	0.71		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	157	3588		149	3549		55	143	121	40	126	107
v/s Ratio Prot	c0.07	c0.68		0.06	0.24		c0.02	c0.05		0.01	0.02	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.75	0.95		0.66	0.34		0.76	0.59	0.08	0.65	0.37	0.06
Uniform Delay, d1	84.4	24.4		84.3	10.9		91.3	84.8	81.5	92.1	84.6	82.8
Progression Factor	0.91	0.57		0.90	0.66		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	4.8		7.7	0.2		42.3	4.4	0.1	25.2	0.7	0.1
Delay (s)	86.8	18.8		83.2	7.4		133.6	89.2	81.6	117.3	85.3	82.9
Level of Service	F	B		F	A		F	F	F	F	F	F
Approach Delay (s)		21.0			13.2			93.2			89.2	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	2560	288	68	1054	70	183	136	34	47	121	75
Future Volume (vph)	137	2560	288	68	1054	70	183	136	34	47	121	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5008		1770	5085	1583	1770	3434		1770	3336	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5008		1770	5085	1583	1770	3434		1770	3336	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	146	2723	306	72	1121	74	195	145	36	50	129	80
RTOR Reduction (vph)	0	7	0	0	0	34	0	11	0	0	55	0
Lane Group Flow (vph)	146	3022	0	72	1121	40	195	170	0	50	154	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	19.6	112.6		9.8	102.8	102.8	32.4	32.4		15.3	15.3	
Effective Green, g (s)	19.6	112.6		9.8	102.8	102.8	32.4	32.4		15.3	15.3	
Actuated g/C Ratio	0.10	0.59		0.05	0.54	0.54	0.17	0.17		0.08	0.08	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	182	2967		91	2751	856	301	585		142	268	
v/s Ratio Prot	c0.08	c0.60		0.04	0.22		c0.11	0.05		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.80	1.02		0.79	0.41	0.05	0.65	0.29		0.35	0.57	
Uniform Delay, d1	83.3	38.7		89.1	25.7	20.5	73.5	68.8		82.7	84.2	
Progression Factor	1.22	0.43		1.12	0.61	0.09	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.0	15.3		30.6	0.4	0.1	5.1	0.3		2.3	3.8	
Delay (s)	110.8	31.9		130.7	16.1	2.0	78.6	69.1		84.9	88.0	
Level of Service	F	C		F	B	A	E	E		F	F	
Approach Delay (s)		35.6			21.8			74.0			87.4	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	2113	70	280	1045	244	143	557	122	303	416	137
Future Volume (vph)	237	2113	70	280	1045	244	143	557	122	303	416	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4723		3204	4916	1478	1711	4746	1478	3433	3408	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4723		3204	4916	1478	1711	4746	1478	3433	3408	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	244	2178	72	289	1077	252	147	574	126	312	429	141
RTOR Reduction (vph)	0	2	0	0	0	103	0	0	57	0	17	0
Lane Group Flow (vph)	244	2248	0	289	1077	149	147	574	69	312	553	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	18.3	96.8		20.0	98.6	98.6	18.6	33.3	33.3	20.1	34.6	
Effective Green, g (s)	18.3	96.8		20.0	98.6	98.6	18.6	33.3	33.3	20.1	34.6	
Actuated g/C Ratio	0.10	0.51		0.11	0.52	0.52	0.10	0.18	0.18	0.11	0.18	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	308	2406		337	2551	767	167	831	259	363	620	
v/s Ratio Prot	0.08	c0.48		c0.09	0.22		0.09	0.12		c0.09	c0.16	
v/s Ratio Perm						0.10			0.05			
v/c Ratio	0.79	0.93		0.86	0.42	0.19	0.88	0.69	0.27	0.86	0.89	
Uniform Delay, d1	84.0	43.6		83.6	28.2	24.4	84.6	73.5	67.8	83.6	75.9	
Progression Factor	1.18	0.68		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.1	2.3		18.3	0.5	0.6	36.9	2.9	1.0	17.4	15.5	
Delay (s)	102.6	32.1		101.9	28.7	25.0	121.5	76.4	68.7	100.9	91.4	
Level of Service	F	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		39.0			41.2			83.1			94.8	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	59	317	276	68	241	405
Future Volume (vph)	59	317	276	68	241	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3434		1723	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3434		1723	1504
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	66	352	307	76	268	450
RTOR Reduction (vph)	0	0	36	0	20	162
Lane Group Flow (vph)	66	352	347	0	352	184
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	5.6	22.8	13.2		15.0	25.1
Effective Green, g (s)	5.6	22.8	13.2		15.0	25.1
Actuated g/C Ratio	0.12	0.48	0.28		0.32	0.53
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	209	898	958		546	798
v/s Ratio Prot	0.04	c0.19	0.10		c0.20	0.12
v/s Ratio Perm						
v/c Ratio	0.32	0.39	0.36		0.64	0.23
Uniform Delay, d1	19.1	7.8	13.7		13.9	5.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.6	0.5		2.6	0.1
Delay (s)	19.4	8.4	14.2		16.5	6.1
Level of Service	B	A	B		B	A
Approach Delay (s)		10.2	14.2		11.5	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	47.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	972	14	13	261	33	11	1	47	246	2	37
Future Volume (vph)	5	972	14	13	261	33	11	1	47	246	2	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1859		1770	1832			1647			1754	
Flt Permitted	0.56	1.00		0.12	1.00			0.92			0.71	
Satd. Flow (perm)	1048	1859		221	1832			1529			1300	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1045	15	14	281	35	12	1	51	265	2	40
RTOR Reduction (vph)	0	1	0	0	6	0	0	37	0	0	9	0
Lane Group Flow (vph)	5	1059	0	14	310	0	0	27	0	0	298	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.3	34.3		33.7	33.7			17.1			17.1	
Effective Green, g (s)	34.3	34.3		33.7	33.7			17.1			17.1	
Actuated g/C Ratio	0.56	0.56		0.55	0.55			0.28			0.28	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	587	1041		121	1008			427			363	
v/s Ratio Prot		c0.57			0.17							
v/s Ratio Perm	0.00			0.06				0.02			c0.23	
v/c Ratio	0.01	1.02		0.12	0.31			0.06			0.82	
Uniform Delay, d1	5.9	13.5		6.6	7.4			16.2			20.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	32.3		0.4	0.2			0.0			13.3	
Delay (s)	5.9	45.8		7.0	7.6			16.2			33.9	
Level of Service	A	D		A	A			B			C	
Approach Delay (s)		45.6			7.6			16.2			33.9	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	10.4
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	408	302	464	77	84	356	124	1339	75	226	876	122
Future Volume (vph)	408	302	464	77	84	356	124	1339	75	226	876	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1855		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1855		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	448	332	510	85	92	391	136	1471	82	248	963	134
RTOR Reduction (vph)	0	0	168	0	102	0	0	0	25	0	0	53
Lane Group Flow (vph)	448	332	342	85	381	0	136	1471	57	248	963	81
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	38.1	38.1	54.0	29.0	29.0		15.9	50.4	79.4	11.6	46.1	89.9
Effective Green, g (s)	38.1	38.1	54.0	29.0	29.0		15.9	50.4	79.4	11.6	46.1	89.9
Actuated g/C Ratio	0.25	0.25	0.36	0.19	0.19		0.11	0.34	0.53	0.08	0.31	0.60
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	419	441	551	319	358		181	1109	837	127	1051	917
v/s Ratio Prot	c0.27	0.19	0.22	0.05	c0.21		0.08	c0.45	0.04	c0.15	0.28	0.05
v/s Ratio Perm												
v/c Ratio	1.07	0.75	0.62	0.27	1.07		0.75	1.33	0.07	1.95	0.92	0.09
Uniform Delay, d1	56.0	51.6	39.6	51.5	60.5		65.1	49.8	17.2	69.2	50.1	12.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	63.6	6.5	1.7	0.4	65.9		14.4	153.2	0.0	456.0	12.3	0.1
Delay (s)	119.6	58.1	41.3	51.9	126.4		79.5	203.0	17.3	525.2	62.4	12.8
Level of Service	F	E	D	D	F		E	F	B	F	E	B
Approach Delay (s)		72.8			115.3			184.1			142.8	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	135.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	149	0	15	0	360	70	17	695	0
Future Volume (vph)	1	0	1	149	0	15	0	360	70	17	695	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	0	1	173	0	17	0	419	81	20	808	0
RTOR Reduction (vph)	0	2	0	0	0	14	0	0	20	0	0	0
Lane Group Flow (vph)	0	0	0	0	173	3	0	419	61	20	808	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			9.3	9.3		27.8	41.6	0.6	32.4	
Effective Green, g (s)		0.7			9.3	9.3		27.8	41.6	0.6	32.4	
Actuated g/C Ratio		0.01			0.17	0.17		0.51	0.76	0.01	0.59	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		21			299	268		943	1199	19	1099	
v/s Ratio Prot		c0.00			c0.10			0.22	0.04	0.01	c0.43	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.58	0.01		0.44	0.05	1.05	0.74	
Uniform Delay, d1		26.8			21.0	19.0		8.6	1.7	27.1	8.1	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.7	0.0		0.3	0.0	224.0	2.6	
Delay (s)		26.8			22.7	19.0		9.0	1.7	251.2	10.7	
Level of Service		C			C	B		A	A	F	B	
Approach Delay (s)		26.8			22.4			7.8			16.5	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	54.9	Sum of lost time (s)	16.5
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	687	176	83	235	6	103	7	164	60	68	101
Future Volume (vph)	17	687	176	83	235	6	103	7	164	60	68	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3431		1770	3527		1770	1863	1583	1770	1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3431		1770	3527		1770	1863	1583	1770	1696	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	716	183	86	245	6	107	7	171	62	71	105
RTOR Reduction (vph)	0	24	0	0	2	0	0	0	74	0	72	0
Lane Group Flow (vph)	18	875	0	86	249	0	107	7	97	63	104	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	0.6	26.2		4.9	31.0		6.3	13.5	23.3	3.2	10.4	
Effective Green, g (s)	0.6	26.2		4.9	31.0		6.3	13.5	23.3	3.2	10.4	
Actuated g/C Ratio	0.01	0.39		0.07	0.46		0.09	0.20	0.34	0.05	0.15	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	15	1329		128	1617		164	372	545	83	260	
v/s Ratio Prot	0.01	c0.26		c0.05	c0.07		c0.06	0.00	c0.06	0.04	c0.06	
v/s Ratio Perm												
v/c Ratio	1.20	0.66		0.67	0.15		0.65	0.02	0.18	0.76	0.40	
Uniform Delay, d1	33.5	17.0		30.6	10.7		29.6	21.7	15.5	31.8	25.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	303.5	1.1		10.4	0.0		6.9	0.0	0.1	29.1	0.4	
Delay (s)	337.0	18.1		41.0	10.7		36.5	21.7	15.5	60.9	26.2	
Level of Service	F	B		D	B		D	C	B	E	C	
Approach Delay (s)		24.4			18.4			23.5			35.3	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	19.8
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	959	334	209	1415	102	224	21	205	403	72	324
Future Volume (vph)	58	959	334	209	1415	102	224	21	205	403	72	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5034		1681	1699	1583	1610	3037	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5034		1681	1699	1583	1610	3037	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	59	979	341	213	1444	104	229	21	209	411	73	331
RTOR Reduction (vph)	0	0	209	0	5	0	0	0	187	0	172	0
Lane Group Flow (vph)	59	979	132	213	1543	0	124	126	22	284	359	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	8.3	58.2	58.2	13.2	63.1		16.0	16.0	16.0	43.1	43.1	
Effective Green, g (s)	8.3	58.2	58.2	13.2	63.1		16.0	16.0	16.0	43.1	43.1	
Actuated g/C Ratio	0.06	0.39	0.39	0.09	0.42		0.11	0.11	0.11	0.29	0.29	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	97	1972	614	302	2117		179	181	168	462	872	
v/s Ratio Prot	0.03	0.19		c0.06	c0.31		0.07	c0.07		c0.18	0.12	
v/s Ratio Perm			0.08						0.01			
v/c Ratio	0.61	0.50	0.22	0.71	0.73		0.69	0.70	0.13	0.61	0.41	
Uniform Delay, d1	69.3	34.8	30.7	66.5	36.3		64.6	64.7	60.7	46.3	43.2	
Progression Factor	1.00	1.00	1.00	1.33	0.61		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.2	0.9	0.8	4.2	1.6		9.0	9.0	0.1	4.3	0.9	
Delay (s)	76.5	35.7	31.5	92.8	23.9		73.6	73.7	60.8	50.5	44.1	
Level of Service	E	D	C	F	C		E	E	E	D	D	
Approach Delay (s)		36.4			32.2			67.8			46.4	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1433	158	425	1372	267	195	55	666	892	223	167
Future Volume (vph)	23	1433	158	425	1372	267	195	55	666	892	223	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	25	1541	170	457	1475	287	210	59	716	959	240	180
RTOR Reduction (vph)	0	0	108	0	0	102	0	0	50	0	0	48
Lane Group Flow (vph)	25	1541	62	457	1475	185	210	59	666	959	240	132
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.3	40.5	40.5	19.0	55.9	96.8	13.1	35.1	59.1	35.6	57.3	66.9
Effective Green, g (s)	4.3	40.5	40.5	19.0	55.9	96.8	13.1	35.1	59.1	35.6	57.3	66.9
Actuated g/C Ratio	0.03	0.27	0.27	0.13	0.37	0.65	0.09	0.23	0.39	0.24	0.38	0.45
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	98	1372	427	434	1895	1798	299	828	1098	814	1351	706
v/s Ratio Prot	0.01	c0.30		c0.13	0.29	0.07	0.06	0.02	c0.24	c0.28	0.07	0.08
v/s Ratio Perm			0.04									
v/c Ratio	0.26	1.12	0.15	1.05	0.78	0.10	0.70	0.07	0.61	1.18	0.18	0.19
Uniform Delay, d1	71.3	54.8	41.6	65.5	41.6	10.1	66.6	44.8	36.2	57.2	30.7	25.1
Progression Factor	1.19	0.73	0.36	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	64.7	0.6	57.8	3.2	0.0	6.0	0.1	1.5	92.8	0.1	0.2
Delay (s)	85.0	104.6	15.7	123.3	44.8	10.1	72.5	44.8	37.7	150.0	30.8	25.4
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		95.6			56.5			45.5			113.0	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	77.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1905	1040	0	1263	819	0	0	0	240	0	756
Future Volume (vph)	0	1905	1040	0	1263	819	0	0	0	240	0	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	2027	1106	0	1344	871	0	0	0	255	0	804
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	42
Lane Group Flow (vph)	0	2027	1106	0	1344	871	0	0	0	255	0	762
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		83.0	138.0		83.0	138.0				42.8		42.8
Effective Green, g (s)		83.0	138.0		83.0	133.3				42.8		42.8
Actuated g/C Ratio		0.60	1.00		0.60	0.97				0.31		0.31
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		3058	2787		3058	1529				1064		864
v/s Ratio Prot		c0.40			0.26	0.55				0.07		c0.27
v/s Ratio Perm			0.40									
v/c Ratio		0.66	0.40		0.44	0.57				0.24		0.88
Uniform Delay, d1		18.2	0.0		14.9	0.2				35.5		45.2
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		1.1	0.4		0.4	0.3				0.0		10.2
Delay (s)		19.4	0.4		15.3	0.5				35.5		55.4
Level of Service		B	A		B	A				D		E
Approach Delay (s)		12.7			9.4			0.0			50.6	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1069	1164	0	1569	791	450	0	211	0	0	0
Future Volume (vph)	0	1069	1164	0	1569	791	450	0	211	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1102	1200	0	1618	815	464	0	218	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	179	0	0	0
Lane Group Flow (vph)	0	1102	1200	0	1618	815	464	0	39	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		100.9	138.0		100.9	138.0	24.9		24.9			
Effective Green, g (s)		100.9	133.3		100.9	138.0	24.9		24.9			
Actuated g/C Ratio		0.73	0.97		0.73	1.00	0.18		0.18			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3717	1529		4685	1583	619		502			
v/s Ratio Prot		0.22	c0.76		0.25		0.14					
v/s Ratio Perm						0.51			0.01			
v/c Ratio		0.30	0.78		0.35	0.51	0.75		0.08			
Uniform Delay, d1		6.4	0.3		6.7	0.0	53.6		47.0			
Progression Factor		0.66	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.2	2.0		0.2	1.2	4.4		0.0			
Delay (s)		4.4	2.3		6.9	1.2	58.0		47.0			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		3.3			5.0			54.5			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	495	469	301	978	0	0
Future Volume (vph)	495	469	301	978	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	510	484	310	1008	0	0
RTOR Reduction (vph)	0	115	0	0	0	0
Lane Group Flow (vph)	510	369	310	1008	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	65.8	65.8	12.5	90.0		
Effective Green, g (s)	65.8	65.8	12.5	90.0		
Actuated g/C Ratio	0.73	0.73	0.14	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2587	2037	476	5085		
v/s Ratio Prot	0.14		c0.09	c0.20		
v/s Ratio Perm		0.13				
v/c Ratio	0.20	0.18	0.65	0.20		
Uniform Delay, d1	3.8	3.7	36.7	0.0		
Progression Factor	1.00	1.00	0.73	1.00		
Incremental Delay, d2	0.2	0.2	2.3	0.1		
Delay (s)	4.0	3.9	29.0	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	4.0			6.9	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	468	0	0	746	562	736
Future Volume (vph)	0	468	0	0	746	562	736
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	514	0	0	820	618	809
RTOR Reduction (vph)	0	0	0	0	0	0	332
Lane Group Flow (vph)	0	514	0	0	820	618	477
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		56.0			56.0	22.3	22.3
Effective Green, g (s)		56.0			56.0	22.3	22.3
Actuated g/C Ratio		0.62			0.62	0.25	0.25
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2202			3164	850	690
v/s Ratio Prot		0.15			c0.16	c0.18	
v/s Ratio Perm							0.17
v/c Ratio		0.23			0.26	0.73	0.69
Uniform Delay, d1		7.5			7.7	31.1	30.7
Progression Factor		1.01			1.00	1.00	1.00
Incremental Delay, d2		0.2			0.2	2.7	2.4
Delay (s)		7.8			7.9	33.7	33.1
Level of Service		A			A	C	C
Approach Delay (s)		7.8			7.9	33.4	
Approach LOS		A			A	C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1190	59	700	2214	163	1036
Future Volume (vph)	1190	59	700	2214	163	1036
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6363		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6363		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1214	60	714	2259	166	1057
RTOR Reduction (vph)	4	0	0	0	0	2
Lane Group Flow (vph)	1270	0	714	2259	166	1055
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	54.6		39.4	98.7	50.9	94.7
Effective Green, g (s)	54.6		39.4	98.7	50.9	94.7
Actuated g/C Ratio	0.34		0.25	0.62	0.32	0.59
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2171		845	3952	563	1649
v/s Ratio Prot	0.20		c0.21	c0.35	0.09	c0.38
v/s Ratio Perm						
v/c Ratio	0.59		0.84	0.57	0.29	0.64
Uniform Delay, d1	43.4		57.4	18.1	41.0	21.4
Progression Factor	1.00		0.51	1.34	1.00	1.00
Incremental Delay, d2	1.2		0.7	0.1	0.1	0.6
Delay (s)	44.5		30.2	24.3	41.2	22.1
Level of Service	D		C	C	D	C
Approach Delay (s)	44.5			25.7	24.6	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	131	2122	0	2593	182	899	322
Future Volume (vph)	131	2122	0	2593	182	899	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (prot)	3433	5085		5085	1583	3348	
Flt Permitted	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (perm)	3433	5085		5085	1583	3348	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	132	2143	0	2619	184	908	325
RTOR Reduction (vph)	0	0	0	0	3	23	0
Lane Group Flow (vph)	132	2143	0	2619	181	1210	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	92.7		81.6	143.6	56.6	
Effective Green, g (s)	7.6	92.7		81.6	143.6	56.6	
Actuated g/C Ratio	0.05	0.58		0.51	0.90	0.35	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	163	2946		2593	1420	1184	
v/s Ratio Prot	0.04	c0.42		c0.52	0.11	c0.36	
v/s Ratio Perm							
v/c Ratio	0.81	0.73		1.01	0.13	1.02	
Uniform Delay, d1	75.5	24.5		39.2	0.9	51.7	
Progression Factor	0.86	0.91		0.46	1.42	1.00	
Incremental Delay, d2	19.9	1.3		17.5	0.1	31.8	
Delay (s)	84.7	23.5		35.5	1.4	83.5	
Level of Service	F	C		D	A	F	
Approach Delay (s)		27.0		33.2		83.5	
Approach LOS		C		C		F	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	2894	2740	28	95	66
Future Volume (vph)	24	2894	2740	28	95	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	25	3015	2854	29	99	69
RTOR Reduction (vph)	0	0	0	3	0	61
Lane Group Flow (vph)	25	3015	2854	26	99	8
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.8	135.9	127.1	127.1	13.4	13.4
Effective Green, g (s)	4.8	135.9	127.1	127.1	13.4	13.4
Actuated g/C Ratio	0.03	0.85	0.79	0.79	0.08	0.08
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	53	4319	4039	1257	148	132
v/s Ratio Prot	0.01	c0.59	0.56		c0.06	
v/s Ratio Perm				0.02		0.00
v/c Ratio	0.47	0.70	0.71	0.02	0.67	0.06
Uniform Delay, d1	76.4	4.5	7.7	3.4	71.1	67.5
Progression Factor	1.10	0.30	1.08	0.61	1.00	1.00
Incremental Delay, d2	1.3	0.5	0.8	0.0	8.6	0.1
Delay (s)	85.0	1.8	9.1	2.1	79.7	67.6
Level of Service	F	A	A	A	E	E
Approach Delay (s)		2.5	9.1		74.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	28	3086	0	2598	38	90	99
Future Volume (vph)	28	3086	0	2598	38	90	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	7.0	6.0	6.0
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3334	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3334	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	3248	0	2735	40	95	104
RTOR Reduction (vph)	0	0	0	0	2	38	59
Lane Group Flow (vph)	29	3248	0	2735	38	98	4
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	5.6	139.0		128.4	128.4	10.0	10.0
Effective Green, g (s)	4.6	139.0		128.4	127.4	9.0	9.0
Actuated g/C Ratio	0.03	0.87		0.80	0.80	0.06	0.06
Clearance Time (s)	5.0	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	50	4417		4080	1260	187	81
v/s Ratio Prot	0.02	c0.64		0.54		c0.03	
v/s Ratio Perm					0.02		0.00
v/c Ratio	0.58	0.74		0.67	0.03	0.53	0.04
Uniform Delay, d1	76.7	3.8		6.8	3.4	73.4	71.4
Progression Factor	0.81	1.58		0.74	0.64	1.00	1.00
Incremental Delay, d2	11.7	0.8		0.4	0.0	2.7	0.2
Delay (s)	74.0	6.9		5.4	2.2	76.1	71.7
Level of Service	E	A		A	A	E	E
Approach Delay (s)		7.5		5.4		74.7	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1299	1775	84	18	1283	65	45	56	8	99	1	1329
Future Volume (vph)	1299	1775	84	18	1283	65	45	56	8	99	1	1329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5048		1652	1826		1625	1631	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5048		1652	1826		1625	1631	2787
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1397	1909	90	19	1380	70	48	60	9	106	1	1429
RTOR Reduction (vph)	0	3	0	0	3	0	0	4	0	0	0	260
Lane Group Flow (vph)	1397	1996	0	19	1447	0	48	65	0	53	54	1169
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	43.6	89.5		2.4	48.4		10.1	10.1		37.4	37.4	86.5
Effective Green, g (s)	43.6	89.5		2.4	48.4		10.1	10.1		37.4	37.4	86.5
Actuated g/C Ratio	0.27	0.56		0.01	0.30		0.06	0.06		0.23	0.23	0.54
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	873	2825		48	1527		104	115		379	381	1506
v/s Ratio Prot	c0.44	0.40		0.01	c0.29		0.03	c0.04		0.03	0.03	c0.42
v/s Ratio Perm												
v/c Ratio	1.60	0.71		0.40	0.95		0.46	0.57		0.14	0.14	0.78
Uniform Delay, d1	58.2	25.7		78.1	54.6		72.3	72.8		48.6	48.6	29.1
Progression Factor	0.99	1.02		1.03	1.09		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	273.9	1.1		1.9	13.3		1.2	3.8		0.2	0.2	2.5
Delay (s)	331.4	27.2		82.5	72.5		73.5	76.6		48.7	48.7	31.6
Level of Service	F	C		F	E		E	E		D	D	C
Approach Delay (s)		152.3			72.6			75.3			32.8	
Approach LOS		F			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	104.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	87	1869	0	964	332	590	168
Future Volume (vph)	87	1869	0	964	332	590	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3203	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3203	1585
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	91	1947	0	1004	346	615	175
RTOR Reduction (vph)	0	0	0	0	48	2	122
Lane Group Flow (vph)	91	1947	0	1004	298	631	35
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	12.9	113.4		95.8	137.8	36.0	36.0
Effective Green, g (s)	12.9	113.4		95.8	137.8	36.0	36.0
Actuated g/C Ratio	0.08	0.71		0.60	0.86	0.22	0.22
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	137	3484		2943	1272	720	356
v/s Ratio Prot	c0.05	c0.40		0.20	0.20	c0.20	
v/s Ratio Perm							0.02
v/c Ratio	0.66	0.56		0.34	0.23	0.88	0.10
Uniform Delay, d1	71.4	11.2		16.2	1.9	59.9	49.1
Progression Factor	1.45	0.14		1.40	0.11	1.00	1.00
Incremental Delay, d2	6.8	0.5		0.3	0.0	11.3	0.0
Delay (s)	110.6	2.1		23.0	0.2	71.2	49.2
Level of Service	F	A		C	A	E	D
Approach Delay (s)		6.9		17.1		66.8	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	372	2429	1043	603	418	187
Future Volume (vph)	372	2429	1043	603	418	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	5.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.97	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4520	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4520	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	376	2454	1054	609	422	189
RTOR Reduction (vph)	0	0	15	151	0	66
Lane Group Flow (vph)	376	2454	1270	227	422	123
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	23.1	123.5	96.2	96.2	25.5	53.6
Effective Green, g (s)	22.1	123.5	96.2	96.2	25.5	53.6
Actuated g/C Ratio	0.14	0.77	0.60	0.60	0.16	0.34
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	442	3663	2717	764	510	871
v/s Ratio Prot	c0.12	c0.52	0.28		c0.13	0.05
v/s Ratio Perm				0.18		
v/c Ratio	0.85	0.67	0.47	0.30	0.83	0.14
Uniform Delay, d1	67.3	8.6	17.7	15.5	65.1	37.1
Progression Factor	0.92	1.76	0.75	0.95	1.00	1.00
Incremental Delay, d2	12.1	0.8	0.5	0.8	10.1	0.0
Delay (s)	74.0	16.0	13.8	15.5	75.2	37.2
Level of Service	E	B	B	B	E	D
Approach Delay (s)		23.7	14.2		63.5	
Approach LOS		C	B		E	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.2
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	2599	148	118	1581	37	280	51	282	77	40	38
Future Volume (vph)	44	2599	148	118	1581	37	280	51	282	77	40	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.98	
Satd. Flow (prot)	1770	5085	1583	3433	5068		1681	1560	1504		1757	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.98	
Satd. Flow (perm)	1770	5085	1583	3433	5068		1681	1560	1504		1757	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	2736	156	124	1664	39	295	54	297	81	42	40
RTOR Reduction (vph)	0	0	32	0	1	0	0	18	95	0	7	0
Lane Group Flow (vph)	46	2736	124	124	1702	0	224	202	107	0	156	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.9	91.9	91.9	9.2	93.8		26.0	26.0	26.0		13.5	
Effective Green, g (s)	6.9	91.9	91.9	9.2	93.8		26.0	26.0	26.0		13.5	
Actuated g/C Ratio	0.04	0.57	0.57	0.06	0.59		0.16	0.16	0.16		0.08	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	76	2920	909	197	2971		273	253	244		148	
v/s Ratio Prot	0.03	c0.54		c0.04	0.34		c0.13	0.13			c0.09	
v/s Ratio Perm			0.08						0.07			
v/c Ratio	0.61	0.94	0.14	0.63	0.57		0.82	0.80	0.44		1.05	
Uniform Delay, d1	75.2	31.4	15.7	73.7	20.6		64.7	64.5	60.4		73.2	
Progression Factor	1.16	0.83	0.57	0.60	2.35		1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.9	5.8	0.2	3.8	0.7		16.9	14.9	0.5		88.4	
Delay (s)	93.9	32.0	9.2	48.3	49.1		81.6	79.3	60.9		161.7	
Level of Service	F	C	A	D	D		F	E	E		F	
Approach Delay (s)		31.7			49.1			74.4			161.7	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	46.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	202	2579	0	1631	154	503	180
Future Volume (vph)	202	2579	0	1631	154	503	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	6.5		6.8		7.5	5.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5019		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5019		3433	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	208	2659	0	1681	159	519	186
RTOR Reduction (vph)	0	0	0	6	0	0	151
Lane Group Flow (vph)	208	2659	0	1834	0	519	35
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	13.9	119.1		100.4		30.9	30.9
Effective Green, g (s)	10.9	118.1		99.4		27.9	29.9
Actuated g/C Ratio	0.07	0.74		0.62		0.17	0.19
Clearance Time (s)	4.5	5.5		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	233	3753		3118		598	520
v/s Ratio Prot	0.06	c0.52		0.37		c0.15	
v/s Ratio Perm							0.01
v/c Ratio	0.89	0.71		0.59		0.87	0.07
Uniform Delay, d1	74.0	11.5		18.1		64.3	53.6
Progression Factor	1.26	0.42		0.62		1.00	1.00
Incremental Delay, d2	15.9	0.5		0.7		13.0	0.1
Delay (s)	109.3	5.3		11.9		77.3	53.6
Level of Service	F	A		B		E	D
Approach Delay (s)		12.9		11.9		71.1	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	21.8
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	2054	989	33	1098	149	529	407	30	255	524	48
Future Volume (vph)	56	2054	989	33	1098	149	529	407	30	255	524	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4994		2841	3053		3204	3495	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4994		2841	3053		3204	3495	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	57	2075	999	33	1109	151	534	411	30	258	529	48
RTOR Reduction (vph)	0	0	16	0	10	0	0	2	0	0	4	0
Lane Group Flow (vph)	57	2075	983	33	1250	0	481	492	0	258	573	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.3	71.5	108.4	3.3	67.4		36.9	36.9		26.4	26.4	
Effective Green, g (s)	7.3	71.5	108.4	3.3	67.4		36.9	36.9		26.4	26.4	
Actuated g/C Ratio	0.05	0.45	0.68	0.02	0.42		0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	88	2196	1001	37	2103		655	704		528	576	
v/s Ratio Prot	c0.03	0.42	c0.67	0.02	0.25		0.17	0.16		0.08	c0.16	
v/s Ratio Perm												
v/c Ratio	0.65	0.94	0.98	0.89	0.59		0.73	0.70		0.49	0.99	
Uniform Delay, d1	75.1	42.4	24.9	78.2	35.7		57.0	56.4		60.7	66.7	
Progression Factor	1.24	0.65	0.57	1.10	0.74		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.8	7.4	19.4	99.1	1.2		4.3	3.0		0.7	35.9	
Delay (s)	103.7	34.9	33.7	184.8	27.5		61.3	59.5		61.4	102.6	
Level of Service	F	C	C	F	C		E	E		E	F	
Approach Delay (s)		35.8			31.5			60.4			89.9	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	2358	93	40	1396	20	32	9	124	81	10	38
Future Volume (vph)	32	2358	93	40	1396	20	32	9	124	81	10	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5056		1770	5075			1658			1734	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.47	
Satd. Flow (perm)	1770	5056		1770	5075			1525			845	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	2406	95	41	1424	20	33	9	127	83	10	39
RTOR Reduction (vph)	0	2	0	0	1	0	0	71	0	0	10	0
Lane Group Flow (vph)	33	2499	0	41	1443	0	0	98	0	0	122	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	115.5		7.2	115.7			22.7			22.7	
Effective Green, g (s)	6.5	115.5		7.2	115.7			22.7			22.7	
Actuated g/C Ratio	0.04	0.72		0.05	0.72			0.14			0.14	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	71	3649		79	3669			216			119	
v/s Ratio Prot	0.02	c0.49		c0.02	0.28							
v/s Ratio Perm								0.06			c0.14	
v/c Ratio	0.46	0.68		0.52	0.39			0.45			1.02	
Uniform Delay, d1	75.0	12.2		74.7	8.6			63.0			68.7	
Progression Factor	1.01	0.40		0.99	1.17			1.00			1.00	
Incremental Delay, d2	0.9	0.6		2.2	0.3			0.6			88.7	
Delay (s)	76.5	5.5		76.5	10.3			63.5			157.4	
Level of Service	E	A		E	B			E			F	
Approach Delay (s)		6.4			12.1			63.5			157.4	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1357	1194	0	857	800	0	0	0	25	0	539
Future Volume (vph)	0	1357	1194	0	857	800	0	0	0	25	0	539
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1399	1231	0	884	825	0	0	0	26	0	556
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	294
Lane Group Flow (vph)	0	1399	1231	0	884	825	0	0	0	26	0	262
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		129.9	160.0		129.9	160.0				19.0		19.0
Effective Green, g (s)		129.9	160.0		129.9	160.0				19.0		19.0
Actuated g/C Ratio		0.81	1.00		0.81	1.00				0.12		0.12
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2873	1583		2873	2787				407		330
v/s Ratio Prot		0.40			0.25					0.01		
v/s Ratio Perm			c0.78			0.30						0.09
v/c Ratio		0.49	0.78		0.31	0.30				0.06		0.79
Uniform Delay, d1		4.7	0.0		3.8	0.0				62.6		68.6
Progression Factor		1.13	1.00		0.57	1.00				1.00		1.00
Incremental Delay, d2		0.4	2.9		0.3	0.3				0.0		11.5
Delay (s)		5.7	2.9		2.4	0.3				62.6		80.1
Level of Service		A	A		A	A				E		F
Approach Delay (s)		4.4			1.4			0.0			79.3	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	397	985	0	1057	143	593	0	636	0	0	0
Future Volume (vph)	0	397	985	0	1057	143	593	0	636	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	405	1005	0	1079	146	605	0	649	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	432	0	0	0
Lane Group Flow (vph)	0	405	1005	0	1079	146	605	0	217	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		113.2	160.0		113.2	160.0	33.7		33.7			
Effective Green, g (s)		113.2	160.0		113.2	160.0	33.7		33.7			
Actuated g/C Ratio		0.71	1.00		0.71	1.00	0.21		0.21			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2503	1583		4533	1583	723		587			
v/s Ratio Prot		0.11			0.17		c0.18					
v/s Ratio Perm			c0.63			0.09			0.08			
v/c Ratio		0.16	0.63		0.24	0.09	0.84		0.37			
Uniform Delay, d1		7.7	0.0		8.2	0.0	60.5		54.1			
Progression Factor		1.19	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	1.7		0.1	0.1	8.0		0.1			
Delay (s)		9.3	1.7		8.4	0.1	68.5		54.2			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		3.9			7.4			61.1			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	591	335	106	30	61	141	1000	633	276	666	42
Future Volume (vph)	104	591	335	106	30	61	141	1000	633	276	666	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.95			0.95		1.00	0.94		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3349			3287		1770	4790		1770	5040	
Flt Permitted		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3349			3287		1770	4790		1770	5040	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	109	622	353	112	32	64	148	1053	666	291	701	44
RTOR Reduction (vph)	0	38	0	0	41	0	0	74	0	0	4	0
Lane Group Flow (vph)	0	1046	0	0	167	0	148	1645	0	291	741	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		37.1			14.0		14.9	39.1		15.6	39.4	
Effective Green, g (s)		37.1			14.0		14.9	39.1		15.6	39.4	
Actuated g/C Ratio		0.29			0.11		0.12	0.31		0.12	0.31	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		986			365		209	1486		219	1576	
v/s Ratio Prot		c0.31			c0.05		0.08	c0.34		c0.16	0.15	
v/s Ratio Perm												
v/c Ratio		1.06			0.46		0.71	1.18dr		1.33	0.47	
Uniform Delay, d1		44.5			52.4		53.5	43.5		55.2	34.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		46.2			2.2		9.3	58.3		175.9	0.2	
Delay (s)		90.6			54.7		62.7	101.8		231.1	35.1	
Level of Service		F			D		E	F		F	D	
Approach Delay (s)		90.6			54.7			98.7			90.2	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	92.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	126.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	0	30	55	0	77	5	1505	121	168	972	17
Future Volume (vph)	127	0	30	55	0	77	5	1505	121	168	972	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770		1583	3204	4861		1770	5072	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770		1583	3204	4861		1770	5072	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	137	0	32	59	0	83	5	1618	130	181	1045	18
RTOR Reduction (vph)	0	0	30	0	0	77	0	6	0	0	1	0
Lane Group Flow (vph)	137	0	2	59	0	6	5	1742	0	181	1062	0
Turn Type	Prot		Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	10.4		7.0	9.7		6.3	0.8	44.3		12.8	56.3	
Effective Green, g (s)	10.4		7.0	9.7		6.3	0.8	44.3		12.8	56.3	
Actuated g/C Ratio	0.11		0.07	0.10		0.07	0.01	0.47		0.14	0.60	
Clearance Time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	3.0		2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	190		134	183		106	27	2303		242	3054	
v/s Ratio Prot	c0.08			0.03			0.00	c0.36		c0.10	0.21	
v/s Ratio Perm			0.00			c0.00						
v/c Ratio	0.72		0.02	0.32		0.05	0.19	0.76		0.75	0.35	
Uniform Delay, d1	40.1		40.1	38.9		40.8	46.0	20.2		38.8	9.4	
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.8		0.0	1.0		0.1	1.2	1.5		10.5	0.1	
Delay (s)	51.0		40.1	39.9		40.9	47.2	21.7		49.3	9.4	
Level of Service	D		D	D		D	D	C		D	A	
Approach Delay (s)		48.9			40.5			21.8			15.2	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	93.5	Sum of lost time (s)	19.7
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	82	271	0	252	6	1415	446	348	680	1
Future Volume (vph)	7	0	82	271	0	252	6	1415	446	348	680	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00		1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00		0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652		1742	3433	1583		3204	4916	1583	1770	5084	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652		1742	3433	1583		3204	4916	1583	1770	5084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.91
Adj. Flow (vph)	8	0	89	295	0	274	7	1538	485	378	739	1
RTOR Reduction (vph)	0	0	82	0	226	0	0	0	280	0	0	0
Lane Group Flow (vph)	8	0	7	295	48	0	7	1538	205	378	740	0
Turn Type	Prot		Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.8		8.0	9.6	16.8		0.8	40.2	40.2	18.2	57.2	
Effective Green, g (s)	0.8		8.0	9.6	16.8		0.8	40.2	40.2	18.2	57.2	
Actuated g/C Ratio	0.01		0.08	0.10	0.18		0.01	0.42	0.42	0.19	0.60	
Clearance Time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0		2.0	2.0	2.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	13		145	344	277		26	2065	664	336	3038	
v/s Ratio Prot	0.00			c0.09	c0.03		0.00	c0.31		c0.21	0.15	
v/s Ratio Perm			0.00						0.13			
v/c Ratio	0.62		0.05	0.86	0.17		0.27	0.74	0.31	1.12	0.24	
Uniform Delay, d1	47.3		40.4	42.4	33.5		47.2	23.4	18.5	38.8	9.1	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	48.2		0.1	18.0	0.1		2.0	1.5	0.3	87.3	0.0	
Delay (s)	95.5		40.4	60.3	33.7		49.2	25.0	18.8	126.1	9.1	
Level of Service	F		D	E	C		D	C	B	F	A	
Approach Delay (s)		45.0			47.5			23.6			48.7	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	95.7	Sum of lost time (s)	20.1
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	307	35	1820	434	84	955
Future Volume (vph)	307	35	1820	434	84	955
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	320	36	1896	452	88	995
RTOR Reduction (vph)	0	30	0	193	0	0
Lane Group Flow (vph)	320	6	1896	259	88	995
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.3	11.3	42.3	42.3	4.6	51.7
Effective Green, g (s)	11.3	11.3	42.3	42.3	4.6	51.7
Actuated g/C Ratio	0.15	0.15	0.57	0.57	0.06	0.70
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	524	242	2910	906	110	3557
v/s Ratio Prot	c0.09		c0.37		c0.05	0.20
v/s Ratio Perm		0.00		0.16		
v/c Ratio	0.61	0.02	0.65	0.29	0.80	0.28
Uniform Delay, d1	29.2	26.6	10.8	8.1	34.2	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	0.6	0.2	31.1	0.0
Delay (s)	30.7	26.6	11.3	8.3	65.3	4.2
Level of Service	C	C	B	A	E	A
Approach Delay (s)	30.3		10.7			9.2
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	15.7
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	5	18	181	2	207	7	2013	104	121	1148	4
Future Volume (vph)	13	5	18	181	2	207	7	2013	104	121	1148	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707		1681	1521		1770	3539	1583	1770	3537	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1707		1681	1521		1770	3539	1583	1770	3537	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	15	6	21	210	2	241	8	2341	121	141	1335	5
RTOR Reduction (vph)	0	20	0	0	199	0	0	0	46	0	0	0
Lane Group Flow (vph)	0	22	0	189	65	0	8	2341	75	141	1340	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		3.9		18.3	18.3		0.7	55.3	55.3	7.2	61.8	
Effective Green, g (s)		3.9		18.3	18.3		0.7	55.3	55.3	7.2	61.8	
Actuated g/C Ratio		0.04		0.17	0.17		0.01	0.53	0.53	0.07	0.59	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		63		294	266		11	1871	836	121	2089	
v/s Ratio Prot		c0.01		c0.11	0.04		0.00	c0.66		c0.08	0.38	
v/s Ratio Perm									0.05			
v/c Ratio		0.35		0.64	0.24		0.73	1.25	0.09	1.17	0.64	
Uniform Delay, d1		49.1		40.1	37.2		51.9	24.6	12.2	48.7	14.1	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.2		5.7	0.8		110.3	117.6	0.1	133.0	0.8	
Delay (s)		50.3		45.8	38.0		162.2	142.3	12.3	181.7	14.9	
Level of Service		D		D	D		F	F	B	F	B	
Approach Delay (s)		50.3			41.3			136.0			30.8	
Approach LOS		D			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	90.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	104.6	Sum of lost time (s)	19.9
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	83	128	677	581	59
Future Volume (vph)	137	83	128	677	581	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3490	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3490	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	151	91	141	744	638	65
RTOR Reduction (vph)	0	79	0	0	4	0
Lane Group Flow (vph)	151	12	141	744	699	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.4	13.4	8.7	81.5	68.4	
Effective Green, g (s)	12.4	13.4	8.7	81.5	68.4	
Actuated g/C Ratio	0.12	0.13	0.08	0.78	0.65	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	209	202	284	2746	2273	
v/s Ratio Prot	c0.09		c0.04	0.21	c0.20	
v/s Ratio Perm		0.01				
v/c Ratio	0.72	0.06	0.50	0.27	0.31	
Uniform Delay, d1	44.6	40.3	46.1	3.3	8.0	
Progression Factor	1.00	1.00	1.04	0.56	1.00	
Incremental Delay, d2	10.0	0.0	0.5	0.2	0.4	
Delay (s)	54.6	40.3	48.5	2.1	8.3	
Level of Service	D	D	D	A	A	
Approach Delay (s)	49.2			9.5	8.3	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	215	232	48	134	75	207	704	101	105	572	39
Future Volume (vph)	23	215	232	48	134	75	207	704	101	105	572	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3264		1770	3349		3433	3473		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3264		1770	3349		3433	3473		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	226	244	51	141	79	218	741	106	111	602	41
RTOR Reduction (vph)	0	211	0	0	66	0	0	8	0	0	3	0
Lane Group Flow (vph)	24	259	0	51	154	0	218	839	0	111	640	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.3	14.2		5.7	17.6		11.0	55.2		10.9	55.1	
Effective Green, g (s)	2.3	14.2		5.7	17.6		11.0	55.2		10.9	55.1	
Actuated g/C Ratio	0.02	0.14		0.05	0.17		0.10	0.53		0.10	0.52	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	38	441		96	561		359	1825		183	1839	
v/s Ratio Prot	0.01	c0.08		c0.03	c0.05		c0.06	c0.24		0.06	0.18	
v/s Ratio Perm												
v/c Ratio	0.63	0.59		0.53	0.27		0.61	0.46		0.61	0.35	
Uniform Delay, d1	50.9	42.6		48.3	38.1		44.9	15.6		45.0	14.5	
Progression Factor	1.00	1.00		1.00	1.00		1.18	0.48		1.19	0.73	
Incremental Delay, d2	22.5	1.3		2.8	0.1		1.7	0.7		3.8	0.5	
Delay (s)	73.4	43.9		51.2	38.2		54.6	8.2		57.1	11.1	
Level of Service	E	D		D	D		D	A		E	B	
Approach Delay (s)		45.4			40.7			17.7			17.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	291	120	22	46	31	53	899	48	60	769	28
Future Volume (vph)	87	291	120	22	46	31	53	899	48	60	769	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.94		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1751		1770	3512		1770	3521	
Flt Permitted	0.63	1.00		0.18	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1177	1781		338	1751		1770	3512		1770	3521	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	91	303	125	23	48	32	55	936	50	62	801	29
RTOR Reduction (vph)	0	15	0	0	24	0	0	3	0	0	2	0
Lane Group Flow (vph)	91	413	0	23	56	0	55	983	0	63	828	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.6	28.0		26.8	25.1		6.4	49.7		6.6	49.9	
Effective Green, g (s)	32.6	28.0		26.8	25.1		6.4	49.7		6.6	49.9	
Actuated g/C Ratio	0.31	0.27		0.26	0.24		0.06	0.47		0.06	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	391	474		109	418		107	1662		111	1673	
v/s Ratio Prot	c0.01	c0.23		0.00	0.03		0.03	c0.28		c0.04	0.24	
v/s Ratio Perm	0.06			0.05								
v/c Ratio	0.23	0.87		0.21	0.13		0.51	0.59		0.57	0.49	
Uniform Delay, d1	26.4	36.8		30.8	31.4		47.8	20.2		47.8	18.9	
Progression Factor	1.00	1.00		1.00	1.00		1.37	0.30		1.19	0.66	
Incremental Delay, d2	0.1	15.5		0.4	0.1		1.1	1.0		3.7	1.0	
Delay (s)	26.5	52.2		31.1	31.5		66.5	6.9		60.5	13.4	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		47.7			31.4			10.1			16.7	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	331	178	26	123	68	80	880	74	188	597	97
Future Volume (vph)	77	331	178	26	123	68	80	880	74	188	597	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1765		1770	1763		1770	3498		1770	3465	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1765		1770	1763		1770	3498		1770	3465	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	360	193	28	134	74	87	957	80	204	649	105
RTOR Reduction (vph)	0	18	0	0	19	0	0	6	0	0	11	0
Lane Group Flow (vph)	84	535	0	28	189	0	87	1031	0	204	743	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.9	33.3		2.5	29.9		8.0	36.5		13.8	42.3	
Effective Green, g (s)	5.9	33.3		2.5	29.9		8.0	36.5		13.8	42.3	
Actuated g/C Ratio	0.06	0.32		0.02	0.28		0.08	0.35		0.13	0.40	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	99	559		42	502		134	1215		232	1395	
v/s Ratio Prot	c0.05	c0.30		0.02	0.11		0.05	c0.29		c0.12	0.21	
v/s Ratio Perm												
v/c Ratio	0.85	0.96		0.67	0.38		0.65	0.85		0.88	0.53	
Uniform Delay, d1	49.1	35.1		50.8	30.1		47.1	31.7		44.8	23.8	
Progression Factor	1.00	1.00		1.00	1.00		1.29	0.78		1.33	0.62	
Incremental Delay, d2	44.0	27.0		26.8	0.2		6.7	6.4		26.0	1.3	
Delay (s)	93.2	62.1		77.6	30.3		67.3	31.3		85.6	16.1	
Level of Service	F	E		E	C		E	C		F	B	
Approach Delay (s)		66.2			35.9			34.0			30.9	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	39	1	47	3	1086	243	78	721	6
Future Volume (vph)	0	0	4	39	1	47	3	1086	243	78	721	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	3442		1770	3535	
Flt Permitted		1.00			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1358	1583	1770	3442		1770	3535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	4	41	1	50	3	1155	259	83	767	6
RTOR Reduction (vph)	0	4	0	0	0	46	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	42	4	3	1403	0	83	773	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		9.4			9.4	9.4	1.1	72.6		8.3	80.0	
Effective Green, g (s)		9.4			9.4	9.4	1.1	72.6		8.3	80.0	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.69		0.08	0.76	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		144			121	141	18	2379		139	2693	
v/s Ratio Prot		0.00					0.00	c0.41		c0.05	0.22	
v/s Ratio Perm					c0.03	0.00						
v/c Ratio		0.00			0.35	0.03	0.17	0.59		0.60	0.29	
Uniform Delay, d1		43.5			44.9	43.6	51.5	8.4		46.7	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.89	1.38	
Incremental Delay, d2		0.0			4.1	0.2	1.6	1.1		3.7	0.2	
Delay (s)		43.5			49.0	43.9	53.1	9.5		45.3	5.5	
Level of Service		D			D	D	D	A		D	A	
Approach Delay (s)		43.5			46.2			9.6			9.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	58	22	1301	757	5
Future Volume (vph)	33	58	22	1301	757	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3536	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	61	23	1369	797	5
RTOR Reduction (vph)	0	58	0	0	0	0
Lane Group Flow (vph)	35	3	23	1369	802	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.2	5.2	4.3	109.0	99.2	
Effective Green, g (s)	5.2	5.2	4.3	109.0	99.2	
Actuated g/C Ratio	0.04	0.04	0.03	0.87	0.79	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	142	65	60	3086	2806	
v/s Ratio Prot	c0.01		0.01	c0.39	0.23	
v/s Ratio Perm		0.00				
v/c Ratio	0.25	0.04	0.38	0.44	0.29	
Uniform Delay, d1	58.0	57.5	59.1	1.7	3.4	
Progression Factor	1.00	1.00	1.22	0.29	1.00	
Incremental Delay, d2	0.3	0.1	1.3	0.4	0.3	
Delay (s)	58.3	57.6	73.1	0.9	3.7	
Level of Service	E	E	E	A	A	
Approach Delay (s)	57.9			2.1	3.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	4	749	9	2	5	87	976	11	5	749	70
Future Volume (vph)	349	4	749	9	2	5	87	976	11	5	749	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	360	4	772	9	2	5	90	1006	11	5	772	72
RTOR Reduction (vph)	0	0	113	0	5	0	0	0	7	0	5	0
Lane Group Flow (vph)	184	180	659	0	11	0	90	1006	4	5	839	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	55.1	55.1	55.1		1.6		9.0	47.3	47.3	0.8	39.1	
Effective Green, g (s)	55.1	55.1	55.1		1.6		9.0	47.3	47.3	0.8	39.1	
Actuated g/C Ratio	0.44	0.44	0.44		0.01		0.07	0.38	0.38	0.01	0.31	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	740	743	697		22		127	1339	599	11	1092	
v/s Ratio Prot	0.11	0.11			c0.01		c0.05	c0.28		0.00	0.24	
v/s Ratio Perm			c0.42						0.00			
v/c Ratio	0.25	0.24	0.95		0.50		0.71	0.75	0.01	0.45	0.77	
Uniform Delay, d1	21.9	21.9	33.5		61.3		56.7	33.7	24.2	61.9	38.8	
Progression Factor	1.00	1.00	1.00		1.00		0.60	1.24	1.00	0.98	0.93	
Incremental Delay, d2	0.1	0.1	21.4		6.4		3.8	1.0	0.0	10.2	5.1	
Delay (s)	22.0	21.9	54.9		67.7		38.1	43.0	24.2	70.7	41.3	
Level of Service	C	C	D		E		D	D	C	E	D	
Approach Delay (s)		44.3			67.7			42.4			41.5	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	68	0	243	11	824	203	924	567	10
Future Volume (vph)	0	13	1	68	0	243	11	824	203	924	567	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3434		1770	3530	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3434		1770	3530	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	70	0	251	11	849	209	953	585	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	17	0	0	1	0
Lane Group Flow (vph)	0	13	0	0	70	245	11	1041	0	953	594	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.2			12.2	84.5	1.4	31.1		67.4	97.1	
Effective Green, g (s)		12.2			12.2	84.5	1.4	31.1		67.4	97.1	
Actuated g/C Ratio		0.10			0.10	0.68	0.01	0.25		0.54	0.78	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		180			136	1070	19	854		954	2742	
v/s Ratio Prot		0.01				0.16	0.01	c0.30		c0.54	0.17	
v/s Ratio Perm					c0.05							
v/c Ratio		0.07			0.51	0.23	0.58	1.22		1.00	0.22	
Uniform Delay, d1		51.3			53.6	7.8	61.5	46.9		28.8	3.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.87	0.79	
Incremental Delay, d2		0.1			1.4	0.0	23.8	109.0		21.1	0.1	
Delay (s)		51.3			55.0	7.8	85.3	155.9		46.2	3.0	
Level of Service		D			D	A	F	F		D	A	
Approach Delay (s)		51.3			18.1			155.2			29.6	
Approach LOS		D			B			F			C	

Intersection Summary			
HCM 2000 Control Delay	73.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Near Term Year 2021
Without Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	881	2349	655	33	980	92	69	68	13	56	53	121
Future Volume (vph)	881	2349	655	33	980	92	69	68	13	56	53	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6325		2841	3016		3204	1592	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6325		2841	3016		3204	1592	2882
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	937	2499	697	35	1043	98	73	72	14	60	56	129
RTOR Reduction (vph)	0	0	113	0	6	0	0	7	0	0	0	0
Lane Group Flow (vph)	937	2499	584	35	1135	0	66	86	0	60	69	116
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	62.3	133.7	133.7	7.5	78.7		13.1	13.1		15.1	15.1	82.7
Effective Green, g (s)	62.3	133.7	133.7	7.5	78.7		13.1	13.1		15.1	15.1	82.7
Actuated g/C Ratio	0.33	0.70	0.70	0.04	0.41		0.07	0.07		0.08	0.08	0.44
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1050	3459	1113	65	2619		195	207		254	126	1254
v/s Ratio Prot	c0.29	c0.51		0.02	0.18		0.02	c0.03		0.02	c0.04	0.04
v/s Ratio Perm			0.37									
v/c Ratio	0.89	0.72	0.52	0.54	0.43		0.34	0.41		0.24	0.55	0.09
Uniform Delay, d1	60.7	17.0	13.2	89.6	39.7		84.3	84.8		82.0	84.2	31.6
Progression Factor	1.00	1.00	1.00	1.11	0.18		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.8	1.3	1.8	3.9	0.5		2.5	3.2		0.7	6.2	0.0
Delay (s)	70.4	18.3	15.0	103.1	7.8		86.8	87.9		82.7	90.4	31.6
Level of Service	E	B	B	F	A		F	F		F	F	C
Approach Delay (s)		29.6			10.6			87.5			60.7	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	2145	41	155	1035	498	6	21	24	57	18	50
Future Volume (vph)	250	2145	41	155	1035	498	6	21	24	57	18	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4837		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4837		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	263	2258	43	163	1089	524	6	22	25	60	19	53
RTOR Reduction (vph)	0	1	0	0	30	0	0	0	24	0	0	49
Lane Group Flow (vph)	263	2300	0	163	1583	0	6	22	1	60	19	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	19.9	139.2		14.0	133.1		1.9	9.0	9.0	7.6	14.4	14.4
Effective Green, g (s)	19.9	139.2		14.0	133.1		1.9	9.0	9.0	7.6	14.4	14.4
Actuated g/C Ratio	0.10	0.73		0.07	0.70		0.01	0.05	0.05	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	335	3715		236	3388		16	82	74	128	141	119
v/s Ratio Prot	c0.08	c0.45		0.05	0.33		0.00	c0.01		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.79	0.62		0.69	0.47		0.38	0.27	0.02	0.47	0.13	0.03
Uniform Delay, d1	83.0	12.4		85.9	12.7		93.5	87.3	86.3	89.2	82.0	81.4
Progression Factor	0.92	0.73		1.03	2.55		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.6	0.5		5.1	0.3		14.1	1.5	0.1	1.0	0.3	0.1
Delay (s)	83.8	9.7		93.5	32.6		107.6	88.8	86.4	90.2	82.2	81.4
Level of Service	F	A		F	C		F	F	F	F	F	F
Approach Delay (s)		17.3			38.2			89.8			85.5	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	567	1207	337	310	1538	1181	30	69	92	97	27	103
Future Volume (vph)	567	1207	337	310	1538	1181	30	69	92	97	27	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4919		1652	5085	1583	1652	3092	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4919		1652	5085	1583	1652	3092	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	585	1244	347	320	1586	1218	31	71	95	100	28	106
RTOR Reduction (vph)	0	19	0	0	0	0	0	40	49	0	0	98
Lane Group Flow (vph)	585	1572	0	320	1586	1218	31	74	3	100	28	8
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	68.6	109.5		41.3	82.3	190.0	4.8	11.3	11.3	8.2	14.7	14.7
Effective Green, g (s)	68.6	109.5		41.3	82.3	190.0	4.8	11.3	11.3	8.2	14.7	14.7
Actuated g/C Ratio	0.36	0.58		0.22	0.43	1.00	0.03	0.06	0.06	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	596	2834		359	2202	1583	41	183	88	138	301	122
v/s Ratio Prot	c0.35	0.32		c0.19	0.31		0.02	0.02		0.03	0.01	
v/s Ratio Perm						c0.77			0.00			0.01
v/c Ratio	0.98	0.55		0.89	0.72	0.77	0.76	0.40	0.04	0.72	0.09	0.07
Uniform Delay, d1	60.1	25.1		72.2	44.4	0.0	92.0	86.1	84.2	89.8	81.5	81.3
Progression Factor	1.08	1.35		1.07	0.54	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.3	0.6		14.4	1.2	2.1	55.2	1.8	0.2	14.7	0.3	0.5
Delay (s)	93.0	34.4		91.5	25.0	2.1	147.2	87.9	84.4	104.5	81.7	81.8
Level of Service	F	C		F	C	A	F	F	F	F	F	F
Approach Delay (s)		50.2			22.9			96.3			91.5	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	819	286	90	2531	68	84	6	16	10	14	235
Future Volume (vph)	313	819	286	90	2531	68	84	6	16	10	14	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	1770	4888		1770	5065		1681	1641		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	1770	4888		1770	5065		1681	1641		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	323	844	295	93	2609	70	87	6	16	10	14	242
RTOR Reduction (vph)	0	22	0	0	1	0	0	9	0	0	0	113
Lane Group Flow (vph)	323	1117	0	93	2678	0	56	44	0	10	14	129
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	44.6	139.5		14.3	109.4		10.7	10.7		5.3	5.3	49.9
Effective Green, g (s)	44.6	139.5		14.3	109.4		10.7	10.7		5.3	5.3	49.9
Actuated g/C Ratio	0.23	0.73		0.08	0.58		0.06	0.06		0.03	0.03	0.26
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	415	3588		133	2916		94	92		46	51	415
v/s Ratio Prot	c0.18	0.23		0.05	c0.53		c0.03	0.03		0.01	0.01	c0.08
v/s Ratio Perm												
v/c Ratio	0.78	0.31		0.70	0.92		0.60	0.47		0.22	0.27	0.31
Uniform Delay, d1	68.1	8.7		85.8	36.3		87.5	86.9		90.3	90.5	56.3
Progression Factor	0.90	2.50		1.21	0.66		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.1	0.2		7.6	3.8		6.6	1.4		0.9	1.1	0.2
Delay (s)	68.2	21.9		111.7	27.8		94.1	88.3		91.2	91.5	56.4
Level of Service	E	C		F	C		F	F		F	F	E
Approach Delay (s)		32.2			30.6			91.3			59.6	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	710	43	146	2686	161	7	4	29	42	8	35
Future Volume (vph)	95	710	43	146	2686	161	7	4	29	42	8	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5041		1770	5042		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5041		1770	5042		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	101	755	46	155	2857	171	7	4	31	45	9	37
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	30	0	0	34
Lane Group Flow (vph)	101	799	0	155	3026	0	7	4	1	45	9	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.6	135.1		20.9	140.7		0.8	8.2	8.2	6.1	13.5	13.5
Effective Green, g (s)	15.6	135.1		20.9	140.7		0.8	8.2	8.2	6.1	13.5	13.5
Actuated g/C Ratio	0.08	0.71		0.11	0.74		0.00	0.04	0.04	0.03	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	145	3584		194	3733		7	80	68	56	132	112
v/s Ratio Prot	0.06	0.16		c0.09	c0.60		0.00	0.00		c0.03	c0.00	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.70	0.22		0.80	0.81		1.00	0.05	0.02	0.80	0.07	0.02
Uniform Delay, d1	84.9	9.4		82.5	16.0		94.6	87.2	87.1	91.4	82.4	82.1
Progression Factor	1.16	0.19		1.03	0.29		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.8	0.1		9.9	1.0		340.2	0.1	0.0	52.7	0.1	0.0
Delay (s)	109.0	1.9		95.0	5.6		434.8	87.3	87.1	144.1	82.5	82.1
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		13.9			10.0			145.1			112.8	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	449	296	42	2769	149	307	40	35	20	16	35
Future Volume (vph)	62	449	296	42	2769	149	307	40	35	20	16	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4782		1652	5046		1625	1704	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4782		1652	5046		1625	1704	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	63	458	302	43	2826	152	313	41	36	20	16	36
RTOR Reduction (vph)	0	38	0	0	2	0	0	0	31	0	0	35
Lane Group Flow (vph)	63	722	0	43	2976	0	175	179	5	20	16	1
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	14.9	129.9		8.3	122.8		24.8	24.8	24.8	6.8	6.8	6.8
Effective Green, g (s)	14.9	129.9		8.3	122.8		24.8	24.8	24.8	6.8	6.8	6.8
Actuated g/C Ratio	0.08	0.68		0.04	0.65		0.13	0.13	0.13	0.04	0.04	0.04
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	129	3269		72	3261		212	222	206	59	66	60
v/s Ratio Prot	c0.04	0.15		0.03	c0.59		c0.11	0.11		c0.01	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.22		0.60	0.91		0.83	0.81	0.02	0.34	0.24	0.02
Uniform Delay, d1	83.9	11.2		89.2	29.0		80.5	80.3	72.0	89.4	89.1	88.4
Progression Factor	1.17	0.19		1.30	0.39		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.2		6.2	3.8		21.3	17.9	0.0	3.4	1.9	0.1
Delay (s)	99.1	2.3		121.9	15.1		101.8	98.2	72.0	92.8	91.0	88.5
Level of Service	F	A		F	B		F	F	E	F	F	F
Approach Delay (s)		9.7			16.6			97.4			90.3	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	305	79	45	2675	75	169	25	58	4	11	16
Future Volume (vph)	31	305	79	45	2675	75	169	25	58	4	11	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4928		1770	5064		3433	1669		1770	1697	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4928		1770	5064		3433	1669		1770	1697	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	32	311	81	46	2730	77	172	26	59	4	11	16
RTOR Reduction (vph)	0	15	0	0	1	0	0	50	0	0	15	0
Lane Group Flow (vph)	32	377	0	46	2806	0	172	35	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.9	141.7		8.3	143.1		12.6	19.5		0.8	7.7	
Effective Green, g (s)	6.9	141.7		8.3	143.1		12.6	19.5		0.8	7.7	
Actuated g/C Ratio	0.04	0.75		0.04	0.75		0.07	0.10		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	64	3675		77	3813		227	171		7	68	
v/s Ratio Prot	0.02	0.08		c0.03	c0.55		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.50	0.10		0.60	0.74		0.76	0.20		0.57	0.17	
Uniform Delay, d1	89.9	6.6		89.2	13.0		87.2	78.1		94.4	88.1	
Progression Factor	0.86	0.66		1.27	0.12		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.1		2.1	0.3		12.1	0.2		55.0	0.4	
Delay (s)	79.1	4.4		115.3	1.9		99.3	78.3		149.4	88.5	
Level of Service	E	A		F	A		F	E		F	F	
Approach Delay (s)		10.1			3.7			92.3			96.4	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	309	95	730	2756	339	140	135	64	112	281	60
Future Volume (vph)	24	309	95	730	2756	339	140	135	64	112	281	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4906		1652	5002		1652	3421	1531	3204	3446	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4906		1652	5002		1652	3421	1531	3204	3446	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	315	97	745	2812	346	143	138	65	114	287	61
RTOR Reduction (vph)	0	29	0	0	8	0	0	0	20	0	10	0
Lane Group Flow (vph)	24	383	0	745	3150	0	143	138	45	114	338	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.9	32.9		89.0	117.9		22.7	36.7	131.7	10.5	24.1	
Effective Green, g (s)	3.9	32.9		89.0	117.9		22.7	36.7	131.7	10.5	24.1	
Actuated g/C Ratio	0.02	0.17		0.47	0.62		0.12	0.19	0.69	0.06	0.13	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	33	849		773	3103		197	660	1061	177	437	
v/s Ratio Prot	0.01	0.08		c0.45	c0.63		c0.09	0.04	0.03	0.04	c0.10	
v/s Ratio Perm												
v/c Ratio	0.73	0.45		0.96	1.02		0.73	0.21	0.04	0.64	0.77	
Uniform Delay, d1	92.5	70.5		48.9	36.0		80.7	64.4	9.2	87.9	80.3	
Progression Factor	0.98	1.01		0.78	0.52		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	49.6	0.6		14.2	14.6		12.5	0.2	0.0	5.9	8.4	
Delay (s)	140.0	71.7		52.4	33.5		93.1	64.6	9.2	93.8	88.7	
Level of Service	F	E		D	C		F	E	A	F	F	
Approach Delay (s)		75.4			37.1			66.0			90.0	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	463	11	31	3646	23	35	6	47	64	5	115
Future Volume (vph)	23	463	11	31	3646	23	35	6	47	64	5	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5068		1770	5080			1786	1583	1770	1595	
Flt Permitted	0.95	1.00		0.95	1.00			0.31	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5068		1770	5080			580	1583	1359	1595	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	24	477	11	32	3759	24	36	6	48	66	5	119
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	44	0	34	0
Lane Group Flow (vph)	24	487	0	32	3783	0	0	42	4	66	90	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.3	152.7		7.0	153.4			15.0	15.0	15.0	15.0	
Effective Green, g (s)	6.3	152.7		7.0	153.4			15.0	15.0	15.0	15.0	
Actuated g/C Ratio	0.03	0.80		0.04	0.81			0.08	0.08	0.08	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	58	4073		65	4101			45	124	107	125	
v/s Ratio Prot	0.01	0.10		c0.02	c0.74						0.06	
v/s Ratio Perm								c0.07	0.00	0.05		
v/c Ratio	0.41	0.12		0.49	0.92			0.93	0.03	0.62	0.72	
Uniform Delay, d1	90.0	4.1		89.8	13.8			87.0	80.8	84.7	85.4	
Progression Factor	0.76	3.45		1.07	0.22			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.1		1.1	2.6			107.1	0.0	7.2	15.2	
Delay (s)	70.0	14.0		97.0	5.6			194.1	80.8	91.9	100.6	
Level of Service	E	B		F	A			F	F	F	F	
Approach Delay (s)		16.7			6.4			133.7			97.6	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	514	9	19	3634	32	16	9	39	1	13	38
Future Volume (vph)	7	514	9	19	3634	32	16	9	39	1	13	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5073		1770	5079			1689		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.85		0.45	1.00	
Satd. Flow (perm)	1770	5073		1770	5079			1446		847	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	530	9	20	3746	33	17	9	40	1	13	39
RTOR Reduction (vph)	0	0	0	0	0	0	0	34	0	0	37	0
Lane Group Flow (vph)	7	539	0	20	3779	0	0	32	0	1	15	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	161.2		4.7	164.2			8.8		8.8	8.8	
Effective Green, g (s)	1.4	161.2		4.7	164.2			8.8		8.8	8.8	
Actuated g/C Ratio	0.01	0.85		0.02	0.86			0.05		0.05	0.05	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	4304		43	4389			66		39	76	
v/s Ratio Prot	0.00	0.11		c0.01	c0.74						0.01	
v/s Ratio Perm								c0.02		0.00		
v/c Ratio	0.54	0.13		0.47	0.86			0.48		0.03	0.19	
Uniform Delay, d1	94.0	2.4		91.4	6.8			88.4		86.5	87.2	
Progression Factor	1.42	0.22		1.00	0.82			1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.1		0.8	0.7			2.0		0.1	0.5	
Delay (s)	153.5	0.6		91.8	6.3			90.4		86.6	87.6	
Level of Service	F	A		F	A			F		F	F	
Approach Delay (s)		2.6			6.8			90.4			87.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	646	31	54	3413	34	97	31	78	68	90	199
Future Volume (vph)	33	646	31	54	3413	34	97	31	78	68	90	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5050		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5050		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	34	666	32	56	3519	35	100	32	80	70	93	205
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	71	0	0	87
Lane Group Flow (vph)	34	696	0	56	3553	0	100	32	9	70	93	118
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	6.5	130.2		10.2	133.4		11.6	20.9	20.9	9.0	18.3	18.3
Effective Green, g (s)	6.5	130.2		10.2	133.4		11.6	20.9	20.9	9.0	18.3	18.3
Actuated g/C Ratio	0.03	0.69		0.05	0.70		0.06	0.11	0.11	0.05	0.10	0.10
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	60	3460		95	3565		108	204	174	83	179	152
v/s Ratio Prot	0.02	0.14		c0.03	c0.70		c0.06	c0.02		0.04	0.05	
v/s Ratio Perm									0.01			c0.07
v/c Ratio	0.57	0.20		0.59	1.00		0.93	0.16	0.05	0.84	0.52	0.78
Uniform Delay, d1	90.4	10.9		87.9	28.1		88.8	76.6	75.7	89.8	81.7	83.9
Progression Factor	0.99	0.38		1.16	0.20		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	0.1		1.5	6.7		62.2	0.1	0.0	49.0	1.1	20.0
Delay (s)	96.6	4.3		103.8	12.3		151.0	76.7	75.7	138.8	82.7	103.9
Level of Service	F	A		F	B		F	E	E	F	F	F
Approach Delay (s)		8.6			13.7			111.4			105.2	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	598	62	22	3021	14	157	47	17	54	123	220
Future Volume (vph)	42	598	62	22	3021	14	157	47	17	54	123	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3399		1770	3199	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3399		1770	3199	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	45	636	66	23	3214	15	167	50	18	57	131	234
RTOR Reduction (vph)	0	6	0	0	0	6	0	16	0	0	50	0
Lane Group Flow (vph)	45	696	0	23	3214	9	167	52	0	57	315	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	5.9	119.3		4.0	117.4	117.4	21.5	21.5		25.3	25.3	
Effective Green, g (s)	5.9	119.3		4.0	117.4	117.4	21.5	21.5		25.3	25.3	
Actuated g/C Ratio	0.03	0.63		0.02	0.62	0.62	0.11	0.11		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	54	3148		37	3141	978	200	384		235	425	
v/s Ratio Prot	c0.03	0.14		0.01	c0.63		c0.09	0.02		0.03	c0.10	
v/s Ratio Perm						0.01						
v/c Ratio	0.83	0.22		0.62	1.02	0.01	0.83	0.14		0.24	0.90dr	
Uniform Delay, d1	91.6	15.3		92.2	36.3	14.0	82.5	75.9		73.8	79.2	
Progression Factor	0.72	1.78		1.32	0.30	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	62.0	0.2		2.1	12.4	0.0	25.5	0.2		0.8	7.4	
Delay (s)	127.7	27.4		124.3	23.1	14.0	108.1	76.1		74.6	86.6	
Level of Service	F	C		F	C	B	F	E		E	F	
Approach Delay (s)		33.4			23.8			98.8			85.0	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	707	24	174	2741	125	87	292	145	408	499	207
Future Volume (vph)	84	707	24	174	2741	125	87	292	145	408	499	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4722		3204	4916	1478	1711	4746	1478	3433	3384	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4722		3204	4916	1478	1711	4746	1478	3433	3384	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	89	752	26	185	2916	133	93	311	154	434	531	220
RTOR Reduction (vph)	0	2	0	0	0	39	0	0	127	0	24	0
Lane Group Flow (vph)	89	776	0	185	2916	94	93	311	27	434	727	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	6.3	99.5		14.9	108.2	108.2	11.6	33.2	33.2	22.6	44.0	
Effective Green, g (s)	6.3	99.5		14.9	108.2	108.2	11.6	33.2	33.2	22.6	44.0	
Actuated g/C Ratio	0.03	0.52		0.08	0.57	0.57	0.06	0.17	0.17	0.12	0.23	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	106	2472		251	2799	841	104	829	258	408	783	
v/s Ratio Prot	0.03	0.16		c0.06	c0.59		0.05	0.07		c0.13	c0.21	
v/s Ratio Perm						0.06			0.02			
v/c Ratio	0.84	0.31		0.74	1.04	0.11	0.89	0.38	0.10	1.06	0.93	
Uniform Delay, d1	91.3	25.8		85.6	40.9	18.8	88.6	69.2	65.9	83.7	71.5	
Progression Factor	0.97	0.89		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	39.6	0.3		9.3	29.2	0.3	54.6	0.5	0.3	62.5	17.4	
Delay (s)	127.9	23.3		95.0	70.1	19.1	143.2	69.7	66.2	146.2	88.8	
Level of Service	F	C		F	E	B	F	E	E	F	F	
Approach Delay (s)		34.0			69.4			81.0			109.8	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	73.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	258	420	122	88	59	103
Future Volume (vph)	258	420	122	88	59	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3316		1720	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3316		1720	1504
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	284	462	134	97	65	113
RTOR Reduction (vph)	0	0	79	0	23	35
Lane Group Flow (vph)	284	462	152	0	69	51
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	13.1	24.2	7.1		5.4	23.0
Effective Green, g (s)	13.1	24.2	7.1		5.4	23.0
Actuated g/C Ratio	0.34	0.62	0.18		0.14	0.59
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	593	1153	602		237	884
v/s Ratio Prot	c0.16	c0.25	0.05		c0.04	0.03
v/s Ratio Perm						
v/c Ratio	0.48	0.40	0.25		0.29	0.06
Uniform Delay, d1	10.3	3.8	13.7		15.1	3.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.5	0.5		0.7	0.0
Delay (s)	10.5	4.3	14.2		15.8	3.5
Level of Service	B	A	B		B	A
Approach Delay (s)		6.6	14.2		9.8	
Approach LOS		A	B		A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	279	6	49	676	181	1	1	8	37	1	9
Future Volume (vph)	55	279	6	49	676	181	1	1	8	37	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.89			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1857		1770	1804			1653			1746	
Flt Permitted	0.26	1.00		0.58	1.00			1.00			1.00	
Satd. Flow (perm)	475	1857		1081	1804			1662			1816	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	288	6	51	697	187	1	1	8	38	1	9
RTOR Reduction (vph)	0	1	0	0	10	0	0	8	0	0	9	0
Lane Group Flow (vph)	57	293	0	51	874	0	0	2	0	0	39	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	26.9	26.9		26.3	26.3			2.0			2.0	
Effective Green, g (s)	26.9	26.9		26.3	26.3			2.0			2.0	
Actuated g/C Ratio	0.70	0.70		0.68	0.68			0.05			0.05	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	330	1290		734	1225			85			93	
v/s Ratio Prot		0.16			c0.48							
v/s Ratio Perm	0.12			0.05				0.00			c0.02	
v/c Ratio	0.17	0.23		0.07	0.71			0.03			0.42	
Uniform Delay, d1	2.0	2.1		2.1	3.9			17.4			17.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	1.9			0.0			1.1	
Delay (s)	2.3	2.2		2.1	5.8			17.5			18.9	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		2.2			5.6			17.5			18.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	10.4
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	131	133	64	324	64	334	423	104	91	769	332
Future Volume (vph)	55	131	133	64	324	64	334	423	104	91	769	332
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2059		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2059		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	59	141	143	69	348	69	359	455	112	98	827	357
RTOR Reduction (vph)	0	0	92	0	5	0	0	0	41	0	0	60
Lane Group Flow (vph)	59	141	51	69	412	0	359	455	71	98	827	297
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	16.2	16.2	47.1	29.5	29.5		30.9	54.6	84.1	12.1	35.8	57.7
Effective Green, g (s)	16.2	16.2	47.1	29.5	29.5		30.9	54.6	84.1	12.1	35.8	57.7
Actuated g/C Ratio	0.12	0.12	0.35	0.22	0.22		0.23	0.41	0.63	0.09	0.27	0.43
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	200	211	540	365	455		396	1352	998	149	918	662
v/s Ratio Prot	0.04	c0.08	0.03	0.04	c0.20		c0.21	0.14	0.04	0.06	c0.24	0.19
v/s Ratio Perm												
v/c Ratio	0.29	0.67	0.09	0.19	0.91		0.91	0.34	0.07	0.66	0.90	0.45
Uniform Delay, d1	53.3	56.0	28.8	42.2	50.6		49.8	26.9	9.5	58.6	47.0	26.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	6.5	0.0	0.2	21.3		23.3	0.2	0.0	7.7	12.1	0.6
Delay (s)	53.8	62.4	28.9	42.4	71.9		73.1	27.1	9.5	66.3	59.1	27.2
Level of Service	D	E	C	D	E		E	C	A	E	E	C
Approach Delay (s)		46.9			67.7			42.8			50.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	133.3	Sum of lost time (s)	20.9
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	110	1	13	0	528	185	20	158	1
Future Volume (vph)	0	0	1	110	1	13	0	528	185	20	158	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1861	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1861	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	1	124	1	15	0	593	208	22	178	1
RTOR Reduction (vph)	0	1	0	0	0	13	0	0	54	0	0	0
Lane Group Flow (vph)	0	0	0	0	125	2	0	593	154	22	179	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.6			8.0	8.0		25.3	37.8	0.5	29.8	
Effective Green, g (s)		0.6			8.0	8.0		25.3	37.8	0.5	29.8	
Actuated g/C Ratio		0.01			0.16	0.16		0.50	0.74	0.01	0.59	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		18			278	248		926	1175	17	1089	
v/s Ratio Prot		c0.00			c0.07			c0.32	0.10	c0.01	0.10	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.45	0.01		0.64	0.13	1.29	0.16	
Uniform Delay, d1		24.9			19.5	18.1		9.4	1.9	25.2	4.8	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.4	0.0		1.5	0.1	323.2	0.1	
Delay (s)		24.9			19.9	18.1		11.0	1.9	348.4	4.9	
Level of Service		C			B	B		B	A	F	A	
Approach Delay (s)		24.9			19.7			8.6			42.5	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	50.9	Sum of lost time (s)	16.5
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	232	65	83	625	37	211	95	81	3	13	21
Future Volume (vph)	129	232	65	83	625	37	211	95	81	3	13	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3426		1770	3511		1770	1863	1583	1770	1694	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3426		1770	3511		1770	1863	1583	1770	1694	
Peak-hour factor, PHF	0.89	0.89	0.92	0.89	0.89	0.92	0.89	0.89	0.89	0.89	0.89	0.92
Adj. Flow (vph)	145	261	71	93	702	40	237	107	91	3	15	23
RTOR Reduction (vph)	0	26	0	0	4	0	0	0	61	0	22	0
Lane Group Flow (vph)	145	306	0	93	738	0	237	107	30	3	16	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	7.2	22.3		4.3	19.9		7.6	9.6	18.8	0.6	2.6	
Effective Green, g (s)	7.2	22.3		4.3	19.9		7.6	9.6	18.8	0.6	2.6	
Actuated g/C Ratio	0.13	0.39		0.08	0.35		0.13	0.17	0.33	0.01	0.05	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	225	1349		134	1234		237	315	525	18	77	
v/s Ratio Prot	c0.08	c0.09		0.05	c0.21		c0.13	c0.06	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.64	0.23		0.69	0.60		1.00	0.34	0.06	0.17	0.21	
Uniform Delay, d1	23.5	11.4		25.5	15.1		24.5	20.7	12.9	27.8	26.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.7	0.1		11.8	0.8		58.5	0.2	0.0	1.6	0.5	
Delay (s)	28.2	11.5		37.3	15.9		83.0	20.9	12.9	29.3	26.5	
Level of Service	C	B		D	B		F	C	B	C	C	
Approach Delay (s)		16.6			18.2			53.0			26.7	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	19.8
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	1283	83	36	1154	452	22	26	27	57	14	51
Future Volume (vph)	142	1283	83	36	1154	452	22	26	27	57	14	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3041	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3041	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Adj. Flow (vph)	158	1426	92	40	1282	502	24	29	30	63	16	55
RTOR Reduction (vph)	0	0	29	0	32	0	0	0	29	0	50	0
Lane Group Flow (vph)	158	1426	63	40	1752	0	22	31	1	47	37	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	16.8	96.5	96.5	5.2	84.9		6.1	6.1	6.1	12.7	12.7	
Effective Green, g (s)	16.8	96.5	96.5	5.2	84.9		6.1	6.1	6.1	12.7	12.7	
Actuated g/C Ratio	0.12	0.69	0.69	0.04	0.61		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	212	3505	1091	127	2953		73	76	68	146	275	
v/s Ratio Prot	c0.09	0.28		0.01	c0.36		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.75	0.41	0.06	0.31	0.59		0.30	0.41	0.02	0.32	0.13	
Uniform Delay, d1	59.5	9.4	7.0	65.7	16.9		64.9	65.2	64.1	59.6	58.6	
Progression Factor	1.00	1.00	1.00	0.86	0.66		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.7	0.4	0.1	0.4	0.7		0.8	1.3	0.0	3.7	0.6	
Delay (s)	71.3	9.7	7.1	56.7	11.9		65.7	66.5	64.1	63.3	59.2	
Level of Service	E	A	A	E	B		E	E	E	E	E	
Approach Delay (s)		15.4			12.9			65.4			60.7	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	331	922	136	352	1489	1385	117	222	322	209	44	37
Future Volume (vph)	331	922	136	352	1489	1385	117	222	322	209	44	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	345	960	142	367	1551	1443	122	231	335	218	46	39
RTOR Reduction (vph)	0	0	65	0	0	171	0	0	36	0	0	27
Lane Group Flow (vph)	345	960	77	367	1551	1273	122	231	299	218	46	12
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	18.6	66.8	66.8	19.4	68.3	85.0	13.4	22.6	47.0	11.4	20.3	44.2
Effective Green, g (s)	18.6	66.8	66.8	19.4	68.3	85.0	13.4	22.6	47.0	11.4	20.3	44.2
Actuated g/C Ratio	0.13	0.48	0.48	0.14	0.49	0.61	0.10	0.16	0.34	0.08	0.15	0.32
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	456	2426	755	475	2480	1692	328	571	935	279	513	499
v/s Ratio Prot	0.10	0.19		c0.11	0.30	c0.46	0.04	c0.07	0.11	0.06	0.01	0.01
v/s Ratio Perm			0.05									
v/c Ratio	0.76	0.40	0.10	0.77	0.63	0.75	0.37	0.40	0.32	0.78	0.09	0.02
Uniform Delay, d1	58.5	23.6	20.1	58.2	26.4	19.9	59.4	52.7	34.6	63.1	51.8	33.0
Progression Factor	1.01	0.66	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	0.5	0.3	7.0	1.2	1.7	0.3	1.0	0.4	12.3	0.1	0.0
Delay (s)	64.9	16.1	16.8	65.2	27.6	21.6	59.6	53.7	35.1	75.4	52.0	33.1
Level of Service	E	B	B	E	C	C	E	D	D	E	D	C
Approach Delay (s)		27.8			29.1			45.7			66.4	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1046	418	0	1658	524	0	0	0	754	0	1613
Future Volume (vph)	0	1046	418	0	1658	524	0	0	0	754	0	1613
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1113	445	0	1764	557	0	0	0	802	0	1716
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	1113	445	0	1764	557	0	0	0	802	0	1696
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		45.5	120.0		45.5	120.0				62.3		62.3
Effective Green, g (s)		45.5	120.0		45.5	115.3				62.3		62.3
Actuated g/C Ratio		0.38	1.00		0.38	0.96				0.52		0.52
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		1928	2787		1928	1520				1782		1446
v/s Ratio Prot		0.22			c0.35	0.35				0.23		c0.61
v/s Ratio Perm			0.16									
v/c Ratio		0.58	0.16		0.91	0.37				0.45		1.17
Uniform Delay, d1		29.6	0.0		35.4	0.1				18.1		28.9
Progression Factor		1.00	1.00		1.09	1.00				1.00		1.00
Incremental Delay, d2		1.3	0.1		7.6	0.0				0.1		85.6
Delay (s)		30.9	0.1		46.0	0.2				18.2		114.4
Level of Service		C	A		D	A				B		F
Approach Delay (s)		22.1			35.0			0.0			83.8	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	51.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1090	708	0	1311	566	874	0	310	0	0	0
Future Volume (vph)	0	1090	708	0	1311	566	874	0	310	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1147	745	0	1380	596	920	0	326	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	36	0	0	0
Lane Group Flow (vph)	0	1147	745	0	1380	596	920	0	290	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		67.3	120.0		67.3	120.0	40.5		40.5			
Effective Green, g (s)		67.3	115.3		67.3	120.0	40.5		40.5			
Actuated g/C Ratio		0.56	0.96		0.56	1.00	0.34		0.34			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2851	1520		3593	1583	1158		940			
v/s Ratio Prot		0.23	c0.47		0.22		c0.27					
v/s Ratio Perm						0.38			0.10			
v/c Ratio		0.40	0.49		0.38	0.38	0.79		0.31			
Uniform Delay, d1		14.9	0.2		14.7	0.0	36.0		29.4			
Progression Factor		0.80	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	0.1		0.3	0.7	3.6		0.1			
Delay (s)		12.4	0.3		15.1	0.7	39.6		29.5			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		7.6			10.7			36.9			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	311	573	150	1414	0	0
Future Volume (vph)	311	573	150	1414	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	331	610	160	1504	0	0
RTOR Reduction (vph)	0	224	0	0	0	0
Lane Group Flow (vph)	331	386	160	1504	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	57.0	57.0	21.3	90.0		
Effective Green, g (s)	57.0	57.0	21.3	90.0		
Actuated g/C Ratio	0.63	0.63	0.24	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2241	1765	812	5085		
v/s Ratio Prot	0.09		0.05	c0.30		
v/s Ratio Perm		0.14				
v/c Ratio	0.15	0.22	0.20	0.30		
Uniform Delay, d1	6.7	7.0	27.5	0.0		
Progression Factor	1.00	1.00	0.89	1.00		
Incremental Delay, d2	0.1	0.3	0.0	0.1		
Delay (s)	6.8	7.3	24.5	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	7.1			2.5	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	304	0	0	592	927	883
Future Volume (vph)	0	304	0	0	592	927	883
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	317	0	0	617	966	920
RTOR Reduction (vph)	0	0	0	0	0	0	396
Lane Group Flow (vph)	0	317	0	0	617	966	524
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		45.2			45.2	33.1	33.1
Effective Green, g (s)		45.2			45.2	33.1	33.1
Actuated g/C Ratio		0.50			0.50	0.37	0.37
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1777			2553	1262	1024
v/s Ratio Prot		0.09			c0.12	c0.28	
v/s Ratio Perm							0.19
v/c Ratio		0.18			0.24	0.77	0.51
Uniform Delay, d1		12.2			12.7	25.0	22.2
Progression Factor		0.70			1.00	1.00	1.00
Incremental Delay, d2		0.2			0.2	2.5	0.2
Delay (s)		8.8			12.9	27.6	22.3
Level of Service		A			B	C	C
Approach Delay (s)		8.8			12.9	25.0	
Approach LOS		A			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1147	264	435	1786	104	882
Future Volume (vph)	1147	264	435	1786	104	882
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6223		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6223		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1207	287	458	1880	109	928
RTOR Reduction (vph)	25	0	0	0	0	0
Lane Group Flow (vph)	1469	0	458	1880	109	928
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	63.1		25.2	93.0	46.6	76.2
Effective Green, g (s)	63.1		25.2	93.0	46.6	76.2
Actuated g/C Ratio	0.42		0.17	0.62	0.31	0.51
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2617		576	3972	549	1415
v/s Ratio Prot	c0.24		c0.13	0.29	0.06	c0.33
v/s Ratio Perm						
v/c Ratio	0.56		0.80	0.47	0.20	0.66
Uniform Delay, d1	33.0		59.9	15.3	38.0	27.2
Progression Factor	1.00		1.46	0.29	1.00	1.00
Incremental Delay, d2	0.9		5.6	0.3	0.1	0.8
Delay (s)	33.8		93.4	4.7	38.0	28.1
Level of Service	C		F	A	D	C
Approach Delay (s)	33.8			22.1	29.1	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	266	1810	0	2004	920	151	155
Future Volume (vph)	266	1810	0	2004	920	151	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.92	
Flt Protected	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (prot)	3433	5085		5085	1583	3259	
Flt Permitted	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (perm)	3433	5085		5085	1583	3259	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	280	1905	0	2109	968	159	163
RTOR Reduction (vph)	0	0	0	0	10	138	0
Lane Group Flow (vph)	280	1905	0	2109	958	184	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	16.2	116.3		96.6	125.0	23.0	
Effective Green, g (s)	16.2	116.3		96.6	125.0	23.0	
Actuated g/C Ratio	0.11	0.78		0.64	0.83	0.15	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	370	3942		3274	1319	499	
v/s Ratio Prot	c0.08	0.37		0.41	c0.61	0.06	
v/s Ratio Perm							
v/c Ratio	0.76	0.48		0.64	0.73	0.37	
Uniform Delay, d1	65.0	6.1		16.2	5.3	57.0	
Progression Factor	0.97	0.60		2.11	3.01	1.00	
Incremental Delay, d2	6.4	0.4		0.7	1.6	0.8	
Delay (s)	69.5	4.0		35.0	17.5	57.8	
Level of Service	E	A		C	B	E	
Approach Delay (s)		12.4		29.5		57.8	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	66	1857	2832	63	34	69
Future Volume (vph)	66	1857	2832	63	34	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	69	1934	2950	66	35	72
RTOR Reduction (vph)	0	0	0	7	0	68
Lane Group Flow (vph)	69	1934	2950	59	35	4
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.5	131.3	116.8	116.8	8.4	8.4
Effective Green, g (s)	10.5	131.3	116.8	116.8	8.4	8.4
Actuated g/C Ratio	0.07	0.88	0.78	0.78	0.06	0.06
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	123	4451	3959	1232	99	88
v/s Ratio Prot	c0.04	0.38	c0.58		c0.02	
v/s Ratio Perm				0.04		0.00
v/c Ratio	0.56	0.43	0.75	0.05	0.35	0.05
Uniform Delay, d1	67.5	1.9	8.8	3.8	68.2	67.0
Progression Factor	1.12	0.51	1.23	0.22	1.00	1.00
Incremental Delay, d2	3.1	0.3	0.9	0.1	2.2	0.2
Delay (s)	78.8	1.2	11.7	0.9	70.4	67.2
Level of Service	E	A	B	A	E	E
Approach Delay (s)		3.9	11.5		68.2	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	110	1924	0	2677	73	38	85
Future Volume (vph)	110	1924	0	2677	73	38	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.92	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3250	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3250	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	117	2047	0	2848	78	40	90
RTOR Reduction (vph)	0	0	0	0	5	43	43
Lane Group Flow (vph)	117	2047	0	2848	73	42	2
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	15.2	131.9		111.8	111.8	7.5	7.5
Effective Green, g (s)	15.2	131.9		111.8	111.8	7.5	7.5
Actuated g/C Ratio	0.10	0.88		0.75	0.75	0.05	0.05
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	179	4471		3790	1179	162	72
v/s Ratio Prot	c0.07	0.40		c0.56		c0.01	
v/s Ratio Perm					0.05		0.00
v/c Ratio	0.65	0.46		0.75	0.06	0.26	0.03
Uniform Delay, d1	64.9	1.8		11.1	5.1	68.6	67.8
Progression Factor	0.87	2.22		3.01	2.45	1.00	1.00
Incremental Delay, d2	7.8	0.3		0.1	0.0	0.9	0.2
Delay (s)	63.9	4.4		33.4	12.5	69.4	68.0
Level of Service	E	A		C	B	E	E
Approach Delay (s)		7.6		32.9		68.9	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	833	1120	24	21	2230	102	19	3	10	52	2	821
Future Volume (vph)	833	1120	24	21	2230	102	19	3	10	52	2	821
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	877	1179	25	22	2347	107	20	3	11	55	2	864
RTOR Reduction (vph)	0	1	0	0	3	0	0	11	0	0	0	307
Lane Group Flow (vph)	877	1203	0	22	2451	0	20	3	0	29	28	557
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	47.5	102.7		3.1	58.4		4.5	4.5		19.1	19.1	72.1
Effective Green, g (s)	47.5	102.7		3.1	58.4		4.5	4.5		19.1	19.1	72.1
Actuated g/C Ratio	0.32	0.68		0.02	0.39		0.03	0.03		0.13	0.13	0.48
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	1014	3470		66	1966		49	49		206	208	1339
v/s Ratio Prot	c0.27	0.24		0.01	c0.49		c0.01	0.00		0.02	0.02	c0.20
v/s Ratio Perm												
v/c Ratio	0.86	0.35		0.33	1.25		0.41	0.07		0.14	0.13	0.42
Uniform Delay, d1	48.2	9.8		72.4	45.8		71.4	70.7		58.2	58.1	25.3
Progression Factor	0.86	1.25		1.15	0.84		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.9	0.2		0.8	114.1		2.0	0.2		0.3	0.3	0.2
Delay (s)	48.2	12.5		83.7	152.5		73.5	70.9		58.4	58.4	25.5
Level of Service	D	B		F	F		E	E		E	E	C
Approach Delay (s)		27.5			151.9			72.4			27.5	
Approach LOS		C			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	83.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	145	830	0	2433	630	143	108
Future Volume (vph)	145	830	0	2433	630	143	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.97	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3156	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3156	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	149	856	0	2508	649	147	111
RTOR Reduction (vph)	0	0	0	0	41	14	74
Lane Group Flow (vph)	149	856	0	2508	608	163	7
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	17.6	127.1		104.8	123.1	12.3	12.3
Effective Green, g (s)	17.6	127.1		104.8	123.1	12.3	12.3
Actuated g/C Ratio	0.12	0.85		0.70	0.82	0.08	0.08
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	200	4165		3434	1212	258	129
v/s Ratio Prot	c0.09	0.17		c0.51	0.41	c0.05	
v/s Ratio Perm							0.00
v/c Ratio	0.74	0.21		0.73	0.50	0.63	0.05
Uniform Delay, d1	64.0	2.1		13.9	4.1	66.7	63.5
Progression Factor	1.23	0.23		1.61	2.02	1.00	1.00
Incremental Delay, d2	11.9	0.1		0.1	0.0	3.7	0.1
Delay (s)	90.8	0.6		22.5	8.3	70.4	63.5
Level of Service	F	A		C	A	E	E
Approach Delay (s)		14.0		19.6		68.2	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	158	730	3097	274	667	530
Future Volume (vph)	158	730	3097	274	667	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4640	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4640	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	161	745	3160	280	681	541
RTOR Reduction (vph)	0	0	1	44	0	1
Lane Group Flow (vph)	161	745	3187	208	681	540
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	8.2	107.0	94.6	94.6	32.0	45.2
Effective Green, g (s)	8.2	107.0	94.6	94.6	32.0	45.2
Actuated g/C Ratio	0.05	0.71	0.63	0.63	0.21	0.30
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	175	3385	2926	801	683	783
v/s Ratio Prot	c0.05	0.16	c0.69		c0.21	0.21
v/s Ratio Perm				0.16		
v/c Ratio	0.92	0.22	1.09	0.26	1.00	0.69
Uniform Delay, d1	70.6	7.3	27.7	12.2	59.0	46.2
Progression Factor	0.87	1.36	1.25	1.03	1.00	1.00
Incremental Delay, d2	44.6	0.1	45.1	0.6	33.4	2.0
Delay (s)	106.2	10.1	79.6	13.2	92.4	48.2
Level of Service	F	B	E	B	F	D
Approach Delay (s)		27.2	74.8		72.8	
Approach LOS		C	E		E	

Intersection Summary			
HCM 2000 Control Delay	66.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1151	221	190	2647	29	188	24	140	33	71	76
Future Volume (vph)	15	1151	221	190	2647	29	188	24	140	33	71	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1587	1504		1740	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1587	1504		1740	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	15	1174	226	194	2701	30	192	24	143	34	72	78
RTOR Reduction (vph)	0	0	86	0	1	0	0	10	100	0	18	0
Lane Group Flow (vph)	15	1174	140	194	2730	0	125	112	12	0	166	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	2.8	87.7	87.7	12.8	97.3		15.6	15.6	15.6		14.5	
Effective Green, g (s)	2.8	87.7	87.7	12.8	97.3		15.6	15.6	15.6		14.5	
Actuated g/C Ratio	0.02	0.58	0.58	0.09	0.65		0.10	0.10	0.10		0.10	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	33	2973	925	292	3293		174	165	156		168	
v/s Ratio Prot	0.01	0.23		c0.06	c0.54		c0.07	0.07			c0.10	
v/s Ratio Perm			0.09						0.01			
v/c Ratio	0.45	0.39	0.15	0.66	0.83		0.72	0.68	0.07		0.99	
Uniform Delay, d1	72.8	16.8	14.2	66.5	20.0		65.1	64.8	60.7		67.7	
Progression Factor	1.39	0.38	0.14	1.06	0.71		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.9	0.3	0.3	2.6	1.5		11.2	8.4	0.1		65.1	
Delay (s)	103.9	6.8	2.3	73.0	15.7		76.2	73.2	60.8		132.8	
Level of Service	F	A	A	E	B		E	E	E		F	
Approach Delay (s)		7.1			19.5			70.4			132.8	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	94	1221	0	2595	177	166	302
Future Volume (vph)	94	1221	0	2595	177	166	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5037		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5037		3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	100	1299	0	2761	188	177	321
RTOR Reduction (vph)	0	0	0	4	0	0	70
Lane Group Flow (vph)	100	1299	0	2945	0	177	251
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	9.0	120.5		106.9		19.8	19.8
Effective Green, g (s)	9.0	120.5		106.9		19.8	19.8
Actuated g/C Ratio	0.06	0.80		0.71		0.13	0.13
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	205	4084		3589		453	367
v/s Ratio Prot	c0.03	0.26		c0.58		0.05	
v/s Ratio Perm							c0.09
v/c Ratio	0.49	0.32		0.82		0.39	0.68
Uniform Delay, d1	68.3	3.9		14.9		59.6	62.1
Progression Factor	0.92	0.44		0.56		1.00	1.00
Incremental Delay, d2	0.6	0.2		0.2		0.8	5.6
Delay (s)	63.6	1.9		8.5		60.3	67.7
Level of Service	E	A		A		E	E
Approach Delay (s)		6.3		8.5		65.1	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	943	456	9	2410	112	891	322	9	187	288	127
Future Volume (vph)	41	943	456	9	2410	112	891	322	9	187	288	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5051		2841	3021		3204	3376	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5051		2841	3021		3204	3376	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	42	962	465	9	2459	114	909	329	9	191	294	130
RTOR Reduction (vph)	0	0	43	0	3	0	0	1	0	0	34	0
Lane Group Flow (vph)	42	962	422	9	2570	0	618	628	0	191	390	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.1	73.2	109.8	1.6	70.6		36.6	36.6		16.7	16.7	
Effective Green, g (s)	4.1	73.2	109.8	1.6	70.6		36.6	36.6		16.7	16.7	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47		0.24	0.24		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2399	1081	19	2377		693	737		356	375	
v/s Ratio Prot	c0.02	0.20	0.29	0.00	c0.51		c0.22	0.21		0.06	c0.12	
v/s Ratio Perm												
v/c Ratio	0.79	0.40	0.39	0.47	1.08		0.89	0.85		0.54	1.04	
Uniform Delay, d1	72.5	24.4	7.5	73.8	39.7		54.8	54.1		63.0	66.7	
Progression Factor	0.89	1.69	4.24	1.22	0.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.2	0.5	0.2	6.2	44.3		13.8	9.4		1.6	57.4	
Delay (s)	117.8	41.8	32.2	96.4	75.6		68.5	63.5		64.5	124.1	
Level of Service	F	D	C	F	E		E	E		E	F	
Approach Delay (s)		41.0			75.6			66.0			105.6	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	68.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	954	36	21	1613	15	160	9	58	40	1	39
Future Volume (vph)	33	954	36	21	1613	15	160	9	58	40	1	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5058		1770	5078			1737			1697	
Flt Permitted	0.95	1.00		0.95	1.00			0.73			0.80	
Satd. Flow (perm)	1770	5058		1770	5078			1307			1397	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	1037	39	23	1753	16	174	10	63	43	1	42
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	27	0
Lane Group Flow (vph)	36	1074	0	23	1769	0	0	238	0	0	59	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.6	99.3		4.5	96.7			31.6			31.6	
Effective Green, g (s)	6.6	99.3		4.5	96.7			31.6			31.6	
Actuated g/C Ratio	0.04	0.66		0.03	0.64			0.21			0.21	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	77	3348		53	3273			275			294	
v/s Ratio Prot	c0.02	0.21		0.01	c0.35							
v/s Ratio Perm								c0.18			0.04	
v/c Ratio	0.47	0.32		0.43	0.54			0.86			0.20	
Uniform Delay, d1	70.0	10.9		71.5	14.5			57.1			48.8	
Progression Factor	1.55	0.08		0.98	1.27			1.00			1.00	
Incremental Delay, d2	1.5	0.2		1.6	0.5			22.7			0.1	
Delay (s)	110.0	1.1		71.7	18.9			79.8			48.9	
Level of Service	F	A		E	B			E			D	
Approach Delay (s)		4.6			19.6			79.8			48.9	
Approach LOS		A			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	517	535	0	558	872	0	0	0	139	0	1108
Future Volume (vph)	0	517	535	0	558	872	0	0	0	139	0	1108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				4.7		4.7
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	581	601	0	627	980	0	0	0	156	0	1245
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	53
Lane Group Flow (vph)	0	581	601	0	627	980	0	0	0	156	0	1192
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		57.0	150.0		57.0	150.0				82.3		82.3
Effective Green, g (s)		57.0	150.0		57.0	150.0				82.3		82.3
Actuated g/C Ratio		0.38	1.00		0.38	1.00				0.55		0.55
Clearance Time (s)		6.0			6.0					4.7		4.7
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1344	1583		1344	2787				1883		1529
v/s Ratio Prot		0.16			c0.18					0.05		
v/s Ratio Perm			0.38			0.35						c0.43
v/c Ratio		0.43	0.38		0.47	0.35				0.08		0.78
Uniform Delay, d1		34.5	0.0		35.0	0.0				16.0		26.7
Progression Factor		0.94	1.00		0.86	1.00				1.00		1.00
Incremental Delay, d2		1.0	0.7		1.1	0.3				0.0		2.4
Delay (s)		33.4	0.7		31.1	0.3				16.0		29.0
Level of Service		C	A		C	A				B		C
Approach Delay (s)		16.8			12.4			0.0			27.6	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	194	419	0	1203	114	420	0	614	0	0	0
Future Volume (vph)	0	194	419	0	1203	114	420	0	614	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	204	441	0	1266	120	442	0	646	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	544	0	0	0
Lane Group Flow (vph)	0	204	441	0	1266	120	442	0	102	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		113.3	150.0		113.3	150.0	23.6		23.6			
Effective Green, g (s)		113.3	150.0		113.3	150.0	23.6		23.6			
Actuated g/C Ratio		0.76	1.00		0.76	1.00	0.16		0.16			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2673	1583		4840	1583	540		438			
v/s Ratio Prot		0.06			0.20		c0.13					
v/s Ratio Perm			c0.28			0.08			0.04			
v/c Ratio		0.08	0.28		0.26	0.08	0.82		0.23			
Uniform Delay, d1		4.8	0.0		5.6	0.0	61.1		55.3			
Progression Factor		0.56	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.4		0.1	0.1	8.9		0.1			
Delay (s)		2.7	0.4		5.7	0.1	70.0		55.4			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		1.1			5.2			61.3			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	25	53	381	451	170	82	138	41	63	739	159
Future Volume (vph)	16	25	53	381	451	170	82	138	41	63	739	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.92			0.97		1.00	0.97		1.00	0.97	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3213			3385		1770	4910		1770	4950	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3213			3385		1770	4910		1770	4950	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	17	26	55	397	470	177	85	144	43	66	770	166
RTOR Reduction (vph)	0	50	0	0	11	0	0	32	0	0	23	0
Lane Group Flow (vph)	0	48	0	0	1033	0	85	155	0	66	913	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.6			40.5		8.2	27.6		6.9	25.9	
Effective Green, g (s)		9.6			40.5		8.2	27.6		6.9	25.9	
Actuated g/C Ratio		0.09			0.39		0.08	0.26		0.07	0.25	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		294			1308		138	1293		116	1223	
v/s Ratio Prot		c0.01			c0.31		c0.05	0.03		0.04	c0.18	
v/s Ratio Perm												
v/c Ratio		0.16			0.79		0.62	0.12		0.57	0.75	
Uniform Delay, d1		43.9			28.4		46.8	29.4		47.5	36.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			3.9		6.3	0.0		3.8	2.6	
Delay (s)		44.5			32.3		53.1	29.4		51.3	39.0	
Level of Service		D			C		D	C		D	D	
Approach Delay (s)		44.5			32.3			36.8			39.8	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	20.6
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	9	3	45	256	0	1107	166
Future Volume (vph)	9	3	45	256	0	1107	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		0.98	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	3319	1633	3204	4916		4986	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	3319	1633	3204	4916		4986	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	3	48	272	0	1178	177
RTOR Reduction (vph)	0	3	0	0	0	13	0
Lane Group Flow (vph)	10	0	48	272	0	1343	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	0.9	0.9	1.3	30.2		24.5	
Effective Green, g (s)	0.9	0.9	1.3	30.2		24.5	
Actuated g/C Ratio	0.02	0.02	0.03	0.72		0.58	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	71	34	99	3534		2908	
v/s Ratio Prot	c0.00		c0.01	0.06		c0.27	
v/s Ratio Perm		0.00					
v/c Ratio	0.14	0.00	0.48	0.08		0.46	
Uniform Delay, d1	20.2	20.1	20.0	1.8		5.0	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.0	1.4	0.0		0.1	
Delay (s)	20.5	20.1	21.4	1.8		5.1	
Level of Service	C	C	C	A		A	
Approach Delay (s)	20.4			4.7		5.1	
Approach LOS	C			A		A	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	42.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1	12	97	299	0	1102	6
Future Volume (vph)	1	12	97	299	0	1102	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5081	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5081	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	13	107	329	0	1211	7
RTOR Reduction (vph)	0	13	0	0	0	1	0
Lane Group Flow (vph)	1	0	107	329	0	1217	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	0.9	0.9	4.8	28.4		18.8	
Effective Green, g (s)	0.9	0.9	4.8	28.4		18.8	
Actuated g/C Ratio	0.02	0.02	0.12	0.71		0.47	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	36	68	382	3472		2376	
v/s Ratio Prot	c0.00		c0.03	0.07		c0.24	
v/s Ratio Perm		0.00					
v/c Ratio	0.03	0.00	0.28	0.09		0.51	
Uniform Delay, d1	19.2	19.2	16.1	1.9		7.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.0	0.1	0.0		0.2	
Delay (s)	19.3	19.2	16.3	1.9		7.7	
Level of Service	B	B	B	A		A	
Approach Delay (s)	19.2			5.4		7.7	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	40.2	Sum of lost time (s)	15.7
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	5	390	23	6	1110
Future Volume (vph)	32	5	390	23	6	1110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		6.4	6.4	4.4	6.0
Lane Util. Factor	1.00		0.95	1.00	1.00	0.91
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1755		3539	1583	1770	5085
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1755		3539	1583	1770	5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	5	424	25	7	1207
RTOR Reduction (vph)	5	0	0	14	0	0
Lane Group Flow (vph)	35	0	424	11	7	1207
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	1.8		15.5	15.5	0.7	21.0
Effective Green, g (s)	1.8		15.5	15.5	0.7	21.0
Actuated g/C Ratio	0.05		0.46	0.46	0.02	0.62
Clearance Time (s)	4.9		6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0		3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	93		1627	728	36	3168
v/s Ratio Prot	c0.02		0.12		0.00	c0.24
v/s Ratio Perm				0.01		
v/c Ratio	0.38		0.26	0.02	0.19	0.38
Uniform Delay, d1	15.4		5.6	5.0	16.2	3.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9		0.1	0.0	1.0	0.1
Delay (s)	16.4		5.7	5.0	17.2	3.2
Level of Service	B		A	A	B	A
Approach Delay (s)	16.4		5.6			3.3
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	33.7	Sum of lost time (s)	15.7
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	165	13	51	19	373	170	101	940	11
Future Volume (vph)	1	2	3	165	13	51	19	373	170	101	940	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1615		1770	3539	1583	1770	3533	
Flt Permitted		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1615		1770	3539	1583	1770	3533	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	2	3	172	14	53	20	389	177	105	979	11
RTOR Reduction (vph)	0	3	0	0	33	0	0	0	118	0	1	0
Lane Group Flow (vph)	0	3	0	122	84	0	20	389	59	105	989	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		0.8		10.7	10.7		0.6	19.1	19.1	7.1	25.6	
Effective Green, g (s)		0.8		10.7	10.7		0.6	19.1	19.1	7.1	25.6	
Actuated g/C Ratio		0.01		0.19	0.19		0.01	0.33	0.33	0.12	0.44	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		23		312	300		18	1173	524	218	1570	
v/s Ratio Prot		c0.00		c0.07	0.05		0.01	0.11		c0.06	c0.28	
v/s Ratio Perm									0.04			
v/c Ratio		0.13		0.39	0.28		1.11	0.33	0.11	0.48	0.63	
Uniform Delay, d1		28.1		20.6	20.1		28.5	14.5	13.4	23.5	12.3	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0		1.3	0.9		250.0	0.3	0.2	0.6	1.0	
Delay (s)		29.0		21.9	21.0		278.5	14.7	13.5	24.1	13.4	
Level of Service		C		C	C		F	B	B	C	B	
Approach Delay (s)		29.0			21.5			23.4			14.4	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	19.9
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	17	52	458	577	26
Future Volume (vph)	35	17	52	458	577	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3517	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	18	57	498	627	28
RTOR Reduction (vph)	0	17	0	0	2	0
Lane Group Flow (vph)	38	1	57	498	653	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.5	4.5	5.1	75.4	65.9	
Effective Green, g (s)	4.5	4.5	5.1	75.4	65.9	
Actuated g/C Ratio	0.05	0.05	0.06	0.84	0.73	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	88	79	194	2964	2575	
v/s Ratio Prot	c0.02		c0.02	0.14	c0.19	
v/s Ratio Perm		0.00				
v/c Ratio	0.43	0.01	0.29	0.17	0.25	
Uniform Delay, d1	41.5	40.6	40.7	1.4	4.0	
Progression Factor	1.00	1.00	0.84	2.01	1.00	
Incremental Delay, d2	1.2	0.0	0.3	0.1	0.2	
Delay (s)	42.7	40.7	34.5	2.9	4.2	
Level of Service	D	D	C	A	A	
Approach Delay (s)	42.1			6.1	4.2	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	147	175	128	198	76	115	389	64	46	521	14
Future Volume (vph)	17	147	175	128	198	76	115	389	64	46	521	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3251		1770	3393		3433	3464		1770	3525	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3251		1770	3393		3433	3464		1770	3525	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	163	194	142	220	84	128	432	71	51	579	16
RTOR Reduction (vph)	0	167	0	0	56	0	0	11	0	0	2	0
Lane Group Flow (vph)	19	190	0	142	248	0	128	492	0	51	593	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.6	12.3		10.3	21.0		7.8	43.4		5.0	40.6	
Effective Green, g (s)	1.6	12.3		10.3	21.0		7.8	43.4		5.0	40.6	
Actuated g/C Ratio	0.02	0.14		0.11	0.23		0.09	0.48		0.06	0.45	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	31	444		202	791		297	1670		98	1590	
v/s Ratio Prot	0.01	c0.06		c0.08	0.07		c0.04	c0.14		0.03	c0.17	
v/s Ratio Perm												
v/c Ratio	0.61	0.43		0.70	0.31		0.43	0.29		0.52	0.37	
Uniform Delay, d1	43.9	35.6		38.4	28.5		39.0	14.1		41.3	16.3	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.82		1.46	0.74	
Incremental Delay, d2	22.6	0.2		8.7	0.1		0.4	0.4		2.3	0.7	
Delay (s)	66.5	35.9		47.1	28.6		45.7	11.9		62.6	12.8	
Level of Service	E	D		D	C		D	B		E	B	
Approach Delay (s)		37.4			34.5			18.8			16.7	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	47	98	85	204	53	60	495	53	22	783	40
Future Volume (vph)	32	47	98	85	204	53	60	495	53	22	783	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1674		1770	1805		1770	3488		1770	3513	
Flt Permitted	0.32	1.00		0.53	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	595	1674		996	1805		1770	3488		1770	3513	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	36	53	110	96	229	60	67	556	60	25	880	45
RTOR Reduction (vph)	0	89	0	0	12	0	0	7	0	0	3	0
Lane Group Flow (vph)	36	74	0	96	277	0	67	609	0	25	922	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.7	17.3		21.7	18.3		6.8	47.5		2.8	43.5	
Effective Green, g (s)	19.7	17.3		21.7	18.3		6.8	47.5		2.8	43.5	
Actuated g/C Ratio	0.22	0.19		0.24	0.20		0.08	0.53		0.03	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	161	321		269	367		133	1840		55	1697	
v/s Ratio Prot	0.01	0.04		c0.01	c0.15		c0.04	c0.17		0.01	c0.26	
v/s Ratio Perm	0.04			0.07								
v/c Ratio	0.22	0.23		0.36	0.75		0.50	0.33		0.45	0.54	
Uniform Delay, d1	28.4	30.7		27.8	33.7		40.0	12.2		42.8	16.3	
Progression Factor	1.00	1.00		1.00	1.00		0.98	1.14		1.39	0.88	
Incremental Delay, d2	0.3	0.1		0.3	7.6		0.9	0.4		2.0	1.2	
Delay (s)	28.6	30.9		28.1	41.4		40.2	14.3		61.4	15.5	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.5			38.1			16.8			16.7	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	141	107	139	188	123	36	248	27	73	751	129
Future Volume (vph)	228	141	107	139	188	123	36	248	27	73	751	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1742		1770	1752		1770	3487		1770	3461	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1742		1770	1752		1770	3487		1770	3461	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	245	152	115	149	202	132	39	267	29	78	808	139
RTOR Reduction (vph)	0	34	0	0	30	0	0	9	0	0	14	0
Lane Group Flow (vph)	245	233	0	149	304	0	39	287	0	78	933	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.8	24.1		8.6	19.9		3.8	30.6		7.8	34.6	
Effective Green, g (s)	12.8	24.1		8.6	19.9		3.8	30.6		7.8	34.6	
Actuated g/C Ratio	0.14	0.27		0.10	0.22		0.04	0.34		0.09	0.38	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	251	466		169	387		74	1185		153	1330	
v/s Ratio Prot	c0.14	c0.13		0.08	c0.17		0.02	0.08		c0.04	c0.27	
v/s Ratio Perm												
v/c Ratio	0.98	0.50		0.88	0.79		0.53	0.24		0.51	0.70	
Uniform Delay, d1	38.4	27.8		40.2	33.0		42.2	21.4		39.3	23.4	
Progression Factor	1.00	1.00		1.00	1.00		0.95	0.75		1.41	0.60	
Incremental Delay, d2	49.5	0.3		36.8	9.4		3.1	0.5		0.9	2.8	
Delay (s)	87.9	28.2		77.0	42.4		43.2	16.6		56.3	16.9	
Level of Service	F	C		E	D		D	B		E	B	
Approach Delay (s)		56.8			53.1			19.7			19.9	
Approach LOS		E			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	14	274	1	50	1	240	58	28	1074	0
Future Volume (vph)	3	1	14	274	1	50	1	240	58	28	1074	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.89			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1774	1583	1770	3436		1770	3539	
Flt Permitted		0.96			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1594			1329	1583	1770	3436		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1	15	298	1	54	1	261	63	30	1167	0
RTOR Reduction (vph)	0	11	0	0	0	38	0	21	0	0	0	0
Lane Group Flow (vph)	0	8	0	0	299	16	1	303	0	30	1167	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		26.0			26.0	26.0	1.0	45.8		3.5	48.5	
Effective Green, g (s)		26.0			26.0	26.0	1.0	45.8		3.5	48.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.01	0.51		0.04	0.54	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		460			383	457	19	1748		68	1907	
v/s Ratio Prot							0.00	0.09		c0.02	c0.33	
v/s Ratio Perm		0.01			c0.23	0.01						
v/c Ratio		0.02			0.78	0.03	0.05	0.17		0.44	0.61	
Uniform Delay, d1		22.9			29.4	23.0	44.0	11.9		42.3	14.3	
Progression Factor		1.00			1.00	1.00	1.27	0.72		1.05	0.80	
Incremental Delay, d2		0.0			11.7	0.1	0.4	0.2		1.3	1.2	
Delay (s)		22.9			41.1	23.1	56.3	8.8		45.9	12.6	
Level of Service		C			D	C	E	A		D	B	
Approach Delay (s)		22.9			38.3			8.9			13.5	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	38	80	293	1321	30
Future Volume (vph)	4	38	80	293	1321	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3527	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3527	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	40	85	312	1405	32
RTOR Reduction (vph)	0	38	0	0	1	0
Lane Group Flow (vph)	4	2	85	312	1436	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.5	3.5	9.3	75.7	60.9	
Effective Green, g (s)	3.5	3.5	9.3	75.7	60.9	
Actuated g/C Ratio	0.04	0.04	0.10	0.84	0.68	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	133	61	182	2976	2386	
v/s Ratio Prot	c0.00		c0.05	0.09	c0.41	
v/s Ratio Perm		0.00				
v/c Ratio	0.03	0.03	0.47	0.10	0.60	
Uniform Delay, d1	41.6	41.6	38.0	1.2	7.9	
Progression Factor	1.00	1.00	0.96	0.62	0.52	
Incremental Delay, d2	0.0	0.1	0.7	0.1	0.9	
Delay (s)	41.7	41.7	37.3	0.8	5.0	
Level of Service	D	D	D	A	A	
Approach Delay (s)	41.7			8.7	5.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	72	2	2	3	577	337	6	0	1082	279
Future Volume (vph)	32	0	72	2	2	3	577	337	6	0	1082	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3429	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3429	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	34	0	77	2	2	3	620	362	6	0	1163	303
RTOR Reduction (vph)	0	0	74	0	3	0	0	0	1	0	28	0
Lane Group Flow (vph)	17	17	3	0	4	0	620	362	5	0	1438	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Effective Green, g (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.33	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		702	2728	1220		1116	
v/s Ratio Prot	c0.01	0.01			c0.00		c0.35	0.10			c0.42	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.23	0.23	0.05		0.27		0.88	0.13	0.00		1.29	
Uniform Delay, d1	41.5	41.5	41.2		44.3		25.2	2.6	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.92	0.82	1.00		1.31	
Incremental Delay, d2	0.6	0.6	0.1		3.5		10.9	0.1	0.0		135.5	
Delay (s)	42.1	42.1	41.3		47.8		34.1	2.2	2.4		175.4	
Level of Service	D	D	D		D		C	A	A		F	
Approach Delay (s)		41.5			47.8			22.2			175.4	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	110.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	222	1	627	7	291	57	244	916	0
Future Volume (vph)	0	0	0	222	1	627	7	291	57	244	916	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95		1.00	0.95	
Frt					1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3452		1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3452		1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	234	1	660	7	306	60	257	964	0
RTOR Reduction (vph)	0	0	0	0	0	77	0	15	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	235	583	7	351	0	257	964	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					28.8	51.2	0.8	29.4		17.5	46.1	
Effective Green, g (s)					28.8	51.2	0.8	29.4		17.5	46.1	
Actuated g/C Ratio					0.32	0.57	0.01	0.33		0.19	0.51	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					433	900	15	1127		344	1812	
v/s Ratio Prot						c0.37	0.00	0.10		c0.15	c0.27	
v/s Ratio Perm					0.17							
v/c Ratio					0.54	0.65	0.47	0.31		0.75	0.53	
Uniform Delay, d1					25.2	13.2	44.4	22.7		34.2	14.7	
Progression Factor					1.00	1.00	1.00	1.00		1.60	0.63	
Incremental Delay, d2					0.7	1.2	8.1	0.7		0.7	0.1	
Delay (s)					25.9	14.5	52.5	23.4		55.4	9.3	
Level of Service					C	B	D	C		E	A	
Approach Delay (s)		0.0			17.5			24.0			19.0	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	915	148	83	1429	88	380	94	19	98	159	383
Future Volume (vph)	187	915	148	83	1429	88	380	94	19	98	159	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6352		2841	2981		3204	1590	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6352		2841	2981		3204	1590	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	193	943	153	86	1473	91	392	97	20	101	164	395
RTOR Reduction (vph)	0	0	71	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	193	943	82	86	1560	0	263	243	0	101	204	355
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	16.9	95.4	95.4	14.3	92.6		26.9	26.9		32.8	32.8	55.0
Effective Green, g (s)	16.9	95.4	95.4	14.3	92.6		26.9	26.9		32.8	32.8	55.0
Actuated g/C Ratio	0.09	0.50	0.50	0.08	0.49		0.14	0.14		0.17	0.17	0.29
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	284	2468	794	124	3095		402	422		553	274	834
v/s Ratio Prot	c0.06	c0.19		0.05	c0.25		c0.09	0.08		0.03	c0.13	0.12
v/s Ratio Perm			0.05									
v/c Ratio	0.68	0.38	0.10	0.69	0.50		0.65	0.57		0.18	0.74	0.43
Uniform Delay, d1	83.9	29.1	24.8	85.7	33.1		77.2	76.2		67.1	74.6	54.7
Progression Factor	1.00	1.00	1.00	1.10	0.79		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.3	0.5	0.3	10.8	0.5		5.5	3.3		0.2	11.2	0.5
Delay (s)	90.3	29.6	25.1	105.1	26.7		82.6	79.5		67.4	85.9	55.2
Level of Service	F	C	C	F	C		F	E		E	F	E
Approach Delay (s)		38.1			30.8			81.1			66.5	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	947	9	32	1374	95	18	24	182	468	103	232
Future Volume (vph)	93	947	9	32	1374	95	18	24	182	468	103	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	1052	10	36	1527	106	20	27	202	520	114	258
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	86	0	0	104
Lane Group Flow (vph)	103	1062	0	36	1630	0	20	27	116	520	114	154
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.5	108.6		5.6	103.5		20.3	20.4	20.4	35.2	35.0	35.0
Effective Green, g (s)	10.5	108.6		5.6	103.5		20.3	20.4	20.4	35.2	35.0	35.0
Actuated g/C Ratio	0.06	0.57		0.03	0.54		0.11	0.11	0.11	0.19	0.18	0.18
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	177	2902		94	2743		176	186	169	593	343	291
v/s Ratio Prot	c0.03	0.21		0.01	c0.32		0.01	0.02		c0.16	0.06	
v/s Ratio Perm									c0.07			0.10
v/c Ratio	0.58	0.37		0.38	0.59		0.11	0.15	0.69	0.88	0.33	0.53
Uniform Delay, d1	87.6	22.0		90.5	29.1		76.7	76.9	81.7	75.3	67.3	70.1
Progression Factor	1.08	0.74		0.75	1.38		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.3		0.8	0.8		0.3	0.3	10.5	13.3	0.3	1.2
Delay (s)	97.6	16.7		68.3	40.8		77.0	77.2	92.3	88.6	67.7	71.3
Level of Service	F	B		E	D		E	E	F	F	E	E
Approach Delay (s)		23.8			41.4			89.4			80.9	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	48.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1463	80	104	933	112	141	32	328	1017	234	408
Future Volume (vph)	74	1463	80	104	933	112	141	32	328	1017	234	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5046		1652	5085	1583	1652	2866	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5046		1652	5085	1583	1652	2866	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	85	1682	92	120	1072	129	162	37	377	1169	269	469
RTOR Reduction (vph)	0	3	0	0	0	0	0	109	117	0	0	189
Lane Group Flow (vph)	85	1771	0	120	1072	129	162	117	71	1169	269	280
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	17.8	68.7		20.3	71.3	190.0	23.5	15.7	15.7	65.6	57.8	57.8
Effective Green, g (s)	17.8	68.7		20.3	71.3	190.0	23.5	15.7	15.7	65.6	57.8	57.8
Actuated g/C Ratio	0.09	0.36		0.11	0.38	1.00	0.12	0.08	0.08	0.35	0.30	0.30
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	154	1824		176	1908	1583	204	236	123	1106	1184	481
v/s Ratio Prot	0.05	c0.35		c0.07	0.21		0.10	0.04		c0.36	0.07	
v/s Ratio Perm						0.08			0.05			c0.18
v/c Ratio	0.55	0.97		0.68	0.56	0.08	0.79	0.50	0.58	1.06	0.23	0.58
Uniform Delay, d1	82.3	59.7		81.7	47.0	0.0	80.9	83.4	84.0	62.2	49.4	55.9
Progression Factor	1.01	0.99		0.95	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	14.2		8.2	1.2	0.1	18.8	2.0	7.4	43.4	0.2	2.7
Delay (s)	84.9	73.2		85.9	50.0	0.1	99.7	85.3	91.4	105.6	49.6	58.6
Level of Service	F	E		F	D	A	F	F	F	F	D	E
Approach Delay (s)		73.7			48.4			91.4			86.2	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	73.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	2580	91	20	619	9	166	18	77	79	7	268
Future Volume (vph)	218	2580	91	20	619	9	166	18	77	79	7	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5059		1770	5075		1681	1583		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5059		1770	5075		1681	1583		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	225	2660	94	21	638	9	171	19	84	81	7	276
RTOR Reduction (vph)	0	2	0	0	0	0	0	36	0	0	0	161
Lane Group Flow (vph)	225	2752	0	21	647	0	142	96	0	81	7	115
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	28.5	131.6		4.8	108.1		20.4	20.4		13.0	13.0	41.5
Effective Green, g (s)	28.5	131.6		4.8	108.1		20.4	20.4		13.0	13.0	41.5
Actuated g/C Ratio	0.15	0.69		0.03	0.57		0.11	0.11		0.07	0.07	0.22
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	265	3504		44	2887		180	169		113	127	345
v/s Ratio Prot	c0.13	c0.54		0.01	0.13		c0.08	0.06		c0.05	0.00	0.07
v/s Ratio Perm												
v/c Ratio	0.85	0.79		0.48	0.22		0.79	0.57		0.72	0.06	0.33
Uniform Delay, d1	78.7	19.7		91.4	20.2		82.7	80.6		86.7	82.8	62.6
Progression Factor	0.91	1.74		0.77	1.18		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.1	0.6		2.9	0.2		18.7	2.6		16.4	0.1	0.2
Delay (s)	79.8	35.0		73.4	24.1		101.4	83.2		103.1	82.8	62.8
Level of Service	E	C		E	C		F	F		F	F	E
Approach Delay (s)		38.3			25.6			92.7			72.2	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	2549	11	33	643	27	25	13	288	86	3	67
Future Volume (vph)	49	2549	11	33	643	27	25	13	288	86	3	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5054		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5054		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	50	2601	11	34	656	28	26	13	294	88	3	68
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	78	0	0	55
Lane Group Flow (vph)	50	2612	0	34	682	0	26	13	216	88	3	13
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	8.3	120.9		6.4	119.3		5.4	30.0	30.0	13.0	37.6	37.6
Effective Green, g (s)	8.3	120.9		6.4	119.3		5.4	30.0	30.0	13.0	37.6	37.6
Actuated g/C Ratio	0.04	0.64		0.03	0.63		0.03	0.16	0.16	0.07	0.20	0.20
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	77	3233		59	3173		50	294	249	121	368	313
v/s Ratio Prot	c0.03	c0.51		0.02	0.13		0.01	0.01		c0.05	0.00	
v/s Ratio Perm									c0.14			0.01
v/c Ratio	0.65	0.81		0.58	0.21		0.52	0.04	0.87	0.73	0.01	0.04
Uniform Delay, d1	89.4	25.9		90.5	15.2		91.0	67.8	78.0	86.8	61.2	61.6
Progression Factor	0.98	1.52		1.20	0.44		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.6	1.4		8.1	0.2		4.4	0.0	24.8	16.8	0.0	0.0
Delay (s)	96.5	40.7		116.9	6.9		95.5	67.9	102.8	103.5	61.2	61.7
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		41.8			12.1			100.9			84.8	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	2333	484	47	463	24	155	38	117	124	79	44
Future Volume (vph)	60	2333	484	47	463	24	155	38	117	124	79	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4954		1652	5048		1625	1717	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4954		1652	5048		1625	1717	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	2456	509	49	487	25	163	40	123	131	83	46
RTOR Reduction (vph)	0	12	0	0	2	0	0	0	113	0	0	41
Lane Group Flow (vph)	63	2953	0	49	510	0	101	102	10	131	83	5
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.6	121.8		11.4	121.1		16.2	16.2	16.2	20.4	20.4	20.4
Effective Green, g (s)	11.6	121.8		11.4	121.1		16.2	16.2	16.2	20.4	20.4	20.4
Actuated g/C Ratio	0.06	0.64		0.06	0.64		0.09	0.09	0.09	0.11	0.11	0.11
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	100	3175		99	3217		138	146	134	177	200	181
v/s Ratio Prot	c0.04	c0.60		0.03	0.10		c0.06	0.06		c0.08	0.04	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.63	0.93		0.49	0.16		0.73	0.70	0.08	0.74	0.41	0.03
Uniform Delay, d1	87.1	30.3		86.5	13.9		84.8	84.5	80.0	82.2	79.2	75.9
Progression Factor	1.28	0.38		1.22	0.82		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	4.1		1.4	0.1		15.7	11.1	0.1	15.3	1.4	0.1
Delay (s)	117.5	15.6		106.7	11.6		100.5	95.7	80.1	97.5	80.6	76.0
Level of Service	F	B		F	B		F	F	F	F	F	E
Approach Delay (s)		17.7			19.9			91.3			88.3	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	2407	134	57	436	35	96	26	189	20	12	19
Future Volume (vph)	27	2407	134	57	436	35	96	26	189	20	12	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5045		1770	5029		3433	1617		1770	1693	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5045		1770	5029		3433	1617		1770	1693	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	28	2507	140	59	454	36	100	27	197	21	12	20
RTOR Reduction (vph)	0	2	0	0	3	0	0	91	0	0	19	0
Lane Group Flow (vph)	28	2645	0	59	487	0	100	133	0	21	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.6	135.5		10.7	139.6		9.9	20.1		4.0	14.2	
Effective Green, g (s)	6.6	135.5		10.7	139.6		9.9	20.1		4.0	14.2	
Actuated g/C Ratio	0.03	0.71		0.06	0.73		0.05	0.11		0.02	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	61	3597		99	3694		178	171		37	126	
v/s Ratio Prot	0.02	c0.52		c0.03	c0.10		c0.03	c0.08		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.46	0.74		0.60	0.13		0.56	0.78		0.57	0.12	
Uniform Delay, d1	89.9	16.4		87.5	7.4		87.9	82.8		92.1	82.0	
Progression Factor	1.13	0.18		1.06	0.94		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.6		6.1	0.1		2.4	18.0		11.3	0.1	
Delay (s)	102.6	3.7		98.5	7.1		90.3	100.8		103.5	82.2	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		4.7			16.9			97.5			90.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	2370	98	155	416	179	150	303	526	422	205	42
Future Volume (vph)	59	2370	98	155	416	179	150	303	526	422	205	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5055		1652	4855		1652	3421	1531	3204	3449	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5055		1652	4855		1652	3421	1531	3204	3449	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	60	2418	100	158	424	183	153	309	537	431	209	43
RTOR Reduction (vph)	0	2	0	0	40	0	0	0	28	0	10	0
Lane Group Flow (vph)	60	2516	0	158	567	0	153	309	509	431	242	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.8	85.5		24.0	98.6		40.4	38.0	68.0	21.6	18.8	
Effective Green, g (s)	10.8	85.5		24.0	98.6		40.4	38.0	68.0	21.6	18.8	
Actuated g/C Ratio	0.06	0.45		0.13	0.52		0.21	0.20	0.36	0.11	0.10	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	93	2274		208	2519		351	684	547	364	341	
v/s Ratio Prot	0.04	c0.50		0.10	0.12		0.09	0.09	c0.33	c0.13	0.07	
v/s Ratio Perm												
v/c Ratio	0.65	1.11		0.76	0.23		0.44	0.45	0.93	1.18	0.71	
Uniform Delay, d1	87.7	52.2		80.2	24.9		64.9	66.8	58.7	84.2	83.0	
Progression Factor	1.25	0.65		1.37	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.7	53.0		13.0	0.2		0.9	0.6	22.9	107.4	6.7	
Delay (s)	117.5	86.8		122.7	25.1		65.8	67.4	81.6	191.6	89.7	
Level of Service	F	F		F	C		E	E	F	F	F	
Approach Delay (s)		87.5			45.3			74.8			154.0	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	87.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	3152	31	60	757	80	13	21	43	58	3	20
Future Volume (vph)	134	3152	31	60	757	80	13	21	43	58	3	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5013			1829	1583	1770	1618	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5013			1647	1583	1368	1618	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	138	3249	32	62	780	82	13	22	44	60	3	21
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	41	0	20	0
Lane Group Flow (vph)	138	3281	0	62	858	0	0	35	3	60	4	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	19.1	150.5		11.4	142.8			12.8	12.8	12.8	12.8	
Effective Green, g (s)	19.1	150.5		11.4	142.8			12.8	12.8	12.8	12.8	
Actuated g/C Ratio	0.10	0.79		0.06	0.75			0.07	0.07	0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	177	4022		106	3767			110	106	92	109	
v/s Ratio Prot	c0.08	c0.65		0.04	0.17						0.00	
v/s Ratio Perm								0.02	0.00	c0.04		
v/c Ratio	0.78	0.82		0.58	0.23			0.32	0.03	0.65	0.04	
Uniform Delay, d1	83.4	11.6		87.0	7.1			84.4	82.8	86.4	82.9	
Progression Factor	1.07	0.39		0.97	0.89			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	0.2		5.1	0.1			0.6	0.0	11.9	0.1	
Delay (s)	91.4	4.7		89.8	6.4			85.1	82.8	98.4	82.9	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		8.2			12.0			83.8			93.9	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	3224	21	49	866	44	4	19	61	43	4	12
Future Volume (vph)	36	3224	21	49	866	44	4	19	61	43	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5049			1675		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.33	1.00	
Satd. Flow (perm)	1770	5080		1770	5049			1658		621	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	37	3324	22	51	893	45	4	20	66	44	4	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	60	0	0	11	0
Lane Group Flow (vph)	37	3346	0	51	937	0	0	30	0	44	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.4	153.9		8.8	155.0			12.0		12.0	12.0	
Effective Green, g (s)	7.4	153.9		8.8	155.0			12.0		12.0	12.0	
Actuated g/C Ratio	0.04	0.81		0.05	0.82			0.06		0.06	0.06	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	68	4114		81	4118			104		39	104	
v/s Ratio Prot	0.02	c0.66		c0.03	0.19						0.00	
v/s Ratio Perm								0.02		c0.07		
v/c Ratio	0.54	0.81		0.63	0.23			0.29		1.13	0.05	
Uniform Delay, d1	89.6	10.0		89.0	4.0			84.9		89.0	83.6	
Progression Factor	1.20	0.21		0.76	2.29			1.00		1.00	1.00	
Incremental Delay, d2	2.8	1.1		10.2	0.1			0.6		184.6	0.1	
Delay (s)	110.1	3.2		77.5	9.2			85.5		273.6	83.7	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		4.4			12.7			85.5			223.0	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	3013	206	97	896	82	41	84	114	26	45	60
Future Volume (vph)	100	3013	206	97	896	82	41	84	114	26	45	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5036		1770	5022		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5036		1770	5022		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	3172	217	102	943	86	43	88	120	27	47	63
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	103	0	0	59
Lane Group Flow (vph)	105	3386	0	102	1025	0	43	88	17	27	47	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.6	134.3		16.8	135.0		5.9	14.9	14.9	4.3	13.3	13.3
Effective Green, g (s)	15.6	134.3		16.8	135.0		5.9	14.9	14.9	4.3	13.3	13.3
Actuated g/C Ratio	0.08	0.71		0.09	0.71		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	145	3559		156	3568		54	146	124	40	130	110
v/s Ratio Prot	c0.06	c0.67		0.06	0.20		c0.02	c0.05		0.02	0.03	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.72	0.95		0.65	0.29		0.80	0.60	0.14	0.68	0.36	0.04
Uniform Delay, d1	85.1	24.9		83.8	10.0		91.5	84.7	81.5	92.2	84.3	82.4
Progression Factor	0.87	0.66		0.92	0.61		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	4.9		6.9	0.2		51.7	4.7	0.2	29.9	0.6	0.1
Delay (s)	82.9	21.3		84.1	6.3		143.1	89.4	81.7	122.1	84.9	82.5
Level of Service	F	C		F	A		F	F	F	F	F	F
Approach Delay (s)		23.1			13.3			94.9			91.1	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	2549	264	70	929	72	144	141	35	49	125	71
Future Volume (vph)	136	2549	264	70	929	72	144	141	35	49	125	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3434		1770	3346	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3434		1770	3346	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	145	2712	281	74	988	77	153	150	37	52	133	76
RTOR Reduction (vph)	0	6	0	0	0	32	0	11	0	0	46	0
Lane Group Flow (vph)	145	2987	0	74	988	45	153	176	0	52	163	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	19.7	119.0		11.4	110.7	110.7	23.8	23.8		15.9	15.9	
Effective Green, g (s)	19.7	119.0		11.4	110.7	110.7	23.8	23.8		15.9	15.9	
Actuated g/C Ratio	0.10	0.63		0.06	0.58	0.58	0.13	0.13		0.08	0.08	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	183	3140		106	2962	922	221	430		148	280	
v/s Ratio Prot	c0.08	c0.60		0.04	0.19		c0.09	0.05		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.79	0.95		0.70	0.33	0.05	0.69	0.41		0.35	0.58	
Uniform Delay, d1	83.2	32.8		87.6	20.5	17.0	79.6	76.6		82.2	83.9	
Progression Factor	1.26	0.38		1.10	0.65	0.15	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.2	3.7		13.4	0.3	0.1	9.5	0.8		2.2	3.9	
Delay (s)	113.1	16.3		110.2	13.6	2.7	89.1	77.4		84.4	87.7	
Level of Service	F	B		F	B	A	F	E		F	F	
Approach Delay (s)		20.8			19.1			82.7			87.0	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	2116	62	290	959	252	135	576	126	313	430	124
Future Volume (vph)	231	2116	62	290	959	252	135	576	126	313	430	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	238	2181	64	299	989	260	139	594	130	323	443	128
RTOR Reduction (vph)	0	1	0	0	0	115	0	0	57	0	14	0
Lane Group Flow (vph)	238	2244	0	299	989	145	139	594	73	323	557	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	18.1	97.5		19.9	99.4	99.4	17.6	32.8	32.8	20.0	35.0	
Effective Green, g (s)	18.1	97.5		19.9	99.4	99.4	17.6	32.8	32.8	20.0	35.0	
Actuated g/C Ratio	0.10	0.51		0.10	0.52	0.52	0.09	0.17	0.17	0.11	0.18	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	305	2425		335	2571	773	158	819	255	361	630	
v/s Ratio Prot	0.07	c0.47		c0.09	0.20		0.08	0.13		c0.09	c0.16	
v/s Ratio Perm						0.10			0.05			
v/c Ratio	0.78	0.93		0.89	0.38	0.19	0.88	0.73	0.29	0.89	0.88	
Uniform Delay, d1	84.0	42.9		84.0	27.0	24.0	85.2	74.3	68.4	84.0	75.5	
Progression Factor	1.22	0.62		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.4	3.0		23.9	0.4	0.5	37.6	3.7	1.1	22.9	14.4	
Delay (s)	107.0	29.8		107.9	27.5	24.5	122.8	78.0	69.5	106.9	89.9	
Level of Service	F	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		37.2			42.5			83.9			96.0	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	54.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	63	304	270	62	244	432
Future Volume (vph)	63	304	270	62	244	432
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3440		1717	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3440		1717	1504
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	338	300	69	271	480
RTOR Reduction (vph)	0	0	34	0	24	166
Lane Group Flow (vph)	70	338	335	0	367	194
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	5.7	22.5	12.8		15.3	25.5
Effective Green, g (s)	5.7	22.5	12.8		15.3	25.5
Actuated g/C Ratio	0.12	0.48	0.27		0.32	0.54
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	213	886	930		555	810
v/s Ratio Prot	0.04	c0.18	0.10		c0.21	0.13
v/s Ratio Perm						
v/c Ratio	0.33	0.38	0.36		0.66	0.24
Uniform Delay, d1	19.0	7.9	13.9		13.8	5.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.6	0.5		3.0	0.2
Delay (s)	19.4	8.5	14.4		16.7	5.9
Level of Service	B	A	B		B	A
Approach Delay (s)		10.4	14.4		11.6	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	47.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	939	15	14	220	20	12	1	49	231	2	39
Future Volume (vph)	5	939	15	14	220	20	12	1	49	231	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1858		1770	1839			1648			1752	
Flt Permitted	0.60	1.00		0.12	1.00			0.92			0.71	
Satd. Flow (perm)	1116	1858		221	1839			1530			1300	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1010	16	15	237	22	13	1	53	248	2	42
RTOR Reduction (vph)	0	1	0	0	5	0	0	39	0	0	10	0
Lane Group Flow (vph)	5	1025	0	15	254	0	0	28	0	0	282	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.3	34.3		33.7	33.7			16.3			16.3	
Effective Green, g (s)	34.3	34.3		33.7	33.7			16.3			16.3	
Actuated g/C Ratio	0.57	0.57		0.56	0.56			0.27			0.27	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	633	1055		123	1026			412			350	
v/s Ratio Prot		c0.55			0.14							
v/s Ratio Perm	0.00			0.07				0.02			c0.22	
v/c Ratio	0.01	0.97		0.12	0.25			0.07			0.81	
Uniform Delay, d1	5.7	12.6		6.3	6.8			16.4			20.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	21.0		0.4	0.1			0.0			12.0	
Delay (s)	5.7	33.6		6.7	7.0			16.4			32.5	
Level of Service	A	C		A	A			B			C	
Approach Delay (s)		33.5			6.9			16.4			32.5	
Approach LOS		C			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	10.4
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	316	485	81	88	118	131	903	79	80	624	61
Future Volume (vph)	324	316	485	81	88	118	131	903	79	80	624	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1930		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1930		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	356	347	533	89	97	130	144	992	87	88	686	67
RTOR Reduction (vph)	0	0	168	0	34	0	0	0	27	0	0	25
Lane Group Flow (vph)	356	347	365	89	193	0	144	992	61	88	686	42
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	33.5	33.5	48.0	18.5	18.5		14.5	45.8	64.3	9.9	41.2	80.4
Effective Green, g (s)	33.5	33.5	48.0	18.5	18.5		14.5	45.8	64.3	9.9	41.2	80.4
Actuated g/C Ratio	0.26	0.26	0.37	0.14	0.14		0.11	0.36	0.50	0.08	0.32	0.63
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	430	453	571	237	277		192	1176	791	127	1095	957
v/s Ratio Prot	c0.22	0.20	0.24	0.05	c0.10		c0.08	c0.30	0.04	0.05	0.20	0.03
v/s Ratio Perm												
v/c Ratio	0.83	0.77	0.64	0.38	0.70		0.75	0.84	0.08	0.69	0.63	0.04
Uniform Delay, d1	44.8	43.9	33.2	49.8	52.4		55.3	38.1	16.7	57.9	37.2	9.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.9	7.0	1.9	0.9	7.3		13.6	5.8	0.1	12.4	1.3	0.0
Delay (s)	56.8	50.9	35.0	50.8	59.7		68.8	43.9	16.8	70.3	38.4	9.3
Level of Service	E	D	D	D	E		E	D	B	E	D	A
Approach Delay (s)		45.8			57.2			44.9			39.4	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	128.6	Sum of lost time (s)	20.9
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	156	0	16	0	158	73	18	589	0
Future Volume (vph)	1	0	1	156	0	16	0	158	73	18	589	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	0	1	181	0	19	0	184	85	21	685	0
RTOR Reduction (vph)	0	2	0	0	0	16	0	0	21	0	0	0
Lane Group Flow (vph)	0	0	0	0	181	3	0	184	64	21	685	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			9.1	9.1		26.1	39.7	0.6	30.7	
Effective Green, g (s)		0.7			9.1	9.1		26.1	39.7	0.6	30.7	
Actuated g/C Ratio		0.01			0.17	0.17		0.49	0.75	0.01	0.58	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		22			303	271		917	1185	20	1079	
v/s Ratio Prot		c0.00			c0.10			0.10	0.04	0.01	c0.37	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.60	0.01		0.20	0.05	1.05	0.63	
Uniform Delay, d1		25.8			20.3	18.2		7.6	1.7	26.2	7.4	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			2.1	0.0		0.1	0.0	217.8	1.2	
Delay (s)		25.8			22.4	18.2		7.7	1.8	244.0	8.7	
Level of Service		C			C	B		A	A	F	A	
Approach Delay (s)		25.8			22.0			5.8			15.7	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	680	186	78	225	6	109	7	157	63	72	107
Future Volume (vph)	18	680	186	78	225	6	109	7	157	63	72	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3425		1770	3526		1770	1863	1583	1770	1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3425		1770	3526		1770	1863	1583	1770	1696	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	19	708	194	81	234	6	114	7	164	66	75	111
RTOR Reduction (vph)	0	26	0	0	2	0	0	0	79	0	72	0
Lane Group Flow (vph)	19	876	0	81	238	0	114	7	85	66	114	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	0.6	26.3		4.8	31.0		6.3	11.5	21.2	4.7	9.9	
Effective Green, g (s)	0.6	26.3		4.8	31.0		6.3	11.5	21.2	4.7	9.9	
Actuated g/C Ratio	0.01	0.39		0.07	0.46		0.09	0.17	0.32	0.07	0.15	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	15	1342		126	1629		166	319	500	123	250	
v/s Ratio Prot	0.01	c0.26		c0.05	c0.07		c0.06	0.00	0.05	0.04	c0.07	
v/s Ratio Perm												
v/c Ratio	1.27	0.65		0.64	0.15		0.69	0.02	0.17	0.54	0.45	
Uniform Delay, d1	33.2	16.7		30.3	10.4		29.4	23.1	16.6	30.1	26.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	328.3	1.1		8.1	0.0		9.0	0.0	0.1	2.2	0.5	
Delay (s)	361.6	17.7		38.4	10.5		38.5	23.1	16.7	32.4	26.6	
Level of Service	F	B		D	B		D	C	B	C	C	
Approach Delay (s)		24.8			17.5			25.5			28.1	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	67.1	Sum of lost time (s)	19.8
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	948	349	218	1445	97	234	22	214	405	75	338
Future Volume (vph)	61	948	349	218	1445	97	234	22	214	405	75	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5037		1681	1699	1583	1610	3034	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5037		1681	1699	1583	1610	3034	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	62	967	356	222	1474	99	239	22	218	413	77	345
RTOR Reduction (vph)	0	0	222	0	4	0	0	0	194	0	177	0
Lane Group Flow (vph)	62	967	134	222	1569	0	129	132	24	289	369	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	8.5	56.3	56.3	13.5	61.3		16.5	16.5	16.5	44.2	44.2	
Effective Green, g (s)	8.5	56.3	56.3	13.5	61.3		16.5	16.5	16.5	44.2	44.2	
Actuated g/C Ratio	0.06	0.38	0.38	0.09	0.41		0.11	0.11	0.11	0.29	0.29	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	100	1908	594	308	2058		184	186	174	474	894	
v/s Ratio Prot	0.04	0.19		c0.06	c0.31		0.08	c0.08		c0.18	0.12	
v/s Ratio Perm			0.08						0.02			
v/c Ratio	0.62	0.51	0.22	0.72	0.76		0.70	0.71	0.14	0.61	0.41	
Uniform Delay, d1	69.2	36.1	32.0	66.4	38.1		64.4	64.4	60.3	45.5	42.5	
Progression Factor	1.00	1.00	1.00	1.34	0.63		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.8	1.0	0.9	4.7	1.9		9.4	9.7	0.1	4.0	0.9	
Delay (s)	77.0	37.1	32.8	93.9	25.7		73.8	74.1	60.5	49.5	43.4	
Level of Service	E	D	C	F	C		E	E	E	D	D	
Approach Delay (s)		37.8			34.1			67.8			45.5	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1428	165	435	1390	279	204	57	680	932	233	174
Future Volume (vph)	24	1428	165	435	1390	279	204	57	680	932	233	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	1535	177	468	1495	300	219	61	731	1002	251	187
RTOR Reduction (vph)	0	0	108	0	0	107	0	0	50	0	0	48
Lane Group Flow (vph)	26	1535	69	468	1495	193	219	61	681	1002	251	139
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.2	40.5	40.5	18.6	55.6	96.5	13.4	35.5	59.1	35.6	57.4	66.9
Effective Green, g (s)	4.2	40.5	40.5	18.6	55.6	96.5	13.4	35.5	59.1	35.6	57.4	66.9
Actuated g/C Ratio	0.03	0.27	0.27	0.12	0.37	0.64	0.09	0.24	0.39	0.24	0.38	0.45
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	96	1372	427	425	1884	1792	306	837	1098	814	1354	706
v/s Ratio Prot	0.01	c0.30		c0.14	0.29	0.07	0.06	0.02	c0.24	c0.29	0.07	0.09
v/s Ratio Perm			0.04									
v/c Ratio	0.27	1.12	0.16	1.10	0.79	0.11	0.72	0.07	0.62	1.23	0.19	0.20
Uniform Delay, d1	71.4	54.8	41.8	65.7	42.1	10.3	66.4	44.5	36.5	57.2	30.8	25.2
Progression Factor	1.19	0.72	0.35	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	62.9	0.7	73.9	3.5	0.0	6.5	0.1	1.6	114.6	0.1	0.2
Delay (s)	85.5	102.2	15.4	139.6	45.6	10.3	72.9	44.6	38.1	171.8	30.9	25.5
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		93.1			60.4			46.0			128.3	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	82.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1905	1086	0	1267	814	0	0	0	218	0	790
Future Volume (vph)	0	1905	1086	0	1267	814	0	0	0	218	0	790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	2027	1155	0	1348	866	0	0	0	232	0	840
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	41
Lane Group Flow (vph)	0	2027	1155	0	1348	866	0	0	0	232	0	799
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		81.4	138.0		81.4	138.0				44.4		44.4
Effective Green, g (s)		81.4	138.0		81.4	133.3				44.4		44.4
Actuated g/C Ratio		0.59	1.00		0.59	0.97				0.32		0.32
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2999	2787		2999	1529				1104		896
v/s Ratio Prot		c0.40			0.27	0.55				0.07		c0.29
v/s Ratio Perm			0.41									
v/c Ratio		0.68	0.41		0.45	0.57				0.21		0.89
Uniform Delay, d1		19.3	0.0		15.8	0.2				34.0		44.5
Progression Factor		1.00	1.00		1.01	1.00				1.00		1.00
Incremental Delay, d2		1.2	0.5		0.5	0.3				0.0		10.9
Delay (s)		20.5	0.5		16.4	0.4				34.1		55.4
Level of Service		C	A		B	A				C		E
Approach Delay (s)		13.3			10.2			0.0			50.8	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1001	1216	0	1544	806	470	0	148	0	0	0
Future Volume (vph)	0	1001	1216	0	1544	806	470	0	148	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1032	1254	0	1592	831	485	0	153	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	124	0	0	0
Lane Group Flow (vph)	0	1032	1254	0	1592	831	485	0	29	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		100.0	138.0		100.0	138.0	25.8		25.8			
Effective Green, g (s)		100.0	133.3		100.0	138.0	25.8		25.8			
Actuated g/C Ratio		0.72	0.97		0.72	1.00	0.19		0.19			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3684	1529		4643	1583	641		521			
v/s Ratio Prot		0.20	c0.79		0.25		0.14					
v/s Ratio Perm						0.52			0.01			
v/c Ratio		0.28	0.82		0.34	0.52	0.76		0.05			
Uniform Delay, d1		6.6	0.4		7.0	0.0	53.1		46.1			
Progression Factor		0.65	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	2.8		0.2	1.2	4.5		0.0			
Delay (s)		4.4	3.1		7.2	1.2	57.7		46.1			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		3.7			5.1			54.9			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	508	497	210	1026	0	0
Future Volume (vph)	508	497	210	1026	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	524	512	216	1058	0	0
RTOR Reduction (vph)	0	124	0	0	0	0
Lane Group Flow (vph)	524	388	216	1058	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	68.2	68.2	10.1	90.0		
Effective Green, g (s)	68.2	68.2	10.1	90.0		
Actuated g/C Ratio	0.76	0.76	0.11	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2681	2111	385	5085		
v/s Ratio Prot	0.15		c0.06	c0.21		
v/s Ratio Perm		0.14				
v/c Ratio	0.20	0.18	0.56	0.21		
Uniform Delay, d1	3.1	3.1	37.8	0.0		
Progression Factor	1.00	1.00	0.71	1.00		
Incremental Delay, d2	0.2	0.2	1.1	0.1		
Delay (s)	3.3	3.3	28.1	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	3.3			4.8	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	480	0	0	671	595	590
Future Volume (vph)	0	480	0	0	671	595	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	527	0	0	737	654	648
RTOR Reduction (vph)	0	0	0	0	0	0	304
Lane Group Flow (vph)	0	527	0	0	737	654	344
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		55.4			55.4	22.9	22.9
Effective Green, g (s)		55.4			55.4	22.9	22.9
Actuated g/C Ratio		0.62			0.62	0.25	0.25
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2178			3130	873	709
v/s Ratio Prot		c0.15			0.14	c0.19	
v/s Ratio Perm							0.12
v/c Ratio		0.24			0.24	0.75	0.48
Uniform Delay, d1		7.8			7.8	30.9	28.5
Progression Factor		1.01			1.00	1.00	1.00
Incremental Delay, d2		0.3			0.2	3.1	0.2
Delay (s)		8.1			8.0	34.0	28.7
Level of Service		A			A	C	C
Approach Delay (s)		8.1			8.0	31.4	
Approach LOS		A			A	C	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1055	62	614	2200	173	893
Future Volume (vph)	1055	62	614	2200	173	893
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6355		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6355		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1077	63	627	2245	177	911
RTOR Reduction (vph)	4	0	0	0	0	5
Lane Group Flow (vph)	1136	0	627	2245	177	906
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	62.2		35.0	101.9	47.7	87.1
Effective Green, g (s)	62.2		35.0	101.9	47.7	87.1
Actuated g/C Ratio	0.39		0.22	0.64	0.30	0.54
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2470		750	4081	527	1517
v/s Ratio Prot	0.18		c0.18	c0.35	0.10	c0.32
v/s Ratio Perm						
v/c Ratio	0.46		0.84	0.55	0.34	0.60
Uniform Delay, d1	36.4		59.8	16.2	43.8	24.6
Progression Factor	1.00		0.55	1.31	1.00	1.00
Incremental Delay, d2	0.6		2.4	0.2	0.1	0.4
Delay (s)	37.0		35.4	21.5	43.9	25.0
Level of Service	D		D	C	D	C
Approach Delay (s)	37.0			24.5	28.1	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	137	1826	9	2478	158	878	336
Future Volume (vph)	137	1826	9	2478	158	878	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	4.4	5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91	1.00	0.91	1.00	0.97	
Frt	1.00	1.00	1.00	1.00	0.85	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.97	
Satd. Flow (prot)	3433	5085	1770	5085	1583	3343	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.97	
Satd. Flow (perm)	3433	5085	1770	5085	1583	3343	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	138	1844	9	2503	160	887	339
RTOR Reduction (vph)	0	0	0	0	2	26	0
Lane Group Flow (vph)	138	1844	9	2503	158	1200	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	86.2	1.6	81.1	143.6	57.1	
Effective Green, g (s)	7.6	86.2	1.6	81.1	143.6	57.1	
Actuated g/C Ratio	0.05	0.54	0.01	0.51	0.90	0.36	
Clearance Time (s)	4.4	6.3	4.4	5.4		4.4	
Vehicle Extension (s)	2.0	5.0	2.0	6.1		4.5	
Lane Grp Cap (vph)	163	2739	17	2577	1420	1193	
v/s Ratio Prot	c0.04	0.36	0.01	c0.49	0.10	c0.36	
v/s Ratio Perm							
v/c Ratio	0.85	0.67	0.53	0.97	0.11	1.01	
Uniform Delay, d1	75.6	26.7	78.8	38.3	0.9	51.5	
Progression Factor	0.84	1.01	1.38	0.36	1.32	1.00	
Incremental Delay, d2	27.5	1.2	10.0	10.0	0.0	27.5	
Delay (s)	90.6	28.0	118.9	23.9	1.3	79.0	
Level of Service	F	C	F	C	A	E	
Approach Delay (s)		32.4		22.8		79.0	
Approach LOS		C		C		E	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	2573	2600	29	99	69
Future Volume (vph)	25	2573	2600	29	99	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	26	2680	2708	30	103	72
RTOR Reduction (vph)	0	0	0	4	0	62
Lane Group Flow (vph)	26	2680	2708	26	103	10
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.8	135.6	126.8	126.8	13.7	13.7
Effective Green, g (s)	4.8	135.6	126.8	126.8	13.7	13.7
Actuated g/C Ratio	0.03	0.85	0.79	0.79	0.09	0.09
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	53	4309	4029	1254	151	135
v/s Ratio Prot	0.01	c0.53	c0.53		c0.06	
v/s Ratio Perm				0.02		0.01
v/c Ratio	0.49	0.62	0.67	0.02	0.68	0.07
Uniform Delay, d1	76.4	3.9	7.4	3.5	71.0	67.3
Progression Factor	1.08	0.36	0.73	0.65	1.00	1.00
Incremental Delay, d2	1.6	0.4	0.7	0.0	9.7	0.1
Delay (s)	84.5	1.8	6.1	2.3	80.7	67.4
Level of Service	F	A	A	A	F	E
Approach Delay (s)		2.6	6.0		75.2	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	29	2773	0	2451	34	88	103
Future Volume (vph)	29	2773	0	2451	34	88	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3327	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3327	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	2919	0	2580	36	93	108
RTOR Reduction (vph)	0	0	0	0	2	41	60
Lane Group Flow (vph)	31	2919	0	2580	34	96	4
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	7.2	139.5		127.4	127.4	9.9	9.9
Effective Green, g (s)	7.2	139.5		127.4	127.4	9.9	9.9
Actuated g/C Ratio	0.05	0.87		0.80	0.80	0.06	0.06
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	79	4433		4048	1260	205	89
v/s Ratio Prot	0.02	c0.57		0.51		c0.03	
v/s Ratio Perm					0.02		0.00
v/c Ratio	0.39	0.66		0.64	0.03	0.47	0.04
Uniform Delay, d1	74.3	3.1		6.7	3.4	72.5	70.6
Progression Factor	0.80	1.59		0.82	0.73	1.00	1.00
Incremental Delay, d2	2.6	0.6		0.4	0.0	1.7	0.2
Delay (s)	61.8	5.5		5.9	2.5	74.2	70.8
Level of Service	E	A		A	A	E	E
Approach Delay (s)		6.1		5.9		73.1	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	900	1854	88	19	1340	68	47	58	8	103	1	1121
Future Volume (vph)	900	1854	88	19	1340	68	47	58	8	103	1	1121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5049		1652	1827		1625	1631	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5049		1652	1827		1625	1631	2787
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	968	1994	95	20	1441	73	51	62	9	111	1	1205
RTOR Reduction (vph)	0	3	0	0	4	0	0	4	0	0	0	254
Lane Group Flow (vph)	968	2086	0	20	1510	0	51	67	0	55	57	951
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	49.8	93.3		2.4	46.0		10.3	10.3		33.4	33.4	88.7
Effective Green, g (s)	49.8	93.3		2.4	46.0		10.3	10.3		33.4	33.4	88.7
Actuated g/C Ratio	0.31	0.58		0.01	0.29		0.06	0.06		0.21	0.21	0.55
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	997	2945		48	1451		106	117		339	340	1545
v/s Ratio Prot	c0.30	0.41		0.01	c0.30		0.03	c0.04		0.03	0.03	c0.34
v/s Ratio Perm												
v/c Ratio	0.97	0.71		0.42	1.04		0.48	0.57		0.16	0.17	0.62
Uniform Delay, d1	54.4	23.7		78.1	57.0		72.3	72.7		51.8	51.9	24.1
Progression Factor	0.91	1.05		1.04	1.14		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.3	1.1		2.1	34.8		1.3	4.2		0.2	0.2	0.7
Delay (s)	67.8	26.0		83.6	99.8		73.5	76.9		52.0	52.1	24.8
Level of Service	E	C		F	F		E	E		D	D	C
Approach Delay (s)		39.3			99.6			75.5			27.1	
Approach LOS		D			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	52.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	91	1952	0	1007	128	478	175
Future Volume (vph)	91	1952	0	1007	128	478	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3201	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3201	1585
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	95	2033	0	1049	133	498	182
RTOR Reduction (vph)	0	0	0	0	19	2	133
Lane Group Flow (vph)	95	2033	0	1049	114	514	31
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	13.3	119.0		101.0	137.4	30.4	30.4
Effective Green, g (s)	13.3	119.0		101.0	137.4	30.4	30.4
Actuated g/C Ratio	0.08	0.74		0.63	0.86	0.19	0.19
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	142	3656		3103	1269	608	301
v/s Ratio Prot	c0.06	c0.41		0.21	0.08	c0.16	
v/s Ratio Perm							0.02
v/c Ratio	0.67	0.56		0.34	0.09	0.85	0.10
Uniform Delay, d1	71.2	9.0		13.8	1.7	62.5	53.5
Progression Factor	1.37	0.14		1.50	0.01	1.00	1.00
Incremental Delay, d2	6.7	0.5		0.3	0.0	10.1	0.1
Delay (s)	104.3	1.7		21.1	0.0	72.6	53.6
Level of Service	F	A		C	A	E	D
Approach Delay (s)		6.3		18.7		68.1	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	374	2442	940	630	429	171
Future Volume (vph)	374	2442	940	630	429	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.97	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4490	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4490	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	378	2467	949	636	433	173
RTOR Reduction (vph)	0	0	24	146	0	96
Lane Group Flow (vph)	378	2467	1198	217	433	77
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	23.2	123.0	95.6	95.6	26.0	54.2
Effective Green, g (s)	23.2	123.0	95.6	95.6	26.0	54.2
Actuated g/C Ratio	0.14	0.77	0.60	0.60	0.16	0.34
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	464	3648	2682	759	520	881
v/s Ratio Prot	c0.12	c0.52	0.27		c0.14	0.03
v/s Ratio Perm				0.17		
v/c Ratio	0.81	0.68	0.45	0.29	0.83	0.09
Uniform Delay, d1	66.3	8.9	17.7	15.6	64.9	36.0
Progression Factor	0.91	1.84	0.78	1.10	1.00	1.00
Incremental Delay, d2	8.9	0.9	0.4	0.8	10.5	0.0
Delay (s)	69.3	17.3	14.3	17.9	75.4	36.1
Level of Service	E	B	B	B	E	D
Approach Delay (s)		24.2	15.1		64.2	
Approach LOS		C	B		E	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	2629	155	123	1518	39	292	53	295	80	42	24
Future Volume (vph)	37	2629	155	123	1518	39	292	53	295	80	42	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1770	5085	1583	3433	5066		1681	1559	1504		1773	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1770	5085	1583	3433	5066		1681	1559	1504		1773	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	39	2767	163	129	1598	41	307	56	311	84	44	25
RTOR Reduction (vph)	0	0	33	0	1	0	0	18	91	0	5	0
Lane Group Flow (vph)	39	2767	130	129	1638	0	233	212	120	0	148	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.6	91.4	91.4	9.3	93.7		26.6	26.6	26.6		13.3	
Effective Green, g (s)	6.6	91.4	91.4	9.3	93.7		26.6	26.6	26.6		13.3	
Actuated g/C Ratio	0.04	0.57	0.57	0.06	0.59		0.17	0.17	0.17		0.08	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	73	2904	904	199	2966		279	259	250		147	
v/s Ratio Prot	0.02	c0.54		c0.04	c0.32		c0.14	0.14			c0.08	
v/s Ratio Perm			0.08						0.08			
v/c Ratio	0.53	0.95	0.14	0.65	0.55		0.84	0.82	0.48		1.01	
Uniform Delay, d1	75.2	32.3	16.0	73.7	20.3		64.6	64.4	60.4		73.3	
Progression Factor	1.16	0.82	0.53	0.61	2.34		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.8	7.1	0.3	4.6	0.6		18.2	17.0	0.5		76.8	
Delay (s)	90.0	33.4	8.8	49.9	48.1		82.8	81.3	61.0		150.1	
Level of Service	F	C	A	D	D		F	F	E		F	
Approach Delay (s)		32.8			48.2			75.5			150.1	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	202	2616	0	1584	161	518	170
Future Volume (vph)	202	2616	0	1584	161	518	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5015		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5015		3433	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	208	2697	0	1633	166	534	175
RTOR Reduction (vph)	0	0	0	7	0	0	141
Lane Group Flow (vph)	208	2697	0	1792	0	534	34
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	13.4	118.9		100.9		31.4	31.4
Effective Green, g (s)	13.4	118.9		100.9		31.4	31.4
Actuated g/C Ratio	0.08	0.74		0.63		0.20	0.20
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	287	3778		3162		673	546
v/s Ratio Prot	0.06	c0.53		0.36		c0.16	
v/s Ratio Perm							0.01
v/c Ratio	0.72	0.71		0.57		0.79	0.06
Uniform Delay, d1	71.5	11.2		17.0		61.2	52.3
Progression Factor	1.24	0.43		0.62		1.00	1.00
Incremental Delay, d2	3.0	0.5		0.6		6.8	0.1
Delay (s)	91.6	5.3		11.2		68.0	52.4
Level of Service	F	A		B		E	D
Approach Delay (s)		11.4		11.2		64.1	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	2102	1005	34	1081	156	506	425	31	266	547	44
Future Volume (vph)	53	2102	1005	34	1081	156	506	425	31	266	547	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4989		2841	3054		3204	3500	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4989		2841	3054		3204	3500	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	54	2123	1015	34	1092	158	511	429	31	269	553	44
RTOR Reduction (vph)	0	0	16	0	12	0	0	2	0	0	3	0
Lane Group Flow (vph)	54	2123	999	34	1238	0	460	509	0	269	594	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.4	71.7	108.6	3.3	67.5		36.9	36.9		26.2	26.2	
Effective Green, g (s)	7.4	71.7	108.6	3.3	67.5		36.9	36.9		26.2	26.2	
Actuated g/C Ratio	0.05	0.45	0.68	0.02	0.42		0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	2202	1003	37	2104		655	704		524	573	
v/s Ratio Prot	c0.03	0.43	c0.68	0.02	0.25		0.16	0.17		0.08	c0.17	
v/s Ratio Perm												
v/c Ratio	0.60	0.96	1.00	0.92	0.59		0.70	0.72		0.51	1.04	
Uniform Delay, d1	74.8	42.9	25.5	78.2	35.6		56.5	56.8		61.1	66.9	
Progression Factor	1.24	0.67	0.54	1.13	0.72		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	9.5	22.6	108.4	1.1		3.4	3.7		0.9	47.2	
Delay (s)	100.1	38.5	36.4	196.4	26.9		59.9	60.5		61.9	114.1	
Level of Service	F	D	D	F	C		E	E		E	F	
Approach Delay (s)		38.8			31.4			60.2			97.9	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	48.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2419	97	42	1392	21	33	9	130	85	10	40
Future Volume (vph)	33	2419	97	42	1392	21	33	9	130	85	10	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5056		1770	5074			1657			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.48	
Satd. Flow (perm)	1770	5056		1770	5074			1525			850	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	34	2468	99	43	1420	21	34	9	133	87	10	41
RTOR Reduction (vph)	0	2	0	0	1	0	0	76	0	0	10	0
Lane Group Flow (vph)	34	2565	0	43	1440	0	0	100	0	0	128	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	114.1		7.2	114.3			24.1			24.1	
Effective Green, g (s)	6.5	114.1		7.2	114.3			24.1			24.1	
Actuated g/C Ratio	0.04	0.71		0.05	0.71			0.15			0.15	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	71	3605		79	3624			229			128	
v/s Ratio Prot	0.02	c0.51		c0.02	0.28							
v/s Ratio Perm								0.07			c0.15	
v/c Ratio	0.48	0.71		0.54	0.40			0.43			1.00	
Uniform Delay, d1	75.1	13.4		74.8	9.1			61.8			67.9	
Progression Factor	1.02	0.42		0.99	1.18			1.00			1.00	
Incremental Delay, d2	1.0	0.6		3.8	0.3			0.5			78.4	
Delay (s)	77.5	6.2		77.9	11.1			62.2			146.4	
Level of Service	E	A		E	B			E			F	
Approach Delay (s)		7.2			13.0			62.2			146.4	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1393	1227	0	842	836	0	0	0	26	0	550
Future Volume (vph)	0	1393	1227	0	842	836	0	0	0	26	0	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1436	1265	0	868	862	0	0	0	27	0	567
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	298
Lane Group Flow (vph)	0	1436	1265	0	868	862	0	0	0	27	0	269
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		129.5	160.0		129.5	160.0				19.4		19.4
Effective Green, g (s)		129.5	160.0		129.5	160.0				19.4		19.4
Actuated g/C Ratio		0.81	1.00		0.81	1.00				0.12		0.12
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2864	1583		2864	2787				416		337
v/s Ratio Prot		0.41			0.25					0.01		
v/s Ratio Perm			c0.80			0.31						0.10
v/c Ratio		0.50	0.80		0.30	0.31				0.06		0.80
Uniform Delay, d1		4.9	0.0		3.9	0.0				62.3		68.4
Progression Factor		1.12	1.00		0.58	1.00				1.00		1.00
Incremental Delay, d2		0.5	3.1		0.3	0.3				0.0		11.6
Delay (s)		5.9	3.1		2.5	0.3				62.3		80.0
Level of Service		A	A		A	A				E		F
Approach Delay (s)		4.6			1.4			0.0			79.2	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	400	1018	0	1082	149	587	0	664	0	0	0
Future Volume (vph)	0	400	1018	0	1082	149	587	0	664	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	408	1039	0	1104	152	599	0	678	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	429	0	0	0
Lane Group Flow (vph)	0	408	1039	0	1104	152	599	0	249	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		113.5	160.0		113.5	160.0	33.4		33.4			
Effective Green, g (s)		113.5	160.0		113.5	160.0	33.4		33.4			
Actuated g/C Ratio		0.71	1.00		0.71	1.00	0.21		0.21			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2510	1583		4545	1583	716		581			
v/s Ratio Prot		0.12			0.17		c0.17					
v/s Ratio Perm			c0.66			0.10			0.09			
v/c Ratio		0.16	0.66		0.24	0.10	0.84		0.43			
Uniform Delay, d1		7.6	0.0		8.2	0.0	60.7		55.0			
Progression Factor		1.19	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	1.9		0.1	0.1	8.1		0.2			
Delay (s)		9.2	1.9		8.3	0.1	68.7		55.2			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		4.0			7.3			61.5			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	615	212	59	31	63	73	809	630	287	315	44
Future Volume (vph)	108	615	212	59	31	63	73	809	630	287	315	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.97			0.94		1.00	0.93		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3399			3259		1770	4751		1770	4992	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3399			3259		1770	4751		1770	4992	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	114	647	223	62	33	66	77	852	663	302	332	46
RTOR Reduction (vph)	0	18	0	0	60	0	0	91	0	0	11	0
Lane Group Flow (vph)	0	966	0	0	101	0	77	1424	0	302	367	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		36.1			11.5		8.5	37.0		19.6	47.7	
Effective Green, g (s)		36.1			11.5		8.5	37.0		19.6	47.7	
Actuated g/C Ratio		0.29			0.09		0.07	0.30		0.16	0.38	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		986			301		120	1413		278	1914	
v/s Ratio Prot		c0.28			c0.03		0.04	c0.30		c0.17	0.07	
v/s Ratio Perm												
v/c Ratio		0.98			0.34		0.64	1.20dr		1.09	0.19	
Uniform Delay, d1		43.8			52.9		56.5	43.7		52.4	25.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		23.9			1.6		9.3	25.9		78.9	0.1	
Delay (s)		67.7			54.5		65.8	69.6		131.3	25.6	
Level of Service		E			D		E	E		F	C	
Approach Delay (s)		67.7			54.5			69.4			72.5	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	68.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	124.4	Sum of lost time (s)	20.6
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	134	32	5	1284	0	570	18
Future Volume (vph)	134	32	5	1284	0	570	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	3320	1633	3204	4916		5062	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	3320	1633	3204	4916		5062	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.94	0.93	0.93
Adj. Flow (vph)	144	34	5	1381	0	613	19
RTOR Reduction (vph)	2	27	0	0	0	2	0
Lane Group Flow (vph)	145	4	5	1381	0	630	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	5.2	5.2	0.7	27.6		22.5	
Effective Green, g (s)	5.2	5.2	0.7	27.6		22.5	
Actuated g/C Ratio	0.12	0.12	0.02	0.63		0.51	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	395	194	51	3104		2606	
v/s Ratio Prot	c0.04		0.00	c0.28		0.12	
v/s Ratio Perm		0.00					
v/c Ratio	0.37	0.02	0.10	0.44		0.24	
Uniform Delay, d1	17.7	17.0	21.2	4.1		5.9	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.0	0.3	0.1		0.1	
Delay (s)	17.9	17.0	21.5	4.2		5.9	
Level of Service	B	B	C	A		A	
Approach Delay (s)	17.8			4.3		5.9	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	43.7	Sum of lost time (s)	17.3
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	7	86	6	1327	0	571	1
Future Volume (vph)	7	86	6	1327	0	571	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5084	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.91
Adj. Flow (vph)	8	93	7	1442	0	621	1
RTOR Reduction (vph)	0	82	0	0	0	0	0
Lane Group Flow (vph)	8	11	7	1442	0	622	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	5.0	5.0	0.7	27.0		21.5	
Effective Green, g (s)	5.0	5.0	0.7	27.0		21.5	
Actuated g/C Ratio	0.12	0.12	0.02	0.63		0.50	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	192	357	52	3093		2547	
v/s Ratio Prot	c0.00		0.00	c0.29		0.12	
v/s Ratio Perm		0.00					
v/c Ratio	0.04	0.03	0.13	0.47		0.24	
Uniform Delay, d1	16.8	16.8	20.8	4.2		6.1	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.0	0.4	0.1		0.1	
Delay (s)	16.9	16.8	21.2	4.3		6.1	
Level of Service	B	B	C	A		A	
Approach Delay (s)	16.8			4.4		6.1	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	42.9	Sum of lost time (s)	15.7
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	1	1321	1	1	662
Future Volume (vph)	9	1	1321	1	1	662
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		6.4	6.4	4.4	6.0
Lane Util. Factor	1.00		0.95	1.00	1.00	0.91
Frt	0.99		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1758		3539	1583	1770	5085
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1758		3539	1583	1770	5085
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	9	1	1376	1	1	690
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	9	0	1376	1	1	690
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	0.6		25.6	25.6	0.4	30.8
Effective Green, g (s)	0.6		25.6	25.6	0.4	30.8
Actuated g/C Ratio	0.01		0.61	0.61	0.01	0.73
Clearance Time (s)	4.9		6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0		3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	24		2141	958	16	3702
v/s Ratio Prot	c0.01		c0.39		0.00	c0.14
v/s Ratio Perm				0.00		
v/c Ratio	0.38		0.64	0.00	0.06	0.19
Uniform Delay, d1	20.7		5.4	3.3	20.8	1.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6		0.7	0.0	0.6	0.0
Delay (s)	24.2		6.1	3.3	21.4	1.8
Level of Service	C		A	A	C	A
Approach Delay (s)	24.2		6.1			1.9
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	15.7
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	5	19	191	2	142	7	1253	110	79	686	4
Future Volume (vph)	14	5	19	191	2	142	7	1253	110	79	686	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1706		1681	1529		1770	3539	1583	1770	3536	
Flt Permitted		0.98		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1706		1681	1529		1770	3539	1583	1770	3536	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	16	6	22	222	2	165	8	1457	128	92	798	5
RTOR Reduction (vph)	0	21	0	0	136	0	0	0	47	0	0	0
Lane Group Flow (vph)	0	23	0	200	53	0	8	1457	81	92	803	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		5.0		18.7	18.7		0.7	55.0	55.0	7.2	61.5	
Effective Green, g (s)		5.0		18.7	18.7		0.7	55.0	55.0	7.2	61.5	
Actuated g/C Ratio		0.05		0.18	0.18		0.01	0.52	0.52	0.07	0.58	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		80		297	270		11	1839	822	120	2055	
v/s Ratio Prot		c0.01		c0.12	0.03		0.00	c0.41		c0.05	0.23	
v/s Ratio Perm									0.05			
v/c Ratio		0.29		0.67	0.20		0.73	0.79	0.10	0.77	0.39	
Uniform Delay, d1		48.7		40.7	37.1		52.5	20.7	12.9	48.5	12.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7		6.9	0.6		110.3	2.7	0.1	22.7	0.2	
Delay (s)		49.4		47.6	37.7		162.8	23.4	12.9	71.2	12.2	
Level of Service		D		D	D		F	C	B	E	B	
Approach Delay (s)		49.4			42.8			23.3			18.3	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	105.8	Sum of lost time (s)	19.9
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	141	85	132	683	587	61
Future Volume (vph)	141	85	132	683	587	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3489	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3489	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	155	93	145	751	645	67
RTOR Reduction (vph)	0	81	0	0	5	0
Lane Group Flow (vph)	155	12	145	751	707	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.7	13.7	8.8	81.2	68.0	
Effective Green, g (s)	13.7	13.7	8.8	81.2	68.0	
Actuated g/C Ratio	0.13	0.13	0.08	0.77	0.65	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	230	206	287	2736	2259	
v/s Ratio Prot	c0.09		c0.04	0.21	c0.20	
v/s Ratio Perm		0.01				
v/c Ratio	0.67	0.06	0.51	0.27	0.31	
Uniform Delay, d1	43.5	40.0	46.0	3.4	8.2	
Progression Factor	1.00	1.00	1.04	0.53	1.00	
Incremental Delay, d2	6.0	0.0	0.5	0.2	0.4	
Delay (s)	49.5	40.0	48.4	2.1	8.5	
Level of Service	D	D	D	A	A	
Approach Delay (s)	46.0			9.6	8.5	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	221	214	49	138	77	183	711	104	108	577	40
Future Volume (vph)	24	221	214	49	138	77	183	711	104	108	577	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3278		1770	3349		3433	3472		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3278		1770	3349		3433	3472		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	25	233	225	52	145	81	193	748	109	114	607	42
RTOR Reduction (vph)	0	196	0	0	68	0	0	8	0	0	3	0
Lane Group Flow (vph)	25	262	0	52	158	0	193	849	0	114	646	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.4	13.5		6.3	16.4		10.2	55.1		11.1	56.0	
Effective Green, g (s)	3.4	13.5		6.3	16.4		10.2	55.1		11.1	56.0	
Actuated g/C Ratio	0.03	0.13		0.06	0.16		0.10	0.52		0.11	0.53	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	57	421		106	523		333	1821		187	1869	
v/s Ratio Prot	0.01	c0.08		c0.03	c0.05		0.06	c0.24		c0.06	0.18	
v/s Ratio Perm												
v/c Ratio	0.44	0.62		0.49	0.30		0.58	0.47		0.61	0.35	
Uniform Delay, d1	49.9	43.3		47.8	39.2		45.3	15.7		44.9	14.0	
Progression Factor	1.00	1.00		1.00	1.00		1.17	0.48		1.20	0.73	
Incremental Delay, d2	2.0	2.1		1.3	0.1		1.3	0.8		3.7	0.5	
Delay (s)	51.8	45.4		49.1	39.3		54.3	8.3		57.7	10.7	
Level of Service	D	D		D	D		D	A		E	B	
Approach Delay (s)		45.7			41.2			16.7			17.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	299	123	23	47	26	54	880	49	57	760	29
Future Volume (vph)	89	299	123	23	47	26	54	880	49	57	760	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1763		1770	3511		1770	3520	
Flt Permitted	0.64	1.00		0.18	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1185	1781		330	1763		1770	3511		1770	3520	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	93	311	128	24	49	27	56	917	51	59	792	30
RTOR Reduction (vph)	0	15	0	0	20	0	0	3	0	0	2	0
Lane Group Flow (vph)	93	424	0	24	56	0	56	965	0	59	820	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	33.3	28.7		27.5	25.8		6.4	49.3		6.3	49.2	
Effective Green, g (s)	33.3	28.7		27.5	25.8		6.4	49.3		6.3	49.2	
Actuated g/C Ratio	0.32	0.27		0.26	0.25		0.06	0.47		0.06	0.47	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	401	486		109	433		107	1648		106	1649	
v/s Ratio Prot	c0.01	c0.24		0.00	0.03		0.03	c0.27		c0.03	0.23	
v/s Ratio Perm	0.06			0.05								
v/c Ratio	0.23	0.87		0.22	0.13		0.52	0.59		0.56	0.50	
Uniform Delay, d1	25.9	36.4		30.4	30.8		47.8	20.4		48.0	19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.39	0.28		1.20	0.64	
Incremental Delay, d2	0.1	15.3		0.4	0.0		1.3	0.9		3.4	1.0	
Delay (s)	26.0	51.7		30.7	30.9		67.6	6.7		60.9	13.4	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		47.2			30.9			10.0			16.5	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	331	183	27	107	64	82	881	76	188	594	95
Future Volume (vph)	73	331	183	27	107	64	82	881	76	188	594	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1763		1770	1758		1770	3497		1770	3466	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1763		1770	1758		1770	3497		1770	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	360	199	29	116	70	89	958	83	204	646	103
RTOR Reduction (vph)	0	19	0	0	21	0	0	6	0	0	11	0
Lane Group Flow (vph)	79	540	0	29	165	0	89	1035	0	204	738	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.1	33.8		2.5	30.2		8.1	36.0		13.8	41.7	
Effective Green, g (s)	6.1	33.8		2.5	30.2		8.1	36.0		13.8	41.7	
Actuated g/C Ratio	0.06	0.32		0.02	0.29		0.08	0.34		0.13	0.40	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	102	567		42	505		136	1198		232	1376	
v/s Ratio Prot	c0.04	c0.31		0.02	0.09		0.05	c0.30		c0.12	0.21	
v/s Ratio Perm												
v/c Ratio	0.77	0.95		0.69	0.33		0.65	0.86		0.88	0.54	
Uniform Delay, d1	48.8	34.8		50.9	29.4		47.1	32.2		44.8	24.2	
Progression Factor	1.00	1.00		1.00	1.00		1.29	0.79		1.32	0.64	
Incremental Delay, d2	27.6	26.1		32.7	0.1		7.0	7.1		26.0	1.3	
Delay (s)	76.4	60.9		83.5	29.6		67.9	32.5		85.2	16.8	
Level of Service	E	E		F	C		E	C		F	B	
Approach Delay (s)		62.8			36.8			35.3			31.4	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	40	1	36	3	1116	250	70	741	6
Future Volume (vph)	0	0	4	40	1	36	3	1116	250	70	741	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	3442		1770	3535	
Flt Permitted		1.00			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1357	1583	1770	3442		1770	3535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	4	43	1	38	3	1187	266	74	788	6
RTOR Reduction (vph)	0	4	0	0	0	35	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	44	3	3	1442	0	74	794	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		9.5			9.5	9.5	1.1	73.0		7.8	79.9	
Effective Green, g (s)		9.5			9.5	9.5	1.1	73.0		7.8	79.9	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.70		0.07	0.76	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		145			122	143	18	2393		131	2689	
v/s Ratio Prot		0.00					0.00	c0.42		c0.04	0.22	
v/s Ratio Perm					c0.03	0.00						
v/c Ratio		0.00			0.36	0.02	0.17	0.60		0.56	0.30	
Uniform Delay, d1		43.4			44.9	43.5	51.5	8.4		47.0	3.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.89	1.38	
Incremental Delay, d2		0.0			4.3	0.2	1.6	1.1		2.6	0.2	
Delay (s)		43.4			49.2	43.7	53.1	9.5		44.5	5.6	
Level of Service		D			D	D	D	A		D	A	
Approach Delay (s)		43.4			46.6			9.6			8.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	60	23	1337	778	5
Future Volume (vph)	34	60	23	1337	778	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3536	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	63	24	1407	819	5
RTOR Reduction (vph)	0	60	0	0	0	0
Lane Group Flow (vph)	36	3	24	1407	824	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.2	5.2	4.3	109.0	99.2	
Effective Green, g (s)	5.2	5.2	4.3	109.0	99.2	
Actuated g/C Ratio	0.04	0.04	0.03	0.87	0.79	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	142	65	60	3086	2806	
v/s Ratio Prot	c0.01		0.01	c0.40	0.23	
v/s Ratio Perm		0.00				
v/c Ratio	0.25	0.04	0.40	0.46	0.29	
Uniform Delay, d1	58.0	57.5	59.1	1.7	3.5	
Progression Factor	1.00	1.00	1.20	0.35	1.00	
Incremental Delay, d2	0.3	0.1	1.3	0.4	0.3	
Delay (s)	58.4	57.6	72.3	1.0	3.7	
Level of Service	E	E	E	A	A	
Approach Delay (s)	57.9			2.2	3.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	4	764	9	2	5	83	1003	11	5	770	72
Future Volume (vph)	359	4	764	9	2	5	83	1003	11	5	770	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	370	4	788	9	2	5	86	1034	11	5	794	74
RTOR Reduction (vph)	0	0	103	0	5	0	0	0	7	0	6	0
Lane Group Flow (vph)	189	185	685	0	11	0	86	1034	4	5	862	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	57.4	57.4	57.4		1.6		8.0	45.0	45.0	0.8	37.8	
Effective Green, g (s)	57.4	57.4	57.4		1.6		8.0	45.0	45.0	0.8	37.8	
Actuated g/C Ratio	0.46	0.46	0.46		0.01		0.06	0.36	0.36	0.01	0.30	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	771	774	726		22		113	1274	569	11	1056	
v/s Ratio Prot	0.11	0.11			c0.01		c0.05	c0.29		0.00	0.25	
v/s Ratio Perm			c0.43						0.00			
v/c Ratio	0.25	0.24	0.94		0.50		0.76	0.81	0.01	0.45	0.82	
Uniform Delay, d1	20.6	20.5	32.3		61.3		57.6	36.2	25.7	61.9	40.4	
Progression Factor	1.00	1.00	1.00		1.00		0.62	1.26	1.00	0.97	0.94	
Incremental Delay, d2	0.1	0.1	20.5		6.4		7.9	1.8	0.0	10.2	6.8	
Delay (s)	20.7	20.6	52.8		67.7		43.8	47.3	25.7	70.3	44.9	
Level of Service	C	C	D		E		D	D	C	E	D	
Approach Delay (s)		42.4			67.7			46.8			45.0	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	48	0	243	11	841	194	949	583	10
Future Volume (vph)	0	13	1	48	0	243	11	841	194	949	583	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3440		1770	3531	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3440		1770	3531	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	49	0	251	11	867	200	978	601	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	16	0	0	0	0
Lane Group Flow (vph)	0	13	0	0	49	245	11	1051	0	978	611	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.4			12.4	83.5	1.4	32.1		66.2	96.9	
Effective Green, g (s)		12.4			12.4	83.5	1.4	32.1		66.2	96.9	
Actuated g/C Ratio		0.10			0.10	0.67	0.01	0.26		0.53	0.78	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		183			138	1057	19	883		937	2737	
v/s Ratio Prot		0.01				0.15	0.01	c0.31		c0.55	0.17	
v/s Ratio Perm					c0.04							
v/c Ratio		0.07			0.36	0.23	0.58	1.19		1.04	0.22	
Uniform Delay, d1		51.1			52.6	8.2	61.5	46.5		29.4	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.85	0.79	
Incremental Delay, d2		0.1			0.6	0.0	23.8	97.1		33.4	0.1	
Delay (s)		51.1			53.1	8.2	85.3	143.5		58.4	3.1	
Level of Service		D			D	A	F	F		E	A	
Approach Delay (s)		51.1			15.5			142.9			37.2	
Approach LOS		D			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	73.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Near Term Year 2021
With Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	881	2359	655	33	1017	99	69	68	13	58	53	121
Future Volume (vph)	881	2359	655	33	1017	99	69	68	13	58	53	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.5	6.0	6.0	5.5	6.2		5.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6323		2841	3016		3204	1592	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6323		2841	3016		3204	1592	2882
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	937	2510	697	35	1082	105	73	72	14	62	56	129
RTOR Reduction (vph)	0	0	113	0	6	0	0	7	0	0	0	0
Lane Group Flow (vph)	937	2510	584	35	1181	0	66	86	0	62	69	116
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	62.3	133.6	133.6	7.5	78.6		13.1	13.1		15.1	15.1	82.7
Effective Green, g (s)	62.3	133.6	133.6	6.5	78.6		12.1	13.1		15.1	15.1	82.7
Actuated g/C Ratio	0.33	0.70	0.70	0.03	0.41		0.06	0.07		0.08	0.08	0.44
Clearance Time (s)	4.5	6.0	6.0	4.5	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1050	3456	1113	56	2615		180	207		254	126	1254
v/s Ratio Prot	c0.29	c0.51		0.02	0.19		0.02	c0.03		0.02	c0.04	0.04
v/s Ratio Perm			0.37									
v/c Ratio	0.89	0.73	0.52	0.62	0.45		0.37	0.41		0.24	0.55	0.09
Uniform Delay, d1	60.7	17.1	13.3	90.5	40.2		85.3	84.8		82.1	84.2	31.6
Progression Factor	1.00	1.00	1.00	1.09	0.18		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.8	1.4	1.8	13.4	0.5		3.0	3.2		0.7	6.2	0.0
Delay (s)	70.4	18.5	15.0	112.0	7.6		88.3	87.9		82.8	90.4	31.6
Level of Service	E	B	B	F	A		F	F		F	F	C
Approach Delay (s)		29.6			10.6			88.1			60.9	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.7
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	2157	41	162	1079	498	6	21	26	57	18	50
Future Volume (vph)	250	2157	41	162	1079	498	6	21	26	57	18	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4845		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4845		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	263	2271	43	171	1136	524	6	22	27	60	19	53
RTOR Reduction (vph)	0	1	0	0	28	0	0	0	26	0	0	49
Lane Group Flow (vph)	263	2313	0	171	1632	0	6	22	1	60	19	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	19.9	138.7		14.5	133.1		1.9	9.0	9.0	7.6	14.4	14.4
Effective Green, g (s)	19.9	138.7		14.5	133.1		1.9	9.0	9.0	7.6	14.4	14.4
Actuated g/C Ratio	0.10	0.73		0.08	0.70		0.01	0.05	0.05	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	335	3701		244	3394		16	82	74	128	141	119
v/s Ratio Prot	c0.08	c0.46		0.05	0.34		0.00	c0.01		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.79	0.63		0.70	0.48		0.38	0.27	0.02	0.47	0.13	0.03
Uniform Delay, d1	83.0	12.7		85.6	12.8		93.5	87.3	86.3	89.2	82.0	81.4
Progression Factor	0.92	0.73		1.05	2.54		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.6	0.6		5.3	0.4		14.1	1.5	0.1	1.0	0.3	0.1
Delay (s)	83.6	9.9		94.9	33.0		107.6	88.8	86.4	90.2	82.2	81.4
Level of Service	F	A		F	C		F	F	F	F	F	F
Approach Delay (s)		17.4			38.8			89.7			85.5	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	567	1221	337	317	1589	1203	30	69	94	103	27	103
Future Volume (vph)	567	1221	337	317	1589	1203	30	69	94	103	27	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4920		1652	5085	1583	1652	3086	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4920		1652	5085	1583	1652	3086	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	585	1259	347	327	1638	1240	31	71	97	106	28	106
RTOR Reduction (vph)	0	19	0	0	0	0	0	42	49	0	0	98
Lane Group Flow (vph)	585	1587	0	327	1638	1240	31	74	3	106	28	8
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	68.6	108.6		42.1	82.2	190.0	4.8	11.3	11.3	8.3	14.8	14.8
Effective Green, g (s)	68.6	108.6		42.1	82.2	190.0	4.8	11.3	11.3	8.3	14.8	14.8
Actuated g/C Ratio	0.36	0.57		0.22	0.43	1.00	0.03	0.06	0.06	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	596	2812		366	2199	1583	41	183	88	139	303	123
v/s Ratio Prot	c0.35	0.32		c0.20	0.32		0.02	0.02		0.03	0.01	
v/s Ratio Perm						c0.78			0.00			0.01
v/c Ratio	0.98	0.56		0.89	0.74	0.78	0.76	0.40	0.04	0.76	0.09	0.07
Uniform Delay, d1	60.1	25.7		71.8	45.1	0.0	92.0	86.1	84.2	89.9	81.4	81.2
Progression Factor	1.07	1.34		1.07	0.56	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.3	0.7		13.5	1.2	2.1	55.2	1.8	0.2	19.7	0.3	0.5
Delay (s)	92.8	35.0		90.1	26.6	2.1	147.2	87.9	84.4	109.5	81.6	81.7
Level of Service	F	D		F	C	A	F	F	F	F	F	F
Approach Delay (s)		50.5			23.6			96.2			94.0	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	840	286	97	2612	68	84	6	16	10	14	235
Future Volume (vph)	313	840	286	97	2612	68	84	6	16	10	14	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	1770	4891		1770	5066		1681	1641		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	1770	4891		1770	5066		1681	1641		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	323	866	295	100	2693	70	87	6	16	10	14	242
RTOR Reduction (vph)	0	21	0	0	1	0	0	9	0	0	0	113
Lane Group Flow (vph)	323	1140	0	100	2762	0	56	44	0	10	14	129
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	44.6	138.7		15.1	109.4		10.7	10.7		5.3	5.3	49.9
Effective Green, g (s)	44.6	138.7		15.1	109.4		10.7	10.7		5.3	5.3	49.9
Actuated g/C Ratio	0.23	0.73		0.08	0.58		0.06	0.06		0.03	0.03	0.26
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	415	3570		140	2916		94	92		46	51	415
v/s Ratio Prot	c0.18	0.23		0.06	c0.55		c0.03	0.03		0.01	0.01	c0.08
v/s Ratio Perm												
v/c Ratio	0.78	0.32		0.71	0.95		0.60	0.47		0.22	0.27	0.31
Uniform Delay, d1	68.1	9.0		85.3	37.6		87.5	86.9		90.3	90.5	56.3
Progression Factor	0.89	2.48		1.21	0.65		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.0	0.2		8.0	5.2		6.6	1.4		0.9	1.1	0.2
Delay (s)	67.4	22.6		111.3	29.6		94.1	88.3		91.2	91.5	56.4
Level of Service	E	C		F	C		F	F		F	F	E
Approach Delay (s)		32.3			32.5			91.3			59.6	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	733	43	146	2774	161	7	4	31	42	8	35
Future Volume (vph)	95	733	43	146	2774	161	7	4	31	42	8	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5043		1770	5044		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5043		1770	5044		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	101	780	46	155	2951	171	7	4	33	45	9	37
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	32	0	0	34
Lane Group Flow (vph)	101	824	0	155	3120	0	7	4	1	45	9	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.6	135.1		20.9	140.7		0.8	8.2	8.2	6.1	13.5	13.5
Effective Green, g (s)	15.6	135.1		20.9	140.7		0.8	8.2	8.2	6.1	13.5	13.5
Actuated g/C Ratio	0.08	0.71		0.11	0.74		0.00	0.04	0.04	0.03	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	145	3585		194	3735		7	80	68	56	132	112
v/s Ratio Prot	0.06	0.16		c0.09	c0.62		0.00	0.00		c0.03	c0.00	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.70	0.23		0.80	0.84		1.00	0.05	0.02	0.80	0.07	0.02
Uniform Delay, d1	84.9	9.5		82.5	16.8		94.6	87.2	87.1	91.4	82.4	82.1
Progression Factor	1.16	0.18		1.01	0.36		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.8	0.1		8.8	1.0		340.2	0.1	0.0	52.7	0.1	0.0
Delay (s)	109.0	1.8		91.8	7.1		434.8	87.3	87.1	144.1	82.5	82.1
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		13.5			11.1			142.4			112.8	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	461	308	42	2813	149	351	47	35	20	18	35
Future Volume (vph)	62	461	308	42	2813	149	351	47	35	20	18	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4780		1652	5047		1625	1704	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4780		1652	5047		1625	1704	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	63	470	314	43	2870	152	358	48	36	20	18	36
RTOR Reduction (vph)	0	40	0	0	2	0	0	0	31	0	0	35
Lane Group Flow (vph)	63	744	0	43	3020	0	200	206	5	20	18	1
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	14.9	127.0		8.3	119.9		27.7	27.7	27.7	6.8	6.8	6.8
Effective Green, g (s)	14.9	127.0		8.3	119.9		27.7	27.7	27.7	6.8	6.8	6.8
Actuated g/C Ratio	0.08	0.67		0.04	0.63		0.15	0.15	0.15	0.04	0.04	0.04
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	129	3195		72	3184		236	248	230	59	66	60
v/s Ratio Prot	c0.04	0.16		0.03	c0.60		c0.12	0.12		c0.01	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.23		0.60	0.95		0.85	0.83	0.02	0.34	0.27	0.02
Uniform Delay, d1	83.9	12.4		89.2	32.2		79.1	78.9	69.6	89.4	89.2	88.4
Progression Factor	1.19	0.18		1.29	0.41		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.2		6.1	5.9		22.7	19.6	0.0	3.4	2.2	0.1
Delay (s)	100.7	2.4		121.1	19.2		101.8	98.5	69.6	92.8	91.4	88.5
Level of Service	F	A		F	B		F	F	E	F	F	F
Approach Delay (s)		9.7			20.7			97.6			90.4	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	317	79	45	2719	75	169	25	58	4	11	16
Future Volume (vph)	31	317	79	45	2719	75	169	25	58	4	11	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4932		1770	5065		3433	1669		1770	1697	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4932		1770	5065		3433	1669		1770	1697	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	32	323	81	46	2774	77	172	26	59	4	11	16
RTOR Reduction (vph)	0	14	0	0	1	0	0	50	0	0	15	0
Lane Group Flow (vph)	32	390	0	46	2850	0	172	35	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.9	141.7		8.3	143.1		12.6	19.5		0.8	7.7	
Effective Green, g (s)	6.9	141.7		8.3	143.1		12.6	19.5		0.8	7.7	
Actuated g/C Ratio	0.04	0.75		0.04	0.75		0.07	0.10		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	64	3678		77	3814		227	171		7	68	
v/s Ratio Prot	0.02	0.08		c0.03	c0.56		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.50	0.11		0.60	0.75		0.76	0.20		0.57	0.17	
Uniform Delay, d1	89.9	6.7		89.2	13.2		87.2	78.1		94.4	88.1	
Progression Factor	0.84	0.73		1.24	0.16		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.1		0.8	0.1		12.1	0.2		55.0	0.4	
Delay (s)	77.8	4.9		111.3	2.2		99.3	78.3		149.4	88.5	
Level of Service	E	A		F	A		F	E		F	F	
Approach Delay (s)		10.3			4.0			92.3			96.4	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	309	107	755	2756	339	184	164	159	112	289	60
Future Volume (vph)	24	309	107	755	2756	339	184	164	159	112	289	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4889		1652	5002		1652	3421	1531	3204	3448	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4889		1652	5002		1652	3421	1531	3204	3448	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	315	109	770	2812	346	188	167	162	114	295	61
RTOR Reduction (vph)	0	32	0	0	8	0	0	0	29	0	10	0
Lane Group Flow (vph)	24	392	0	770	3150	0	188	167	133	114	346	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.4	32.9		86.2	115.6		25.1	39.5	131.7	10.5	24.5	
Effective Green, g (s)	3.4	32.9		86.2	115.6		25.1	39.5	131.7	10.5	24.5	
Actuated g/C Ratio	0.02	0.17		0.45	0.61		0.13	0.21	0.69	0.06	0.13	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	29	846		749	3043		218	711	1061	177	444	
v/s Ratio Prot	0.01	0.08		c0.47	c0.63		c0.11	0.05	0.09	0.04	c0.10	
v/s Ratio Perm												
v/c Ratio	0.83	0.46		1.03	1.04		0.86	0.23	0.13	0.64	0.78	
Uniform Delay, d1	93.0	70.6		51.9	37.2		80.8	62.7	9.8	87.9	80.1	
Progression Factor	0.98	1.01		0.78	0.54		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	92.0	0.6		28.7	21.2		27.7	0.2	0.1	5.9	8.7	
Delay (s)	183.2	72.1		69.4	41.2		108.5	62.9	9.9	93.8	88.9	
Level of Service	F	E		E	D		F	E	A	F	F	
Approach Delay (s)		78.0			46.7			62.8			90.1	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	54.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	558	11	31	3671	23	35	6	47	64	5	115
Future Volume (vph)	23	558	11	31	3671	23	35	6	47	64	5	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5071		1770	5080			1786	1583	1770	1595	
Flt Permitted	0.95	1.00		0.95	1.00			0.31	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5071		1770	5080			580	1583	1359	1595	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	24	575	11	32	3785	24	36	6	48	66	5	119
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	44	0	34	0
Lane Group Flow (vph)	24	585	0	32	3809	0	0	42	4	66	90	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.3	152.7		7.0	153.4			15.0	15.0	15.0	15.0	
Effective Green, g (s)	6.3	152.7		7.0	153.4			15.0	15.0	15.0	15.0	
Actuated g/C Ratio	0.03	0.80		0.04	0.81			0.08	0.08	0.08	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	58	4075		65	4101			45	124	107	125	
v/s Ratio Prot	0.01	0.12		c0.02	c0.75						0.06	
v/s Ratio Perm								c0.07	0.00	0.05		
v/c Ratio	0.41	0.14		0.49	0.93			0.93	0.03	0.62	0.72	
Uniform Delay, d1	90.0	4.1		89.8	14.1			87.0	80.8	84.7	85.4	
Progression Factor	0.83	2.91		1.07	0.23			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.1		1.1	2.7			107.1	0.0	7.2	15.2	
Delay (s)	76.1	12.1		97.2	6.0			194.1	80.8	91.9	100.6	
Level of Service	E	B		F	A			F	F	F	F	
Approach Delay (s)		14.6			6.8			133.7			97.6	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	609	9	19	3659	32	16	9	39	1	13	38
Future Volume (vph)	7	609	9	19	3659	32	16	9	39	1	13	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5075		1770	5079			1689		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.85		0.45	1.00	
Satd. Flow (perm)	1770	5075		1770	5079			1446		847	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	628	9	20	3772	33	17	9	40	1	13	39
RTOR Reduction (vph)	0	0	0	0	0	0	0	34	0	0	37	0
Lane Group Flow (vph)	7	637	0	20	3805	0	0	32	0	1	15	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	161.2		4.7	164.2			8.8		8.8	8.8	
Effective Green, g (s)	1.4	161.2		4.7	164.2			8.8		8.8	8.8	
Actuated g/C Ratio	0.01	0.85		0.02	0.86			0.05		0.05	0.05	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	4305		43	4389			66		39	76	
v/s Ratio Prot	0.00	0.13		c0.01	c0.75						0.01	
v/s Ratio Perm								c0.02		0.00		
v/c Ratio	0.54	0.15		0.47	0.87			0.48		0.03	0.19	
Uniform Delay, d1	94.0	2.5		91.4	7.0			88.4		86.5	87.2	
Progression Factor	1.35	0.31		0.97	0.94			1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.1		0.3	0.2			2.0		0.1	0.5	
Delay (s)	146.1	0.8		89.3	6.8			90.4		86.6	87.6	
Level of Service	F	A		F	A			F		F	F	
Approach Delay (s)		2.4			7.2			90.4			87.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	727	31	54	3434	34	97	31	78	68	90	203
Future Volume (vph)	48	727	31	54	3434	34	97	31	78	68	90	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5054		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5054		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	49	749	32	56	3540	35	100	32	80	70	93	209
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	71	0	0	87
Lane Group Flow (vph)	49	779	0	56	3575	0	100	32	9	70	93	122
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.3	129.9		10.0	129.1		11.6	21.4	21.4	9.0	18.8	18.8
Effective Green, g (s)	10.3	129.9		10.0	129.1		11.6	21.4	21.4	9.0	18.8	18.8
Actuated g/C Ratio	0.05	0.68		0.05	0.68		0.06	0.11	0.11	0.05	0.10	0.10
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	95	3455		93	3450		108	209	178	83	184	156
v/s Ratio Prot	0.03	0.15		c0.03	c0.70		c0.06	c0.02		0.04	0.05	
v/s Ratio Perm									0.01			c0.08
v/c Ratio	0.52	0.23		0.60	1.04		0.93	0.15	0.05	0.84	0.51	0.79
Uniform Delay, d1	87.4	11.2		88.1	30.5		88.8	76.1	75.2	89.8	81.2	83.6
Progression Factor	0.98	0.44		1.17	0.20		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.2		1.7	19.1		62.2	0.1	0.0	49.0	0.8	20.8
Delay (s)	88.0	5.1		104.6	25.3		151.0	76.2	75.3	138.8	82.0	104.5
Level of Service	F	A		F	C		F	E	E	F	F	F
Approach Delay (s)		10.0			26.5			111.1			105.3	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	671	69	22	3040	14	159	47	17	54	123	220
Future Volume (vph)	42	671	69	22	3040	14	159	47	17	54	123	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5015		1770	5085	1583	1770	3399		1770	3199	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5015		1770	5085	1583	1770	3399		1770	3199	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	45	714	73	23	3234	15	169	50	18	57	131	234
RTOR Reduction (vph)	0	6	0	0	0	6	0	16	0	0	50	0
Lane Group Flow (vph)	45	781	0	23	3234	9	169	52	0	57	315	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	5.9	119.1		4.0	117.2	117.2	21.7	21.7		25.3	25.3	
Effective Green, g (s)	5.9	119.1		4.0	117.2	117.2	21.7	21.7		25.3	25.3	
Actuated g/C Ratio	0.03	0.63		0.02	0.62	0.62	0.11	0.11		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	54	3143		37	3136	976	202	388		235	425	
v/s Ratio Prot	c0.03	0.16		0.01	c0.64		c0.10	0.02		0.03	c0.10	
v/s Ratio Perm						0.01						
v/c Ratio	0.83	0.25		0.62	1.03	0.01	0.84	0.13		0.24	0.90dr	
Uniform Delay, d1	91.6	15.7		92.2	36.4	14.0	82.4	75.7		73.8	79.2	
Progression Factor	0.73	1.72		1.32	0.30	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	61.9	0.2		2.1	15.6	0.0	25.5	0.2		0.8	7.4	
Delay (s)	128.9	27.1		124.3	26.5	14.0	107.9	75.9		74.6	86.6	
Level of Service	F	C		F	C	B	F	E		E	F	
Approach Delay (s)		32.6			27.2			98.7			85.0	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	773	24	174	2758	125	87	292	145	408	499	207
Future Volume (vph)	84	773	24	174	2758	125	87	292	145	408	499	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4724		3204	4916	1478	1711	4746	1478	3433	3384	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4724		3204	4916	1478	1711	4746	1478	3433	3384	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	89	822	26	185	2934	133	93	311	154	434	531	220
RTOR Reduction (vph)	0	1	0	0	0	39	0	0	127	0	24	0
Lane Group Flow (vph)	89	847	0	185	2934	94	93	311	27	434	727	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	6.3	99.5		14.9	108.2	108.2	11.6	33.2	33.2	22.6	44.0	
Effective Green, g (s)	6.3	99.5		14.9	108.2	108.2	11.6	33.2	33.2	22.6	44.0	
Actuated g/C Ratio	0.03	0.52		0.08	0.57	0.57	0.06	0.17	0.17	0.12	0.23	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	106	2473		251	2799	841	104	829	258	408	783	
v/s Ratio Prot	0.03	0.18		c0.06	c0.60		0.05	0.07		c0.13	c0.21	
v/s Ratio Perm						0.06			0.02			
v/c Ratio	0.84	0.34		0.74	1.05	0.11	0.89	0.38	0.10	1.06	0.93	
Uniform Delay, d1	91.3	26.3		85.6	40.9	18.8	88.6	69.2	65.9	83.7	71.5	
Progression Factor	0.97	0.87		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	39.5	0.4		9.3	31.4	0.3	54.6	0.5	0.3	62.5	17.4	
Delay (s)	128.0	23.3		95.0	72.3	19.1	143.2	69.7	66.2	146.2	88.8	
Level of Service	F	C		F	E	B	F	E	E	F	F	
Approach Delay (s)		33.3			71.4			81.0			109.8	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	74.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	258	422	129	88	59	103
Future Volume (vph)	258	422	129	88	59	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3324		1720	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3324		1720	1504
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	284	464	142	97	65	113
RTOR Reduction (vph)	0	0	79	0	23	35
Lane Group Flow (vph)	284	464	160	0	69	51
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	13.1	24.2	7.1		5.4	23.0
Effective Green, g (s)	13.1	24.2	7.1		5.4	23.0
Actuated g/C Ratio	0.34	0.62	0.18		0.14	0.59
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	593	1153	603		237	884
v/s Ratio Prot	c0.16	c0.25	0.05		c0.04	0.03
v/s Ratio Perm						
v/c Ratio	0.48	0.40	0.26		0.29	0.06
Uniform Delay, d1	10.3	3.8	13.8		15.1	3.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.5	0.5		0.7	0.0
Delay (s)	10.5	4.3	14.2		15.8	3.5
Level of Service	B	A	B		B	A
Approach Delay (s)		6.6	14.2		9.8	
Approach LOS		A	B		A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	285	6	49	698	196	1	1	8	41	1	9
Future Volume (vph)	55	285	6	49	698	196	1	1	8	41	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1857		1770	1802			1653			1749	
Flt Permitted	0.24	1.00		0.58	1.00			0.96			1.00	
Satd. Flow (perm)	444	1857		1075	1802			1589			1819	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	294	6	51	720	202	1	1	8	42	1	9
RTOR Reduction (vph)	0	1	0	0	10	0	0	8	0	0	9	0
Lane Group Flow (vph)	57	299	0	51	912	0	0	2	0	0	43	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	29.7	29.7		29.1	29.1			2.3			2.3	
Effective Green, g (s)	29.7	29.7		29.1	29.1			2.3			2.3	
Actuated g/C Ratio	0.71	0.71		0.70	0.70			0.06			0.06	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	315	1319		748	1254			87			100	
v/s Ratio Prot		0.16			c0.51							
v/s Ratio Perm	0.13			0.05				0.00			c0.02	
v/c Ratio	0.18	0.23		0.07	0.73			0.03			0.43	
Uniform Delay, d1	2.0	2.1		2.0	3.9			18.7			19.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	2.1			0.0			1.1	
Delay (s)	2.3	2.2		2.1	6.0			18.7			20.2	
Level of Service	A	A		A	A			B			C	
Approach Delay (s)		2.2			5.8			18.7			20.2	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	41.8	Sum of lost time (s)	10.4
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	131	133	64	324	93	334	489	104	201	1018	369
Future Volume (vph)	65	131	133	64	324	93	334	489	104	201	1018	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2040		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2040		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	141	143	69	348	100	359	526	112	216	1095	397
RTOR Reduction (vph)	0	0	92	0	7	0	0	0	42	0	0	60
Lane Group Flow (vph)	70	141	51	69	441	0	359	526	70	216	1095	337
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	16.6	16.6	47.5	29.5	29.5		30.9	49.8	79.3	16.9	35.8	58.1
Effective Green, g (s)	16.6	16.6	47.5	29.5	29.5		30.9	49.8	79.3	16.9	35.8	58.1
Actuated g/C Ratio	0.12	0.12	0.36	0.22	0.22		0.23	0.37	0.59	0.13	0.27	0.43
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	205	215	543	364	450		395	1230	938	208	916	665
v/s Ratio Prot	0.04	c0.08	0.03	0.04	c0.22		c0.21	0.16	0.04	c0.13	c0.32	0.22
v/s Ratio Perm												
v/c Ratio	0.34	0.66	0.09	0.19	0.98		0.91	0.43	0.08	1.04	1.20	0.51
Uniform Delay, d1	53.6	55.8	28.7	42.4	51.8		50.0	31.3	11.6	58.4	48.9	27.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	5.8	0.0	0.2	36.7		23.6	0.3	0.0	72.8	98.7	0.8
Delay (s)	54.1	61.6	28.8	42.6	88.5		73.7	31.6	11.6	131.2	147.6	28.2
Level of Service	D	E	C	D	F		E	C	B	F	F	C
Approach Delay (s)		46.8			82.4			44.5			117.8	
Approach LOS		D			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	85.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	133.7	Sum of lost time (s)	20.9
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	110	1	13	0	551	185	20	246	1
Future Volume (vph)	0	0	1	110	1	13	0	551	185	20	246	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			6.3	6.3		5.5	5.5	4.6	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1862	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1862	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	1	124	1	15	0	619	208	22	276	1
RTOR Reduction (vph)	0	1	0	0	0	13	0	0	60	0	0	0
Lane Group Flow (vph)	0	0	0	0	125	2	0	619	148	22	277	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			8.2	8.2		27.8	40.5	0.6	33.0	
Effective Green, g (s)		0.0			7.2	7.2		26.8	39.5	0.6	33.0	
Actuated g/C Ratio		0.00			0.13	0.13		0.48	0.71	0.01	0.59	
Clearance Time (s)		4.0			5.3	5.3		4.5		4.6	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		0			229	204		896	1122	19	1103	
v/s Ratio Prot					c0.07			c0.33	0.09	c0.01	0.15	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.55	0.01		0.69	0.13	1.16	0.25	
Uniform Delay, d1		27.9			22.7	21.1		11.2	2.6	27.6	5.4	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.4	0.0		2.3	0.1	260.5	0.1	
Delay (s)		27.9			24.1	21.1		13.5	2.7	288.1	5.6	
Level of Service		C			C	C		B	A	F	A	
Approach Delay (s)		27.9			23.8			10.8			26.3	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	55.7	Sum of lost time (s)	21.4
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	240	65	90	654	37	211	95	83	3	13	21
Future Volume (vph)	129	240	65	90	654	37	211	95	83	3	13	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3512		1770	1863	1583	1770	1694	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3429		1770	3512		1770	1863	1583	1770	1694	
Peak-hour factor, PHF	0.89	0.89	0.92	0.89	0.89	0.92	0.89	0.89	0.89	0.89	0.89	0.92
Adj. Flow (vph)	145	270	71	101	735	40	237	107	93	3	15	23
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	63	0	22	0
Lane Group Flow (vph)	145	317	0	101	771	0	237	107	30	3	16	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	9.1	23.4		4.2	19.0		7.4	9.5	18.6	0.6	2.7	
Effective Green, g (s)	9.1	23.4		4.2	19.0		7.4	9.5	18.6	0.6	2.7	
Actuated g/C Ratio	0.16	0.41		0.07	0.33		0.13	0.17	0.32	0.01	0.05	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	280	1395		129	1160		227	307	512	18	79	
v/s Ratio Prot	c0.08	0.09		c0.06	c0.22		c0.13	c0.06	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.52	0.23		0.78	0.66		1.04	0.35	0.06	0.17	0.20	
Uniform Delay, d1	22.2	11.1		26.2	16.5		25.1	21.3	13.4	28.2	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.1		24.2	1.4		71.7	0.3	0.0	1.6	0.5	
Delay (s)	22.9	11.2		50.4	18.0		96.8	21.5	13.4	29.8	26.8	
Level of Service	C	B		D	B		F	C	B	C	C	
Approach Delay (s)		14.7			21.7			60.6			27.0	
Approach LOS		B			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	19.8
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	1289	83	36	1176	459	22	26	27	59	14	51
Future Volume (vph)	142	1289	83	36	1176	459	22	26	27	59	14	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3045	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4871		1681	1764	1583	1610	3045	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Adj. Flow (vph)	158	1432	92	40	1307	510	24	29	30	66	16	55
RTOR Reduction (vph)	0	0	29	0	32	0	0	0	29	0	50	0
Lane Group Flow (vph)	158	1432	63	40	1785	0	22	31	1	48	39	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	16.8	96.5	96.5	5.2	84.9		6.1	6.1	6.1	12.7	12.7	
Effective Green, g (s)	16.8	96.5	96.5	5.2	84.9		6.1	6.1	6.1	12.7	12.7	
Actuated g/C Ratio	0.12	0.69	0.69	0.04	0.61		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	212	3505	1091	127	2953		73	76	68	146	276	
v/s Ratio Prot	c0.09	0.28		0.01	c0.37		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.75	0.41	0.06	0.31	0.60		0.30	0.41	0.02	0.33	0.14	
Uniform Delay, d1	59.5	9.4	7.0	65.7	17.1		64.9	65.2	64.1	59.7	58.6	
Progression Factor	1.00	1.00	1.00	0.85	0.67		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.7	0.4	0.1	0.4	0.8		0.8	1.3	0.0	3.8	0.7	
Delay (s)	71.3	9.8	7.1	56.4	12.2		65.7	66.5	64.1	63.4	59.3	
Level of Service	E	A	A	E	B		E	E	E	E	E	
Approach Delay (s)		15.4			13.1			65.4			60.8	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	331	930	136	359	1518	1385	117	222	324	209	44	37
Future Volume (vph)	331	930	136	359	1518	1385	117	222	324	209	44	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	345	969	142	374	1581	1443	122	231	338	218	46	39
RTOR Reduction (vph)	0	0	66	0	0	172	0	0	36	0	0	27
Lane Group Flow (vph)	345	969	76	374	1581	1271	122	231	302	218	46	12
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	18.6	66.1	66.1	19.7	67.9	84.6	13.6	23.0	47.7	11.4	20.5	44.4
Effective Green, g (s)	18.6	66.1	66.1	19.7	67.9	84.6	13.6	23.0	47.7	11.4	20.5	44.4
Actuated g/C Ratio	0.13	0.47	0.47	0.14	0.49	0.60	0.10	0.16	0.34	0.08	0.15	0.32
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	456	2400	747	483	2466	1684	333	581	949	279	518	502
v/s Ratio Prot	0.10	0.19		c0.11	0.31	c0.46	0.04	c0.07	0.11	0.06	0.01	0.01
v/s Ratio Perm			0.05									
v/c Ratio	0.76	0.40	0.10	0.77	0.64	0.75	0.37	0.40	0.32	0.78	0.09	0.02
Uniform Delay, d1	58.5	24.1	20.5	58.0	26.9	20.2	59.2	52.3	34.1	63.1	51.7	32.9
Progression Factor	1.00	0.67	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	0.5	0.3	6.9	1.3	1.8	0.2	1.0	0.4	12.3	0.1	0.0
Delay (s)	64.5	16.6	17.4	64.9	28.2	21.9	59.4	53.3	34.6	75.4	51.8	32.9
Level of Service	E	B	B	E	C	C	E	D	C	E	D	C
Approach Delay (s)		28.0			29.6			45.2			66.3	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1056	418	0	1695	561	0	0	0	758	0	1613
Future Volume (vph)	0	1056	418	0	1695	561	0	0	0	758	0	1613
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				5.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1123	445	0	1803	597	0	0	0	806	0	1716
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	1123	445	0	1803	597	0	0	0	806	0	1696
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		45.5	120.0		45.5	120.0				62.3		62.3
Effective Green, g (s)		45.5	120.0		45.5	115.3				61.3		62.3
Actuated g/C Ratio		0.38	1.00		0.38	0.96				0.51		0.52
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		1928	2787		1928	1520				1753		1446
v/s Ratio Prot		0.22			c0.35	0.38				0.23		c0.61
v/s Ratio Perm			0.16									
v/c Ratio		0.58	0.16		0.94	0.39				0.46		1.17
Uniform Delay, d1		29.7	0.0		35.8	0.1				18.8		28.9
Progression Factor		1.00	1.00		1.06	1.00				1.00		1.00
Incremental Delay, d2		1.3	0.1		9.2	0.1				0.1		85.6
Delay (s)		31.0	0.1		47.3	0.2				18.8		114.4
Level of Service		C	A		D	A				B		F
Approach Delay (s)		22.2			35.6			0.0			83.9	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	51.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1104	708	0	1384	581	874	0	320	0	0	0
Future Volume (vph)	0	1104	708	0	1384	581	874	0	320	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1162	745	0	1457	612	920	0	337	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	35	0	0	0
Lane Group Flow (vph)	0	1162	745	0	1457	612	920	0	302	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		67.1	120.0		67.1	120.0	40.7		40.7			
Effective Green, g (s)		67.1	115.3		67.1	120.0	40.7		40.7			
Actuated g/C Ratio		0.56	0.96		0.56	1.00	0.34		0.34			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2843	1520		3583	1583	1164		945			
v/s Ratio Prot		0.23	c0.47		0.23		c0.27					
v/s Ratio Perm						0.39			0.11			
v/c Ratio		0.41	0.49		0.41	0.39	0.79		0.32			
Uniform Delay, d1		15.1	0.2		15.1	0.0	35.8		29.4			
Progression Factor		0.82	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	0.1		0.3	0.7	3.5		0.1			
Delay (s)		12.7	0.3		15.4	0.7	39.3		29.5			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		7.9			11.1			36.7			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	313	573	245	1421	0	0
Future Volume (vph)	313	573	245	1421	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	333	610	261	1512	0	0
RTOR Reduction (vph)	0	168	0	0	0	0
Lane Group Flow (vph)	333	442	261	1512	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	57.0	57.0	21.3	90.0		
Effective Green, g (s)	57.0	57.0	21.3	90.0		
Actuated g/C Ratio	0.63	0.63	0.24	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2241	1765	812	5085		
v/s Ratio Prot	0.09		0.08	c0.30		
v/s Ratio Perm		0.16				
v/c Ratio	0.15	0.25	0.32	0.30		
Uniform Delay, d1	6.7	7.2	28.4	0.0		
Progression Factor	1.00	1.00	0.90	1.00		
Incremental Delay, d2	0.1	0.3	0.1	0.1		
Delay (s)	6.8	7.5	25.5	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	7.3			3.9	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	306	0	0	694	927	908
Future Volume (vph)	0	306	0	0	694	927	908
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	319	0	0	723	966	946
RTOR Reduction (vph)	0	0	0	0	0	0	394
Lane Group Flow (vph)	0	319	0	0	723	966	552
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		45.2			45.2	33.1	33.1
Effective Green, g (s)		45.2			45.2	33.1	33.1
Actuated g/C Ratio		0.50			0.50	0.37	0.37
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1777			2553	1262	1024
v/s Ratio Prot		0.09			c0.14	c0.28	
v/s Ratio Perm							0.20
v/c Ratio		0.18			0.28	0.77	0.54
Uniform Delay, d1		12.3			13.0	25.0	22.4
Progression Factor		0.70			1.00	1.00	1.00
Incremental Delay, d2		0.2			0.3	2.5	0.3
Delay (s)		8.8			13.3	27.6	22.7
Level of Service		A			B	C	C
Approach Delay (s)		8.8			13.3	25.2	
Approach LOS		A			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1170	264	537	1874	104	909
Future Volume (vph)	1170	264	537	1874	104	909
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6226		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6226		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1232	287	565	1973	109	957
RTOR Reduction (vph)	26	0	0	0	0	0
Lane Group Flow (vph)	1493	0	565	1973	109	957
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	59.9		29.5	94.1	45.5	79.4
Effective Green, g (s)	59.9		29.5	94.1	45.5	79.4
Actuated g/C Ratio	0.40		0.20	0.63	0.30	0.53
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2486		675	4019	536	1475
v/s Ratio Prot	c0.24		c0.16	0.31	0.06	c0.34
v/s Ratio Perm						
v/c Ratio	0.60		0.84	0.49	0.20	0.65
Uniform Delay, d1	35.6		57.9	15.1	38.8	25.3
Progression Factor	1.00		1.43	0.36	1.00	1.00
Incremental Delay, d2	1.1		6.4	0.3	0.1	0.7
Delay (s)	36.7		89.2	5.7	38.9	26.1
Level of Service	D		F	A	D	C
Approach Delay (s)	36.7			24.3	27.4	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	266	1860	0	2194	957	161	155
Future Volume (vph)	266	1860	0	2194	957	161	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.93	
Flt Protected	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (prot)	3433	5085		5085	1583	3265	
Flt Permitted	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (perm)	3433	5085		5085	1583	3265	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	280	1958	0	2309	1007	169	163
RTOR Reduction (vph)	0	0	0	0	10	128	0
Lane Group Flow (vph)	280	1958	0	2309	997	204	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	16.2	115.2		95.5	125.0	24.1	
Effective Green, g (s)	16.2	115.2		95.5	125.0	24.1	
Actuated g/C Ratio	0.11	0.77		0.64	0.83	0.16	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	370	3905		3237	1319	524	
v/s Ratio Prot	c0.08	0.39		0.45	c0.63	0.06	
v/s Ratio Perm							
v/c Ratio	0.76	0.50		0.71	0.76	0.39	
Uniform Delay, d1	65.0	6.6		18.1	5.6	56.4	
Progression Factor	0.95	0.66		1.95	2.66	1.00	
Incremental Delay, d2	6.2	0.4		0.8	1.7	0.8	
Delay (s)	68.0	4.7		36.2	16.7	57.2	
Level of Service	E	A		D	B	E	
Approach Delay (s)		12.6		30.3		57.2	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	66	1917	3059	63	34	69
Future Volume (vph)	66	1917	3059	63	34	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	69	1997	3186	66	35	72
RTOR Reduction (vph)	0	0	0	7	0	68
Lane Group Flow (vph)	69	1997	3186	59	35	4
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.5	131.3	116.8	116.8	8.4	8.4
Effective Green, g (s)	10.5	131.3	116.8	116.8	8.4	8.4
Actuated g/C Ratio	0.07	0.88	0.78	0.78	0.06	0.06
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	123	4451	3959	1232	99	88
v/s Ratio Prot	c0.04	0.39	c0.63		c0.02	
v/s Ratio Perm				0.04		0.00
v/c Ratio	0.56	0.45	0.80	0.05	0.35	0.05
Uniform Delay, d1	67.5	1.9	9.8	3.8	68.2	67.0
Progression Factor	1.17	0.39	1.11	0.20	1.00	1.00
Incremental Delay, d2	3.1	0.3	1.1	0.0	2.2	0.2
Delay (s)	82.4	1.0	12.0	0.8	70.4	67.2
Level of Service	F	A	B	A	E	E
Approach Delay (s)		3.8	11.8		68.2	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	110	1984	0	2904	73	38	85
Future Volume (vph)	110	1984	0	2904	73	38	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	6.7		5.7	5.7	5.9	5.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.92	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3250	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3250	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	117	2111	0	3089	78	40	90
RTOR Reduction (vph)	0	0	0	0	5	43	43
Lane Group Flow (vph)	117	2111	0	3089	73	42	2
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	15.2	131.9		111.8	111.8	7.5	7.5
Effective Green, g (s)	14.2	130.9		111.8	111.8	6.5	6.5
Actuated g/C Ratio	0.09	0.87		0.75	0.75	0.04	0.04
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	167	4437		3790	1179	140	62
v/s Ratio Prot	c0.07	0.42		c0.61		c0.01	
v/s Ratio Perm					0.05		0.00
v/c Ratio	0.70	0.48		0.82	0.06	0.30	0.03
Uniform Delay, d1	65.8	2.1		12.4	5.1	69.5	68.7
Progression Factor	0.87	2.08		2.62	2.22	1.00	1.00
Incremental Delay, d2	11.7	0.3		0.2	0.0	1.2	0.2
Delay (s)	68.7	4.7		32.7	11.3	70.7	68.9
Level of Service	E	A		C	B	E	E
Approach Delay (s)		8.0		32.1		70.1	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	893	1120	24	21	2230	102	19	3	10	52	2	1048
Future Volume (vph)	893	1120	24	21	2230	102	19	3	10	52	2	1048
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5069		3204	5052		1652	1643		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	940	1179	25	22	2347	107	20	3	11	55	2	1103
RTOR Reduction (vph)	0	1	0	0	3	0	0	11	0	0	0	307
Lane Group Flow (vph)	940	1203	0	22	2451	0	20	3	0	29	28	796
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	38.6	94.5		2.4	58.4		4.5	4.5		28.0	28.0	72.1
Effective Green, g (s)	38.6	94.5		2.4	58.4		4.5	4.5		28.0	28.0	72.1
Actuated g/C Ratio	0.26	0.63		0.02	0.39		0.03	0.03		0.19	0.19	0.48
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	824	3193		51	1966		49	49		303	305	1339
v/s Ratio Prot	c0.29	0.24		0.01	c0.49		c0.01	0.00		0.02	0.02	c0.29
v/s Ratio Perm												
v/c Ratio	1.14	0.38		0.43	1.25		0.41	0.07		0.10	0.09	0.59
Uniform Delay, d1	55.7	13.5		73.1	45.8		71.4	70.7		50.5	50.5	28.3
Progression Factor	0.89	1.27		1.18	0.79		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	76.5	0.3		1.4	114.0		2.0	0.2		0.1	0.1	0.7
Delay (s)	126.1	17.4		87.9	149.9		73.5	70.9		50.6	50.6	29.0
Level of Service	F	B		F	F		E	E		D	D	C
Approach Delay (s)		65.1			149.4			72.4			30.1	
Approach LOS		E			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	94.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	145	830	0	2433	653	231	108
Future Volume (vph)	145	830	0	2433	653	231	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3198	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3198	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	149	856	0	2508	673	238	111
RTOR Reduction (vph)	0	0	0	0	41	3	89
Lane Group Flow (vph)	149	856	0	2508	632	246	11
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	17.6	123.1		100.8	123.1	16.3	16.3
Effective Green, g (s)	17.6	123.1		100.8	123.1	16.3	16.3
Actuated g/C Ratio	0.12	0.82		0.67	0.82	0.11	0.11
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	200	4034		3303	1212	347	172
v/s Ratio Prot	c0.09	0.17		c0.51	0.43	c0.08	
v/s Ratio Perm							0.01
v/c Ratio	0.74	0.21		0.76	0.52	0.71	0.06
Uniform Delay, d1	64.0	2.9		16.5	4.2	64.6	60.0
Progression Factor	1.22	0.21		1.54	1.93	1.00	1.00
Incremental Delay, d2	11.8	0.1		0.2	0.0	5.4	0.1
Delay (s)	89.9	0.7		25.5	8.2	69.9	60.1
Level of Service	F	A		C	A	E	E
Approach Delay (s)		14.0		21.8		67.1	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	165	789	3112	274	667	532
Future Volume (vph)	165	789	3112	274	667	532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4640	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4640	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	168	805	3176	280	681	543
RTOR Reduction (vph)	0	0	0	44	0	1
Lane Group Flow (vph)	168	805	3204	208	681	542
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	8.2	107.0	94.6	94.6	32.0	45.2
Effective Green, g (s)	8.2	107.0	94.6	94.6	32.0	45.2
Actuated g/C Ratio	0.05	0.71	0.63	0.63	0.21	0.30
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	175	3385	2926	801	683	783
v/s Ratio Prot	c0.05	0.17	c0.69		c0.21	0.21
v/s Ratio Perm				0.16		
v/c Ratio	0.96	0.24	1.09	0.26	1.00	0.69
Uniform Delay, d1	70.7	7.4	27.7	12.2	59.0	46.3
Progression Factor	0.88	1.25	1.22	0.94	1.00	1.00
Incremental Delay, d2	54.6	0.2	47.2	0.6	33.4	2.1
Delay (s)	117.1	9.4	80.9	12.1	92.4	48.4
Level of Service	F	A	F	B	F	D
Approach Delay (s)		28.0	75.9		72.9	
Approach LOS		C	E		E	

Intersection Summary			
HCM 2000 Control Delay	67.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	1202	221	190	2661	29	188	24	140	33	71	78
Future Volume (vph)	22	1202	221	190	2661	29	188	24	140	33	71	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1587	1504		1739	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1587	1504		1739	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1227	226	194	2715	30	192	24	143	34	72	80
RTOR Reduction (vph)	0	0	82	0	1	0	0	10	100	0	18	0
Lane Group Flow (vph)	22	1227	144	194	2744	0	125	112	12	0	168	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	4.5	87.7	87.7	12.8	95.6		15.6	15.6	15.6		14.5	
Effective Green, g (s)	4.5	87.7	87.7	12.8	95.6		15.6	15.6	15.6		14.5	
Actuated g/C Ratio	0.03	0.58	0.58	0.09	0.64		0.10	0.10	0.10		0.10	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	53	2973	925	292	3235		174	165	156		168	
v/s Ratio Prot	0.01	0.24		c0.06	c0.54		c0.07	0.07			c0.10	
v/s Ratio Perm			0.09						0.01			
v/c Ratio	0.42	0.41	0.16	0.66	0.85		0.72	0.68	0.07		1.00	
Uniform Delay, d1	71.5	17.1	14.2	66.5	21.5		65.1	64.8	60.7		67.7	
Progression Factor	1.35	0.47	0.14	1.05	0.69		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.6	0.3	0.3	2.6	1.8		11.2	8.4	0.1		68.7	
Delay (s)	98.1	8.4	2.4	72.6	16.7		76.2	73.2	60.8		136.5	
Level of Service	F	A	A	E	B		E	E	E		F	
Approach Delay (s)		8.8			20.4			70.4			136.5	
Approach LOS		A			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	101	1265	0	2607	177	166	304
Future Volume (vph)	101	1265	0	2607	177	166	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5037		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5037		3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	107	1346	0	2773	188	177	323
RTOR Reduction (vph)	0	0	0	4	0	0	70
Lane Group Flow (vph)	107	1346	0	2957	0	177	253
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	9.4	120.3		106.3		20.0	20.0
Effective Green, g (s)	9.4	120.3		106.3		20.0	20.0
Actuated g/C Ratio	0.06	0.80		0.71		0.13	0.13
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	215	4078		3569		457	371
v/s Ratio Prot	c0.03	0.26		c0.59		0.05	
v/s Ratio Perm							c0.09
v/c Ratio	0.50	0.33		0.83		0.39	0.68
Uniform Delay, d1	68.0	4.0		15.4		59.4	62.0
Progression Factor	0.93	0.40		0.56		1.00	1.00
Incremental Delay, d2	0.6	0.2		0.2		0.7	5.5
Delay (s)	63.8	1.8		8.9		60.1	67.5
Level of Service	E	A		A		E	E
Approach Delay (s)		6.4		8.9		64.9	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	965	478	9	2416	112	897	322	9	187	288	127
Future Volume (vph)	41	965	478	9	2416	112	897	322	9	187	288	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5052		2841	3020		3204	3376	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5052		2841	3020		3204	3376	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	42	985	488	9	2465	114	915	329	9	191	294	130
RTOR Reduction (vph)	0	0	43	0	3	0	0	1	0	0	34	0
Lane Group Flow (vph)	42	985	445	9	2576	0	622	630	0	191	390	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.1	73.1	109.8	1.6	70.5		36.7	36.7		16.7	16.7	
Effective Green, g (s)	4.1	73.1	109.8	1.6	70.5		36.7	36.7		16.7	16.7	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47		0.24	0.24		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2395	1081	19	2374		695	738		356	375	
v/s Ratio Prot	c0.02	0.20	0.30	0.00	c0.51		c0.22	0.21		0.06	c0.12	
v/s Ratio Perm												
v/c Ratio	0.79	0.41	0.41	0.47	1.09		0.89	0.85		0.54	1.04	
Uniform Delay, d1	72.5	24.7	7.7	73.8	39.8		54.8	54.1		63.0	66.7	
Progression Factor	0.89	1.69	4.38	1.22	0.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.1	0.5	0.2	6.2	45.8		14.0	9.5		1.6	57.4	
Delay (s)	117.7	42.3	34.0	96.5	77.2		68.8	63.6		64.5	124.1	
Level of Service	F	D	C	F	E		E	E		E	F	
Approach Delay (s)		41.7			77.2			66.2			105.6	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	68.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	976	36	21	1619	15	160	9	58	40	1	39
Future Volume (vph)	33	976	36	21	1619	15	160	9	58	40	1	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.2		5.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5058		1770	5078			1737			1697	
Flt Permitted	0.95	1.00		0.95	1.00			0.73			0.80	
Satd. Flow (perm)	1770	5058		1770	5078			1307			1397	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	1061	39	23	1760	16	174	10	63	43	1	42
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	27	0
Lane Group Flow (vph)	36	1098	0	23	1776	0	0	238	0	0	59	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.6	99.3		4.5	96.7			31.6			31.6	
Effective Green, g (s)	5.6	99.3		3.5	96.7			31.6			31.6	
Actuated g/C Ratio	0.04	0.66		0.02	0.64			0.21			0.21	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	66	3348		41	3273			275			294	
v/s Ratio Prot	c0.02	0.22		0.01	c0.35							
v/s Ratio Perm								c0.18			0.04	
v/c Ratio	0.55	0.33		0.56	0.54			0.86			0.20	
Uniform Delay, d1	70.9	10.9		72.5	14.6			57.1			48.8	
Progression Factor	1.55	0.08		0.97	1.26			1.00			1.00	
Incremental Delay, d2	4.5	0.2		8.0	0.5			22.7			0.1	
Delay (s)	114.4	1.1		78.3	18.9			79.8			48.9	
Level of Service	F	A		E	B			E			D	
Approach Delay (s)		4.7			19.6			79.8			48.9	
Approach LOS		A			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	524	550	0	564	872	0	0	0	139	0	1108
Future Volume (vph)	0	524	550	0	564	872	0	0	0	139	0	1108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				4.7		4.7
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	589	618	0	634	980	0	0	0	156	0	1245
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	51
Lane Group Flow (vph)	0	589	618	0	634	980	0	0	0	156	0	1194
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		56.9	150.0		56.9	150.0				82.4		82.4
Effective Green, g (s)		56.9	150.0		56.9	150.0				82.4		82.4
Actuated g/C Ratio		0.38	1.00		0.38	1.00				0.55		0.55
Clearance Time (s)		6.0			6.0					4.7		4.7
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1342	1583		1342	2787				1885		1530
v/s Ratio Prot		0.17			c0.18					0.05		
v/s Ratio Perm			0.39			0.35						c0.43
v/c Ratio		0.44	0.39		0.47	0.35				0.08		0.78
Uniform Delay, d1		34.7	0.0		35.2	0.0				16.0		26.7
Progression Factor		0.93	1.00		0.87	1.00				1.00		1.00
Incremental Delay, d2		1.0	0.7		1.2	0.3				0.0		2.4
Delay (s)		33.2	0.7		31.7	0.3				16.0		29.1
Level of Service		C	A		C	A				B		C
Approach Delay (s)		16.6			12.7			0.0			27.6	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	201	419	0	1205	114	424	0	614	0	0	0
Future Volume (vph)	0	201	419	0	1205	114	424	0	614	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.1	5.0	6.2		6.2			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	212	441	0	1268	120	446	0	646	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	544	0	0	0
Lane Group Flow (vph)	0	212	441	0	1268	120	446	0	102	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		113.0	150.0		112.9	150.0	23.8		23.8			
Effective Green, g (s)		113.0	150.0		112.9	150.0	23.8		23.8			
Actuated g/C Ratio		0.75	1.00		0.75	1.00	0.16		0.16			
Clearance Time (s)		7.0			7.1		6.2		6.2			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2666	1583		4823	1583	544		442			
v/s Ratio Prot		0.06			0.20		c0.13					
v/s Ratio Perm			c0.28			0.08			0.04			
v/c Ratio		0.08	0.28		0.26	0.08	0.82		0.23			
Uniform Delay, d1		4.9	0.0		5.7	0.0	61.0		55.1			
Progression Factor		0.56	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.4		0.1	0.1	8.9		0.1			
Delay (s)		2.8	0.4		5.9	0.1	70.0		55.2			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		1.2			5.4			61.2			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.3
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	25	74	389	451	170	163	306	70	63	783	159
Future Volume (vph)	16	25	74	389	451	170	163	306	70	63	783	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.90			0.97		1.00	0.97		1.00	0.97	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3176			3385		1770	4943		1770	4956	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3176			3385		1770	4943		1770	4956	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	17	26	77	405	470	177	170	319	73	66	816	166
RTOR Reduction (vph)	0	70	0	0	12	0	0	25	0	0	22	0
Lane Group Flow (vph)	0	50	0	0	1040	0	170	367	0	66	960	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.6			40.1		13.6	34.8		7.1	27.9	
Effective Green, g (s)		9.6			40.1		13.6	34.8		7.1	27.9	
Actuated g/C Ratio		0.09			0.36		0.12	0.31		0.06	0.25	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		272			1214		215	1538		112	1236	
v/s Ratio Prot		c0.02			c0.31		c0.10	0.07		0.04	c0.19	
v/s Ratio Perm												
v/c Ratio		0.18			0.86		0.79	0.24		0.59	0.78	
Uniform Delay, d1		47.5			33.2		47.7	28.6		50.9	39.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			6.9		17.0	0.1		5.0	3.2	
Delay (s)		48.3			40.1		64.7	28.7		56.0	42.2	
Level of Service		D			D		E	C		E	D	
Approach Delay (s)		48.3			40.1			39.6			43.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	20.6
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	3	154	0	176	45	358	41	48	1107	166
Future Volume (vph)	9	0	3	154	0	176	45	358	41	48	1107	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770		1583	3204	4839		1770	4986	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770		1583	3204	4839		1770	4986	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	0	3	164	0	187	48	381	44	51	1178	177
RTOR Reduction (vph)	0	0	3	0	0	156	0	12	0	0	16	0
Lane Group Flow (vph)	10	0	0	164	0	31	48	413	0	51	1339	0
Turn Type	Prot		Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	0.6		1.0	9.0		9.4	2.1	23.6		3.4	24.9	
Effective Green, g (s)	0.6		1.0	9.0		9.4	2.1	23.6		3.4	24.9	
Actuated g/C Ratio	0.01		0.02	0.16		0.17	0.04	0.42		0.06	0.44	
Clearance Time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	3.0		2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	18		31	280		262	118	2014		106	2189	
v/s Ratio Prot	0.01			c0.09			0.01	0.09		c0.03	c0.27	
v/s Ratio Perm			0.00			c0.02						
v/c Ratio	0.56		0.00	0.59		0.12	0.41	0.21		0.48	0.61	
Uniform Delay, d1	27.9		27.4	22.1		20.1	26.7	10.6		25.8	12.2	
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.4		0.0	3.1		0.1	0.8	0.1		1.3	0.5	
Delay (s)	47.3		27.4	25.2		20.2	27.5	10.6		27.0	12.7	
Level of Service	D		C	C		C	C	B		C	B	
Approach Delay (s)		42.7			22.5			12.3			13.2	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	19.7
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	12	271	0	102	97	340	71	27	1256	6
Future Volume (vph)	1	0	12	271	0	102	97	340	71	27	1256	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00		1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00		0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652		1742	3433	1583		3204	4916	1583	1770	5081	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652		1742	3433	1583		3204	4916	1583	1770	5081	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	0	13	298	0	112	107	374	78	30	1380	7
RTOR Reduction (vph)	0	0	13	0	97	0	0	0	39	0	1	0
Lane Group Flow (vph)	1	0	0	298	15	0	107	374	39	30	1386	0
Turn Type	Prot		Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.6		1.1	7.6	8.1		4.1	30.0	30.0	2.0	27.5	
Effective Green, g (s)	0.6		1.1	7.6	8.1		4.1	30.0	30.0	2.0	27.5	
Actuated g/C Ratio	0.01		0.02	0.13	0.13		0.07	0.50	0.50	0.03	0.46	
Clearance Time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0		2.0	3.0	3.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	16		31	431	212		217	2441	786	58	2313	
v/s Ratio Prot	0.00			c0.09	c0.01		c0.03	0.08		0.02	c0.27	
v/s Ratio Perm			0.00						0.02			
v/c Ratio	0.06		0.01	0.69	0.07		0.49	0.15	0.05	0.52	0.60	
Uniform Delay, d1	29.6		29.1	25.3	22.9		27.1	8.3	7.8	28.7	12.3	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6		0.0	4.7	0.1		0.6	0.0	0.0	3.2	0.4	
Delay (s)	30.2		29.1	30.0	23.0		27.8	8.3	7.9	31.9	12.8	
Level of Service	C		C	C	C		C	A	A	C	B	
Approach Delay (s)		29.2			28.1			12.0			13.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	20.1
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	5	502	23	6	1535
Future Volume (vph)	32	5	502	23	6	1535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	3539	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	3539	1583	1770	5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	5	546	25	7	1668
RTOR Reduction (vph)	0	5	0	11	0	0
Lane Group Flow (vph)	35	0	546	14	7	1668
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	1.6	1.6	24.2	24.2	0.7	29.7
Effective Green, g (s)	1.6	1.6	24.2	24.2	0.7	29.7
Actuated g/C Ratio	0.04	0.04	0.57	0.57	0.02	0.70
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	130	60	2029	907	29	3578
v/s Ratio Prot	c0.01		0.15		0.00	c0.33
v/s Ratio Perm		0.00		0.01		
v/c Ratio	0.27	0.00	0.27	0.02	0.24	0.47
Uniform Delay, d1	19.7	19.5	4.5	3.9	20.5	2.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	0.1	0.0	1.6	0.1
Delay (s)	20.1	19.5	4.6	3.9	22.1	2.9
Level of Service	C	B	A	A	C	A
Approach Delay (s)	20.1		4.6			2.9
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	15.7
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	165	13	59	19	477	170	130	1335	11
Future Volume (vph)	1	2	3	165	13	59	19	477	170	130	1335	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.92		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1605		1770	3539	1583	1770	3535	
Flt Permitted		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1605		1770	3539	1583	1770	3535	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	2	3	172	14	61	20	497	177	135	1391	11
RTOR Reduction (vph)	0	3	0	0	41	0	0	0	110	0	1	0
Lane Group Flow (vph)	0	3	0	127	79	0	20	497	67	135	1401	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		0.8		11.0	11.0		0.6	20.3	20.3	7.1	26.8	
Effective Green, g (s)		0.8		11.0	11.0		0.6	20.3	20.3	7.1	26.8	
Actuated g/C Ratio		0.01		0.19	0.19		0.01	0.34	0.34	0.12	0.45	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		23		312	298		17	1215	543	212	1603	
v/s Ratio Prot		c0.00		c0.08	0.05		0.01	0.14		c0.08	c0.40	
v/s Ratio Perm									0.04			
v/c Ratio		0.13		0.41	0.27		1.18	0.41	0.12	0.64	0.87	
Uniform Delay, d1		28.8		21.2	20.6		29.2	14.8	13.3	24.8	14.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0		1.4	0.8		279.8	0.4	0.2	4.5	5.9	
Delay (s)		29.8		22.6	21.4		309.0	15.2	13.5	29.3	20.6	
Level of Service		C		C	C		F	B	B	C	C	
Approach Delay (s)		29.8			22.0			23.2			21.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	19.9
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	17	52	458	577	26
Future Volume (vph)	35	17	52	458	577	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3517	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	18	57	498	627	28
RTOR Reduction (vph)	0	17	0	0	2	0
Lane Group Flow (vph)	38	1	57	498	653	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.5	4.5	5.1	75.4	65.9	
Effective Green, g (s)	4.5	4.5	5.1	75.4	65.9	
Actuated g/C Ratio	0.05	0.05	0.06	0.84	0.73	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	88	79	194	2964	2575	
v/s Ratio Prot	c0.02		c0.02	0.14	c0.19	
v/s Ratio Perm		0.00				
v/c Ratio	0.43	0.01	0.29	0.17	0.25	
Uniform Delay, d1	41.5	40.6	40.7	1.4	4.0	
Progression Factor	1.00	1.00	0.84	1.99	1.00	
Incremental Delay, d2	1.2	0.0	0.3	0.1	0.2	
Delay (s)	42.7	40.7	34.5	2.9	4.2	
Level of Service	D	D	C	A	A	
Approach Delay (s)	42.1			6.1	4.2	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	147	175	128	198	76	115	389	64	46	521	14
Future Volume (vph)	17	147	175	128	198	76	115	389	64	46	521	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3251		1770	3393		3433	3464		1770	3525	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3251		1770	3393		3433	3464		1770	3525	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	163	194	142	220	84	128	432	71	51	579	16
RTOR Reduction (vph)	0	167	0	0	56	0	0	11	0	0	2	0
Lane Group Flow (vph)	19	190	0	142	248	0	128	492	0	51	593	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.6	12.3		10.3	21.0		7.8	43.4		5.0	40.6	
Effective Green, g (s)	1.6	12.3		10.3	21.0		7.8	43.4		5.0	40.6	
Actuated g/C Ratio	0.02	0.14		0.11	0.23		0.09	0.48		0.06	0.45	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	31	444		202	791		297	1670		98	1590	
v/s Ratio Prot	0.01	c0.06		c0.08	0.07		c0.04	c0.14		0.03	c0.17	
v/s Ratio Perm												
v/c Ratio	0.61	0.43		0.70	0.31		0.43	0.29		0.52	0.37	
Uniform Delay, d1	43.9	35.6		38.4	28.5		39.0	14.1		41.3	16.3	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.82		1.46	0.74	
Incremental Delay, d2	22.6	0.2		8.7	0.1		0.4	0.4		2.3	0.7	
Delay (s)	66.5	35.9		47.1	28.6		45.6	12.0		62.6	12.8	
Level of Service	E	D		D	C		D	B		E	B	
Approach Delay (s)		37.4			34.5			18.8			16.7	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	47	98	85	204	53	60	495	53	22	783	40
Future Volume (vph)	32	47	98	85	204	53	60	495	53	22	783	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1674		1770	1805		1770	3488		1770	3513	
Flt Permitted	0.32	1.00		0.53	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	595	1674		996	1805		1770	3488		1770	3513	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	36	53	110	96	229	60	67	556	60	25	880	45
RTOR Reduction (vph)	0	89	0	0	12	0	0	7	0	0	3	0
Lane Group Flow (vph)	36	74	0	96	277	0	67	609	0	25	922	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.7	17.3		21.7	18.3		6.8	47.5		2.8	43.5	
Effective Green, g (s)	19.7	17.3		21.7	18.3		6.8	47.5		2.8	43.5	
Actuated g/C Ratio	0.22	0.19		0.24	0.20		0.08	0.53		0.03	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	161	321		269	367		133	1840		55	1697	
v/s Ratio Prot	0.01	0.04		c0.01	c0.15		c0.04	c0.17		0.01	c0.26	
v/s Ratio Perm	0.04			0.07								
v/c Ratio	0.22	0.23		0.36	0.75		0.50	0.33		0.45	0.54	
Uniform Delay, d1	28.4	30.7		27.8	33.7		40.0	12.2		42.8	16.3	
Progression Factor	1.00	1.00		1.00	1.00		0.98	1.14		1.39	0.88	
Incremental Delay, d2	0.3	0.1		0.3	7.6		0.9	0.4		2.0	1.2	
Delay (s)	28.6	30.9		28.1	41.4		40.2	14.2		61.4	15.5	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.5			38.1			16.8			16.7	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	156	107	139	192	123	36	248	27	73	751	129
Future Volume (vph)	228	156	107	139	192	123	36	248	27	73	751	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1749		1770	1754		1770	3487		1770	3461	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1749		1770	1754		1770	3487		1770	3461	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	245	168	115	149	206	132	39	267	29	78	808	139
RTOR Reduction (vph)	0	31	0	0	29	0	0	9	0	0	14	0
Lane Group Flow (vph)	245	252	0	149	309	0	39	287	0	78	933	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.8	24.4		8.6	20.2		3.7	30.4		7.7	34.4	
Effective Green, g (s)	12.8	24.4		8.6	20.2		3.7	30.4		7.7	34.4	
Actuated g/C Ratio	0.14	0.27		0.10	0.22		0.04	0.34		0.09	0.38	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	251	474		169	393		72	1177		151	1322	
v/s Ratio Prot	c0.14	c0.14		0.08	c0.18		0.02	0.08		c0.04	c0.27	
v/s Ratio Perm												
v/c Ratio	0.98	0.53		0.88	0.79		0.54	0.24		0.52	0.71	
Uniform Delay, d1	38.4	27.9		40.2	32.9		42.3	21.5		39.4	23.5	
Progression Factor	1.00	1.00		1.00	1.00		0.94	0.75		1.41	0.60	
Incremental Delay, d2	49.5	0.6		36.8	9.3		4.4	0.5		1.1	2.9	
Delay (s)	87.9	28.5		77.0	42.1		44.1	16.7		56.7	17.1	
Level of Service	F	C		E	D		D	B		E	B	
Approach Delay (s)		56.1			52.8			19.9			20.1	
Approach LOS		E			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	14	274	1	50	1	240	58	28	1074	0
Future Volume (vph)	3	1	14	274	1	50	1	240	58	28	1074	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.89			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1774	1583	1770	3436		1770	3539	
Flt Permitted		0.96			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1594			1329	1583	1770	3436		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1	15	298	1	54	1	261	63	30	1167	0
RTOR Reduction (vph)	0	11	0	0	0	38	0	21	0	0	0	0
Lane Group Flow (vph)	0	8	0	0	299	16	1	303	0	30	1167	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		26.0			26.0	26.0	1.0	45.8		3.5	48.5	
Effective Green, g (s)		26.0			26.0	26.0	1.0	45.8		3.5	48.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.01	0.51		0.04	0.54	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		460			383	457	19	1748		68	1907	
v/s Ratio Prot							0.00	0.09		c0.02	c0.33	
v/s Ratio Perm		0.01			c0.23	0.01						
v/c Ratio		0.02			0.78	0.03	0.05	0.17		0.44	0.61	
Uniform Delay, d1		22.9			29.4	23.0	44.0	11.9		42.3	14.3	
Progression Factor		1.00			1.00	1.00	1.26	0.72		1.06	0.80	
Incremental Delay, d2		0.0			11.7	0.1	0.4	0.2		1.3	1.2	
Delay (s)		22.9			41.1	23.1	56.0	8.8		46.2	12.6	
Level of Service		C			D	C	E	A		D	B	
Approach Delay (s)		22.9			38.3			8.9			13.5	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	38	80	293	1321	30
Future Volume (vph)	4	38	80	293	1321	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3527	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3527	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	40	85	312	1405	32
RTOR Reduction (vph)	0	38	0	0	1	0
Lane Group Flow (vph)	4	2	85	312	1436	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.5	3.5	9.3	75.7	60.9	
Effective Green, g (s)	3.5	3.5	9.3	75.7	60.9	
Actuated g/C Ratio	0.04	0.04	0.10	0.84	0.68	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	133	61	182	2976	2386	
v/s Ratio Prot	c0.00		c0.05	0.09	c0.41	
v/s Ratio Perm		0.00				
v/c Ratio	0.03	0.03	0.47	0.10	0.60	
Uniform Delay, d1	41.6	41.6	38.0	1.2	7.9	
Progression Factor	1.00	1.00	0.97	0.62	0.52	
Incremental Delay, d2	0.0	0.1	0.7	0.1	0.9	
Delay (s)	41.7	41.7	37.5	0.8	5.0	
Level of Service	D	D	D	A	A	
Approach Delay (s)	41.7			8.7	5.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	72	2	2	3	577	337	6	0	1082	279
Future Volume (vph)	32	0	72	2	2	3	577	337	6	0	1082	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3429	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3429	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	34	0	77	2	2	3	620	362	6	0	1163	303
RTOR Reduction (vph)	0	0	74	0	3	0	0	0	1	0	28	0
Lane Group Flow (vph)	17	17	3	0	4	0	620	362	5	0	1438	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Effective Green, g (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.33	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		702	2728	1220		1116	
v/s Ratio Prot	c0.01	0.01			c0.00		c0.35	0.10			c0.42	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.23	0.23	0.05		0.27		0.88	0.13	0.00		1.29	
Uniform Delay, d1	41.5	41.5	41.2		44.3		25.2	2.6	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.92	0.82	1.00		1.31	
Incremental Delay, d2	0.6	0.6	0.1		3.5		10.9	0.1	0.0		135.5	
Delay (s)	42.1	42.1	41.3		47.8		34.0	2.2	2.4		175.3	
Level of Service	D	D	D		D		C	A	A		F	
Approach Delay (s)		41.5			47.8			22.2			175.3	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	110.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	224	1	627	7	291	64	244	916	0
Future Volume (vph)	0	0	0	224	1	627	7	291	64	244	916	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95		1.00	0.95	
Frt					1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3444		1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3444		1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	236	1	660	7	306	67	257	964	0
RTOR Reduction (vph)	0	0	0	0	0	77	0	18	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	237	583	7	355	0	257	964	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					28.8	51.2	0.8	29.4		17.5	46.1	
Effective Green, g (s)					28.8	51.2	0.8	29.4		17.5	46.1	
Actuated g/C Ratio					0.32	0.57	0.01	0.33		0.19	0.51	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					433	900	15	1125		344	1812	
v/s Ratio Prot						c0.37	0.00	0.10		c0.15	c0.27	
v/s Ratio Perm					0.17							
v/c Ratio					0.55	0.65	0.47	0.32		0.75	0.53	
Uniform Delay, d1					25.2	13.2	44.4	22.7		34.2	14.7	
Progression Factor					1.00	1.00	1.00	1.00		1.60	0.63	
Incremental Delay, d2					0.8	1.2	8.1	0.7		0.7	0.1	
Delay (s)					26.0	14.5	52.5	23.5		55.4	9.3	
Level of Service					C	B	D	C		E	A	
Approach Delay (s)		0.0			17.5			24.0			19.0	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	955	148	83	1447	92	380	94	19	106	159	383
Future Volume (vph)	187	955	148	83	1447	92	380	94	19	106	159	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6350		2841	2981		3204	1590	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6350		2841	2981		3204	1590	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	193	985	153	86	1492	95	392	97	20	109	164	395
RTOR Reduction (vph)	0	0	67	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	193	985	86	86	1583	0	263	243	0	109	204	355
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	16.9	95.4	95.4	14.3	92.6		26.9	26.9		32.8	32.8	55.0
Effective Green, g (s)	16.9	95.4	95.4	14.3	92.6		26.9	26.9		32.8	32.8	55.0
Actuated g/C Ratio	0.09	0.50	0.50	0.08	0.49		0.14	0.14		0.17	0.17	0.29
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	284	2468	794	124	3094		402	422		553	274	834
v/s Ratio Prot	c0.06	c0.20		0.05	c0.25		c0.09	0.08		0.03	c0.13	0.12
v/s Ratio Perm			0.05									
v/c Ratio	0.68	0.40	0.11	0.69	0.51		0.65	0.57		0.20	0.74	0.43
Uniform Delay, d1	83.9	29.5	24.9	85.7	33.3		77.2	76.2		67.3	74.6	54.7
Progression Factor	1.00	1.00	1.00	1.08	0.82		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.3	0.5	0.3	10.7	0.5		5.5	3.3		0.3	11.2	0.5
Delay (s)	90.3	29.9	25.2	103.5	27.9		82.6	79.5		67.6	85.9	55.2
Level of Service	F	C	C	F	C		F	E		E	F	E
Approach Delay (s)		38.1			31.8			81.1			66.6	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	995	9	36	1395	95	18	24	190	468	103	232
Future Volume (vph)	93	995	9	36	1395	95	18	24	190	468	103	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	1106	10	40	1550	106	20	27	211	520	114	258
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	83	0	0	103
Lane Group Flow (vph)	103	1116	0	40	1653	0	20	27	128	520	114	155
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.5	106.9		5.9	102.1		21.2	21.8	21.8	35.2	35.5	35.5
Effective Green, g (s)	10.5	106.9		5.9	102.1		21.2	21.8	21.8	35.2	35.5	35.5
Actuated g/C Ratio	0.06	0.56		0.03	0.54		0.11	0.11	0.11	0.19	0.19	0.19
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	177	2857		99	2706		184	199	181	593	348	295
v/s Ratio Prot	c0.03	0.22		0.01	c0.33		0.01	0.02		c0.16	0.06	
v/s Ratio Perm									c0.08			0.10
v/c Ratio	0.58	0.39		0.40	0.61		0.11	0.14	0.71	0.88	0.33	0.52
Uniform Delay, d1	87.6	23.3		90.3	30.3		75.9	75.6	81.0	75.3	66.9	69.6
Progression Factor	1.08	0.75		0.75	1.36		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.4		0.8	0.8		0.3	0.3	11.3	13.3	0.3	1.1
Delay (s)	97.4	17.9		68.3	42.0		76.2	75.9	92.4	88.6	67.2	70.7
Level of Service	F	B		E	D		E	E	F	F	E	E
Approach Delay (s)		24.6			42.6			89.4			80.7	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	48.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1519	80	108	958	123	141	32	336	1041	234	408
Future Volume (vph)	74	1519	80	108	958	123	141	32	336	1041	234	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5047		1652	5085	1583	1652	2865	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5047		1652	5085	1583	1652	2865	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	85	1746	92	124	1101	141	162	37	386	1197	269	469
RTOR Reduction (vph)	0	3	0	0	0	0	0	109	116	0	0	187
Lane Group Flow (vph)	85	1835	0	124	1101	141	162	121	77	1197	269	282
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	17.9	67.3		21.1	70.6	190.0	23.5	16.3	16.3	65.6	58.4	58.4
Effective Green, g (s)	17.9	67.3		21.1	70.6	190.0	23.5	16.3	16.3	65.6	58.4	58.4
Actuated g/C Ratio	0.09	0.35		0.11	0.37	1.00	0.12	0.09	0.09	0.35	0.31	0.31
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	155	1787		183	1889	1583	204	245	127	1106	1196	486
v/s Ratio Prot	0.05	c0.36		c0.08	0.22		0.10	0.04		c0.37	0.07	
v/s Ratio Perm						0.09			0.05			c0.18
v/c Ratio	0.55	1.03		0.68	0.58	0.09	0.79	0.49	0.61	1.08	0.22	0.58
Uniform Delay, d1	82.2	61.4		81.2	47.9	0.0	80.9	82.9	83.7	62.2	49.0	55.5
Progression Factor	1.02	1.01		0.95	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	27.4		7.4	1.3	0.1	18.8	1.9	8.5	52.2	0.2	2.7
Delay (s)	85.5	89.3		84.2	50.8	0.1	99.7	84.8	92.2	114.4	49.2	58.1
Level of Service	F	F		F	D	A	F	F	F	F	D	E
Approach Delay (s)		89.1			48.6			91.4			91.7	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	80.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	2667	91	24	658	9	166	18	77	79	7	268
Future Volume (vph)	218	2667	91	24	658	9	166	18	77	79	7	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5060		1770	5075		1681	1583		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5060		1770	5075		1681	1583		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	225	2749	94	25	678	9	171	19	84	81	7	276
RTOR Reduction (vph)	0	2	0	0	0	0	0	36	0	0	0	151
Lane Group Flow (vph)	225	2841	0	25	687	0	142	96	0	81	7	125
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	28.5	129.9		6.5	108.1		20.4	20.4		13.0	13.0	41.5
Effective Green, g (s)	28.5	129.9		6.5	108.1		20.4	20.4		13.0	13.0	41.5
Actuated g/C Ratio	0.15	0.68		0.03	0.57		0.11	0.11		0.07	0.07	0.22
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	265	3459		60	2887		180	169		113	127	345
v/s Ratio Prot	c0.13	c0.56		0.01	0.14		c0.08	0.06		c0.05	0.00	0.08
v/s Ratio Perm												
v/c Ratio	0.85	0.82		0.42	0.24		0.79	0.57		0.72	0.06	0.36
Uniform Delay, d1	78.7	21.7		89.9	20.4		82.7	80.6		86.7	82.8	63.0
Progression Factor	0.90	1.76		0.75	1.25		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.4	0.6		1.7	0.2		18.7	2.6		16.4	0.1	0.2
Delay (s)	77.3	38.7		68.8	25.7		101.4	83.2		103.1	82.8	63.3
Level of Service	E	D		E	C		F	F		F	F	E
Approach Delay (s)		41.6			27.2			92.7			72.5	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	2644	11	33	686	27	25	13	296	86	3	67
Future Volume (vph)	49	2644	11	33	686	27	25	13	296	86	3	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	50	2698	11	34	700	28	26	13	302	88	3	68
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	78	0	0	54
Lane Group Flow (vph)	50	2709	0	34	726	0	26	13	224	88	3	14
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	8.3	120.2		6.1	118.3		5.4	31.0	31.0	13.0	38.6	38.6
Effective Green, g (s)	8.3	120.2		6.1	118.3		5.4	31.0	31.0	13.0	38.6	38.6
Actuated g/C Ratio	0.04	0.63		0.03	0.62		0.03	0.16	0.16	0.07	0.20	0.20
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	77	3215		56	3148		50	303	258	121	378	321
v/s Ratio Prot	c0.03	c0.53		0.02	0.14		0.01	0.01		c0.05	0.00	
v/s Ratio Perm									c0.14			0.01
v/c Ratio	0.65	0.84		0.61	0.23		0.52	0.04	0.87	0.73	0.01	0.04
Uniform Delay, d1	89.4	27.5		90.8	15.8		91.0	67.0	77.5	86.8	60.4	60.9
Progression Factor	1.01	1.44		1.19	0.44		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9	1.7		12.0	0.2		4.4	0.0	24.5	16.8	0.0	0.0
Delay (s)	98.6	41.2		119.7	7.2		95.5	67.0	102.0	103.5	60.4	60.9
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		42.3			12.2			100.1			84.5	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	2381	532	47	484	24	176	42	117	124	87	44
Future Volume (vph)	60	2381	532	47	484	24	176	42	117	124	87	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4946		1652	5050		1625	1716	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4946		1652	5050		1625	1716	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	2506	560	49	509	25	185	44	123	131	92	46
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	112	0	0	41
Lane Group Flow (vph)	63	3052	0	49	532	0	113	116	11	131	92	5
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.6	120.4		11.4	119.7		17.6	17.6	17.6	20.4	20.4	20.4
Effective Green, g (s)	11.6	120.4		11.4	119.7		17.6	17.6	17.6	20.4	20.4	20.4
Actuated g/C Ratio	0.06	0.63		0.06	0.63		0.09	0.09	0.09	0.11	0.11	0.11
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	100	3134		99	3181		150	158	146	177	200	181
v/s Ratio Prot	c0.04	c0.62		0.03	0.11		c0.07	0.07		c0.08	0.05	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.63	0.97		0.49	0.17		0.75	0.73	0.08	0.74	0.46	0.03
Uniform Delay, d1	87.1	33.3		86.5	14.5		84.1	83.9	78.8	82.2	79.6	75.9
Progression Factor	1.28	0.39		1.10	0.72		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	7.4		1.4	0.1		17.1	14.1	0.1	15.3	1.7	0.1
Delay (s)	116.7	20.4		96.8	10.6		101.2	98.0	78.9	97.5	81.3	76.0
Level of Service	F	C		F	B		F	F	E	F	F	E
Approach Delay (s)		22.4			17.8			92.3			88.3	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	2455	134	57	457	35	96	26	189	20	12	19
Future Volume (vph)	27	2455	134	57	457	35	96	26	189	20	12	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5046		1770	5032		3433	1617		1770	1693	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5046		1770	5032		3433	1617		1770	1693	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	28	2557	140	59	476	36	100	27	197	21	12	20
RTOR Reduction (vph)	0	2	0	0	3	0	0	90	0	0	18	0
Lane Group Flow (vph)	28	2695	0	59	509	0	100	134	0	21	15	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.6	135.3		10.7	139.4		9.9	20.3		4.0	14.4	
Effective Green, g (s)	5.6	135.3		10.7	139.4		9.9	20.3		4.0	14.4	
Actuated g/C Ratio	0.03	0.71		0.06	0.73		0.05	0.11		0.02	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	52	3593		99	3691		178	172		37	128	
v/s Ratio Prot	0.02	c0.53		c0.03	c0.10		c0.03	c0.08		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.54	0.75		0.60	0.14		0.56	0.78		0.57	0.11	
Uniform Delay, d1	90.9	16.9		87.5	7.5		87.9	82.7		92.1	81.8	
Progression Factor	1.30	0.18		1.17	1.12		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.6		6.0	0.1		2.4	18.0		11.3	0.1	
Delay (s)	120.4	3.7		108.3	8.5		90.3	100.7		103.5	82.0	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		4.9			18.8			97.5			90.4	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	2370	146	258	416	179	171	317	572	422	237	42
Future Volume (vph)	59	2370	146	258	416	179	171	317	572	422	237	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5041		1652	4855		1652	3421	1531	3204	3459	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5041		1652	4855		1652	3421	1531	3204	3459	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	60	2418	149	263	424	183	174	323	584	431	242	43
RTOR Reduction (vph)	0	3	0	0	40	0	0	0	28	0	8	0
Lane Group Flow (vph)	60	2564	0	263	567	0	174	323	556	431	277	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.8	83.9		25.6	98.6		38.5	38.0	69.6	21.6	20.7	
Effective Green, g (s)	10.8	83.9		25.6	98.6		38.5	38.0	69.6	21.6	20.7	
Actuated g/C Ratio	0.06	0.44		0.13	0.52		0.20	0.20	0.37	0.11	0.11	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	93	2225		222	2519		334	684	560	364	376	
v/s Ratio Prot	0.04	c0.51		c0.16	0.12		0.11	0.09	c0.36	c0.13	0.08	
v/s Ratio Perm												
v/c Ratio	0.65	1.15		1.18	0.23		0.52	0.47	0.99	1.18	0.74	
Uniform Delay, d1	87.7	53.0		82.2	24.9		67.5	67.1	60.0	84.2	82.0	
Progression Factor	1.16	0.70		1.37	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.6	72.4		118.8	0.2		1.5	0.6	36.1	107.4	7.4	
Delay (s)	109.5	109.6		231.6	24.4		69.0	67.8	96.1	191.6	89.4	
Level of Service	F	F		F	C		E	E	F	F	F	
Approach Delay (s)		109.6			87.0			83.2			150.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	106.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	3198	31	60	860	80	13	21	43	58	3	20
Future Volume (vph)	134	3198	31	60	860	80	13	21	43	58	3	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		5.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5021			1829	1583	1770	1618	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5021			1647	1583	1368	1618	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	138	3297	32	62	887	82	13	22	44	60	3	21
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	41	0	20	0
Lane Group Flow (vph)	138	3329	0	62	966	0	0	35	3	60	4	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	19.1	150.2		11.7	142.8			12.8	12.8	12.8	12.8	
Effective Green, g (s)	19.1	150.2		10.7	142.8			12.8	12.8	12.8	12.8	
Actuated g/C Ratio	0.10	0.79		0.06	0.75			0.07	0.07	0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	177	4014		99	3773			110	106	92	109	
v/s Ratio Prot	c0.08	c0.66		0.04	0.19						0.00	
v/s Ratio Perm								0.02	0.00	c0.04		
v/c Ratio	0.78	0.83		0.63	0.26			0.32	0.03	0.65	0.04	
Uniform Delay, d1	83.4	12.1		87.7	7.3			84.4	82.8	86.4	82.9	
Progression Factor	1.07	0.39		0.96	0.87			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	0.2		8.4	0.2			0.6	0.0	11.9	0.1	
Delay (s)	91.0	4.9		92.7	6.5			85.1	82.8	98.4	82.9	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		8.3			11.7			83.8			93.9	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	3270	21	49	969	44	4	19	61	43	4	12
Future Volume (vph)	36	3270	21	49	969	44	4	19	61	43	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5052			1675		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.33	1.00	
Satd. Flow (perm)	1770	5080		1770	5052			1658		621	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	37	3371	22	51	999	45	4	20	66	44	4	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	60	0	0	11	0
Lane Group Flow (vph)	37	3393	0	51	1043	0	0	30	0	44	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.4	153.9		8.8	155.0			12.0		12.0	12.0	
Effective Green, g (s)	7.4	153.9		8.8	155.0			12.0		12.0	12.0	
Actuated g/C Ratio	0.04	0.81		0.05	0.82			0.06		0.06	0.06	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	68	4114		81	4121			104		39	104	
v/s Ratio Prot	0.02	c0.67		c0.03	0.21						0.00	
v/s Ratio Perm								0.02		c0.07		
v/c Ratio	0.54	0.82		0.63	0.25			0.29		1.13	0.05	
Uniform Delay, d1	89.6	10.3		89.0	4.1			84.9		89.0	83.6	
Progression Factor	1.21	0.23		0.76	2.27			1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.2		10.1	0.1			0.6		184.6	0.1	
Delay (s)	110.9	3.6		78.0	9.4			85.5		273.6	83.7	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		4.7			12.5			85.5			223.0	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	3052	206	97	983	82	41	84	114	26	45	76
Future Volume (vph)	107	3052	206	97	983	82	41	84	114	26	45	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5037		1770	5027		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5037		1770	5027		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	113	3213	217	102	1035	86	43	88	120	27	47	80
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	103	0	0	74
Lane Group Flow (vph)	113	3427	0	102	1117	0	43	88	17	27	47	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.5	134.3		16.8	134.1		5.9	14.9	14.9	4.3	13.3	13.3
Effective Green, g (s)	16.5	134.3		16.8	134.1		5.9	14.9	14.9	4.3	13.3	13.3
Actuated g/C Ratio	0.09	0.71		0.09	0.71		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	153	3560		156	3548		54	146	124	40	130	110
v/s Ratio Prot	c0.06	c0.68		0.06	0.22		c0.02	c0.05		0.02	0.03	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.74	0.96		0.65	0.31		0.80	0.60	0.14	0.68	0.36	0.05
Uniform Delay, d1	84.6	25.5		83.8	10.6		91.5	84.7	81.5	92.2	84.3	82.5
Progression Factor	0.87	0.69		0.91	0.66		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.1	5.7		6.8	0.2		51.7	4.7	0.2	29.9	0.6	0.1
Delay (s)	83.1	23.3		82.6	7.2		143.1	89.4	81.7	122.1	84.9	82.5
Level of Service	F	C		F	A		F	F	F	F	F	F
Approach Delay (s)		25.2			13.5			94.9			90.2	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	2585	268	70	1008	72	152	141	35	49	125	71
Future Volume (vph)	136	2585	268	70	1008	72	152	141	35	49	125	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3434		1770	3346	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3434		1770	3346	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	145	2750	285	74	1072	77	162	150	37	52	133	76
RTOR Reduction (vph)	0	6	0	0	0	33	0	11	0	0	46	0
Lane Group Flow (vph)	145	3029	0	74	1072	44	162	176	0	52	163	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	19.7	117.6		11.1	109.0	109.0	25.5	25.5		15.9	15.9	
Effective Green, g (s)	19.7	117.6		11.1	109.0	109.0	25.5	25.5		15.9	15.9	
Actuated g/C Ratio	0.10	0.62		0.06	0.57	0.57	0.13	0.13		0.08	0.08	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	183	3103		103	2917	908	237	460		148	280	
v/s Ratio Prot	c0.08	c0.60		0.04	0.21		c0.09	0.05		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.79	0.98		0.72	0.37	0.05	0.68	0.38		0.35	0.58	
Uniform Delay, d1	83.2	34.8		87.9	21.9	17.8	78.4	75.1		82.2	83.9	
Progression Factor	1.26	0.40		1.11	0.62	0.11	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.9	5.7		16.0	0.3	0.1	8.3	0.7		2.2	3.9	
Delay (s)	112.3	19.6		113.9	13.8	2.0	86.7	75.7		84.4	87.7	
Level of Service	F	B		F	B	A	F	E		F	F	
Approach Delay (s)		23.8			19.1			80.8			87.0	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	2148	62	290	1030	252	135	576	126	313	430	124
Future Volume (vph)	231	2148	62	290	1030	252	135	576	126	313	430	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	6.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	238	2214	64	299	1062	260	139	594	130	323	443	128
RTOR Reduction (vph)	0	1	0	0	0	107	0	0	57	0	14	0
Lane Group Flow (vph)	238	2277	0	299	1062	153	139	594	73	323	557	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	18.1	97.5		19.9	99.4	99.4	17.6	32.8	32.8	20.0	35.0	
Effective Green, g (s)	18.1	97.5		19.9	99.4	99.4	17.6	32.8	31.8	20.0	35.0	
Actuated g/C Ratio	0.10	0.51		0.10	0.52	0.52	0.09	0.17	0.17	0.11	0.18	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	305	2425		335	2571	773	158	819	247	361	630	
v/s Ratio Prot	0.07	c0.48		c0.09	0.22		0.08	0.13		c0.09	c0.16	
v/s Ratio Perm						0.10			0.05			
v/c Ratio	0.78	0.94		0.89	0.41	0.20	0.88	0.73	0.29	0.89	0.88	
Uniform Delay, d1	84.0	43.4		84.0	27.6	24.1	85.2	74.3	69.3	84.0	75.5	
Progression Factor	1.21	0.64		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.8	3.2		23.9	0.5	0.6	37.6	3.7	1.1	22.9	14.4	
Delay (s)	105.5	30.8		107.9	28.0	24.7	122.8	78.0	70.4	106.9	89.9	
Level of Service	F	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		37.9			42.2			84.1			96.0	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	54.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	63	312	274	62	244	432
Future Volume (vph)	63	312	274	62	244	432
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3441		1717	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3441		1717	1504
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	347	304	69	271	480
RTOR Reduction (vph)	0	0	33	0	24	166
Lane Group Flow (vph)	70	347	340	0	367	194
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	5.7	22.6	12.9		15.3	25.5
Effective Green, g (s)	5.7	22.6	12.9		15.3	25.5
Actuated g/C Ratio	0.12	0.48	0.27		0.32	0.54
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	212	888	936		554	809
v/s Ratio Prot	0.04	c0.19	0.10		c0.21	0.13
v/s Ratio Perm						
v/c Ratio	0.33	0.39	0.36		0.66	0.24
Uniform Delay, d1	19.1	8.0	13.9		13.8	5.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.6	0.5		3.0	0.2
Delay (s)	19.4	8.6	14.4		16.8	6.0
Level of Service	B	A	B		B	A
Approach Delay (s)		10.4	14.4		11.6	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	47.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	963	15	14	231	27	12	1	49	247	2	39
Future Volume (vph)	5	963	15	14	231	27	12	1	49	247	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1858		1770	1833			1648			1753	
Flt Permitted	0.59	1.00		0.12	1.00			0.92			0.71	
Satd. Flow (perm)	1098	1858		221	1833			1525			1297	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1035	16	15	248	29	13	1	53	266	2	42
RTOR Reduction (vph)	0	1	0	0	6	0	0	38	0	0	9	0
Lane Group Flow (vph)	5	1050	0	15	271	0	0	29	0	0	301	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.3	34.3		33.7	33.7			17.2			17.2	
Effective Green, g (s)	34.3	34.3		33.7	33.7			17.2			17.2	
Actuated g/C Ratio	0.56	0.56		0.55	0.55			0.28			0.28	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	614	1039		121	1007			427			363	
v/s Ratio Prot		c0.57			0.15							
v/s Ratio Perm	0.00			0.07				0.02			c0.23	
v/c Ratio	0.01	1.01		0.12	0.27			0.07			0.83	
Uniform Delay, d1	6.0	13.5		6.7	7.3			16.2			20.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	30.6		0.4	0.1			0.0			13.7	
Delay (s)	6.0	44.1		7.1	7.4			16.2			34.4	
Level of Service	A	D		A	A			B			C	
Approach Delay (s)		43.9			7.4			16.2			34.4	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	10.4
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	364	316	485	81	88	237	131	1173	79	134	745	79
Future Volume (vph)	364	316	485	81	88	237	131	1173	79	134	745	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1880		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1880		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	400	347	533	89	97	260	144	1289	87	147	819	87
RTOR Reduction (vph)	0	0	163	0	66	0	0	0	25	0	0	33
Lane Group Flow (vph)	400	347	370	89	291	0	144	1289	62	147	819	54
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	37.2	37.2	52.1	25.8	25.8		14.9	51.5	77.3	10.6	47.2	90.1
Effective Green, g (s)	37.2	37.2	52.1	25.8	25.8		14.9	51.5	77.3	10.6	47.2	90.1
Actuated g/C Ratio	0.25	0.25	0.36	0.18	0.18		0.10	0.35	0.53	0.07	0.32	0.62
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	420	443	546	291	332		174	1165	838	119	1105	944
v/s Ratio Prot	c0.24	0.20	0.24	0.05	c0.15		0.08	c0.39	0.04	c0.09	0.24	0.04
v/s Ratio Perm												
v/c Ratio	0.95	0.78	0.68	0.31	0.88		0.83	1.11	0.07	1.24	0.74	0.06
Uniform Delay, d1	53.5	50.6	39.8	52.3	58.6		64.3	47.2	16.8	67.7	44.0	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.6	8.3	2.8	0.6	21.9		25.3	60.6	0.0	158.8	2.9	0.0
Delay (s)	85.2	58.9	42.6	52.9	80.4		89.6	107.8	16.9	226.5	46.8	11.1
Level of Service	F	E	D	D	F		F	F	B	F	D	B
Approach Delay (s)		60.3			74.9			100.9			69.0	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	78.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	146.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	156	0	16	0	253	73	18	632	0
Future Volume (vph)	1	0	1	156	0	16	0	253	73	18	632	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	0	1	181	0	19	0	294	85	21	735	0
RTOR Reduction (vph)	0	2	0	0	0	16	0	0	21	0	0	0
Lane Group Flow (vph)	0	0	0	0	181	3	0	294	64	21	735	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			9.3	9.3		26.5	40.3	0.6	31.1	
Effective Green, g (s)		0.7			9.3	9.3		26.5	40.3	0.6	31.1	
Actuated g/C Ratio		0.01			0.17	0.17		0.49	0.75	0.01	0.58	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		22			307	274		921	1190	19	1080	
v/s Ratio Prot		c0.00			c0.10			0.16	0.04	0.01	c0.39	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.59	0.01		0.32	0.05	1.11	0.68	
Uniform Delay, d1		26.1			20.4	18.3		8.1	1.7	26.5	7.8	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.9	0.0		0.2	0.0	242.0	1.8	
Delay (s)		26.1			22.3	18.4		8.3	1.7	268.5	9.6	
Level of Service		C			C	B		A	A	F	A	
Approach Delay (s)		26.1			21.9			6.9			16.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	712	186	82	239	6	109	7	165	63	72	107
Future Volume (vph)	18	712	186	82	239	6	109	7	165	63	72	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	6.4		4.5	5.6		4.8	5.0	5.0	4.5	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3527		1770	1863	1583	1770	1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3429		1770	3527		1770	1863	1583	1770	1696	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	19	742	194	85	249	6	114	7	172	66	75	111
RTOR Reduction (vph)	0	24	0	0	2	0	0	0	72	0	72	0
Lane Group Flow (vph)	19	912	0	85	253	0	114	7	100	66	114	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	0.7	27.6		4.7	32.4		5.9	11.5	21.2	4.6	9.9	
Effective Green, g (s)	0.7	27.6		4.7	32.4		5.9	11.5	21.2	4.6	9.9	
Actuated g/C Ratio	0.01	0.40		0.07	0.47		0.09	0.17	0.31	0.07	0.14	
Clearance Time (s)	4.5	6.4		4.5	5.6		4.8	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	18	1375		120	1660		151	311	487	118	244	
v/s Ratio Prot	0.01	c0.27		c0.05	c0.07		c0.06	0.00	0.06	0.04	c0.07	
v/s Ratio Perm												
v/c Ratio	1.06	0.66		0.71	0.15		0.75	0.02	0.21	0.56	0.47	
Uniform Delay, d1	34.0	16.8		31.4	10.4		30.7	24.0	17.6	31.1	27.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	230.8	1.1		14.4	0.0		17.2	0.0	0.1	3.2	0.5	
Delay (s)	264.9	18.0		45.8	10.4		47.9	24.0	17.7	34.4	27.5	
Level of Service	F	B		D	B		D	C	B	C	C	
Approach Delay (s)		22.9			19.3			29.6			29.3	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	20.7
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	972	349	218	1456	101	234	22	214	413	75	338
Future Volume (vph)	61	972	349	218	1456	101	234	22	214	413	75	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	62	992	356	222	1486	103	239	22	218	421	77	345
RTOR Reduction (vph)	0	0	225	0	4	0	0	0	192	0	175	0
Lane Group Flow (vph)	62	992	131	222	1585	0	129	132	26	295	373	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	8.5	55.3	55.3	13.5	60.3		16.5	16.5	16.5	45.2	45.2	
Effective Green, g (s)	8.5	55.3	55.3	13.5	60.3		16.5	16.5	16.5	45.2	45.2	
Actuated g/C Ratio	0.06	0.37	0.37	0.09	0.40		0.11	0.11	0.11	0.30	0.30	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	100	1874	583	308	2024		184	186	174	485	914	
v/s Ratio Prot	0.04	0.20		c0.06	c0.31		0.08	c0.08		c0.18	0.12	
v/s Ratio Perm			0.08						0.02			
v/c Ratio	0.62	0.53	0.23	0.72	0.78		0.70	0.71	0.15	0.61	0.41	
Uniform Delay, d1	69.2	37.1	32.6	66.4	39.1		64.4	64.4	60.4	44.8	41.7	
Progression Factor	1.00	1.00	1.00	1.35	0.63		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.8	1.1	0.9	4.7	2.1		9.4	9.7	0.1	3.9	0.9	
Delay (s)	77.0	38.2	33.5	94.4	26.7		73.8	74.1	60.5	48.7	42.6	
Level of Service	E	D	C	F	C		E	E	E	D	D	
Approach Delay (s)		38.7			35.0			67.9			44.7	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1460	165	439	1404	279	204	57	688	932	233	174
Future Volume (vph)	24	1460	165	439	1404	279	204	57	688	932	233	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	1570	177	472	1510	300	219	61	740	1002	251	187
RTOR Reduction (vph)	0	0	108	0	0	107	0	0	50	0	0	48
Lane Group Flow (vph)	26	1570	69	472	1510	193	219	61	690	1002	251	139
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.1	40.5	40.5	18.4	55.5	96.4	13.4	35.7	59.1	35.6	57.6	67.0
Effective Green, g (s)	4.1	40.5	40.5	18.4	55.5	96.4	13.4	35.7	59.1	35.6	57.6	67.0
Actuated g/C Ratio	0.03	0.27	0.27	0.12	0.37	0.64	0.09	0.24	0.39	0.24	0.38	0.45
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	93	1372	427	421	1881	1791	306	842	1098	814	1358	707
v/s Ratio Prot	0.01	c0.31		c0.14	0.30	0.07	0.06	0.02	c0.25	c0.29	0.07	0.09
v/s Ratio Perm			0.04									
v/c Ratio	0.28	1.14	0.16	1.12	0.80	0.11	0.72	0.07	0.63	1.23	0.18	0.20
Uniform Delay, d1	71.5	54.8	41.8	65.8	42.3	10.3	66.4	44.3	36.6	57.2	30.6	25.2
Progression Factor	1.17	0.71	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	73.2	0.7	81.1	3.7	0.0	6.5	0.1	1.7	114.6	0.1	0.2
Delay (s)	84.3	111.9	14.5	146.9	46.1	10.3	72.9	44.4	38.3	171.8	30.8	25.4
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		101.8			62.2			46.1			128.2	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	85.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1945	1086	0	1285	832	0	0	0	234	0	790
Future Volume (vph)	0	1945	1086	0	1285	832	0	0	0	234	0	790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	2069	1155	0	1367	885	0	0	0	249	0	840
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	39
Lane Group Flow (vph)	0	2069	1155	0	1367	885	0	0	0	249	0	801
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		81.2	138.0		81.2	138.0				44.6		44.6
Effective Green, g (s)		81.2	138.0		81.2	133.3				44.6		44.6
Actuated g/C Ratio		0.59	1.00		0.59	0.97				0.32		0.32
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2992	2787		2992	1529				1109		900
v/s Ratio Prot		c0.41			0.27	0.56				0.07		c0.29
v/s Ratio Perm			0.41									
v/c Ratio		0.69	0.41		0.46	0.58				0.22		0.89
Uniform Delay, d1		19.7	0.0		16.0	0.2				34.1		44.4
Progression Factor		1.00	1.00		1.01	1.00				1.00		1.00
Incremental Delay, d2		1.3	0.5		0.5	0.3				0.0		10.7
Delay (s)		21.0	0.5		16.5	0.5				34.1		55.1
Level of Service		C	A		B	A				C		E
Approach Delay (s)		13.7			10.2			0.0			50.3	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1057	1216	0	1580	813	470	0	188	0	0	0
Future Volume (vph)	0	1057	1216	0	1580	813	470	0	188	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1090	1254	0	1629	838	485	0	194	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	158	0	0	0
Lane Group Flow (vph)	0	1090	1254	0	1629	838	485	0	36	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		100.0	138.0		100.0	138.0	25.8		25.8			
Effective Green, g (s)		100.0	133.3		100.0	138.0	25.8		25.8			
Actuated g/C Ratio		0.72	0.97		0.72	1.00	0.19		0.19			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3684	1529		4643	1583	641		521			
v/s Ratio Prot		0.21	c0.79		0.25		0.14					
v/s Ratio Perm						0.53			0.01			
v/c Ratio		0.30	0.82		0.35	0.53	0.76		0.07			
Uniform Delay, d1		6.7	0.4		7.0	0.0	53.1		46.2			
Progression Factor		0.65	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.2	2.7		0.2	1.3	4.5		0.0			
Delay (s)		4.5	3.1		7.2	1.3	57.7		46.2			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		3.8			5.2			54.4			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	516	497	256	1030	0	0
Future Volume (vph)	516	497	256	1030	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	532	512	264	1062	0	0
RTOR Reduction (vph)	0	130	0	0	0	0
Lane Group Flow (vph)	532	382	264	1062	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	67.0	67.0	11.3	90.0		
Effective Green, g (s)	67.0	67.0	11.3	90.0		
Actuated g/C Ratio	0.74	0.74	0.13	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2634	2074	431	5085		
v/s Ratio Prot	0.15		c0.08	c0.21		
v/s Ratio Perm		0.14				
v/c Ratio	0.20	0.18	0.61	0.21		
Uniform Delay, d1	3.5	3.4	37.3	0.0		
Progression Factor	1.00	1.00	0.72	1.00		
Incremental Delay, d2	0.2	0.2	1.7	0.1		
Delay (s)	3.6	3.6	28.7	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	3.6			5.8	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	488	0	0	721	595	693
Future Volume (vph)	0	488	0	0	721	595	693
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	536	0	0	792	654	762
RTOR Reduction (vph)	0	0	0	0	0	0	296
Lane Group Flow (vph)	0	536	0	0	792	654	466
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		55.3			55.3	23.0	23.0
Effective Green, g (s)		55.3			55.3	23.0	23.0
Actuated g/C Ratio		0.61			0.61	0.26	0.26
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2174			3124	877	712
v/s Ratio Prot		0.15			c0.16	c0.19	
v/s Ratio Perm							0.17
v/c Ratio		0.25			0.25	0.75	0.66
Uniform Delay, d1		7.9			7.9	30.8	30.0
Progression Factor		1.01			1.00	1.00	1.00
Incremental Delay, d2		0.3			0.2	3.0	1.7
Delay (s)		8.2			8.1	33.9	31.6
Level of Service		A			A	C	C
Approach Delay (s)		8.2			8.1	32.7	
Approach LOS		A			A	C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1150	62	664	2243	173	1004
Future Volume (vph)	1150	62	664	2243	173	1004
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6359		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6359		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1173	63	678	2289	177	1024
RTOR Reduction (vph)	4	0	0	0	0	3
Lane Group Flow (vph)	1232	0	678	2289	177	1021
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	57.4		37.6	99.7	49.9	91.9
Effective Green, g (s)	57.4		37.6	99.7	49.9	91.9
Actuated g/C Ratio	0.36		0.24	0.62	0.31	0.57
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2281		806	3992	552	1600
v/s Ratio Prot	0.19		c0.20	c0.36	0.10	c0.37
v/s Ratio Perm						
v/c Ratio	0.54		0.84	0.57	0.32	0.64
Uniform Delay, d1	40.8		58.4	17.7	42.1	22.9
Progression Factor	1.00		0.52	1.32	1.00	1.00
Incremental Delay, d2	0.9		0.8	0.1	0.1	0.6
Delay (s)	41.7		31.4	23.4	42.2	23.5
Level of Service	D		C	C	D	C
Approach Delay (s)	41.7			25.2	26.3	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	137	2032	0	2571	176	918	336
Future Volume (vph)	137	2032	0	2571	176	918	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (prot)	3433	5085		5085	1583	3346	
Flt Permitted	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (perm)	3433	5085		5085	1583	3346	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	138	2053	0	2597	178	927	339
RTOR Reduction (vph)	0	0	0	0	2	24	0
Lane Group Flow (vph)	138	2053	0	2597	176	1242	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	92.2		81.1	143.6	57.1	
Effective Green, g (s)	7.6	92.2		81.1	143.6	57.1	
Actuated g/C Ratio	0.05	0.58		0.51	0.90	0.36	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	163	2930		2577	1420	1194	
v/s Ratio Prot	0.04	c0.40		c0.51	0.11	c0.37	
v/s Ratio Perm							
v/c Ratio	0.85	0.70		1.01	0.12	1.04	
Uniform Delay, d1	75.6	24.1		39.5	0.9	51.5	
Progression Factor	0.84	0.94		0.41	1.31	1.00	
Incremental Delay, d2	26.3	1.2		17.0	0.0	37.0	
Delay (s)	89.5	23.7		33.2	1.3	88.4	
Level of Service	F	C		C	A	F	
Approach Delay (s)		27.9		31.2		88.4	
Approach LOS		C		C		F	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	2819	2711	29	99	69
Future Volume (vph)	25	2819	2711	29	99	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	26	2936	2824	30	103	72
RTOR Reduction (vph)	0	0	0	3	0	61
Lane Group Flow (vph)	26	2936	2824	27	103	11
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.8	135.6	126.8	126.8	13.7	13.7
Effective Green, g (s)	4.8	135.6	126.8	126.8	13.7	13.7
Actuated g/C Ratio	0.03	0.85	0.79	0.79	0.09	0.09
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	53	4309	4029	1254	151	135
v/s Ratio Prot	0.01	c0.58	c0.56		c0.06	
v/s Ratio Perm				0.02		0.01
v/c Ratio	0.49	0.68	0.70	0.02	0.68	0.08
Uniform Delay, d1	76.4	4.4	7.7	3.5	71.0	67.3
Progression Factor	1.11	0.32	0.82	0.61	1.00	1.00
Incremental Delay, d2	1.5	0.5	0.8	0.0	9.7	0.1
Delay (s)	86.3	1.9	7.2	2.1	80.7	67.4
Level of Service	F	A	A	A	F	E
Approach Delay (s)		2.6	7.1		75.3	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	29	3019	0	2562	34	88	103
Future Volume (vph)	29	3019	0	2562	34	88	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3327	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3327	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	3178	0	2697	36	93	108
RTOR Reduction (vph)	0	0	0	0	2	41	60
Lane Group Flow (vph)	31	3178	0	2697	34	96	4
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	7.2	139.5		127.4	127.4	9.9	9.9
Effective Green, g (s)	7.2	139.5		127.4	127.4	9.9	9.9
Actuated g/C Ratio	0.05	0.87		0.80	0.80	0.06	0.06
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	79	4433		4048	1260	205	89
v/s Ratio Prot	0.02	c0.62		0.53		c0.03	
v/s Ratio Perm					0.02		0.00
v/c Ratio	0.39	0.72		0.67	0.03	0.47	0.04
Uniform Delay, d1	74.3	3.5		7.1	3.4	72.5	70.6
Progression Factor	0.83	1.49		0.82	0.69	1.00	1.00
Incremental Delay, d2	2.5	0.8		0.4	0.0	1.7	0.2
Delay (s)	63.8	6.0		6.2	2.4	74.2	70.8
Level of Service	E	A		A	A	E	E
Approach Delay (s)		6.6		6.2		73.1	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1146	1854	88	19	1340	68	47	58	8	103	1	1232
Future Volume (vph)	1146	1854	88	19	1340	68	47	58	8	103	1	1232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5049		1652	1827		1625	1631	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5049		1652	1827		1625	1631	2787
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1232	1994	95	20	1441	73	51	62	9	111	1	1325
RTOR Reduction (vph)	0	3	0	0	4	0	0	4	0	0	0	254
Lane Group Flow (vph)	1232	2086	0	20	1510	0	51	67	0	55	57	1071
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	46.8	90.3		2.4	46.0		10.3	10.3		36.4	36.4	88.7
Effective Green, g (s)	46.8	90.3		2.4	46.0		10.3	10.3		36.4	36.4	88.7
Actuated g/C Ratio	0.29	0.56		0.01	0.29		0.06	0.06		0.23	0.23	0.55
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	937	2850		48	1451		106	117		369	371	1545
v/s Ratio Prot	c0.38	0.41		0.01	c0.30		0.03	c0.04		0.03	0.03	c0.38
v/s Ratio Perm												
v/c Ratio	1.31	0.73		0.42	1.04		0.48	0.57		0.15	0.15	0.69
Uniform Delay, d1	56.6	25.9		78.1	57.0		72.3	72.7		49.4	49.5	25.8
Progression Factor	0.93	1.08		1.05	1.10		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	147.2	1.2		2.1	34.7		1.3	4.2		0.2	0.2	1.3
Delay (s)	199.6	29.3		84.1	97.5		73.5	76.9		49.6	49.6	27.1
Level of Service	F	C		F	F		E	E		D	D	C
Approach Delay (s)		92.5			97.3			75.5			28.9	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	79.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	91	1952	0	1007	223	521	175
Future Volume (vph)	91	1952	0	1007	223	521	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3202	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3202	1585
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	95	2033	0	1049	232	543	182
RTOR Reduction (vph)	0	0	0	0	33	2	130
Lane Group Flow (vph)	95	2033	0	1049	199	559	34
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	13.3	116.6		98.6	137.4	32.8	32.8
Effective Green, g (s)	13.3	116.6		98.6	137.4	32.8	32.8
Actuated g/C Ratio	0.08	0.73		0.62	0.86	0.20	0.20
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	142	3582		3029	1269	656	324
v/s Ratio Prot	c0.06	c0.41		0.21	0.13	c0.17	
v/s Ratio Perm							0.02
v/c Ratio	0.67	0.57		0.35	0.16	0.85	0.10
Uniform Delay, d1	71.2	10.0		15.0	1.8	61.3	51.7
Progression Factor	1.39	0.14		1.50	0.03	1.00	1.00
Incremental Delay, d2	6.5	0.5		0.3	0.0	10.1	0.1
Delay (s)	105.7	1.8		22.7	0.1	71.3	51.7
Level of Service	F	A		C	A	E	D
Approach Delay (s)		6.5		18.6		66.9	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	378	2471	1004	630	429	179
Future Volume (vph)	378	2471	1004	630	429	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.5	6.0	5.8	6.8	5.0	6.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.97	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4503	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4503	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	382	2496	1014	636	433	181
RTOR Reduction (vph)	0	0	20	154	0	80
Lane Group Flow (vph)	382	2496	1255	221	433	101
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	23.4	123.0	95.3	95.3	26.0	54.4
Effective Green, g (s)	23.4	123.0	95.3	94.3	26.0	53.4
Actuated g/C Ratio	0.15	0.77	0.60	0.59	0.16	0.33
Clearance Time (s)	4.5	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	468	3648	2682	749	520	868
v/s Ratio Prot	c0.12	c0.53	0.28		c0.14	0.04
v/s Ratio Perm				0.17		
v/c Ratio	0.82	0.68	0.47	0.30	0.83	0.12
Uniform Delay, d1	66.2	9.0	18.1	16.3	64.9	36.9
Progression Factor	0.90	1.87	0.77	0.98	1.00	1.00
Incremental Delay, d2	8.8	0.9	0.5	0.8	10.5	0.0
Delay (s)	68.2	17.8	14.4	16.8	75.4	37.0
Level of Service	E	B	B	B	E	D
Approach Delay (s)		24.5	15.0		64.1	
Approach LOS		C	B		E	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	2654	155	123	1574	39	292	53	295	80	42	32
Future Volume (vph)	41	2654	155	123	1574	39	292	53	295	80	42	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1770	5085	1583	3433	5067		1681	1559	1504		1764	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1770	5085	1583	3433	5067		1681	1559	1504		1764	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	43	2794	163	129	1657	41	307	56	311	84	44	34
RTOR Reduction (vph)	0	0	33	0	1	0	0	18	91	0	6	0
Lane Group Flow (vph)	43	2794	130	129	1697	0	233	212	120	0	156	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.8	91.4	91.4	9.3	93.5		26.6	26.6	26.6		13.3	
Effective Green, g (s)	6.8	91.4	91.4	9.3	93.5		26.6	26.6	26.6		13.3	
Actuated g/C Ratio	0.04	0.57	0.57	0.06	0.58		0.17	0.17	0.17		0.08	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	75	2904	904	199	2961		279	259	250		146	
v/s Ratio Prot	0.02	c0.55		c0.04	0.33		c0.14	0.14			c0.09	
v/s Ratio Perm			0.08						0.08			
v/c Ratio	0.57	0.96	0.14	0.65	0.57		0.84	0.82	0.48		1.07	
Uniform Delay, d1	75.2	32.7	16.0	73.7	20.8		64.6	64.4	60.4		73.3	
Progression Factor	1.16	0.80	0.51	0.61	2.33		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.8	8.0	0.3	4.5	0.7		18.2	17.0	0.5		93.1	
Delay (s)	92.1	34.3	8.5	49.4	49.0		82.8	81.3	61.0		166.4	
Level of Service	F	C	A	D	D		F	F	E		F	
Approach Delay (s)		33.7			49.0			75.5			166.4	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	206	2637	0	1632	161	518	178
Future Volume (vph)	206	2637	0	1632	161	518	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5017		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5017		3433	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	212	2719	0	1682	166	534	184
RTOR Reduction (vph)	0	0	0	7	0	0	148
Lane Group Flow (vph)	212	2719	0	1841	0	534	36
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	13.6	118.9		100.7		31.4	31.4
Effective Green, g (s)	13.6	118.9		100.7		31.4	31.4
Actuated g/C Ratio	0.08	0.74		0.63		0.20	0.20
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	291	3778		3157		673	546
v/s Ratio Prot	0.06	c0.53		0.37		c0.16	
v/s Ratio Perm							0.01
v/c Ratio	0.73	0.72		0.58		0.79	0.07
Uniform Delay, d1	71.4	11.3		17.4		61.2	52.4
Progression Factor	1.24	0.43		0.63		1.00	1.00
Incremental Delay, d2	2.9	0.4		0.6		6.8	0.1
Delay (s)	91.5	5.4		11.5		68.0	52.4
Level of Service	F	A		B		E	D
Approach Delay (s)		11.6		11.5		64.0	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	2113	1016	34	1105	156	530	425	31	266	547	44
Future Volume (vph)	53	2113	1016	34	1105	156	530	425	31	266	547	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4991		2841	3053		3204	3500	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4991		2841	3053		3204	3500	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	54	2134	1026	34	1116	158	535	429	31	269	553	44
RTOR Reduction (vph)	0	0	16	0	11	0	0	2	0	0	3	0
Lane Group Flow (vph)	54	2134	1010	34	1263	0	481	512	0	269	594	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.4	71.7	108.6	3.3	67.5		36.9	36.9		26.2	26.2	
Effective Green, g (s)	7.4	71.7	108.6	3.3	67.5		36.9	36.9		26.2	26.2	
Actuated g/C Ratio	0.05	0.45	0.68	0.02	0.42		0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	2202	1003	37	2105		655	704		524	573	
v/s Ratio Prot	c0.03	0.43	c0.68	0.02	0.25		0.17	0.17		0.08	c0.17	
v/s Ratio Perm												
v/c Ratio	0.60	0.97	1.01	0.92	0.60		0.73	0.73		0.51	1.04	
Uniform Delay, d1	74.8	43.1	25.7	78.2	35.8		57.0	56.9		61.1	66.9	
Progression Factor	1.24	0.68	0.54	1.13	0.72		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.2	10.2	25.3	108.2	1.2		4.3	3.7		0.9	47.2	
Delay (s)	99.8	39.5	39.3	196.6	27.0		61.3	60.6		61.9	114.1	
Level of Service	F	D	D	F	C		E	E		E	F	
Approach Delay (s)		40.4			31.4			60.9			97.9	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2430	97	42	1416	21	33	9	130	85	10	40
Future Volume (vph)	33	2430	97	42	1416	21	33	9	130	85	10	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5056		1770	5074			1657			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.48	
Satd. Flow (perm)	1770	5056		1770	5074			1525			850	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	34	2480	99	43	1445	21	34	9	133	87	10	41
RTOR Reduction (vph)	0	2	0	0	1	0	0	76	0	0	10	0
Lane Group Flow (vph)	34	2577	0	43	1465	0	0	100	0	0	128	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	114.1		7.2	114.3			24.1			24.1	
Effective Green, g (s)	6.5	114.1		7.2	114.3			24.1			24.1	
Actuated g/C Ratio	0.04	0.71		0.05	0.71			0.15			0.15	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	71	3605		79	3624			229			128	
v/s Ratio Prot	0.02	c0.51		c0.02	0.29							
v/s Ratio Perm								0.07			c0.15	
v/c Ratio	0.48	0.71		0.54	0.40			0.43			1.00	
Uniform Delay, d1	75.1	13.4		74.8	9.2			61.8			67.9	
Progression Factor	1.02	0.42		0.99	1.20			1.00			1.00	
Incremental Delay, d2	0.9	0.6		3.8	0.3			0.5			78.4	
Delay (s)	77.5	6.3		77.9	11.3			62.2			146.4	
Level of Service	E	A		E	B			E			F	
Approach Delay (s)		7.3			13.2			62.2			146.4	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1397	1234	0	866	836	0	0	0	26	0	550
Future Volume (vph)	0	1397	1234	0	866	836	0	0	0	26	0	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1440	1272	0	893	862	0	0	0	27	0	567
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	281
Lane Group Flow (vph)	0	1440	1272	0	893	862	0	0	0	27	0	286
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		128.4	160.0		128.4	160.0				20.5		20.5
Effective Green, g (s)		128.4	160.0		128.4	160.0				20.5		20.5
Actuated g/C Ratio		0.80	1.00		0.80	1.00				0.13		0.13
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2840	1583		2840	2787				439		357
v/s Ratio Prot		0.41			0.25					0.01		
v/s Ratio Perm			c0.80			0.31						0.10
v/c Ratio		0.51	0.80		0.31	0.31				0.06		0.80
Uniform Delay, d1		5.3	0.0		4.2	0.0				61.3		67.8
Progression Factor		1.10	1.00		0.58	1.00				1.00		1.00
Incremental Delay, d2		0.5	3.2		0.3	0.3				0.0		11.6
Delay (s)		6.3	3.2		2.7	0.3				61.3		79.3
Level of Service		A	A		A	A				E		E
Approach Delay (s)		4.8			1.5			0.0			78.5	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	404	1018	0	1090	149	603	0	664	0	0	0
Future Volume (vph)	0	404	1018	0	1090	149	603	0	664	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	412	1039	0	1112	152	615	0	678	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	421	0	0	0
Lane Group Flow (vph)	0	412	1039	0	1112	152	615	0	257	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		112.7	160.0		112.7	160.0	34.2		34.2			
Effective Green, g (s)		112.7	160.0		112.7	160.0	34.2		34.2			
Actuated g/C Ratio		0.70	1.00		0.70	1.00	0.21		0.21			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2492	1583		4513	1583	733		595			
v/s Ratio Prot		0.12			0.17		c0.18					
v/s Ratio Perm			c0.66			0.10			0.09			
v/c Ratio		0.17	0.66		0.25	0.10	0.84		0.43			
Uniform Delay, d1		7.9	0.0		8.5	0.0	60.3		54.5			
Progression Factor		1.18	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	1.9		0.1	0.1	8.0		0.2			
Delay (s)		9.4	1.9		8.6	0.1	68.3		54.7			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		4.0			7.6			61.1			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	615	299	91	31	63	112	891	644	287	498	44
Future Volume (vph)	108	615	299	91	31	63	112	891	644	287	498	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.96			0.95		1.00	0.94		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3366			3279		1770	4765		1770	5024	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3366			3279		1770	4765		1770	5024	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	114	647	315	96	33	66	118	938	678	302	524	46
RTOR Reduction (vph)	0	30	0	0	51	0	0	85	0	0	6	0
Lane Group Flow (vph)	0	1046	0	0	144	0	118	1531	0	302	564	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		37.1			13.1		12.7	38.1		16.6	41.6	
Effective Green, g (s)		37.1			13.1		12.7	38.1		16.6	41.6	
Actuated g/C Ratio		0.30			0.10		0.10	0.30		0.13	0.33	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		998			343		179	1451		234	1670	
v/s Ratio Prot		c0.31			c0.04		0.07	c0.32		c0.17	c0.11	
v/s Ratio Perm												
v/c Ratio		1.05			0.42		0.66	1.20dr		1.29	0.34	
Uniform Delay, d1		44.0			52.4		54.1	43.5		54.2	31.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		42.1			2.0		7.2	39.7		158.9	0.1	
Delay (s)		86.1			54.5		61.3	83.2		213.1	31.5	
Level of Service		F			D		E	F		F	C	
Approach Delay (s)		86.1			54.5			81.7			94.4	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	84.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	125.1	Sum of lost time (s)	20.6
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	0	32	75	0	86	5	1334	167	192	570	18
Future Volume (vph)	134	0	32	75	0	86	5	1334	167	192	570	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770		1583	3204	4834		1770	5062	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770		1583	3204	4834		1770	5062	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	144	0	34	81	0	92	5	1434	180	206	613	19
RTOR Reduction (vph)	0	0	33	0	0	83	0	12	0	0	2	0
Lane Group Flow (vph)	144	0	1	81	0	9	5	1602	0	206	630	0
Turn Type	Prot		Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	6.6		3.3	10.6		7.3	0.8	34.9		6.6	40.7	
Effective Green, g (s)	6.6		3.3	10.6		7.3	0.8	34.9		6.6	40.7	
Actuated g/C Ratio	0.09		0.04	0.14		0.10	0.01	0.46		0.09	0.54	
Clearance Time (s)	4.4		4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	3.0		2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	150		78	249		153	34	2246		155	2743	
v/s Ratio Prot	c0.08			0.05			0.00	c0.33		c0.12	0.12	
v/s Ratio Perm			0.00			c0.01						
v/c Ratio	0.96		0.02	0.33		0.06	0.15	0.71		1.33	0.23	
Uniform Delay, d1	34.1		34.4	29.0		30.8	36.8	16.1		34.2	9.0	
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	60.3		0.0	0.8		0.1	0.7	1.1		185.5	0.0	
Delay (s)	94.4		34.4	29.8		30.8	37.5	17.2		219.8	9.0	
Level of Service	F		C	C		C	D	B		F	A	
Approach Delay (s)		82.9			30.4			17.3			60.8	
Approach LOS		F			C			B			E	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	19.7
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	86	132	0	50	6	1494	294	111	646	1
Future Volume (vph)	7	0	86	132	0	50	6	1494	294	111	646	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00		1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00		0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652		1742	3433	1583		3204	4916	1583	1770	5084	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652		1742	3433	1583		3204	4916	1583	1770	5084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.91
Adj. Flow (vph)	8	0	93	143	0	54	7	1624	320	121	702	1
RTOR Reduction (vph)	0	0	83	0	45	0	0	0	164	0	0	0
Lane Group Flow (vph)	8	0	10	143	9	0	7	1624	156	121	703	0
Turn Type	Prot		Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.8		8.0	4.9	12.1		0.8	37.2	37.2	6.6	42.6	
Effective Green, g (s)	0.8		8.0	4.9	12.1		0.8	37.2	37.2	6.6	42.6	
Actuated g/C Ratio	0.01		0.10	0.06	0.16		0.01	0.49	0.49	0.09	0.56	
Clearance Time (s)	4.4		4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0		2.0	2.0	2.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	17		182	220	250		33	2393	770	152	2834	
v/s Ratio Prot	0.00			c0.04	c0.01		0.00	c0.33		c0.07	0.14	
v/s Ratio Perm			c0.01						0.10			
v/c Ratio	0.47		0.05	0.65	0.03		0.21	0.68	0.20	0.80	0.25	
Uniform Delay, d1	37.6		30.8	34.9	27.2		37.5	15.0	11.2	34.2	8.7	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.3		0.0	5.1	0.0		1.2	0.8	0.2	22.9	0.1	
Delay (s)	44.9		30.8	40.1	27.2		38.7	15.8	11.3	57.2	8.7	
Level of Service	D		C	D	C		D	B	B	E	A	
Approach Delay (s)		31.9			36.5			15.2			15.8	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	76.4	Sum of lost time (s)	20.1
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	1	1782	1	1	869
Future Volume (vph)	9	1	1782	1	1	869
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	9	1	1856	1	1	905
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	9	0	1856	1	1	905
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	0.6	0.6	30.9	30.9	0.6	36.3
Effective Green, g (s)	0.6	0.6	30.9	30.9	0.6	36.3
Actuated g/C Ratio	0.01	0.01	0.65	0.65	0.01	0.76
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	43	19	3287	1023	22	3861
v/s Ratio Prot	c0.00		c0.36		0.00	c0.18
v/s Ratio Perm		0.00		0.00		
v/c Ratio	0.21	0.00	0.56	0.00	0.05	0.23
Uniform Delay, d1	23.4	23.3	4.7	3.0	23.3	1.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.0	0.2	0.0	0.3	0.0
Delay (s)	24.2	23.3	4.9	3.0	23.6	1.7
Level of Service	C	C	A	A	C	A
Approach Delay (s)	24.2		4.9			1.7
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	15.7
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	5	19	191	2	174	7	1682	110	93	879	4
Future Volume (vph)	14	5	19	191	2	174	7	1682	110	93	879	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1706		1681	1525		1770	3539	1583	1770	3537	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1706		1681	1525		1770	3539	1583	1770	3537	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	16	6	22	222	2	202	8	1956	128	108	1022	5
RTOR Reduction (vph)	0	21	0	0	166	0	0	0	47	0	0	0
Lane Group Flow (vph)	0	23	0	200	60	0	8	1956	81	108	1027	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		5.0		18.9	18.9		0.7	55.1	55.1	7.2	61.6	
Effective Green, g (s)		5.0		18.9	18.9		0.7	55.1	55.1	7.2	61.6	
Actuated g/C Ratio		0.05		0.18	0.18		0.01	0.52	0.52	0.07	0.58	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		80		299	271		11	1837	822	120	2053	
v/s Ratio Prot		c0.01		c0.12	0.04		0.00	c0.55		c0.06	0.29	
v/s Ratio Perm									0.05			
v/c Ratio		0.29		0.67	0.22		0.73	1.06	0.10	0.90	0.50	
Uniform Delay, d1		48.8		40.7	37.3		52.6	25.5	12.9	49.1	13.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7		6.6	0.7		110.3	40.7	0.1	51.6	0.3	
Delay (s)		49.6		47.2	38.0		162.9	66.2	13.0	100.7	13.5	
Level of Service		D		D	D		F	E	B	F	B	
Approach Delay (s)		49.6			42.3			63.3			21.8	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	106.1	Sum of lost time (s)	19.9
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	141	85	132	683	587	61
Future Volume (vph)	141	85	132	683	587	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3489	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3489	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	155	93	145	751	645	67
RTOR Reduction (vph)	0	81	0	0	5	0
Lane Group Flow (vph)	155	12	145	751	707	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.7	13.7	8.8	81.2	68.0	
Effective Green, g (s)	13.7	13.7	8.8	81.2	68.0	
Actuated g/C Ratio	0.13	0.13	0.08	0.77	0.65	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	230	206	287	2736	2259	
v/s Ratio Prot	c0.09		c0.04	0.21	c0.20	
v/s Ratio Perm		0.01				
v/c Ratio	0.67	0.06	0.51	0.27	0.31	
Uniform Delay, d1	43.5	40.0	46.0	3.4	8.2	
Progression Factor	1.00	1.00	1.04	0.53	1.00	
Incremental Delay, d2	6.0	0.0	0.5	0.2	0.4	
Delay (s)	49.5	40.0	48.1	2.1	8.5	
Level of Service	D	D	D	A	A	
Approach Delay (s)	46.0			9.5	8.5	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	221	214	49	138	77	183	711	104	108	577	40
Future Volume (vph)	24	221	214	49	138	77	183	711	104	108	577	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3278		1770	3349		3433	3472		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3278		1770	3349		3433	3472		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	25	233	225	52	145	81	193	748	109	114	607	42
RTOR Reduction (vph)	0	196	0	0	68	0	0	8	0	0	3	0
Lane Group Flow (vph)	25	262	0	52	158	0	193	849	0	114	646	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.4	13.5		6.3	16.4		10.2	55.1		11.1	56.0	
Effective Green, g (s)	3.4	13.5		6.3	16.4		10.2	55.1		11.1	56.0	
Actuated g/C Ratio	0.03	0.13		0.06	0.16		0.10	0.52		0.11	0.53	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	57	421		106	523		333	1821		187	1869	
v/s Ratio Prot	0.01	c0.08		c0.03	c0.05		0.06	c0.24		c0.06	0.18	
v/s Ratio Perm												
v/c Ratio	0.44	0.62		0.49	0.30		0.58	0.47		0.61	0.35	
Uniform Delay, d1	49.9	43.3		47.8	39.2		45.3	15.7		44.9	14.0	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.48		1.20	0.73	
Incremental Delay, d2	2.0	2.1		1.3	0.1		1.3	0.8		3.7	0.5	
Delay (s)	51.8	45.4		49.1	39.3		54.1	8.3		57.7	10.7	
Level of Service	D	D		D	D		D	A		E	B	
Approach Delay (s)		45.7			41.2			16.7			17.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	299	123	23	47	26	54	880	49	57	760	29
Future Volume (vph)	89	299	123	23	47	26	54	880	49	57	760	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1763		1770	3511		1770	3520	
Flt Permitted	0.64	1.00		0.18	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1185	1781		330	1763		1770	3511		1770	3520	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	93	311	128	24	49	27	56	917	51	59	792	30
RTOR Reduction (vph)	0	15	0	0	20	0	0	3	0	0	2	0
Lane Group Flow (vph)	93	424	0	24	56	0	56	965	0	59	820	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	33.3	28.7		27.5	25.8		6.4	49.3		6.3	49.2	
Effective Green, g (s)	33.3	28.7		27.5	25.8		6.4	49.3		6.3	49.2	
Actuated g/C Ratio	0.32	0.27		0.26	0.25		0.06	0.47		0.06	0.47	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	401	486		109	433		107	1648		106	1649	
v/s Ratio Prot	c0.01	c0.24		0.00	0.03		0.03	c0.27		c0.03	0.23	
v/s Ratio Perm	0.06			0.05								
v/c Ratio	0.23	0.87		0.22	0.13		0.52	0.59		0.56	0.50	
Uniform Delay, d1	25.9	36.4		30.4	30.8		47.8	20.4		48.0	19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.39	0.28		1.20	0.64	
Incremental Delay, d2	0.1	15.3		0.4	0.0		1.2	0.9		3.4	1.0	
Delay (s)	26.0	51.7		30.7	30.9		67.5	6.7		60.9	13.4	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		47.2			30.9			10.0			16.5	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	338	183	27	123	64	82	881	76	188	594	95
Future Volume (vph)	73	338	183	27	123	64	82	881	76	188	594	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1765		1770	1767		1770	3497		1770	3466	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1765		1770	1767		1770	3497		1770	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	367	199	29	134	70	89	958	83	204	646	103
RTOR Reduction (vph)	0	18	0	0	18	0	0	6	0	0	12	0
Lane Group Flow (vph)	79	548	0	29	186	0	89	1035	0	204	737	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.1	34.4		2.5	30.8		8.1	35.3		13.9	41.1	
Effective Green, g (s)	6.1	34.4		2.5	30.8		8.1	35.3		13.9	41.1	
Actuated g/C Ratio	0.06	0.33		0.02	0.29		0.08	0.34		0.13	0.39	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	102	578		42	518		136	1175		234	1356	
v/s Ratio Prot	c0.04	c0.31		0.02	0.11		0.05	c0.30		c0.12	0.21	
v/s Ratio Perm												
v/c Ratio	0.77	0.95		0.69	0.36		0.65	0.88		0.87	0.54	
Uniform Delay, d1	48.8	34.4		50.9	29.3		47.1	32.9		44.7	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.30	0.79		1.32	0.64	
Incremental Delay, d2	27.6	24.6		32.7	0.2		7.0	8.2		24.8	1.4	
Delay (s)	76.4	59.1		83.5	29.5		68.0	34.2		83.6	17.2	
Level of Service	E	E		F	C		E	C		F	B	
Approach Delay (s)		61.2			36.2			36.8			31.4	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	40	1	36	3	1116	250	70	741	6
Future Volume (vph)	0	0	4	40	1	36	3	1116	250	70	741	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	3442		1770	3535	
Flt Permitted		1.00			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1357	1583	1770	3442		1770	3535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	4	43	1	38	3	1187	266	74	788	6
RTOR Reduction (vph)	0	4	0	0	0	35	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	44	3	3	1442	0	74	794	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		9.5			9.5	9.5	1.1	73.0		7.8	79.9	
Effective Green, g (s)		9.5			9.5	9.5	1.1	73.0		7.8	79.9	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.70		0.07	0.76	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		145			122	143	18	2393		131	2689	
v/s Ratio Prot		0.00					0.00	c0.42		c0.04	0.22	
v/s Ratio Perm					c0.03	0.00						
v/c Ratio		0.00			0.36	0.02	0.17	0.60		0.56	0.30	
Uniform Delay, d1		43.4			44.9	43.5	51.5	8.4		47.0	3.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.89	1.38	
Incremental Delay, d2		0.0			4.3	0.2	1.6	1.1		2.6	0.2	
Delay (s)		43.4			49.2	43.7	53.1	9.5		44.4	5.6	
Level of Service		D			D	D	D	A		D	A	
Approach Delay (s)		43.4			46.6			9.6			8.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	60	23	1337	778	5
Future Volume (vph)	34	60	23	1337	778	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3536	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	63	24	1407	819	5
RTOR Reduction (vph)	0	60	0	0	0	0
Lane Group Flow (vph)	36	3	24	1407	824	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.2	5.2	4.3	109.0	99.2	
Effective Green, g (s)	5.2	5.2	4.3	109.0	99.2	
Actuated g/C Ratio	0.04	0.04	0.03	0.87	0.79	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	142	65	60	3086	2806	
v/s Ratio Prot	c0.01		0.01	c0.40	0.23	
v/s Ratio Perm		0.00				
v/c Ratio	0.25	0.04	0.40	0.46	0.29	
Uniform Delay, d1	58.0	57.5	59.1	1.7	3.5	
Progression Factor	1.00	1.00	1.20	0.35	1.00	
Incremental Delay, d2	0.3	0.1	1.3	0.4	0.3	
Delay (s)	58.4	57.6	72.3	1.0	3.7	
Level of Service	E	E	E	A	A	
Approach Delay (s)	57.9			2.2	3.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	4	764	9	2	5	83	1003	11	5	770	72
Future Volume (vph)	359	4	764	9	2	5	83	1003	11	5	770	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	370	4	788	9	2	5	86	1034	11	5	794	74
RTOR Reduction (vph)	0	0	103	0	5	0	0	0	7	0	6	0
Lane Group Flow (vph)	189	185	685	0	11	0	86	1034	4	5	862	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	57.4	57.4	57.4		1.6		8.0	45.0	45.0	0.8	37.8	
Effective Green, g (s)	57.4	57.4	57.4		1.6		8.0	45.0	45.0	0.8	37.8	
Actuated g/C Ratio	0.46	0.46	0.46		0.01		0.06	0.36	0.36	0.01	0.30	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	771	774	726		22		113	1274	569	11	1056	
v/s Ratio Prot	0.11	0.11			c0.01		c0.05	c0.29		0.00	0.25	
v/s Ratio Perm			c0.43						0.00			
v/c Ratio	0.25	0.24	0.94		0.50		0.76	0.81	0.01	0.45	0.82	
Uniform Delay, d1	20.6	20.5	32.3		61.3		57.6	36.2	25.7	61.9	40.4	
Progression Factor	1.00	1.00	1.00		1.00		0.62	1.26	1.00	0.97	0.94	
Incremental Delay, d2	0.1	0.1	20.5		6.4		7.7	1.7	0.0	10.2	6.8	
Delay (s)	20.7	20.6	52.8		67.7		43.6	47.3	25.7	70.3	44.9	
Level of Service	C	C	D		E		D	D	C	E	D	
Approach Delay (s)		42.4			67.7			46.8			45.0	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	56	0	243	11	841	198	949	583	10
Future Volume (vph)	0	13	1	56	0	243	11	841	198	949	583	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3438		1770	3531	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3438		1770	3531	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	58	0	251	11	867	204	978	601	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	16	0	0	0	0
Lane Group Flow (vph)	0	13	0	0	58	245	11	1055	0	978	611	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.4			12.4	83.5	1.4	32.1		66.2	96.9	
Effective Green, g (s)		12.4			12.4	83.5	1.4	32.1		66.2	96.9	
Actuated g/C Ratio		0.10			0.10	0.67	0.01	0.26		0.53	0.78	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		183			138	1057	19	882		937	2737	
v/s Ratio Prot		0.01				0.15	0.01	c0.31		c0.55	0.17	
v/s Ratio Perm					c0.04							
v/c Ratio		0.07			0.42	0.23	0.58	1.20		1.04	0.22	
Uniform Delay, d1		51.1			52.9	8.2	61.5	46.5		29.4	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.85	0.79	
Incremental Delay, d2		0.1			0.8	0.0	23.8	99.2		33.4	0.1	
Delay (s)		51.1			53.7	8.2	85.3	145.6		58.4	3.1	
Level of Service		D			D	A	F	F		E	A	
Approach Delay (s)		51.1			16.7			145.0			37.2	
Approach LOS		D			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	74.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Near Term Year 2025
Without Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	911	2438	677	34	1049	102	71	70	13	60	55	125
Future Volume (vph)	911	2438	677	34	1049	102	71	70	13	60	55	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6322		2841	3017		3204	1594	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6322		2841	3017		3204	1594	2882
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	969	2594	720	36	1116	109	76	74	14	64	59	133
RTOR Reduction (vph)	0	0	114	0	7	0	0	7	0	0	0	0
Lane Group Flow (vph)	969	2594	606	36	1218	0	68	89	0	64	72	120
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	64.3	133.1	133.1	7.6	76.2		13.3	13.3		15.4	15.4	85.0
Effective Green, g (s)	64.3	133.1	133.1	7.6	76.2		13.3	13.3		15.4	15.4	85.0
Actuated g/C Ratio	0.34	0.70	0.70	0.04	0.40		0.07	0.07		0.08	0.08	0.45
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1084	3443	1108	66	2535		198	211		259	129	1289
v/s Ratio Prot	c0.30	c0.53		0.02	0.19		0.02	c0.03		0.02	c0.05	0.04
v/s Ratio Perm			0.38									
v/c Ratio	0.89	0.75	0.55	0.55	0.48		0.34	0.42		0.25	0.56	0.09
Uniform Delay, d1	59.6	18.0	13.8	89.5	42.2		84.2	84.7		81.9	84.0	30.3
Progression Factor	1.00	1.00	1.00	1.08	0.19		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.6	1.6	1.9	4.4	0.6		2.5	3.2		0.7	6.6	0.0
Delay (s)	69.2	19.6	15.8	101.1	8.4		86.7	87.8		82.6	90.6	30.3
Level of Service	E	B	B	F	A		F	F		F	F	C
Approach Delay (s)		30.2			11.1			87.4			60.3	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	2229	42	167	1113	515	6	22	27	59	19	52
Future Volume (vph)	259	2229	42	167	1113	515	6	22	27	59	19	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4844		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4844		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	273	2346	44	176	1172	542	6	23	28	62	20	55
RTOR Reduction (vph)	0	1	0	0	29	0	0	0	27	0	0	51
Lane Group Flow (vph)	273	2389	0	176	1685	0	6	23	1	62	20	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	20.5	138.2		14.8	132.3		1.9	9.1	9.1	7.7	14.6	14.6
Effective Green, g (s)	20.5	138.2		14.8	132.3		1.9	9.1	9.1	7.7	14.6	14.6
Actuated g/C Ratio	0.11	0.73		0.08	0.70		0.01	0.05	0.05	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	345	3688		249	3372		16	83	75	129	143	121
v/s Ratio Prot	c0.09	c0.47		0.05	0.35		0.00	c0.01		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.79	0.65		0.71	0.50		0.38	0.28	0.02	0.48	0.14	0.03
Uniform Delay, d1	82.7	13.4		85.5	13.4		93.5	87.3	86.2	89.2	81.8	81.2
Progression Factor	0.91	0.75		1.07	2.50		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.5	0.6		5.1	0.4		14.1	1.5	0.1	1.0	0.3	0.1
Delay (s)	82.9	10.6		96.2	34.0		107.6	88.8	86.3	90.2	82.1	81.2
Level of Service	F	B		F	C		F	F	F	F	F	F
Approach Delay (s)		18.0			39.8			89.5			85.4	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	586	1261	348	328	1640	1243	31	71	97	106	28	107
Future Volume (vph)	586	1261	348	328	1640	1243	31	71	97	106	28	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4920		1652	5085	1583	1652	3087	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4920		1652	5085	1583	1652	3087	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	604	1300	359	338	1691	1281	32	73	100	109	29	110
RTOR Reduction (vph)	0	19	0	0	0	0	0	43	51	0	0	101
Lane Group Flow (vph)	604	1640	0	338	1691	1281	32	76	3	109	29	9
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	68.6	107.0		43.4	81.9	190.0	4.8	11.5	11.5	8.4	15.1	15.1
Effective Green, g (s)	68.6	107.0		43.4	81.9	190.0	4.8	11.5	11.5	8.4	15.1	15.1
Actuated g/C Ratio	0.36	0.56		0.23	0.43	1.00	0.03	0.06	0.06	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	596	2770		377	2191	1583	41	186	90	141	309	125
v/s Ratio Prot	c0.37	0.33		c0.20	0.33		0.02	0.02		0.03	0.01	
v/s Ratio Perm						c0.81			0.00			0.01
v/c Ratio	1.01	0.59		0.90	0.77	0.81	0.78	0.41	0.04	0.77	0.09	0.07
Uniform Delay, d1	60.7	27.2		71.1	46.1	0.0	92.1	86.0	84.0	89.9	81.1	80.9
Progression Factor	1.08	1.31		1.09	0.62	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.0	0.7		11.7	1.2	2.1	62.4	1.8	0.2	20.9	0.3	0.5
Delay (s)	101.4	36.4		88.9	29.6	2.1	154.5	87.7	84.2	110.8	81.4	81.4
Level of Service	F	D		F	C	A	F	F	F	F	F	F
Approach Delay (s)		53.8			25.0			97.2			94.3	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	868	296	100	2696	70	87	6	17	10	14	243
Future Volume (vph)	324	868	296	100	2696	70	87	6	17	10	14	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	1770	4891		1770	5066		1681	1638		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	1770	4891		1770	5066		1681	1638		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	334	895	305	103	2779	72	90	6	18	10	14	251
RTOR Reduction (vph)	0	21	0	0	1	0	0	10	0	0	0	107
Lane Group Flow (vph)	334	1179	0	103	2850	0	58	46	0	10	14	144
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	47.5	137.9		15.4	106.0		11.0	11.0		5.5	5.5	53.0
Effective Green, g (s)	47.5	137.9		15.4	106.0		11.0	11.0		5.5	5.5	53.0
Actuated g/C Ratio	0.25	0.73		0.08	0.56		0.06	0.06		0.03	0.03	0.28
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	442	3549		143	2826		97	94		47	53	441
v/s Ratio Prot	c0.19	0.24		0.06	c0.56		c0.03	0.03		0.01	0.01	c0.09
v/s Ratio Perm												
v/c Ratio	0.76	0.33		0.72	1.01		0.60	0.49		0.21	0.26	0.33
Uniform Delay, d1	65.9	9.4		85.2	42.0		87.3	86.8		90.1	90.3	54.3
Progression Factor	0.85	2.45		1.21	0.69		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.4	0.2		7.6	14.2		6.4	1.4		0.8	1.0	0.2
Delay (s)	61.6	23.2		110.6	43.2		93.8	88.2		91.0	91.2	54.5
Level of Service	E	C		F	D		F	F		F	F	D
Approach Delay (s)		31.6			45.5			91.0			57.7	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	757	44	151	2865	166	7	4	32	43	8	36
Future Volume (vph)	98	757	44	151	2865	166	7	4	32	43	8	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5043		1770	5043		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5043		1770	5043		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	104	805	47	161	3048	177	7	4	34	46	9	38
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	33	0	0	35
Lane Group Flow (vph)	104	850	0	161	3223	0	7	4	1	46	9	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.4	133.8		21.6	139.3		0.8	8.1	8.1	6.8	14.1	14.1
Effective Green, g (s)	16.4	133.8		21.6	139.3		0.8	8.1	8.1	6.8	14.1	14.1
Actuated g/C Ratio	0.09	0.70		0.11	0.73		0.00	0.04	0.04	0.04	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	152	3551		201	3697		7	79	67	63	138	117
v/s Ratio Prot	0.06	0.17		c0.09	c0.64		0.00	0.00		c0.03	c0.00	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.68	0.24		0.80	0.87		1.00	0.05	0.02	0.73	0.07	0.02
Uniform Delay, d1	84.3	10.0		82.1	18.7		94.6	87.3	87.2	90.7	81.8	81.6
Progression Factor	1.16	0.18		0.99	0.42		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4	0.2		7.5	1.1		340.2	0.1	0.0	30.8	0.1	0.0
Delay (s)	106.9	2.0		89.2	9.0		434.8	87.4	87.2	121.5	81.9	81.6
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		13.4			12.8			141.3			101.4	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	475	317	43	2906	154	360	48	36	21	19	36
Future Volume (vph)	64	475	317	43	2906	154	360	48	36	21	19	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4780		1652	5047		1625	1704	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4780		1652	5047		1625	1704	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	485	323	44	2965	157	367	49	37	21	19	37
RTOR Reduction (vph)	0	40	0	0	2	0	0	0	31	0	0	36
Lane Group Flow (vph)	65	768	0	44	3120	0	206	210	6	21	19	1
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.5	126.2		8.4	118.6		28.3	28.3	28.3	6.9	6.9	6.9
Effective Green, g (s)	15.5	126.2		8.4	118.6		28.3	28.3	28.3	6.9	6.9	6.9
Actuated g/C Ratio	0.08	0.66		0.04	0.62		0.15	0.15	0.15	0.04	0.04	0.04
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	134	3174		73	3150		242	253	235	59	67	61
v/s Ratio Prot	c0.04	0.16		c0.03	c0.62		c0.13	0.12		c0.01	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.24		0.60	0.99		0.85	0.83	0.02	0.36	0.28	0.02
Uniform Delay, d1	83.4	12.8		89.2	35.1		78.8	78.5	69.0	89.4	89.1	88.3
Progression Factor	1.19	0.18		1.31	0.51		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.2		6.4	11.1		23.1	19.3	0.0	3.7	2.3	0.1
Delay (s)	100.5	2.5		123.4	29.0		101.9	97.8	69.1	93.0	91.5	88.4
Level of Service	F	A		F	C		F	F	E	F	F	F
Approach Delay (s)		9.8			30.3			97.3			90.4	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	326	82	47	2809	78	175	26	60	4	11	17
Future Volume (vph)	32	326	82	47	2809	78	175	26	60	4	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4932		1770	5065		3433	1669		1770	1693	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4932		1770	5065		3433	1669		1770	1693	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	333	84	48	2866	80	179	27	61	4	11	17
RTOR Reduction (vph)	0	14	0	0	1	0	0	50	0	0	16	0
Lane Group Flow (vph)	33	403	0	48	2945	0	179	38	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.1	141.2		8.5	142.6		12.8	19.8		0.8	7.8	
Effective Green, g (s)	7.1	141.2		8.5	142.6		12.8	19.8		0.8	7.8	
Actuated g/C Ratio	0.04	0.74		0.04	0.75		0.07	0.10		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	66	3665		79	3801		231	173		7	69	
v/s Ratio Prot	0.02	0.08		c0.03	c0.58		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.50	0.11		0.61	0.77		0.77	0.22		0.57	0.17	
Uniform Delay, d1	89.7	6.8		89.1	14.1		87.2	78.0		94.4	88.0	
Progression Factor	0.84	0.79		1.31	0.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		0.8	0.1		13.7	0.2		55.0	0.4	
Delay (s)	77.1	5.5		117.8	5.4		100.9	78.2		149.4	88.4	
Level of Service	E	A		F	A		F	E		F	F	
Approach Delay (s)		10.7			7.2			93.4			96.0	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	320	109	780	2850	351	188	169	160	116	299	62
Future Volume (vph)	25	320	109	780	2850	351	188	169	160	116	299	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.0	6.0		4.0	6.0		4.0	6.0	6.0	4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4892		1652	5002		1652	3421	1531	3204	3448	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4892		1652	5002		1652	3421	1531	3204	3448	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	26	327	111	796	2908	358	192	172	163	118	305	63
RTOR Reduction (vph)	0	32	0	0	8	0	0	0	27	0	10	0
Lane Group Flow (vph)	26	406	0	796	3258	0	192	172	136	118	358	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.5	32.9		86.1	115.5		25.8	40.1	132.2	10.9	25.2	
Effective Green, g (s)	3.5	32.9		86.1	115.5		25.8	40.1	132.2	10.9	25.2	
Actuated g/C Ratio	0.02	0.17		0.45	0.61		0.14	0.21	0.70	0.06	0.13	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	30	847		748	3040		224	722	1065	183	457	
v/s Ratio Prot	0.02	0.08		c0.48	c0.65		c0.12	0.05	0.09	0.04	c0.10	
v/s Ratio Perm												
v/c Ratio	0.87	0.48		1.06	1.07		0.86	0.24	0.13	0.64	0.78	
Uniform Delay, d1	93.0	70.8		52.0	37.2		80.3	62.3	9.6	87.7	79.8	
Progression Factor	0.94	1.07		0.84	0.49		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	105.5	0.7		39.3	35.2		26.1	0.2	0.1	5.7	8.7	
Delay (s)	193.4	76.8		83.0	53.3		106.4	62.5	9.7	93.4	88.4	
Level of Service	F	E		F	D		F	E	A	F	F	
Approach Delay (s)		83.3			59.2			62.1			89.6	
Approach LOS		F			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	64.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	573	11	32	3795	24	36	6	49	66	5	119
Future Volume (vph)	24	573	11	32	3795	24	36	6	49	66	5	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5071		1770	5080			1786	1583	1770	1594	
Flt Permitted	0.95	1.00		0.95	1.00			0.31	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5071		1770	5080			571	1583	1358	1594	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	25	591	11	33	3912	25	37	6	51	68	5	123
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	47	0	33	0
Lane Group Flow (vph)	25	601	0	33	3937	0	0	43	4	68	95	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.5	152.0		7.1	152.6			15.6	15.6	15.6	15.6	
Effective Green, g (s)	6.5	152.0		7.1	152.6			15.6	15.6	15.6	15.6	
Actuated g/C Ratio	0.03	0.80		0.04	0.80			0.08	0.08	0.08	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	60	4056		66	4080			46	129	111	130	
v/s Ratio Prot	0.01	0.12		c0.02	c0.77						0.06	
v/s Ratio Perm								c0.08	0.00	0.05		
v/c Ratio	0.42	0.15		0.50	0.96			0.93	0.03	0.61	0.73	
Uniform Delay, d1	89.9	4.3		89.7	16.4			86.7	80.3	84.3	85.1	
Progression Factor	0.85	3.93		1.08	0.27			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.1		1.0	4.5			106.2	0.0	6.9	16.5	
Delay (s)	77.8	17.0		98.2	8.8			192.9	80.3	91.1	101.7	
Level of Service	E	B		F	A			F	F	F	F	
Approach Delay (s)		19.4			9.6			131.8			98.0	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	626	9	20	3783	33	17	9	40	1	13	39
Future Volume (vph)	7	626	9	20	3783	33	17	9	40	1	13	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5075		1770	5079			1689		1770	1652	
Flt Permitted	0.95	1.00		0.95	1.00			0.83		0.44	1.00	
Satd. Flow (perm)	1770	5075		1770	5079			1428		825	1652	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	645	9	21	3900	34	18	9	41	1	13	40
RTOR Reduction (vph)	0	0	0	0	0	0	0	33	0	0	38	0
Lane Group Flow (vph)	7	654	0	21	3934	0	0	35	0	1	15	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	160.8		4.8	163.9			9.1		9.1	9.1	
Effective Green, g (s)	1.4	160.8		4.8	163.9			9.1		9.1	9.1	
Actuated g/C Ratio	0.01	0.85		0.03	0.86			0.05		0.05	0.05	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	4295		44	4381			68		39	79	
v/s Ratio Prot	0.00	0.13		c0.01	c0.77						0.01	
v/s Ratio Perm								c0.02		0.00		
v/c Ratio	0.54	0.15		0.48	0.90			0.51		0.03	0.19	
Uniform Delay, d1	94.0	2.6		91.4	8.0			88.3		86.2	86.9	
Progression Factor	1.34	0.30		0.97	0.99			1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.1		0.3	0.3			2.2		0.1	0.4	
Delay (s)	146.0	0.9		88.9	8.2			90.5		86.3	87.3	
Level of Service	F	A		F	A			F		F	F	
Approach Delay (s)		2.4			8.6			90.5			87.3	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	747	32	56	3550	35	100	32	81	70	93	210
Future Volume (vph)	48	747	32	56	3550	35	100	32	81	70	93	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5054		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5054		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	49	770	33	58	3660	36	103	33	84	72	96	216
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	74	0	0	74
Lane Group Flow (vph)	49	801	0	58	3695	0	103	33	10	72	96	142
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	9.5	128.7		10.3	130.5		12.2	23.0	23.0	10.0	20.8	20.8
Effective Green, g (s)	9.5	128.7		10.3	130.5		12.2	23.0	23.0	10.0	20.8	20.8
Actuated g/C Ratio	0.05	0.68		0.05	0.69		0.06	0.12	0.12	0.05	0.11	0.11
Clearance Time (s)	4.0	5.5		4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	88	3423		95	3487		113	225	191	93	203	173
v/s Ratio Prot	0.03	0.16		c0.03	c0.73		c0.06	0.02		0.04	0.05	
v/s Ratio Perm									0.01			c0.09
v/c Ratio	0.56	0.23		0.61	1.06		0.91	0.15	0.05	0.77	0.47	0.82
Uniform Delay, d1	88.2	11.8		87.9	29.8		88.4	74.7	73.9	88.9	79.5	82.8
Progression Factor	0.99	0.43		1.19	0.19		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.2		0.7	27.7		56.7	0.1	0.0	29.8	0.6	24.7
Delay (s)	91.5	5.2		105.2	33.4		145.1	74.8	73.9	118.7	80.1	107.5
Level of Service	F	A		F	C		F	E	E	F	F	F
Approach Delay (s)		10.2			34.5			107.4			102.7	
Approach LOS		B			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	690	71	23	3143	14	164	49	18	56	127	227
Future Volume (vph)	43	690	71	23	3143	14	164	49	18	56	127	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	5.5	5.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3397		1770	3199	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3397		1770	3199	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	46	734	76	24	3344	15	174	52	19	60	135	241
RTOR Reduction (vph)	0	6	0	0	0	6	0	17	0	0	48	0
Lane Group Flow (vph)	46	804	0	24	3344	9	174	54	0	60	328	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	5.9	118.9		4.1	117.1	117.1	22.1	22.1		26.0	26.0	
Effective Green, g (s)	5.9	118.9		4.1	117.1	117.1	22.1	22.1		26.0	26.0	
Actuated g/C Ratio	0.03	0.63		0.02	0.62	0.62	0.12	0.12		0.14	0.14	
Clearance Time (s)	4.4	5.5		4.4	5.5	5.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	54	3137		38	3133	975	205	395		242	437	
v/s Ratio Prot	c0.03	0.16		0.01	c0.66		c0.10	0.02		0.03	c0.10	
v/s Ratio Perm						0.01						
v/c Ratio	0.85	0.26		0.63	1.07	0.01	0.85	0.14		0.25	0.91dr	
Uniform Delay, d1	91.6	15.8		92.2	36.5	14.1	82.3	75.4		73.3	78.9	
Progression Factor	0.74	1.74		1.31	0.28	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	67.7	0.2		2.3	31.1	0.0	27.1	0.2		0.8	7.5	
Delay (s)	135.7	27.7		122.7	41.4	14.1	109.4	75.6		74.1	86.4	
Level of Service	F	C		F	D	B	F	E		E	F	
Approach Delay (s)		33.5			41.9			99.6			84.7	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	796	25	180	2856	129	90	302	150	422	516	214
Future Volume (vph)	87	796	25	180	2856	129	90	302	150	422	516	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4724		3204	4916	1478	1711	4746	1478	3433	3383	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4724		3204	4916	1478	1711	4746	1478	3433	3383	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	93	847	27	191	3038	137	96	321	160	449	549	228
RTOR Reduction (vph)	0	1	0	0	0	39	0	0	128	0	24	0
Lane Group Flow (vph)	93	873	0	191	3038	98	96	321	32	449	753	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	6.5	98.1		15.2	106.9	106.9	12.0	33.5	33.5	23.4	44.7	
Effective Green, g (s)	6.5	98.1		15.2	106.9	106.9	12.0	33.5	33.5	23.4	44.7	
Actuated g/C Ratio	0.03	0.52		0.08	0.56	0.56	0.06	0.18	0.18	0.12	0.24	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	109	2439		256	2765	831	108	836	260	422	795	
v/s Ratio Prot	0.03	0.18		c0.06	c0.62		0.06	0.07		c0.13	c0.22	
v/s Ratio Perm						0.07			0.02			
v/c Ratio	0.85	0.36		0.75	1.10	0.12	0.89	0.38	0.12	1.06	0.95	
Uniform Delay, d1	91.3	27.3		85.5	41.5	19.5	88.3	69.1	65.9	83.3	71.5	
Progression Factor	0.97	0.92		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	42.2	0.4		9.9	50.8	0.3	51.5	0.5	0.4	61.8	20.3	
Delay (s)	130.9	25.4		95.4	92.3	19.7	139.8	69.6	66.2	145.1	91.8	
Level of Service	F	C		F	F	B	F	E	E	F	F	
Approach Delay (s)		35.6			89.5			80.4			111.3	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	84.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	275	450	137	94	63	110
Future Volume (vph)	275	450	137	94	63	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3324		1718	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3324		1718	1504
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	302	495	151	103	69	121
RTOR Reduction (vph)	0	0	84	0	26	38
Lane Group Flow (vph)	302	495	170	0	73	53
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	13.2	24.5	7.3		5.5	23.2
Effective Green, g (s)	13.2	24.5	7.3		5.5	23.2
Actuated g/C Ratio	0.33	0.62	0.18		0.14	0.59
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	591	1155	614		239	883
v/s Ratio Prot	c0.17	c0.27	0.05		c0.04	0.04
v/s Ratio Perm						
v/c Ratio	0.51	0.43	0.28		0.31	0.06
Uniform Delay, d1	10.6	3.9	13.8		15.3	3.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.5	0.5		0.7	0.0
Delay (s)	10.9	4.4	14.3		16.0	3.5
Level of Service	B	A	B		B	A
Approach Delay (s)		6.9	14.3		10.0	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	39.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	298	6	51	729	203	1	1	8	43	1	9
Future Volume (vph)	58	298	6	51	729	203	1	1	8	43	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1857		1770	1802			1653			1750	
Flt Permitted	0.21	1.00		0.57	1.00			0.96			0.96	
Satd. Flow (perm)	398	1857		1062	1802			1589			1739	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	60	307	6	53	752	209	1	1	8	44	1	9
RTOR Reduction (vph)	0	1	0	0	10	0	0	7	0	0	8	0
Lane Group Flow (vph)	60	312	0	53	951	0	0	3	0	0	46	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.0	34.0		33.4	33.4			3.8			3.8	
Effective Green, g (s)	34.0	34.0		33.4	33.4			3.8			3.8	
Actuated g/C Ratio	0.71	0.71		0.70	0.70			0.08			0.08	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	284	1326		745	1264			126			138	
v/s Ratio Prot		0.17			c0.53							
v/s Ratio Perm	0.15			0.05				0.00			c0.03	
v/c Ratio	0.21	0.24		0.07	0.75			0.02			0.33	
Uniform Delay, d1	2.3	2.3		2.2	4.5			20.2			20.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.3	0.1		0.0	2.5			0.0			0.5	
Delay (s)	2.6	2.4		2.3	7.0			20.2			21.2	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		2.5			6.8			20.2			21.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	47.6	Sum of lost time (s)	10.4
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	137	139	67	339	95	352	511	110	204	1055	386
Future Volume (vph)	67	137	139	67	339	95	352	511	110	204	1055	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2042		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2042		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	72	147	149	72	365	102	378	549	118	219	1134	415
RTOR Reduction (vph)	0	0	96	0	6	0	0	0	42	0	0	52
Lane Group Flow (vph)	72	147	53	72	461	0	378	549	76	219	1134	363
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	17.0	17.0	47.8	29.3	29.3		30.8	49.6	78.9	17.3	36.1	58.8
Effective Green, g (s)	17.0	17.0	47.8	29.3	29.3		30.8	49.6	78.9	17.3	36.1	58.8
Actuated g/C Ratio	0.13	0.13	0.36	0.22	0.22		0.23	0.37	0.59	0.13	0.27	0.44
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	209	220	545	360	446		392	1221	931	213	920	671
v/s Ratio Prot	0.04	c0.08	0.03	0.04	c0.23		c0.22	0.17	0.05	0.13	c0.33	0.24
v/s Ratio Perm												
v/c Ratio	0.34	0.67	0.10	0.20	1.03		0.96	0.45	0.08	1.03	1.23	0.54
Uniform Delay, d1	53.5	55.9	28.8	42.8	52.4		51.1	31.9	11.9	58.4	49.0	27.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	6.2	0.0	0.3	51.4		35.7	0.3	0.0	69.2	114.2	1.1
Delay (s)	54.0	62.1	28.8	43.1	103.8		86.8	32.3	12.0	127.6	163.2	28.8
Level of Service	D	E	C	D	F		F	C	B	F	F	C
Approach Delay (s)		47.0			95.7			49.7			127.2	
Approach LOS		D			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	92.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	134.1	Sum of lost time (s)	20.9
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	115	1	14	0	575	194	21	252	1
Future Volume (vph)	0	0	1	115	1	14	0	575	194	21	252	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1862	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1862	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	1	129	1	16	0	646	218	24	283	1
RTOR Reduction (vph)	0	1	0	0	0	14	0	0	54	0	0	0
Lane Group Flow (vph)	0	0	0	0	130	2	0	646	164	24	284	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.6			8.2	8.2		27.8	40.5	0.6	32.4	
Effective Green, g (s)		0.6			8.2	8.2		27.8	40.5	0.6	32.4	
Actuated g/C Ratio		0.01			0.15	0.15		0.52	0.75	0.01	0.60	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		18			271	241		964	1193	19	1123	
v/s Ratio Prot		c0.00			c0.07			c0.35	0.10	c0.01	0.15	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.48	0.01		0.67	0.14	1.26	0.25	
Uniform Delay, d1		26.3			20.8	19.3		9.6	1.8	26.6	5.0	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.5	0.0		1.8	0.1	298.7	0.1	
Delay (s)		26.3			21.3	19.3		11.4	1.9	325.3	5.1	
Level of Service		C			C	B		B	A	F	A	
Approach Delay (s)		26.3			21.1			9.0			30.1	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	53.7	Sum of lost time (s)	16.5
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	253	69	95	689	39	223	100	88	3	14	22
Future Volume (vph)	136	253	69	95	689	39	223	100	88	3	14	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3428		1770	3512		1770	1863	1583	1770	1695	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3428		1770	3512		1770	1863	1583	1770	1695	
Peak-hour factor, PHF	0.89	0.89	0.92	0.89	0.89	0.92	0.89	0.89	0.89	0.89	0.89	0.92
Adj. Flow (vph)	153	284	75	107	774	42	251	112	99	3	16	24
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	66	0	22	0
Lane Group Flow (vph)	153	335	0	107	812	0	251	112	33	3	18	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	9.5	25.3		4.2	20.5		7.1	11.2	20.3	0.6	4.7	
Effective Green, g (s)	9.5	25.3		4.2	20.5		7.1	11.2	20.3	0.6	4.7	
Actuated g/C Ratio	0.16	0.41		0.07	0.34		0.12	0.18	0.33	0.01	0.08	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	275	1419		121	1178		205	341	525	17	130	
v/s Ratio Prot	c0.09	0.10		c0.06	c0.23		c0.14	c0.06	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.56	0.24		0.88	0.69		1.22	0.33	0.06	0.18	0.14	
Uniform Delay, d1	23.9	11.6		28.2	17.5		27.0	21.7	13.9	30.0	26.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.1		46.9	1.7		136.4	0.2	0.0	1.8	0.2	
Delay (s)	25.2	11.7		75.1	19.2		163.4	21.9	13.9	31.8	26.5	
Level of Service	C	B		E	B		F	C	B	C	C	
Approach Delay (s)		15.7			25.7			97.1			26.9	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	19.8
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	1346	87	38	1227	479	23	27	28	62	15	53
Future Volume (vph)	148	1346	87	38	1227	479	23	27	28	62	15	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4871		1681	1762	1583	1610	3046	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4871		1681	1762	1583	1610	3046	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Adj. Flow (vph)	164	1496	97	42	1363	532	26	30	31	69	17	58
RTOR Reduction (vph)	0	0	31	0	33	0	0	0	30	0	53	0
Lane Group Flow (vph)	164	1496	66	42	1862	0	23	33	1	50	41	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	17.4	95.9	95.9	5.2	83.7		6.2	6.2	6.2	13.2	13.2	
Effective Green, g (s)	17.4	95.9	95.9	5.2	83.7		6.2	6.2	6.2	13.2	13.2	
Actuated g/C Ratio	0.12	0.69	0.69	0.04	0.60		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	219	3483	1084	127	2912		74	78	70	151	287	
v/s Ratio Prot	c0.09	0.29		0.01	c0.38		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.75	0.43	0.06	0.33	0.64		0.31	0.42	0.02	0.33	0.14	
Uniform Delay, d1	59.2	9.8	7.3	65.7	18.3		64.8	65.2	64.0	59.3	58.2	
Progression Factor	1.00	1.00	1.00	0.84	0.69		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.6	0.4	0.1	0.5	0.9		0.9	1.3	0.0	3.7	0.7	
Delay (s)	70.8	10.2	7.4	56.0	13.6		65.7	66.5	64.0	63.0	58.9	
Level of Service	E	B	A	E	B		E	E	E	E	E	
Approach Delay (s)		15.7			14.5			65.4			60.3	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	346	971	142	375	1584	1447	122	232	338	218	46	39
Future Volume (vph)	346	971	142	375	1584	1447	122	232	338	218	46	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	360	1011	148	391	1650	1507	127	242	352	227	48	41
RTOR Reduction (vph)	0	0	67	0	0	169	0	0	35	0	0	28
Lane Group Flow (vph)	360	1011	81	391	1650	1338	127	242	317	227	48	13
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	19.7	65.4	65.4	20.4	66.8	82.7	13.9	23.8	49.2	10.6	20.2	45.2
Effective Green, g (s)	19.7	65.4	65.4	20.4	66.8	82.7	13.9	23.8	49.2	10.6	20.2	45.2
Actuated g/C Ratio	0.14	0.47	0.47	0.15	0.48	0.59	0.10	0.17	0.35	0.08	0.14	0.32
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	483	2375	739	500	2426	1646	340	601	979	259	510	511
v/s Ratio Prot	0.10	0.20		c0.11	0.32	c0.48	0.04	c0.07	0.11	0.07	0.01	0.01
v/s Ratio Perm			0.05									
v/c Ratio	0.75	0.43	0.11	0.78	0.68	0.81	0.37	0.40	0.32	0.88	0.09	0.03
Uniform Delay, d1	57.7	24.8	21.0	57.7	28.3	22.6	59.0	51.8	33.2	64.1	52.0	32.4
Progression Factor	1.03	0.66	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	0.5	0.3	7.2	1.6	3.0	0.3	1.0	0.4	25.8	0.1	0.0
Delay (s)	64.6	16.9	16.0	64.9	29.9	25.6	59.2	52.8	33.7	89.8	52.1	32.4
Level of Service	E	B	B	E	C	C	E	D	C	F	D	C
Approach Delay (s)		28.1			31.9			44.6			76.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1102	437	0	1768	583	0	0	0	792	0	1685
Future Volume (vph)	0	1102	437	0	1768	583	0	0	0	792	0	1685
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1172	465	0	1881	620	0	0	0	843	0	1793
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	1172	465	0	1881	620	0	0	0	843	0	1773
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		45.5	120.0		45.5	120.0				62.3		62.3
Effective Green, g (s)		45.5	120.0		45.5	115.3				62.3		62.3
Actuated g/C Ratio		0.38	1.00		0.38	0.96				0.52		0.52
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		1928	2787		1928	1520				1782		1446
v/s Ratio Prot		0.23			c0.37	0.39				0.25		c0.64
v/s Ratio Perm			0.17									
v/c Ratio		0.61	0.17		0.98	0.41				0.47		1.23
Uniform Delay, d1		30.1	0.0		36.7	0.2				18.4		28.9
Progression Factor		1.00	1.00		1.04	1.00				1.00		1.00
Incremental Delay, d2		1.4	0.1		14.3	0.1				0.1		108.2
Delay (s)		31.5	0.1		52.5	0.2				18.5		137.1
Level of Service		C	A		D	A				B		F
Approach Delay (s)		22.6			39.5			0.0			99.1	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	58.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1151	740	0	1441	605	913	0	333	0	0	0
Future Volume (vph)	0	1151	740	0	1441	605	913	0	333	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1212	779	0	1517	637	961	0	351	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	31	0	0	0
Lane Group Flow (vph)	0	1212	779	0	1517	637	961	0	320	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		65.6	120.0		65.6	120.0	42.2		42.2			
Effective Green, g (s)		65.6	115.3		65.6	120.0	42.2		42.2			
Actuated g/C Ratio		0.55	0.96		0.55	1.00	0.35		0.35			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2779	1520		3503	1583	1207		980			
v/s Ratio Prot		0.24	c0.49		0.24		c0.28					
v/s Ratio Perm						0.40			0.11			
v/c Ratio		0.44	0.51		0.43	0.40	0.80		0.33			
Uniform Delay, d1		16.2	0.2		16.2	0.0	35.0		28.5			
Progression Factor		0.85	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	0.1		0.4	0.8	3.5		0.1			
Delay (s)		14.2	0.3		16.5	0.8	38.5		28.6			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		8.7			11.9			35.8			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	331	607	253	1504	0	0
Future Volume (vph)	331	607	253	1504	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	352	646	269	1600	0	0
RTOR Reduction (vph)	0	144	0	0	0	0
Lane Group Flow (vph)	352	502	269	1600	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	58.0	58.0	20.3	90.0		
Effective Green, g (s)	58.0	58.0	20.3	90.0		
Actuated g/C Ratio	0.64	0.64	0.23	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2280	1796	774	5085		
v/s Ratio Prot	0.10		0.08	c0.31		
v/s Ratio Perm		0.18				
v/c Ratio	0.15	0.28	0.35	0.31		
Uniform Delay, d1	6.3	6.9	29.3	0.0		
Progression Factor	1.00	1.00	0.92	1.00		
Incremental Delay, d2	0.1	0.4	0.1	0.1		
Delay (s)	6.5	7.3	27.0	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	7.0			4.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	324	0	0	728	982	960
Future Volume (vph)	0	324	0	0	728	982	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	338	0	0	758	1023	1000
RTOR Reduction (vph)	0	0	0	0	0	0	356
Lane Group Flow (vph)	0	338	0	0	758	1023	644
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		43.5			43.5	34.8	34.8
Effective Green, g (s)		43.5			43.5	34.8	34.8
Actuated g/C Ratio		0.48			0.48	0.39	0.39
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1710			2457	1327	1077
v/s Ratio Prot		0.10			c0.15	c0.30	
v/s Ratio Perm							0.23
v/c Ratio		0.20			0.31	0.77	0.60
Uniform Delay, d1		13.3			14.1	24.1	22.0
Progression Factor		0.70			1.00	1.00	1.00
Incremental Delay, d2		0.3			0.3	2.6	0.6
Delay (s)		9.6			14.4	26.7	22.6
Level of Service		A			B	C	C
Approach Delay (s)		9.6			14.4	24.7	
Approach LOS		A			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1221	276	555	1952	110	961
Future Volume (vph)	1221	276	555	1952	110	961
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6226		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6226		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1285	300	584	2055	116	1012
RTOR Reduction (vph)	26	0	0	0	0	0
Lane Group Flow (vph)	1559	0	584	2055	116	1012
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	58.4		30.2	93.3	46.3	80.9
Effective Green, g (s)	58.4		30.2	93.3	46.3	80.9
Actuated g/C Ratio	0.39		0.20	0.62	0.31	0.54
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2423		691	3985	546	1503
v/s Ratio Prot	c0.25		c0.17	0.32	0.07	c0.36
v/s Ratio Perm						
v/c Ratio	0.64		0.85	0.52	0.21	0.67
Uniform Delay, d1	37.3		57.6	15.8	38.4	25.0
Progression Factor	1.00		1.43	0.40	1.00	1.00
Incremental Delay, d2	1.3		6.4	0.3	0.1	0.9
Delay (s)	38.6		88.6	6.7	38.4	25.9
Level of Service	D		F	A	D	C
Approach Delay (s)	38.6			24.8	27.2	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	278	1940	0	2280	997	167	162
Future Volume (vph)	278	1940	0	2280	997	167	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.93	
Flt Protected	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (prot)	3433	5085		5085	1583	3264	
Flt Permitted	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (perm)	3433	5085		5085	1583	3264	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	293	2042	0	2400	1049	176	171
RTOR Reduction (vph)	0	0	0	0	8	126	0
Lane Group Flow (vph)	293	2042	0	2400	1041	221	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	16.5	113.9		93.9	124.7	25.4	
Effective Green, g (s)	16.5	113.9		93.9	124.7	25.4	
Actuated g/C Ratio	0.11	0.76		0.63	0.83	0.17	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	377	3861		3183	1316	552	
v/s Ratio Prot	c0.09	0.40		0.47	c0.66	0.07	
v/s Ratio Perm							
v/c Ratio	0.78	0.53		0.75	0.79	0.40	
Uniform Delay, d1	65.0	7.3		19.9	6.2	55.5	
Progression Factor	0.95	0.68		1.82	2.43	1.00	
Incremental Delay, d2	6.9	0.4		0.9	2.1	0.8	
Delay (s)	68.7	5.4		37.2	17.2	56.3	
Level of Service	E	A		D	B	E	
Approach Delay (s)		13.3		31.1		56.3	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	69	1999	3182	66	36	72
Future Volume (vph)	69	1999	3182	66	36	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	72	2082	3315	69	38	75
RTOR Reduction (vph)	0	0	0	7	0	71
Lane Group Flow (vph)	72	2082	3315	62	38	4
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	11.3	131.0	115.7	115.7	8.7	8.7
Effective Green, g (s)	11.3	131.0	115.7	115.7	8.7	8.7
Actuated g/C Ratio	0.08	0.87	0.77	0.77	0.06	0.06
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	133	4440	3922	1221	102	91
v/s Ratio Prot	0.04	c0.41	c0.65		c0.02	
v/s Ratio Perm				0.04		0.00
v/c Ratio	0.54	0.47	0.85	0.05	0.37	0.05
Uniform Delay, d1	66.9	2.0	11.3	4.1	68.0	66.7
Progression Factor	1.17	0.34	1.02	0.19	1.00	1.00
Incremental Delay, d2	2.1	0.3	1.4	0.0	2.3	0.2
Delay (s)	80.1	1.0	12.9	0.8	70.3	67.0
Level of Service	F	A	B	A	E	E
Approach Delay (s)		3.6	12.7		68.1	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	115	2069	0	3020	76	40	89
Future Volume (vph)	115	2069	0	3020	76	40	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.92	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3251	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3251	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	122	2201	0	3213	81	43	95
RTOR Reduction (vph)	0	0	0	0	5	46	45
Lane Group Flow (vph)	122	2201	0	3213	76	45	2
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	15.6	131.8		111.3	111.3	7.6	7.6
Effective Green, g (s)	15.6	131.8		111.3	111.3	7.6	7.6
Actuated g/C Ratio	0.10	0.88		0.74	0.74	0.05	0.05
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	184	4468		3773	1174	164	73
v/s Ratio Prot	c0.07	0.43		c0.63		c0.01	
v/s Ratio Perm					0.05		0.00
v/c Ratio	0.66	0.49		0.85	0.06	0.28	0.03
Uniform Delay, d1	64.7	1.9		13.6	5.2	68.6	67.7
Progression Factor	0.86	2.05		2.36	2.08	1.00	1.00
Incremental Delay, d2	8.0	0.4		0.2	0.0	0.9	0.2
Delay (s)	63.5	4.3		32.2	10.9	69.5	67.9
Level of Service	E	A		C	B	E	E
Approach Delay (s)		7.5		31.7		68.9	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	929	1170	25	22	2329	107	20	3	10	54	2	1082
Future Volume (vph)	929	1170	25	22	2329	107	20	3	10	54	2	1082
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5070		3204	5052		1652	1643		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5070		3204	5052		1652	1643		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	978	1232	26	23	2452	113	21	3	11	57	2	1139
RTOR Reduction (vph)	0	2	0	0	4	0	0	11	0	0	0	307
Lane Group Flow (vph)	978	1256	0	23	2561	0	21	3	0	30	29	832
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	29.9	88.9		2.4	61.5		4.5	4.5		33.6	33.6	69.0
Effective Green, g (s)	29.9	88.9		2.4	61.5		4.5	4.5		33.6	33.6	69.0
Actuated g/C Ratio	0.20	0.59		0.02	0.41		0.03	0.03		0.22	0.22	0.46
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	638	3004		51	2071		49	49		364	366	1282
v/s Ratio Prot	c0.31	0.25		0.01	c0.51		c0.01	0.00		0.02	0.02	c0.30
v/s Ratio Perm												
v/c Ratio	1.53	0.42		0.45	1.24		0.43	0.07		0.08	0.08	0.65
Uniform Delay, d1	60.1	16.5		73.1	44.2		71.5	70.7		46.0	46.0	31.2
Progression Factor	0.97	1.24		1.15	0.78		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	246.8	0.4		1.4	109.2		2.2	0.2		0.1	0.1	1.1
Delay (s)	304.8	20.9		85.6	143.7		73.7	70.9		46.1	46.1	32.3
Level of Service	F	C		F	F		E	E		D	D	C
Approach Delay (s)		145.1			143.2			72.6			32.9	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	121.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	151	867	0	2541	681	236	113
Future Volume (vph)	151	867	0	2541	681	236	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3197	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3197	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	156	894	0	2620	702	243	116
RTOR Reduction (vph)	0	0	0	0	39	3	92
Lane Group Flow (vph)	156	894	0	2620	663	252	12
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	18.3	122.7		99.7	122.4	16.7	16.7
Effective Green, g (s)	18.3	122.7		99.7	122.4	16.7	16.7
Actuated g/C Ratio	0.12	0.82		0.66	0.82	0.11	0.11
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	208	4021		3267	1206	355	176
v/s Ratio Prot	c0.09	0.18		c0.53	0.45	c0.08	
v/s Ratio Perm							0.01
v/c Ratio	0.75	0.22		0.80	0.55	0.71	0.07
Uniform Delay, d1	63.6	3.0		18.1	4.6	64.3	59.7
Progression Factor	1.20	0.22		1.46	1.80	1.00	1.00
Incremental Delay, d2	11.9	0.1		0.2	0.0	5.5	0.1
Delay (s)	88.4	0.8		26.6	8.3	69.8	59.7
Level of Service	F	A		C	A	E	E
Approach Delay (s)		13.8		22.8		66.9	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	172	820	3250	286	685	547
Future Volume (vph)	172	820	3250	286	685	547
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4640	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4640	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	176	837	3316	292	699	558
RTOR Reduction (vph)	0	0	1	44	0	1
Lane Group Flow (vph)	176	837	3344	219	699	557
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	7.6	108.0	96.2	96.2	31.0	43.6
Effective Green, g (s)	7.6	108.0	96.2	96.2	31.0	43.6
Actuated g/C Ratio	0.05	0.72	0.64	0.64	0.21	0.29
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	162	3417	2975	815	662	756
v/s Ratio Prot	c0.05	0.18	c0.72		c0.22	0.21
v/s Ratio Perm				0.17		
v/c Ratio	1.09	0.24	1.12	0.27	1.06	0.74
Uniform Delay, d1	71.2	7.1	26.9	11.7	59.5	48.0
Progression Factor	0.87	1.49	1.21	0.85	1.00	1.00
Incremental Delay, d2	94.9	0.2	59.3	0.5	50.7	3.2
Delay (s)	156.6	10.8	91.7	10.5	110.2	51.3
Level of Service	F	B	F	B	F	D
Approach Delay (s)		36.1	85.8		84.0	
Approach LOS		D	F		F	

Intersection Summary			
HCM 2000 Control Delay	76.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1252	231	198	2778	30	196	25	146	34	74	81
Future Volume (vph)	23	1252	231	198	2778	30	196	25	146	34	74	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1587	1504		1739	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1587	1504		1739	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	23	1278	236	202	2835	31	200	26	149	35	76	83
RTOR Reduction (vph)	0	0	84	0	1	0	0	10	103	0	18	0
Lane Group Flow (vph)	23	1278	152	202	2865	0	130	119	13	0	176	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	4.6	86.4	86.4	13.2	94.6		16.2	16.2	16.2		14.8	
Effective Green, g (s)	4.6	86.4	86.4	13.2	94.6		16.2	16.2	16.2		14.8	
Actuated g/C Ratio	0.03	0.58	0.58	0.09	0.63		0.11	0.11	0.11		0.10	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	54	2928	911	302	3201		181	171	162		171	
v/s Ratio Prot	0.01	0.25		c0.06	c0.56		c0.08	0.08			c0.10	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	0.43	0.44	0.17	0.67	0.90		0.72	0.70	0.08		1.03	
Uniform Delay, d1	71.4	18.0	14.9	66.3	23.5		64.7	64.5	60.2		67.6	
Progression Factor	1.37	0.48	0.16	1.06	0.72		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.6	0.4	0.3	2.3	2.4		10.7	9.5	0.1		76.7	
Delay (s)	99.7	9.1	2.7	72.3	19.4		75.4	74.1	60.3		144.3	
Level of Service	F	A	A	E	B		E	E	E		F	
Approach Delay (s)		9.4			22.8			70.3			144.3	
Approach LOS		A			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	105	1318	0	2721	185	173	317
Future Volume (vph)	105	1318	0	2721	185	173	317
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5037		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5037		3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	112	1402	0	2895	197	184	337
RTOR Reduction (vph)	0	0	0	4	0	0	68
Lane Group Flow (vph)	112	1402	0	3088	0	184	269
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	9.5	119.5		105.4		20.8	20.8
Effective Green, g (s)	9.5	119.5		105.4		20.8	20.8
Actuated g/C Ratio	0.06	0.80		0.70		0.14	0.14
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	217	4051		3539		476	386
v/s Ratio Prot	c0.03	0.28		c0.61		0.05	
v/s Ratio Perm							c0.10
v/c Ratio	0.52	0.35		0.87		0.39	0.70
Uniform Delay, d1	68.0	4.3		17.1		58.8	61.6
Progression Factor	0.91	0.39		0.56		1.00	1.00
Incremental Delay, d2	0.8	0.2		0.3		0.7	5.8
Delay (s)	63.0	1.9		10.0		59.5	67.4
Level of Service	E	A		A		E	E
Approach Delay (s)		6.4		10.0		64.6	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1007	498	9	2523	117	937	336	9	195	301	133
Future Volume (vph)	43	1007	498	9	2523	117	937	336	9	195	301	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5052		2841	3021		3204	3376	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5052		2841	3021		3204	3376	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	44	1028	508	9	2574	119	956	343	9	199	307	136
RTOR Reduction (vph)	0	0	42	0	3	0	0	1	0	0	34	0
Lane Group Flow (vph)	44	1028	466	9	2690	0	650	657	0	199	409	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.1	72.9	109.8	1.6	70.3		36.9	36.9		16.7	16.7	
Effective Green, g (s)	4.1	72.9	109.8	1.6	70.3		36.9	36.9		16.7	16.7	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47		0.25	0.25		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2389	1081	19	2367		698	743		356	375	
v/s Ratio Prot	c0.02	0.21	0.32	0.00	c0.53		c0.23	0.22		0.06	c0.12	
v/s Ratio Perm												
v/c Ratio	0.83	0.43	0.43	0.47	1.14		0.93	0.88		0.56	1.09	
Uniform Delay, d1	72.6	25.1	7.9	73.8	39.9		55.3	54.5		63.2	66.7	
Progression Factor	0.90	1.76	4.64	1.20	0.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	63.4	0.5	0.3	6.1	66.7		19.2	12.2		1.9	73.3	
Delay (s)	128.5	44.6	36.8	94.3	98.1		74.5	66.7		65.1	139.9	
Level of Service	F	D	D	F	F		E	E		E	F	
Approach Delay (s)		44.4			98.1			70.5			116.7	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	80.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	1018	38	22	1691	16	167	9	61	42	1	41
Future Volume (vph)	34	1018	38	22	1691	16	167	9	61	42	1	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5058		1770	5078			1737			1697	
Flt Permitted	0.95	1.00		0.95	1.00			0.72			0.80	
Satd. Flow (perm)	1770	5058		1770	5078			1297			1389	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	1107	41	24	1838	17	182	10	66	46	1	45
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	26	0
Lane Group Flow (vph)	37	1146	0	24	1855	0	0	249	0	0	66	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.7	97.7		4.6	95.1			33.1			33.1	
Effective Green, g (s)	6.7	97.7		4.6	95.1			33.1			33.1	
Actuated g/C Ratio	0.04	0.65		0.03	0.63			0.22			0.22	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	79	3294		54	3219			286			306	
v/s Ratio Prot	c0.02	0.23		0.01	c0.37							
v/s Ratio Perm								c0.19			0.05	
v/c Ratio	0.47	0.35		0.44	0.58			0.87			0.21	
Uniform Delay, d1	69.9	11.8		71.4	15.8			56.4			47.8	
Progression Factor	1.55	0.12		0.98	1.24			1.00			1.00	
Incremental Delay, d2	1.5	0.3		1.6	0.6			22.6			0.1	
Delay (s)	109.7	1.7		71.4	20.1			79.0			47.9	
Level of Service	F	A		E	C			E			D	
Approach Delay (s)		5.0			20.8			79.0			47.9	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	547	573	0	589	911	0	0	0	145	0	1157
Future Volume (vph)	0	547	573	0	589	911	0	0	0	145	0	1157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				4.7		4.7
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	615	644	0	662	1024	0	0	0	163	0	1300
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	43
Lane Group Flow (vph)	0	615	644	0	662	1024	0	0	0	163	0	1257
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		54.3	150.0		54.3	150.0				85.0		85.0
Effective Green, g (s)		54.3	150.0		54.3	150.0				85.0		85.0
Actuated g/C Ratio		0.36	1.00		0.36	1.00				0.57		0.57
Clearance Time (s)		6.0			6.0					4.7		4.7
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1281	1583		1281	2787				1945		1579
v/s Ratio Prot		0.17			c0.19					0.05		
v/s Ratio Perm			0.41			0.37						c0.45
v/c Ratio		0.48	0.41		0.52	0.37				0.08		0.80
Uniform Delay, d1		36.9	0.0		37.6	0.0				14.8		25.7
Progression Factor		0.88	1.00		0.90	1.00				1.00		1.00
Incremental Delay, d2		1.2	0.7		1.5	0.4				0.0		2.7
Delay (s)		33.7	0.7		35.2	0.4				14.8		28.3
Level of Service		C	A		D	A				B		C
Approach Delay (s)		16.8			14.0			0.0			26.8	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	210	438	0	1259	119	443	0	641	0	0	0
Future Volume (vph)	0	210	438	0	1259	119	443	0	641	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	221	461	0	1325	125	466	0	675	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	563	0	0	0
Lane Group Flow (vph)	0	221	461	0	1325	125	466	0	112	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		112.1	150.0		112.1	150.0	24.8		24.8			
Effective Green, g (s)		112.1	150.0		112.1	150.0	24.8		24.8			
Actuated g/C Ratio		0.75	1.00		0.75	1.00	0.17		0.17			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2644	1583		4788	1583	567		460			
v/s Ratio Prot		0.06			0.21		c0.14					
v/s Ratio Perm			c0.29			0.08			0.04			
v/c Ratio		0.08	0.29		0.28	0.08	0.82		0.24			
Uniform Delay, d1		5.1	0.0		6.0	0.0	60.5		54.4			
Progression Factor		0.42	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.4		0.1	0.1	8.9		0.1			
Delay (s)		2.2	0.4		6.2	0.1	69.4		54.5			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		1.0			5.7			60.6			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	26	76	404	469	177	164	310	72	66	812	165
Future Volume (vph)	17	26	76	404	469	177	164	310	72	66	812	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.90			0.97		1.00	0.97		1.00	0.97	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3178			3385		1770	4942		1770	4956	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3178			3385		1770	4942		1770	4956	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	27	79	421	489	184	171	323	75	69	846	172
RTOR Reduction (vph)	0	72	0	0	12	0	0	26	0	0	21	0
Lane Group Flow (vph)	0	52	0	0	1082	0	171	372	0	69	997	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.7			40.1		14.4	34.1		7.3	26.6	
Effective Green, g (s)		9.7			40.1		14.4	34.1		7.3	26.6	
Actuated g/C Ratio		0.09			0.36		0.13	0.31		0.07	0.24	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		276			1218		228	1512		115	1183	
v/s Ratio Prot		c0.02			c0.32		c0.10	0.08		0.04	c0.20	
v/s Ratio Perm												
v/c Ratio		0.19			0.89		0.75	0.25		0.60	0.84	
Uniform Delay, d1		47.2			33.6		46.8	29.0		50.6	40.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			9.0		12.1	0.1		5.5	5.7	
Delay (s)		48.0			42.5		58.8	29.1		56.1	46.1	
Level of Service		D			D		E	C		E	D	
Approach Delay (s)		48.0			42.5			38.0			46.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	111.4	Sum of lost time (s)	20.6
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	9	3	47	414	0	1204	175
Future Volume (vph)	9	3	47	414	0	1204	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		0.98	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	3319	1633	3204	4916		4989	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	3319	1633	3204	4916		4989	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	3	50	440	0	1281	186
RTOR Reduction (vph)	0	3	0	0	0	11	0
Lane Group Flow (vph)	10	0	50	440	0	1456	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	0.9	0.9	1.3	31.7		26.0	
Effective Green, g (s)	0.9	0.9	1.3	31.7		26.0	
Actuated g/C Ratio	0.02	0.02	0.03	0.73		0.60	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	68	33	95	3582		2981	
v/s Ratio Prot	c0.00		c0.02	0.09		c0.29	
v/s Ratio Perm		0.00					
v/c Ratio	0.15	0.00	0.53	0.12		0.49	
Uniform Delay, d1	20.9	20.9	20.8	1.8		5.0	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.4	0.0	2.4	0.0		0.1	
Delay (s)	21.3	20.9	23.2	1.8		5.1	
Level of Service	C	C	C	A		A	
Approach Delay (s)	21.2			4.0		5.1	
Approach LOS	C			A		A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	17.3
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1	13	102	398	0	1272	6
Future Volume (vph)	1	13	102	398	0	1272	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5081	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5081	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	14	112	437	0	1398	7
RTOR Reduction (vph)	0	14	0	0	0	0	0
Lane Group Flow (vph)	1	0	112	437	0	1405	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	0.9	0.9	5.0	33.1		23.3	
Effective Green, g (s)	0.9	0.9	5.0	33.1		23.3	
Actuated g/C Ratio	0.02	0.02	0.11	0.74		0.52	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	33	61	356	3624		2636	
v/s Ratio Prot	c0.00		c0.03	0.09		c0.28	
v/s Ratio Perm		0.00					
v/c Ratio	0.03	0.00	0.31	0.12		0.53	
Uniform Delay, d1	21.6	21.6	18.4	1.7		7.2	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.0	0.2	0.0		0.2	
Delay (s)	21.7	21.6	18.6	1.7		7.4	
Level of Service	C	C	B	A		A	
Approach Delay (s)	21.6			5.2		7.4	
Approach LOS	C			A		A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	44.9	Sum of lost time (s)	15.7
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	157	63	489	56	23	1465
Future Volume (vph)	157	63	489	56	23	1465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	3433	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	3433	5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	68	532	61	25	1592
RTOR Reduction (vph)	0	58	0	30	0	0
Lane Group Flow (vph)	171	10	532	31	25	1592
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	7.4	7.4	24.7	24.7	0.9	30.4
Effective Green, g (s)	7.4	7.4	24.7	24.7	0.9	30.4
Actuated g/C Ratio	0.15	0.15	0.51	0.51	0.02	0.62
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	521	240	2579	802	63	3174
v/s Ratio Prot	c0.05		0.10		0.01	c0.31
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.33	0.04	0.21	0.04	0.40	0.50
Uniform Delay, d1	18.4	17.6	6.6	6.0	23.6	5.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.0	0.0	1.5	0.1
Delay (s)	18.6	17.7	6.7	6.1	25.1	5.1
Level of Service	B	B	A	A	C	A
Approach Delay (s)	18.3		6.6			5.5
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	48.7	Sum of lost time (s)	15.7
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	174	14	62	20	496	179	135	1379	12
Future Volume (vph)	1	2	3	174	14	62	20	496	179	135	1379	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.92		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1604		1770	3539	1583	1770	3534	
Flt Permitted		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1604		1770	3539	1583	1770	3534	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	2	3	181	15	65	21	517	186	141	1436	12
RTOR Reduction (vph)	0	3	0	0	41	0	0	0	111	0	1	0
Lane Group Flow (vph)	0	3	0	134	86	0	21	517	75	141	1448	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		0.8		11.3	11.3		0.6	20.4	20.4	7.4	27.2	
Effective Green, g (s)		0.8		11.3	11.3		0.6	20.4	20.4	7.4	27.2	
Actuated g/C Ratio		0.01		0.19	0.19		0.01	0.34	0.34	0.12	0.45	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		23		317	303		17	1207	540	219	1607	
v/s Ratio Prot		c0.00		c0.08	0.05		0.01	0.15		c0.08	c0.41	
v/s Ratio Perm									0.05			
v/c Ratio		0.13		0.42	0.29		1.24	0.43	0.14	0.64	0.90	
Uniform Delay, d1		29.2		21.4	20.8		29.6	15.2	13.6	24.9	15.1	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0		1.5	0.9		301.3	0.4	0.2	4.8	7.6	
Delay (s)		30.1		22.9	21.6		330.9	15.6	13.8	29.7	22.7	
Level of Service		C		C	C		F	B	B	C	C	
Approach Delay (s)		30.1			22.3			24.3			23.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	19.9
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	17	53	471	593	27
Future Volume (vph)	36	17	53	471	593	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3516	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3516	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	18	58	512	645	29
RTOR Reduction (vph)	0	17	0	0	2	0
Lane Group Flow (vph)	39	1	58	512	672	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.6	4.6	5.1	75.3	65.8	
Effective Green, g (s)	4.6	4.6	5.1	75.3	65.8	
Actuated g/C Ratio	0.05	0.05	0.06	0.84	0.73	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	90	80	194	2960	2570	
v/s Ratio Prot	c0.02		c0.02	0.14	c0.19	
v/s Ratio Perm		0.00				
v/c Ratio	0.43	0.01	0.30	0.17	0.26	
Uniform Delay, d1	41.4	40.5	40.7	1.4	4.0	
Progression Factor	1.00	1.00	0.84	1.92	1.00	
Incremental Delay, d2	1.2	0.0	0.3	0.1	0.2	
Delay (s)	42.7	40.6	34.7	2.8	4.3	
Level of Service	D	D	C	A	A	
Approach Delay (s)	42.0			6.1	4.3	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	151	180	132	203	78	118	400	66	47	535	14
Future Volume (vph)	17	151	180	132	203	78	118	400	66	47	535	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3251		1770	3392		3433	3464		1770	3525	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3251		1770	3392		3433	3464		1770	3525	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	168	200	147	226	87	131	444	73	52	594	16
RTOR Reduction (vph)	0	172	0	0	56	0	0	11	0	0	2	0
Lane Group Flow (vph)	19	196	0	147	257	0	131	506	0	52	608	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.6	12.5		10.4	21.3		7.9	41.8		6.3	40.2	
Effective Green, g (s)	1.6	12.5		10.4	21.3		7.9	41.8		6.3	40.2	
Actuated g/C Ratio	0.02	0.14		0.12	0.24		0.09	0.46		0.07	0.45	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	31	451		204	802		301	1608		123	1574	
v/s Ratio Prot	0.01	c0.06		c0.08	0.08		c0.04	0.15		0.03	c0.17	
v/s Ratio Perm												
v/c Ratio	0.61	0.43		0.72	0.32		0.44	0.31		0.42	0.39	
Uniform Delay, d1	43.9	35.5		38.4	28.4		38.9	15.1		40.1	16.7	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.87		1.44	0.74	
Incremental Delay, d2	22.6	0.2		10.1	0.1		0.4	0.5		0.8	0.7	
Delay (s)	66.5	35.8		48.5	28.5		45.4	13.7		58.8	13.1	
Level of Service	E	D		D	C		D	B		E	B	
Approach Delay (s)		37.3			34.9			20.1			16.7	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	48	101	87	210	54	62	509	54	23	804	41
Future Volume (vph)	33	48	101	87	210	54	62	509	54	23	804	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1674		1770	1805		1770	3488		1770	3513	
Flt Permitted	0.31	1.00		0.53	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	575	1674		985	1805		1770	3488		1770	3513	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	37	54	113	98	236	61	70	572	61	26	903	46
RTOR Reduction (vph)	0	91	0	0	12	0	0	7	0	0	3	0
Lane Group Flow (vph)	37	76	0	98	285	0	70	626	0	26	946	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	20.0	17.6		22.0	18.6		6.8	47.1		2.9	43.2	
Effective Green, g (s)	20.0	17.6		22.0	18.6		6.8	47.1		2.9	43.2	
Actuated g/C Ratio	0.22	0.20		0.24	0.21		0.08	0.52		0.03	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	159	327		270	373		133	1825		57	1686	
v/s Ratio Prot	0.01	0.05		c0.01	c0.16		c0.04	c0.18		0.01	c0.27	
v/s Ratio Perm	0.05			0.07								
v/c Ratio	0.23	0.23		0.36	0.76		0.53	0.34		0.46	0.56	
Uniform Delay, d1	28.2	30.5		27.7	33.6		40.0	12.5		42.8	16.7	
Progression Factor	1.00	1.00		1.00	1.00		0.98	1.12		1.39	0.87	
Incremental Delay, d2	0.3	0.1		0.3	8.1		1.4	0.4		2.0	1.3	
Delay (s)	28.5	30.6		28.0	41.8		40.6	14.4		61.3	15.8	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.2			38.4			17.0			17.0	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	159	110	143	197	126	37	255	28	75	772	133
Future Volume (vph)	234	159	110	143	197	126	37	255	28	75	772	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1749		1770	1754		1770	3487		1770	3461	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1749		1770	1754		1770	3487		1770	3461	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	252	171	118	154	212	135	40	274	30	81	830	143
RTOR Reduction (vph)	0	31	0	0	29	0	0	9	0	0	14	0
Lane Group Flow (vph)	252	258	0	154	318	0	40	295	0	81	959	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2	23.9		9.9	20.6		3.7	29.6		7.7	33.6	
Effective Green, g (s)	13.2	23.9		9.9	20.6		3.7	29.6		7.7	33.6	
Actuated g/C Ratio	0.15	0.27		0.11	0.23		0.04	0.33		0.09	0.37	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	259	464		194	401		72	1146		151	1292	
v/s Ratio Prot	c0.14	c0.15		0.09	c0.18		0.02	0.08		c0.05	c0.28	
v/s Ratio Perm												
v/c Ratio	0.97	0.56		0.79	0.79		0.56	0.26		0.54	0.74	
Uniform Delay, d1	38.2	28.5		39.1	32.7		42.3	22.1		39.4	24.4	
Progression Factor	1.00	1.00		1.00	1.00		0.92	0.77		1.41	0.63	
Incremental Delay, d2	47.9	0.8		18.5	9.7		5.2	0.5		1.6	3.5	
Delay (s)	86.1	29.3		57.5	42.4		44.1	17.5		57.2	18.9	
Level of Service	F	C		E	D		D	B		E	B	
Approach Delay (s)		55.8			47.1			20.6			21.8	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	14	281	1	51	1	247	60	29	1104	0
Future Volume (vph)	3	1	14	281	1	51	1	247	60	29	1104	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.89			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1774	1583	1770	3436		1770	3539	
Flt Permitted		0.96			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1594			1329	1583	1770	3436		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1	15	305	1	55	1	268	65	32	1200	0
RTOR Reduction (vph)	0	11	0	0	0	39	0	21	0	0	0	0
Lane Group Flow (vph)	0	8	0	0	306	16	1	312	0	32	1200	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		26.3			26.3	26.3	1.0	45.4		3.6	48.2	
Effective Green, g (s)		26.3			26.3	26.3	1.0	45.4		3.6	48.2	
Actuated g/C Ratio		0.29			0.29	0.29	0.01	0.50		0.04	0.54	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		465			388	462	19	1733		70	1895	
v/s Ratio Prot							0.00	0.09		c0.02	c0.34	
v/s Ratio Perm		0.01			c0.23	0.01						
v/c Ratio		0.02			0.79	0.03	0.05	0.18		0.46	0.63	
Uniform Delay, d1		22.7			29.3	22.8	44.0	12.2		42.2	14.7	
Progression Factor		1.00			1.00	1.00	1.15	0.75		1.07	0.82	
Incremental Delay, d2		0.0			12.0	0.1	0.4	0.2		1.4	1.3	
Delay (s)		22.7			41.3	22.8	50.9	9.3		46.4	13.3	
Level of Service		C			D	C	D	A		D	B	
Approach Delay (s)		22.7			38.5			9.4			14.2	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	39	82	301	1357	31
Future Volume (vph)	4	39	82	301	1357	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3527	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3527	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	41	87	320	1444	33
RTOR Reduction (vph)	0	39	0	0	1	0
Lane Group Flow (vph)	4	2	87	320	1476	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.5	3.5	9.5	75.7	60.7	
Effective Green, g (s)	3.5	3.5	9.5	75.7	60.7	
Actuated g/C Ratio	0.04	0.04	0.11	0.84	0.67	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	133	61	186	2976	2378	
v/s Ratio Prot	c0.00		c0.05	0.09	c0.42	
v/s Ratio Perm		0.00				
v/c Ratio	0.03	0.03	0.47	0.11	0.62	
Uniform Delay, d1	41.6	41.6	37.9	1.2	8.2	
Progression Factor	1.00	1.00	0.97	0.59	0.51	
Incremental Delay, d2	0.0	0.1	0.7	0.1	1.0	
Delay (s)	41.7	41.7	37.4	0.8	5.1	
Level of Service	D	D	D	A	A	
Approach Delay (s)	41.7			8.6	5.1	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	0	74	2	2	3	593	346	6	0	1112	287
Future Volume (vph)	33	0	74	2	2	3	593	346	6	0	1112	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3430	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3430	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	35	0	80	2	2	3	638	372	6	0	1196	309
RTOR Reduction (vph)	0	0	76	0	3	0	0	0	1	0	28	0
Lane Group Flow (vph)	17	18	4	0	4	0	638	372	5	0	1477	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Effective Green, g (s)	4.0	4.0	4.0		0.8		35.7	69.4	69.4		29.3	
Actuated g/C Ratio	0.04	0.04	0.04		0.01		0.40	0.77	0.77		0.33	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	74	74	70		15		702	2728	1220		1116	
v/s Ratio Prot	0.01	c0.01			c0.00		c0.36	0.11			c0.43	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.23	0.24	0.05		0.27		0.91	0.14	0.00		1.32	
Uniform Delay, d1	41.5	41.5	41.2		44.3		25.6	2.6	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.92	0.76	1.00		1.33	
Incremental Delay, d2	0.6	0.6	0.1		3.5		13.5	0.1	0.0		150.9	
Delay (s)	42.1	42.2	41.3		47.8		37.0	2.1	2.4		191.2	
Level of Service	D	D	D		D		D	A	A		F	
Approach Delay (s)		41.5			47.8			24.0			191.2	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	120.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	230	1	644	7	299	66	251	941	0
Future Volume (vph)	0	0	0	230	1	644	7	299	66	251	941	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95		1.00	0.95	
Frt					1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3444		1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3444		1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	242	1	678	7	315	69	264	991	0
RTOR Reduction (vph)	0	0	0	0	0	80	0	18	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	243	598	7	366	0	264	991	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					28.5	51.2	0.8	29.4		17.8	46.4	
Effective Green, g (s)					28.5	51.2	0.8	29.4		17.8	46.4	
Actuated g/C Ratio					0.32	0.57	0.01	0.33		0.20	0.52	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					429	900	15	1125		350	1824	
v/s Ratio Prot						c0.38	0.00	0.11		c0.15	c0.28	
v/s Ratio Perm					0.18							
v/c Ratio					0.57	0.66	0.47	0.33		0.75	0.54	
Uniform Delay, d1					25.6	13.4	44.4	22.8		34.0	14.7	
Progression Factor					1.00	1.00	1.00	1.00		1.61	0.63	
Incremental Delay, d2					1.0	1.4	8.1	0.8		0.8	0.1	
Delay (s)					26.6	14.9	52.5	23.6		55.7	9.4	
Level of Service					C	B	D	C		E	A	
Approach Delay (s)		0.0			18.0			24.1			19.1	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	985	153	86	1496	95	393	97	20	109	164	396
Future Volume (vph)	193	985	153	86	1496	95	393	97	20	109	164	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6350		2841	2981		3204	1591	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6350		2841	2981		3204	1591	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	199	1015	158	89	1542	98	405	100	21	112	169	408
RTOR Reduction (vph)	0	0	70	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	199	1015	88	89	1636	0	271	252	0	112	210	367
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	17.3	93.5	93.5	14.6	90.6		27.5	27.5		33.8	33.8	56.4
Effective Green, g (s)	17.3	93.5	93.5	14.6	90.6		27.5	27.5		33.8	33.8	56.4
Actuated g/C Ratio	0.09	0.49	0.49	0.08	0.48		0.14	0.14		0.18	0.18	0.30
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	291	2419	779	126	3027		411	431		569	283	855
v/s Ratio Prot	c0.06	c0.21		0.05	c0.26		c0.10	0.08		0.03	c0.13	0.13
v/s Ratio Perm			0.06									
v/c Ratio	0.68	0.42	0.11	0.71	0.54		0.66	0.58		0.20	0.74	0.43
Uniform Delay, d1	83.7	30.9	26.0	85.6	35.0		76.8	75.9		66.5	74.0	53.8
Progression Factor	1.00	1.00	1.00	1.08	0.88		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.5	0.3	11.2	0.6		5.5	3.4		0.2	10.8	0.5
Delay (s)	90.2	31.4	26.3	103.7	31.3		82.3	79.3		66.8	84.8	54.3
Level of Service	F	C	C	F	C		F	E		E	F	D
Approach Delay (s)		39.4			35.0			80.8			65.6	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	46.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1026	9	37	1442	98	19	25	196	484	107	240
Future Volume (vph)	96	1026	9	37	1442	98	19	25	196	484	107	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5079		3204	5037		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5079		3204	5037		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	1140	10	41	1602	109	21	28	218	538	119	267
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	83	0	0	104
Lane Group Flow (vph)	107	1150	0	41	1708	0	21	28	135	538	119	163
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.7	105.0		5.9	100.0		21.8	22.6	22.6	36.3	36.8	36.8
Effective Green, g (s)	10.7	105.0		5.9	100.0		21.8	22.6	22.6	36.3	36.8	36.8
Actuated g/C Ratio	0.06	0.55		0.03	0.53		0.11	0.12	0.12	0.19	0.19	0.19
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	180	2806		99	2651		189	206	188	612	360	306
v/s Ratio Prot	c0.03	0.23		0.01	c0.34		0.01	0.02		c0.17	0.06	
v/s Ratio Perm									c0.09			0.10
v/c Ratio	0.59	0.41		0.41	0.64		0.11	0.14	0.72	0.88	0.33	0.53
Uniform Delay, d1	87.5	24.6		90.4	32.2		75.4	75.0	80.6	74.7	66.0	68.9
Progression Factor	1.08	0.79		0.73	1.33		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.4		0.8	0.9		0.3	0.3	11.9	13.2	0.3	1.2
Delay (s)	97.8	19.7		66.6	43.9		75.7	75.2	92.5	87.9	66.3	70.1
Level of Service	F	B		E	D		E	E	F	F	E	E
Approach Delay (s)		26.4			44.4			89.4			80.0	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1568	83	112	990	127	146	33	347	1076	242	422
Future Volume (vph)	77	1568	83	112	990	127	146	33	347	1076	242	422
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5047		1652	5085	1583	1652	2864	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5047		1652	5085	1583	1652	2864	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	89	1802	95	129	1138	146	168	38	399	1237	278	485
RTOR Reduction (vph)	0	3	0	0	0	0	0	109	116	0	0	194
Lane Group Flow (vph)	89	1894	0	129	1138	146	168	129	83	1237	278	291
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	18.9	66.0		21.7	68.9	190.0	24.2	17.0	17.0	65.6	58.4	58.4
Effective Green, g (s)	18.9	66.0		21.7	68.9	190.0	24.2	17.0	17.0	65.6	58.4	58.4
Actuated g/C Ratio	0.10	0.35		0.11	0.36	1.00	0.13	0.09	0.09	0.35	0.31	0.31
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	164	1753		188	1843	1583	210	256	133	1106	1196	486
v/s Ratio Prot	0.05	c0.38		c0.08	0.22		0.10	0.04		c0.39	0.07	
v/s Ratio Perm						0.09			0.06			c0.18
v/c Ratio	0.54	1.08		0.69	0.62	0.09	0.80	0.50	0.63	1.12	0.23	0.60
Uniform Delay, d1	81.4	62.0		80.9	49.7	0.0	80.5	82.5	83.4	62.2	49.1	55.9
Progression Factor	1.02	1.01		0.97	1.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	45.9		7.8	1.5	0.1	19.2	1.9	9.5	65.8	0.2	2.9
Delay (s)	85.0	108.7		86.1	52.1	0.1	99.8	84.4	92.9	128.0	49.3	58.8
Level of Service	F	F		F	D	A	F	F	F	F	D	E
Approach Delay (s)		107.6			49.8			91.4			100.2	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	89.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	2754	94	25	679	9	172	19	80	82	7	277
Future Volume (vph)	225	2754	94	25	679	9	172	19	80	82	7	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5060		1770	5076		1681	1584		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5060		1770	5076		1681	1584		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	232	2839	97	26	700	9	177	20	87	85	7	286
RTOR Reduction (vph)	0	2	0	0	0	0	0	36	0	0	0	142
Lane Group Flow (vph)	232	2934	0	26	709	0	147	101	0	85	7	144
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	29.2	129.3		6.5	106.8		21.0	21.0		13.0	13.0	42.2
Effective Green, g (s)	29.2	129.3		6.5	106.8		21.0	21.0		13.0	13.0	42.2
Actuated g/C Ratio	0.15	0.68		0.03	0.56		0.11	0.11		0.07	0.07	0.22
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	272	3443		60	2853		185	175		113	127	351
v/s Ratio Prot	c0.13	c0.58		0.01	0.14		c0.09	0.06		c0.05	0.00	0.09
v/s Ratio Perm												
v/c Ratio	0.85	0.85		0.43	0.25		0.79	0.58		0.75	0.06	0.41
Uniform Delay, d1	78.3	23.1		89.9	21.2		82.4	80.3		86.9	82.8	63.3
Progression Factor	0.90	1.80		0.75	1.22		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.4	0.3		1.8	0.2		19.3	2.9		21.8	0.1	0.3
Delay (s)	72.6	41.9		69.5	26.0		101.7	83.2		108.8	82.8	63.6
Level of Service	E	D		E	C		F	F		F	F	E
Approach Delay (s)		44.2			27.5			92.8			74.1	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	47.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2730	11	34	707	28	26	13	306	89	3	69
Future Volume (vph)	51	2730	11	34	707	28	26	13	306	89	3	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	52	2786	11	35	721	29	27	13	312	91	3	70
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	100	0	0	56
Lane Group Flow (vph)	52	2797	0	35	748	0	27	13	212	91	3	14
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	8.4	121.4		6.2	119.5		5.5	29.6	29.6	13.1	37.2	37.2
Effective Green, g (s)	8.4	121.4		6.2	119.5		5.5	29.6	29.6	13.1	37.2	37.2
Actuated g/C Ratio	0.04	0.64		0.03	0.63		0.03	0.16	0.16	0.07	0.20	0.20
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	78	3247		57	3179		51	290	246	122	364	309
v/s Ratio Prot	c0.03	c0.55		0.02	0.15		0.02	0.01		c0.05	0.00	
v/s Ratio Perm									c0.13			0.01
v/c Ratio	0.67	0.86		0.61	0.24		0.53	0.04	0.86	0.75	0.01	0.04
Uniform Delay, d1	89.4	27.5		90.7	15.4		91.0	68.2	78.2	86.8	61.5	62.0
Progression Factor	1.04	1.42		1.25	0.44		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.5	1.8		12.8	0.2		4.5	0.0	24.7	19.3	0.0	0.0
Delay (s)	101.4	40.9		125.8	7.0		95.5	68.2	102.9	106.1	61.5	62.0
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		42.1			12.3			101.1			86.5	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	2460	547	49	500	25	181	43	121	128	90	46
Future Volume (vph)	62	2460	547	49	500	25	181	43	121	128	90	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4946		1652	5049		1625	1716	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4946		1652	5049		1625	1716	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	2589	576	52	526	26	191	45	127	135	95	48
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	115	0	0	43
Lane Group Flow (vph)	65	3151	0	52	550	0	117	119	12	135	95	5
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.9	119.1		11.8	118.5		18.1	18.1	18.1	20.8	20.8	20.8
Effective Green, g (s)	11.9	119.1		11.8	118.5		18.1	18.1	18.1	20.8	20.8	20.8
Actuated g/C Ratio	0.06	0.63		0.06	0.62		0.10	0.10	0.10	0.11	0.11	0.11
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	103	3100		102	3148		154	163	150	180	203	184
v/s Ratio Prot	c0.04	c0.64		0.03	0.11		c0.07	0.07		c0.08	0.05	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.63	1.02		0.51	0.17		0.76	0.73	0.08	0.75	0.47	0.03
Uniform Delay, d1	86.9	35.5		86.3	15.1		83.8	83.6	78.4	82.1	79.4	75.6
Progression Factor	1.30	0.45		1.26	0.82		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	16.2		1.4	0.1		17.2	13.4	0.1	16.0	1.7	0.1
Delay (s)	117.6	32.0		110.0	12.6		101.0	97.0	78.4	98.1	81.1	75.6
Level of Service	F	C		F	B		F	F	E	F	F	E
Approach Delay (s)		33.7			20.9			91.8			88.4	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	2536	139	59	472	36	99	27	195	21	12	20
Future Volume (vph)	28	2536	139	59	472	36	99	27	195	21	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5046		1770	5031		3433	1617		1770	1690	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5046		1770	5031		3433	1617		1770	1690	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	2642	145	61	492	38	103	28	203	22	12	21
RTOR Reduction (vph)	0	2	0	0	3	0	0	90	0	0	19	0
Lane Group Flow (vph)	29	2785	0	61	527	0	103	141	0	22	15	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.7	134.4		10.9	138.6		10.1	21.0		4.0	14.9	
Effective Green, g (s)	6.7	134.4		10.9	138.6		10.1	21.0		4.0	14.9	
Actuated g/C Ratio	0.04	0.71		0.06	0.73		0.05	0.11		0.02	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	62	3569		101	3669		182	178		37	132	
v/s Ratio Prot	0.02	c0.55		c0.03	c0.10		c0.03	c0.09		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.47	0.78		0.60	0.14		0.57	0.79		0.59	0.11	
Uniform Delay, d1	89.9	18.2		87.4	7.8		87.8	82.4		92.2	81.4	
Progression Factor	1.11	0.24		1.05	0.88		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.5		6.5	0.1		2.4	19.8		15.9	0.1	
Delay (s)	100.7	5.0		98.2	6.9		90.2	102.2		108.1	81.5	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		6.0			16.3			98.5			92.0	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	2451	148	262	430	185	176	327	590	436	243	43
Future Volume (vph)	61	2451	148	262	430	185	176	327	590	436	243	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5042		1652	4856		1652	3421	1531	3204	3459	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5042		1652	4856		1652	3421	1531	3204	3459	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	62	2501	151	267	439	189	180	334	602	445	248	44
RTOR Reduction (vph)	0	4	0	0	40	0	0	0	30	0	8	0
Lane Group Flow (vph)	62	2648	0	267	588	0	180	334	572	445	284	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	11.0	90.9		16.6	96.4		40.1	38.0	60.6	23.6	21.1	
Effective Green, g (s)	11.0	90.9		16.6	96.4		40.1	38.0	60.6	23.6	21.1	
Actuated g/C Ratio	0.06	0.48		0.09	0.51		0.21	0.20	0.32	0.12	0.11	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	95	2412		144	2463		348	684	488	397	384	
v/s Ratio Prot	0.04	c0.53		c0.16	0.12		0.11	0.10	c0.37	c0.14	0.08	
v/s Ratio Perm												
v/c Ratio	0.65	1.10		1.85	0.24		0.52	0.49	1.17	1.12	0.74	
Uniform Delay, d1	87.6	49.5		86.7	26.2		66.4	67.4	64.7	83.2	81.8	
Progression Factor	1.25	0.65		1.30	0.95		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.6	48.9		409.3	0.2		1.3	0.7	97.5	82.2	7.4	
Delay (s)	117.2	81.4		521.8	25.2		67.7	68.0	162.2	165.4	89.2	
Level of Service	F	F		F	C		E	E	F	F	F	
Approach Delay (s)		82.2			173.4			118.7			135.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	111.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	3305	32	62	885	83	13	22	44	60	3	21
Future Volume (vph)	139	3305	32	62	885	83	13	22	44	60	3	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5020			1830	1583	1770	1617	
Flt Permitted	0.95	1.00		0.95	1.00			0.89	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5020			1653	1583	1367	1617	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	143	3407	33	64	912	86	13	23	45	62	3	22
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	42	0	20	0
Lane Group Flow (vph)	143	3440	0	64	994	0	0	36	3	62	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	19.7	149.6		12.1	142.0			13.0	13.0	13.0	13.0	
Effective Green, g (s)	19.7	149.6		12.1	142.0			13.0	13.0	13.0	13.0	
Actuated g/C Ratio	0.10	0.79		0.06	0.75			0.07	0.07	0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	183	3998		112	3751			113	108	93	110	
v/s Ratio Prot	c0.08	c0.68		0.04	0.20						0.00	
v/s Ratio Perm								0.02	0.00	c0.05		
v/c Ratio	0.78	0.86		0.57	0.27			0.32	0.03	0.67	0.04	
Uniform Delay, d1	83.1	13.3		86.4	7.6			84.3	82.6	86.4	82.7	
Progression Factor	1.09	0.34		0.97	0.70			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.9	0.2		4.2	0.2			0.6	0.0	13.1	0.1	
Delay (s)	92.6	4.7		88.2	5.4			84.9	82.6	99.5	82.7	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		8.2			10.4			83.6			94.7	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	3380	22	51	998	45	4	20	63	44	4	12
Future Volume (vph)	37	3380	22	51	998	45	4	20	63	44	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5053			1675		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.33	1.00	
Satd. Flow (perm)	1770	5080		1770	5053			1660		611	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	38	3485	23	53	1029	46	4	21	68	45	4	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	58	0	0	11	0
Lane Group Flow (vph)	38	3508	0	53	1074	0	0	35	0	45	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.5	151.8		10.7	154.7			12.2		12.2	12.2	
Effective Green, g (s)	7.5	151.8		10.7	154.7			12.2		12.2	12.2	
Actuated g/C Ratio	0.04	0.80		0.06	0.81			0.06		0.06	0.06	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	69	4058		99	4114			106		39	106	
v/s Ratio Prot	0.02	c0.69		c0.03	c0.21						0.00	
v/s Ratio Perm								0.02		c0.07		
v/c Ratio	0.55	0.86		0.54	0.26			0.33		1.15	0.05	
Uniform Delay, d1	89.6	12.4		87.2	4.2			85.0		88.9	83.4	
Progression Factor	1.25	0.34		0.80	2.03			1.00		1.00	1.00	
Incremental Delay, d2	2.8	1.5		2.7	0.1			0.7		193.2	0.1	
Delay (s)	114.5	5.7		72.0	8.6			85.7		282.1	83.5	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		6.8			11.6			85.7			230.0	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	3155	213	100	1013	85	42	87	118	27	47	78
Future Volume (vph)	110	3155	213	100	1013	85	42	87	118	27	47	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5037		1770	5027		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5037		1770	5027		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	3321	224	105	1066	89	44	92	124	28	49	82
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	98	0	0	76
Lane Group Flow (vph)	116	3542	0	105	1151	0	44	92	26	28	49	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.8	133.4		17.7	133.8		5.8	15.3	15.3	3.9	13.4	13.4
Effective Green, g (s)	16.8	133.4		17.7	133.8		5.8	15.3	15.3	3.9	13.4	13.4
Actuated g/C Ratio	0.09	0.70		0.09	0.70		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	156	3536		164	3540		54	150	127	36	131	111
v/s Ratio Prot	c0.07	c0.70		0.06	0.23		c0.02	c0.05		0.02	0.03	
v/s Ratio Perm									0.02			0.00
v/c Ratio	0.74	1.00		0.64	0.33		0.81	0.61	0.20	0.78	0.37	0.05
Uniform Delay, d1	84.5	28.3		83.1	10.8		91.6	84.5	81.6	92.6	84.3	82.4
Progression Factor	0.89	0.62		0.86	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.5	11.3		5.8	0.2		57.2	5.1	0.3	62.5	0.7	0.1
Delay (s)	83.4	28.8		77.2	10.5		148.8	89.6	81.9	155.1	85.0	82.4
Level of Service	F	C		E	B		F	F	F	F	F	F
Approach Delay (s)		30.6			16.0			96.0			96.0	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	2671	277	72	1039	74	157	146	36	51	129	73
Future Volume (vph)	141	2671	277	72	1039	74	157	146	36	51	129	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3435		1770	3347	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3435		1770	3347	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	150	2841	295	77	1105	79	167	155	38	54	137	78
RTOR Reduction (vph)	0	6	0	0	0	34	0	10	0	0	46	0
Lane Group Flow (vph)	150	3130	0	77	1105	45	167	183	0	54	169	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	20.2	116.3		11.1	107.2	107.2	26.5	26.5		16.2	16.2	
Effective Green, g (s)	20.2	116.3		11.1	107.2	107.2	26.5	26.5		16.2	16.2	
Actuated g/C Ratio	0.11	0.61		0.06	0.56	0.56	0.14	0.14		0.09	0.09	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	188	3069		103	2869	893	246	479		150	285	
v/s Ratio Prot	c0.08	c0.62		0.04	0.22		c0.09	0.05		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.80	1.02		0.75	0.39	0.05	0.68	0.38		0.36	0.59	
Uniform Delay, d1	82.9	36.9		88.1	23.1	18.6	77.7	74.3		82.0	83.7	
Progression Factor	1.26	0.39		1.24	0.36	0.02	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	14.4		19.6	0.3	0.1	7.7	0.6		2.2	4.1	
Delay (s)	110.7	28.8		129.3	8.7	0.4	85.4	74.9		84.2	87.8	
Level of Service	F	C		F	A	A	F	E		F	F	
Approach Delay (s)		32.5			15.5			79.8			87.1	
Approach LOS		C			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	2220	64	300	1064	261	140	596	130	324	445	128
Future Volume (vph)	239	2220	64	300	1064	261	140	596	130	324	445	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3421	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3421	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	246	2289	66	309	1097	269	144	614	134	334	459	132
RTOR Reduction (vph)	0	1	0	0	0	112	0	0	82	0	14	0
Lane Group Flow (vph)	246	2354	0	309	1097	157	144	614	52	334	577	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	22.2	95.9		20.9	94.7	94.7	17.4	33.4	33.4	20.0	35.8	
Effective Green, g (s)	22.2	95.9		20.9	94.7	94.7	17.4	33.4	33.4	20.0	35.8	
Actuated g/C Ratio	0.12	0.50		0.11	0.50	0.50	0.09	0.18	0.18	0.11	0.19	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	374	2385		352	2450	736	156	834	259	361	644	
v/s Ratio Prot	0.08	c0.50		c0.10	0.22		c0.08	0.13		0.10	c0.17	
v/s Ratio Perm						0.11			0.04			
v/c Ratio	0.66	0.99		0.88	0.45	0.21	0.92	0.74	0.20	0.93	0.90	
Uniform Delay, d1	80.3	46.4		83.3	30.8	26.7	85.6	74.1	66.9	84.3	75.3	
Progression Factor	0.60	0.31		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	6.3		20.5	0.6	0.7	49.0	3.9	0.7	28.6	15.5	
Delay (s)	48.9	20.8		103.8	31.4	27.4	134.7	78.0	67.6	112.8	90.8	
Level of Service	D	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		23.5			44.1			85.6			98.7	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	67	332	292	66	260	461
Future Volume (vph)	67	332	292	66	260	461
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3442		1717	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3442		1717	1504
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	369	324	73	289	512
RTOR Reduction (vph)	0	0	32	0	23	165
Lane Group Flow (vph)	74	369	365	0	394	219
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	5.7	23.2	13.5		16.3	26.5
Effective Green, g (s)	5.7	23.2	13.5		16.3	26.5
Actuated g/C Ratio	0.12	0.47	0.28		0.33	0.54
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	205	882	948		571	813
v/s Ratio Prot	0.04	c0.20	0.11		c0.23	0.15
v/s Ratio Perm						
v/c Ratio	0.36	0.42	0.39		0.69	0.27
Uniform Delay, d1	20.0	8.5	14.4		14.2	6.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.7	0.5		3.5	0.2
Delay (s)	20.4	9.1	14.9		17.6	6.2
Level of Service	C	A	B		B	A
Approach Delay (s)		11.0	14.9		12.2	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	49.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1006	16	15	241	28	13	1	51	258	2	41
Future Volume (vph)	5	1006	16	15	241	28	13	1	51	258	2	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1858		1770	1834			1649			1753	
Flt Permitted	0.58	1.00		0.08	1.00			0.93			0.75	
Satd. Flow (perm)	1073	1858		142	1834			1545			1370	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1082	17	16	259	30	14	1	55	277	2	44
RTOR Reduction (vph)	0	1	0	0	5	0	0	41	0	0	6	0
Lane Group Flow (vph)	5	1098	0	16	284	0	0	29	0	0	317	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	52.9	52.9		52.3	52.3			21.6			21.6	
Effective Green, g (s)	52.9	52.9		52.3	52.3			21.6			21.6	
Actuated g/C Ratio	0.63	0.63		0.62	0.62			0.26			0.26	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	673	1165		88	1137			395			351	
v/s Ratio Prot		c0.59			0.16							
v/s Ratio Perm	0.00			0.11				0.02			c0.23	
v/c Ratio	0.01	0.94		0.18	0.25			0.07			0.90	
Uniform Delay, d1	5.9	14.3		6.8	7.2			23.8			30.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	14.7		0.9	0.1			0.0			25.0	
Delay (s)	5.9	29.0		7.7	7.3			23.8			55.3	
Level of Service	A	C		A	A			C			E	
Approach Delay (s)		28.9			7.3			23.8			55.3	
Approach LOS		C			A			C			E	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	10.4
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	378	331	507	85	92	241	138	1217	83	137	777	82
Future Volume (vph)	378	331	507	85	92	241	138	1217	83	137	777	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1882		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1882		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	415	364	557	93	101	265	152	1337	91	151	854	90
RTOR Reduction (vph)	0	0	156	0	64	0	0	0	25	0	0	35
Lane Group Flow (vph)	415	364	401	93	302	0	152	1337	66	151	854	55
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	37.1	37.1	52.8	26.4	26.4		15.7	52.5	78.9	10.6	47.4	90.2
Effective Green, g (s)	37.1	37.1	52.8	26.4	26.4		15.7	52.5	78.9	10.6	47.4	90.2
Actuated g/C Ratio	0.25	0.25	0.36	0.18	0.18		0.11	0.36	0.53	0.07	0.32	0.61
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	415	437	548	295	336		182	1175	846	118	1099	936
v/s Ratio Prot	c0.25	0.21	0.26	0.06	c0.16		0.09	c0.40	0.04	c0.09	0.25	0.04
v/s Ratio Perm												
v/c Ratio	1.00	0.83	0.73	0.32	0.90		0.84	1.14	0.08	1.28	0.78	0.06
Uniform Delay, d1	55.2	52.3	41.2	52.7	59.2		64.6	47.5	16.7	68.5	45.3	11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	44.2	12.4	4.5	0.6	25.2		25.8	72.8	0.0	175.8	3.7	0.0
Delay (s)	99.4	64.6	45.7	53.3	84.4		90.4	120.3	16.7	244.3	49.0	11.6
Level of Service	F	E	D	D	F		F	F	B	F	D	B
Approach Delay (s)		67.5			78.1			111.5			72.8	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	85.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	147.5	Sum of lost time (s)	20.9
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	163	0	17	0	259	76	19	658	0
Future Volume (vph)	1	0	1	163	0	17	0	259	76	19	658	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	0	1	190	0	20	0	301	88	22	765	0
RTOR Reduction (vph)	0	2	0	0	0	16	0	0	22	0	0	0
Lane Group Flow (vph)	0	0	0	0	190	4	0	301	66	22	765	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			9.6	9.6		26.6	40.7	0.6	31.2	
Effective Green, g (s)		0.7			9.6	9.6		26.6	40.7	0.6	31.2	
Actuated g/C Ratio		0.01			0.18	0.18		0.49	0.75	0.01	0.58	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		21			314	281		917	1193	19	1076	
v/s Ratio Prot		c0.00			c0.11			0.16	0.04	0.01	c0.41	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.61	0.01		0.33	0.06	1.16	0.71	
Uniform Delay, d1		26.3			20.5	18.3		8.3	1.7	26.7	8.2	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			2.3	0.0		0.2	0.0	260.5	2.2	
Delay (s)		26.3			22.7	18.3		8.5	1.7	287.2	10.4	
Level of Service		C			C	B		A	A	F	B	
Approach Delay (s)		26.3			22.3			7.0			18.1	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	54.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	749	196	86	252	6	115	7	174	67	76	113
Future Volume (vph)	19	749	196	86	252	6	115	7	174	67	76	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3527		1770	1863	1583	1770	1695	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3429		1770	3527		1770	1863	1583	1770	1695	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	780	204	90	262	6	120	7	181	70	79	118
RTOR Reduction (vph)	0	24	0	0	2	0	0	0	62	0	72	0
Lane Group Flow (vph)	20	960	0	90	267	0	120	7	119	70	125	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	0.9	28.7		4.7	33.0		5.7	12.5	22.1	3.5	10.3	
Effective Green, g (s)	0.9	28.7		4.7	33.0		5.7	12.5	22.1	3.5	10.3	
Actuated g/C Ratio	0.01	0.41		0.07	0.48		0.08	0.18	0.32	0.05	0.15	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	23	1422		120	1681		145	336	505	89	252	
v/s Ratio Prot	0.01	c0.28		c0.05	c0.08		c0.07	0.00	0.08	0.04	c0.07	
v/s Ratio Perm												
v/c Ratio	0.87	0.68		0.75	0.16		0.83	0.02	0.24	0.79	0.49	
Uniform Delay, d1	34.1	16.5		31.7	10.2		31.3	23.3	17.3	32.5	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	124.8	1.2		20.5	0.0		29.3	0.0	0.1	33.2	0.6	
Delay (s)	158.9	17.7		52.2	10.3		60.5	23.3	17.4	65.7	27.6	
Level of Service	F	B		D	B		E	C	B	E	C	
Approach Delay (s)		20.5			20.8			34.3			37.6	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	19.8
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	1014	365	228	1520	105	244	23	224	431	78	353
Future Volume (vph)	64	1014	365	228	1520	105	244	23	224	431	78	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	1035	372	233	1551	107	249	23	229	440	80	360
RTOR Reduction (vph)	0	0	241	0	4	0	0	0	197	0	173	0
Lane Group Flow (vph)	65	1035	131	233	1654	0	134	138	32	308	399	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	8.8	52.7	52.7	14.1	58.0		17.2	17.2	17.2	46.5	46.5	
Effective Green, g (s)	8.8	52.7	52.7	14.1	58.0		17.2	17.2	17.2	46.5	46.5	
Actuated g/C Ratio	0.06	0.35	0.35	0.09	0.39		0.11	0.11	0.11	0.31	0.31	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	103	1786	556	322	1947		192	194	181	499	940	
v/s Ratio Prot	0.04	0.20		c0.07	c0.33		0.08	c0.08		c0.19	0.13	
v/s Ratio Perm			0.08						0.02			
v/c Ratio	0.63	0.58	0.24	0.72	0.85		0.70	0.71	0.17	0.62	0.42	
Uniform Delay, d1	69.0	39.6	34.4	66.1	42.0		63.9	64.0	60.0	44.2	41.1	
Progression Factor	1.00	1.00	1.00	1.38	0.64		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.9	1.4	1.0	4.4	3.2		8.6	9.8	0.2	4.0	0.9	
Delay (s)	77.9	41.0	35.4	95.7	30.0		72.5	73.8	60.2	48.2	42.0	
Level of Service	E	D	D	F	C		E	E	E	D	D	
Approach Delay (s)		41.2			38.1			67.2			44.2	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	43.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1523	172	458	1466	291	213	60	718	973	243	182
Future Volume (vph)	25	1523	172	458	1466	291	213	60	718	973	243	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	1638	185	492	1576	313	229	65	772	1046	261	196
RTOR Reduction (vph)	0	0	107	0	0	112	0	0	50	0	0	48
Lane Group Flow (vph)	27	1638	78	492	1576	201	229	65	722	1046	261	148
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.1	41.5	41.5	18.1	56.2	96.1	13.9	36.0	59.1	34.6	56.4	65.8
Effective Green, g (s)	4.1	41.5	41.5	18.1	56.2	96.1	13.9	36.0	59.1	34.6	56.4	65.8
Actuated g/C Ratio	0.03	0.28	0.28	0.12	0.37	0.64	0.09	0.24	0.39	0.23	0.38	0.44
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	93	1406	437	414	1905	1785	318	849	1098	791	1330	694
v/s Ratio Prot	0.01	c0.32		c0.14	0.31	0.07	0.07	0.02	c0.26	c0.30	0.07	0.09
v/s Ratio Perm			0.05									
v/c Ratio	0.29	1.17	0.18	1.19	0.83	0.11	0.72	0.08	0.66	1.32	0.20	0.21
Uniform Delay, d1	71.5	54.2	41.3	66.0	42.5	10.4	66.2	44.1	37.2	57.7	31.5	26.1
Progression Factor	1.15	0.68	0.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	81.4	0.8	106.6	4.3	0.0	6.6	0.1	2.0	153.9	0.1	0.3
Delay (s)	83.0	118.1	13.4	172.5	46.8	10.4	72.8	44.2	39.2	211.6	31.7	26.3
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		107.1			68.0			46.7			156.2	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	94.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2029	1134	0	1341	868	0	0	0	244	0	825
Future Volume (vph)	0	2029	1134	0	1341	868	0	0	0	244	0	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	2159	1206	0	1427	923	0	0	0	260	0	878
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	31
Lane Group Flow (vph)	0	2159	1206	0	1427	923	0	0	0	260	0	847
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		79.4	138.0		79.4	138.0				46.4		46.4
Effective Green, g (s)		79.4	138.0		79.4	133.3				46.4		46.4
Actuated g/C Ratio		0.58	1.00		0.58	0.97				0.34		0.34
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2925	2787		2925	1529				1154		937
v/s Ratio Prot		c0.42			0.28	0.58				0.08		c0.30
v/s Ratio Perm			0.43									
v/c Ratio		0.74	0.43		0.49	0.60				0.23		0.90
Uniform Delay, d1		21.6	0.0		17.3	0.2				32.9		43.7
Progression Factor		1.00	1.00		1.01	1.00				1.00		1.00
Incremental Delay, d2		1.7	0.5		0.5	0.4				0.0		11.7
Delay (s)		23.3	0.5		18.0	0.6				32.9		55.3
Level of Service		C	A		B	A				C		E
Approach Delay (s)		15.1			11.2			0.0			50.2	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1101	1270	0	1648	849	491	0	194	0	0	0
Future Volume (vph)	0	1101	1270	0	1648	849	491	0	194	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1135	1309	0	1699	875	506	0	200	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	162	0	0	0
Lane Group Flow (vph)	0	1135	1309	0	1699	875	506	0	38	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		99.5	138.0		99.5	138.0	26.3		26.3			
Effective Green, g (s)		99.5	133.3		99.5	138.0	26.3		26.3			
Actuated g/C Ratio		0.72	0.97		0.72	1.00	0.19		0.19			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3666	1529		4620	1583	654		531			
v/s Ratio Prot		0.22	c0.83		0.27		0.15					
v/s Ratio Perm						0.55			0.01			
v/c Ratio		0.31	0.86		0.37	0.55	0.77		0.07			
Uniform Delay, d1		6.9	0.5		7.3	0.0	53.0		45.8			
Progression Factor		0.69	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.2	3.5		0.2	1.4	5.2		0.0			
Delay (s)		4.9	4.0		7.5	1.4	58.2		45.9			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		4.4			5.4			54.7			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	546	526	268	1090	0	0
Future Volume (vph)	546	526	268	1090	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	563	542	276	1124	0	0
RTOR Reduction (vph)	0	132	0	0	0	0
Lane Group Flow (vph)	563	410	276	1124	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	66.7	66.7	11.6	90.0		
Effective Green, g (s)	66.7	66.7	11.6	90.0		
Actuated g/C Ratio	0.74	0.74	0.13	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2622	2065	442	5085		
v/s Ratio Prot	0.16		c0.08	c0.22		
v/s Ratio Perm		0.15				
v/c Ratio	0.21	0.20	0.62	0.22		
Uniform Delay, d1	3.6	3.5	37.1	0.0		
Progression Factor	1.00	1.00	0.76	1.00		
Incremental Delay, d2	0.2	0.2	1.9	0.1		
Delay (s)	3.8	3.8	29.9	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	3.8			6.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	516	0	0	760	630	727
Future Volume (vph)	0	516	0	0	760	630	727
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	567	0	0	835	692	799
RTOR Reduction (vph)	0	0	0	0	0	0	263
Lane Group Flow (vph)	0	567	0	0	835	692	536
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		53.8			53.8	24.5	24.5
Effective Green, g (s)		53.8			53.8	24.5	24.5
Actuated g/C Ratio		0.60			0.60	0.27	0.27
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2115			3039	934	758
v/s Ratio Prot		0.16			c0.16	c0.20	
v/s Ratio Perm							0.19
v/c Ratio		0.27			0.27	0.74	0.71
Uniform Delay, d1		8.7			8.7	29.9	29.5
Progression Factor		1.01			1.00	1.00	1.00
Incremental Delay, d2		0.3			0.2	2.8	2.5
Delay (s)		9.0			8.9	32.7	32.0
Level of Service		A			A	C	C
Approach Delay (s)		9.0			8.9	32.3	
Approach LOS		A			A	C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1196	65	690	2340	183	1056
Future Volume (vph)	1196	65	690	2340	183	1056
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6359		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6359		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1220	66	704	2388	187	1078
RTOR Reduction (vph)	5	0	0	0	0	3
Lane Group Flow (vph)	1281	0	704	2388	187	1075
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	56.4		39.0	100.1	49.5	92.9
Effective Green, g (s)	56.4		39.0	100.1	49.5	92.9
Actuated g/C Ratio	0.35		0.24	0.63	0.31	0.58
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2241		836	4009	547	1618
v/s Ratio Prot	0.20		c0.21	c0.37	0.11	c0.39
v/s Ratio Perm						
v/c Ratio	0.57		0.84	0.60	0.34	0.66
Uniform Delay, d1	42.0		57.6	17.9	42.7	22.9
Progression Factor	1.00		0.53	1.33	1.00	1.00
Incremental Delay, d2	1.1		0.7	0.1	0.1	0.8
Delay (s)	43.1		31.5	23.8	42.8	23.7
Level of Service	D		C	C	D	C
Approach Delay (s)	43.1			25.5	26.5	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	143	2111	0	2680	183	956	351
Future Volume (vph)	143	2111	0	2680	183	956	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (prot)	3433	5085		5085	1583	3346	
Flt Permitted	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (perm)	3433	5085		5085	1583	3346	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	144	2132	0	2707	185	966	355
RTOR Reduction (vph)	0	0	0	0	2	25	0
Lane Group Flow (vph)	144	2132	0	2707	183	1296	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	92.5		81.4	143.6	56.8	
Effective Green, g (s)	7.6	92.5		81.4	143.6	56.8	
Actuated g/C Ratio	0.05	0.58		0.51	0.90	0.35	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	163	2939		2586	1420	1187	
v/s Ratio Prot	0.04	c0.42		c0.53	0.12	c0.39	
v/s Ratio Perm							
v/c Ratio	0.88	0.73		1.05	0.13	1.09	
Uniform Delay, d1	75.8	24.5		39.3	1.0	51.6	
Progression Factor	0.84	0.92		0.45	1.25	1.00	
Incremental Delay, d2	32.8	1.3		28.9	0.0	55.0	
Delay (s)	96.4	23.8		46.5	1.2	106.6	
Level of Service	F	C		D	A	F	
Approach Delay (s)		28.4		43.6		106.6	
Approach LOS		C		D		F	

Intersection Summary			
HCM 2000 Control Delay	51.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	106.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	2930	2825	30	103	72
Future Volume (vph)	26	2930	2825	30	103	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	3052	2943	31	107	75
RTOR Reduction (vph)	0	0	0	3	0	61
Lane Group Flow (vph)	27	3052	2943	28	107	14
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.9	135.2	126.3	126.3	14.1	14.1
Effective Green, g (s)	4.9	135.2	126.3	126.3	14.1	14.1
Actuated g/C Ratio	0.03	0.84	0.79	0.79	0.09	0.09
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	54	4296	4013	1249	155	139
v/s Ratio Prot	0.02	c0.60	c0.58		c0.06	
v/s Ratio Perm				0.02		0.01
v/c Ratio	0.50	0.71	0.73	0.02	0.69	0.10
Uniform Delay, d1	76.3	4.8	8.4	3.6	70.8	67.1
Progression Factor	1.10	0.32	0.92	0.57	1.00	1.00
Incremental Delay, d2	1.4	0.5	0.9	0.0	10.2	0.1
Delay (s)	85.5	2.1	8.7	2.1	81.0	67.2
Level of Service	F	A	A	A	F	E
Approach Delay (s)		2.8	8.6		75.3	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	30	3139	0	2669	36	92	108
Future Volume (vph)	30	3139	0	2669	36	92	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3325	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3325	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	3304	0	2809	38	97	114
RTOR Reduction (vph)	0	0	0	0	2	44	63
Lane Group Flow (vph)	32	3304	0	2809	36	100	4
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	7.2	139.3		127.2	127.2	10.1	10.1
Effective Green, g (s)	7.2	139.3		127.2	127.2	10.1	10.1
Actuated g/C Ratio	0.05	0.87		0.80	0.80	0.06	0.06
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	79	4427		4042	1258	209	90
v/s Ratio Prot	0.02	c0.65		0.55		c0.03	
v/s Ratio Perm					0.02		0.00
v/c Ratio	0.41	0.75		0.69	0.03	0.48	0.05
Uniform Delay, d1	74.3	3.8		7.5	3.4	72.4	70.4
Progression Factor	0.83	1.46		0.75	0.65	1.00	1.00
Incremental Delay, d2	2.5	0.9		0.4	0.0	1.7	0.2
Delay (s)	64.2	6.5		6.0	2.2	74.1	70.6
Level of Service	E	A		A	A	E	E
Approach Delay (s)		7.0		6.0		73.0	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1183	1936	92	20	1400	71	49	61	8	108	1	1280
Future Volume (vph)	1183	1936	92	20	1400	71	49	61	8	108	1	1280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5049		1652	1829		1625	1630	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5049		1652	1829		1625	1630	2787
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1272	2082	99	22	1505	76	53	66	9	116	1	1376
RTOR Reduction (vph)	0	3	0	0	3	0	0	4	0	0	0	253
Lane Group Flow (vph)	1272	2178	0	22	1578	0	53	71	0	58	59	1123
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	43.6	90.1		2.4	49.0		10.6	10.6		36.3	36.3	85.4
Effective Green, g (s)	43.6	90.1		2.4	49.0		10.6	10.6		36.3	36.3	85.4
Actuated g/C Ratio	0.27	0.56		0.01	0.31		0.07	0.07		0.23	0.23	0.53
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	873	2844		48	1546		109	121		368	369	1487
v/s Ratio Prot	c0.40	0.43		0.01	c0.31		0.03	c0.04		0.04	0.04	c0.40
v/s Ratio Perm												
v/c Ratio	1.46	0.77		0.46	1.02		0.49	0.59		0.16	0.16	0.76
Uniform Delay, d1	58.2	26.8		78.2	55.5		72.1	72.6		49.6	49.6	29.1
Progression Factor	0.99	1.08		1.03	1.05		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	210.0	1.4		2.4	27.8		1.2	4.7		0.2	0.2	2.2
Delay (s)	267.7	30.5		83.3	86.3		73.3	77.2		49.8	49.8	31.3
Level of Service	F	C		F	F		E	E		D	D	C
Approach Delay (s)		117.9			86.2			75.6			32.8	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	90.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	95	2039	0	1052	228	541	183
Future Volume (vph)	95	2039	0	1052	228	541	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3201	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3201	1585
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	99	2124	0	1096	238	564	191
RTOR Reduction (vph)	0	0	0	0	34	2	136
Lane Group Flow (vph)	99	2124	0	1096	204	581	36
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	13.6	115.6		97.3	137.1	33.8	33.8
Effective Green, g (s)	13.6	115.6		97.3	137.1	33.8	33.8
Actuated g/C Ratio	0.08	0.72		0.61	0.86	0.21	0.21
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	145	3551		2989	1266	676	334
v/s Ratio Prot	0.06	c0.43		0.22	0.14	c0.18	
v/s Ratio Perm							0.02
v/c Ratio	0.68	0.60		0.37	0.16	0.86	0.11
Uniform Delay, d1	71.1	10.8		15.8	1.9	60.8	50.9
Progression Factor	1.42	0.13		1.57	0.01	1.00	1.00
Incremental Delay, d2	7.1	0.5		0.3	0.0	10.5	0.1
Delay (s)	107.7	1.9		25.1	0.0	71.3	51.0
Level of Service	F	A		C	A	E	D
Approach Delay (s)		6.6		20.6		66.7	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	395	2579	1045	658	441	184
Future Volume (vph)	395	2579	1045	658	441	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.97	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4503	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4503	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	399	2605	1056	665	445	186
RTOR Reduction (vph)	0	0	21	162	0	70
Lane Group Flow (vph)	399	2605	1308	230	445	116
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	24.3	122.4	93.9	93.9	26.6	55.9
Effective Green, g (s)	24.3	122.4	93.9	93.9	26.6	55.9
Actuated g/C Ratio	0.15	0.77	0.59	0.59	0.17	0.35
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	486	3630	2642	745	532	908
v/s Ratio Prot	c0.12	c0.55	0.29		c0.14	0.04
v/s Ratio Perm				0.18		
v/c Ratio	0.82	0.72	0.50	0.31	0.84	0.13
Uniform Delay, d1	65.7	9.8	19.2	16.7	64.6	35.5
Progression Factor	0.90	1.81	0.69	0.74	1.00	1.00
Incremental Delay, d2	8.7	1.1	0.5	0.8	10.5	0.0
Delay (s)	67.7	18.7	13.7	13.1	75.1	35.5
Level of Service	E	B	B	B	E	D
Approach Delay (s)		25.2	13.6		63.4	
Approach LOS		C	B		E	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	2771	162	128	1641	41	305	55	308	84	44	33
Future Volume (vph)	43	2771	162	128	1641	41	305	55	308	84	44	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1770	5085	1583	3433	5067		1681	1559	1504		1765	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1770	5085	1583	3433	5067		1681	1559	1504		1765	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	2917	171	135	1727	43	321	58	324	88	46	35
RTOR Reduction (vph)	0	0	34	0	1	0	0	18	93	0	5	0
Lane Group Flow (vph)	45	2917	137	135	1769	0	244	221	127	0	164	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	7.1	89.0	89.0	9.4	90.9		27.7	27.7	27.7		14.5	
Effective Green, g (s)	7.1	89.0	89.0	9.4	90.9		27.7	27.7	27.7		14.5	
Actuated g/C Ratio	0.04	0.56	0.56	0.06	0.57		0.17	0.17	0.17		0.09	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	78	2828	880	201	2878		291	269	260		159	
v/s Ratio Prot	0.03	c0.57		c0.04	0.35		c0.15	0.14			c0.09	
v/s Ratio Perm			0.09						0.08			
v/c Ratio	0.58	1.03	0.16	0.67	0.61		0.84	0.82	0.49		1.03	
Uniform Delay, d1	75.0	35.5	17.2	73.8	22.9		64.0	63.8	59.7		72.8	
Progression Factor	1.17	0.81	0.56	0.60	2.27		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.5	23.3	0.3	5.6	0.8		17.9	17.1	0.5		79.1	
Delay (s)	92.5	52.1	10.0	49.6	52.8		81.9	80.9	60.3		151.9	
Level of Service	F	D	B	D	D		F	F	E		F	
Approach Delay (s)		50.4			52.6			74.8			151.9	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	56.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	215	2753	0	1701	168	541	186
Future Volume (vph)	215	2753	0	1701	168	541	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5017		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5017		3433	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	222	2838	0	1754	173	558	192
RTOR Reduction (vph)	0	0	0	6	0	0	153
Lane Group Flow (vph)	222	2838	0	1921	0	558	39
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	14.1	118.1		99.4		32.2	32.2
Effective Green, g (s)	14.1	118.1		99.4		32.2	32.2
Actuated g/C Ratio	0.09	0.74		0.62		0.20	0.20
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	302	3753		3116		690	560
v/s Ratio Prot	0.06	c0.56		0.38		c0.16	
v/s Ratio Perm							0.01
v/c Ratio	0.74	0.76		0.62		0.81	0.07
Uniform Delay, d1	71.1	12.4		18.6		61.0	51.8
Progression Factor	1.25	0.45		0.63		1.00	1.00
Incremental Delay, d2	2.0	0.4		0.7		7.3	0.1
Delay (s)	91.0	5.9		12.5		68.3	51.8
Level of Service	F	A		B		E	D
Approach Delay (s)		12.1		12.5		64.1	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	2206	1061	36	1153	163	553	444	32	278	571	46
Future Volume (vph)	55	2206	1061	36	1153	163	553	444	32	278	571	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4991		2841	3053		3204	3500	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4991		2841	3053		3204	3500	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	56	2228	1072	36	1165	165	559	448	32	281	577	46
RTOR Reduction (vph)	0	0	16	0	11	0	0	2	0	0	3	0
Lane Group Flow (vph)	56	2228	1056	36	1319	0	503	534	0	281	620	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.5	71.7	108.6	3.3	67.4		36.9	36.9		26.2	26.2	
Effective Green, g (s)	7.5	71.7	108.6	3.3	67.4		36.9	36.9		26.2	26.2	
Actuated g/C Ratio	0.05	0.45	0.68	0.02	0.42		0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	91	2202	1003	37	2102		655	704		524	573	
v/s Ratio Prot	c0.03	0.45	c0.71	0.02	0.26		0.18	0.17		0.09	c0.18	
v/s Ratio Perm												
v/c Ratio	0.62	1.01	1.05	0.97	0.63		0.77	0.76		0.54	1.08	
Uniform Delay, d1	74.8	44.1	25.7	78.3	36.4		57.5	57.4		61.3	66.9	
Progression Factor	1.23	0.69	0.53	1.15	0.71		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.7	18.3	38.2	130.1	1.3		5.4	4.7		1.1	61.5	
Delay (s)	99.5	48.8	51.9	219.9	27.1		62.9	62.1		62.4	128.4	
Level of Service	F	D	D	F	C		E	E		E	F	
Approach Delay (s)		50.6			32.2			62.5			107.9	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	56.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	2538	101	44	1478	22	34	9	136	89	10	42
Future Volume (vph)	34	2538	101	44	1478	22	34	9	136	89	10	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5056		1770	5074			1656			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.48	
Satd. Flow (perm)	1770	5056		1770	5074			1525			850	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	35	2590	103	45	1508	22	35	9	139	91	10	43
RTOR Reduction (vph)	0	2	0	0	1	0	0	77	0	0	10	0
Lane Group Flow (vph)	35	2691	0	45	1529	0	0	106	0	0	134	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.4	113.0		7.1	113.2			25.3			25.3	
Effective Green, g (s)	6.4	113.0		7.1	113.2			25.3			25.3	
Actuated g/C Ratio	0.04	0.71		0.04	0.71			0.16			0.16	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	70	3570		78	3589			241			134	
v/s Ratio Prot	0.02	c0.53		c0.03	0.30							
v/s Ratio Perm								0.07			c0.16	
v/c Ratio	0.50	0.75		0.58	0.43			0.44			1.00	
Uniform Delay, d1	75.2	14.8		75.0	9.8			60.9			67.3	
Progression Factor	1.03	0.50		0.96	1.25			1.00			1.00	
Incremental Delay, d2	0.9	0.7		5.8	0.3			0.5			76.8	
Delay (s)	78.2	8.1		78.1	12.6			61.4			144.2	
Level of Service	E	A		E	B			E			F	
Approach Delay (s)		9.0			14.5			61.4			144.2	
Approach LOS		A			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1459	1289	0	903	873	0	0	0	27	0	574
Future Volume (vph)	0	1459	1289	0	903	873	0	0	0	27	0	574
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1504	1329	0	931	900	0	0	0	28	0	592
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	254
Lane Group Flow (vph)	0	1504	1329	0	931	900	0	0	0	28	0	338
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		125.4	160.0		125.4	160.0				23.5		23.5
Effective Green, g (s)		125.4	160.0		125.4	160.0				23.5		23.5
Actuated g/C Ratio		0.78	1.00		0.78	1.00				0.15		0.15
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2773	1583		2773	2787				504		409
v/s Ratio Prot		0.42			0.26					0.01		
v/s Ratio Perm			c0.84			0.32						0.12
v/c Ratio		0.54	0.84		0.34	0.32				0.06		0.83
Uniform Delay, d1		6.5	0.0		5.1	0.0				58.7		66.3
Progression Factor		1.02	1.00		0.57	1.00				1.00		1.00
Incremental Delay, d2		0.5	3.8		0.3	0.3				0.0		12.2
Delay (s)		7.2	3.8		3.2	0.3				58.7		78.5
Level of Service		A	A		A	A				E		E
Approach Delay (s)		5.6			1.8			0.0			77.6	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	422	1063	0	1138	156	629	0	694	0	0	0
Future Volume (vph)	0	422	1063	0	1138	156	629	0	694	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	431	1085	0	1161	159	642	0	708	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	382	0	0	0
Lane Group Flow (vph)	0	431	1085	0	1161	159	642	0	326	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		111.0	160.0		111.0	160.0	35.9		35.9			
Effective Green, g (s)		111.0	160.0		111.0	160.0	35.9		35.9			
Actuated g/C Ratio		0.69	1.00		0.69	1.00	0.22		0.22			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2455	1583		4445	1583	770		625			
v/s Ratio Prot		0.12			0.18		c0.19					
v/s Ratio Perm			c0.69			0.10			0.12			
v/c Ratio		0.18	0.69		0.26	0.10	0.83		0.52			
Uniform Delay, d1		8.5	0.0		9.2	0.0	59.2		54.5			
Progression Factor		1.14	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	2.1		0.1	0.1	7.4		0.4			
Delay (s)		9.8	2.1		9.3	0.1	66.6		54.9			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		4.3			8.2			60.4			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	640	306	92	32	66	115	922	669	298	508	46
Future Volume (vph)	112	640	306	92	32	66	115	922	669	298	508	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.96			0.95		1.00	0.94		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3368			3277		1770	4765		1770	5022	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3368			3277		1770	4765		1770	5022	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	118	674	322	97	34	69	121	971	704	314	535	48
RTOR Reduction (vph)	0	29	0	0	56	0	0	85	0	0	7	0
Lane Group Flow (vph)	0	1085	0	0	144	0	121	1590	0	314	576	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		37.1			13.1		12.2	37.0		17.6	42.0	
Effective Green, g (s)		37.1			13.1		12.2	37.0		17.6	42.0	
Actuated g/C Ratio		0.30			0.10		0.10	0.30		0.14	0.34	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		999			343		172	1410		249	1687	
v/s Ratio Prot		c0.32			c0.04		0.07	c0.33		c0.18	0.11	
v/s Ratio Perm												
v/c Ratio		1.09			0.42		0.70	1.27dr		1.26	0.34	
Uniform Delay, d1		43.9			52.4		54.6	44.0		53.7	31.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		54.9			2.0		10.9	67.0		145.6	0.1	
Delay (s)		98.8			54.4		65.6	111.0		199.3	31.3	
Level of Service		F			D		E	F		F	C	
Approach Delay (s)		98.8			54.4			108.0			90.1	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	98.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	141	34	5	1423	0	757	19
Future Volume (vph)	141	34	5	1423	0	757	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	3318	1633	3204	4916		5067	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	3318	1633	3204	4916		5067	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.94	0.93	0.93
Adj. Flow (vph)	152	37	5	1530	0	814	20
RTOR Reduction (vph)	2	28	0	0	0	2	0
Lane Group Flow (vph)	154	5	5	1530	0	832	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	7.0	7.0	0.7	31.3		26.2	
Effective Green, g (s)	7.0	7.0	0.7	31.3		26.2	
Actuated g/C Ratio	0.14	0.14	0.01	0.64		0.53	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	472	232	45	3127		2698	
v/s Ratio Prot	c0.05		0.00	c0.31		0.16	
v/s Ratio Perm		0.00					
v/c Ratio	0.33	0.02	0.11	0.49		0.31	
Uniform Delay, d1	19.0	18.2	23.9	4.7		6.4	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.0	0.4	0.1		0.1	
Delay (s)	19.1	18.2	24.3	4.9		6.5	
Level of Service	B	B	C	A		A	
Approach Delay (s)	19.0			4.9		6.5	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	49.2	Sum of lost time (s)	17.3
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	7	91	6	1528	0	719	1
Future Volume (vph)	7	91	6	1528	0	719	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.9	4.9	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5084	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.91
Adj. Flow (vph)	8	99	7	1661	0	782	1
RTOR Reduction (vph)	0	89	0	0	0	0	0
Lane Group Flow (vph)	8	10	7	1661	0	783	0
Turn Type	Prot	Perm	Prot	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	5.0	5.0	0.7	32.6		27.1	
Effective Green, g (s)	5.0	5.0	0.7	32.6		27.1	
Actuated g/C Ratio	0.10	0.10	0.01	0.67		0.56	
Clearance Time (s)	4.9	4.9	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	170	315	46	3304		2840	
v/s Ratio Prot	c0.00		0.00	c0.34		0.15	
v/s Ratio Perm		0.00					
v/c Ratio	0.05	0.03	0.15	0.50		0.28	
Uniform Delay, d1	19.6	19.6	23.6	3.9		5.6	
Progression Factor	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.0	0.6	0.1		0.1	
Delay (s)	19.6	19.6	24.2	4.1		5.6	
Level of Service	B	B	C	A		A	
Approach Delay (s)	19.6			4.2		5.6	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	48.5	Sum of lost time (s)	15.7
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	29	1713	134	72	841
Future Volume (vph)	69	29	1713	134	72	841
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	3433	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	3433	5085
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	72	30	1784	140	75	876
RTOR Reduction (vph)	0	28	0	54	0	0
Lane Group Flow (vph)	72	2	1784	86	75	876
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	4.3	4.3	37.4	37.4	3.2	45.4
Effective Green, g (s)	4.3	4.3	37.4	37.4	3.2	45.4
Actuated g/C Ratio	0.07	0.07	0.62	0.62	0.05	0.75
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	243	112	3138	976	181	3809
v/s Ratio Prot	c0.02		c0.35		c0.02	0.17
v/s Ratio Perm		0.00		0.05		
v/c Ratio	0.30	0.02	0.57	0.09	0.41	0.23
Uniform Delay, d1	26.7	26.2	6.8	4.7	27.8	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.3	0.0	0.6	0.0
Delay (s)	27.0	26.2	7.1	4.7	28.4	2.3
Level of Service	C	C	A	A	C	A
Approach Delay (s)	26.7		6.9			4.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.6	Sum of lost time (s)	15.7
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	20	201	2	181	7	1743	116	97	913	4
Future Volume (vph)	15	5	20	201	2	181	7	1743	116	97	913	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1705		1681	1525		1770	3539	1583	1770	3537	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1705		1681	1525		1770	3539	1583	1770	3537	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	17	6	23	234	2	210	8	2027	135	113	1062	5
RTOR Reduction (vph)	0	22	0	0	172	0	0	0	46	0	0	0
Lane Group Flow (vph)	0	24	0	211	63	0	8	2027	89	113	1067	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		5.1		19.4	19.4		0.7	55.6	55.6	6.7	61.6	
Effective Green, g (s)		5.1		19.4	19.4		0.7	55.6	55.6	6.7	61.6	
Actuated g/C Ratio		0.05		0.18	0.18		0.01	0.52	0.52	0.06	0.58	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		81		305	277		11	1844	824	111	2041	
v/s Ratio Prot		c0.01		c0.13	0.04		0.00	c0.57		c0.06	0.30	
v/s Ratio Perm									0.06			
v/c Ratio		0.30		0.69	0.23		0.73	1.10	0.11	1.02	0.52	
Uniform Delay, d1		49.1		40.9	37.3		52.9	25.6	13.0	50.0	13.7	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8		7.5	0.7		110.3	53.7	0.1	90.3	0.4	
Delay (s)		49.8		48.4	38.0		163.2	79.2	13.1	140.3	14.0	
Level of Service		D		D	D		F	E	B	F	B	
Approach Delay (s)		49.8			42.9			75.4			26.1	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	56.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	106.7	Sum of lost time (s)	19.9
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	145	87	136	702	603	63
Future Volume (vph)	145	87	136	702	603	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3489	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3489	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	159	96	149	771	663	69
RTOR Reduction (vph)	0	83	0	0	5	0
Lane Group Flow (vph)	159	13	149	771	727	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.9	13.9	8.9	81.0	67.7	
Effective Green, g (s)	13.9	13.9	8.9	81.0	67.7	
Actuated g/C Ratio	0.13	0.13	0.08	0.77	0.64	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	234	209	290	2730	2249	
v/s Ratio Prot	c0.09		c0.04	0.22	c0.21	
v/s Ratio Perm		0.01				
v/c Ratio	0.68	0.06	0.51	0.28	0.32	
Uniform Delay, d1	43.4	39.8	46.0	3.5	8.4	
Progression Factor	1.00	1.00	1.04	0.53	1.00	
Incremental Delay, d2	6.0	0.0	0.6	0.2	0.4	
Delay (s)	49.5	39.9	48.4	2.1	8.8	
Level of Service	D	D	D	A	A	
Approach Delay (s)	45.9			9.6	8.8	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	227	220	50	142	79	188	731	107	111	593	41
Future Volume (vph)	25	227	220	50	142	79	188	731	107	111	593	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3278		1770	3349		3433	3471		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3278		1770	3349		3433	3471		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	239	232	53	149	83	198	769	113	117	624	43
RTOR Reduction (vph)	0	202	0	0	70	0	0	8	0	0	3	0
Lane Group Flow (vph)	26	269	0	53	162	0	198	874	0	117	664	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.4	13.7		6.3	16.6		10.4	54.8		11.2	55.6	
Effective Green, g (s)	3.4	13.7		6.3	16.6		10.4	54.8		11.2	55.6	
Actuated g/C Ratio	0.03	0.13		0.06	0.16		0.10	0.52		0.11	0.53	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	57	427		106	529		340	1811		188	1855	
v/s Ratio Prot	0.01	c0.08		c0.03	c0.05		0.06	c0.25		c0.07	0.19	
v/s Ratio Perm												
v/c Ratio	0.46	0.63		0.50	0.31		0.58	0.48		0.62	0.36	
Uniform Delay, d1	49.9	43.3		47.8	39.1		45.2	16.0		44.9	14.3	
Progression Factor	1.00	1.00		1.00	1.00		1.15	0.52		1.20	0.72	
Incremental Delay, d2	2.1	2.2		1.4	0.1		1.4	0.8		4.4	0.5	
Delay (s)	52.0	45.5		49.2	39.2		53.6	9.1		58.4	10.8	
Level of Service	D	D		D	D		D	A		E	B	
Approach Delay (s)		45.8			41.1			17.2			17.9	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	307	126	24	48	27	55	904	50	59	781	30
Future Volume (vph)	91	307	126	24	48	27	55	904	50	59	781	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1782		1770	1762		1770	3511		1770	3520	
Flt Permitted	0.66	1.00		0.16	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1221	1782		306	1762		1770	3511		1770	3520	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	95	320	131	25	50	28	57	942	52	61	814	31
RTOR Reduction (vph)	0	15	0	0	21	0	0	3	0	0	2	0
Lane Group Flow (vph)	95	436	0	25	57	0	57	991	0	61	843	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	33.9	29.3		29.7	27.2		6.4	48.0		6.2	47.8	
Effective Green, g (s)	33.9	29.3		29.7	27.2		6.4	48.0		6.2	47.8	
Actuated g/C Ratio	0.32	0.28		0.28	0.26		0.06	0.46		0.06	0.46	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	418	497		121	456		107	1605		104	1602	
v/s Ratio Prot	c0.01	c0.24		0.00	0.03		0.03	c0.28		c0.03	0.24	
v/s Ratio Perm	0.06			0.05								
v/c Ratio	0.23	0.88		0.21	0.13		0.53	0.62		0.59	0.53	
Uniform Delay, d1	25.5	36.1		29.0	29.8		47.8	21.6		48.2	20.5	
Progression Factor	1.00	1.00		1.00	1.00		1.41	0.28		1.22	0.64	
Incremental Delay, d2	0.1	15.5		0.3	0.0		1.3	0.9		5.1	1.2	
Delay (s)	25.6	51.6		29.3	29.8		68.6	7.0		64.0	14.2	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		47.1			29.7			10.3			17.6	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	347	188	28	126	66	84	905	78	193	610	98
Future Volume (vph)	75	347	188	28	126	66	84	905	78	193	610	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1765		1770	1766		1770	3497		1770	3465	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1765		1770	1766		1770	3497		1770	3465	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	377	204	30	137	72	91	984	85	210	663	107
RTOR Reduction (vph)	0	18	0	0	18	0	0	6	0	0	12	0
Lane Group Flow (vph)	82	563	0	30	191	0	91	1063	0	210	758	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.6	35.2		2.5	31.1		8.2	34.2		14.2	40.2	
Effective Green, g (s)	6.6	35.2		2.5	31.1		8.2	34.2		14.2	40.2	
Actuated g/C Ratio	0.06	0.34		0.02	0.30		0.08	0.33		0.14	0.38	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	111	591		42	523		138	1139		239	1326	
v/s Ratio Prot	c0.05	c0.32		0.02	0.11		0.05	c0.30		c0.12	0.22	
v/s Ratio Perm												
v/c Ratio	0.74	0.95		0.71	0.37		0.66	0.93		0.88	0.57	
Uniform Delay, d1	48.4	34.1		50.9	29.2		47.0	34.3		44.6	25.6	
Progression Factor	1.00	1.00		1.00	1.00		1.31	0.80		1.30	0.63	
Incremental Delay, d2	19.6	25.4		38.0	0.2		6.9	12.7		24.9	1.6	
Delay (s)	68.0	59.5		88.9	29.3		68.5	40.1		83.0	17.8	
Level of Service	E	E		F	C		E	D		F	B	
Approach Delay (s)		60.6			36.8			42.4			31.7	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	42.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	41	1	37	3	1147	257	72	761	6
Future Volume (vph)	0	0	4	41	1	37	3	1147	257	72	761	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	3442		1770	3535	
Flt Permitted		1.00			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1357	1583	1770	3442		1770	3535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	4	44	1	39	3	1220	273	77	810	6
RTOR Reduction (vph)	0	4	0	0	0	35	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	45	4	3	1482	0	77	816	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		9.5			9.5	9.5	1.1	72.9		7.9	79.9	
Effective Green, g (s)		9.5			9.5	9.5	1.1	72.9		7.9	79.9	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.69		0.08	0.76	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		145			122	143	18	2389		133	2689	
v/s Ratio Prot		0.00					0.00	c0.43		c0.04	0.23	
v/s Ratio Perm					c0.03	0.00						
v/c Ratio		0.00			0.37	0.02	0.17	0.62		0.58	0.30	
Uniform Delay, d1		43.4			44.9	43.5	51.5	8.6		46.9	3.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.87	1.42	
Incremental Delay, d2		0.0			4.4	0.2	1.6	1.2		2.9	0.2	
Delay (s)		43.4			49.4	43.7	53.1	9.8		44.0	5.8	
Level of Service		D			D	D	D	A		D	A	
Approach Delay (s)		43.4			46.7			9.9			9.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	62	24	1374	799	5
Future Volume (vph)	35	62	24	1374	799	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3536	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	65	25	1446	841	5
RTOR Reduction (vph)	0	62	0	0	0	0
Lane Group Flow (vph)	37	3	25	1446	846	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.3	5.3	4.4	108.9	99.0	
Effective Green, g (s)	5.3	5.3	4.4	108.9	99.0	
Actuated g/C Ratio	0.04	0.04	0.04	0.87	0.79	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	145	67	62	3083	2800	
v/s Ratio Prot	c0.01		0.01	c0.41	0.24	
v/s Ratio Perm		0.00				
v/c Ratio	0.26	0.04	0.40	0.47	0.30	
Uniform Delay, d1	57.9	57.4	59.0	1.8	3.6	
Progression Factor	1.00	1.00	1.19	0.39	1.00	
Incremental Delay, d2	0.3	0.1	1.2	0.4	0.3	
Delay (s)	58.3	57.5	71.7	1.1	3.8	
Level of Service	E	E	E	A	A	
Approach Delay (s)	57.8			2.3	3.8	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	369	4	785	9	2	5	85	1031	11	5	791	74
Future Volume (vph)	369	4	785	9	2	5	85	1031	11	5	791	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3494	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	380	4	809	9	2	5	88	1063	11	5	815	76
RTOR Reduction (vph)	0	0	97	0	5	0	0	0	7	0	6	0
Lane Group Flow (vph)	194	190	712	0	11	0	88	1063	4	5	885	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	60.2	60.2	60.2		1.6		7.6	42.2	42.2	0.8	35.4	
Effective Green, g (s)	60.2	60.2	60.2		1.6		7.6	42.2	42.2	0.8	35.4	
Actuated g/C Ratio	0.48	0.48	0.48		0.01		0.06	0.34	0.34	0.01	0.28	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	809	812	762		22		107	1194	534	11	989	
v/s Ratio Prot	0.12	0.11			c0.01		c0.05	c0.30		0.00	0.25	
v/s Ratio Perm			c0.45						0.00			
v/c Ratio	0.24	0.23	0.93		0.50		0.82	0.89	0.01	0.45	0.90	
Uniform Delay, d1	19.0	18.9	30.5		61.3		58.0	39.2	27.5	61.9	43.0	
Progression Factor	1.00	1.00	1.00		1.00		0.63	1.26	1.00	0.97	0.95	
Incremental Delay, d2	0.1	0.1	18.1		6.4		11.1	2.8	0.0	10.2	12.1	
Delay (s)	19.0	19.0	48.6		67.7		47.7	52.1	27.5	70.2	52.9	
Level of Service	B	B	D		E		D	D	C	E	D	
Approach Delay (s)		39.1			67.7			51.6			53.0	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	57	0	250	11	864	203	975	599	10
Future Volume (vph)	0	13	1	57	0	250	11	864	203	975	599	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3438		1770	3531	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3438		1770	3531	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	59	0	258	11	891	209	1005	618	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	16	0	0	0	0
Lane Group Flow (vph)	0	13	0	0	59	252	11	1084	0	1005	628	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.6			12.6	83.5	1.4	32.1		66.0	96.7	
Effective Green, g (s)		12.6			12.6	83.5	1.4	32.1		66.0	96.7	
Actuated g/C Ratio		0.10			0.10	0.67	0.01	0.26		0.53	0.77	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		185			140	1057	19	882		934	2731	
v/s Ratio Prot		0.01				0.16	0.01	c0.32		c0.57	0.18	
v/s Ratio Perm					c0.04							
v/c Ratio		0.07			0.42	0.24	0.58	1.23		1.08	0.23	
Uniform Delay, d1		50.9			52.8	8.2	61.5	46.5		29.5	3.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.81	0.79	
Incremental Delay, d2		0.1			0.7	0.0	23.8	112.9		43.8	0.1	
Delay (s)		51.0			53.5	8.2	85.3	159.3		67.8	3.2	
Level of Service		D			D	A	F	F		E	A	
Approach Delay (s)		51.0			16.7			158.6			42.9	
Approach LOS		D			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	82.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Near Term Year 2025
With Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	905	2425	673	33	1036	102	66	69	13	60	59	124
Future Volume (vph)	905	2425	673	33	1036	102	66	69	13	60	59	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6321		2841	3017		3204	1597	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6321		2841	3017		3204	1597	2882
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	963	2580	716	35	1102	109	70	73	14	64	63	132
RTOR Reduction (vph)	0	0	115	0	7	0	0	7	0	0	0	0
Lane Group Flow (vph)	963	2580	601	35	1204	0	63	87	0	64	76	119
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	64.0	132.7	132.7	7.5	76.0		13.1	13.1		16.1	16.1	85.4
Effective Green, g (s)	64.0	132.7	132.7	7.5	76.0		13.1	13.1		16.1	16.1	85.4
Actuated g/C Ratio	0.34	0.70	0.70	0.04	0.40		0.07	0.07		0.08	0.08	0.45
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1079	3433	1105	65	2528		195	208		271	135	1295
v/s Ratio Prot	c0.30	c0.52		0.02	0.19		0.02	c0.03		0.02	c0.05	0.04
v/s Ratio Perm			0.38									
v/c Ratio	0.89	0.75	0.54	0.54	0.48		0.32	0.42		0.24	0.56	0.09
Uniform Delay, d1	59.7	18.2	13.9	89.6	42.3		84.2	84.8		81.2	83.6	30.0
Progression Factor	1.00	1.00	1.00	1.10	0.19		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.5	1.6	1.9	3.8	0.6		2.3	3.2		0.6	6.6	0.0
Delay (s)	69.3	19.7	15.9	102.3	8.4		86.5	88.0		81.9	90.2	30.1
Level of Service	E	B	B	F	A		F	F		F	F	C
Approach Delay (s)		30.3			11.1			87.4			60.5	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	253	2187	42	166	1102	505	7	23	28	60	19	53
Future Volume (vph)	253	2187	42	166	1102	505	7	23	28	60	19	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.5	6.0		4.4	6.2		4.5	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4845		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4845		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	266	2302	44	175	1160	532	7	24	29	63	20	56
RTOR Reduction (vph)	0	1	0	0	28	0	0	0	28	0	0	52
Lane Group Flow (vph)	266	2345	0	175	1664	0	7	24	1	63	20	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	20.1	138.1		14.7	132.4		1.9	9.3	9.3	7.7	14.7	14.7
Effective Green, g (s)	20.1	138.1		14.7	132.4		1.9	9.3	9.3	7.7	14.7	14.7
Actuated g/C Ratio	0.11	0.73		0.08	0.70		0.01	0.05	0.05	0.04	0.08	0.08
Clearance Time (s)	4.5	6.0		4.4	6.2		4.5	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	338	3685		247	3376		16	85	77	129	144	122
v/s Ratio Prot	c0.08	c0.46		0.05	0.34		0.00	c0.01		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.79	0.64		0.71	0.49		0.44	0.28	0.02	0.49	0.14	0.04
Uniform Delay, d1	82.9	13.2		85.6	13.3		93.5	87.1	86.0	89.2	81.7	81.1
Progression Factor	0.91	0.77		1.06	2.50		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.3	0.6		5.1	0.4		18.0	1.5	0.1	1.1	0.3	0.1
Delay (s)	82.3	10.7		96.1	33.6		111.5	88.7	86.1	90.3	82.0	81.2
Level of Service	F	B		F	C		F	F	F	F	F	F
Approach Delay (s)		18.0			39.5			90.1			85.4	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	575	1242	342	325	1631	1235	30	73	94	112	33	106
Future Volume (vph)	575	1242	342	325	1631	1235	30	73	94	112	33	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	5.4	6.0		4.4	5.9	4.0	5.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4920		1652	5085	1583	1652	3095	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4920		1652	5085	1583	1652	3095	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	593	1280	353	335	1681	1273	31	75	97	115	34	109
RTOR Reduction (vph)	0	19	0	0	0	0	0	41	50	0	0	100
Lane Group Flow (vph)	593	1614	0	335	1681	1273	31	78	3	115	34	9
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	68.7	107.2		43.1	81.7	190.0	4.8	11.5	11.5	8.5	15.2	15.2
Effective Green, g (s)	67.7	107.2		43.1	81.7	190.0	3.8	11.5	11.5	8.5	15.2	15.2
Actuated g/C Ratio	0.36	0.56		0.23	0.43	1.00	0.02	0.06	0.06	0.04	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	588	2775		374	2186	1583	33	187	90	143	311	126
v/s Ratio Prot	c0.36	0.33		c0.20	0.33		0.02	0.03		0.04	0.01	
v/s Ratio Perm						c0.80			0.00			0.01
v/c Ratio	1.01	0.58		0.90	0.77	0.80	0.94	0.42	0.04	0.80	0.11	0.07
Uniform Delay, d1	61.1	26.9		71.3	46.1	0.0	93.0	86.0	84.0	89.9	81.1	80.9
Progression Factor	1.09	1.32		1.09	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	35.2	0.7		11.8	1.2	2.0	130.1	1.8	0.2	25.6	0.3	0.5
Delay (s)	102.0	36.2		89.4	29.5	2.0	223.1	87.8	84.2	115.6	81.4	81.3
Level of Service	F	D		F	C	A	F	F	F	F	F	F
Approach Delay (s)		53.7			25.0			107.5			96.6	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	319	867	292	105	2675	69	87	6	22	10	14	243
Future Volume (vph)	319	867	292	105	2675	69	87	6	22	10	14	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	5.0	6.0		4.5	6.0		4.9	4.9		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98		0.95	1.00	1.00
Satd. Flow (prot)	1770	4893		1770	5066		1681	1625		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98		0.95	1.00	1.00
Satd. Flow (perm)	1770	4893		1770	5066		1681	1625		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	329	894	301	108	2758	71	90	6	23	10	14	251
RTOR Reduction (vph)	0	22	0	0	1	0	0	14	0	0	0	108
Lane Group Flow (vph)	329	1173	0	108	2828	0	60	45	0	10	14	143
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	47.1	137.1		15.9	105.4		11.2	11.2		5.4	5.4	52.5
Effective Green, g (s)	47.1	137.1		15.9	105.4		11.2	11.2		5.4	5.4	52.5
Actuated g/C Ratio	0.25	0.72		0.08	0.55		0.06	0.06		0.03	0.03	0.28
Clearance Time (s)	5.0	6.0		4.5	6.0		4.9	4.9		5.0	5.0	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	438	3530		148	2810		99	95		46	52	437
v/s Ratio Prot	c0.19	0.24		0.06	c0.56		c0.04	0.03		0.01	0.01	c0.09
v/s Ratio Perm												
v/c Ratio	0.75	0.33		0.73	1.01		0.61	0.47		0.22	0.27	0.33
Uniform Delay, d1	66.0	9.7		85.0	42.3		87.2	86.5		90.2	90.4	54.7
Progression Factor	0.85	2.42		1.20	0.65		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.4	0.2		7.7	13.7		7.0	1.3		0.9	1.0	0.2
Delay (s)	61.7	23.7		109.7	41.3		94.2	87.9		91.1	91.4	54.9
Level of Service	E	C		F	D		F	F		F	F	D
Approach Delay (s)		31.9			43.8			91.1			58.0	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	761	44	149	2850	164	7	4	32	43	8	36
Future Volume (vph)	97	761	44	149	2850	164	7	4	32	43	8	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		4.5	5.7		4.4	4.9	4.9	4.5	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5043		1770	5044		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5043		1770	5044		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	103	810	47	159	3032	174	7	4	34	46	9	38
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	33	0	0	35
Lane Group Flow (vph)	103	855	0	159	3204	0	7	4	1	46	9	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.9	133.9		21.4	138.7		0.8	8.1	8.1	6.7	14.0	14.0
Effective Green, g (s)	15.9	133.9		21.4	138.7		0.8	8.1	8.1	6.7	14.0	14.0
Actuated g/C Ratio	0.08	0.70		0.11	0.73		0.00	0.04	0.04	0.04	0.07	0.07
Clearance Time (s)	4.5	6.0		4.5	5.7		4.4	4.9	4.9	4.5	5.0	5.0
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	148	3553		199	3682		7	79	67	62	137	116
v/s Ratio Prot	0.06	0.17		c0.09	c0.64		0.00	0.00		c0.03	c0.00	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.70	0.24		0.80	0.87		1.00	0.05	0.02	0.74	0.07	0.02
Uniform Delay, d1	84.7	10.0		82.2	19.0		94.6	87.3	87.2	90.8	81.9	81.7
Progression Factor	1.15	0.19		0.98	0.42		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.5	0.2		7.0	1.1		340.2	0.1	0.0	33.7	0.1	0.0
Delay (s)	107.6	2.0		87.9	9.1		434.8	87.4	87.2	124.4	82.0	81.7
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		13.3			12.8			141.3			102.9	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	482	316	43	2911	153	361	53	35	21	24	37
Future Volume (vph)	63	482	316	43	2911	153	361	53	35	21	24	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4784		1652	5047		1625	1706	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4784		1652	5047		1625	1706	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	64	492	322	44	2970	156	368	54	36	21	24	38
RTOR Reduction (vph)	0	40	0	0	2	0	0	0	31	0	0	37
Lane Group Flow (vph)	64	774	0	44	3124	0	210	212	5	21	24	1
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.3	125.7		8.4	118.3		28.8	28.8	28.8	6.9	6.9	6.9
Effective Green, g (s)	15.3	125.7		8.4	118.3		28.8	28.8	28.8	6.9	6.9	6.9
Actuated g/C Ratio	0.08	0.66		0.04	0.62		0.15	0.15	0.15	0.04	0.04	0.04
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	133	3164		73	3142		246	258	239	59	67	61
v/s Ratio Prot	c0.04	0.16		c0.03	c0.62		c0.13	0.12		0.01	c0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.48	0.24		0.60	0.99		0.85	0.82	0.02	0.36	0.36	0.02
Uniform Delay, d1	83.6	13.0		89.2	35.5		78.5	78.1	68.6	89.4	89.4	88.3
Progression Factor	1.19	0.18		1.29	0.43		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.2		6.4	12.0		23.1	17.8	0.0	3.7	3.3	0.2
Delay (s)	100.7	2.5		121.1	27.1		101.6	95.9	68.6	93.0	92.7	88.4
Level of Service	F	A		F	C		F	F	E	F	F	F
Approach Delay (s)		9.7			28.4			96.4			90.8	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	338	81	46	2780	76	154	23	53	4	10	15
Future Volume (vph)	32	338	81	46	2780	76	154	23	53	4	10	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	7.0		5.5	8.2		6.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.89		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4937		1770	5065		3433	1667		1770	1695	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4937		1770	5065		3433	1667		1770	1695	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	345	83	47	2837	78	157	23	54	4	10	15
RTOR Reduction (vph)	0	13	0	0	1	0	0	49	0	0	14	0
Lane Group Flow (vph)	33	415	0	47	2914	0	157	28	0	4	11	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.6	141.9		8.3	142.4		12.3	19.2		0.8	7.7	
Effective Green, g (s)	5.6	140.9		7.3	140.4		10.3	19.2		0.8	7.7	
Actuated g/C Ratio	0.03	0.74		0.04	0.74		0.05	0.10		0.00	0.04	
Clearance Time (s)	4.5	6.0		4.5	6.2		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	52	3661		68	3742		186	168		7	68	
v/s Ratio Prot	0.02	0.08		c0.03	c0.58		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.63	0.11		0.69	0.78		0.84	0.17		0.57	0.16	
Uniform Delay, d1	91.2	6.9		90.2	15.2		89.1	78.1		94.4	88.0	
Progression Factor	0.82	0.84		1.21	0.18		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.9	0.1		2.2	0.2		27.0	0.2		55.0	0.4	
Delay (s)	91.7	5.9		111.6	3.0		116.0	78.3		149.4	88.4	
Level of Service	F	A		F	A		F	E		F	F	
Approach Delay (s)		12.0			4.7			103.6			96.8	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	314	121	742	2722	335	195	181	100	115	317	62
Future Volume (vph)	24	314	121	742	2722	335	195	181	100	115	317	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	6.4	8.1		6.5	7.2		5.5	7.0	7.0	5.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4874		1652	5002		1652	3421	1531	3204	3453	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4874		1652	5002		1652	3421	1531	3204	3453	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	320	123	757	2778	342	199	185	102	117	323	63
RTOR Reduction (vph)	0	36	0	0	8	0	0	0	23	0	9	0
Lane Group Flow (vph)	24	407	0	757	3112	0	199	185	79	117	377	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	4.0	32.0		86.4	114.4		24.0	39.9	132.3	10.7	26.1	
Effective Green, g (s)	2.0	30.0		84.4	113.4		23.0	38.9	131.3	9.7	26.1	
Actuated g/C Ratio	0.01	0.16		0.44	0.60		0.12	0.20	0.69	0.05	0.14	
Clearance Time (s)	4.4	6.1		4.5	6.2		4.5	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	17	769		733	2985		199	700	1058	163	474	
v/s Ratio Prot	0.01	0.08		c0.46	c0.62		c0.12	0.05	0.05	0.04	c0.11	
v/s Ratio Perm												
v/c Ratio	1.41	0.53		1.03	1.04		1.00	0.26	0.07	0.72	0.80	
Uniform Delay, d1	94.0	73.5		52.8	38.3		83.5	63.5	9.6	88.8	79.4	
Progression Factor	1.00	1.04		0.78	0.68		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	367.8	1.0		29.3	23.6		63.8	0.2	0.0	11.8	9.1	
Delay (s)	461.8	77.7		70.4	49.8		147.3	63.8	9.6	100.6	88.5	
Level of Service	F	E		E	D		F	E	A	F	F	
Approach Delay (s)		97.5			53.8			86.6			91.3	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	64.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	491	11	31	3605	23	31	5	42	66	5	124
Future Volume (vph)	27	491	11	31	3605	23	31	5	42	66	5	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	7.0		6.4	7.0			5.9	5.9	6.9	5.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5069		1770	5080			1786	1583	1770	1594	
Flt Permitted	0.95	1.00		0.95	1.00			0.31	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5069		1770	5080			583	1583	1365	1594	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	28	506	11	32	3716	24	32	5	43	68	5	128
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	40	0	33	0
Lane Group Flow (vph)	28	516	0	32	3740	0	0	37	3	68	100	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	9.9	151.5		7.0	148.6			16.2	16.2	16.2	16.2	
Effective Green, g (s)	7.9	150.5		5.0	147.6			15.2	15.2	14.2	15.2	
Actuated g/C Ratio	0.04	0.79		0.03	0.78			0.08	0.08	0.07	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	73	4015		46	3946			46	126	102	127	
v/s Ratio Prot	0.02	c0.10		c0.02	c0.74						0.06	
v/s Ratio Perm								c0.06	0.00	0.05		
v/c Ratio	0.38	0.13		0.70	0.95			0.80	0.03	0.67	0.79	
Uniform Delay, d1	88.7	4.6		91.7	17.9			85.9	80.6	85.6	85.8	
Progression Factor	0.79	3.06		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	0.1		30.8	6.5			60.9	0.0	12.0	24.9	
Delay (s)	70.8	14.1		122.6	24.4			146.8	80.6	97.6	110.7	
Level of Service	E	B		F	C			F	F	F	F	
Approach Delay (s)		17.0			25.3			111.2			106.3	
Approach LOS		B			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	540	9	19	3613	32	17	9	40	1	13	39
Future Volume (vph)	7	540	9	19	3613	32	17	9	40	1	13	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	6.2		4.5	6.3			4.9		5.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5073		1770	5079			1689		1770	1652	
Flt Permitted	0.95	1.00		0.95	1.00			0.84		0.44	1.00	
Satd. Flow (perm)	1770	5073		1770	5079			1444		828	1652	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	557	9	20	3725	33	18	9	41	1	13	40
RTOR Reduction (vph)	0	0	0	0	0	0	0	33	0	0	38	0
Lane Group Flow (vph)	7	566	0	20	3758	0	0	35	0	1	15	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	160.7		4.7	163.9			9.1		9.0	9.0	
Effective Green, g (s)	1.4	160.7		4.7	163.9			9.1		9.0	9.0	
Actuated g/C Ratio	0.01	0.85		0.02	0.86			0.05		0.05	0.05	
Clearance Time (s)	4.5	6.2		4.5	6.3			4.9		5.0	5.0	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	4288		43	4379			69		39	78	
v/s Ratio Prot	0.00	0.11		c0.01	c0.74						0.01	
v/s Ratio Perm								c0.02		0.00		
v/c Ratio	0.54	0.13		0.47	0.86			0.50		0.03	0.19	
Uniform Delay, d1	94.0	2.6		91.5	6.9			88.3		86.4	87.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	19.8	0.1		2.9	2.4			2.1		0.1	0.4	
Delay (s)	113.8	2.6		94.3	9.3			90.4		86.5	87.5	
Level of Service	F	A		F	A			F		F	F	
Approach Delay (s)		4.0			9.8			90.4			87.5	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.1	Sum of lost time (s)	15.8
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	650	31	53	3370	34	83	26	67	72	95	220
Future Volume (vph)	54	650	31	53	3370	34	83	26	67	72	95	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	7.5		5.4	6.5		5.0	5.9	4.9	6.4	5.2	6.2
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5051		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5051		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	56	670	32	55	3474	35	86	27	69	74	98	227
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	61	0	0	86
Lane Group Flow (vph)	56	700	0	55	3508	0	86	27	8	74	98	141
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	12.1	127.5		10.0	125.4		10.8	22.1	22.1	10.2	20.6	20.6
Effective Green, g (s)	11.1	126.5		9.0	125.4		10.8	21.1	22.1	8.2	20.6	19.6
Actuated g/C Ratio	0.06	0.67		0.05	0.66		0.06	0.11	0.12	0.04	0.11	0.10
Clearance Time (s)	4.4	6.5		4.4	6.5		5.0	4.9	4.9	4.4	5.2	5.2
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	103	3362		83	3351		100	206	184	76	201	163
v/s Ratio Prot	c0.03	0.14		0.03	c0.69		c0.05	0.01		0.04	0.05	
v/s Ratio Perm									0.01			c0.09
v/c Ratio	0.54	0.21		0.66	1.05		0.86	0.13	0.04	0.97	0.49	0.86
Uniform Delay, d1	87.0	12.3		89.0	32.3		88.9	76.2	74.6	90.8	79.7	83.9
Progression Factor	1.00	1.00		1.19	0.26		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.1		4.0	23.9		46.5	0.1	0.0	93.3	0.7	33.9
Delay (s)	90.1	12.5		110.0	32.4		135.3	76.3	74.6	184.1	80.4	117.8
Level of Service	F	B		F	C		F	E	E	F	F	F
Approach Delay (s)		18.2			33.6			103.5			120.9	
Approach LOS		B			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	598	61	22	3080	14	154	45	16	48	110	202
Future Volume (vph)	45	598	61	22	3080	14	154	45	16	48	110	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5015		1770	5085	1583	1770	3400		1770	3195	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5015		1770	5085	1583	1770	3400		1770	3195	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	636	65	23	3277	15	164	48	17	51	117	215
RTOR Reduction (vph)	0	6	0	0	0	6	0	15	0	0	54	0
Lane Group Flow (vph)	48	695	0	23	3277	9	164	50	0	51	278	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	7.0	122.9		4.3	120.2	120.2	22.4	22.4		23.4	23.4	
Effective Green, g (s)	7.0	122.9		4.3	120.2	120.2	22.4	22.4		23.4	23.4	
Actuated g/C Ratio	0.04	0.65		0.02	0.63	0.63	0.12	0.12		0.12	0.12	
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	65	3243		40	3216	1001	208	400		217	393	
v/s Ratio Prot	c0.03	c0.14		0.01	c0.64		c0.09	0.01		0.03	c0.09	
v/s Ratio Perm						0.01						
v/c Ratio	0.74	0.21		0.57	1.02	0.01	0.79	0.13		0.24	0.86dr	
Uniform Delay, d1	90.6	13.8		91.9	34.9	12.9	81.5	75.0		75.2	80.0	
Progression Factor	0.96	0.88		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.3	0.1		11.8	20.8	0.0	18.4	0.2		0.8	6.3	
Delay (s)	117.3	12.2		103.8	55.7	12.9	99.9	75.2		76.1	86.3	
Level of Service	F	B		F	E	B	F	E		E	F	
Approach Delay (s)		18.9			55.9			92.9			84.9	
Approach LOS		B			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	54.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	723	25	202	2804	128	90	322	183	425	536	216
Future Volume (vph)	86	723	25	202	2804	128	90	322	183	425	536	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	6.0	6.0	4.5	6.2	6.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4722		3204	4916	1478	1711	4746	1478	3433	3387	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4722		3204	4916	1478	1711	4746	1478	3433	3387	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	91	769	27	215	2983	136	96	343	195	452	570	230
RTOR Reduction (vph)	0	2	0	0	0	42	0	0	146	0	23	0
Lane Group Flow (vph)	91	794	0	215	2983	94	96	343	49	452	777	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	6.3	96.9		16.2	106.6	106.6	11.9	33.7	33.7	23.4	45.9	
Effective Green, g (s)	6.3	96.9		16.2	106.6	106.6	11.9	33.7	33.7	23.4	45.9	
Actuated g/C Ratio	0.03	0.51		0.08	0.56	0.56	0.06	0.18	0.18	0.12	0.24	
Clearance Time (s)	4.4	5.8		4.4	6.0	6.0	4.5	6.2	6.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	105	2395		271	2743	824	106	837	260	420	813	
v/s Ratio Prot	0.03	0.17		c0.07	c0.61		0.06	0.07		c0.13	c0.23	
v/s Ratio Perm						0.06			0.03			
v/c Ratio	0.87	0.33		0.79	1.09	0.11	0.91	0.41	0.19	1.08	0.96	
Uniform Delay, d1	91.9	27.9		85.8	42.2	19.9	89.0	69.8	67.0	83.8	71.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	46.8	0.4		13.8	46.3	0.3	57.0	0.6	0.6	65.8	21.5	
Delay (s)	138.7	28.2		99.5	88.5	20.2	146.0	70.4	67.6	149.6	93.1	
Level of Service	F	C		F	F	C	F	E	E	F	F	
Approach Delay (s)		39.6			86.4			81.0			113.5	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	84.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	191.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	280	477	153	100	70	105
Future Volume (vph)	280	477	153	100	70	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	3329		1732	1504
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	1863	3329		1732	1504
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	308	524	168	110	77	115
RTOR Reduction (vph)	0	0	82	0	18	44
Lane Group Flow (vph)	308	524	196	0	82	48
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	11.3	26.1	10.8		6.2	22.0
Effective Green, g (s)	11.3	26.1	10.8		6.2	22.0
Actuated g/C Ratio	0.27	0.62	0.26		0.15	0.53
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	478	1163	860		256	791
v/s Ratio Prot	c0.17	c0.28	0.06		c0.05	0.03
v/s Ratio Perm						
v/c Ratio	0.64	0.45	0.23		0.32	0.06
Uniform Delay, d1	13.5	4.1	12.2		15.9	4.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2	0.6	0.3		0.7	0.0
Delay (s)	15.7	4.7	12.5		16.6	4.9
Level of Service	B	A	B		B	A
Approach Delay (s)		8.8	12.5		11.0	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	41.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	348	7	53	791	217	1	1	8	49	1	9
Future Volume (vph)	60	348	7	53	791	217	1	1	8	49	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1857		1770	1803			1653			1752	
Flt Permitted	0.17	1.00		0.54	1.00			0.96			0.92	
Satd. Flow (perm)	320	1857		1012	1803			1587			1676	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	359	7	55	815	224	1	1	8	51	1	9
RTOR Reduction (vph)	0	1	0	0	9	0	0	7	0	0	8	0
Lane Group Flow (vph)	62	365	0	55	1030	0	0	3	0	0	53	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.7	34.7		34.1	34.1			4.0			4.0	
Effective Green, g (s)	34.7	34.7		34.1	34.1			4.0			4.0	
Actuated g/C Ratio	0.72	0.72		0.70	0.70			0.08			0.08	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	228	1328		711	1267			130			138	
v/s Ratio Prot		0.20			c0.57							
v/s Ratio Perm	0.19			0.05				0.00			c0.03	
v/c Ratio	0.27	0.28		0.08	0.81			0.02			0.38	
Uniform Delay, d1	2.4	2.4		2.3	5.0			20.4			21.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.1		0.0	4.1			0.0			0.6	
Delay (s)	3.0	2.5		2.3	9.0			20.5			21.7	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		2.6			8.7			20.5			21.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	48.5	Sum of lost time (s)	10.4
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	117	139	67	282	80	354	698	108	130	1374	526
Future Volume (vph)	140	117	139	67	282	80	354	698	108	130	1374	526
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2041		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2041		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	126	149	72	303	86	381	751	116	140	1477	566
RTOR Reduction (vph)	0	0	94	0	6	0	0	0	30	0	0	65
Lane Group Flow (vph)	151	126	55	72	383	0	381	751	86	140	1477	501
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	19.9	19.9	50.8	28.6	28.6		30.9	52.3	80.9	14.8	36.2	61.8
Effective Green, g (s)	19.9	19.9	50.8	28.6	28.6		30.9	52.3	80.9	14.8	36.2	61.8
Actuated g/C Ratio	0.15	0.15	0.37	0.21	0.21		0.23	0.38	0.59	0.11	0.27	0.45
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	240	253	569	346	427		387	1265	938	179	907	693
v/s Ratio Prot	0.09	0.07	0.04	0.04	c0.19		c0.22	0.23	0.05	0.08	c0.43	c0.33
v/s Ratio Perm												
v/c Ratio	0.63	0.50	0.10	0.21	0.90		0.98	0.59	0.09	0.78	1.63	0.72
Uniform Delay, d1	54.8	53.7	27.9	44.6	52.5		52.6	33.6	12.0	59.3	50.1	30.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	0.8	0.0	0.3	20.8		41.2	0.8	0.1	18.3	287.9	4.0
Delay (s)	58.8	54.5	28.0	44.9	73.3		93.8	34.4	12.0	77.5	338.0	34.4
Level of Service	E	D	C	D	E		F	C	B	E	F	C
Approach Delay (s)		46.7			68.8			50.5			242.6	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	149.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	136.5	Sum of lost time (s)	20.9
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	112	1	13	0	479	165	17	144	1
Future Volume (vph)	0	0	1	112	1	13	0	479	165	17	144	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		6.5	5.5	4.2	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1861	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1861	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	1	126	1	15	0	538	185	19	162	1
RTOR Reduction (vph)	0	1	0	0	0	13	0	0	53	0	0	0
Lane Group Flow (vph)	0	0	0	0	127	2	0	538	132	19	163	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.6			8.2	8.2		23.5	36.2	0.5	28.2	
Effective Green, g (s)		0.6			8.2	8.2		21.5	35.2	0.5	28.2	
Actuated g/C Ratio		0.01			0.17	0.17		0.43	0.71	0.01	0.57	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.2	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		19			294	262		809	1125	17	1060	
v/s Ratio Prot		c0.00			c0.07			c0.29	0.08	c0.01	0.09	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.43	0.01		0.67	0.12	1.12	0.15	
Uniform Delay, d1		24.2			18.6	17.3		11.1	2.3	24.5	5.0	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.4	0.0		2.1	0.0	258.7	0.1	
Delay (s)		24.2			18.9	17.3		13.2	2.3	283.2	5.1	
Level of Service		C			B	B		B	A	F	A	
Approach Delay (s)		24.2			18.8			10.4			34.1	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	19.7
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	261	69	102	710	40	222	100	92	3	14	22
Future Volume (vph)	137	261	69	102	710	40	222	100	92	3	14	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3431		1770	3512		1770	1863	1583	1770	1695	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3431		1770	3512		1770	1863	1583	1770	1695	
Peak-hour factor, PHF	0.89	0.89	0.92	0.89	0.89	0.92	0.89	0.89	0.89	0.89	0.89	0.92
Adj. Flow (vph)	154	293	75	115	798	43	249	112	103	3	16	24
RTOR Reduction (vph)	0	23	0	0	4	0	0	0	69	0	22	0
Lane Group Flow (vph)	154	345	0	115	837	0	249	112	34	3	18	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	9.6	25.9		4.2	21.0		7.1	11.2	20.3	0.7	4.8	
Effective Green, g (s)	9.6	25.9		4.2	21.0		7.1	11.2	20.3	0.7	4.8	
Actuated g/C Ratio	0.16	0.42		0.07	0.34		0.11	0.18	0.33	0.01	0.08	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	274	1437		120	1193		203	337	519	20	131	
v/s Ratio Prot	c0.09	0.10		c0.06	c0.24		c0.14	c0.06	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.56	0.24		0.96	0.70		1.23	0.33	0.07	0.15	0.14	
Uniform Delay, d1	24.2	11.6		28.7	17.7		27.3	22.0	14.2	30.3	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.1		67.9	1.9		137.6	0.2	0.0	1.3	0.2	
Delay (s)	25.7	11.7		96.6	19.6		164.9	22.3	14.3	31.5	26.7	
Level of Service	C	B		F	B		F	C	B	C	C	
Approach Delay (s)		15.8			28.8			97.0			27.1	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	61.8	Sum of lost time (s)	19.8
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	1376	87	38	1257	489	23	27	28	66	14	52
Future Volume (vph)	149	1376	87	38	1257	489	23	27	28	66	14	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4872		1681	1762	1583	1610	3052	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4872		1681	1762	1583	1610	3052	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Adj. Flow (vph)	166	1529	97	42	1397	543	26	30	31	73	16	57
RTOR Reduction (vph)	0	0	31	0	33	0	0	0	30	0	52	0
Lane Group Flow (vph)	166	1529	66	42	1907	0	23	33	1	50	44	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	17.6	95.9	95.9	5.2	83.5		6.2	6.2	6.2	13.2	13.2	
Effective Green, g (s)	17.6	95.9	95.9	5.2	83.5		6.2	6.2	6.2	13.2	13.2	
Actuated g/C Ratio	0.13	0.69	0.69	0.04	0.60		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	222	3483	1084	127	2905		74	78	70	151	287	
v/s Ratio Prot	c0.09	0.30		0.01	c0.39		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.75	0.44	0.06	0.33	0.66		0.31	0.42	0.02	0.33	0.15	
Uniform Delay, d1	59.1	9.9	7.3	65.7	18.7		64.8	65.2	64.0	59.3	58.3	
Progression Factor	1.00	1.00	1.00	0.84	0.71		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.4	0.4	0.1	0.4	0.9		0.9	1.3	0.0	3.7	0.7	
Delay (s)	70.4	10.3	7.4	55.9	14.3		65.7	66.5	64.0	63.0	59.0	
Level of Service	E	B	A	E	B		E	E	E	E	E	
Approach Delay (s)		15.7			15.2			65.4			60.4	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	348	1003	143	382	1616	1452	121	230	341	218	46	39
Future Volume (vph)	348	1003	143	382	1616	1452	121	230	341	218	46	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	362	1045	149	398	1683	1512	126	240	355	227	48	41
RTOR Reduction (vph)	0	0	67	0	0	172	0	0	35	0	0	28
Lane Group Flow (vph)	363	1045	82	398	1683	1341	126	240	320	227	48	13
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	19.9	65.0	65.0	20.7	66.5	82.4	13.9	23.9	49.6	10.6	20.3	45.5
Effective Green, g (s)	19.9	65.0	65.0	20.7	66.5	82.4	13.9	23.9	49.6	10.6	20.3	45.5
Actuated g/C Ratio	0.14	0.46	0.46	0.15	0.48	0.59	0.10	0.17	0.35	0.08	0.15	0.32
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	487	2360	734	507	2415	1640	340	604	987	259	513	514
v/s Ratio Prot	0.11	0.21		c0.12	0.33	c0.48	0.04	c0.07	0.11	0.07	0.01	0.01
v/s Ratio Perm			0.05									
v/c Ratio	0.75	0.44	0.11	0.79	0.70	0.82	0.37	0.40	0.32	0.88	0.09	0.03
Uniform Delay, d1	57.6	25.3	21.2	57.5	28.8	22.8	59.0	51.6	33.0	64.1	51.9	32.2
Progression Factor	1.03	0.67	0.74	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	0.6	0.3	7.2	1.7	3.1	0.2	1.0	0.4	25.8	0.1	0.0
Delay (s)	64.6	17.4	16.0	64.7	30.5	26.0	59.2	52.6	33.4	89.8	52.0	32.2
Level of Service	E	B	B	E	C	C	E	D	C	F	D	C
Approach Delay (s)		28.3			32.4			44.3			76.6	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1137	438	0	1808	593	0	0	0	791	0	1661
Future Volume (vph)	0	1137	438	0	1808	593	0	0	0	791	0	1661
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	8.5				7.1		5.1
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	1210	466	0	1923	631	0	0	0	841	0	1767
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	1210	466	0	1923	631	0	0	0	841	0	1747
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		45.5	120.0		45.5	120.0				61.9		61.9
Effective Green, g (s)		45.5	120.0		45.5	113.9				59.9		61.9
Actuated g/C Ratio		0.38	1.00		0.38	0.95				0.50		0.52
Clearance Time (s)		7.5			7.5					5.1		5.1
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		1928	2787		1928	1502				1713		1437
v/s Ratio Prot		0.24			c0.38	0.40				0.24		c0.63
v/s Ratio Perm			0.17									
v/c Ratio		0.63	0.17		1.00	0.42				0.49		1.22
Uniform Delay, d1		30.3	0.0		37.2	0.3				19.9		29.1
Progression Factor		1.00	1.00		1.04	1.00				1.00		1.00
Incremental Delay, d2		1.6	0.1		18.7	0.1				0.1		103.7
Delay (s)		31.9	0.1		57.4	0.3				20.0		132.8
Level of Service		C	A		E	A				C		F
Approach Delay (s)		23.1			43.3			0.0			96.4	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	58.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1200	743	0	1469	604	892	0	333	0	0	0
Future Volume (vph)	0	1200	743	0	1469	604	892	0	333	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	5.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1263	782	0	1546	636	939	0	351	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	27	0	0	0
Lane Group Flow (vph)	0	1263	782	0	1546	636	939	0	324	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		66.5	120.0		66.5	120.0	41.3		41.3			
Effective Green, g (s)		66.5	115.3		66.5	120.0	40.3		41.3			
Actuated g/C Ratio		0.55	0.96		0.55	1.00	0.34		0.34			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2817	1520		3551	1583	1152		959			
v/s Ratio Prot		0.25	c0.49		0.24		c0.27					
v/s Ratio Perm						0.40			0.12			
v/c Ratio		0.45	0.51		0.44	0.40	0.82		0.34			
Uniform Delay, d1		15.9	0.2		15.7	0.0	36.4		29.2			
Progression Factor		0.89	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	0.1		0.4	0.8	4.3		0.1			
Delay (s)		14.5	0.3		16.1	0.8	40.8		29.3			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		9.1			11.6			37.6			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	337	609	266	1523	0	0
Future Volume (vph)	337	609	266	1523	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	359	648	283	1620	0	0
RTOR Reduction (vph)	0	132	0	0	0	0
Lane Group Flow (vph)	359	516	283	1620	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	58.0	58.0	20.3	90.0		
Effective Green, g (s)	58.0	58.0	20.3	90.0		
Actuated g/C Ratio	0.64	0.64	0.23	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2280	1796	774	5085		
v/s Ratio Prot	0.10		0.08	c0.32		
v/s Ratio Perm		0.19				
v/c Ratio	0.16	0.29	0.37	0.32		
Uniform Delay, d1	6.3	7.0	29.4	0.0		
Progression Factor	1.00	1.00	0.93	1.00		
Incremental Delay, d2	0.1	0.4	0.1	0.1		
Delay (s)	6.5	7.4	27.6	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	7.1			4.2	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	334	0	0	768	1022	1027
Future Volume (vph)	0	334	0	0	768	1022	1027
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	348	0	0	800	1065	1070
RTOR Reduction (vph)	0	0	0	0	0	0	335
Lane Group Flow (vph)	0	348	0	0	800	1065	735
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		42.2			42.2	36.1	36.1
Effective Green, g (s)		42.2			42.2	36.1	36.1
Actuated g/C Ratio		0.47			0.47	0.40	0.40
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1659			2384	1377	1117
v/s Ratio Prot		0.10			c0.16	c0.31	
v/s Ratio Perm							0.26
v/c Ratio		0.21			0.34	0.77	0.66
Uniform Delay, d1		14.1			15.1	23.4	21.9
Progression Factor		0.70			1.00	1.00	1.00
Incremental Delay, d2		0.3			0.4	2.5	1.1
Delay (s)		10.1			15.4	25.9	23.0
Level of Service		B			B	C	C
Approach Delay (s)		10.1			15.4	24.5	
Approach LOS		B			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1262	274	579	2016	114	1029
Future Volume (vph)	1262	274	579	2016	114	1029
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6232		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6232		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.92	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1328	298	609	2122	120	1083
RTOR Reduction (vph)	26	0	0	0	0	0
Lane Group Flow (vph)	1600	0	609	2122	120	1083
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	56.4		30.7	91.8	47.8	82.9
Effective Green, g (s)	56.4		30.7	91.8	47.8	82.9
Actuated g/C Ratio	0.38		0.20	0.61	0.32	0.55
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2343		702	3921	564	1540
v/s Ratio Prot	c0.26		c0.18	0.33	0.07	c0.39
v/s Ratio Perm						
v/c Ratio	0.68		0.87	0.54	0.21	0.70
Uniform Delay, d1	39.3		57.7	16.9	37.3	24.5
Progression Factor	1.00		1.42	0.48	1.00	1.00
Incremental Delay, d2	1.6		7.1	0.3	0.1	1.2
Delay (s)	40.9		88.9	8.4	37.4	25.8
Level of Service	D		F	A	D	C
Approach Delay (s)	40.9			26.3	26.9	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	281	2047	0	2368	1026	182	165
Future Volume (vph)	281	2047	0	2368	1026	182	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.93	
Flt Protected	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (prot)	3433	5085		5085	1583	3270	
Flt Permitted	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (perm)	3433	5085		5085	1583	3270	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	296	2155	0	2493	1080	192	174
RTOR Reduction (vph)	0	0	0	0	7	116	0
Lane Group Flow (vph)	296	2155	0	2493	1073	250	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	16.5	112.1		92.1	124.7	27.2	
Effective Green, g (s)	16.5	112.1		92.1	124.7	27.2	
Actuated g/C Ratio	0.11	0.75		0.61	0.83	0.18	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	377	3800		3122	1316	592	
v/s Ratio Prot	c0.09	0.42		0.49	c0.68	0.08	
v/s Ratio Perm							
v/c Ratio	0.79	0.57		0.80	0.82	0.42	
Uniform Delay, d1	65.0	8.3		21.9	6.6	54.4	
Progression Factor	0.95	0.71		1.74	2.28	1.00	
Incremental Delay, d2	7.1	0.4		1.1	2.3	0.8	
Delay (s)	69.1	6.3		39.4	17.4	55.3	
Level of Service	E	A		D	B	E	
Approach Delay (s)		13.9		32.7		55.3	
Approach LOS		B		C		E	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	70	2121	3296	67	36	72
Future Volume (vph)	70	2121	3296	67	36	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	2209	3433	70	38	75
RTOR Reduction (vph)	0	0	0	7	0	71
Lane Group Flow (vph)	73	2209	3433	63	38	4
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	11.5	131.0	115.5	115.5	8.7	8.7
Effective Green, g (s)	11.5	131.0	115.5	115.5	8.7	8.7
Actuated g/C Ratio	0.08	0.87	0.77	0.77	0.06	0.06
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	135	4440	3915	1218	102	91
v/s Ratio Prot	0.04	c0.43	c0.68		c0.02	
v/s Ratio Perm				0.04		0.00
v/c Ratio	0.54	0.50	0.88	0.05	0.37	0.05
Uniform Delay, d1	66.7	2.1	12.2	4.1	68.0	66.7
Progression Factor	1.16	0.32	1.00	0.18	1.00	1.00
Incremental Delay, d2	2.0	0.3	1.6	0.0	2.3	0.2
Delay (s)	79.5	1.0	13.8	0.8	70.3	67.0
Level of Service	E	A	B	A	E	E
Approach Delay (s)		3.5	13.6		68.1	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	117	2195	0	3136	81	45	89
Future Volume (vph)	117	2195	0	3136	81	45	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.93	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3261	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3261	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	124	2335	0	3336	86	48	95
RTOR Reduction (vph)	0	0	0	0	5	46	45
Lane Group Flow (vph)	124	2335	0	3336	81	50	2
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	15.8	131.6		110.9	110.9	7.8	7.8
Effective Green, g (s)	15.8	131.6		110.9	110.9	7.8	7.8
Actuated g/C Ratio	0.11	0.88		0.74	0.74	0.05	0.05
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	186	4461		3759	1170	169	74
v/s Ratio Prot	c0.07	0.46		c0.66		c0.02	
v/s Ratio Perm					0.05		0.00
v/c Ratio	0.67	0.52		0.89	0.07	0.30	0.03
Uniform Delay, d1	64.6	2.1		14.8	5.4	68.5	67.5
Progression Factor	0.89	1.83		2.37	2.12	1.00	1.00
Incremental Delay, d2	8.0	0.4		0.3	0.0	1.0	0.2
Delay (s)	65.4	4.2		35.4	11.4	69.5	67.7
Level of Service	E	A		D	B	E	E
Approach Delay (s)		7.3		34.8		68.9	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1061	1156	25	22	2269	107	20	3	10	54	2	1232
Future Volume (vph)	1061	1156	25	22	2269	107	20	3	10	54	2	1232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5069		3204	5051		1652	1643		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5069		3204	5051		1652	1643		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1117	1217	26	23	2388	113	21	3	11	57	2	1297
RTOR Reduction (vph)	0	1	0	0	4	0	0	11	0	0	0	305
Lane Group Flow (vph)	1117	1242	0	23	2497	0	21	3	0	30	29	992
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	31.6	86.6		2.4	57.5		4.5	4.5		35.9	35.9	73.0
Effective Green, g (s)	31.6	86.6		2.4	57.5		4.5	4.5		35.9	35.9	73.0
Actuated g/C Ratio	0.21	0.58		0.02	0.38		0.03	0.03		0.24	0.24	0.49
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	674	2926		51	1936		49	49		388	391	1356
v/s Ratio Prot	c0.35	0.24		0.01	c0.49		c0.01	0.00		0.02	0.02	c0.36
v/s Ratio Perm												
v/c Ratio	1.66	0.42		0.45	1.29		0.43	0.07		0.08	0.07	0.73
Uniform Delay, d1	59.2	17.7		73.1	46.2		71.5	70.7		44.2	44.2	30.7
Progression Factor	0.94	1.23		1.28	0.79		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	301.5	0.4		1.6	133.3		2.2	0.2		0.1	0.1	2.0
Delay (s)	357.4	22.2		95.2	169.7		73.7	70.9		44.3	44.3	32.7
Level of Service	F	C		F	F		E	E		D	D	C
Approach Delay (s)		180.9			169.0			72.6			33.2	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	143.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	142	814	0	2328	610	141	96
Future Volume (vph)	142	814	0	2328	610	141	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	7.0	10.5		10.5	9.5	7.9	6.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.98	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3167	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3167	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	146	839	0	2400	629	145	99
RTOR Reduction (vph)	0	0	0	0	36	10	71
Lane Group Flow (vph)	146	839	0	2400	593	158	5
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	17.8	125.6		102.8	122.3	12.0	12.0
Effective Green, g (s)	15.8	122.6		99.8	120.3	9.0	10.0
Actuated g/C Ratio	0.11	0.82		0.67	0.80	0.06	0.07
Clearance Time (s)	5.0	7.5		7.5		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	180	4018		3270	1185	190	105
v/s Ratio Prot	c0.09	0.17		c0.49	0.40	c0.05	
v/s Ratio Perm							0.00
v/c Ratio	0.81	0.21		0.73	0.50	0.83	0.05
Uniform Delay, d1	65.6	3.0		16.4	4.9	69.7	65.5
Progression Factor	1.11	0.36		1.57	1.86	1.00	1.00
Incremental Delay, d2	21.2	0.1		0.1	0.0	23.8	0.1
Delay (s)	94.1	1.2		25.9	9.2	93.6	65.6
Level of Service	F	A		C	A	F	E
Approach Delay (s)		15.0		22.4		84.9	
Approach LOS		B		C		F	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	162	702	3167	456	918	513
Future Volume (vph)	162	702	3167	456	918	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4636	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4636	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	165	716	3232	465	937	523
RTOR Reduction (vph)	0	0	1	72	0	1
Lane Group Flow (vph)	165	716	3278	346	937	522
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	7.6	108.0	96.2	96.2	31.0	43.6
Effective Green, g (s)	7.6	108.0	96.2	96.2	31.0	43.6
Actuated g/C Ratio	0.05	0.72	0.64	0.64	0.21	0.29
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	162	3417	2973	815	662	756
v/s Ratio Prot	c0.05	0.15	c0.71		c0.29	0.20
v/s Ratio Perm				0.27		
v/c Ratio	1.02	0.21	1.10	0.42	1.42	0.69
Uniform Delay, d1	71.2	6.9	26.9	13.3	59.5	47.2
Progression Factor	0.80	1.49	1.17	0.94	1.00	1.00
Incremental Delay, d2	75.2	0.1	49.8	1.0	195.8	2.1
Delay (s)	132.0	10.5	81.4	13.5	255.3	49.3
Level of Service	F	B	F	B	F	D
Approach Delay (s)		33.2	73.7		181.5	
Approach LOS		C	E		F	

Intersection Summary			
HCM 2000 Control Delay	93.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	1370	226	196	2855	30	193	25	144	36	77	89
Future Volume (vph)	28	1370	226	196	2855	30	193	25	144	36	77	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1588	1504		1737	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1588	1504		1737	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	29	1398	231	200	2913	31	197	26	147	37	79	91
RTOR Reduction (vph)	0	0	74	0	0	0	0	9	103	0	19	0
Lane Group Flow (vph)	29	1398	157	200	2944	0	128	118	12	0	188	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.2	86.7	86.7	13.1	93.2		16.0	16.0	16.0		14.8	
Effective Green, g (s)	6.2	86.7	86.7	13.1	93.2		16.0	16.0	16.0		14.8	
Actuated g/C Ratio	0.04	0.58	0.58	0.09	0.62		0.11	0.11	0.11		0.10	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	73	2939	914	299	3154		179	169	160		171	
v/s Ratio Prot	0.02	0.27		c0.06	c0.58		c0.08	0.07			c0.11	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	0.40	0.48	0.17	0.67	0.93		0.72	0.70	0.08		1.10	
Uniform Delay, d1	70.1	18.4	14.8	66.3	25.6		64.8	64.7	60.3		67.6	
Progression Factor	1.49	0.38	0.12	1.04	0.73		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.2	0.2	2.1	3.4		10.7	9.7	0.1		98.1	
Delay (s)	105.1	7.2	1.9	71.2	22.0		75.5	74.4	60.4		165.7	
Level of Service	F	A	A	E	C		E	E	E		F	
Approach Delay (s)		8.2			25.1			70.4			165.7	
Approach LOS		A			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	108	1421	0	2794	183	172	320
Future Volume (vph)	108	1421	0	2794	183	172	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5038		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5038		3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	115	1512	0	2972	195	183	340
RTOR Reduction (vph)	0	0	0	4	0	0	68
Lane Group Flow (vph)	115	1512	0	3163	0	183	272
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	10.5	119.3		104.2		21.0	21.0
Effective Green, g (s)	9.5	119.3		104.2		21.0	21.0
Actuated g/C Ratio	0.06	0.80		0.69		0.14	0.14
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	217	4044		3499		480	390
v/s Ratio Prot	c0.03	0.30		c0.63		0.05	
v/s Ratio Perm							c0.10
v/c Ratio	0.53	0.37		0.90		0.38	0.70
Uniform Delay, d1	68.1	4.5		18.8		58.6	61.5
Progression Factor	0.92	0.35		0.56		1.00	1.00
Incremental Delay, d2	1.0	0.2		0.4		0.7	5.8
Delay (s)	63.5	1.8		10.9		59.3	67.3
Level of Service	E	A		B		E	E
Approach Delay (s)		6.2		10.9		64.5	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	1092	530	9	2616	118	946	331	9	192	295	135
Future Volume (vph)	46	1092	530	9	2616	118	946	331	9	192	295	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5052		2841	3019		3204	3372	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5052		2841	3019		3204	3372	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	47	1114	541	9	2669	120	965	338	9	196	301	138
RTOR Reduction (vph)	0	0	43	0	3	0	0	1	0	0	36	0
Lane Group Flow (vph)	47	1114	498	9	2786	0	647	664	0	196	403	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.1	72.9	109.8	1.6	70.3		36.9	36.9		16.7	16.7	
Effective Green, g (s)	4.1	72.9	109.8	1.6	70.3		36.9	36.9		16.7	16.7	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47		0.25	0.25		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2389	1081	19	2367		698	742		356	375	
v/s Ratio Prot	c0.02	0.23	0.34	0.00	c0.55		c0.23	0.22		0.06	c0.12	
v/s Ratio Perm												
v/c Ratio	0.89	0.47	0.46	0.47	1.18		0.93	0.90		0.55	1.08	
Uniform Delay, d1	72.7	25.6	8.1	73.8	39.9		55.2	54.7		63.1	66.7	
Progression Factor	0.89	1.84	5.06	1.19	0.78		1.00	1.00		1.00	1.00	
Incremental Delay, d2	79.7	0.6	0.3	6.0	84.0		18.3	13.3		1.8	68.2	
Delay (s)	144.6	47.8	41.4	94.0	114.9		73.6	68.0		64.9	134.9	
Level of Service	F	D	D	F	F		E	E		E	F	
Approach Delay (s)		48.4			114.8			70.7			113.3	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	88.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	1123	38	22	1776	16	167	9	60	42	1	41
Future Volume (vph)	35	1123	38	22	1776	16	167	9	60	42	1	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	7.2		6.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5061		1770	5079			1738			1697	
Flt Permitted	0.95	1.00		0.95	1.00			0.72			0.80	
Satd. Flow (perm)	1770	5061		1770	5079			1295			1390	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1221	41	24	1930	17	182	10	65	46	1	45
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	27	0
Lane Group Flow (vph)	38	1260	0	24	1947	0	0	248	0	0	65	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.8	97.8		4.6	95.1			33.0			33.0	
Effective Green, g (s)	4.8	95.8		2.6	95.1			33.0			33.0	
Actuated g/C Ratio	0.03	0.64		0.02	0.63			0.22			0.22	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	56	3232		30	3220			284			305	
v/s Ratio Prot	c0.02	0.25		0.01	c0.38							
v/s Ratio Perm								c0.19			0.05	
v/c Ratio	0.68	0.39		0.80	0.60			0.87			0.21	
Uniform Delay, d1	71.8	13.0		73.4	16.3			56.5			47.9	
Progression Factor	1.55	0.16		0.98	1.16			1.00			1.00	
Incremental Delay, d2	20.7	0.3		65.0	0.6			23.5			0.1	
Delay (s)	131.8	2.3		136.6	19.5			80.0			48.0	
Level of Service	F	A		F	B			E			D	
Approach Delay (s)		6.1			21.0			80.0			48.0	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	600	627	0	646	912	0	0	0	142	0	1149
Future Volume (vph)	0	600	627	0	646	912	0	0	0	142	0	1149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				4.7		4.7
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	674	704	0	726	1025	0	0	0	160	0	1291
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	31
Lane Group Flow (vph)	0	674	704	0	726	1025	0	0	0	160	0	1260
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		52.5	150.0		52.5	150.0				86.8		86.8
Effective Green, g (s)		52.5	150.0		52.5	150.0				86.8		86.8
Actuated g/C Ratio		0.35	1.00		0.35	1.00				0.58		0.58
Clearance Time (s)		6.0			6.0					4.7		4.7
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1238	1583		1238	2787				1986		1612
v/s Ratio Prot		0.19			c0.21					0.05		
v/s Ratio Perm			0.44			0.37						c0.45
v/c Ratio		0.54	0.44		0.59	0.37				0.08		0.78
Uniform Delay, d1		39.1	0.0		39.9	0.0				14.0		24.3
Progression Factor		0.84	1.00		0.96	1.00				1.00		1.00
Incremental Delay, d2		1.6	0.9		2.0	0.4				0.0		2.3
Delay (s)		34.5	0.9		40.4	0.4				14.0		26.6
Level of Service		C	A		D	A				B		C
Approach Delay (s)		17.3			17.0			0.0			25.2	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	220	476	0	1258	118	486	0	637	0	0	0
Future Volume (vph)	0	220	476	0	1258	118	486	0	637	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	232	501	0	1324	124	512	0	671	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	550	0	0	0
Lane Group Flow (vph)	0	232	501	0	1324	124	512	0	121	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		109.9	150.0		109.9	150.0	27.0		27.0			
Effective Green, g (s)		109.9	150.0		109.9	150.0	27.0		27.0			
Actuated g/C Ratio		0.73	1.00		0.73	1.00	0.18		0.18			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2592	1583		4694	1583	617		501			
v/s Ratio Prot		0.07			0.21		c0.15					
v/s Ratio Perm			c0.32			0.08			0.04			
v/c Ratio		0.09	0.32		0.28	0.08	0.83		0.24			
Uniform Delay, d1		5.7	0.0		6.8	0.0	59.3		52.7			
Progression Factor		0.41	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.5		0.2	0.1	8.6		0.1			
Delay (s)		2.4	0.5		6.9	0.1	67.9		52.8			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		1.1			6.3			59.4			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	23	97	360	411	155	197	334	57	61	942	155
Future Volume (vph)	15	23	97	360	411	155	197	334	57	61	942	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.89			0.97		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3141			3385		1770	4975		1770	4978	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3141			3385		1770	4975		1770	4978	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	24	101	375	428	161	205	348	59	64	981	161
RTOR Reduction (vph)	0	92	0	0	12	0	0	16	0	0	16	0
Lane Group Flow (vph)	0	49	0	0	952	0	205	391	0	64	1126	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.6			39.6		15.6	35.4		7.1	26.5	
Effective Green, g (s)		9.6			39.6		15.6	35.4		7.1	26.5	
Actuated g/C Ratio		0.09			0.35		0.14	0.32		0.06	0.24	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		269			1197		246	1573		112	1178	
v/s Ratio Prot		c0.02			c0.28		c0.12	0.08		0.04	c0.23	
v/s Ratio Perm												
v/c Ratio		0.18			0.80		0.83	0.25		0.57	0.96	
Uniform Delay, d1		47.5			32.5		46.9	28.4		50.9	42.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			4.4		20.3	0.1		4.3	16.7	
Delay (s)		48.3			36.9		67.2	28.5		55.2	58.8	
Level of Service		D			D		E	C		E	E	
Approach Delay (s)		48.3			36.9			41.5			58.6	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	111.9	Sum of lost time (s)	20.6
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	3	67	3	89	46	567	17	25	1334	164
Future Volume (vph)	9	0	3	67	3	89	46	567	17	25	1334	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9	4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770	1863	1583	3204	4894		1770	5002	
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770	1863	1583	3204	4894		1770	5002	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	0	3	71	3	95	49	603	18	27	1419	174
RTOR Reduction (vph)	0	0	3	0	0	83	0	2	0	0	12	0
Lane Group Flow (vph)	10	0	0	71	3	12	49	619	0	27	1581	0
Turn Type	Prot		Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	0.7		1.2	7.4	7.9	7.9	2.4	31.3		1.3	30.2	
Effective Green, g (s)	0.7		1.2	7.4	7.9	7.9	2.4	31.3		1.3	30.2	
Actuated g/C Ratio	0.01		0.02	0.12	0.13	0.13	0.04	0.51		0.02	0.50	
Clearance Time (s)	4.4		4.9	4.4	4.9	4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	3.0	2.0	2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	19		35	215	241	205	126	2515		37	2480	
v/s Ratio Prot	0.01			c0.04	0.00		c0.02	0.13		0.02	c0.32	
v/s Ratio Perm			0.00			c0.01						
v/c Ratio	0.53		0.00	0.33	0.01	0.06	0.39	0.25		0.73	0.64	
Uniform Delay, d1	29.9		29.3	24.5	23.1	23.2	28.5	8.2		29.6	11.3	
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.6		0.0	0.9	0.0	0.0	0.7	0.1		45.8	0.6	
Delay (s)	41.5		29.3	25.4	23.1	23.3	29.3	8.3		75.4	11.9	
Level of Service	D		C	C	C	C	C	A		E	B	
Approach Delay (s)		38.7			24.2			9.8			12.9	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	60.9	Sum of lost time (s)	19.7
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	15	198	5	90	99	559	29	118	1297	6
Future Volume (vph)	1	1	15	198	5	90	99	559	29	118	1297	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1863	1742	3433	1597		3204	4916	1583	1770	5082	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1863	1742	3433	1597		3204	4916	1583	1770	5082	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	1	16	218	5	99	109	614	32	130	1425	7
RTOR Reduction (vph)	0	0	16	0	86	0	0	0	17	0	1	0
Lane Group Flow (vph)	1	1	0	218	18	0	109	614	15	130	1431	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.6	1.4	1.4	7.3	8.1		4.8	27.5	27.5	4.2	26.5	
Effective Green, g (s)	0.6	1.4	1.4	7.3	8.1		4.8	27.5	27.5	4.2	26.5	
Actuated g/C Ratio	0.01	0.02	0.02	0.12	0.13		0.08	0.46	0.46	0.07	0.44	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	16	43	40	416	215		255	2249	724	123	2240	
v/s Ratio Prot	0.00	0.00		c0.06	c0.01		0.03	0.12		c0.07	c0.28	
v/s Ratio Perm			0.00						0.01			
v/c Ratio	0.06	0.02	0.01	0.52	0.09		0.43	0.27	0.02	1.06	0.64	
Uniform Delay, d1	29.5	28.7	28.7	24.8	22.8		26.3	10.1	8.9	27.9	13.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.1	0.0	1.2	0.2		0.4	0.1	0.0	97.2	0.6	
Delay (s)	30.1	28.8	28.7	26.0	22.9		26.8	10.2	8.9	125.2	13.7	
Level of Service	C	C	C	C	C		C	B	A	F	B	
Approach Delay (s)		28.8			25.0			12.5			23.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	20.1
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	811	325	544	334	301	1253
Future Volume (vph)	811	325	544	334	301	1253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	882	353	591	363	327	1362
RTOR Reduction (vph)	0	237	0	272	0	0
Lane Group Flow (vph)	882	116	591	91	327	1362
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	23.0	23.0	17.5	17.5	13.9	36.2
Effective Green, g (s)	23.0	23.0	17.5	17.5	13.9	36.2
Actuated g/C Ratio	0.33	0.33	0.25	0.25	0.20	0.52
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	1126	519	1269	395	350	2625
v/s Ratio Prot	c0.26		0.12		c0.18	c0.27
v/s Ratio Perm		0.07		0.06		
v/c Ratio	0.78	0.22	0.47	0.23	0.93	0.52
Uniform Delay, d1	21.3	17.1	22.3	20.9	27.7	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	0.1	0.3	0.4	31.1	0.2
Delay (s)	24.6	17.2	22.7	21.3	58.8	11.4
Level of Service	C	B	C	C	E	B
Approach Delay (s)	22.5		22.1			20.6
Approach LOS	C		C			C

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	15.7
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	175	15	83	21	756	179	163	1819	11
Future Volume (vph)	1	2	3	175	15	83	21	756	179	163	1819	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.91		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1583		1770	3539	1583	1770	3536	
Flt Permitted		0.99		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1583		1770	3539	1583	1770	3536	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	2	3	182	16	86	22	788	186	170	1895	11
RTOR Reduction (vph)	0	3	0	0	66	0	0	0	78	0	1	0
Lane Group Flow (vph)	0	3	0	147	71	0	22	788	108	170	1905	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		0.9		11.7	11.7		0.6	24.9	24.9	7.3	31.6	
Effective Green, g (s)		0.9		11.7	11.7		0.6	24.9	24.9	7.3	31.6	
Actuated g/C Ratio		0.01		0.18	0.18		0.01	0.38	0.38	0.11	0.49	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		23		303	286		16	1361	609	199	1727	
v/s Ratio Prot		c0.00		c0.09	0.04		0.01	0.22		c0.10	c0.54	
v/s Ratio Perm									0.07			
v/c Ratio		0.13		0.49	0.25		1.38	0.58	0.18	0.85	1.10	
Uniform Delay, d1		31.5		23.8	22.7		32.1	15.8	13.1	28.2	16.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0		2.0	0.7		361.4	0.8	0.2	27.3	55.8	
Delay (s)		32.5		25.8	23.5		393.4	16.6	13.4	55.5	72.3	
Level of Service		C		C	C		F	B	B	E	E	
Approach Delay (s)		32.5			24.7			24.3			71.0	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	53.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	64.7	Sum of lost time (s)	19.9
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	22	65	532	631	29
Future Volume (vph)	42	22	65	532	631	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3516	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3516	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	24	71	578	686	32
RTOR Reduction (vph)	0	22	0	0	2	0
Lane Group Flow (vph)	46	2	71	578	716	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.0	6.0	5.4	73.9	64.1	
Effective Green, g (s)	6.0	6.0	5.4	73.9	64.1	
Actuated g/C Ratio	0.07	0.07	0.06	0.82	0.71	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	118	105	205	2905	2504	
v/s Ratio Prot	c0.03		c0.02	0.16	c0.20	
v/s Ratio Perm		0.00				
v/c Ratio	0.39	0.02	0.35	0.20	0.29	
Uniform Delay, d1	40.2	39.2	40.6	1.7	4.7	
Progression Factor	1.00	1.00	0.84	1.61	1.00	
Incremental Delay, d2	0.8	0.0	0.4	0.1	0.3	
Delay (s)	41.0	39.3	34.5	2.9	5.0	
Level of Service	D	D	C	A	A	
Approach Delay (s)	40.4			6.4	5.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	155	184	150	208	82	125	497	121	48	610	15
Future Volume (vph)	17	155	184	150	208	82	125	497	121	48	610	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3251		1770	3389		3433	3436		1770	3526	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3251		1770	3389		3433	3436		1770	3526	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	172	204	167	231	91	139	552	134	53	678	17
RTOR Reduction (vph)	0	175	0	0	58	0	0	18	0	0	2	0
Lane Group Flow (vph)	19	201	0	167	264	0	139	668	0	53	693	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.6	12.6		10.8	21.8		8.1	41.2		6.4	39.5	
Effective Green, g (s)	1.6	12.6		10.8	21.8		8.1	41.2		6.4	39.5	
Actuated g/C Ratio	0.02	0.14		0.12	0.24		0.09	0.46		0.07	0.44	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	31	455		212	820		308	1572		125	1547	
v/s Ratio Prot	0.01	c0.06		c0.09	0.08		c0.04	0.19		0.03	c0.20	
v/s Ratio Perm												
v/c Ratio	0.61	0.44		0.79	0.32		0.45	0.43		0.42	0.45	
Uniform Delay, d1	43.9	35.5		38.5	28.0		38.8	16.4		40.0	17.6	
Progression Factor	1.00	1.00		1.00	1.00		1.13	1.01		1.50	0.73	
Incremental Delay, d2	22.6	0.2		16.2	0.1		0.4	0.8		0.8	0.9	
Delay (s)	66.5	35.7		54.7	28.1		44.4	17.3		60.9	13.8	
Level of Service	E	D		D	C		D	B		E	B	
Approach Delay (s)		37.2			37.2			21.9			17.1	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	39	82	118	185	55	59	658	65	26	991	37
Future Volume (vph)	27	39	82	118	185	55	59	658	65	26	991	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	4.9		5.4	6.2		5.4	6.3		5.4	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1674		1770	1799		1770	3491		1770	3520	
Flt Permitted	0.42	1.00		0.56	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	775	1674		1034	1799		1770	3491		1770	3520	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	30	44	92	133	208	62	66	739	73	29	1113	42
RTOR Reduction (vph)	0	75	0	0	14	0	0	6	0	0	3	0
Lane Group Flow (vph)	30	61	0	133	256	0	66	806	0	29	1152	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.2	16.8		22.7	18.4		6.9	46.9		3.0	42.8	
Effective Green, g (s)	17.2	16.8		20.7	17.4		5.9	45.9		2.0	42.8	
Actuated g/C Ratio	0.19	0.19		0.23	0.19		0.07	0.51		0.02	0.48	
Clearance Time (s)	4.4	4.9		4.4	5.2		4.4	5.3		4.4	5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	163	312		264	347		116	1780		39	1673	
v/s Ratio Prot	0.00	0.04		c0.02	c0.14		c0.04	c0.23		0.02	c0.33	
v/s Ratio Perm	0.03			0.10								
v/c Ratio	0.18	0.20		0.50	0.74		0.57	0.45		0.74	0.69	
Uniform Delay, d1	30.1	30.9		30.1	34.2		40.8	14.0		43.7	18.4	
Progression Factor	1.00	1.00		1.00	1.00		1.01	0.92		1.31	0.85	
Incremental Delay, d2	0.2	0.1		0.6	6.9		3.3	0.7		46.3	2.2	
Delay (s)	30.3	31.0		30.7	41.1		44.4	13.6		103.7	17.8	
Level of Service	C	C		C	D		D	B		F	B	
Approach Delay (s)		30.9			37.7			15.9			19.9	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	127	104	154	184	127	52	379	51	84	947	129
Future Volume (vph)	216	127	104	154	184	127	52	379	51	84	947	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1737		1770	1748		1770	3476		1770	3475	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1737		1770	1748		1770	3476		1770	3475	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	232	137	112	166	198	137	56	408	55	90	1018	139
RTOR Reduction (vph)	0	37	0	0	31	0	0	11	0	0	11	0
Lane Group Flow (vph)	232	212	0	166	304	0	56	452	0	90	1146	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.0	22.8		10.1	19.9		5.6	29.6		8.6	32.6	
Effective Green, g (s)	13.0	22.8		10.1	19.9		5.6	29.6		8.6	32.6	
Actuated g/C Ratio	0.14	0.25		0.11	0.22		0.06	0.33		0.10	0.36	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	255	440		198	386		110	1143		169	1258	
v/s Ratio Prot	c0.13	c0.12		0.09	c0.17		0.03	0.13		c0.05	c0.33	
v/s Ratio Perm												
v/c Ratio	0.91	0.48		0.84	0.79		0.51	0.40		0.53	0.91	
Uniform Delay, d1	37.9	28.6		39.2	33.1		40.9	23.3		38.8	27.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.41	0.68	
Incremental Delay, d2	32.4	0.3		24.5	9.4		1.3	1.0		1.3	9.5	
Delay (s)	70.4	28.9		63.6	42.5		42.2	24.3		56.1	28.1	
Level of Service	E	C		E	D		D	C		E	C	
Approach Delay (s)		48.9			49.5			26.3			30.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	24	313	1	66	1	421	82	31	1327	0
Future Volume (vph)	3	1	24	313	1	66	1	421	82	31	1327	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.88			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1637			1774	1583	1770	3453		1770	3539	
Flt Permitted		0.97			0.70	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1596			1313	1583	1770	3453		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1	26	340	1	72	1	458	89	34	1442	0
RTOR Reduction (vph)	0	18	0	0	0	49	0	18	0	0	0	0
Lane Group Flow (vph)	0	12	0	0	341	23	1	529	0	34	1442	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		25.7			25.7	25.7	1.0	36.1		3.5	38.8	
Effective Green, g (s)		25.7			25.7	25.7	1.0	36.1		3.5	38.8	
Actuated g/C Ratio		0.32			0.32	0.32	0.01	0.45		0.04	0.48	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		512			421	508	22	1558		77	1716	
v/s Ratio Prot							0.00	0.15		c0.02	c0.41	
v/s Ratio Perm		0.01			c0.26	0.01						
v/c Ratio		0.02			0.81	0.05	0.05	0.34		0.44	0.84	
Uniform Delay, d1		18.6			24.9	18.7	39.0	14.2		37.3	17.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			12.6	0.1	0.3	0.6		1.5	5.2	
Delay (s)		18.6			37.5	18.8	39.3	14.8		38.8	23.1	
Level of Service		B			D	B	D	B		D	C	
Approach Delay (s)		18.6			34.3			14.9			23.4	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	280	634	469	219	1155	558
Future Volume (vph)	280	634	469	219	1155	558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3366	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3366	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	298	674	499	233	1229	594
RTOR Reduction (vph)	0	315	0	0	39	0
Lane Group Flow (vph)	298	359	499	233	1784	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	28.1	28.1	35.6	111.1	70.0	
Effective Green, g (s)	28.1	28.1	35.6	111.1	70.0	
Actuated g/C Ratio	0.19	0.19	0.24	0.74	0.47	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	643	296	420	2621	1570	
v/s Ratio Prot	0.09		c0.28	0.07	c0.53	
v/s Ratio Perm		c0.23				
v/c Ratio	0.46	1.21	1.19	0.09	1.14	
Uniform Delay, d1	54.2	61.0	57.2	5.4	40.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	122.4	106.2	0.1	69.8	
Delay (s)	54.4	183.3	163.4	5.5	109.8	
Level of Service	D	F	F	A	F	
Approach Delay (s)	143.8			113.1	109.8	
Approach LOS	F			F	F	

Intersection Summary			
HCM 2000 Control Delay	119.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	0	68	2	2	3	596	650	6	0	1502	293
Future Volume (vph)	37	0	68	2	2	3	596	650	6	0	1502	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.98	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	3539	1583		3452	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	3539	1583		3452	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	40	0	73	2	2	3	641	699	6	0	1615	318
RTOR Reduction (vph)	0	0	70	0	3	0	0	0	1	0	20	0
Lane Group Flow (vph)	20	20	3	0	4	0	641	699	5	0	1913	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.1	4.1	4.1		0.8		35.6	69.3	69.3		29.3	
Effective Green, g (s)	4.1	4.1	4.1		0.8		35.6	69.3	69.3		29.3	
Actuated g/C Ratio	0.05	0.05	0.05		0.01		0.40	0.77	0.77		0.33	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	76	76	72		15		700	2725	1218		1123	
v/s Ratio Prot	c0.01	0.01			c0.00		c0.36	0.20			c0.55	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.26	0.26	0.05		0.27		0.92	0.26	0.00		1.70	
Uniform Delay, d1	41.5	41.5	41.1		44.3		25.8	3.0	2.4		30.4	
Progression Factor	1.00	1.00	1.00		1.00		0.92	1.49	1.00		1.00	
Incremental Delay, d2	0.7	0.7	0.1		3.5		12.8	0.2	0.0		320.6	
Delay (s)	42.2	42.2	41.2		47.8		36.7	4.6	2.4		350.9	
Level of Service	D	D	D		D		D	A	A		F	
Approach Delay (s)		41.5			47.8			19.8			350.9	
Approach LOS		D			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	208.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	220	1	693	7	557	53	315	1248	0
Future Volume (vph)	0	0	0	220	1	693	7	557	53	315	1248	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95		1.00	0.95	
Frt					1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3493		1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3493		1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	232	1	729	7	586	56	332	1314	0
RTOR Reduction (vph)	0	0	0	0	0	14	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	233	715	7	635	0	332	1314	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					30.7	55.9	0.8	24.7		20.3	44.2	
Effective Green, g (s)					30.7	55.9	0.8	24.7		20.3	44.2	
Actuated g/C Ratio					0.34	0.62	0.01	0.27		0.23	0.49	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					462	983	15	958		399	1738	
v/s Ratio Prot						c0.45	0.00	0.18		c0.19	c0.37	
v/s Ratio Perm					0.17							
v/c Ratio					0.50	0.73	0.47	0.66		0.83	0.76	
Uniform Delay, d1					23.6	11.8	44.4	29.0		33.2	18.5	
Progression Factor					1.00	1.00	1.00	1.00		1.71	0.69	
Incremental Delay, d2					0.3	2.3	8.1	3.6		1.4	0.3	
Delay (s)					23.9	14.1	52.5	32.6		58.3	13.0	
Level of Service					C	B	D	C		E	B	
Approach Delay (s)		0.0			16.5			32.8			22.1	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	986	152	84	1468	93	366	95	18	110	169	394
Future Volume (vph)	192	986	152	84	1468	93	366	95	18	110	169	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	5.4	6.2		4.9	4.9		6.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6350		2841	2984		3204	1592	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6350		2841	2984		3204	1592	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	198	1016	157	87	1513	96	377	98	19	113	174	406
RTOR Reduction (vph)	0	0	68	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	198	1016	89	87	1605	0	253	238	0	113	215	365
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	17.2	94.4	94.4	14.4	91.4		26.2	26.2		34.4	34.4	56.9
Effective Green, g (s)	17.2	94.4	94.4	13.4	91.4		26.2	26.2		33.4	34.4	56.9
Actuated g/C Ratio	0.09	0.50	0.50	0.07	0.48		0.14	0.14		0.18	0.18	0.30
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	290	2442	786	116	3054		391	411		563	288	863
v/s Ratio Prot	c0.06	c0.21		0.05	c0.25		c0.09	0.08		0.04	c0.14	0.13
v/s Ratio Perm			0.06									
v/c Ratio	0.68	0.42	0.11	0.75	0.53		0.65	0.58		0.20	0.75	0.42
Uniform Delay, d1	83.8	30.3	25.5	86.7	34.2		77.5	76.7		66.9	73.7	53.4
Progression Factor	1.00	1.00	1.00	1.04	0.92		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.5	0.3	17.5	0.5		5.4	3.4		0.3	10.8	0.5
Delay (s)	90.2	30.8	25.8	108.0	31.9		82.9	80.2		67.1	84.5	53.9
Level of Service	F	C	C	F	C		F	F		E	F	D
Approach Delay (s)		38.8			35.8			81.6			65.5	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	46.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	1015	9	36	1420	96	20	26	209	495	109	245
Future Volume (vph)	94	1015	9	36	1420	96	20	26	209	495	109	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5079		3204	5037		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5079		3204	5037		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	1128	10	40	1578	107	22	29	232	550	121	272
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	82	0	0	102
Lane Group Flow (vph)	104	1138	0	40	1682	0	22	29	150	550	121	170
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.3	103.3		5.4	98.2		22.6	24.3	24.3	36.8	38.2	38.2
Effective Green, g (s)	10.3	103.3		5.4	98.2		22.6	24.3	24.3	36.8	38.2	38.2
Actuated g/C Ratio	0.05	0.54		0.03	0.52		0.12	0.13	0.13	0.19	0.20	0.20
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	173	2761		91	2603		196	222	202	620	374	318
v/s Ratio Prot	c0.03	0.22		0.01	c0.33		0.01	0.02		c0.17	0.06	
v/s Ratio Perm									c0.09			0.11
v/c Ratio	0.60	0.41		0.44	0.65		0.11	0.13	0.74	0.89	0.32	0.53
Uniform Delay, d1	87.8	25.5		90.8	33.3		74.7	73.5	79.8	74.6	64.9	67.9
Progression Factor	1.08	0.76		0.77	1.34		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	0.4		1.0	1.0		0.3	0.2	13.3	14.0	0.3	1.1
Delay (s)	98.8	19.9		70.5	45.5		75.0	73.7	93.1	88.6	65.2	69.1
Level of Service	F	B		E	D		E	E	F	F	E	E
Approach Delay (s)		26.5			46.1			89.7			80.0	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1549	81	110	982	132	141	37	337	1081	247	420
Future Volume (vph)	75	1549	81	110	982	132	141	37	337	1081	247	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	5.4	6.5		5.4	5.9	5.0	5.4	4.9	5.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.88	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5047		1652	5085	1583	1652	2875	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5047		1652	5085	1583	1652	2875	1489	3204	3893	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	86	1780	93	126	1129	152	162	43	387	1243	284	483
RTOR Reduction (vph)	0	3	0	0	0	0	0	110	120	0	0	191
Lane Group Flow (vph)	86	1870	0	126	1129	152	162	127	73	1243	284	292
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	19.0	65.2		22.8	69.6	190.0	23.6	16.2	16.2	65.6	58.2	58.2
Effective Green, g (s)	18.0	65.2		21.8	69.6	190.0	22.6	16.2	15.2	65.6	58.2	58.2
Actuated g/C Ratio	0.09	0.34		0.11	0.37	1.00	0.12	0.09	0.08	0.35	0.31	0.31
Clearance Time (s)	4.4	6.5		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	156	1731		189	1862	1583	196	245	119	1106	1192	484
v/s Ratio Prot	0.05	c0.37		0.08	c0.22		0.10	0.04		c0.39	0.07	
v/s Ratio Perm						0.10			0.05			c0.18
v/c Ratio	0.55	1.08		0.67	0.61	0.10	0.83	0.52	0.62	1.12	0.24	0.60
Uniform Delay, d1	82.1	62.4		80.6	49.0	0.0	81.8	83.2	84.6	62.2	49.3	56.1
Progression Factor	1.01	0.98		0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	45.8		6.5	1.4	0.1	23.9	2.2	9.8	67.9	0.2	3.0
Delay (s)	84.9	107.2		83.5	48.5	0.1	105.6	85.4	94.3	130.1	49.5	59.1
Level of Service	F	F		F	D	A	F	F	F	F	D	E
Approach Delay (s)		106.2			46.4			93.9			101.6	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	89.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	2741	93	29	682	9	172	19	86	82	7	277
Future Volume (vph)	222	2741	93	29	682	9	172	19	86	82	7	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5060		1770	5076		1681	1578		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5060		1770	5076		1681	1578		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	229	2826	96	30	703	9	177	20	93	85	7	286
RTOR Reduction (vph)	0	2	0	0	0	0	0	41	0	0	0	141
Lane Group Flow (vph)	229	2920	0	30	712	0	150	99	0	85	7	145
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	28.9	128.6		6.9	106.8		21.3	21.3		12.9	12.9	41.8
Effective Green, g (s)	28.9	128.6		6.9	106.8		21.3	21.3		12.9	12.9	41.8
Actuated g/C Ratio	0.15	0.68		0.04	0.56		0.11	0.11		0.07	0.07	0.22
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		5.0	5.0	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	269	3424		64	2853		188	176		112	126	348
v/s Ratio Prot	c0.13	c0.58		0.02	0.14		c0.09	0.06		c0.05	0.00	0.09
v/s Ratio Perm												
v/c Ratio	0.85	0.85		0.47	0.25		0.80	0.56		0.76	0.06	0.42
Uniform Delay, d1	78.5	23.5		89.8	21.2		82.3	79.9		87.0	82.9	63.6
Progression Factor	0.90	1.79		0.76	1.20		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.4	0.3		1.9	0.2		19.3	2.5		22.6	0.1	0.3
Delay (s)	72.8	42.4		69.9	25.7		101.6	82.4		109.6	82.9	63.9
Level of Service	E	D		E	C		F	F		F	F	E
Approach Delay (s)		44.6			27.5			92.3			74.5	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	47.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.3
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	2719	11	34	716	28	26	13	307	89	3	69
Future Volume (vph)	50	2719	11	34	716	28	26	13	307	89	3	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	5.7		4.4	4.9	4.9	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5056		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	2774	11	35	731	29	27	13	313	91	3	70
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	101	0	0	57
Lane Group Flow (vph)	51	2785	0	35	758	0	27	13	212	91	3	13
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	8.6	122.3		6.1	120.1		5.9	29.3	29.3	12.5	35.9	35.9
Effective Green, g (s)	7.6	122.3		5.1	120.1		5.9	29.3	29.3	11.5	35.9	35.9
Actuated g/C Ratio	0.04	0.64		0.03	0.63		0.03	0.15	0.15	0.06	0.19	0.19
Clearance Time (s)	4.5	6.0		4.5	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	70	3271		47	3195		54	287	244	107	352	299
v/s Ratio Prot	c0.03	c0.55		0.02	0.15		0.02	0.01		c0.05	0.00	
v/s Ratio Perm									c0.13			0.01
v/c Ratio	0.73	0.85		0.74	0.24		0.50	0.05	0.87	0.85	0.01	0.04
Uniform Delay, d1	90.2	26.7		91.8	15.1		90.6	68.4	78.5	88.4	62.6	63.0
Progression Factor	1.06	1.42		1.31	0.40		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.6	1.6		41.9	0.2		2.6	0.0	26.2	42.7	0.0	0.0
Delay (s)	111.3	39.6		162.1	6.2		93.2	68.5	104.7	131.1	62.6	63.0
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		40.9			13.1			102.5			100.8	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.8
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	2446	549	48	513	25	182	47	118	131	99	47
Future Volume (vph)	61	2446	549	48	513	25	182	47	118	131	99	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4945		1652	5050		1625	1718	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4945		1652	5050		1625	1718	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	64	2575	578	51	540	26	192	49	124	138	104	49
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	112	0	0	44
Lane Group Flow (vph)	64	3139	0	51	564	0	119	122	12	138	104	5
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.7	118.7		11.6	118.1		18.3	18.3	18.3	21.2	21.2	21.2
Effective Green, g (s)	11.7	118.7		11.6	118.1		18.3	18.3	18.3	21.2	21.2	21.2
Actuated g/C Ratio	0.06	0.62		0.06	0.62		0.10	0.10	0.10	0.11	0.11	0.11
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	101	3089		100	3138		156	165	152	184	207	188
v/s Ratio Prot	c0.04	c0.63		0.03	0.11		c0.07	0.07		c0.08	0.06	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.63	1.02		0.51	0.18		0.76	0.74	0.08	0.75	0.50	0.03
Uniform Delay, d1	87.1	35.6		86.4	15.3		83.7	83.5	78.2	81.8	79.4	75.2
Progression Factor	1.29	0.43		1.30	0.80		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	16.1		1.8	0.1		17.8	13.8	0.1	15.7	1.9	0.1
Delay (s)	117.2	31.6		114.3	12.4		101.5	97.4	78.3	97.5	81.4	75.3
Level of Service	F	C		F	B		F	F	E	F	F	E
Approach Delay (s)		33.3			20.8			92.2			88.0	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	2546	138	58	479	36	88	24	173	18	11	18
Future Volume (vph)	28	2546	138	58	479	36	88	24	173	18	11	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	8.2		6.5	7.0		6.4	5.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5046		1770	5031		3433	1617		1770	1686	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5046		1770	5031		3433	1617		1770	1686	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	2652	144	60	499	38	92	25	180	19	11	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	94	0	0	18	0
Lane Group Flow (vph)	29	2794	0	60	534	0	92	111	0	19	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.7	137.1		10.9	141.6		9.3	18.1		3.9	12.7	
Effective Green, g (s)	4.7	135.1		8.9	140.6		7.3	17.1		3.9	12.7	
Actuated g/C Ratio	0.02	0.71		0.05	0.74		0.04	0.09		0.02	0.07	
Clearance Time (s)	4.4	6.2		4.5	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	43	3587		82	3722		131	145		36	112	
v/s Ratio Prot	0.02	c0.55		c0.03	c0.11		c0.03	c0.07		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.67	0.78		0.73	0.14		0.70	0.77		0.53	0.11	
Uniform Delay, d1	91.9	17.8		89.4	7.2		90.3	84.5		92.1	83.3	
Progression Factor	1.05	0.30		1.06	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.7	0.5		23.9	0.1		13.0	19.4		6.3	0.2	
Delay (s)	105.9	5.8		118.4	5.9		103.3	103.9		98.4	83.5	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		6.8			17.2			103.7			89.3	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	2360	218	198	411	177	181	329	535	435	271	43
Future Volume (vph)	60	2360	218	198	411	177	181	329	535	435	271	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5021		1652	4855		1652	3421	1531	3204	3466	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5021		1652	4855		1652	3421	1531	3204	3466	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	2408	222	202	419	181	185	336	546	444	277	44
RTOR Reduction (vph)	0	6	0	0	40	0	0	0	30	0	7	0
Lane Group Flow (vph)	61	2624	0	202	560	0	185	336	516	444	314	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.9	90.9		16.6	96.5		38.5	38.0	60.6	23.6	22.7	
Effective Green, g (s)	10.9	90.9		16.6	96.5		38.5	38.0	60.6	23.6	22.7	
Actuated g/C Ratio	0.06	0.48		0.09	0.51		0.20	0.20	0.32	0.12	0.12	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	94	2402		144	2465		334	684	488	397	414	
v/s Ratio Prot	0.04	c0.52		c0.12	0.12		0.11	0.10	c0.34	c0.14	0.09	
v/s Ratio Perm												
v/c Ratio	0.65	1.09		1.40	0.23		0.55	0.49	1.06	1.12	0.76	
Uniform Delay, d1	87.7	49.5		86.7	26.0		68.0	67.4	64.7	83.2	81.0	
Progression Factor	1.27	0.63		1.29	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.2	46.7		217.1	0.2		2.0	0.7	56.8	81.3	7.9	
Delay (s)	118.3	78.0		329.3	25.5		70.0	68.1	121.5	164.5	88.9	
Level of Service	F	E		F	C		E	E	F	F	F	
Approach Delay (s)		78.9			102.0			95.7			132.8	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	93.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	3136	31	59	785	79	12	19	38	60	3	27
Future Volume (vph)	137	3136	31	59	785	79	12	19	38	60	3	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	7.0		5.4	6.0			4.9	4.9	5.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5016			1828	1583	1770	1610	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.74	1.00	
Satd. Flow (perm)	1770	5078		1770	5016			1646	1583	1372	1610	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	141	3233	32	61	809	81	12	20	39	62	3	28
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	36	0	26	0
Lane Group Flow (vph)	141	3265	0	61	886	0	0	32	3	62	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	19.4	149.5		12.2	142.3			13.0	13.0	13.0	13.0	
Effective Green, g (s)	18.4	148.5		11.2	142.3			13.0	13.0	12.0	13.0	
Actuated g/C Ratio	0.10	0.78		0.06	0.75			0.07	0.07	0.06	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	171	3968		104	3756			112	108	86	110	
v/s Ratio Prot	c0.08	c0.64		0.03	0.18						0.00	
v/s Ratio Perm								0.02	0.00	c0.05		
v/c Ratio	0.82	0.82		0.59	0.24			0.29	0.02	0.72	0.04	
Uniform Delay, d1	84.2	12.7		87.1	7.3			84.1	82.6	87.4	82.7	
Progression Factor	1.09	0.30		1.00	0.72			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	0.2		5.3	0.1			0.5	0.0	22.1	0.1	
Delay (s)	94.4	4.0		92.0	5.4			84.6	82.6	109.4	82.8	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		7.8			10.9			83.5			100.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	3196	21	48	897	44	4	20	63	44	4	12
Future Volume (vph)	35	3196	21	48	897	44	4	20	63	44	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.0		6.5	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5050			1675		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.33	1.00	
Satd. Flow (perm)	1770	5080		1770	5050			1660		611	1653	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97
Adj. Flow (vph)	36	3295	22	49	925	45	4	21	68	45	4	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	58	0	0	11	0
Lane Group Flow (vph)	36	3317	0	49	969	0	0	35	0	45	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.3	151.0		11.4	154.9			12.2		12.2	12.2	
Effective Green, g (s)	5.3	151.0		9.4	154.9			12.2		12.2	12.2	
Actuated g/C Ratio	0.03	0.79		0.05	0.82			0.06		0.06	0.06	
Clearance Time (s)	4.4	6.0		4.5	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	49	4037		87	4117			106		39	106	
v/s Ratio Prot	0.02	c0.65		c0.03	c0.19						0.00	
v/s Ratio Perm								0.02		c0.07		
v/c Ratio	0.73	0.82		0.56	0.24			0.33		1.15	0.05	
Uniform Delay, d1	91.7	11.5		88.3	4.0			85.0		88.9	83.4	
Progression Factor	1.27	0.34		0.79	2.17			1.00		1.00	1.00	
Incremental Delay, d2	24.3	1.2		4.8	0.1			0.7		193.2	0.1	
Delay (s)	140.7	5.1		74.6	8.8			85.7		282.1	83.5	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		6.5			12.0			85.7			230.0	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	17.6
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	2982	203	96	898	81	35	72	97	27	47	88
Future Volume (vph)	113	2982	203	96	898	81	35	72	97	27	47	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5037		1770	5022		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5037		1770	5022		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	3139	214	101	945	85	37	76	102	28	49	93
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	95	0	0	87
Lane Group Flow (vph)	119	3350	0	101	1026	0	37	76	7	28	49	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	17.1	137.3		16.9	136.6		4.6	12.2	12.2	3.9	11.5	11.5
Effective Green, g (s)	17.1	137.3		16.9	136.6		4.6	12.2	12.2	3.9	11.5	11.5
Actuated g/C Ratio	0.09	0.72		0.09	0.72		0.02	0.06	0.06	0.02	0.06	0.06
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	159	3639		157	3610		42	119	101	36	112	95
v/s Ratio Prot	c0.07	c0.67		0.06	0.20		c0.02	c0.04		0.02	0.03	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.75	0.92		0.64	0.28		0.88	0.64	0.06	0.78	0.44	0.06
Uniform Delay, d1	84.4	21.8		83.6	9.4		92.4	86.7	83.5	92.6	86.1	84.1
Progression Factor	0.90	0.59		0.86	0.83		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5	3.1		6.2	0.2		91.7	8.0	0.1	62.5	1.0	0.1
Delay (s)	85.2	16.0		78.0	8.0		184.1	94.8	83.6	155.1	87.1	84.2
Level of Service	F	B		E	A		F	F	F	F	F	F
Approach Delay (s)		18.4			14.3			104.9			96.7	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	2515	260	71	956	73	148	136	34	44	112	70
Future Volume (vph)	139	2515	260	71	956	73	148	136	34	44	112	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3434		1770	3336	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3434		1770	3336	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	148	2676	277	76	1017	78	157	145	36	47	119	74
RTOR Reduction (vph)	0	6	0	0	0	33	0	11	0	0	56	0
Lane Group Flow (vph)	148	2947	0	76	1017	45	157	170	0	47	137	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	20.1	119.3		11.6	110.8	110.8	25.0	25.0		14.2	14.2	
Effective Green, g (s)	20.1	119.3		11.6	110.8	110.8	25.0	25.0		14.2	14.2	
Actuated g/C Ratio	0.11	0.63		0.06	0.58	0.58	0.13	0.13		0.07	0.07	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	187	3148		108	2965	923	232	451		132	249	
v/s Ratio Prot	c0.08	c0.59		0.04	0.20		c0.09	0.05		0.03	c0.04	
v/s Ratio Perm						0.03						
v/c Ratio	0.79	0.94		0.70	0.34	0.05	0.68	0.38		0.36	0.55	
Uniform Delay, d1	82.9	31.9		87.5	20.6	17.0	78.6	75.4		83.6	84.8	
Progression Factor	1.23	0.38		1.25	0.37	0.01	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.0	3.3		13.7	0.3	0.1	8.0	0.7		2.5	3.5	
Delay (s)	111.1	15.6		123.1	7.8	0.3	86.7	76.0		86.0	88.3	
Level of Service	F	B		F	A	A	F	E		F	F	
Approach Delay (s)		20.1			14.8			81.0			87.9	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	2163	63	339	981	258	139	612	158	326	474	129
Future Volume (vph)	236	2163	63	339	981	258	139	612	158	326	474	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3426	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3426	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	243	2230	65	349	1011	266	143	631	163	336	489	133
RTOR Reduction (vph)	0	2	0	0	0	122	0	0	81	0	13	0
Lane Group Flow (vph)	243	2293	0	349	1011	144	143	631	82	336	609	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	22.3	94.4		22.0	94.2	94.2	17.3	33.7	33.7	20.1	36.3	
Effective Green, g (s)	22.3	94.4		22.0	94.2	94.2	17.3	33.7	33.7	20.1	36.3	
Actuated g/C Ratio	0.12	0.50		0.12	0.50	0.50	0.09	0.18	0.18	0.11	0.19	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	376	2348		370	2437	732	155	841	262	363	654	
v/s Ratio Prot	0.08	c0.49		c0.11	0.21		c0.08	0.13		0.10	c0.18	
v/s Ratio Perm						0.10			0.06			
v/c Ratio	0.65	0.98		0.94	0.41	0.20	0.92	0.75	0.31	0.93	0.93	
Uniform Delay, d1	80.1	46.7		83.4	30.4	26.8	85.7	74.2	68.0	84.2	75.6	
Progression Factor	0.62	0.37		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	7.3		32.0	0.5	0.6	49.1	4.3	1.2	28.5	20.4	
Delay (s)	51.0	24.6		115.4	30.9	27.4	134.8	78.4	69.2	112.7	96.0	
Level of Service	D	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		27.1			48.5			85.4			101.9	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	68	362	306	75	260	439
Future Volume (vph)	68	362	306	75	260	439
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3435		1721	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3435		1721	1504
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	402	340	83	289	488
RTOR Reduction (vph)	0	0	35	0	22	158
Lane Group Flow (vph)	76	402	388	0	384	213
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	5.7	23.5	13.8		16.1	26.3
Effective Green, g (s)	5.7	23.5	13.8		16.1	26.3
Actuated g/C Ratio	0.12	0.48	0.28		0.33	0.54
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	205	891	965		564	805
v/s Ratio Prot	0.04	c0.22	0.11		c0.22	0.14
v/s Ratio Perm						
v/c Ratio	0.37	0.45	0.40		0.68	0.26
Uniform Delay, d1	20.0	8.5	14.3		14.3	6.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.8	0.6		3.4	0.2
Delay (s)	20.5	9.3	14.9		17.7	6.3
Level of Service	C	A	B		B	A
Approach Delay (s)		11.1	14.9		12.3	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	49.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1093	16	15	290	36	13	1	51	267	2	41
Future Volume (vph)	5	1093	16	15	290	36	13	1	51	267	2	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1859		1770	1832			1649			1754	
Flt Permitted	0.53	1.00		0.07	1.00			0.93			0.75	
Satd. Flow (perm)	982	1859		132	1832			1550			1376	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1175	17	16	312	39	14	1	55	287	2	44
RTOR Reduction (vph)	0	1	0	0	5	0	0	41	0	0	6	0
Lane Group Flow (vph)	5	1191	0	16	346	0	0	29	0	0	327	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	57.1	57.1		56.5	56.5			22.4			22.4	
Effective Green, g (s)	57.1	57.1		56.5	56.5			22.4			22.4	
Actuated g/C Ratio	0.64	0.64		0.63	0.63			0.25			0.25	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	627	1188		83	1159			388			345	
v/s Ratio Prot		c0.64			0.19							
v/s Ratio Perm	0.01			0.12				0.02			c0.24	
v/c Ratio	0.01	1.00		0.19	0.30			0.07			0.95	
Uniform Delay, d1	5.8	16.1		6.9	7.4			25.5			32.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	26.8		1.0	0.1			0.0			34.3	
Delay (s)	5.8	42.9		7.9	7.6			25.6			67.2	
Level of Service	A	D		A	A			C			E	
Approach Delay (s)		42.7			7.6			25.6			67.2	
Approach LOS		D			A			C			E	

Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	10.4
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	499	302	505	84	77	172	139	1562	81	104	1124	146
Future Volume (vph)	499	302	505	84	77	172	139	1562	81	104	1124	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1893		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1893		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	548	332	555	92	85	189	153	1716	89	114	1235	160
RTOR Reduction (vph)	0	0	147	0	56	0	0	0	26	0	0	47
Lane Group Flow (vph)	548	332	408	92	218	0	153	1716	63	114	1235	113
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	37.2	37.2	52.7	21.1	21.1		15.5	52.5	73.6	10.6	47.6	90.5
Effective Green, g (s)	37.2	37.2	52.7	21.1	21.1		15.5	52.5	73.6	10.6	47.6	90.5
Actuated g/C Ratio	0.26	0.26	0.37	0.15	0.15		0.11	0.37	0.52	0.07	0.33	0.64
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	431	454	566	244	280		186	1218	818	123	1144	973
v/s Ratio Prot	c0.33	0.19	0.27	0.06	c0.12		c0.09	c0.52	0.04	0.07	0.36	0.07
v/s Ratio Perm												
v/c Ratio	1.27	0.73	0.72	0.38	0.78		0.82	1.41	0.08	0.93	1.08	0.12
Uniform Delay, d1	52.6	48.0	38.5	54.7	58.3		62.1	44.9	17.3	65.5	47.4	10.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	139.3	5.4	4.0	0.9	12.6		23.4	188.9	0.0	57.7	50.8	0.1
Delay (s)	191.9	53.3	42.5	55.6	71.0		85.5	233.8	17.3	123.1	98.2	10.2
Level of Service	F	D	D	E	E		F	F	B	F	F	B
Approach Delay (s)		102.0			67.1			212.4			90.7	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	137.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	142.3	Sum of lost time (s)	20.9
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	159	0	16	0	156	65	15	498	0
Future Volume (vph)	1	0	1	159	0	16	0	156	65	15	498	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			7.0	7.0		7.0	6.0	4.5	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	0	1	185	0	19	0	181	76	17	579	0
RTOR Reduction (vph)	0	2	0	0	0	16	0	0	23	0	0	0
Lane Group Flow (vph)	0	0	0	0	185	3	0	181	53	17	579	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.7			9.3	9.3		23.9	38.2	0.6	29.0	
Effective Green, g (s)		0.0			7.3	7.3		21.9	37.2	0.6	29.0	
Actuated g/C Ratio		0.00			0.14	0.14		0.41	0.70	0.01	0.54	
Clearance Time (s)		4.5			5.0	5.0		5.0		4.5	5.0	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		0			241	215		762	1100	19	1009	
v/s Ratio Prot					c0.10			0.10	0.03	0.01	c0.31	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.77	0.01		0.24	0.05	0.89	0.57	
Uniform Delay, d1		26.8			22.3	20.0		10.3	2.6	26.4	8.1	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			12.4	0.0		0.2	0.0	152.8	0.8	
Delay (s)		26.8			34.6	20.0		10.5	2.6	179.2	8.9	
Level of Service		C			C	B		B	A	F	A	
Approach Delay (s)		26.8			33.3			8.2			13.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	53.5	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	767	198	93	263	6	114	7	180	67	76	113
Future Volume (vph)	19	767	198	93	263	6	114	7	180	67	76	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3430		1770	3528		1770	1863	1583	1770	1695	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3430		1770	3528		1770	1863	1583	1770	1695	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	799	206	97	274	6	119	7	188	70	79	118
RTOR Reduction (vph)	0	23	0	0	2	0	0	0	62	0	72	0
Lane Group Flow (vph)	20	982	0	97	278	0	119	7	126	70	125	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	0.9	29.0		4.7	33.3		5.7	12.5	22.1	3.5	10.3	
Effective Green, g (s)	0.9	29.0		4.7	33.3		5.7	12.5	22.1	3.5	10.3	
Actuated g/C Ratio	0.01	0.42		0.07	0.48		0.08	0.18	0.32	0.05	0.15	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	22	1431		119	1690		145	335	503	89	251	
v/s Ratio Prot	0.01	c0.29		c0.05	c0.08		c0.07	0.00	0.08	0.04	c0.07	
v/s Ratio Perm												
v/c Ratio	0.91	0.69		0.82	0.16		0.82	0.02	0.25	0.79	0.50	
Uniform Delay, d1	34.3	16.5		32.0	10.2		31.4	23.5	17.6	32.6	27.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	146.5	1.3		31.8	0.0		28.4	0.0	0.1	33.2	0.6	
Delay (s)	180.7	17.8		63.7	10.3		59.8	23.5	17.7	65.9	27.8	
Level of Service	F	B		E	B		E	C	B	E	C	
Approach Delay (s)		21.0			24.0			33.8			37.8	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	19.8
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	1049	367	229	1553	111	246	23	225	431	77	348
Future Volume (vph)	64	1049	367	229	1553	111	246	23	225	431	77	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5035		1681	1699	1583	1610	3037	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5035		1681	1699	1583	1610	3037	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	1070	374	234	1585	113	251	23	230	440	79	355
RTOR Reduction (vph)	0	0	241	0	5	0	0	0	197	0	168	0
Lane Group Flow (vph)	65	1070	133	234	1693	0	136	138	33	304	402	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	8.8	53.4	53.4	14.1	58.7		17.2	17.2	17.2	45.8	45.8	
Effective Green, g (s)	8.8	53.4	53.4	14.1	58.7		17.2	17.2	17.2	45.8	45.8	
Actuated g/C Ratio	0.06	0.36	0.36	0.09	0.39		0.11	0.11	0.11	0.31	0.31	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	103	1810	563	322	1970		192	194	181	491	927	
v/s Ratio Prot	0.04	0.21		c0.07	c0.34		0.08	c0.08		c0.19	0.13	
v/s Ratio Perm			0.08						0.02			
v/c Ratio	0.63	0.59	0.24	0.73	0.86		0.71	0.71	0.18	0.62	0.43	
Uniform Delay, d1	69.0	39.4	34.0	66.1	41.9		64.0	64.0	60.1	44.6	41.7	
Progression Factor	1.00	1.00	1.00	1.38	0.63		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.9	1.4	1.0	4.4	3.4		9.4	9.8	0.2	4.1	0.9	
Delay (s)	77.9	40.8	35.0	95.8	29.7		73.3	73.8	60.2	48.7	42.7	
Level of Service	E	D	C	F	C		E	E	E	D	D	
Approach Delay (s)		41.0			37.7			67.5			44.8	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1569	174	465	1498	292	212	59	721	973	243	182
Future Volume (vph)	25	1569	174	465	1498	292	212	59	721	973	243	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	1687	187	500	1611	314	228	63	775	1046	261	196
RTOR Reduction (vph)	0	0	106	0	0	113	0	0	50	0	0	49
Lane Group Flow (vph)	27	1687	81	500	1611	201	228	63	725	1046	261	147
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.1	42.4	42.4	18.1	57.1	96.0	13.9	36.1	59.2	33.6	55.5	64.9
Effective Green, g (s)	4.1	42.4	42.4	18.1	57.1	96.0	13.9	36.1	59.2	33.6	55.5	64.9
Actuated g/C Ratio	0.03	0.28	0.28	0.12	0.38	0.64	0.09	0.24	0.39	0.22	0.37	0.43
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	93	1437	447	414	1935	1783	318	851	1099	768	1309	684
v/s Ratio Prot	0.01	c0.33		c0.15	0.32	0.07	0.07	0.02	c0.26	c0.30	0.07	0.09
v/s Ratio Perm			0.05									
v/c Ratio	0.29	1.17	0.18	1.21	0.83	0.11	0.72	0.07	0.66	1.36	0.20	0.22
Uniform Delay, d1	71.5	53.8	40.7	66.0	42.1	10.5	66.1	44.0	37.2	58.2	32.1	26.6
Progression Factor	1.15	0.68	0.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	85.0	0.8	114.2	4.4	0.0	6.3	0.1	2.1	171.3	0.1	0.3
Delay (s)	82.5	121.5	13.3	180.1	46.5	10.5	72.4	44.1	39.2	229.5	32.3	26.9
Level of Service	F	F	B	F	D	B	E	D	D	F	C	C
Approach Delay (s)		110.3			69.4			46.6			168.8	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	98.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2078	1138	0	1381	882	0	0	0	255	0	813
Future Volume (vph)	0	2078	1138	0	1381	882	0	0	0	255	0	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	0	2211	1211	0	1469	938	0	0	0	271	0	865
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	28
Lane Group Flow (vph)	0	2211	1211	0	1469	938	0	0	0	271	0	837
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		79.7	138.0		79.7	138.0				46.1		46.1
Effective Green, g (s)		79.7	138.0		79.7	133.3				46.1		46.1
Actuated g/C Ratio		0.58	1.00		0.58	0.97				0.33		0.33
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2936	2787		2936	1529				1146		931
v/s Ratio Prot		c0.43			0.29	0.59				0.08		c0.30
v/s Ratio Perm			0.43									
v/c Ratio		0.75	0.43		0.50	0.61				0.24		0.90
Uniform Delay, d1		21.8	0.0		17.3	0.2				33.2		43.7
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		1.8	0.5		0.6	0.5				0.0		11.1
Delay (s)		23.6	0.5		17.9	0.7				33.3		54.8
Level of Service		C	A		B	A				C		D
Approach Delay (s)		15.4			11.2			0.0			49.7	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1162	1277	0	1677	850	480	0	191	0	0	0
Future Volume (vph)	0	1162	1277	0	1677	850	480	0	191	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	5.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1198	1316	0	1729	876	495	0	197	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	159	0	0	0
Lane Group Flow (vph)	0	1198	1316	0	1729	876	495	0	38	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		99.5	138.0		99.5	138.0	26.3		26.3			
Effective Green, g (s)		99.5	133.3		99.5	138.0	25.3		26.3			
Actuated g/C Ratio		0.72	0.97		0.72	1.00	0.18		0.19			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3666	1529		4620	1583	629		531			
v/s Ratio Prot		0.24	c0.83		0.27		0.14					
v/s Ratio Perm						0.55			0.01			
v/c Ratio		0.33	0.86		0.37	0.55	0.79		0.07			
Uniform Delay, d1		7.0	0.5		7.4	0.0	53.8		45.8			
Progression Factor		0.71	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.2	3.7		0.2	1.4	6.0		0.0			
Delay (s)		5.1	4.2		7.6	1.4	59.7		45.8			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		4.6			5.5			55.8			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	555	528	295	1105	0	0
Future Volume (vph)	555	528	295	1105	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	572	544	304	1139	0	0
RTOR Reduction (vph)	0	118	0	0	0	0
Lane Group Flow (vph)	572	426	304	1139	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	65.9	65.9	12.4	90.0		
Effective Green, g (s)	65.9	65.9	12.4	90.0		
Actuated g/C Ratio	0.73	0.73	0.14	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2591	2040	472	5085		
v/s Ratio Prot	0.16		c0.09	c0.22		
v/s Ratio Perm		0.15				
v/c Ratio	0.22	0.21	0.64	0.22		
Uniform Delay, d1	3.8	3.8	36.7	0.0		
Progression Factor	1.00	1.00	0.79	1.00		
Incremental Delay, d2	0.2	0.2	2.1	0.1		
Delay (s)	4.0	4.0	31.0	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	4.0			6.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	532	0	0	816	656	773
Future Volume (vph)	0	532	0	0	816	656	773
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	585	0	0	897	721	849
RTOR Reduction (vph)	0	0	0	0	0	0	243
Lane Group Flow (vph)	0	585	0	0	897	721	606
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		52.3			52.3	26.0	26.0
Effective Green, g (s)		52.3			52.3	26.0	26.0
Actuated g/C Ratio		0.58			0.58	0.29	0.29
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2056			2954	991	805
v/s Ratio Prot		0.17			c0.18	0.21	
v/s Ratio Perm							c0.22
v/c Ratio		0.28			0.30	0.73	0.75
Uniform Delay, d1		9.5			9.6	28.8	29.1
Progression Factor		1.00			1.00	1.00	1.00
Incremental Delay, d2		0.3			0.3	2.3	3.6
Delay (s)		9.8			9.9	31.1	32.6
Level of Service		A			A	C	C
Approach Delay (s)		9.8			9.9	31.9	
Approach LOS		A			A	C	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1245	64	730	2417	190	1118
Future Volume (vph)	1245	64	730	2417	190	1118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6361		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6361		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1270	65	745	2466	194	1141
RTOR Reduction (vph)	4	0	0	0	0	2
Lane Group Flow (vph)	1331	0	745	2466	194	1139
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	54.4		40.9	100.0	49.6	94.9
Effective Green, g (s)	54.4		40.9	100.0	49.6	94.9
Actuated g/C Ratio	0.34		0.26	0.62	0.31	0.59
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2162		877	4005	548	1653
v/s Ratio Prot	0.21		c0.22	c0.38	0.11	c0.41
v/s Ratio Perm						
v/c Ratio	0.62		0.85	0.62	0.35	0.69
Uniform Delay, d1	44.1		56.6	18.3	42.8	22.4
Progression Factor	1.00		0.54	1.34	1.00	1.00
Incremental Delay, d2	1.3		0.7	0.1	0.1	1.0
Delay (s)	45.4		31.0	24.5	42.9	23.4
Level of Service	D		C	C	D	C
Approach Delay (s)	45.4			26.0	26.2	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	145	2220	0	2796	198	990	357
Future Volume (vph)	145	2220	0	2796	198	990	357
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (prot)	3433	5085		5085	1583	3347	
Flt Permitted	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (perm)	3433	5085		5085	1583	3347	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	146	2242	0	2824	200	1000	361
RTOR Reduction (vph)	0	0	0	0	2	24	0
Lane Group Flow (vph)	146	2242	0	2824	198	1337	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	7.6	92.5		81.4	143.6	56.8	
Effective Green, g (s)	7.6	92.5		81.4	143.6	56.8	
Actuated g/C Ratio	0.05	0.58		0.51	0.90	0.35	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	163	2939		2586	1420	1188	
v/s Ratio Prot	0.04	c0.44		c0.56	0.13	c0.40	
v/s Ratio Perm							
v/c Ratio	0.90	0.76		1.09	0.14	1.13	
Uniform Delay, d1	75.8	25.5		39.3	1.0	51.6	
Progression Factor	0.86	0.89		0.48	1.28	1.00	
Incremental Delay, d2	34.2	1.5		46.2	0.1	67.8	
Delay (s)	99.8	24.1		65.0	1.3	119.4	
Level of Service	F	C		E	A	F	
Approach Delay (s)		28.7		60.8		119.4	
Approach LOS		C		E		F	

Intersection Summary			
HCM 2000 Control Delay	61.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	3073	2956	31	103	72
Future Volume (vph)	26	3073	2956	31	103	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	3201	3079	32	107	75
RTOR Reduction (vph)	0	0	0	3	0	61
Lane Group Flow (vph)	27	3201	3079	29	107	14
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.9	135.2	126.3	126.3	14.1	14.1
Effective Green, g (s)	4.9	135.2	126.3	126.3	14.1	14.1
Actuated g/C Ratio	0.03	0.84	0.79	0.79	0.09	0.09
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	54	4296	4013	1249	155	139
v/s Ratio Prot	0.02	c0.63	c0.61		c0.06	
v/s Ratio Perm				0.02		0.01
v/c Ratio	0.50	0.75	0.77	0.02	0.69	0.10
Uniform Delay, d1	76.3	5.2	9.0	3.6	70.8	67.1
Progression Factor	1.09	0.33	0.98	0.50	1.00	1.00
Incremental Delay, d2	1.2	0.6	1.0	0.0	10.2	0.1
Delay (s)	84.5	2.2	9.9	1.8	81.0	67.2
Level of Service	F	A	A	A	F	E
Approach Delay (s)		2.9	9.8		75.3	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	31	3288	0	2802	41	98	108
Future Volume (vph)	31	3288	0	2802	41	98	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3331	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3331	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	3461	0	2949	43	103	114
RTOR Reduction (vph)	0	0	0	0	2	39	63
Lane Group Flow (vph)	33	3461	0	2949	41	110	5
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	7.3	138.8		126.6	126.6	10.6	10.6
Effective Green, g (s)	7.3	138.8		126.6	126.6	10.6	10.6
Actuated g/C Ratio	0.05	0.87		0.79	0.79	0.07	0.07
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	80	4411		4023	1252	220	95
v/s Ratio Prot	0.02	c0.68		0.58		c0.03	
v/s Ratio Perm					0.03		0.00
v/c Ratio	0.41	0.78		0.73	0.03	0.50	0.05
Uniform Delay, d1	74.3	4.4		8.3	3.6	72.1	70.0
Progression Factor	0.82	1.46		0.74	0.63	1.00	1.00
Incremental Delay, d2	2.4	1.0		0.4	0.0	1.8	0.2
Delay (s)	63.5	7.5		6.5	2.3	73.9	70.2
Level of Service	E	A		A	A	E	E
Approach Delay (s)		8.0		6.4		72.7	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1338	1921	92	20	1364	71	49	61	8	108	1	1478
Future Volume (vph)	1338	1921	92	20	1364	71	49	61	8	108	1	1478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5050		3204	5048		1652	1829		1625	1630	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5050		3204	5048		1652	1829		1625	1630	2787
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1439	2066	99	22	1467	76	53	66	9	116	1	1589
RTOR Reduction (vph)	0	3	0	0	4	0	0	4	0	0	0	252
Lane Group Flow (vph)	1439	2162	0	22	1539	0	53	71	0	58	59	1337
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	49.6	92.5		2.4	45.4		10.6	10.6		33.9	33.9	89.0
Effective Green, g (s)	49.6	92.5		2.4	45.4		10.6	10.6		33.9	33.9	89.0
Actuated g/C Ratio	0.31	0.58		0.01	0.28		0.07	0.07		0.21	0.21	0.56
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	993	2919		48	1432		109	121		344	345	1550
v/s Ratio Prot	c0.45	0.43		0.01	c0.30		0.03	c0.04		0.04	0.04	c0.48
v/s Ratio Perm												
v/c Ratio	1.45	0.74		0.46	1.08		0.49	0.59		0.17	0.17	0.86
Uniform Delay, d1	55.2	24.9		78.2	57.3		72.1	72.6		51.5	51.6	30.3
Progression Factor	1.00	1.04		1.11	0.95		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	205.7	1.1		2.5	46.6		1.2	4.7		0.2	0.2	5.2
Delay (s)	261.1	27.0		88.9	100.7		73.3	77.2		51.7	51.8	35.5
Level of Service	F	C		F	F		E	E		D	D	D
Approach Delay (s)		120.5			100.6			75.6			36.6	
Approach LOS		F			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	94.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	89	1915	0	964	137	436	156
Future Volume (vph)	89	1915	0	964	137	436	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3201	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3201	1585
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	93	1995	0	1004	143	454	162
RTOR Reduction (vph)	0	0	0	0	20	2	121
Lane Group Flow (vph)	93	1995	0	1004	123	468	26
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	13.1	121.3		103.5	137.6	28.1	28.1
Effective Green, g (s)	13.1	121.3		103.5	137.6	28.1	28.1
Actuated g/C Ratio	0.08	0.76		0.65	0.86	0.18	0.18
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	140	3726		3180	1271	562	278
v/s Ratio Prot	c0.05	c0.41		0.20	0.08	c0.15	
v/s Ratio Perm							0.02
v/c Ratio	0.66	0.54		0.32	0.10	0.83	0.09
Uniform Delay, d1	71.3	7.9		12.5	1.7	63.7	55.3
Progression Factor	1.36	0.13		2.20	2.45	1.00	1.00
Incremental Delay, d2	6.4	0.4		0.2	0.0	9.8	0.1
Delay (s)	103.4	1.4		27.9	4.2	73.5	55.3
Level of Service	F	A		C	A	E	E
Approach Delay (s)		6.0		24.9		69.2	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	385	2350	961	1093	708	165
Future Volume (vph)	385	2350	961	1093	708	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.95	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4393	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4393	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	389	2374	971	1104	715	167
RTOR Reduction (vph)	0	0	58	255	0	82
Lane Group Flow (vph)	389	2374	1465	297	715	85
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	23.8	114.0	86.0	86.0	35.0	63.8
Effective Green, g (s)	23.8	114.0	86.0	86.0	35.0	63.8
Actuated g/C Ratio	0.15	0.71	0.54	0.54	0.22	0.40
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	476	3381	2361	683	700	1037
v/s Ratio Prot	c0.12	c0.50	0.33		c0.22	0.03
v/s Ratio Perm				0.23		
v/c Ratio	0.82	0.70	0.62	0.43	1.02	0.08
Uniform Delay, d1	66.0	13.2	25.7	22.3	62.5	29.9
Progression Factor	0.94	1.62	0.79	3.63	1.00	1.00
Incremental Delay, d2	9.0	1.1	0.9	1.5	39.5	0.0
Delay (s)	71.0	22.5	21.3	82.6	102.0	29.9
Level of Service	E	C	C	F	F	C
Approach Delay (s)		29.3	37.6		88.4	
Approach LOS		C	D		F	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	2834	159	127	1803	40	300	55	303	86	45	41
Future Volume (vph)	47	2834	159	127	1803	40	300	55	303	86	45	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.98	
Satd. Flow (prot)	1770	5085	1583	3433	5069		1681	1560	1504		1759	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.98	
Satd. Flow (perm)	1770	5085	1583	3433	5069		1681	1560	1504		1759	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	2983	167	134	1898	42	316	58	319	91	47	43
RTOR Reduction (vph)	0	0	34	0	1	0	0	18	93	0	7	0
Lane Group Flow (vph)	49	2983	133	134	1939	0	240	218	124	0	174	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	7.2	89.3	89.3	9.4	91.1		27.4	27.4	27.4		14.5	
Effective Green, g (s)	7.2	89.3	89.3	9.4	91.1		27.4	27.4	27.4		14.5	
Actuated g/C Ratio	0.05	0.56	0.56	0.06	0.57		0.17	0.17	0.17		0.09	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	79	2838	883	201	2886		287	267	257		159	
v/s Ratio Prot	0.03	c0.59		c0.04	0.38		c0.14	0.14			c0.10	
v/s Ratio Perm			0.08						0.08			
v/c Ratio	0.62	1.05	0.15	0.67	0.67		0.84	0.82	0.48		1.09	
Uniform Delay, d1	75.1	35.4	17.1	73.8	24.0		64.1	63.9	59.9		72.8	
Progression Factor	1.10	0.87	0.64	0.59	2.21		1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.8	29.5	0.2	5.0	1.0		17.9	16.4	0.5		98.3	
Delay (s)	89.3	60.1	11.1	48.7	54.1		82.0	80.3	60.4		171.0	
Level of Service	F	E	B	D	D		F	F	E		F	
Approach Delay (s)		58.0			53.7			74.7			171.0	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	61.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	214	2792	0	1856	166	537	191
Future Volume (vph)	214	2792	0	1856	166	537	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	5.2		5.8		4.5	5.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5023		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5023		3433	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	221	2878	0	1913	171	554	197
RTOR Reduction (vph)	0	0	0	6	0	0	159
Lane Group Flow (vph)	221	2878	0	2078	0	554	38
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	14.3	118.2		99.3		32.1	32.1
Effective Green, g (s)	11.3	118.2		99.3		32.1	31.1
Actuated g/C Ratio	0.07	0.74		0.62		0.20	0.19
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	242	3756		3117		688	541
v/s Ratio Prot	0.06	c0.57		0.41		c0.16	
v/s Ratio Perm							0.01
v/c Ratio	0.91	0.77		0.67		0.81	0.07
Uniform Delay, d1	73.9	12.6		19.6		61.0	52.6
Progression Factor	1.27	0.46		0.60		1.00	1.00
Incremental Delay, d2	5.2	0.1		0.8		7.2	0.1
Delay (s)	99.0	5.9		12.6		68.2	52.7
Level of Service	F	A		B		E	D
Approach Delay (s)		12.6		12.6		64.1	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	2264	1079	36	1283	164	589	436	32	273	561	51
Future Volume (vph)	60	2264	1079	36	1283	164	589	436	32	273	561	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4999		2841	3050		3204	3495	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4999		2841	3050		3204	3495	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	61	2287	1090	36	1296	166	595	440	32	276	567	52
RTOR Reduction (vph)	0	0	16	0	10	0	0	2	0	0	4	0
Lane Group Flow (vph)	61	2287	1074	36	1452	0	524	541	0	276	615	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	7.6	71.7	108.6	3.3	67.3		36.9	36.9		26.2	26.2	
Effective Green, g (s)	7.6	71.7	108.6	3.3	67.3		36.9	36.9		26.2	26.2	
Actuated g/C Ratio	0.05	0.45	0.68	0.02	0.42		0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	2202	1003	37	2102		655	703		524	572	
v/s Ratio Prot	c0.03	0.47	c0.73	0.02	0.29		0.18	0.18		0.09	c0.18	
v/s Ratio Perm												
v/c Ratio	0.66	1.04	1.07	0.97	0.69		0.80	0.77		0.53	1.07	
Uniform Delay, d1	74.9	44.1	25.7	78.3	37.9		58.1	57.6		61.2	66.9	
Progression Factor	1.23	0.69	0.54	1.17	0.69		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.8	26.5	44.3	128.7	1.7		6.9	5.1		1.0	59.3	
Delay (s)	102.7	56.8	58.2	220.4	27.9		65.0	62.6		62.2	126.2	
Level of Service	F	E	E	F	C		E	E		E	F	
Approach Delay (s)		58.1			32.5			63.8			106.5	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	2641	102	44	1610	22	34	9	135	89	10	42
Future Volume (vph)	35	2641	102	44	1610	22	34	9	135	89	10	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5057		1770	5075			1656			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.48	
Satd. Flow (perm)	1770	5057		1770	5075			1524			854	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	36	2695	104	45	1643	22	35	9	138	91	10	43
RTOR Reduction (vph)	0	2	0	0	1	0	0	77	0	0	10	0
Lane Group Flow (vph)	36	2797	0	45	1664	0	0	105	0	0	134	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.4	113.0		7.1	113.2			25.3			25.3	
Effective Green, g (s)	6.4	113.0		7.1	113.2			25.3			25.3	
Actuated g/C Ratio	0.04	0.71		0.04	0.71			0.16			0.16	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	70	3571		78	3590			240			135	
v/s Ratio Prot	0.02	c0.55		c0.03	0.33							
v/s Ratio Perm								0.07			c0.16	
v/c Ratio	0.51	0.78		0.58	0.46			0.44			0.99	
Uniform Delay, d1	75.3	15.4		75.0	10.2			60.9			67.2	
Progression Factor	1.03	0.58		0.94	1.28			1.00			1.00	
Incremental Delay, d2	1.2	0.8		5.7	0.4			0.5			74.6	
Delay (s)	78.8	9.8		76.2	13.4			61.4			141.9	
Level of Service	E	A		E	B			E			F	
Approach Delay (s)		10.6			15.1			61.4			141.9	
Approach LOS		B			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1509	1343	0	995	875	0	0	0	27	0	594
Future Volume (vph)	0	1509	1343	0	995	875	0	0	0	27	0	594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1556	1385	0	1026	902	0	0	0	28	0	612
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	202
Lane Group Flow (vph)	0	1556	1385	0	1026	902	0	0	0	28	0	410
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		121.2	160.0		121.2	160.0				27.7		27.7
Effective Green, g (s)		121.2	160.0		121.2	160.0				27.7		27.7
Actuated g/C Ratio		0.76	1.00		0.76	1.00				0.17		0.17
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2680	1583		2680	2787				594		482
v/s Ratio Prot		0.44			0.29					0.01		
v/s Ratio Perm			c0.87			0.32						0.15
v/c Ratio		0.58	0.87		0.38	0.32				0.05		0.85
Uniform Delay, d1		8.4	0.0		6.6	0.0				55.1		64.2
Progression Factor		0.91	1.00		0.54	1.00				1.00		1.00
Incremental Delay, d2		0.6	4.7		0.4	0.3				0.0		13.0
Delay (s)		8.2	4.7		4.0	0.3				55.2		77.2
Level of Service		A	A		A	A				E		E
Approach Delay (s)		6.5			2.3			0.0			76.2	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	432	1092	0	1142	154	701	0	689	0	0	0
Future Volume (vph)	0	432	1092	0	1142	154	701	0	689	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	441	1114	0	1165	157	715	0	703	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	358	0	0	0
Lane Group Flow (vph)	0	441	1114	0	1165	157	715	0	345	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		107.1	160.0		107.1	160.0	39.8		39.8			
Effective Green, g (s)		107.1	160.0		107.1	160.0	39.8		39.8			
Actuated g/C Ratio		0.67	1.00		0.67	1.00	0.25		0.25			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2368	1583		4289	1583	853		693			
v/s Ratio Prot		0.12			0.18		c0.21					
v/s Ratio Perm			c0.70			0.10			0.12			
v/c Ratio		0.19	0.70		0.27	0.10	0.84		0.50			
Uniform Delay, d1		10.0	0.0		10.7	0.0	57.0		51.5			
Progression Factor		1.07	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	2.2		0.2	0.1	6.9		0.2			
Delay (s)		10.8	2.2		10.8	0.1	64.0		51.7			
Level of Service		B	A		B	A	E		D			
Approach Delay (s)		4.6			9.6			57.9			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	572	319	75	28	57	138	888	629	279	479	43
Future Volume (vph)	100	572	319	75	28	57	138	888	629	279	479	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.95			0.95		1.00	0.94		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3351			3273		1770	4769		1770	5023	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3351			3273		1770	4769		1770	5023	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	602	336	79	29	60	145	935	662	294	504	45
RTOR Reduction (vph)	0	37	0	0	54	0	0	83	0	0	7	0
Lane Group Flow (vph)	0	1006	0	0	114	0	145	1514	0	294	542	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		37.1			11.9		13.1	37.0		17.6	41.1	
Effective Green, g (s)		37.1			11.9		13.1	37.0		17.6	41.1	
Actuated g/C Ratio		0.30			0.10		0.11	0.30		0.14	0.33	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		1004			314		187	1425		251	1667	
v/s Ratio Prot		c0.30			c0.03		0.08	c0.32		c0.17	0.11	
v/s Ratio Perm												
v/c Ratio		1.00			0.36		0.78	1.19dr		1.17	0.33	
Uniform Delay, d1		43.3			52.4		53.9	43.4		53.1	31.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		28.9			1.7		17.0	42.4		111.1	0.1	
Delay (s)		72.2			54.1		71.0	85.8		164.2	31.1	
Level of Service		E			D		E	F		F	C	
Approach Delay (s)		72.2			54.1			84.6			77.5	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	78.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	123.8	Sum of lost time (s)	20.6
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	3	31	31	0	41	5	1578	73	98	887	18
Future Volume (vph)	131	3	31	31	0	41	5	1578	73	98	887	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711	1863	1794	1770		1583	3204	4883		1770	5070	
Flt Permitted	0.95	1.00	1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711	1863	1794	1770		1583	3204	4883		1770	5070	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	141	3	33	33	0	44	5	1697	78	105	954	19
RTOR Reduction (vph)	0	0	28	0	0	41	0	4	0	0	1	0
Lane Group Flow (vph)	141	3	5	33	0	3	5	1771	0	105	972	0
Turn Type	Prot	NA	Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	8.7	11.7	11.7	1.5		4.5	0.7	35.6		4.0	38.9	
Effective Green, g (s)	8.7	11.7	11.7	1.5		4.5	0.7	35.6		4.0	38.9	
Actuated g/C Ratio	0.12	0.16	0.16	0.02		0.06	0.01	0.49		0.06	0.54	
Clearance Time (s)	4.4	4.9	4.9	4.4		4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.0		2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	205	300	289	36		98	30	2397		97	2720	
v/s Ratio Prot	c0.08	0.00		0.02			0.00	c0.36		c0.06	c0.19	
v/s Ratio Perm			c0.00			0.00						
v/c Ratio	0.69	0.01	0.02	0.92		0.03	0.17	0.74		1.08	0.36	
Uniform Delay, d1	30.6	25.5	25.6	35.4		31.9	35.6	14.7		34.2	9.6	
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.4	0.0	0.0	115.4		0.0	1.0	1.3		115.4	0.1	
Delay (s)	38.0	25.5	25.6	150.9		32.0	36.6	16.0		149.7	9.7	
Level of Service	D	C	C	F		C	D	B		F	A	
Approach Delay (s)		35.5			82.9			16.1			23.4	
Approach LOS		D			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	19.7
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	5	109	132	1	65	6	1635	123	208	823	1
Future Volume (vph)	7	5	109	132	1	65	6	1635	123	208	823	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1863	1742	3433	1587		3204	4916	1583	1770	5084	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1863	1742	3433	1587		3204	4916	1583	1770	5084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.91
Adj. Flow (vph)	8	5	118	143	1	71	7	1777	134	226	895	1
RTOR Reduction (vph)	0	0	106	0	60	0	0	0	68	0	0	0
Lane Group Flow (vph)	8	5	12	143	12	0	7	1777	66	226	896	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.8	8.0	8.0	4.8	12.0		0.8	37.4	37.4	6.6	42.8	
Effective Green, g (s)	0.8	8.0	8.0	4.8	12.0		0.8	37.4	37.4	6.6	42.8	
Actuated g/C Ratio	0.01	0.10	0.10	0.06	0.16		0.01	0.49	0.49	0.09	0.56	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	17	194	182	215	248		33	2403	773	152	2844	
v/s Ratio Prot	0.00	0.00		c0.04	c0.01		0.00	c0.36		c0.13	0.18	
v/s Ratio Perm			c0.01						0.04			
v/c Ratio	0.47	0.03	0.07	0.67	0.05		0.21	0.74	0.08	1.49	0.32	
Uniform Delay, d1	37.6	30.8	30.9	35.1	27.4		37.5	15.7	10.4	35.0	9.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.3	0.0	0.1	5.9	0.0		1.2	1.3	0.1	250.7	0.1	
Delay (s)	44.9	30.8	30.9	41.0	27.4		38.7	16.9	10.5	285.6	9.1	
Level of Service	D	C	C	D	C		D	B	B	F	A	
Approach Delay (s)		31.8			36.4			16.5			64.8	
Approach LOS		C			D			B			E	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	76.5	Sum of lost time (s)	20.1
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	504	380	1669	734	268	838
Future Volume (vph)	504	380	1669	734	268	838
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	525	396	1739	765	279	873
RTOR Reduction (vph)	0	190	0	409	0	0
Lane Group Flow (vph)	525	206	1739	356	279	873
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	17.4	17.4	37.9	37.9	10.6	53.3
Effective Green, g (s)	17.4	17.4	37.9	37.9	10.6	53.3
Actuated g/C Ratio	0.21	0.21	0.46	0.46	0.13	0.65
Clearance Time (s)	4.9	4.9	6.4	6.4	4.4	6.0
Vehicle Extension (s)	2.0	2.0	3.5	3.5	2.0	3.4
Lane Grp Cap (vph)	732	337	2361	735	229	3321
v/s Ratio Prot	c0.15		c0.34		c0.16	0.17
v/s Ratio Perm		0.13		0.23		
v/c Ratio	0.72	0.61	0.74	0.48	1.22	0.26
Uniform Delay, d1	29.8	29.0	17.8	15.1	35.5	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	2.3	1.3	0.6	131.1	0.0
Delay (s)	32.6	31.4	19.1	15.7	166.6	6.0
Level of Service	C	C	B	B	F	A
Approach Delay (s)	32.1		18.0			44.9
Approach LOS	C		B			D

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	15.7
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	20	200	2	211	8	2131	113	121	1166	4
Future Volume (vph)	15	5	20	200	2	211	8	2131	113	121	1166	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1705		1681	1522		1770	3539	1583	1770	3537	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1705		1681	1522		1770	3539	1583	1770	3537	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	17	6	23	233	2	245	9	2478	131	141	1356	5
RTOR Reduction (vph)	0	22	0	0	200	0	0	0	47	0	0	0
Lane Group Flow (vph)	0	24	0	210	70	0	9	2478	84	141	1361	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		5.1		19.5	19.5		0.7	55.5	55.5	6.7	61.5	
Effective Green, g (s)		5.1		19.5	19.5		0.7	55.5	55.5	6.7	61.5	
Actuated g/C Ratio		0.05		0.18	0.18		0.01	0.52	0.52	0.06	0.58	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		81		307	278		11	1840	823	111	2038	
v/s Ratio Prot		c0.01		c0.12	0.05		0.01	c0.70		c0.08	0.38	
v/s Ratio Perm									0.05			
v/c Ratio		0.30		0.68	0.25		0.82	1.35	0.10	1.27	0.67	
Uniform Delay, d1		49.1		40.7	37.3		52.9	25.6	13.0	50.0	15.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8		7.1	0.8		162.4	159.7	0.1	174.7	1.0	
Delay (s)		49.8		47.8	38.1		215.3	185.3	13.1	224.7	16.6	
Level of Service		D		D	D		F	F	B	F	B	
Approach Delay (s)		49.8			42.4			176.8			36.1	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM 2000 Control Delay	116.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	106.7	Sum of lost time (s)	19.9
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	167	110	148	758	669	64
Future Volume (vph)	167	110	148	758	669	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3493	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3493	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	184	121	163	833	735	70
RTOR Reduction (vph)	0	103	0	0	4	0
Lane Group Flow (vph)	184	18	163	833	801	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	15.4	15.4	9.3	79.5	65.8	
Effective Green, g (s)	15.4	15.4	9.3	79.5	65.8	
Actuated g/C Ratio	0.15	0.15	0.09	0.76	0.63	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	259	232	304	2679	2188	
v/s Ratio Prot	c0.10		c0.05	0.24	c0.23	
v/s Ratio Perm		0.01				
v/c Ratio	0.71	0.08	0.54	0.31	0.37	
Uniform Delay, d1	42.7	38.7	45.8	4.0	9.5	
Progression Factor	1.00	1.00	1.09	0.49	1.00	
Incremental Delay, d2	7.4	0.1	0.8	0.3	0.5	
Delay (s)	50.1	38.7	50.5	2.2	10.0	
Level of Service	D	D	D	A	A	
Approach Delay (s)	45.6			10.1	10.0	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	226	230	84	144	83	196	859	167	113	699	42
Future Volume (vph)	25	226	230	84	144	83	196	859	167	113	699	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3272		1770	3346		3433	3453		1770	3509	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3272		1770	3346		3433	3453		1770	3509	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	238	242	88	152	87	206	904	176	119	736	44
RTOR Reduction (vph)	0	210	0	0	73	0	0	11	0	0	3	0
Lane Group Flow (vph)	26	270	0	88	166	0	206	1069	0	119	777	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.4	13.7		6.9	17.2		10.6	54.0		11.4	54.8	
Effective Green, g (s)	3.4	13.7		6.9	17.2		10.6	54.0		11.4	54.8	
Actuated g/C Ratio	0.03	0.13		0.07	0.16		0.10	0.51		0.11	0.52	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	57	426		116	548		346	1775		192	1831	
v/s Ratio Prot	0.01	c0.08		c0.05	c0.05		0.06	c0.31		c0.07	0.22	
v/s Ratio Perm												
v/c Ratio	0.46	0.63		0.76	0.30		0.60	0.60		0.62	0.42	
Uniform Delay, d1	49.9	43.3		48.2	38.6		45.1	17.9		44.7	15.4	
Progression Factor	1.00	1.00		1.00	1.00		1.17	0.50		1.18	0.70	
Incremental Delay, d2	2.1	2.3		21.9	0.1		1.5	1.2		4.0	0.7	
Delay (s)	52.0	45.5		70.1	38.7		54.2	10.2		56.9	11.5	
Level of Service	D	D		E	D		D	B		E	B	
Approach Delay (s)		45.9			47.2			17.2			17.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	250	103	40	38	27	52	1082	61	67	1009	29
Future Volume (vph)	74	250	103	40	38	27	52	1082	61	67	1009	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.9		6.4	6.9		6.4	5.5		6.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.94		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1748		1770	3511		1770	3524	
Flt Permitted	0.65	1.00		0.24	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1207	1781		438	1748		1770	3511		1770	3524	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	77	260	107	42	40	28	54	1127	64	70	1051	30
RTOR Reduction (vph)	0	16	0	0	22	0	0	3	0	0	2	0
Lane Group Flow (vph)	77	351	0	42	46	0	54	1188	0	70	1079	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.8	25.2		25.6	23.1		6.7	50.7		7.4	51.6	
Effective Green, g (s)	25.8	23.2		21.6	21.1		4.7	50.7		5.4	51.6	
Actuated g/C Ratio	0.25	0.22		0.21	0.20		0.04	0.48		0.05	0.49	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.5		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	310	393		96	351		79	1695		91	1731	
v/s Ratio Prot	c0.01	c0.20		0.00	0.03		0.03	c0.34		c0.04	0.31	
v/s Ratio Perm	0.05			0.09								
v/c Ratio	0.25	0.89		0.44	0.13		0.68	0.70		0.77	0.62	
Uniform Delay, d1	31.8	39.7		42.5	34.4		49.4	21.2		49.2	19.6	
Progression Factor	1.00	1.00		1.00	1.00		1.30	0.27		1.12	0.71	
Incremental Delay, d2	0.2	21.2		1.2	0.1		4.7	0.6		27.3	1.6	
Delay (s)	31.9	60.9		43.6	34.5		69.0	6.4		82.2	15.6	
Level of Service	C	E		D	C		E	A		F	B	
Approach Delay (s)		55.8			38.0			9.1			19.6	
Approach LOS		E			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	299	180	53	101	66	99	1039	97	216	813	94
Future Volume (vph)	66	299	180	53	101	66	99	1039	97	216	813	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1758		1770	1752		1770	3494		1770	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1758		1770	1752		1770	3494		1770	3484	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	325	196	58	110	72	108	1129	105	235	884	102
RTOR Reduction (vph)	0	21	0	0	22	0	0	7	0	0	8	0
Lane Group Flow (vph)	72	500	0	58	160	0	108	1227	0	235	978	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.5	32.9		4.1	30.5		9.9	33.8		15.3	39.2	
Effective Green, g (s)	6.5	32.9		4.1	30.5		9.9	33.8		15.3	39.2	
Actuated g/C Ratio	0.06	0.31		0.04	0.29		0.09	0.32		0.15	0.37	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	109	550		69	508		166	1124		257	1300	
v/s Ratio Prot	c0.04	c0.28		0.03	0.09		0.06	c0.35		c0.13	0.28	
v/s Ratio Perm												
v/c Ratio	0.66	0.91		0.84	0.31		0.65	1.09		0.91	0.75	
Uniform Delay, d1	48.2	34.6		50.1	29.1		45.9	35.6		44.2	28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.24	0.91		1.27	0.73	
Incremental Delay, d2	11.0	18.4		55.3	0.1		4.5	51.3		29.3	3.4	
Delay (s)	59.2	53.0		105.4	29.2		61.2	83.9		85.3	24.2	
Level of Service	E	D		F	C		E	F		F	C	
Approach Delay (s)		53.8			47.6			82.0			35.9	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM 2000 Control Delay	58.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	16	53	1	48	4	1440	321	77	984	7
Future Volume (vph)	0	0	16	53	1	48	4	1440	321	77	984	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	3443		1770	3536	
Flt Permitted		1.00			0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1337	1583	1770	3443		1770	3536	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	17	56	1	51	4	1532	341	82	1047	7
RTOR Reduction (vph)	0	15	0	0	0	46	0	12	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	57	5	4	1861	0	82	1054	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		10.4			10.4	10.4	1.1	71.7		8.2	79.0	
Effective Green, g (s)		10.4			10.4	10.4	1.1	71.7		8.2	79.0	
Actuated g/C Ratio		0.10			0.10	0.10	0.01	0.68		0.08	0.75	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		159			132	156	18	2351		138	2660	
v/s Ratio Prot		0.00					0.00	c0.54		c0.05	0.30	
v/s Ratio Perm					c0.04	0.00						
v/c Ratio		0.01			0.43	0.03	0.22	0.79		0.59	0.40	
Uniform Delay, d1		42.7			44.5	42.8	51.5	11.5		46.8	4.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.83	1.35	
Incremental Delay, d2		0.0			5.3	0.2	2.3	2.8		2.8	0.3	
Delay (s)		42.7			49.8	43.0	53.8	14.3		41.7	6.4	
Level of Service		D			D	D	D	B		D	A	
Approach Delay (s)		42.7			46.6			14.4			9.0	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	516	552	631	1267	706	356
Future Volume (vph)	516	552	631	1267	706	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	1583	1770	3539	3361	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	1583	1770	3539	3361	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	543	581	664	1334	743	375
RTOR Reduction (vph)	0	474	0	0	45	0
Lane Group Flow (vph)	543	107	664	1334	1073	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	25.7	25.7	54.0	103.5	44.0	
Effective Green, g (s)	25.7	25.7	54.0	103.5	44.0	
Actuated g/C Ratio	0.18	0.18	0.39	0.74	0.31	
Clearance Time (s)	4.9	4.9	4.4	5.9	7.0	
Vehicle Extension (s)	2.0	2.0	2.0	6.8	5.5	
Lane Grp Cap (vph)	630	290	682	2616	1056	
v/s Ratio Prot	c0.16		c0.38	0.38	c0.32	
v/s Ratio Perm		0.07				
v/c Ratio	0.86	0.37	0.97	0.51	1.02	
Uniform Delay, d1	55.4	50.0	42.3	7.6	48.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.3	0.3	27.7	0.7	31.7	
Delay (s)	66.7	50.3	70.0	8.4	79.7	
Level of Service	E	D	E	A	E	
Approach Delay (s)	58.2			28.8	79.7	
Approach LOS	E			C	E	

Intersection Summary			
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	354	4	720	9	2	5	86	1534	11	5	1168	81
Future Volume (vph)	354	4	720	9	2	5	86	1534	11	5	1168	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1735		1770	3539	1583	1770	3505	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1735		1770	3539	1583	1770	3505	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	365	4	742	9	2	5	89	1581	11	5	1204	84
RTOR Reduction (vph)	0	0	97	0	5	0	0	0	7	0	4	0
Lane Group Flow (vph)	186	183	645	0	11	0	89	1581	4	5	1284	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	53.8	53.8	53.8		1.6		8.9	48.6	48.6	0.8	40.5	
Effective Green, g (s)	53.8	53.8	53.8		1.6		8.9	48.6	48.6	0.8	40.5	
Actuated g/C Ratio	0.43	0.43	0.43		0.01		0.07	0.39	0.39	0.01	0.32	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	723	726	681		22		126	1375	615	11	1135	
v/s Ratio Prot	0.11	0.11			c0.01		c0.05	c0.45		0.00	0.37	
v/s Ratio Perm			c0.41						0.00			
v/c Ratio	0.26	0.25	0.95		0.50		0.71	1.15	0.01	0.45	1.13	
Uniform Delay, d1	22.8	22.7	34.2		61.3		56.8	38.2	23.4	61.9	42.2	
Progression Factor	1.00	1.00	1.00		1.00		0.59	1.29	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.1	22.0		6.4		1.3	68.3	0.0	10.5	70.5	
Delay (s)	22.9	22.8	56.2		67.7		34.7	117.6	23.4	72.3	112.8	
Level of Service	C	C	E		E		C	F	C	E	F	
Approach Delay (s)		45.1			67.7			112.6			112.6	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	94.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	48	0	336	10	1293	181	1028	849	10
Future Volume (vph)	0	13	1	48	0	336	10	1293	181	1028	849	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3474		1770	3533	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3474		1770	3533	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	49	0	346	10	1333	187	1060	875	10
RTOR Reduction (vph)	0	1	0	0	0	6	0	9	0	0	1	0
Lane Group Flow (vph)	0	13	0	0	49	340	10	1511	0	1060	884	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		16.1			16.1	83.5	1.3	32.1		62.5	93.3	
Effective Green, g (s)		16.1			16.1	83.5	1.3	32.1		62.5	93.3	
Actuated g/C Ratio		0.13			0.13	0.67	0.01	0.26		0.50	0.75	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		237			179	1057	18	892		885	2637	
v/s Ratio Prot		0.01				c0.21	0.01	c0.43		c0.60	0.25	
v/s Ratio Perm					0.04							
v/c Ratio		0.06			0.27	0.32	0.56	1.69		1.20	0.34	
Uniform Delay, d1		47.8			49.2	8.8	61.6	46.5		31.2	5.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.66	0.55	
Incremental Delay, d2		0.0			0.3	0.1	19.4	317.2		91.7	0.1	
Delay (s)		47.8			49.5	8.8	80.9	363.6		112.3	3.0	
Level of Service		D			D	A	F	F		F	A	
Approach Delay (s)		47.8			13.9			361.8			62.6	
Approach LOS		D			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	175.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	119.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Horizon Year 2050
Without Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	999	2665	743	36	1083	101	76	75	15	64	59	136
Future Volume (vph)	999	2665	743	36	1083	101	76	75	15	64	59	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6326		2841	3013		3204	1593	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6326		2841	3013		3204	1593	2882
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1052	2805	782	38	1140	106	80	79	16	67	62	143
RTOR Reduction (vph)	0	0	123	0	7	0	0	7	0	0	0	0
Lane Group Flow (vph)	1052	2805	659	38	1239	0	72	96	0	67	76	129
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	69.0	131.3	131.3	8.0	70.1		13.7	13.7		16.4	16.4	90.7
Effective Green, g (s)	69.0	131.3	131.3	8.0	70.1		13.7	13.7		16.4	16.4	90.7
Actuated g/C Ratio	0.36	0.69	0.69	0.04	0.37		0.07	0.07		0.09	0.09	0.48
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1163	3397	1093	69	2333		204	217		276	137	1375
v/s Ratio Prot	c0.33	c0.57		0.02	0.20		0.03	c0.03		0.02	c0.05	0.04
v/s Ratio Perm			0.42									
v/c Ratio	0.90	0.83	0.60	0.55	0.53		0.35	0.44		0.24	0.55	0.09
Uniform Delay, d1	57.4	21.1	15.5	89.2	47.1		83.9	84.5		81.0	83.3	27.2
Progression Factor	1.00	1.00	1.00	1.07	0.26		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.0	2.4	2.5	4.7	0.8		2.5	3.4		0.7	6.1	0.0
Delay (s)	67.4	23.6	18.0	100.4	13.0		86.4	87.9		81.7	89.4	27.2
Level of Service	E	C	B	F	B		F	F		F	F	C
Approach Delay (s)		32.6			15.6			87.3			58.0	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	2370	46	172	1149	553	8	26	29	66	21	58
Future Volume (vph)	276	2370	46	172	1149	553	8	26	29	66	21	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.0	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4837		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4837		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	291	2495	48	181	1209	582	8	27	31	69	22	61
RTOR Reduction (vph)	0	1	0	0	30	0	0	0	30	0	0	57
Lane Group Flow (vph)	291	2542	0	181	1761	0	8	27	1	69	22	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	21.6	138.3		15.1	131.6		4.2	8.4	8.4	8.0	12.3	12.3
Effective Green, g (s)	21.6	138.3		15.1	131.6		4.2	8.4	8.4	8.0	12.3	12.3
Actuated g/C Ratio	0.11	0.73		0.08	0.69		0.02	0.04	0.04	0.04	0.06	0.06
Clearance Time (s)	4.4	6.0		4.4	6.2		4.0	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	364	3691		254	3350		36	76	69	134	120	102
v/s Ratio Prot	c0.09	c0.50		0.06	0.36		0.00	c0.02		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.80	0.69		0.71	0.53		0.22	0.36	0.02	0.51	0.18	0.04
Uniform Delay, d1	82.1	14.1		85.3	14.1		91.3	88.2	86.9	89.1	84.1	83.3
Progression Factor	0.89	0.80		1.02	2.53		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.5	0.6		5.3	0.4		3.1	2.4	0.1	1.4	0.4	0.1
Delay (s)	79.5	12.0		92.3	36.2		94.4	90.6	87.0	90.5	84.5	83.4
Level of Service	E	B		F	D		F	F	F	F	F	F
Approach Delay (s)		18.9			41.3			89.3			86.8	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	629	1341	379	340	1642	1260	36	83	111	114	32	121
Future Volume (vph)	629	1341	379	340	1642	1260	36	83	111	114	32	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4917		1652	5085	1583	1652	3094	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4917		1652	5085	1583	1652	3094	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	648	1382	391	351	1693	1299	37	86	114	118	33	125
RTOR Reduction (vph)	0	20	0	0	0	0	0	45	59	0	0	114
Lane Group Flow (vph)	648	1753	0	351	1693	1299	37	92	4	118	33	11
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	69.6	103.5		45.1	79.1	190.0	4.8	12.4	12.4	9.3	16.9	16.9
Effective Green, g (s)	69.6	103.5		45.1	79.1	190.0	4.8	12.4	12.4	9.3	16.9	16.9
Actuated g/C Ratio	0.37	0.54		0.24	0.42	1.00	0.03	0.07	0.07	0.05	0.09	0.09
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	605	2678		392	2116	1583	41	201	97	156	346	140
v/s Ratio Prot	c0.39	0.36		0.21	0.33		0.02	0.03		0.04	0.01	
v/s Ratio Perm						c0.82			0.00			0.01
v/c Ratio	1.07	0.65		0.90	0.80	0.82	0.90	0.46	0.04	0.76	0.10	0.08
Uniform Delay, d1	60.2	30.6		70.2	48.5	0.0	92.4	85.6	83.2	89.2	79.5	79.4
Progression Factor	1.11	1.30		1.11	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	52.3	0.9		11.2	1.5	2.2	102.4	2.0	0.2	16.8	0.2	0.5
Delay (s)	119.2	40.6		88.9	36.7	2.2	194.7	87.6	83.5	106.0	79.8	79.9
Level of Service	F	D		F	D	A	F	F	F	F	E	E
Approach Delay (s)		61.6			28.8			103.2			91.0	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	47.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	874	305	95	2658	71	94	6	18	11	15	267
Future Volume (vph)	334	874	305	95	2658	71	94	6	18	11	15	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	1770	4888		1770	5065		1681	1638		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	1770	4888		1770	5065		1681	1638		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	344	901	314	98	2740	73	97	6	19	11	15	275
RTOR Reduction (vph)	0	22	0	0	1	0	0	10	0	0	0	101
Lane Group Flow (vph)	344	1193	0	98	2812	0	62	50	0	11	15	174
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	49.6	137.4		14.9	102.9		11.4	11.4		6.1	6.1	55.7
Effective Green, g (s)	49.6	137.4		14.9	102.9		11.4	11.4		6.1	6.1	55.7
Actuated g/C Ratio	0.26	0.72		0.08	0.54		0.06	0.06		0.03	0.03	0.29
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	462	3534		138	2743		100	98		53	59	464
v/s Ratio Prot	c0.19	0.24		0.06	c0.56		c0.04	0.03		0.01	0.01	c0.11
v/s Ratio Perm												
v/c Ratio	0.74	0.34		0.71	1.03		0.62	0.51		0.21	0.25	0.37
Uniform Delay, d1	64.4	9.6		85.4	43.5		87.2	86.6		89.6	89.7	53.3
Progression Factor	0.76	2.50		1.22	0.69		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	0.2		7.6	19.7		7.8	1.5		0.7	0.8	0.2
Delay (s)	53.6	24.3		112.2	49.7		95.0	88.1		90.3	90.6	53.5
Level of Service	D	C		F	D		F	F		F	F	D
Approach Delay (s)		30.7			51.8			91.6			56.7	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	746	45	151	2772	176	8	4	33	51	10	43
Future Volume (vph)	106	746	45	151	2772	176	8	4	33	51	10	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5042		1770	5040		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5042		1770	5040		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	112	785	47	159	2918	185	8	4	35	54	11	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	34	0	0	42
Lane Group Flow (vph)	112	830	0	159	3101	0	8	4	1	54	11	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	17.2	134.1		21.4	138.6		1.6	7.2	7.2	7.6	13.2	13.2
Effective Green, g (s)	17.2	134.1		21.4	138.6		1.6	7.2	7.2	7.6	13.2	13.2
Actuated g/C Ratio	0.09	0.71		0.11	0.73		0.01	0.04	0.04	0.04	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	160	3558		199	3676		14	70	59	70	129	109
v/s Ratio Prot	0.06	0.16		c0.09	c0.62		0.00	0.00		c0.03	c0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.70	0.23		0.80	0.84		0.57	0.06	0.02	0.77	0.09	0.03
Uniform Delay, d1	83.9	9.8		82.2	18.1		93.9	88.1	88.0	90.3	82.7	82.4
Progression Factor	1.17	0.15		1.00	0.38		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.9	0.1		7.9	1.0		30.5	0.1	0.1	37.0	0.1	0.0
Delay (s)	108.4	1.6		90.0	7.9		124.4	88.3	88.1	127.4	82.9	82.5
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		14.3			11.9			94.3			104.5	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	464	324	46	2821	151	365	47	41	24	19	42
Future Volume (vph)	64	464	324	46	2821	151	365	47	41	24	19	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4771		1652	5047		1625	1704	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4771		1652	5047		1625	1704	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	473	331	47	2879	154	372	48	42	24	19	43
RTOR Reduction (vph)	0	43	0	0	2	0	0	0	36	0	0	41
Lane Group Flow (vph)	65	761	0	47	3031	0	208	212	6	24	19	2
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.5	125.4		8.7	118.1		28.6	28.6	28.6	7.1	7.1	7.1
Effective Green, g (s)	15.5	125.4		8.7	118.1		28.6	28.6	28.6	7.1	7.1	7.1
Actuated g/C Ratio	0.08	0.66		0.05	0.62		0.15	0.15	0.15	0.04	0.04	0.04
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	134	3148		75	3137		244	256	238	61	69	63
v/s Ratio Prot	c0.04	0.16		c0.03	c0.60		c0.13	0.12		c0.01	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.24		0.63	0.97		0.85	0.83	0.03	0.39	0.28	0.03
Uniform Delay, d1	83.4	13.1		89.1	34.1		78.6	78.3	68.8	89.3	88.9	88.1
Progression Factor	1.18	0.21		1.28	0.45		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.2		8.2	7.8		23.1	18.5	0.0	4.1	2.2	0.2
Delay (s)	99.3	3.0		122.2	23.2		101.7	96.8	68.8	93.5	91.1	88.3
Level of Service	F	A		F	C		F	F	E	F	F	F
Approach Delay (s)		10.2			24.7			96.5			90.4	
Approach LOS		B			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	311	85	50	2684	75	176	26	60	4	11	17
Future Volume (vph)	32	311	85	50	2684	75	176	26	60	4	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4921		1770	5064		3433	1669		1770	1693	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4921		1770	5064		3433	1669		1770	1693	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	317	87	51	2739	77	180	27	61	4	11	17
RTOR Reduction (vph)	0	16	0	0	1	0	0	50	0	0	16	0
Lane Group Flow (vph)	33	388	0	51	2815	0	180	38	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.1	140.4		8.8	142.1		13.3	20.3		0.8	7.8	
Effective Green, g (s)	7.1	140.4		8.8	142.1		13.3	20.3		0.8	7.8	
Actuated g/C Ratio	0.04	0.74		0.05	0.75		0.07	0.11		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	66	3636		81	3787		240	178		7	69	
v/s Ratio Prot	0.02	0.08		c0.03	c0.56		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.50	0.11		0.63	0.74		0.75	0.21		0.57	0.17	
Uniform Delay, d1	89.7	7.0		89.0	13.6		86.7	77.6		94.4	88.0	
Progression Factor	0.84	0.86		1.27	0.16		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		1.0	0.1		11.1	0.2		55.0	0.4	
Delay (s)	77.7	6.1		113.8	2.2		97.8	77.8		149.4	88.4	
Level of Service	E	A		F	A		F	E		F	F	
Approach Delay (s)		11.5			4.2			91.2			96.0	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	310	96	755	2848	372	155	149	71	142	357	77
Future Volume (vph)	29	310	96	755	2848	372	155	149	71	142	357	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4905		1652	4997		1652	3421	1531	3204	3445	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4905		1652	4997		1652	3421	1531	3204	3445	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	30	316	98	770	2906	380	158	152	72	145	364	79
RTOR Reduction (vph)	0	29	0	0	9	0	0	0	22	0	10	0
Lane Group Flow (vph)	30	385	0	770	3277	0	158	152	50	145	433	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.4	32.8		85.6	114.9		21.6	39.6	131.2	11.1	28.7	
Effective Green, g (s)	3.4	32.8		85.6	114.9		21.6	39.6	131.2	11.1	28.7	
Actuated g/C Ratio	0.02	0.17		0.45	0.60		0.11	0.21	0.69	0.06	0.15	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	29	846		744	3021		187	713	1057	187	520	
v/s Ratio Prot	0.02	0.08		c0.47	c0.66		c0.10	0.04	0.03	0.05	c0.13	
v/s Ratio Perm												
v/c Ratio	1.03	0.46		1.03	1.08		0.84	0.21	0.05	0.78	0.83	
Uniform Delay, d1	93.3	70.6		52.2	37.5		82.6	62.3	9.4	88.2	78.3	
Progression Factor	0.97	1.04		0.81	0.51		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	177.8	0.6		29.1	40.7		27.9	0.2	0.0	16.6	11.0	
Delay (s)	268.6	74.2		71.7	59.8		110.4	62.5	9.4	104.8	89.3	
Level of Service	F	E		E	E		F	E	A	F	F	
Approach Delay (s)		87.3			62.1			72.3			93.2	
Approach LOS		F			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	68.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	475	11	33	3785	24	33	5	45	71	5	127
Future Volume (vph)	24	475	11	33	3785	24	33	5	45	71	5	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5069		1770	5080			1785	1583	1770	1594	
Flt Permitted	0.95	1.00		0.95	1.00			0.29	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5069		1770	5080			543	1583	1363	1594	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	25	490	11	34	3902	25	34	5	46	73	5	131
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	42	0	33	0
Lane Group Flow (vph)	25	500	0	34	3927	0	0	39	4	73	103	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.5	150.9		7.2	151.6			16.6	16.6	16.6	16.6	
Effective Green, g (s)	6.5	150.9		7.2	151.6			16.6	16.6	16.6	16.6	
Actuated g/C Ratio	0.03	0.79		0.04	0.80			0.09	0.09	0.09	0.09	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	60	4025		67	4053			47	138	119	139	
v/s Ratio Prot	0.01	0.10		c0.02	c0.77						0.06	
v/s Ratio Perm								c0.07	0.00	0.05		
v/c Ratio	0.42	0.12		0.51	0.97			0.83	0.03	0.61	0.74	
Uniform Delay, d1	89.9	4.5		89.7	17.1			85.3	79.3	83.6	84.6	
Progression Factor	0.84	3.49		1.09	0.26			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.1		1.1	5.0			67.2	0.0	6.4	16.9	
Delay (s)	76.6	15.6		98.7	9.5			152.5	79.4	90.0	101.5	
Level of Service	E	B		F	A			F	E	F	F	
Approach Delay (s)		18.5			10.3			112.9			97.5	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	531	9	20	3749	33	19	10	44	1	14	43
Future Volume (vph)	7	531	9	20	3749	33	19	10	44	1	14	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5073		1770	5079			1689		1770	1651	
Flt Permitted	0.95	1.00		0.95	1.00			0.79		0.42	1.00	
Satd. Flow (perm)	1770	5073		1770	5079			1355		776	1651	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	547	9	21	3865	34	20	10	45	1	14	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	33	0	0	42	0
Lane Group Flow (vph)	7	556	0	21	3899	0	0	42	0	1	16	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	160.0		4.8	163.1			9.9		9.9	9.9	
Effective Green, g (s)	1.4	160.0		4.8	163.1			9.9		9.9	9.9	
Actuated g/C Ratio	0.01	0.84		0.03	0.86			0.05		0.05	0.05	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	13	4272		44	4359			70		40	86	
v/s Ratio Prot	0.00	0.11		c0.01	c0.77						0.01	
v/s Ratio Perm								c0.03		0.00		
v/c Ratio	0.54	0.13		0.48	0.89			0.60		0.03	0.19	
Uniform Delay, d1	94.0	2.7		91.4	8.2			88.1		85.5	86.2	
Progression Factor	1.41	0.19		1.00	1.01			1.00		1.00	1.00	
Incremental Delay, d2	19.7	0.1		0.3	0.3			8.8		0.1	0.4	
Delay (s)	152.0	0.6		91.2	8.6			96.9		85.6	86.6	
Level of Service	F	A		F	A			F		F	F	
Approach Delay (s)		2.5			9.0			96.9			86.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	664	32	55	3522	36	92	29	74	78	103	228
Future Volume (vph)	34	664	32	55	3522	36	92	29	74	78	103	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5050		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5050		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	35	685	33	57	3631	37	95	30	76	80	106	235
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	67	0	0	85
Lane Group Flow (vph)	35	716	0	57	3667	0	95	30	9	80	106	150
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	5.9	126.4		10.1	130.1		12.4	22.5	22.5	11.3	21.4	21.4
Effective Green, g (s)	5.9	126.4		10.1	130.1		12.4	22.5	22.5	11.3	21.4	21.4
Actuated g/C Ratio	0.03	0.67		0.05	0.68		0.07	0.12	0.12	0.06	0.11	0.11
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	54	3359		94	3477		115	220	187	105	209	178
v/s Ratio Prot	0.02	0.14		c0.03	c0.72		c0.05	0.02		0.05	0.06	
v/s Ratio Perm									0.01			c0.09
v/c Ratio	0.65	0.21		0.61	1.05		0.83	0.14	0.05	0.76	0.51	0.84
Uniform Delay, d1	91.0	12.4		88.0	30.0		87.7	75.0	74.3	88.0	79.3	82.6
Progression Factor	1.00	0.36		1.18	0.23		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.2	0.1		0.7	25.5		34.8	0.1	0.0	24.9	0.7	27.6
Delay (s)	109.6	4.6		104.9	32.4		122.5	75.1	74.3	112.9	80.0	110.2
Level of Service	F	A		F	C		F	E	E	F	F	F
Approach Delay (s)		9.4			33.5			97.2			103.1	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	608	63	23	3162	14	183	54	19	57	130	232
Future Volume (vph)	42	608	63	23	3162	14	183	54	19	57	130	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5014		1770	5085	1583	1770	3401		1770	3199	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5014		1770	5085	1583	1770	3401		1770	3199	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	640	66	24	3328	15	193	57	20	60	137	244
RTOR Reduction (vph)	0	6	0	0	0	6	0	18	0	0	47	0
Lane Group Flow (vph)	44	700	0	24	3328	9	193	59	0	60	334	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	5.3	116.4		4.1	115.2	115.2	23.5	23.5		26.1	26.1	
Effective Green, g (s)	5.3	116.4		4.1	115.2	115.2	23.5	23.5		26.1	26.1	
Actuated g/C Ratio	0.03	0.61		0.02	0.61	0.61	0.12	0.12		0.14	0.14	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	49	3071		38	3083	959	218	420		243	439	
v/s Ratio Prot	c0.02	0.14		0.01	c0.65		c0.11	0.02		0.03	c0.10	
v/s Ratio Perm						0.01						
v/c Ratio	0.90	0.23		0.63	1.08	0.01	0.89	0.14		0.25	0.92dr	
Uniform Delay, d1	92.1	16.6		92.2	37.4	14.8	81.9	74.3		73.2	78.9	
Progression Factor	0.70	1.77		1.32	0.30	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	87.4	0.2		2.3	36.5	0.0	32.5	0.2		0.8	8.0	
Delay (s)	151.9	29.4		124.3	47.8	14.8	114.4	74.4		74.0	87.0	
Level of Service	F	C		F	D	B	F	E		E	F	
Approach Delay (s)		36.6			48.2			103.0			85.2	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	722	25	186	2926	134	98	326	163	441	539	224
Future Volume (vph)	86	722	25	186	2926	134	98	326	163	441	539	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4723		3204	4916	1478	1711	4746	1478	3433	3383	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4723		3204	4916	1478	1711	4746	1478	3433	3383	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	91	760	26	196	3080	141	103	343	172	464	567	236
RTOR Reduction (vph)	0	2	0	0	0	39	0	0	130	0	24	0
Lane Group Flow (vph)	91	784	0	196	3080	102	103	343	42	464	779	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	5.6	97.1		15.5	107.1	107.1	12.7	34.0	34.0	23.6	44.7	
Effective Green, g (s)	5.6	97.1		15.5	107.1	107.1	12.7	34.0	34.0	23.6	44.7	
Actuated g/C Ratio	0.03	0.51		0.08	0.56	0.56	0.07	0.18	0.18	0.12	0.24	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	94	2413		261	2771	833	114	849	264	426	795	
v/s Ratio Prot	0.03	0.17		c0.06	c0.63		0.06	0.07		c0.14	c0.23	
v/s Ratio Perm						0.07			0.03			
v/c Ratio	0.97	0.32		0.75	1.11	0.12	0.90	0.40	0.16	1.09	0.98	
Uniform Delay, d1	92.1	27.2		85.4	41.5	19.4	88.0	69.0	65.9	83.2	72.2	
Progression Factor	0.96	0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	80.7	0.4		10.3	56.0	0.3	54.0	0.5	0.5	69.8	27.1	
Delay (s)	169.2	27.0		95.6	97.4	19.7	142.1	69.6	66.4	153.0	99.3	
Level of Service	F	C		F	F	B	F	E	E	F	F	
Approach Delay (s)		41.7			94.1			80.8			118.9	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	90.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	366	635	196	141	86	133
Future Volume (vph)	366	635	196	141	86	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.94		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	3317		1730	1504
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	1863	3317		1730	1504
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	385	668	206	148	91	140
RTOR Reduction (vph)	0	0	106	0	19	54
Lane Group Flow (vph)	385	668	248	0	101	57
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	11.5	28.2	12.7		6.8	22.8
Effective Green, g (s)	11.5	28.2	12.7		6.8	22.8
Actuated g/C Ratio	0.26	0.63	0.29		0.15	0.51
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	457	1180	946		264	770
v/s Ratio Prot	c0.22	c0.36	0.07		c0.06	0.04
v/s Ratio Perm						
v/c Ratio	0.84	0.57	0.26		0.38	0.07
Uniform Delay, d1	15.6	4.7	12.3		17.0	5.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	12.7	1.0	0.3		0.9	0.0
Delay (s)	28.4	5.7	12.6		17.9	5.5
Level of Service	C	A	B		B	A
Approach Delay (s)		14.0	12.6		12.0	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	257	8	56	631	207	1	1	9	42	1	10
Future Volume (vph)	66	257	8	56	631	207	1	1	9	42	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.96			0.89			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1855		1770	1794			1649			1745	
Flt Permitted	0.25	1.00		0.59	1.00			0.96			1.00	
Satd. Flow (perm)	459	1855		1096	1794			1590			1813	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	69	271	8	59	664	218	1	1	9	44	1	11
RTOR Reduction (vph)	0	1	0	0	12	0	0	8	0	0	10	0
Lane Group Flow (vph)	69	278	0	59	870	0	0	3	0	0	46	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	28.6	28.6		28.0	28.0			3.3			3.3	
Effective Green, g (s)	28.6	28.6		28.0	28.0			3.3			3.3	
Actuated g/C Ratio	0.69	0.69		0.67	0.67			0.08			0.08	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	314	1272		735	1204			125			143	
v/s Ratio Prot		0.15			c0.48							
v/s Ratio Perm	0.15			0.05				0.00			c0.03	
v/c Ratio	0.22	0.22		0.08	0.72			0.02			0.32	
Uniform Delay, d1	2.4	2.4		2.4	4.4			17.7			18.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.3	0.1		0.0	2.1			0.0			0.5	
Delay (s)	2.7	2.5		2.4	6.5			17.7			18.6	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		2.5			6.2			17.7			18.6	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	41.7	Sum of lost time (s)	10.4
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	102	127	69	258	64	319	760	113	90	1460	396
Future Volume (vph)	73	102	127	69	258	64	319	760	113	90	1460	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2049		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2049		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	107	134	73	272	67	336	800	119	95	1537	417
RTOR Reduction (vph)	0	0	98	0	6	0	0	0	23	0	0	64
Lane Group Flow (vph)	77	107	36	73	333	0	336	800	96	95	1537	353
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	15.2	15.2	44.2	30.7	30.7		24.6	70.5	101.2	12.7	58.6	73.8
Effective Green, g (s)	15.2	15.2	39.8	30.7	30.7		24.6	70.5	101.2	12.7	58.6	73.8
Actuated g/C Ratio	0.10	0.10	0.27	0.20	0.20		0.16	0.47	0.67	0.08	0.39	0.49
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	167	176	406	338	419		280	1552	1067	139	1336	753
v/s Ratio Prot	0.05	c0.06	0.02	0.04	c0.16		c0.20	0.24	0.06	0.06	c0.45	0.23
v/s Ratio Perm												
v/c Ratio	0.46	0.61	0.09	0.22	0.80		1.20	0.52	0.09	0.68	1.15	0.47
Uniform Delay, d1	63.5	64.5	41.4	49.6	56.7		62.7	27.8	8.5	66.7	45.7	25.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.61	0.29	0.39	0.83	0.79	1.45
Incremental Delay, d2	1.0	4.4	0.0	0.3	10.0		93.3	0.1	0.0	7.2	74.0	0.2
Delay (s)	64.6	68.9	41.5	49.9	66.7		131.7	8.2	3.3	62.8	110.3	36.6
Level of Service	E	E	D	D	E		F	A	A	E	F	D
Approach Delay (s)		56.3			63.7			40.8			93.1	
Approach LOS		E			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	70.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	123	1	14	0	426	182	19	107	1
Future Volume (vph)	0	0	1	123	1	14	0	426	182	19	107	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1860	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1860	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1	129	1	15	0	448	192	20	113	1
RTOR Reduction (vph)	0	1	0	0	0	12	0	0	59	0	1	0
Lane Group Flow (vph)	0	0	0	0	130	3	0	448	133	20	113	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.5			8.4	8.4		16.3	29.2	0.4	20.7	
Effective Green, g (s)		0.5			8.4	8.4		16.3	29.2	0.4	20.7	
Actuated g/C Ratio		0.01			0.20	0.20		0.39	0.69	0.01	0.49	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		19			354	315		721	1097	16	914	
v/s Ratio Prot		c0.00			c0.07			c0.24	0.08	c0.01	0.06	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.37	0.01		0.62	0.12	1.25	0.12	
Uniform Delay, d1		20.6			14.6	13.5		10.4	2.2	20.9	5.8	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.2	0.0		1.7	0.0	314.0	0.1	
Delay (s)		20.6			14.8	13.5		12.1	2.2	334.9	5.9	
Level of Service		C			B	B		B	A	F	A	
Approach Delay (s)		20.6			14.7			9.1			55.0	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	16.5
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	312	87	111	833	50	271	120	104	3	15	24
Future Volume (vph)	168	312	87	111	833	50	271	120	104	3	15	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3423		1770	3509		1770	1863	1583	1770	1692	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3423		1770	3509		1770	1863	1583	1770	1692	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	177	328	92	117	877	53	285	126	109	3	16	25
RTOR Reduction (vph)	0	25	0	0	4	0	0	0	74	0	23	0
Lane Group Flow (vph)	177	395	0	117	926	0	285	126	35	3	18	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.2	28.2		4.8	23.3		6.4	10.9	20.6	0.7	5.2	
Effective Green, g (s)	10.2	28.2		4.8	23.3		6.4	10.9	20.6	0.7	5.2	
Actuated g/C Ratio	0.16	0.44		0.07	0.36		0.10	0.17	0.32	0.01	0.08	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	280	1498		131	1269		175	315	506	19	136	
v/s Ratio Prot	c0.10	0.12		c0.07	c0.26		c0.16	c0.07	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.63	0.26		0.89	0.73		1.63	0.40	0.07	0.16	0.13	
Uniform Delay, d1	25.3	11.5		29.5	17.8		29.0	23.8	15.2	31.6	27.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.4	0.1		46.7	2.1		307.4	0.3	0.0	1.4	0.2	
Delay (s)	28.7	11.6		76.3	19.9		336.4	24.1	15.3	33.0	27.7	
Level of Service	C	B		E	B		F	C	B	C	C	
Approach Delay (s)		16.7			26.2			193.4			28.0	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	19.8
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1539	99	41	1308	512	25	30	31	70	17	62
Future Volume (vph)	170	1539	99	41	1308	512	25	30	31	70	17	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4871		1681	1762	1583	1610	3038	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4871		1681	1762	1583	1610	3038	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	1620	104	43	1377	539	26	32	33	74	18	65
RTOR Reduction (vph)	0	0	33	0	35	0	0	0	31	0	59	0
Lane Group Flow (vph)	179	1620	71	43	1881	0	23	35	2	55	43	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	18.9	95.0	95.0	5.3	81.4		6.4	6.4	6.4	13.8	13.8	
Effective Green, g (s)	18.9	95.0	95.0	5.3	81.4		6.4	6.4	6.4	13.8	13.8	
Actuated g/C Ratio	0.13	0.68	0.68	0.04	0.58		0.05	0.05	0.05	0.10	0.10	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	238	3450	1074	129	2832		76	80	72	158	299	
v/s Ratio Prot	c0.10	0.32		0.01	c0.39		0.01	c0.02		c0.03	0.01	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.75	0.47	0.07	0.33	0.66		0.30	0.44	0.02	0.35	0.15	
Uniform Delay, d1	58.3	10.6	7.6	65.6	20.0		64.6	65.0	63.8	58.9	57.7	
Progression Factor	1.00	1.00	1.00	0.78	0.74		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.3	0.5	0.1	0.4	0.8		0.8	1.4	0.0	3.8	0.6	
Delay (s)	69.5	11.1	7.7	51.6	15.7		65.5	66.4	63.9	62.7	58.4	
Level of Service	E	B	A	D	B		E	E	E	E	E	
Approach Delay (s)		16.4			16.4			65.3			59.9	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	1044	154	409	1729	1608	144	275	399	237	50	42
Future Volume (vph)	375	1044	154	409	1729	1608	144	275	399	237	50	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	395	1099	162	431	1820	1693	152	289	420	249	53	44
RTOR Reduction (vph)	0	0	71	0	0	149	0	0	33	0	0	28
Lane Group Flow (vph)	395	1099	91	431	1820	1544	152	289	387	249	53	16
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	22.1	60.5	60.5	22.2	61.3	76.8	14.1	27.3	54.5	10.2	23.1	50.5
Effective Green, g (s)	22.1	60.5	60.5	22.2	61.3	76.8	14.1	27.3	54.5	10.2	23.1	50.5
Actuated g/C Ratio	0.16	0.43	0.43	0.16	0.44	0.55	0.10	0.20	0.39	0.07	0.17	0.36
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	541	2197	684	544	2226	1528	345	690	1084	250	583	571
v/s Ratio Prot	0.12	0.22		c0.13	0.36	c0.55	0.04	c0.08	0.14	0.07	0.01	0.01
v/s Ratio Perm			0.06									
v/c Ratio	0.73	0.50	0.13	0.79	0.82	1.01	0.44	0.42	0.36	1.00	0.09	0.03
Uniform Delay, d1	56.1	28.8	23.9	56.7	34.5	31.6	59.2	49.4	30.3	64.9	49.5	28.9
Progression Factor	0.99	0.68	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	0.7	0.4	7.3	3.5	25.7	0.3	0.9	0.5	55.4	0.1	0.0
Delay (s)	59.3	20.5	18.4	63.9	37.9	57.3	59.6	50.3	30.8	120.3	49.7	28.9
Level of Service	E	C	B	E	D	E	E	D	C	F	D	C
Approach Delay (s)		29.5			49.1			42.4			97.8	
Approach LOS		C			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1214	485	0	1880	594	0	0	0	838	0	1793
Future Volume (vph)	0	1214	485	0	1880	594	0	0	0	838	0	1793
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1278	511	0	1979	625	0	0	0	882	0	1887
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	21
Lane Group Flow (vph)	0	1278	511	0	1979	625	0	0	0	882	0	1866
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		48.5	120.0		48.5	120.0				59.3		59.3
Effective Green, g (s)		48.5	120.0		48.5	115.3				59.3		59.3
Actuated g/C Ratio		0.40	1.00		0.40	0.96				0.49		0.49
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2055	2787		2055	1520				1696		1377
v/s Ratio Prot		0.25			c0.39	0.39				0.26		c0.67
v/s Ratio Perm			0.18									
v/c Ratio		0.62	0.18		0.96	0.41				0.52		1.36
Uniform Delay, d1		28.5	0.0		34.9	0.2				20.7		30.4
Progression Factor		1.00	1.00		0.78	1.00				1.00		1.00
Incremental Delay, d2		1.4	0.1		11.8	0.1				0.1		164.7
Delay (s)		29.9	0.1		38.8	0.2				20.8		195.1
Level of Service		C	A		D	A				C		F
Approach Delay (s)		21.4			29.6			0.0			139.6	
Approach LOS		C			C			A			F	

Intersection Summary			
HCM 2000 Control Delay	70.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1236	792	0	1537	664	858	0	304	0	0	0
Future Volume (vph)	0	1236	792	0	1537	664	858	0	304	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1301	834	0	1618	699	903	0	320	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	32	0	0	0
Lane Group Flow (vph)	0	1301	834	0	1618	699	903	0	288	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		68.4	120.0		68.4	120.0	39.4		39.4			
Effective Green, g (s)		68.4	115.3		68.4	120.0	39.4		39.4			
Actuated g/C Ratio		0.57	0.96		0.57	1.00	0.33		0.33			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2898	1520		3652	1583	1127		915			
v/s Ratio Prot		0.26	c0.53		0.25		c0.26					
v/s Ratio Perm						0.44			0.10			
v/c Ratio		0.45	0.55		0.44	0.44	0.80		0.31			
Uniform Delay, d1		14.9	0.2		14.8	0.0	36.7		30.2			
Progression Factor		0.84	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	0.2		0.4	0.9	3.9		0.1			
Delay (s)		13.0	0.4		15.2	0.9	40.7		30.3			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		8.1			10.9			38.0			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	437	716	192	1862	0	0
Future Volume (vph)	437	716	192	1862	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	460	754	202	1960	0	0
RTOR Reduction (vph)	0	214	0	0	0	0
Lane Group Flow (vph)	460	540	202	1960	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	58.0	58.0	20.3	90.0		
Effective Green, g (s)	58.0	58.0	20.3	90.0		
Actuated g/C Ratio	0.64	0.64	0.23	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2280	1796	774	5085		
v/s Ratio Prot	0.13		0.06	c0.39		
v/s Ratio Perm		0.19				
v/c Ratio	0.20	0.30	0.26	0.39		
Uniform Delay, d1	6.5	7.1	28.7	0.0		
Progression Factor	1.00	1.00	0.99	1.00		
Incremental Delay, d2	0.2	0.4	0.1	0.2		
Delay (s)	6.7	7.5	28.5	0.2		
Level of Service	A	A	C	A		
Approach Delay (s)	7.2			2.8	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	384	0	0	744	1080	1029
Future Volume (vph)	0	384	0	0	744	1080	1029
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	404	0	0	783	1137	1083
RTOR Reduction (vph)	0	0	0	0	0	0	277
Lane Group Flow (vph)	0	404	0	0	783	1137	806
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		40.6			40.6	37.7	37.7
Effective Green, g (s)		40.6			40.6	37.7	37.7
Actuated g/C Ratio		0.45			0.45	0.42	0.42
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1596			2293	1438	1167
v/s Ratio Prot		0.11			c0.15	c0.33	
v/s Ratio Perm							0.29
v/c Ratio		0.25			0.34	0.79	0.69
Uniform Delay, d1		15.3			16.0	22.7	21.4
Progression Factor		0.67			1.00	1.00	1.00
Incremental Delay, d2		0.4			0.4	2.8	1.4
Delay (s)		10.7			16.4	25.6	22.8
Level of Service		B			B	C	C
Approach Delay (s)		10.7			16.4	24.2	
Approach LOS		B			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1346	310	515	2117	131	1109
Future Volume (vph)	1346	310	515	2117	131	1109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6228		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6228		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1417	326	542	2228	138	1167
RTOR Reduction (vph)	26	0	0	0	0	0
Lane Group Flow (vph)	1717	0	542	2228	138	1167
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	58.4		28.9	92.0	47.6	80.9
Effective Green, g (s)	58.4		28.9	92.0	47.6	80.9
Actuated g/C Ratio	0.39		0.19	0.61	0.32	0.54
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2424		661	3930	561	1503
v/s Ratio Prot	c0.28		0.16	0.35	0.08	c0.42
v/s Ratio Perm						
v/c Ratio	0.71		0.82	0.57	0.25	0.78
Uniform Delay, d1	38.6		58.1	17.2	37.9	27.4
Progression Factor	1.00		1.51	0.57	1.00	1.00
Incremental Delay, d2	1.8		3.9	0.3	0.1	2.4
Delay (s)	40.4		91.7	10.0	38.0	29.7
Level of Service	D		F	B	D	C
Approach Delay (s)	40.4			26.0	30.6	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	315	2145	0	2452	1126	199	206
Future Volume (vph)	315	2145	0	2452	1126	199	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.92	
Flt Protected	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (prot)	3433	5085		5085	1583	3258	
Flt Permitted	0.95	1.00		1.00	1.00	0.98	
Satd. Flow (perm)	3433	5085		5085	1583	3258	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	332	2258	0	2581	1185	209	217
RTOR Reduction (vph)	0	0	0	0	3	110	0
Lane Group Flow (vph)	332	2258	0	2581	1182	316	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	16.2	106.7		87.0	125.0	32.6	
Effective Green, g (s)	16.2	106.7		87.0	125.0	32.6	
Actuated g/C Ratio	0.11	0.71		0.58	0.83	0.22	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	370	3617		2949	1319	708	
v/s Ratio Prot	c0.10	0.44		0.51	c0.75	0.10	
v/s Ratio Perm							
v/c Ratio	0.90	0.62		0.88	0.90	0.45	
Uniform Delay, d1	66.1	11.2		26.9	8.2	50.9	
Progression Factor	0.97	0.69		1.60	2.18	1.00	
Incremental Delay, d2	16.9	0.6		1.5	3.4	0.8	
Delay (s)	81.3	8.4		44.4	21.3	51.7	
Level of Service	F	A		D	C	D	
Approach Delay (s)		17.7		37.1		51.7	
Approach LOS		B		D		D	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	81	2272	3465	77	40	79
Future Volume (vph)	81	2272	3465	77	40	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	85	2392	3647	81	42	83
RTOR Reduction (vph)	0	0	0	9	0	67
Lane Group Flow (vph)	85	2392	3647	72	42	16
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	14.8	130.7	111.9	111.9	9.0	9.0
Effective Green, g (s)	14.8	130.7	111.9	111.9	9.0	9.0
Actuated g/C Ratio	0.10	0.87	0.75	0.75	0.06	0.06
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	174	4430	3793	1180	106	94
v/s Ratio Prot	0.05	c0.47	c0.72		c0.02	
v/s Ratio Perm				0.05		0.01
v/c Ratio	0.49	0.54	0.96	0.06	0.40	0.17
Uniform Delay, d1	64.0	2.3	17.1	5.1	67.9	67.0
Progression Factor	1.06	0.33	1.03	0.19	1.00	1.00
Incremental Delay, d2	0.6	0.4	4.8	0.1	2.4	0.9
Delay (s)	68.8	1.1	22.5	1.0	70.3	67.8
Level of Service	E	A	C	A	E	E
Approach Delay (s)		3.5	22.0		68.7	
Approach LOS		A	C		E	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	133	2326	0	3236	88	44	98
Future Volume (vph)	133	2326	0	3236	88	44	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.92	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3250	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3250	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	140	2448	0	3406	93	46	103
RTOR Reduction (vph)	0	0	0	0	5	49	48
Lane Group Flow (vph)	140	2448	0	3406	88	49	3
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	17.1	131.7		109.7	109.7	7.7	7.7
Effective Green, g (s)	17.1	131.7		109.7	109.7	7.7	7.7
Actuated g/C Ratio	0.11	0.88		0.73	0.73	0.05	0.05
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	201	4464		3718	1157	166	73
v/s Ratio Prot	c0.08	0.48		c0.67		c0.01	
v/s Ratio Perm					0.06		0.00
v/c Ratio	0.70	0.55		0.92	0.08	0.29	0.04
Uniform Delay, d1	64.0	2.2		16.4	5.7	68.5	67.6
Progression Factor	0.93	1.28		2.23	2.09	1.00	1.00
Incremental Delay, d2	8.9	0.4		0.5	0.0	1.0	0.2
Delay (s)	68.6	3.2		37.1	12.0	69.5	67.8
Level of Service	E	A		D	B	E	E
Approach Delay (s)		6.7		36.4		68.9	
Approach LOS		A		D		E	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1057	1354	28	22	2375	119	22	3	11	77	3	1214
Future Volume (vph)	1057	1354	28	22	2375	119	22	3	11	77	3	1214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5070		3204	5049		1652	1639		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5070		3204	5049		1652	1639		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1113	1425	29	23	2500	125	23	3	12	81	3	1278
RTOR Reduction (vph)	0	1	0	0	4	0	0	12	0	0	0	302
Lane Group Flow (vph)	1113	1453	0	23	2621	0	23	3	0	42	42	976
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	31.6	86.5		2.4	57.4		4.7	4.7		35.8	35.8	72.9
Effective Green, g (s)	31.6	86.5		2.4	57.4		4.7	4.7		35.8	35.8	72.9
Actuated g/C Ratio	0.21	0.58		0.02	0.38		0.03	0.03		0.24	0.24	0.49
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	674	2923		51	1932		51	51		387	390	1354
v/s Ratio Prot	c0.35	0.29		0.01	c0.52		c0.01	0.00		0.03	0.03	c0.35
v/s Ratio Perm												
v/c Ratio	1.65	0.50		0.45	1.36		0.45	0.07		0.11	0.11	0.72
Uniform Delay, d1	59.2	18.8		73.1	46.3		71.4	70.5		44.6	44.6	30.5
Progression Factor	0.91	1.26		1.09	0.65		1.00	1.00		0.41	0.41	0.95
Incremental Delay, d2	298.8	0.5		1.9	163.5		2.3	0.2		0.0	0.0	0.2
Delay (s)	352.6	24.3		81.6	193.7		73.7	70.7		18.2	18.2	29.1
Level of Service	F	C		F	F		E	E		B	B	C
Approach Delay (s)		166.7			192.7			72.5			28.4	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	148.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	107.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	141	809	0	2193	568	118	89
Future Volume (vph)	141	809	0	2193	568	118	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.97	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3156	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3156	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	145	834	0	2261	586	122	92
RTOR Reduction (vph)	0	0	0	0	52	14	62
Lane Group Flow (vph)	145	834	0	2261	534	133	5
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	17.0	128.5		106.8	123.7	10.9	10.9
Effective Green, g (s)	17.0	128.5		106.8	123.7	10.9	10.9
Actuated g/C Ratio	0.11	0.86		0.71	0.82	0.07	0.07
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	193	4211		3500	1218	229	115
v/s Ratio Prot	c0.08	0.17		c0.46	0.36	c0.04	
v/s Ratio Perm							0.00
v/c Ratio	0.75	0.20		0.65	0.44	0.58	0.04
Uniform Delay, d1	64.5	1.9		11.5	3.6	67.3	64.7
Progression Factor	1.28	0.09		1.71	2.35	1.00	1.00
Incremental Delay, d2	12.4	0.1		0.1	0.0	2.4	0.1
Delay (s)	95.0	0.3		19.8	8.5	69.8	64.8
Level of Service	F	A		B	A	E	E
Approach Delay (s)		14.3		17.5		68.2	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	164	690	3121	361	853	590
Future Volume (vph)	164	690	3121	361	853	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4638	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4638	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	167	704	3185	368	870	602
RTOR Reduction (vph)	0	0	1	58	0	1
Lane Group Flow (vph)	167	704	3221	273	870	601
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	7.6	103.0	91.2	91.2	36.0	48.6
Effective Green, g (s)	7.6	103.0	91.2	91.2	36.0	48.6
Actuated g/C Ratio	0.05	0.69	0.61	0.61	0.24	0.32
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	162	3258	2819	772	768	842
v/s Ratio Prot	c0.05	0.15	c0.69		c0.27	0.23
v/s Ratio Perm				0.22		
v/c Ratio	1.03	0.22	1.14	0.35	1.13	0.71
Uniform Delay, d1	71.2	8.6	29.4	14.7	57.0	44.6
Progression Factor	0.82	2.40	1.42	1.67	1.00	1.00
Incremental Delay, d2	78.7	0.2	66.9	0.7	75.6	2.4
Delay (s)	136.9	20.9	108.6	25.3	132.6	47.0
Level of Service	F	C	F	C	F	D
Approach Delay (s)		43.2	100.9		97.6	
Approach LOS		D	F		F	

Intersection Summary			
HCM 2000 Control Delay	91.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	1160	348	284	2771	33	305	29	227	40	85	90
Future Volume (vph)	17	1160	348	284	2771	33	305	29	227	40	85	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5076		1681	1581	1504		1741	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5076		1681	1581	1504		1741	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	17	1184	355	290	2828	34	311	30	232	41	87	92
RTOR Reduction (vph)	0	0	149	0	1	0	0	10	152	0	17	0
Lane Group Flow (vph)	17	1184	206	290	2861	0	199	185	27	0	203	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	2.6	74.8	74.8	17.0	88.8		22.7	22.7	22.7		16.1	
Effective Green, g (s)	2.6	74.8	74.8	17.0	88.8		22.7	22.7	22.7		16.1	
Actuated g/C Ratio	0.02	0.50	0.50	0.11	0.59		0.15	0.15	0.15		0.11	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	30	2535	789	389	3004		254	239	227		186	
v/s Ratio Prot	0.01	0.23		c0.08	c0.56		c0.12	0.12			c0.12	
v/s Ratio Perm			0.13						0.02			
v/c Ratio	0.57	0.47	0.26	0.75	0.95		0.78	0.77	0.12		1.09	
Uniform Delay, d1	73.1	24.6	21.7	64.4	28.6		61.3	61.2	55.0		67.0	
Progression Factor	1.35	0.24	0.05	1.27	0.72		1.00	1.00	1.00		1.00	
Incremental Delay, d2	9.5	0.4	0.5	4.1	5.7		13.5	13.2	0.1		92.6	
Delay (s)	108.3	6.4	1.7	85.6	26.4		74.8	74.4	55.1		159.5	
Level of Service	F	A	A	F	C		E	E	E		F	
Approach Delay (s)		6.4			31.8			68.5			159.5	
Approach LOS		A			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	71	1256	0	2796	141	118	216
Future Volume (vph)	71	1256	0	2796	141	118	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5049		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5049		3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	1322	0	2943	148	124	227
RTOR Reduction (vph)	0	0	0	2	0	0	70
Lane Group Flow (vph)	75	1322	0	3089	0	124	157
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	7.8	125.8		113.4		14.5	14.5
Effective Green, g (s)	7.8	125.8		113.4		14.5	14.5
Actuated g/C Ratio	0.05	0.84		0.76		0.10	0.10
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	178	4264		3817		331	269
v/s Ratio Prot	c0.02	0.26		c0.61		0.04	
v/s Ratio Perm							c0.06
v/c Ratio	0.42	0.31		0.81		0.37	0.58
Uniform Delay, d1	68.9	2.6		11.5		63.5	64.8
Progression Factor	0.68	1.67		0.45		1.00	1.00
Incremental Delay, d2	0.5	0.2		0.2		1.0	3.8
Delay (s)	47.5	4.6		5.4		64.5	68.6
Level of Service	D	A		A		E	E
Approach Delay (s)		6.9		5.4		67.1	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	1016	586	10	2717	126	1247	478	13	276	424	187
Future Volume (vph)	44	1016	586	10	2717	126	1247	478	13	276	424	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5051		2841	3024		3204	3377	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5051		2841	3024		3204	3377	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	45	1037	598	10	2772	129	1272	488	13	282	433	191
RTOR Reduction (vph)	0	0	36	0	3	0	0	1	0	0	34	0
Lane Group Flow (vph)	45	1037	562	10	2898	0	878	894	0	282	590	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.1	66.3	106.3	1.6	63.7		40.0	40.0		20.2	20.2	
Effective Green, g (s)	4.1	66.3	106.3	1.6	63.7		40.0	40.0		20.2	20.2	
Actuated g/C Ratio	0.03	0.44	0.71	0.01	0.42		0.27	0.27		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2172	1047	19	2144		757	806		431	454	
v/s Ratio Prot	c0.02	0.21	0.38	0.01	c0.57		c0.31	0.30		0.09	c0.17	
v/s Ratio Perm												
v/c Ratio	0.85	0.48	0.54	0.53	1.35		1.16	1.11		0.65	1.30	
Uniform Delay, d1	72.6	29.6	10.3	73.8	43.1		55.0	55.0		61.6	64.9	
Progression Factor	0.79	1.64	3.20	1.14	0.72		1.00	1.00		1.00	1.00	
Incremental Delay, d2	69.1	0.7	0.5	10.2	160.9		86.3	66.1		3.6	150.5	
Delay (s)	126.2	49.3	33.4	94.1	191.9		141.3	121.1		65.1	215.4	
Level of Service	F	D	C	F	F		F	F		E	F	
Approach Delay (s)		45.7			191.6			131.1			168.6	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	140.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1076	49	29	1809	18	237	13	85	46	1	45
Future Volume (vph)	39	1076	49	29	1809	18	237	13	85	46	1	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5052		1770	5078			1738			1697	
Flt Permitted	0.95	1.00		0.95	1.00			0.73			0.77	
Satd. Flow (perm)	1770	5052		1770	5078			1305			1346	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	1133	52	31	1904	19	249	14	89	48	1	47
RTOR Reduction (vph)	0	3	0	0	0	0	0	9	0	0	26	0
Lane Group Flow (vph)	41	1182	0	31	1923	0	0	343	0	0	70	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.6	86.8		4.5	84.2			44.1			44.1	
Effective Green, g (s)	6.6	86.8		4.5	84.2			44.1			44.1	
Actuated g/C Ratio	0.04	0.58		0.03	0.56			0.29			0.29	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	77	2923		53	2850			383			395	
v/s Ratio Prot	c0.02	0.23		0.02	c0.38							
v/s Ratio Perm								c0.26			0.05	
v/c Ratio	0.53	0.40		0.58	0.67			0.90			0.18	
Uniform Delay, d1	70.2	17.4		71.8	23.2			50.7			39.4	
Progression Factor	1.51	0.30		0.95	1.32			1.00			1.00	
Incremental Delay, d2	3.1	0.4		7.8	1.0			22.0			0.1	
Delay (s)	108.8	5.6		76.0	31.6			72.7			39.5	
Level of Service	F	A		E	C			E			D	
Approach Delay (s)		9.0			32.3			72.7			39.5	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	580	605	0	667	1041	0	0	0	150	0	1200
Future Volume (vph)	0	580	605	0	667	1041	0	0	0	150	0	1200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				4.7		4.7
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	611	637	0	702	1096	0	0	0	158	0	1263
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	611	637	0	702	1096	0	0	0	158	0	1216
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		57.8	150.0		57.8	150.0				81.5		81.5
Effective Green, g (s)		57.8	150.0		57.8	150.0				81.5		81.5
Actuated g/C Ratio		0.39	1.00		0.39	1.00				0.54		0.54
Clearance Time (s)		6.0			6.0					4.7		4.7
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1363	1583		1363	2787				1865		1514
v/s Ratio Prot		0.17			c0.20					0.05		
v/s Ratio Perm			0.40			0.39						c0.44
v/c Ratio		0.45	0.40		0.52	0.39				0.08		0.80
Uniform Delay, d1		34.3	0.0		35.4	0.0				16.4		27.8
Progression Factor		0.77	1.00		1.04	1.00				1.00		1.00
Incremental Delay, d2		1.0	0.7		1.3	0.4				0.0		3.0
Delay (s)		27.5	0.7		38.0	0.4				16.4		30.8
Level of Service		C	A		D	A				B		C
Approach Delay (s)		13.8			15.1			0.0			29.2	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	232	500	0	1408	133	490	0	716	0	0	0
Future Volume (vph)	0	232	500	0	1408	133	490	0	716	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	244	526	0	1482	140	516	0	754	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	618	0	0	0
Lane Group Flow (vph)	0	244	526	0	1482	140	516	0	136	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		109.8	150.0		109.8	150.0	27.1		27.1			
Effective Green, g (s)		109.8	150.0		109.8	150.0	27.1		27.1			
Actuated g/C Ratio		0.73	1.00		0.73	1.00	0.18		0.18			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2590	1583		4690	1583	620		503			
v/s Ratio Prot		0.07			0.23		c0.15					
v/s Ratio Perm			c0.33			0.09			0.05			
v/c Ratio		0.09	0.33		0.32	0.09	0.83		0.27			
Uniform Delay, d1		5.8	0.0		7.0	0.0	59.3		52.9			
Progression Factor		0.77	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.5		0.2	0.1	8.9		0.1			
Delay (s)		4.5	0.5		7.2	0.1	68.2		53.0			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		1.8			6.6			59.2			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	28	59	400	473	178	116	239	52	70	1030	178
Future Volume (vph)	18	28	59	400	473	178	116	239	52	70	1030	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.92			0.97		1.00	0.97		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3214			3385		1770	4949		1770	4973	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3214			3385		1770	4949		1770	4973	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	19	29	61	417	493	185	121	249	54	73	1073	185
RTOR Reduction (vph)	0	56	0	0	11	0	0	21	0	0	15	0
Lane Group Flow (vph)	0	53	0	0	1084	0	121	282	0	73	1243	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.8			41.1		12.2	41.2		8.0	36.6	
Effective Green, g (s)		9.8			41.1		12.2	41.2		8.0	36.6	
Actuated g/C Ratio		0.08			0.34		0.10	0.34		0.07	0.30	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		261			1156		179	1694		117	1512	
v/s Ratio Prot		c0.02			c0.32		c0.07	c0.06		0.04	c0.25	
v/s Ratio Perm												
v/c Ratio		0.20			0.94		0.68	0.17		0.62	0.82	
Uniform Delay, d1		51.6			38.4		52.1	27.6		54.7	38.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			14.6		8.4	0.1		7.2	3.8	
Delay (s)		52.5			53.0		60.5	27.6		61.9	42.6	
Level of Service		D			D		E	C		E	D	
Approach Delay (s)		52.5			53.0			37.0			43.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.3	Sum of lost time (s)	20.6
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	16	5	106	441	0	1545	232
Future Volume (vph)	16	5	106	441	0	1545	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.4	4.4	4.4	6.0		6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91		0.91	
Frt	0.99	0.85	1.00	1.00		0.98	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	3308	1633	3204	4916		4986	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	3308	1633	3204	4916		4986	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	17	5	112	464	0	1626	244
RTOR Reduction (vph)	1	4	0	0	0	7	0
Lane Group Flow (vph)	17	0	112	464	0	1863	0
Turn Type	Prot	Perm	Prot	NA		NA	
Protected Phases	7		5	2		6	
Permitted Phases		7					
Actuated Green, G (s)	3.5	3.5	15.6	136.1		116.1	
Effective Green, g (s)	3.5	3.5	15.6	136.1		116.1	
Actuated g/C Ratio	0.02	0.02	0.10	0.91		0.77	
Clearance Time (s)	4.4	4.4	4.4	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	77	38	333	4460		3859	
v/s Ratio Prot	c0.01		c0.03	0.09		c0.37	
v/s Ratio Perm		0.00					
v/c Ratio	0.22	0.00	0.34	0.10		0.48	
Uniform Delay, d1	71.9	71.5	62.4	0.7		6.1	
Progression Factor	1.00	1.00	0.81	1.19		1.00	
Incremental Delay, d2	0.5	0.0	0.2	0.0		0.4	
Delay (s)	72.4	71.6	50.7	0.9		6.6	
Level of Service	E	E	D	A		A	
Approach Delay (s)	72.3			10.6		6.6	
Approach LOS	E			B		A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	2	35	206	559	0	1511	22
Future Volume (vph)	2	35	206	559	0	1511	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.4	4.4	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5074	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5074	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	37	217	588	0	1591	23
RTOR Reduction (vph)	0	36	0	0	0	1	0
Lane Group Flow (vph)	2	1	217	588	0	1613	0
Turn Type	Prot	Perm	Prot	NA		NA	
Protected Phases	7		5	2		6	
Permitted Phases		7					
Actuated Green, G (s)	4.1	4.1	27.6	135.5		103.1	
Effective Green, g (s)	4.1	4.1	27.6	135.5		103.1	
Actuated g/C Ratio	0.03	0.03	0.18	0.90		0.69	
Clearance Time (s)	4.4	4.4	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	45	83	589	4440		3487	
v/s Ratio Prot	c0.00		c0.07	0.12		c0.32	
v/s Ratio Perm		0.00					
v/c Ratio	0.04	0.01	0.37	0.13		0.46	
Uniform Delay, d1	71.0	71.0	53.6	0.8		10.8	
Progression Factor	1.00	1.00	0.67	0.43		0.52	
Incremental Delay, d2	0.1	0.0	0.1	0.1		0.4	
Delay (s)	71.2	71.0	36.1	0.4		6.0	
Level of Service	E	E	D	A		A	
Approach Delay (s)	71.0			10.0		6.0	
Approach LOS	E			B		A	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	571	171	586	522	202	154	367	221	260	1054	101
Future Volume (vph)	86	571	171	586	522	202	154	367	221	260	1054	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.9	4.9	4.9	4.5	6.4	6.4	4.4	6.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	5019	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	5019	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	91	601	180	617	549	213	162	386	233	274	1109	106
RTOR Reduction (vph)	0	0	127	0	0	61	0	0	173	0	7	0
Lane Group Flow (vph)	91	601	53	617	549	152	162	386	60	274	1208	0
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	Prot	Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2	2	1	6	
Permitted Phases			4									
Actuated Green, G (s)	8.1	31.5	31.5	31.1	54.5	88.0	19.3	38.6	38.6	28.6	48.2	
Effective Green, g (s)	8.1	31.5	31.5	31.1	54.5	88.0	19.3	38.6	38.6	28.6	48.2	
Actuated g/C Ratio	0.05	0.21	0.21	0.21	0.36	0.59	0.13	0.26	0.26	0.19	0.32	
Clearance Time (s)	4.5	4.5	4.5	4.9	4.9		4.5	6.4	6.4	4.4	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	2.0		3.0	3.5	3.5	2.0	3.4	
Lane Grp Cap (vph)	185	743	332	711	1285	928	227	910	407	337	1612	
v/s Ratio Prot	0.03	c0.17		c0.18	0.16	0.10	0.09	0.11	0.04	c0.15	c0.24	
v/s Ratio Perm			0.03									
v/c Ratio	0.49	0.81	0.16	0.87	0.43	0.16	0.71	0.42	0.15	0.81	0.75	
Uniform Delay, d1	69.0	56.4	48.4	57.5	36.0	14.2	62.7	46.4	43.0	58.1	45.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.56	0.40	0.29	0.81	0.76	
Incremental Delay, d2	2.1	6.5	0.2	10.6	0.1	0.0	9.7	1.4	0.7	12.1	2.9	
Delay (s)	71.0	62.9	48.7	68.0	36.1	14.2	107.4	19.9	13.2	59.1	37.5	
Level of Service	E	E	D	E	D	B	F	B	B	E	D	
Approach Delay (s)		60.8			47.0			36.1			41.5	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	214	18	70	28	669	239	161	1811	15
Future Volume (vph)	1	2	3	214	18	70	28	669	239	161	1811	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1611		1770	3539	1583	1770	3535	
Flt Permitted		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1611		1770	3539	1583	1770	3535	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	2	3	225	19	74	29	704	252	169	1906	16
RTOR Reduction (vph)	0	3	0	0	22	0	0	0	63	0	0	0
Lane Group Flow (vph)	0	3	0	162	134	0	29	704	189	169	1922	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		1.2		20.5	20.5		4.9	79.9	79.9	28.5	103.5	
Effective Green, g (s)		1.2		20.5	20.5		4.9	79.9	79.9	28.5	103.5	
Actuated g/C Ratio		0.01		0.14	0.14		0.03	0.53	0.53	0.19	0.69	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		13		229	220		57	1885	843	336	2439	
v/s Ratio Prot		c0.00		c0.10	0.08		0.02	c0.20		0.10	c0.54	
v/s Ratio Perm									0.12			
v/c Ratio		0.23		0.71	0.61		0.51	0.37	0.22	0.50	0.79	
Uniform Delay, d1		73.9		61.9	61.0		71.4	20.4	18.6	54.4	15.8	
Progression Factor		1.00		1.00	1.00		1.02	0.48	0.29	0.69	0.36	
Incremental Delay, d2		3.3		10.8	6.0		2.3	0.5	0.5	0.3	2.0	
Delay (s)		77.3		72.6	66.9		75.1	10.4	5.9	37.8	7.7	
Level of Service		E		E	E		E	B	A	D	A	
Approach Delay (s)		77.3			69.8			11.2			10.1	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	46	22	61	521	640	31
Future Volume (vph)	46	22	61	521	640	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3514	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3514	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	48	23	64	548	674	33
RTOR Reduction (vph)	0	21	0	0	2	0
Lane Group Flow (vph)	48	2	64	548	705	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.1	6.1	5.2	73.8	64.2	
Effective Green, g (s)	6.1	6.1	5.2	73.8	64.2	
Actuated g/C Ratio	0.07	0.07	0.06	0.82	0.71	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	119	107	198	2901	2506	
v/s Ratio Prot	c0.03		c0.02	0.15	c0.20	
v/s Ratio Perm		0.00				
v/c Ratio	0.40	0.01	0.32	0.19	0.28	
Uniform Delay, d1	40.2	39.1	40.7	1.7	4.6	
Progression Factor	1.00	1.00	0.83	1.89	1.00	
Incremental Delay, d2	0.8	0.0	0.3	0.1	0.3	
Delay (s)	41.0	39.2	34.2	3.4	4.9	
Level of Service	D	D	C	A	A	
Approach Delay (s)	40.4			6.6	4.9	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	195	225	154	239	90	135	449	103	52	620	19
Future Volume (vph)	21	195	225	154	239	90	135	449	103	52	620	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3255		1770	3394		3433	3441		1770	3523	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3255		1770	3394		3433	3441		1770	3523	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	205	237	162	252	95	142	473	108	55	653	20
RTOR Reduction (vph)	0	185	0	0	52	0	0	17	0	0	2	0
Lane Group Flow (vph)	22	257	0	162	295	0	142	564	0	55	671	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.2	14.0		10.8	22.6		8.2	39.7		6.5	38.0	
Effective Green, g (s)	2.2	14.0		10.8	22.6		8.2	39.7		6.5	38.0	
Actuated g/C Ratio	0.02	0.16		0.12	0.25		0.09	0.44		0.07	0.42	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	43	506		212	852		312	1517		127	1487	
v/s Ratio Prot	0.01	c0.08		c0.09	0.09		c0.04	0.16		0.03	c0.19	
v/s Ratio Perm												
v/c Ratio	0.51	0.51		0.76	0.35		0.46	0.37		0.43	0.45	
Uniform Delay, d1	43.4	34.8		38.4	27.6		38.8	16.8		40.0	18.6	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.73		1.39	0.75	
Incremental Delay, d2	4.2	0.3		13.6	0.1		0.4	0.7		0.8	1.0	
Delay (s)	47.6	35.1		52.0	27.7		45.3	12.9		56.3	14.8	
Level of Service	D	D		D	C		D	B		E	B	
Approach Delay (s)		35.7			35.5			19.3			18.0	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	44	92	126	206	61	61	593	63	27	966	38
Future Volume (vph)	30	44	92	126	206	61	61	593	63	27	966	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1673		1770	1799		1770	3488		1770	3519	
Flt Permitted	0.37	1.00		0.55	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	685	1673		1024	1799		1770	3488		1770	3519	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	46	97	133	217	64	64	624	66	28	1017	40
RTOR Reduction (vph)	0	79	0	0	13	0	0	7	0	0	3	0
Lane Group Flow (vph)	32	64	0	133	268	0	64	683	0	28	1054	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.4	17.0		23.2	18.9		6.6	46.8		2.9	43.1	
Effective Green, g (s)	19.4	17.0		23.2	18.9		6.6	46.8		2.9	43.1	
Actuated g/C Ratio	0.22	0.19		0.26	0.21		0.07	0.52		0.03	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	176	316		299	377		129	1813		57	1685	
v/s Ratio Prot	0.00	0.04		c0.02	c0.15		c0.04	c0.20		0.02	c0.30	
v/s Ratio Perm	0.03			0.09								
v/c Ratio	0.18	0.20		0.44	0.71		0.50	0.38		0.49	0.63	
Uniform Delay, d1	28.4	30.8		27.5	33.0		40.1	12.9		42.8	17.4	
Progression Factor	1.00	1.00		1.00	1.00		0.97	1.15		1.31	0.82	
Incremental Delay, d2	0.2	0.1		0.4	4.9		1.0	0.5		2.2	1.6	
Delay (s)	28.6	30.9		27.9	38.0		40.0	15.3		58.3	16.0	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.5			34.7			17.4			17.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	122	102	124	160	110	42	307	27	82	920	134
Future Volume (vph)	227	122	102	124	160	110	42	307	27	82	920	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1736		1770	1749		1770	3497		1770	3472	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1736		1770	1749		1770	3497		1770	3472	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	239	128	107	131	168	116	44	323	28	86	968	141
RTOR Reduction (vph)	0	39	0	0	32	0	0	6	0	0	11	0
Lane Group Flow (vph)	239	196	0	131	252	0	44	345	0	86	1098	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.0	20.2		9.1	17.3		4.5	32.9		8.9	37.3	
Effective Green, g (s)	12.0	20.2		9.1	17.3		4.5	32.9		8.9	37.3	
Actuated g/C Ratio	0.13	0.22		0.10	0.19		0.05	0.37		0.10	0.41	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	236	389		178	336		88	1278		175	1438	
v/s Ratio Prot	c0.14	c0.11		0.07	c0.14		0.02	0.10		c0.05	c0.32	
v/s Ratio Perm												
v/c Ratio	1.01	0.50		0.74	0.75		0.50	0.27		0.49	0.76	
Uniform Delay, d1	39.0	30.5		39.3	34.3		41.7	20.1		38.4	22.6	
Progression Factor	1.00	1.00		1.00	1.00		1.20	0.75		1.38	0.63	
Incremental Delay, d2	61.9	0.4		12.7	7.8		1.6	0.5		0.7	3.3	
Delay (s)	100.9	30.9		52.0	42.1		51.8	15.5		53.7	17.6	
Level of Service	F	C		D	D		D	B		D	B	
Approach Delay (s)		66.2			45.2			19.6			20.2	
Approach LOS		E			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	14	294	1	62	1	306	76	33	1361	0
Future Volume (vph)	3	1	14	294	1	62	1	306	76	33	1361	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.91		1.00	0.91	
Frt		0.89			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1774	1583	1770	4933		1770	5085	
Flt Permitted		0.96			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1596			1329	1583	1770	4933		1770	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	1	15	309	1	65	1	322	80	35	1433	0
RTOR Reduction (vph)	0	10	0	0	0	45	0	40	0	0	0	0
Lane Group Flow (vph)	0	9	0	0	310	20	1	362	0	35	1433	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		27.9			27.9	27.9	1.0	43.5		3.9	46.6	
Effective Green, g (s)		27.9			27.9	27.9	1.0	43.5		3.9	46.6	
Actuated g/C Ratio		0.31			0.31	0.31	0.01	0.48		0.04	0.52	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		494			411	490	19	2384		76	2632	
v/s Ratio Prot							0.00	0.07		c0.02	c0.28	
v/s Ratio Perm		0.01			c0.23	0.01						
v/c Ratio		0.02			0.75	0.04	0.05	0.15		0.46	0.54	
Uniform Delay, d1		21.5			28.0	21.7	44.0	13.0		42.0	14.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.91	1.44	
Incremental Delay, d2		0.0			9.4	0.1	0.4	0.1		1.3	0.7	
Delay (s)		21.5			37.4	21.8	44.5	13.1		39.6	21.6	
Level of Service		C			D	C	D	B		D	C	
Approach Delay (s)		21.5			34.7			13.2			22.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	862	120	333	1113	158	154	250	101	627	1538	414
Future Volume (vph)	122	862	120	333	1113	158	154	250	101	627	1538	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9	4.5	4.5	4.5	4.4	5.9	5.9	4.5	7.0	4.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	128	907	126	351	1172	166	162	263	106	660	1619	436
RTOR Reduction (vph)	0	0	84	0	0	64	0	0	87	0	0	64
Lane Group Flow (vph)	128	907	42	351	1172	102	162	263	19	660	1619	372
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	7
Permitted Phases									2			6
Actuated Green, G (s)	9.0	28.3	39.2	21.9	41.2	73.9	6.5	21.8	21.8	28.2	42.5	51.5
Effective Green, g (s)	9.0	28.3	34.8	21.9	41.2	73.9	6.5	21.8	21.8	28.2	42.5	51.5
Actuated g/C Ratio	0.08	0.24	0.29	0.18	0.34	0.62	0.05	0.18	0.18	0.23	0.35	0.43
Clearance Time (s)	4.9	4.9		4.5	4.5		4.4	5.9	5.9	4.5	7.0	4.9
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	6.8	6.8	3.0	5.5	2.0
Lane Grp Cap (vph)	257	1199	459	626	1745	1716	185	923	287	806	1800	679
v/s Ratio Prot	0.04	c0.18	0.03	0.10	c0.23	0.04	c0.05	0.05		0.19	c0.32	0.04
v/s Ratio Perm									0.01			0.19
v/c Ratio	0.50	0.76	0.09	0.56	0.67	0.06	0.88	0.28	0.07	0.82	0.90	0.55
Uniform Delay, d1	53.3	42.6	31.1	44.7	33.6	9.2	56.3	42.4	40.7	43.5	36.7	25.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.77	0.45	1.00	1.00	1.00
Incremental Delay, d2	0.6	2.5	0.0	1.2	1.0	0.0	32.9	0.8	0.4	6.5	7.7	0.5
Delay (s)	53.9	45.1	31.1	45.8	34.7	9.2	79.5	33.4	18.6	50.0	44.4	26.0
Level of Service	D	D	C	D	C	A	E	C	B	D	D	C
Approach Delay (s)		44.6			34.5			44.5			42.8	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	58	2	2	3	506	595	6	0	1440	373
Future Volume (vph)	40	0	58	2	2	3	506	595	6	0	1440	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91	1.00		0.91	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	5085	1583		4928	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	5085	1583		4928	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	0	61	2	2	3	533	626	6	0	1516	393
RTOR Reduction (vph)	0	0	59	0	3	0	0	0	1	0	37	0
Lane Group Flow (vph)	21	21	2	0	4	0	533	626	5	0	1872	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	3.3	3.3	3.3		0.8		43.2	100.1	100.1		52.5	
Effective Green, g (s)	3.3	3.3	3.3		0.8		43.2	100.1	100.1		52.5	
Actuated g/C Ratio	0.03	0.03	0.03		0.01		0.36	0.83	0.83		0.44	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	46	46	43		11		637	4241	1320		2156	
v/s Ratio Prot	c0.01	0.01			c0.00		c0.30	0.12			c0.38	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.46	0.46	0.04		0.37		0.84	0.15	0.00		0.87	
Uniform Delay, d1	57.5	57.5	56.8		59.3		35.2	1.9	1.7		30.6	
Progression Factor	1.00	1.00	1.00		1.00		1.20	0.83	1.00		0.11	
Incremental Delay, d2	2.6	2.6	0.1		7.4		8.5	0.1	0.0		3.0	
Delay (s)	60.1	60.1	56.9		66.7		50.5	1.6	1.7		6.3	
Level of Service	E	E	E		E		D	A	A		A	
Approach Delay (s)		58.2			66.7			24.0			6.3	
Approach LOS		E			E			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	191	1	553	8	486	51	251	1111	0
Future Volume (vph)	0	0	0	191	1	553	8	486	51	251	1111	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.91		1.00	0.91	
Frt					1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	5013		1770	5085	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	5013		1770	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	201	1	582	8	512	54	264	1169	0
RTOR Reduction (vph)	0	0	0	0	0	27	0	9	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	202	555	8	557	0	264	1169	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					24.3	67.9	1.3	42.2		39.2	80.1	
Effective Green, g (s)					24.3	63.5	1.3	42.2		39.2	80.1	
Actuated g/C Ratio					0.20	0.53	0.01	0.35		0.33	0.67	
Clearance Time (s)					4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					274	837	19	1762		578	3394	
v/s Ratio Prot						c0.35	0.00	c0.11		0.15	c0.23	
v/s Ratio Perm					c0.15							
v/c Ratio					0.74	0.66	0.42	0.32		0.46	0.34	
Uniform Delay, d1					44.9	20.5	59.0	28.4		32.0	8.6	
Progression Factor					1.00	1.00	1.00	1.00		0.29	0.05	
Incremental Delay, d2					8.6	1.5	5.4	0.5		0.1	0.2	
Delay (s)					53.4	22.0	64.4	28.8		9.3	0.6	
Level of Service					D	C	E	C		A	A	
Approach Delay (s)		0.0			30.1			29.3			2.2	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	1038	168	92	1578	97	423	104	21	111	179	433
Future Volume (vph)	212	1038	168	92	1578	97	423	104	21	111	179	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6352		2841	2981		3204	1591	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6352		2841	2981		3204	1591	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	219	1070	173	95	1627	100	436	107	22	114	185	446
RTOR Reduction (vph)	0	0	76	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	219	1070	97	95	1723	0	292	270	0	114	230	401
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	18.0	89.4	89.4	15.1	86.3		29.5	29.5		35.4	35.4	58.7
Effective Green, g (s)	18.0	89.4	89.4	15.1	86.3		29.5	29.5		35.4	35.4	58.7
Actuated g/C Ratio	0.09	0.47	0.47	0.08	0.45		0.16	0.16		0.19	0.19	0.31
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	303	2313	744	131	2885		441	462		596	296	890
v/s Ratio Prot	c0.07	c0.22		0.06	c0.27		c0.10	0.09		0.04	c0.14	0.14
v/s Ratio Perm			0.06									
v/c Ratio	0.72	0.46	0.13	0.73	0.60		0.66	0.58		0.19	0.78	0.45
Uniform Delay, d1	83.6	34.0	28.4	85.4	38.8		75.6	74.5		65.2	73.5	52.7
Progression Factor	1.00	1.00	1.00	1.07	0.95		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.3	0.7	0.4	12.5	0.7		5.3	3.2		0.2	12.9	0.5
Delay (s)	91.8	34.7	28.7	103.8	37.4		80.8	77.7		65.4	86.4	53.2
Level of Service	F	C	C	F	D		F	E		E	F	D
Approach Delay (s)		42.6			40.9			79.3			65.3	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	50.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	1046	10	35	1526	105	22	29	224	544	120	269
Future Volume (vph)	103	1046	10	35	1526	105	22	29	224	544	120	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.2	6.0		4.4	6.2		4.4	5.2	5.2	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	108	1101	11	37	1606	111	23	31	236	573	126	283
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	81	0	0	105
Lane Group Flow (vph)	108	1112	0	37	1714	0	23	31	155	573	126	178
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.8	101.2		5.4	95.8		23.3	25.1	25.1	38.3	39.6	39.6
Effective Green, g (s)	10.8	101.2		5.4	95.8		23.3	25.1	25.1	38.3	39.6	39.6
Actuated g/C Ratio	0.06	0.53		0.03	0.50		0.12	0.13	0.13	0.20	0.21	0.21
Clearance Time (s)	4.2	6.0		4.4	6.2		4.4	5.2	5.2	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	182	2704		91	2539		202	229	209	645	388	329
v/s Ratio Prot	c0.03	0.22		0.01	c0.34		0.01	0.02		c0.18	0.07	
v/s Ratio Perm									c0.10			0.11
v/c Ratio	0.59	0.41		0.41	0.67		0.11	0.14	0.74	0.89	0.32	0.54
Uniform Delay, d1	87.5	26.6		90.7	35.4		74.2	72.9	79.3	73.8	63.8	67.1
Progression Factor	1.08	0.80		0.73	1.27		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.4		0.8	1.1		0.3	0.2	12.9	13.7	0.3	1.2
Delay (s)	98.0	21.7		67.2	46.2		74.4	73.1	92.3	87.5	64.1	68.3
Level of Service	F	C		E	D		E	E	F	F	E	E
Approach Delay (s)		28.5			46.6			88.8			78.9	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	51.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1624	89	111	996	119	170	39	395	1191	274	478
Future Volume (vph)	82	1624	89	111	996	119	170	39	395	1191	274	478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5046		1652	5085	1583	1652	2867	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5046		1652	5085	1583	1652	2867	1489	3204	3893	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	86	1709	94	117	1048	125	179	41	416	1254	288	503
RTOR Reduction (vph)	0	3	0	0	0	0	0	103	115	0	0	191
Lane Group Flow (vph)	86	1800	0	117	1048	125	179	146	93	1254	288	312
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	18.6	65.0		19.2	65.7	190.0	25.4	18.2	18.2	67.9	60.7	60.7
Effective Green, g (s)	18.6	65.0		19.2	65.7	190.0	25.4	18.2	18.2	67.9	60.7	60.7
Actuated g/C Ratio	0.10	0.34		0.10	0.35	1.00	0.13	0.10	0.10	0.36	0.32	0.32
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	161	1726		166	1758	1583	220	274	142	1145	1243	505
v/s Ratio Prot	0.05	c0.36		c0.07	0.21		0.11	0.05		c0.39	0.07	
v/s Ratio Perm						0.08			0.06			c0.20
v/c Ratio	0.53	1.04		0.70	0.60	0.08	0.81	0.86dr	0.66	1.10	0.23	0.62
Uniform Delay, d1	81.6	62.5		82.7	51.2	0.0	80.0	81.8	82.9	61.0	47.5	54.8
Progression Factor	0.97	0.94		0.92	1.06	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	32.2		10.1	1.4	0.1	20.1	2.3	11.0	56.5	0.2	3.2
Delay (s)	80.4	91.1		86.4	55.9	0.1	100.1	84.1	93.9	117.6	47.7	58.0
Level of Service	F	F		F	E	A	F	F	F	F	D	E
Approach Delay (s)		90.6			53.3			91.8			93.1	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	83.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	2754	97	21	650	9	185	20	86	90	8	305
Future Volume (vph)	232	2754	97	21	650	9	185	20	86	90	8	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5059		1770	5075		1681	1588		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5059		1770	5075		1681	1588		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	239	2839	100	22	670	9	191	21	89	93	8	314
RTOR Reduction (vph)	0	2	0	0	0	0	0	32	0	0	0	137
Lane Group Flow (vph)	239	2937	0	22	679	0	155	114	0	93	8	177
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	30.0	128.9		4.8	103.9		21.9	21.9		14.2	14.2	44.2
Effective Green, g (s)	30.0	128.9		4.8	103.9		21.9	21.9		14.2	14.2	44.2
Actuated g/C Ratio	0.16	0.68		0.03	0.55		0.12	0.12		0.07	0.07	0.23
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	279	3432		44	2775		193	183		123	139	368
v/s Ratio Prot	c0.14	c0.58		0.01	0.13		c0.09	0.07		c0.06	0.00	0.11
v/s Ratio Perm												
v/c Ratio	0.86	0.86		0.50	0.24		0.80	0.62		0.76	0.06	0.48
Uniform Delay, d1	77.9	23.4		91.4	22.5		81.9	80.1		86.2	81.7	63.0
Progression Factor	0.91	1.74		0.77	1.20		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.8	0.7		3.2	0.2		19.9	4.7		20.6	0.1	0.4
Delay (s)	76.9	41.5		73.3	27.2		101.8	84.8		106.8	81.7	63.4
Level of Service	E	D		E	C		F	F		F	F	E
Approach Delay (s)		44.2			28.6			93.6			73.5	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	47.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	2679	11	34	663	30	29	14	328	106	4	82
Future Volume (vph)	54	2679	11	34	663	30	29	14	328	106	4	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5052		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5052		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	55	2734	11	35	677	31	30	14	335	108	4	84
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	98	0	0	66
Lane Group Flow (vph)	55	2745	0	35	706	0	30	14	237	108	4	18
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	9.9	118.2		5.7	114.3		6.3	32.2	32.2	14.2	40.1	40.1
Effective Green, g (s)	9.9	118.2		5.7	114.3		6.3	32.2	32.2	14.2	40.1	40.1
Actuated g/C Ratio	0.05	0.62		0.03	0.60		0.03	0.17	0.17	0.07	0.21	0.21
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	92	3161		53	3039		58	315	268	132	393	334
v/s Ratio Prot	c0.03	c0.54		0.02	0.14		0.02	0.01		c0.06	0.00	
v/s Ratio Perm									c0.15			0.01
v/c Ratio	0.60	0.87		0.66	0.23		0.52	0.04	0.88	0.82	0.01	0.05
Uniform Delay, d1	88.1	29.5		91.2	17.5		90.4	66.0	77.1	86.6	59.3	59.8
Progression Factor	1.01	1.42		1.26	0.41		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	1.9		21.1	0.2		3.2	0.0	26.6	29.6	0.0	0.0
Delay (s)	92.7	43.8		135.7	7.4		93.6	66.0	103.7	116.3	59.3	59.8
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		44.8			13.5			101.5			90.9	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	2408	524	52	472	25	184	45	139	148	95	53
Future Volume (vph)	62	2408	524	52	472	25	184	45	139	148	95	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4949		1652	5047		1625	1717	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4949		1652	5047		1625	1717	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	2535	552	55	497	26	194	47	146	156	100	56
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	132	0	0	49
Lane Group Flow (vph)	65	3073	0	55	521	0	120	121	14	156	100	7
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.9	115.8		12.4	115.8		18.4	18.4	18.4	23.2	23.2	23.2
Effective Green, g (s)	11.9	115.8		12.4	115.8		18.4	18.4	18.4	23.2	23.2	23.2
Actuated g/C Ratio	0.06	0.61		0.07	0.61		0.10	0.10	0.10	0.12	0.12	0.12
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	103	3016		107	3076		157	166	153	201	227	206
v/s Ratio Prot	c0.04	c0.62		0.03	0.10		c0.07	0.07		c0.09	0.05	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.63	1.02		0.51	0.17		0.76	0.73	0.09	0.78	0.44	0.03
Uniform Delay, d1	86.9	37.1		85.9	16.2		83.7	83.4	78.2	80.9	77.4	73.5
Progression Factor	1.29	0.42		1.27	0.88		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	16.7		1.7	0.1		17.8	12.7	0.1	17.0	1.4	0.1
Delay (s)	116.4	32.1		110.7	14.3		101.5	96.1	78.3	97.8	78.7	73.6
Level of Service	F	C		F	B		F	F	E	F	E	E
Approach Delay (s)		33.8			23.5			91.0			87.4	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	2452	142	62	437	36	100	27	197	20	12	20
Future Volume (vph)	28	2452	142	62	437	36	100	27	197	20	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5044		1770	5027		3433	1617		1770	1690	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5044		1770	5027		3433	1617		1770	1690	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	2581	149	65	460	38	105	28	207	21	13	21
RTOR Reduction (vph)	0	2	0	0	4	0	0	95	0	0	19	0
Lane Group Flow (vph)	29	2728	0	65	494	0	105	140	0	21	15	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.7	134.1		11.4	138.8		10.2	20.9		3.9	14.6	
Effective Green, g (s)	6.7	134.1		11.4	138.8		10.2	20.9		3.9	14.6	
Actuated g/C Ratio	0.04	0.71		0.06	0.73		0.05	0.11		0.02	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	62	3560		106	3672		184	177		36	129	
v/s Ratio Prot	0.02	c0.54		c0.04	0.10		c0.03	c0.09		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.47	0.77		0.61	0.13		0.57	0.79		0.58	0.11	
Uniform Delay, d1	89.9	17.9		87.1	7.7		87.8	82.4		92.2	81.7	
Progression Factor	1.09	0.27		1.04	0.89		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.5		6.9	0.1		2.6	19.1		14.6	0.1	
Delay (s)	98.7	5.4		97.8	6.9		90.4	101.5		106.8	81.8	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		6.4			17.4			98.1			91.4	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	2329	148	160	430	195	166	336	582	538	261	53
Future Volume (vph)	64	2329	148	160	430	195	166	336	582	538	261	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5040		1652	4847		1652	3421	1531	3204	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5040		1652	4847		1652	3421	1531	3204	3450	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	2377	151	163	439	199	169	343	594	549	266	54
RTOR Reduction (vph)	0	4	0	0	42	0	0	0	30	0	10	0
Lane Group Flow (vph)	65	2524	0	163	596	0	169	343	564	549	310	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	11.4	86.9		18.6	94.0		40.6	38.0	62.6	25.6	22.6	
Effective Green, g (s)	11.4	86.9		18.6	94.0		40.6	38.0	62.6	25.6	22.6	
Actuated g/C Ratio	0.06	0.46		0.10	0.49		0.21	0.20	0.33	0.13	0.12	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	99	2305		161	2397		353	684	504	431	410	
v/s Ratio Prot	0.04	c0.50		0.10	0.12		0.10	0.10	c0.37	c0.17	0.09	
v/s Ratio Perm												
v/c Ratio	0.66	1.10		1.01	0.25		0.48	0.50	1.12	1.27	0.76	
Uniform Delay, d1	87.4	51.5		85.7	27.7		65.4	67.6	63.7	82.2	81.0	
Progression Factor	1.26	0.67		1.32	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.6	48.1		73.7	0.2		1.0	0.7	77.3	140.3	7.9	
Delay (s)	117.8	82.5		187.1	26.9		66.5	68.3	141.0	222.5	88.9	
Level of Service	F	F		F	C		E	E	F	F	F	
Approach Delay (s)		83.4			59.5			107.1			173.3	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	99.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	3238	32	62	786	83	13	20	41	64	3	22
Future Volume (vph)	137	3238	32	62	786	83	13	20	41	64	3	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5012			1828	1583	1770	1616	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5012			1646	1583	1369	1616	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	141	3338	33	64	810	86	13	21	42	66	3	23
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	39	0	21	0
Lane Group Flow (vph)	141	3371	0	64	892	0	0	34	3	66	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	19.4	149.4		11.7	141.7			13.6	13.6	13.6	13.6	
Effective Green, g (s)	19.4	149.4		11.7	141.7			13.6	13.6	13.6	13.6	
Actuated g/C Ratio	0.10	0.79		0.06	0.75			0.07	0.07	0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	180	3992		108	3737			117	113	97	115	
v/s Ratio Prot	c0.08	c0.66		0.04	0.18						0.00	
v/s Ratio Perm								0.02	0.00	c0.05		
v/c Ratio	0.78	0.84		0.59	0.24			0.29	0.03	0.68	0.04	
Uniform Delay, d1	83.2	12.9		86.8	7.5			83.6	82.0	86.1	82.1	
Progression Factor	1.07	0.35		0.95	0.81			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.9	0.2		5.6	0.1			0.5	0.0	14.5	0.1	
Delay (s)	91.0	4.8		88.0	6.2			84.1	82.1	100.6	82.2	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		8.2			11.7			83.0			95.4	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	3327	22	50	894	46	4	22	69	48	4	13
Future Volume (vph)	37	3327	22	50	894	46	4	22	69	48	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5048			1677		1770	1649	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.31	1.00	
Satd. Flow (perm)	1770	5080		1770	5048			1663		569	1649	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	38	3430	23	52	922	47	4	23	71	49	4	13
RTOR Reduction (vph)	0	0	0	0	2	0	0	57	0	0	12	0
Lane Group Flow (vph)	38	3453	0	52	967	0	0	41	0	49	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.5	151.1		10.5	153.8			13.1		13.1	13.1	
Effective Green, g (s)	7.5	151.1		10.5	153.8			13.1		13.1	13.1	
Actuated g/C Ratio	0.04	0.80		0.06	0.81			0.07		0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	69	4039		97	4086			114		39	113	
v/s Ratio Prot	0.02	c0.68		c0.03	c0.19						0.00	
v/s Ratio Perm								0.02		c0.09		
v/c Ratio	0.55	0.85		0.54	0.24			0.36		1.26	0.04	
Uniform Delay, d1	89.6	12.4		87.4	4.3			84.5		88.5	82.6	
Progression Factor	1.24	0.34		0.76	2.22			1.00		1.00	1.00	
Incremental Delay, d2	3.0	1.4		2.7	0.1			0.7		229.2	0.1	
Delay (s)	114.2	5.7		69.4	9.6			85.2		317.7	82.7	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		6.9			12.6			85.2			257.1	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	3100	212	101	925	85	39	80	107	29	51	68
Future Volume (vph)	103	3100	212	101	925	85	39	80	107	29	51	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5036		1770	5021		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5036		1770	5021		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	108	3263	223	106	974	89	41	84	113	31	54	72
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	101	0	0	67
Lane Group Flow (vph)	108	3483	0	106	1059	0	41	84	12	31	54	5
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.9	134.4		17.5	135.5		5.6	14.6	14.6	3.8	12.8	12.8
Effective Green, g (s)	15.9	134.4		17.5	135.5		5.6	14.6	14.6	3.8	12.8	12.8
Actuated g/C Ratio	0.08	0.71		0.09	0.71		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	148	3562		163	3580		52	143	121	35	125	106
v/s Ratio Prot	c0.06	c0.69		0.06	0.21		c0.02	c0.05		0.02	0.03	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.73	0.98		0.65	0.30		0.79	0.59	0.10	0.89	0.43	0.05
Uniform Delay, d1	85.0	26.4		83.3	9.9		91.6	84.8	81.6	92.9	85.1	82.9
Progression Factor	0.87	0.63		0.91	0.65		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9	7.0		6.4	0.2		50.6	3.9	0.1	103.6	0.9	0.1
Delay (s)	81.6	23.6		82.6	6.7		142.2	88.7	81.7	196.5	86.0	83.0
Level of Service	F	C		F	A		F	F	F	F	F	F
Approach Delay (s)		25.4			13.6			94.6			106.4	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	2594	284	73	973	75	167	164	41	52	132	75
Future Volume (vph)	138	2594	284	73	973	75	167	164	41	52	132	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5010		1770	5085	1583	1770	3434		1770	3347	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5010		1770	5085	1583	1770	3434		1770	3347	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	145	2731	299	77	1024	79	176	173	43	55	139	79
RTOR Reduction (vph)	0	7	0	0	0	34	0	11	0	0	45	0
Lane Group Flow (vph)	145	3023	0	77	1024	45	176	205	0	55	173	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	19.7	115.7		11.4	107.4	107.4	26.6	26.6		16.4	16.4	
Effective Green, g (s)	19.7	115.7		11.4	107.4	107.4	26.6	26.6		16.4	16.4	
Actuated g/C Ratio	0.10	0.61		0.06	0.57	0.57	0.14	0.14		0.09	0.09	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	183	3050		106	2874	894	247	480		152	288	
v/s Ratio Prot	c0.08	c0.60		0.04	0.20		c0.10	0.06		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.79	0.99		0.73	0.36	0.05	0.71	0.43		0.36	0.60	
Uniform Delay, d1	83.2	36.7		87.8	22.5	18.5	78.0	74.7		81.9	83.7	
Progression Factor	1.25	0.40		1.12	0.64	0.16	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	7.7		16.4	0.3	0.1	9.8	0.8		2.2	4.3	
Delay (s)	111.2	22.5		114.3	14.6	3.1	87.8	75.5		84.1	87.9	
Level of Service	F	C		F	B	A	F	E		F	F	
Approach Delay (s)		26.5			20.3			81.0			87.2	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	2160	63	310	1024	269	151	644	141	338	464	134
Future Volume (vph)	236	2160	63	310	1024	269	151	644	141	338	464	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3420	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	243	2227	65	320	1056	277	156	664	145	348	478	138
RTOR Reduction (vph)	0	1	0	0	0	116	0	0	57	0	14	0
Lane Group Flow (vph)	243	2291	0	320	1056	161	156	664	88	348	602	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	18.4	95.1		20.4	97.2	97.2	18.7	34.0	34.0	20.7	35.8	
Effective Green, g (s)	18.4	95.1		20.4	97.2	97.2	18.7	34.0	34.0	20.7	35.8	
Actuated g/C Ratio	0.10	0.50		0.11	0.51	0.51	0.10	0.18	0.18	0.11	0.19	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	310	2365		344	2514	756	168	849	264	374	644	
v/s Ratio Prot	0.08	c0.48		c0.10	0.21		0.09	0.14		c0.10	c0.18	
v/s Ratio Perm						0.11			0.06			
v/c Ratio	0.78	0.97		0.93	0.42	0.21	0.93	0.78	0.33	0.93	0.94	
Uniform Delay, d1	83.9	46.0		84.1	28.9	25.4	85.0	74.5	68.1	83.9	76.0	
Progression Factor	1.21	0.65		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.5	5.0		30.8	0.5	0.6	47.9	5.3	1.3	29.1	21.2	
Delay (s)	105.2	34.7		114.9	29.4	26.1	132.9	79.7	69.4	113.1	97.1	
Level of Service	F	C		F	C	C	F	E	E	F	F	
Approach Delay (s)		41.5			45.4			86.8			102.9	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	59.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	89	471	434	100	335	558
Future Volume (vph)	89	471	434	100	335	558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	3440		1723	1504
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	1863	3440		1723	1504
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	94	496	457	105	353	587
RTOR Reduction (vph)	0	0	31	0	20	102
Lane Group Flow (vph)	94	496	531	0	468	350
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	6.2	27.7	17.5		19.9	30.6
Effective Green, g (s)	6.2	27.7	17.5		19.9	30.6
Actuated g/C Ratio	0.11	0.49	0.31		0.35	0.54
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	192	903	1054		600	805
v/s Ratio Prot	0.05	c0.27	0.15		c0.27	0.23
v/s Ratio Perm						
v/c Ratio	0.49	0.55	0.50		0.78	0.43
Uniform Delay, d1	24.0	10.3	16.2		16.6	8.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	1.2	0.8		6.5	0.4
Delay (s)	24.7	11.5	17.0		23.2	8.4
Level of Service	C	B	B		C	A
Approach Delay (s)		13.6	17.0		16.1	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	864	18	17	206	24	14	1	54	258	2	44
Future Volume (vph)	6	864	18	17	206	24	14	1	54	258	2	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1857		1770	1834			1649			1752	
Flt Permitted	0.61	1.00		0.10	1.00			0.91			0.71	
Satd. Flow (perm)	1133	1857		195	1834			1523			1292	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	909	19	18	217	25	15	1	57	272	2	46
RTOR Reduction (vph)	0	1	0	0	5	0	0	41	0	0	7	0
Lane Group Flow (vph)	6	927	0	18	237	0	0	32	0	0	313	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	42.0	42.0		41.4	41.4			21.1			21.1	
Effective Green, g (s)	42.0	42.0		41.4	41.4			21.1			21.1	
Actuated g/C Ratio	0.58	0.58		0.57	0.57			0.29			0.29	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	652	1069		110	1041			440			373	
v/s Ratio Prot		c0.50			0.13							
v/s Ratio Perm	0.01			0.09				0.02			c0.24	
v/c Ratio	0.01	0.87		0.16	0.23			0.07			0.84	
Uniform Delay, d1	6.6	13.1		7.5	7.8			18.8			24.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	7.6		0.6	0.1			0.0			14.5	
Delay (s)	6.6	20.6		8.1	7.9			18.8			38.8	
Level of Service	A	C		A	A			B			D	
Approach Delay (s)		20.5			7.9			18.8			38.8	
Approach LOS		C			A			B			D	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	72.9	Sum of lost time (s)	10.4
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	406	286	461	89	68	168	129	1951	84	102	1580	96
Future Volume (vph)	406	286	461	89	68	168	129	1951	84	102	1580	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1886		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1886		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	427	301	485	94	72	177	136	2054	88	107	1663	101
RTOR Reduction (vph)	0	0	127	0	59	0	0	0	21	0	0	21
Lane Group Flow (vph)	427	301	358	94	190	0	136	2054	67	107	1663	80
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	37.1	37.1	55.2	21.0	21.0		13.7	71.4	97.3	9.6	67.3	104.4
Effective Green, g (s)	37.1	37.1	50.8	21.0	21.0		13.7	71.4	92.4	9.6	67.3	104.4
Actuated g/C Ratio	0.23	0.23	0.32	0.13	0.13		0.09	0.45	0.58	0.06	0.42	0.65
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	383	403	486	216	247		146	1473	914	99	1438	998
v/s Ratio Prot	c0.26	0.17	0.23	0.06	c0.10		c0.08	c0.62	0.04	0.06	0.49	0.05
v/s Ratio Perm												
v/c Ratio	1.11	0.75	0.74	0.44	0.77		0.93	1.39	0.07	1.08	1.16	0.08
Uniform Delay, d1	61.5	57.1	48.6	64.0	67.2		72.7	44.3	14.9	75.2	46.4	10.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.71	0.51	0.33	0.88	0.92	0.70
Incremental Delay, d2	80.9	6.7	5.2	1.3	13.3		41.7	180.3	0.0	106.4	77.5	0.0
Delay (s)	142.3	63.8	53.8	65.4	80.5		93.6	202.9	5.0	172.4	120.3	7.2
Level of Service	F	E	D	E	F		F	F	A	F	F	A
Approach Delay (s)		87.4			76.3			188.7			117.2	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	137.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	175	0	18	0	125	72	17	401	0
Future Volume (vph)	1	0	1	175	0	18	0	125	72	17	401	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	1	184	0	19	0	132	76	18	422	0
RTOR Reduction (vph)	0	2	0	0	0	16	0	0	26	0	0	0
Lane Group Flow (vph)	0	0	0	0	184	4	0	132	50	18	422	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.5			7.0	7.0		13.5	25.0	0.5	18.0	
Effective Green, g (s)		0.5			7.0	7.0		13.5	25.0	0.5	18.0	
Actuated g/C Ratio		0.01			0.18	0.18		0.36	0.66	0.01	0.47	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		22			326	291		661	1041	23	882	
v/s Ratio Prot		c0.00			c0.10			0.07	0.03	0.01	c0.23	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.56	0.01		0.20	0.05	0.78	0.48	
Uniform Delay, d1		18.5			14.1	12.7		8.5	2.3	18.7	6.8	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.3	0.0		0.1	0.0	88.7	0.4	
Delay (s)		18.5			15.4	12.7		8.7	2.3	107.4	7.2	
Level of Service		B			B	B		A	A	F	A	
Approach Delay (s)		18.5			15.2			6.3			11.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	38.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	915	250	104	299	7	139	9	201	74	84	124
Future Volume (vph)	24	915	250	104	299	7	139	9	201	74	84	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3425		1770	3528		1770	1863	1583	1770	1697	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3425		1770	3528		1770	1863	1583	1770	1697	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	25	953	260	108	311	7	145	9	209	77	88	129
RTOR Reduction (vph)	0	24	0	0	2	0	0	0	64	0	71	0
Lane Group Flow (vph)	25	1189	0	108	316	0	145	9	145	77	146	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	2.0	34.0		4.6	37.1		5.7	13.2	22.7	3.8	11.3	
Effective Green, g (s)	2.0	34.0		4.6	37.1		5.7	13.2	22.7	3.8	11.3	
Actuated g/C Ratio	0.03	0.45		0.06	0.49		0.08	0.18	0.30	0.05	0.15	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	46	1544		107	1735		133	326	476	89	254	
v/s Ratio Prot	0.01	c0.35		c0.06	c0.09		c0.08	0.00	0.09	0.04	c0.09	
v/s Ratio Perm												
v/c Ratio	0.54	0.77		1.01	0.18		1.09	0.03	0.31	0.87	0.57	
Uniform Delay, d1	36.2	17.4		35.4	10.7		34.9	25.8	20.3	35.5	29.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.9	2.4		89.5	0.1		104.3	0.0	0.1	52.2	1.9	
Delay (s)	43.1	19.8		124.9	10.7		139.1	25.8	20.4	87.7	31.7	
Level of Service	D	B		F	B		F	C	C	F	C	
Approach Delay (s)		20.3			39.7			68.0			46.4	
Approach LOS		C			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	75.4	Sum of lost time (s)	19.8
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	1138	418	246	1637	110	271	25	247	496	92	415
Future Volume (vph)	73	1138	418	246	1637	110	271	25	247	496	92	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5037		1681	1699	1583	1610	3034	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5037		1681	1699	1583	1610	3034	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	74	1161	427	251	1670	112	277	26	252	506	94	423
RTOR Reduction (vph)	0	0	289	0	5	0	0	0	192	0	170	0
Lane Group Flow (vph)	74	1161	138	251	1777	0	150	153	60	354	499	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	10.7	48.6	48.6	14.8	52.7		18.7	18.7	18.7	48.4	48.4	
Effective Green, g (s)	10.7	48.6	48.6	14.8	52.7		18.7	18.7	18.7	48.4	48.4	
Actuated g/C Ratio	0.07	0.32	0.32	0.10	0.35		0.12	0.12	0.12	0.32	0.32	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	126	1647	512	338	1769		209	211	197	519	978	
v/s Ratio Prot	0.04	0.23		c0.07	c0.35		0.09	c0.09		c0.22	0.16	
v/s Ratio Perm			0.09						0.04			
v/c Ratio	0.59	0.70	0.27	0.74	1.00		0.72	0.73	0.31	0.68	0.51	
Uniform Delay, d1	67.5	44.4	37.6	65.7	48.6		63.1	63.2	59.7	44.1	41.2	
Progression Factor	1.00	1.00	1.00	1.41	0.66		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.4	2.6	1.3	4.4	17.3		9.4	10.0	0.3	5.6	1.2	
Delay (s)	72.0	47.0	38.9	96.8	49.3		72.5	73.2	60.1	49.8	42.4	
Level of Service	E	D	D	F	D		E	E	E	D	D	
Approach Delay (s)		46.0			55.1			67.0			45.0	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	51.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	1618	187	505	1614	323	253	70	843	1058	264	198
Future Volume (vph)	27	1618	187	505	1614	323	253	70	843	1058	264	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	28	1703	197	532	1699	340	266	74	887	1114	278	208
RTOR Reduction (vph)	0	0	106	0	0	124	0	0	50	0	0	49
Lane Group Flow (vph)	28	1703	91	532	1699	216	266	74	837	1114	278	159
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.0	42.5	42.5	17.1	56.3	95.2	15.5	37.0	59.1	33.6	54.8	64.1
Effective Green, g (s)	4.0	42.5	42.5	17.1	56.3	95.2	15.5	37.0	59.1	33.6	54.8	64.1
Actuated g/C Ratio	0.03	0.28	0.28	0.11	0.38	0.63	0.10	0.25	0.39	0.22	0.37	0.43
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	91	1440	448	391	1908	1768	354	872	1098	768	1292	676
v/s Ratio Prot	0.01	c0.33		c0.15	0.33	0.08	0.08	0.02	c0.30	c0.32	0.08	0.10
v/s Ratio Perm			0.06									
v/c Ratio	0.31	1.18	0.20	1.36	0.89	0.12	0.75	0.08	0.76	1.45	0.22	0.23
Uniform Delay, d1	71.6	53.8	40.9	66.5	44.0	10.9	65.4	43.5	39.4	58.2	32.8	27.3
Progression Factor	1.11	0.62	0.33	1.15	1.15	1.91	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	87.9	0.8	175.0	5.5	0.0	7.8	0.1	3.8	210.0	0.2	0.3
Delay (s)	80.1	121.1	14.3	251.7	56.2	20.8	73.1	43.6	43.2	268.2	32.9	27.7
Level of Service	F	F	B	F	E	C	E	D	D	F	C	C
Approach Delay (s)		109.6			92.0			49.7			196.1	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	112.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2212	1260	0	1437	923	0	0	0	242	0	877
Future Volume (vph)	0	2212	1260	0	1437	923	0	0	0	242	0	877
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2328	1326	0	1513	972	0	0	0	255	0	923
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	27
Lane Group Flow (vph)	0	2328	1326	0	1513	972	0	0	0	255	0	896
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		85.6	150.0		85.6	150.0				52.2		52.2
Effective Green, g (s)		85.6	150.0		85.6	145.3				52.2		52.2
Actuated g/C Ratio		0.57	1.00		0.57	0.97				0.35		0.35
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2901	2787		2901	1533				1194		969
v/s Ratio Prot		c0.46			0.30	0.61				0.07		c0.32
v/s Ratio Perm			0.48									
v/c Ratio		0.80	0.48		0.52	0.63				0.21		0.92
Uniform Delay, d1		25.5	0.0		19.7	0.2				34.4		47.0
Progression Factor		0.66	1.00		1.05	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.1		0.6	0.6				0.0		13.8
Delay (s)		17.1	0.1		21.3	0.8				34.5		60.8
Level of Service		B	A		C	A				C		E
Approach Delay (s)		10.9			13.3			0.0			55.1	
Approach LOS		B			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1135	1364	0	1811	945	462	0	145	0	0	0
Future Volume (vph)	0	1135	1364	0	1811	945	462	0	145	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1170	1406	0	1867	974	476	0	149	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	124	0	0	0
Lane Group Flow (vph)	0	1170	1406	0	1867	974	476	0	25	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		112.3	150.0		112.3	150.0	25.5		25.5			
Effective Green, g (s)		112.3	145.3		112.3	150.0	25.5		25.5			
Actuated g/C Ratio		0.75	0.97		0.75	1.00	0.17		0.17			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3806	1533		4797	1583	583		473			
v/s Ratio Prot		0.23	c0.89		0.29		0.14					
v/s Ratio Perm						0.62			0.01			
v/c Ratio		0.31	0.92		0.39	0.62	0.82		0.05			
Uniform Delay, d1		6.2	0.7		6.7	0.0	60.0		52.1			
Progression Factor		0.87	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	6.1		0.2	1.8	8.2		0.0			
Delay (s)		5.5	6.8		6.9	1.8	68.2		52.2			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		6.2			5.2			64.4			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	715	619	271	1351	0	0
Future Volume (vph)	715	619	271	1351	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	753	652	285	1422	0	0
RTOR Reduction (vph)	0	120	0	0	0	0
Lane Group Flow (vph)	753	532	285	1422	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	66.4	66.4	11.9	90.0		
Effective Green, g (s)	66.4	66.4	11.9	90.0		
Actuated g/C Ratio	0.74	0.74	0.13	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2610	2056	453	5085		
v/s Ratio Prot	0.21		c0.08	c0.28		
v/s Ratio Perm		0.19				
v/c Ratio	0.29	0.26	0.63	0.28		
Uniform Delay, d1	3.9	3.8	37.0	0.0		
Progression Factor	1.00	1.00	0.76	1.00		
Incremental Delay, d2	0.3	0.3	1.9	0.1		
Delay (s)	4.2	4.1	30.1	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	4.2			5.1	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	607	0	0	843	693	687
Future Volume (vph)	0	607	0	0	843	693	687
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	639	0	0	887	729	723
RTOR Reduction (vph)	0	0	0	0	0	0	209
Lane Group Flow (vph)	0	639	0	0	887	729	514
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		53.1			53.1	25.2	25.2
Effective Green, g (s)		53.1			53.1	25.2	25.2
Actuated g/C Ratio		0.59			0.59	0.28	0.28
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2088			3000	961	780
v/s Ratio Prot		c0.18			0.17	c0.21	
v/s Ratio Perm							0.18
v/c Ratio		0.31			0.30	0.76	0.66
Uniform Delay, d1		9.2			9.2	29.6	28.6
Progression Factor		1.10			1.00	1.00	1.00
Incremental Delay, d2		0.4			0.3	3.1	1.5
Delay (s)		10.5			9.4	32.7	30.2
Level of Service		B			A	C	C
Approach Delay (s)		10.5			9.4	31.4	
Approach LOS		B			A	C	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1237	72	727	2607	218	1123
Future Volume (vph)	1237	72	727	2607	218	1123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6355		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6355		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1262	73	742	2660	222	1146
RTOR Reduction (vph)	5	0	0	0	0	2
Lane Group Flow (vph)	1330	0	742	2660	222	1144
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	56.4		40.9	102.0	47.6	92.9
Effective Green, g (s)	56.4		40.9	102.0	47.6	92.9
Actuated g/C Ratio	0.35		0.26	0.64	0.30	0.58
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2240		877	4085	526	1618
v/s Ratio Prot	0.21		c0.22	c0.42	0.13	c0.41
v/s Ratio Perm						
v/c Ratio	0.59		0.85	0.65	0.42	0.71
Uniform Delay, d1	42.4		56.6	18.0	45.1	23.9
Progression Factor	1.00		0.54	1.31	1.00	1.00
Incremental Delay, d2	1.2		0.7	0.1	0.2	1.2
Delay (s)	43.6		31.2	23.6	45.3	25.0
Level of Service	D		C	C	D	C
Approach Delay (s)	43.6			25.2	28.3	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	162	2164	0	3032	193	1161	445
Future Volume (vph)	162	2164	0	3032	193	1161	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (prot)	3433	5085		5085	1583	3343	
Flt Permitted	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (perm)	3433	5085		5085	1583	3343	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	164	2186	0	3063	195	1173	449
RTOR Reduction (vph)	0	0	0	0	0	26	0
Lane Group Flow (vph)	164	2186	0	3063	195	1596	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	6.6	88.7		78.6	144.6	60.6	
Effective Green, g (s)	6.6	88.7		78.6	144.6	60.6	
Actuated g/C Ratio	0.04	0.55		0.49	0.90	0.38	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	141	2818		2498	1430	1266	
v/s Ratio Prot	c0.05	0.43		c0.60	0.12	c0.48	
v/s Ratio Perm							
v/c Ratio	1.16	0.78		1.23	0.14	1.26	
Uniform Delay, d1	76.7	27.9		40.7	0.8	49.7	
Progression Factor	0.84	0.91		0.60	1.29	1.00	
Incremental Delay, d2	117.9	1.7		103.8	0.0	123.8	
Delay (s)	182.2	27.1		128.1	1.1	173.5	
Level of Service	F	C		F	A	F	
Approach Delay (s)		37.9		120.5		173.5	
Approach LOS		D		F		F	

Intersection Summary			
HCM 2000 Control Delay	105.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	3148	3180	36	113	79
Future Volume (vph)	30	3148	3180	36	113	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	3314	3347	38	119	83
RTOR Reduction (vph)	0	0	0	4	0	46
Lane Group Flow (vph)	32	3314	3347	34	119	37
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	6.6	134.1	123.5	123.5	15.2	15.2
Effective Green, g (s)	6.6	134.1	123.5	123.5	15.2	15.2
Actuated g/C Ratio	0.04	0.84	0.77	0.77	0.09	0.09
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	73	4261	3924	1221	168	150
v/s Ratio Prot	0.02	c0.65	c0.66		c0.07	
v/s Ratio Perm				0.02		0.02
v/c Ratio	0.44	0.78	0.85	0.03	0.71	0.25
Uniform Delay, d1	74.9	6.0	12.2	4.3	70.2	67.1
Progression Factor	1.07	0.37	1.36	0.49	1.00	1.00
Incremental Delay, d2	0.5	0.5	1.8	0.0	10.6	0.3
Delay (s)	80.9	2.7	18.3	2.1	80.8	67.4
Level of Service	F	A	B	A	F	E
Approach Delay (s)		3.5	18.1		75.3	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	35	3351	0	2962	41	101	119
Future Volume (vph)	35	3351	0	2962	41	101	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.95	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3325	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3325	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	3527	0	3118	43	106	125
RTOR Reduction (vph)	0	0	0	0	2	45	69
Lane Group Flow (vph)	37	3527	0	3118	41	112	5
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	7.6	138.7		126.2	126.2	10.7	10.7
Effective Green, g (s)	7.6	138.7		126.2	126.2	10.7	10.7
Actuated g/C Ratio	0.05	0.87		0.79	0.79	0.07	0.07
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	84	4408		4010	1248	222	96
v/s Ratio Prot	0.02	c0.69		0.61		c0.03	
v/s Ratio Perm					0.03		0.00
v/c Ratio	0.44	0.80		0.78	0.03	0.51	0.05
Uniform Delay, d1	74.1	4.6		9.2	3.7	72.1	69.9
Progression Factor	0.82	1.40		1.42	0.93	1.00	1.00
Incremental Delay, d2	2.4	1.1		0.1	0.0	1.8	0.2
Delay (s)	63.2	7.5		13.3	3.4	73.9	70.1
Level of Service	E	A		B	A	E	E
Approach Delay (s)		8.1		13.1		72.7	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1143	2241	106	20	1427	77	54	67	9	153	1	1660
Future Volume (vph)	1143	2241	106	20	1427	77	54	67	9	153	1	1660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5046		1652	1831		1625	1630	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5046		1652	1831		1625	1630	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1203	2359	112	21	1502	81	57	71	9	161	1	1747
RTOR Reduction (vph)	0	3	0	0	4	0	0	4	0	0	0	247
Lane Group Flow (vph)	1203	2468	0	21	1579	0	57	76	0	80	82	1500
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	46.6	89.5		2.4	45.4		11.1	11.1		36.4	36.4	88.5
Effective Green, g (s)	46.6	89.5		2.4	45.4		11.1	11.1		36.4	36.4	88.5
Actuated g/C Ratio	0.29	0.56		0.01	0.28		0.07	0.07		0.23	0.23	0.55
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	933	2825		48	1431		114	127		369	370	1541
v/s Ratio Prot	c0.38	0.49		0.01	c0.31		0.03	c0.04		0.05	0.05	c0.54
v/s Ratio Perm												
v/c Ratio	1.29	0.87		0.44	1.10		0.50	0.60		0.22	0.22	0.97
Uniform Delay, d1	56.7	30.4		78.1	57.3		71.8	72.3		50.2	50.3	34.6
Progression Factor	0.99	1.12		1.00	1.00		1.00	1.00		0.78	0.79	0.64
Incremental Delay, d2	135.3	2.6		2.3	57.5		1.3	5.4		0.0	0.0	2.9
Delay (s)	191.5	36.6		80.4	114.8		73.0	77.7		39.3	39.5	25.2
Level of Service	F	D		F	F		E	E		D	D	C
Approach Delay (s)		87.3			114.4			75.7			26.4	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	77.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	88	1903	0	908	115	394	144
Future Volume (vph)	88	1903	0	908	115	394	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.5	5.7		6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3201	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3201	1585
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	2003	0	956	121	415	152
RTOR Reduction (vph)	0	0	0	0	17	2	115
Lane Group Flow (vph)	93	2003	0	956	104	428	22
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	13.1	123.5		105.6	137.5	25.9	25.9
Effective Green, g (s)	13.1	123.5		105.6	137.5	25.9	25.9
Actuated g/C Ratio	0.08	0.77		0.66	0.86	0.16	0.16
Clearance Time (s)	4.5	5.7		6.0		5.0	5.0
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	140	3792		3242	1269	517	256
v/s Ratio Prot	c0.05	c0.41		0.19	0.07	c0.13	
v/s Ratio Perm							0.01
v/c Ratio	0.66	0.53		0.29	0.08	0.83	0.09
Uniform Delay, d1	71.4	7.1		11.5	1.7	64.9	57.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.5		0.2	0.0	10.1	0.1
Delay (s)	80.2	7.6		11.7	1.7	75.0	57.1
Level of Service	F	A		B	A	E	E
Approach Delay (s)		10.8		10.6		70.7	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	160.1	Sum of lost time (s)	15.5
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	392	2310	947	922	663	181
Future Volume (vph)	392	2310	947	922	663	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	5.8	5.8	5.8	4.6	4.6
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.95	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4417	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4417	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	396	2333	957	931	670	183
RTOR Reduction (vph)	0	0	46	224	0	52
Lane Group Flow (vph)	396	2333	1377	241	670	131
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	24.1	111.4	82.9	82.9	38.2	66.9
Effective Green, g (s)	24.1	111.4	82.9	82.9	38.2	66.9
Actuated g/C Ratio	0.15	0.70	0.52	0.52	0.24	0.42
Clearance Time (s)	4.4	5.8	5.8	5.8	4.6	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	482	3304	2288	658	764	1087
v/s Ratio Prot	c0.12	c0.49	0.31		c0.21	0.05
v/s Ratio Perm				0.19		
v/c Ratio	0.82	0.71	0.60	0.37	0.88	0.12
Uniform Delay, d1	65.9	14.5	27.0	22.9	58.6	28.5
Progression Factor	1.00	1.00	0.97	2.64	1.16	2.03
Incremental Delay, d2	10.3	1.3	0.8	1.1	10.7	0.0
Delay (s)	76.2	15.8	27.0	61.6	79.0	57.8
Level of Service	E	B	C	E	E	E
Approach Delay (s)		24.6	35.5		74.5	
Approach LOS		C	D		E	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	2649	238	189	1589	44	454	62	478	95	50	29
Future Volume (vph)	42	2649	238	189	1589	44	454	62	478	95	50	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1770	5085	1583	3433	5065		1681	1546	1504		1772	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1770	5085	1583	3433	5065		1681	1546	1504		1772	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	2788	251	199	1673	46	478	65	503	100	53	31
RTOR Reduction (vph)	0	0	50	0	2	0	0	21	107	0	5	0
Lane Group Flow (vph)	44	2788	201	199	1717	0	363	330	225	0	179	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.9	82.0	82.0	9.4	84.1		34.1	34.1	34.1		15.1	
Effective Green, g (s)	6.9	82.0	82.0	9.4	84.1		34.1	34.1	34.1		15.1	
Actuated g/C Ratio	0.04	0.51	0.51	0.06	0.53		0.21	0.21	0.21		0.09	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	76	2606	811	201	2662		358	329	320		167	
v/s Ratio Prot	0.02	c0.55		c0.06	0.34		c0.22	0.21			c0.10	
v/s Ratio Perm			0.13						0.15			
v/c Ratio	0.58	1.07	0.25	0.99	0.65		1.01	1.00	0.70		1.07	
Uniform Delay, d1	75.1	39.0	21.8	75.3	27.2		63.0	63.0	58.3		72.5	
Progression Factor	0.93	1.14	1.15	0.86	1.06		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.6	37.6	0.5	55.7	1.0		51.1	50.2	5.6		90.9	
Delay (s)	74.3	82.0	25.5	120.5	30.0		114.1	113.1	63.9		163.4	
Level of Service	E	F	C	F	C		F	F	E		F	
Approach Delay (s)		77.3			39.4			97.8			163.4	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	71.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	158	2690	0	1706	123	370	121
Future Volume (vph)	158	2690	0	1706	123	370	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.8		5.5	5.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5034		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5034		3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	2832	0	1796	129	389	127
RTOR Reduction (vph)	0	0	0	4	0	0	108
Lane Group Flow (vph)	166	2832	0	1921	0	389	19
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	12.0	125.7		109.1		24.6	24.6
Effective Green, g (s)	12.0	125.7		109.1		23.6	23.6
Actuated g/C Ratio	0.08	0.79		0.68		0.15	0.15
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	257	3994		3432		506	411
v/s Ratio Prot	0.05	c0.56		0.38		c0.11	
v/s Ratio Perm							0.01
v/c Ratio	0.65	0.71		0.56		0.77	0.05
Uniform Delay, d1	71.9	8.3		13.1		65.6	58.5
Progression Factor	1.11	0.25		1.91		1.00	1.00
Incremental Delay, d2	0.4	0.1		0.4		7.3	0.1
Delay (s)	80.2	2.2		25.3		72.9	58.6
Level of Service	F	A		C		E	E
Approach Delay (s)		6.5		25.3		69.4	
Approach LOS		A		C		E	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2265	1303	40	1219	175	691	630	46	392	806	65
Future Volume (vph)	57	2265	1303	40	1219	175	691	630	46	392	806	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4989		2841	3054		3204	3499	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4989		2841	3054		3204	3499	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	58	2288	1316	40	1231	177	698	636	46	396	814	66
RTOR Reduction (vph)	0	0	17	0	11	0	0	2	0	0	4	0
Lane Group Flow (vph)	58	2288	1299	40	1397	0	628	750	0	396	876	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	8.1	68.0	104.9	4.0	63.8		36.9	36.9		29.2	29.2	
Effective Green, g (s)	8.1	68.0	104.9	4.0	63.8		36.9	36.9		29.2	29.2	
Actuated g/C Ratio	0.05	0.42	0.66	0.02	0.40		0.23	0.23		0.18	0.18	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	2089	969	45	1989		655	704		584	638	
v/s Ratio Prot	0.03	0.47	c0.88	c0.02	0.28		0.22	0.25		0.12	c0.25	
v/s Ratio Perm												
v/c Ratio	0.59	1.10	1.34	0.89	0.70		0.96	1.06		0.68	1.37	
Uniform Delay, d1	74.3	46.0	27.5	77.8	40.2		60.8	61.5		61.0	65.4	
Progression Factor	0.93	1.02	1.06	1.21	0.66		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.4	49.7	158.9	83.5	1.9		25.0	52.5		3.1	177.6	
Delay (s)	76.4	96.7	188.0	177.8	28.6		85.8	114.1		64.1	243.0	
Level of Service	E	F	F	F	C		F	F		E	F	
Approach Delay (s)		129.2			32.7			101.2			187.5	
Approach LOS		F			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	115.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	121.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	2727	134	57	1561	24	48	13	192	98	11	46
Future Volume (vph)	39	2727	134	57	1561	24	48	13	192	98	11	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5050		1770	5074			1656			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.42	
Satd. Flow (perm)	1770	5050		1770	5074			1514			757	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	40	2783	137	58	1593	24	49	13	196	100	11	47
RTOR Reduction (vph)	0	3	0	0	1	0	0	74	0	0	10	0
Lane Group Flow (vph)	40	2917	0	58	1616	0	0	184	0	0	148	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.7	107.6		7.1	107.5			30.7			30.7	
Effective Green, g (s)	6.7	107.6		7.1	107.5			30.7			30.7	
Actuated g/C Ratio	0.04	0.67		0.04	0.67			0.19			0.19	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	74	3396		78	3409			290			145	
v/s Ratio Prot	0.02	c0.58		c0.03	0.32							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio	0.54	0.86		0.74	0.47			0.63			1.02	
Uniform Delay, d1	75.1	20.3		75.6	12.6			59.5			64.7	
Progression Factor	1.05	0.65		0.94	1.28			1.00			1.00	
Incremental Delay, d2	1.4	1.0		25.4	0.4			3.3			80.9	
Delay (s)	80.2	14.2		96.3	16.6			62.8			145.5	
Level of Service	F	B		F	B			E			F	
Approach Delay (s)		15.1			19.3			62.8			145.5	
Approach LOS		B			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1562	1381	0	1006	999	0	0	0	29	0	596
Future Volume (vph)	0	1562	1381	0	1006	999	0	0	0	29	0	596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1610	1424	0	1037	1030	0	0	0	30	0	614
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	192
Lane Group Flow (vph)	0	1610	1424	0	1037	1030	0	0	0	30	0	422
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		120.4	160.0		120.4	160.0				28.5		28.5
Effective Green, g (s)		120.4	160.0		120.4	160.0				28.5		28.5
Actuated g/C Ratio		0.75	1.00		0.75	1.00				0.18		0.18
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2663	1583		2663	2787				611		496
v/s Ratio Prot		0.45			0.29					0.01		
v/s Ratio Perm			c0.90			0.37						0.15
v/c Ratio		0.60	0.90		0.39	0.37				0.05		0.85
Uniform Delay, d1		9.0	0.0		6.9	0.0				54.5		63.7
Progression Factor		0.93	1.00		0.58	1.00				1.00		1.00
Incremental Delay, d2		0.5	4.8		0.4	0.4				0.0		12.7
Delay (s)		8.9	4.8		4.4	0.4				54.5		76.3
Level of Service		A	A		A	A				D		E
Approach Delay (s)		7.0			2.4			0.0			75.3	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	477	1216	0	1267	174	684	0	774	0	0	0
Future Volume (vph)	0	477	1216	0	1267	174	684	0	774	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	487	1241	0	1293	178	698	0	790	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	311	0	0	0
Lane Group Flow (vph)	0	487	1241	0	1293	178	698	0	479	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		108.0	160.0		108.0	160.0	38.9		38.9			
Effective Green, g (s)		108.0	160.0		108.0	160.0	38.9		38.9			
Actuated g/C Ratio		0.68	1.00		0.68	1.00	0.24		0.24			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2388	1583		4325	1583	834		677			
v/s Ratio Prot		0.14			0.20		0.20					
v/s Ratio Perm			c0.78			0.11			0.17			
v/c Ratio		0.20	0.78		0.30	0.11	0.84		0.71			
Uniform Delay, d1		9.8	0.0		10.6	0.0	57.5		55.3			
Progression Factor		1.07	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.2	3.3		0.2	0.1	7.0		2.8			
Delay (s)		10.7	3.3		10.8	0.1	64.6		58.1			
Level of Service		B	A		B	A	E		E			
Approach Delay (s)		5.4			9.5			61.1			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	595	236	62	32	66	92	1020	644	295	357	49
Future Volume (vph)	120	595	236	62	32	66	92	1020	644	295	357	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.96			0.94		1.00	0.94		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3386			3258		1770	4790		1770	4993	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3386			3258		1770	4790		1770	4993	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	626	248	65	34	69	97	1074	678	311	376	52
RTOR Reduction (vph)	0	21	0	0	63	0	0	74	0	0	11	0
Lane Group Flow (vph)	0	979	0	0	105	0	97	1678	0	311	417	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		37.1			11.6		11.1	39.0		15.6	43.1	
Effective Green, g (s)		37.1			11.6		11.1	39.0		15.6	43.1	
Actuated g/C Ratio		0.30			0.09		0.09	0.32		0.13	0.35	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		1017			306		159	1512		223	1742	
v/s Ratio Prot		c0.29			c0.03		0.05	c0.35		c0.18	0.08	
v/s Ratio Perm												
v/c Ratio		0.96			0.34		0.61	1.18dr		1.39	0.24	
Uniform Delay, d1		42.5			52.4		54.1	42.2		54.0	28.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		20.1			1.7		5.4	59.4		202.6	0.1	
Delay (s)		62.6			54.1		59.5	101.7		256.5	28.6	
Level of Service		E			D		E	F		F	C	
Approach Delay (s)		62.6			54.1			99.5			124.5	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	92.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	20.6
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	232	105	11	1723	0	769	28
Future Volume (vph)	232	105	11	1723	0	769	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	16	10	11	10	12	12
Total Lost time (s)	4.4	4.4	4.4	6.0		6.0	
Lane Util. Factor	0.97	0.91	0.97	0.91		0.91	
Frt	0.99	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	3312	1633	3204	4916		5059	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	3312	1633	3204	4916		5059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	244	111	12	1814	0	809	29
RTOR Reduction (vph)	4	89	0	0	0	1	0
Lane Group Flow (vph)	251	11	12	1814	0	837	0
Turn Type	Prot	Perm	Prot	NA		NA	
Protected Phases	7		5	2		6	
Permitted Phases		7					
Actuated Green, G (s)	14.8	14.8	2.2	109.8		103.2	
Effective Green, g (s)	14.8	14.8	2.2	109.8		103.2	
Actuated g/C Ratio	0.11	0.11	0.02	0.81		0.76	
Clearance Time (s)	4.4	4.4	4.4	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	363	179	52	3998		3867	
v/s Ratio Prot	c0.08		0.00	c0.37		0.17	
v/s Ratio Perm		0.01					
v/c Ratio	0.69	0.06	0.23	0.45		0.22	
Uniform Delay, d1	57.9	53.9	65.6	3.7		4.5	
Progression Factor	1.00	1.00	1.32	0.15		1.00	
Incremental Delay, d2	4.6	0.1	0.7	0.3		0.1	
Delay (s)	62.5	53.9	87.3	0.9		4.6	
Level of Service	E	D	F	A		A	
Approach Delay (s)	60.1			1.5		4.6	
Approach LOS	E			A		A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	22	257	13	1958	0	895	2
Future Volume (vph)	22	257	13	1958	0	895	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	15	10	11	10	12	12
Total Lost time (s)	4.4	4.4	4.4	6.0		6.4	
Lane Util. Factor	1.00	0.88	0.97	0.91		0.91	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1652	3065	3204	4916		5084	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1652	3065	3204	4916		5084	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	271	14	2061	0	942	2
RTOR Reduction (vph)	0	258	0	0	0	0	0
Lane Group Flow (vph)	23	13	14	2061	0	944	0
Turn Type	Prot	Perm	Prot	NA		NA	
Protected Phases	7		5	2		6	
Permitted Phases		7					
Actuated Green, G (s)	6.6	6.6	2.2	118.0		111.0	
Effective Green, g (s)	6.6	6.6	2.2	118.0		111.0	
Actuated g/C Ratio	0.05	0.05	0.02	0.87		0.82	
Clearance Time (s)	4.4	4.4	4.4	6.0		6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.5		3.3	
Lane Grp Cap (vph)	80	149	52	4296		4180	
v/s Ratio Prot	c0.01		0.00	c0.42		0.19	
v/s Ratio Perm		0.00					
v/c Ratio	0.29	0.09	0.27	0.48		0.23	
Uniform Delay, d1	61.9	61.3	65.6	1.8		2.6	
Progression Factor	1.00	1.00	1.09	0.51		0.96	
Incremental Delay, d2	0.7	0.1	0.4	0.1		0.1	
Delay (s)	62.7	61.4	72.0	1.1		2.6	
Level of Service	E	E	E	A		A	
Approach Delay (s)	61.5			1.6		2.6	
Approach LOS	E			A		A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	746	106	284	402	261	106	1451	478	216	731	61
Future Volume (vph)	136	746	106	284	402	261	106	1451	478	216	731	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.9	4.9	4.9	4.5	6.4	6.4	4.4	6.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	5026	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	5026	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	142	777	110	296	419	272	110	1511	498	225	761	64
RTOR Reduction (vph)	0	0	78	0	0	38	0	0	165	0	6	0
Lane Group Flow (vph)	142	777	32	296	419	234	110	1511	333	225	819	0
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	Prot	Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2	2	1	6	
Permitted Phases			4									
Actuated Green, G (s)	9.7	39.6	39.6	16.1	46.0	55.4	8.7	49.7	49.7	9.4	50.7	
Effective Green, g (s)	9.7	39.6	39.6	16.1	46.0	55.4	8.7	49.7	49.7	9.4	50.7	
Actuated g/C Ratio	0.07	0.29	0.29	0.12	0.34	0.41	0.06	0.37	0.37	0.07	0.38	
Clearance Time (s)	4.5	4.5	4.5	4.9	4.9		4.5	6.4	6.4	4.4	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	2.0		3.0	3.5	3.5	2.0	3.4	
Lane Grp Cap (vph)	246	1038	464	409	1205	649	114	1302	582	123	1887	
v/s Ratio Prot	0.04	c0.22		c0.09	0.12	0.15	0.06	c0.43	0.21	c0.13	0.16	
v/s Ratio Perm			0.02									
v/c Ratio	0.58	0.75	0.07	0.72	0.35	0.36	0.96	1.16	0.57	1.83	0.43	
Uniform Delay, d1	60.7	43.2	34.4	57.3	33.3	27.5	63.0	42.6	34.1	62.8	31.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.09	0.93	
Incremental Delay, d2	3.3	3.0	0.1	5.3	0.1	0.1	72.6	81.1	4.1	402.6	0.7	
Delay (s)	63.9	46.2	34.5	62.6	33.3	27.7	135.6	123.8	38.2	471.3	29.8	
Level of Service	E	D	C	E	C	C	F	F	D	F	C	
Approach Delay (s)		47.4			40.6			104.3			124.4	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	84.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	6	22	245	2	232	11	2438	151	142	1330	5
Future Volume (vph)	17	6	22	245	2	232	11	2438	151	142	1330	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707		1681	1524		1770	3539	1583	1770	3537	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1707		1681	1524		1770	3539	1583	1770	3537	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	6	23	258	2	244	12	2566	159	149	1400	5
RTOR Reduction (vph)	0	22	0	0	187	0	0	0	53	0	0	0
Lane Group Flow (vph)	0	25	0	232	85	0	12	2566	106	149	1405	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		6.2		31.3	31.3		2.1	86.8	86.8	15.8	100.5	
Effective Green, g (s)		6.2		31.3	31.3		2.1	86.8	86.8	15.8	100.5	
Actuated g/C Ratio		0.04		0.20	0.20		0.01	0.54	0.54	0.10	0.63	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		66		328	298		23	1919	858	174	2221	
v/s Ratio Prot		c0.01		c0.14	0.06		0.01	c0.73		c0.08	0.40	
v/s Ratio Perm									0.07			
v/c Ratio		0.38		0.71	0.29		0.52	1.34	0.12	0.86	0.63	
Uniform Delay, d1		75.0		60.1	54.8		78.5	36.6	18.0	71.0	18.4	
Progression Factor		1.00		1.00	1.00		0.95	0.62	0.11	1.00	1.00	
Incremental Delay, d2		1.3		7.7	0.9		0.9	152.1	0.0	30.6	1.4	
Delay (s)		76.3		67.7	55.7		75.8	174.7	2.1	101.5	19.7	
Level of Service		E		E	E		E	F	A	F	B	
Approach Delay (s)		76.3			61.3			164.2			27.6	
Approach LOS		E			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	108.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	181	110	157	777	651	69
Future Volume (vph)	181	110	157	777	651	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3488	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3488	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	191	116	165	818	685	73
RTOR Reduction (vph)	0	98	0	0	5	0
Lane Group Flow (vph)	191	18	165	818	753	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	15.9	15.9	9.4	79.0	65.2	
Effective Green, g (s)	15.9	15.9	9.4	79.0	65.2	
Actuated g/C Ratio	0.15	0.15	0.09	0.75	0.62	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	268	239	307	2662	2165	
v/s Ratio Prot	c0.11		c0.05	0.23	c0.22	
v/s Ratio Perm		0.01				
v/c Ratio	0.71	0.07	0.54	0.31	0.35	
Uniform Delay, d1	42.4	38.2	45.7	4.2	9.6	
Progression Factor	1.00	1.00	1.08	0.51	1.00	
Incremental Delay, d2	7.3	0.0	0.8	0.2	0.4	
Delay (s)	49.6	38.3	50.3	2.4	10.1	
Level of Service	D	D	D	A	B	
Approach Delay (s)	45.3			10.4	10.1	
Approach LOS	D			B	B	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	284	281	65	163	91	218	837	158	123	679	51
Future Volume (vph)	31	284	281	65	163	91	218	837	158	123	679	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3275		1770	3349		3433	3455		1770	3502	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3275		1770	3349		3433	3455		1770	3502	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	299	296	68	172	96	229	881	166	129	715	54
RTOR Reduction (vph)	0	199	0	0	77	0	0	12	0	0	4	0
Lane Group Flow (vph)	33	396	0	68	191	0	229	1035	0	129	765	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.8	18.1		5.6	20.9		11.3	50.2		12.1	51.0	
Effective Green, g (s)	2.8	18.1		5.6	20.9		11.3	50.2		12.1	51.0	
Actuated g/C Ratio	0.03	0.17		0.05	0.20		0.11	0.48		0.12	0.49	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	47	564		94	666		369	1651		203	1700	
v/s Ratio Prot	0.02	c0.12		c0.04	c0.06		0.07	c0.30		c0.07	0.22	
v/s Ratio Perm												
v/c Ratio	0.70	0.70		0.72	0.29		0.62	0.63		0.64	0.45	
Uniform Delay, d1	50.7	40.9		48.9	35.7		44.8	20.4		44.3	17.8	
Progression Factor	1.00	1.00		1.00	1.00		1.30	0.45		1.23	0.70	
Incremental Delay, d2	32.1	3.2		20.6	0.1		1.9	1.5		4.6	0.8	
Delay (s)	82.7	44.2		69.6	35.8		60.0	10.6		59.2	13.2	
Level of Service	F	D		E	D		E	B		E	B	
Approach Delay (s)		46.2			42.6			19.5			19.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	281	116	38	42	30	54	1053	58	69	932	30
Future Volume (vph)	83	281	116	38	42	30	54	1053	58	69	932	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.94		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1745		1770	3512		1770	3522	
Flt Permitted	0.66	1.00		0.17	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1220	1781		321	1745		1770	3512		1770	3522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	296	122	40	44	32	57	1108	61	73	981	32
RTOR Reduction (vph)	0	15	0	0	24	0	0	3	0	0	2	0
Lane Group Flow (vph)	87	403	0	40	52	0	57	1166	0	73	1011	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	31.5	27.0		27.5	25.0		5.5	50.2		6.3	51.0	
Effective Green, g (s)	31.5	27.0		27.5	25.0		5.5	50.2		6.3	51.0	
Actuated g/C Ratio	0.30	0.26		0.26	0.24		0.05	0.48		0.06	0.49	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	389	457		118	415		92	1679		106	1710	
v/s Ratio Prot	c0.01	c0.23		0.01	0.03		0.03	c0.33		c0.04	0.29	
v/s Ratio Perm	0.06			0.08								
v/c Ratio	0.22	0.88		0.34	0.12		0.62	0.69		0.69	0.59	
Uniform Delay, d1	27.1	37.5		30.6	31.4		48.7	21.4		48.4	19.5	
Progression Factor	1.00	1.00		1.00	1.00		1.37	0.24		1.09	0.68	
Incremental Delay, d2	0.1	17.4		0.6	0.0		4.8	1.3		12.5	1.4	
Delay (s)	27.2	54.9		31.3	31.5		71.6	6.4		65.5	14.6	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		50.1			31.4			9.5			18.0	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	289	173	24	87	57	96	1034	79	208	727	98
Future Volume (vph)	69	289	173	24	87	57	96	1034	79	208	727	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1758		1770	1752		1770	3502		1770	3476	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1758		1770	1752		1770	3502		1770	3476	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	304	182	25	92	60	101	1088	83	219	765	103
RTOR Reduction (vph)	0	21	0	0	23	0	0	5	0	0	9	0
Lane Group Flow (vph)	73	465	0	25	129	0	101	1166	0	219	859	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.6	29.4		2.4	26.2		9.8	39.6		14.7	44.5	
Effective Green, g (s)	5.6	29.4		2.4	26.2		9.8	39.6		14.7	44.5	
Actuated g/C Ratio	0.05	0.28		0.02	0.25		0.09	0.38		0.14	0.42	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	94	492		40	437		165	1320		247	1473	
v/s Ratio Prot	c0.04	c0.26		0.01	0.07		0.06	c0.33		c0.12	0.25	
v/s Ratio Perm												
v/c Ratio	0.78	0.95		0.62	0.29		0.61	0.88		0.89	0.58	
Uniform Delay, d1	49.1	37.0		50.9	31.9		45.8	30.5		44.3	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.24	0.75		1.31	0.64	
Incremental Delay, d2	29.8	26.9		19.9	0.1		4.1	7.9		24.8	1.4	
Delay (s)	78.9	64.0		70.7	32.1		60.7	30.9		82.7	16.3	
Level of Service	E	E		E	C		E	C		F	B	
Approach Delay (s)		65.9			37.5			33.2			29.6	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	50	1	45	4	1424	324	82	901	8
Future Volume (vph)	0	0	4	50	1	45	4	1424	324	82	901	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.91		1.00	0.91	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1776	1583	1770	4944		1770	5079	
Flt Permitted		1.00			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1356	1583	1770	4944		1770	5079	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	4	53	1	47	4	1499	341	86	948	8
RTOR Reduction (vph)	0	4	0	0	0	42	0	21	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	54	5	4	1819	0	86	956	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		10.1			10.1	10.1	1.1	71.8		8.4	79.3	
Effective Green, g (s)		10.1			10.1	10.1	1.1	71.8		8.4	79.3	
Actuated g/C Ratio		0.10			0.10	0.10	0.01	0.68		0.08	0.76	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		154			130	152	18	3380		141	3835	
v/s Ratio Prot		0.00					0.00	c0.37		c0.05	0.19	
v/s Ratio Perm					c0.04	0.00						
v/c Ratio		0.00			0.42	0.03	0.22	0.54		0.61	0.25	
Uniform Delay, d1		42.9			44.7	43.0	51.5	8.3		46.7	3.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.90	1.18	
Incremental Delay, d2		0.0			5.1	0.2	2.3	0.6		4.1	0.1	
Delay (s)		42.9			49.7	43.2	53.8	8.9		46.2	4.7	
Level of Service		D			D	D	D	A		D	A	
Approach Delay (s)		42.9			46.7			9.0			8.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	1102	232	223	858	583	119	1377	376	461	815	191
Future Volume (vph)	508	1102	232	223	858	583	119	1377	376	461	815	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9	4.5	4.5	4.5	4.4	5.9	5.9	4.5	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	535	1160	244	235	903	614	125	1449	396	485	858	201
RTOR Reduction (vph)	0	0	60	0	0	85	0	0	41	0	0	20
Lane Group Flow (vph)	535	1160	184	235	903	529	125	1449	355	485	858	181
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2	2 3	1	6	6 7
Permitted Phases												
Actuated Green, G (s)	27.6	44.0	59.2	16.1	32.5	58.3	10.8	54.3	70.4	25.8	68.3	100.8
Effective Green, g (s)	27.6	44.0	54.8	16.1	32.5	58.3	10.8	54.3	70.4	25.8	68.3	95.9
Actuated g/C Ratio	0.17	0.28	0.34	0.10	0.20	0.36	0.07	0.34	0.44	0.16	0.43	0.60
Clearance Time (s)	4.9	4.9		4.5	4.5		4.4	5.9		4.5	7.0	
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	6.8		3.0	5.5	
Lane Grp Cap (vph)	592	1398	542	345	1032	1015	231	1725	696	553	2170	948
v/s Ratio Prot	c0.16	c0.23	0.12	0.07	0.18	0.19	0.04	c0.28	0.22	c0.14	0.17	0.11
v/s Ratio Perm												
v/c Ratio	0.90	0.83	0.34	0.68	0.88	0.52	0.54	0.84	0.51	0.88	0.40	0.19
Uniform Delay, d1	64.9	54.5	39.1	69.5	61.8	39.9	72.2	48.8	32.3	65.6	31.6	14.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.61	0.39	1.00	1.00	1.00
Incremental Delay, d2	16.8	4.0	0.1	5.5	8.4	0.5	1.2	4.6	0.5	14.6	0.5	0.0
Delay (s)	81.7	58.5	39.3	74.9	70.2	40.4	52.8	34.4	13.1	80.1	32.2	14.5
Level of Service	F	E	D	E	E	D	D	C	B	F	C	B
Approach Delay (s)		62.5			60.4			31.2			44.9	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	409	4	649	10	2	6	79	1473	11	7	1295	81
Future Volume (vph)	409	4	649	10	2	6	79	1473	11	7	1295	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85		0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1731		1770	5085	1583	1770	5040	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1731		1770	5085	1583	1770	5040	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	422	4	669	10	2	6	81	1519	11	7	1335	84
RTOR Reduction (vph)	0	0	175	0	6	0	0	0	5	0	4	0
Lane Group Flow (vph)	211	215	494	0	12	0	81	1519	6	7	1415	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	55.0	55.0	55.0		3.1		10.9	80.9	80.9	0.8	70.8	
Effective Green, g (s)	55.0	55.0	55.0		3.1		10.9	80.9	80.9	0.8	70.8	
Actuated g/C Ratio	0.34	0.34	0.34		0.02		0.07	0.51	0.51	0.01	0.44	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	577	579	544		33		120	2571	800	8	2230	
v/s Ratio Prot	0.13	0.13			c0.01		0.05	c0.30		c0.00	c0.28	
v/s Ratio Perm			c0.31						0.00			
v/c Ratio	0.37	0.37	0.91		0.37		0.68	0.59	0.01	0.88	0.63	
Uniform Delay, d1	39.4	39.5	50.1		77.5		72.8	27.9	19.6	79.6	34.6	
Progression Factor	1.00	1.00	1.00		1.00		1.44	0.28	1.00	0.82	0.61	
Incremental Delay, d2	0.1	0.1	18.6		2.5		8.9	0.8	0.0	224.4	1.3	
Delay (s)	39.6	39.6	68.7		80.0		113.4	8.7	19.6	289.4	22.3	
Level of Service	D	D	E		E		F	A	B	F	C	
Approach Delay (s)		57.4			80.0			14.0			23.6	
Approach LOS		E			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	1	45	0	239	12	1176	168	910	720	10
Future Volume (vph)	0	14	1	45	0	239	12	1176	168	910	720	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0		4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.91		1.00	0.91	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1846			1770	1583	1770	4990		1770	5075	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1846			1393	1583	1770	4990		1770	5075	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	14	1	46	0	246	12	1212	173	938	742	10
RTOR Reduction (vph)	0	1	0	0	0	19	0	10	0	0	1	0
Lane Group Flow (vph)	0	14	0	0	46	227	12	1375	0	938	751	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		11.2			11.2	95.8	2.7	54.3		80.2	131.8	
Effective Green, g (s)		11.2			11.2	91.4	2.7	54.3		80.2	131.8	
Actuated g/C Ratio		0.07			0.07	0.57	0.02	0.34		0.50	0.82	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		129			97	904	29	1693		887	4180	
v/s Ratio Prot		0.01				0.14	0.01	c0.28		c0.53	0.15	
v/s Ratio Perm					c0.03							
v/c Ratio		0.11			0.47	0.25	0.41	0.81		1.06	0.18	
Uniform Delay, d1		69.7			71.6	17.2	77.9	48.2		39.9	2.9	
Progression Factor		1.00			1.00	1.00	1.17	0.94		1.12	0.58	
Incremental Delay, d2		0.1			1.3	0.1	2.9	3.7		42.4	0.1	
Delay (s)		69.9			72.9	17.2	94.0	48.7		86.8	1.8	
Level of Service		E			E	B	F	D		F	A	
Approach Delay (s)		69.9			26.0			49.1			49.0	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Horizon Year 2050
With Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	999	2667	753	36	1091	109	94	79	15	66	64	136
Future Volume (vph)	999	2667	753	36	1091	109	94	79	15	66	64	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6320		2841	3015		3204	1596	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6320		2841	3015		3204	1596	2882
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1052	2807	793	38	1148	115	99	83	16	69	67	143
RTOR Reduction (vph)	0	0	127	0	8	0	0	7	0	0	0	0
Lane Group Flow (vph)	1052	2807	666	38	1255	0	89	102	0	69	81	129
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	68.7	130.3	130.3	8.0	69.4		14.1	14.1		17.0	17.0	91.0
Effective Green, g (s)	68.7	130.3	130.3	8.0	69.4		14.1	14.1		17.0	17.0	91.0
Actuated g/C Ratio	0.36	0.69	0.69	0.04	0.37		0.07	0.07		0.09	0.09	0.48
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	1158	3371	1085	69	2308		210	223		286	142	1380
v/s Ratio Prot	c0.33	c0.57		0.02	0.20		0.03	c0.03		0.02	c0.05	0.04
v/s Ratio Perm			0.42									
v/c Ratio	0.91	0.83	0.61	0.55	0.54		0.42	0.46		0.24	0.57	0.09
Uniform Delay, d1	57.7	21.9	16.2	89.2	47.8		84.1	84.3		80.5	83.0	27.0
Progression Factor	1.00	1.00	1.00	1.08	0.27		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.4	2.6	2.6	4.7	0.8		3.3	3.5		0.6	6.7	0.0
Delay (s)	68.0	24.4	18.8	100.7	13.6		87.3	87.8		81.1	89.7	27.0
Level of Service	E	C	B	F	B		F	F		F	F	C
Approach Delay (s)		33.3			16.1			87.6			58.6	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	2374	46	172	1165	553	8	26	29	66	21	58
Future Volume (vph)	276	2374	46	172	1165	553	8	26	29	66	21	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5071		3204	4840		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5071		3204	4840		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	291	2499	48	181	1226	582	8	27	31	69	22	61
RTOR Reduction (vph)	0	1	0	0	30	0	0	0	30	0	0	57
Lane Group Flow (vph)	291	2546	0	181	1778	0	8	27	1	69	22	4
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	21.6	138.0		15.1	131.3		4.1	8.7	8.7	8.0	12.3	12.3
Effective Green, g (s)	21.6	138.0		15.1	131.3		4.1	8.7	8.7	8.0	12.3	12.3
Actuated g/C Ratio	0.11	0.73		0.08	0.69		0.02	0.05	0.05	0.04	0.06	0.06
Clearance Time (s)	4.4	6.0		4.4	6.2		4.4	5.4	5.4	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	364	3683		254	3344		35	79	72	134	120	102
v/s Ratio Prot	c0.09	c0.50		0.06	0.37		0.00	c0.02		c0.02	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.80	0.69		0.71	0.53		0.23	0.34	0.02	0.51	0.18	0.04
Uniform Delay, d1	82.1	14.3		85.3	14.3		91.4	87.9	86.6	89.1	84.1	83.3
Progression Factor	0.88	0.82		1.05	2.48		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4	0.6		5.2	0.4		3.3	2.2	0.1	1.4	0.4	0.1
Delay (s)	78.8	12.3		94.8	36.0		94.7	90.0	86.7	90.5	84.5	83.4
Level of Service	E	B		F	D		F	F	F	F	F	F
Approach Delay (s)		19.1			41.3			89.0			86.8	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	629	1345	379	340	1658	1284	36	91	111	120	41	121
Future Volume (vph)	629	1345	379	340	1658	1284	36	91	111	120	41	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.95	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4918		1652	5085	1583	1652	3109	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4918		1652	5085	1583	1652	3109	1489	3204	3893	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	648	1387	391	351	1709	1324	37	94	114	124	42	125
RTOR Reduction (vph)	0	20	0	0	0	0	0	34	60	0	0	113
Lane Group Flow (vph)	648	1758	0	351	1709	1324	37	109	5	124	42	12
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	69.6	102.4		45.1	78.0	190.0	4.8	13.4	13.4	9.4	18.0	18.0
Effective Green, g (s)	69.6	102.4		45.1	78.0	190.0	4.8	13.4	13.4	9.4	18.0	18.0
Actuated g/C Ratio	0.37	0.54		0.24	0.41	1.00	0.03	0.07	0.07	0.05	0.09	0.09
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	605	2650		392	2087	1583	41	219	105	158	368	149
v/s Ratio Prot	c0.39	0.36		0.21	0.34		0.02	0.03		0.04	0.01	
v/s Ratio Perm						c0.84			0.00			0.01
v/c Ratio	1.07	0.66		0.90	0.82	0.84	0.90	0.50	0.04	0.78	0.11	0.08
Uniform Delay, d1	60.2	31.4		70.2	49.7	0.0	92.4	85.0	82.3	89.3	78.7	78.4
Progression Factor	1.12	1.30		1.10	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	52.3	1.0		10.6	1.6	2.3	102.4	2.1	0.2	20.6	0.3	0.5
Delay (s)	119.7	41.9		87.7	37.8	2.3	194.7	87.2	82.5	109.9	79.0	78.9
Level of Service	F	D		F	D	A	F	F	F	F	E	E
Approach Delay (s)		62.7			29.1			102.2			92.1	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	47.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	885	305	107	2697	71	94	6	25	11	15	267
Future Volume (vph)	334	885	305	107	2697	71	94	6	25	11	15	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98		0.95	1.00	1.00
Satd. Flow (prot)	1770	4890		1770	5066		1681	1620		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98		0.95	1.00	1.00
Satd. Flow (perm)	1770	4890		1770	5066		1681	1620		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	344	912	314	110	2780	73	97	6	26	11	15	275
RTOR Reduction (vph)	0	23	0	0	1	0	0	15	0	0	0	101
Lane Group Flow (vph)	344	1203	0	110	2852	0	66	48	0	11	15	174
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	49.5	135.7		16.1	102.5		11.9	11.9		6.1	6.1	55.6
Effective Green, g (s)	49.5	135.7		16.1	102.5		11.9	11.9		6.1	6.1	55.6
Actuated g/C Ratio	0.26	0.71		0.08	0.54		0.06	0.06		0.03	0.03	0.29
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	461	3492		149	2732		105	101		53	59	463
v/s Ratio Prot	c0.19	0.25		0.06	c0.56		c0.04	0.03		0.01	0.01	c0.11
v/s Ratio Perm												
v/c Ratio	0.75	0.34		0.74	1.04		0.63	0.48		0.21	0.25	0.38
Uniform Delay, d1	64.5	10.3		84.9	43.8		86.9	86.0		89.6	89.7	53.4
Progression Factor	0.75	2.46		1.21	0.68		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	0.2		8.4	26.0		8.2	1.3		0.7	0.8	0.2
Delay (s)	52.6	25.5		111.3	55.8		95.1	87.3		90.3	90.6	53.6
Level of Service	D	C		F	E		F	F		F	F	D
Approach Delay (s)		31.5			57.9			91.3			56.8	
Approach LOS		C			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	764	45	151	2823	176	8	4	35	51	10	43
Future Volume (vph)	106	764	45	151	2823	176	8	4	35	51	10	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5043		1770	5041		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5043		1770	5041		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	112	804	47	159	2972	185	8	4	37	54	11	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	36	0	0	42
Lane Group Flow (vph)	112	849	0	159	3155	0	8	4	1	54	11	3
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	17.2	134.1		21.4	138.6		1.6	7.2	7.2	7.6	13.2	13.2
Effective Green, g (s)	17.2	134.1		21.4	138.6		1.6	7.2	7.2	7.6	13.2	13.2
Actuated g/C Ratio	0.09	0.71		0.11	0.73		0.01	0.04	0.04	0.04	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	160	3559		199	3677		14	70	59	70	129	109
v/s Ratio Prot	0.06	0.17		c0.09	c0.63		0.00	0.00		c0.03	c0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.70	0.24		0.80	0.86		0.57	0.06	0.02	0.77	0.09	0.03
Uniform Delay, d1	83.9	9.9		82.2	18.6		93.9	88.1	88.0	90.3	82.7	82.4
Progression Factor	1.17	0.13		0.99	0.44		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.9	0.2		6.9	1.0		30.5	0.1	0.1	37.0	0.1	0.0
Delay (s)	107.7	1.4		87.9	9.1		124.4	88.3	88.1	127.4	82.9	82.5
Level of Service	F	A		F	A		F	F	F	F	F	F
Approach Delay (s)		13.8			12.9			94.0			104.5	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	475	330	46	2849	151	389	59	41	24	26	42
Future Volume (vph)	64	475	330	46	2849	151	389	59	41	24	26	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4773		1652	5047		1625	1706	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4773		1652	5047		1625	1706	1583	1652	1863	1689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	485	337	47	2907	154	397	60	42	24	27	43
RTOR Reduction (vph)	0	44	0	0	2	0	0	0	35	0	0	41
Lane Group Flow (vph)	65	778	0	47	3059	0	226	231	7	24	27	2
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.5	122.9		8.7	115.6		31.0	31.0	31.0	7.2	7.2	7.2
Effective Green, g (s)	15.5	122.9		8.7	115.6		31.0	31.0	31.0	7.2	7.2	7.2
Actuated g/C Ratio	0.08	0.65		0.05	0.61		0.16	0.16	0.16	0.04	0.04	0.04
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	134	3087		75	3070		265	278	258	62	70	64
v/s Ratio Prot	c0.04	0.16		c0.03	c0.61		c0.14	0.14		c0.01	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.49	0.25		0.63	1.00		0.85	0.83	0.03	0.39	0.39	0.03
Uniform Delay, d1	83.4	14.2		89.1	37.0		77.3	77.0	66.8	89.2	89.2	88.0
Progression Factor	1.18	0.22		1.26	0.47		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.2		8.1	12.9		21.7	17.9	0.0	4.0	3.5	0.2
Delay (s)	99.8	3.3		120.6	30.4		98.9	94.8	66.8	93.2	92.7	88.2
Level of Service	F	A		F	C		F	F	E	F	F	F
Approach Delay (s)		10.3			31.8			94.3			90.8	
Approach LOS		B			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	322	85	50	2712	75	176	26	60	4	11	17
Future Volume (vph)	32	322	85	50	2712	75	176	26	60	4	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4926		1770	5065		3433	1669		1770	1693	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4926		1770	5065		3433	1669		1770	1693	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	329	87	51	2767	77	180	27	61	4	11	17
RTOR Reduction (vph)	0	15	0	0	1	0	0	50	0	0	16	0
Lane Group Flow (vph)	33	401	0	51	2843	0	180	38	0	4	12	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.1	140.4		8.8	142.1		13.3	20.3		0.8	7.8	
Effective Green, g (s)	7.1	140.4		8.8	142.1		13.3	20.3		0.8	7.8	
Actuated g/C Ratio	0.04	0.74		0.05	0.75		0.07	0.11		0.00	0.04	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	66	3640		81	3788		240	178		7	69	
v/s Ratio Prot	0.02	0.08		c0.03	c0.56		c0.05	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.50	0.11		0.63	0.75		0.75	0.21		0.57	0.17	
Uniform Delay, d1	89.7	7.0		89.0	13.8		86.7	77.6		94.4	88.0	
Progression Factor	0.83	0.93		1.25	0.18		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		1.0	0.1		11.1	0.2		55.0	0.4	
Delay (s)	76.3	6.6		112.4	2.6		97.8	77.8		149.4	88.4	
Level of Service	E	A		F	A		F	E		F	F	
Approach Delay (s)		11.8			4.6			91.2			96.0	
Approach LOS		B			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	310	107	770	2848	372	183	200	103	142	382	77
Future Volume (vph)	29	310	107	770	2848	372	183	200	103	142	382	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4890		1652	4997		1652	3421	1531	3204	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4890		1652	4997		1652	3421	1531	3204	3450	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	30	316	109	786	2906	380	187	204	105	145	390	79
RTOR Reduction (vph)	0	32	0	0	9	0	0	0	24	0	9	0
Lane Group Flow (vph)	30	393	0	786	3277	0	187	204	81	145	460	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.4	32.8		84.6	113.9		21.6	40.6	131.2	11.1	29.7	
Effective Green, g (s)	3.4	32.8		84.6	113.9		21.6	40.6	131.2	11.1	29.7	
Actuated g/C Ratio	0.02	0.17		0.45	0.60		0.11	0.21	0.69	0.06	0.16	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	29	844		735	2995		187	731	1057	187	539	
v/s Ratio Prot	0.02	0.08		c0.48	c0.66		c0.11	0.06	0.05	0.05	c0.13	
v/s Ratio Perm												
v/c Ratio	1.03	0.47		1.07	1.09		1.00	0.28	0.08	0.78	0.85	
Uniform Delay, d1	93.3	70.7		52.7	38.0		84.2	62.5	9.6	88.2	78.0	
Progression Factor	0.96	1.06		0.81	0.50		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	177.8	0.6		40.7	44.6		65.8	0.2	0.0	16.6	12.5	
Delay (s)	267.7	75.5		83.4	63.7		150.0	62.7	9.6	104.8	90.5	
Level of Service	F	E		F	E		F	E	A	F	F	
Approach Delay (s)		88.2			67.5			84.4			93.9	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	73.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	503	11	33	3796	24	33	5	45	71	5	132
Future Volume (vph)	28	503	11	33	3796	24	33	5	45	71	5	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5069		1770	5080			1785	1583	1770	1593	
Flt Permitted	0.95	1.00		0.95	1.00			0.29	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5069		1770	5080			535	1583	1363	1593	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	519	11	34	3913	25	34	5	46	73	5	136
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	42	0	33	0
Lane Group Flow (vph)	29	529	0	34	3938	0	0	39	4	73	108	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	7.0	150.3		7.2	150.5			17.2	17.2	17.2	17.2	
Effective Green, g (s)	7.0	150.3		7.2	150.5			17.2	17.2	17.2	17.2	
Actuated g/C Ratio	0.04	0.79		0.04	0.79			0.09	0.09	0.09	0.09	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	65	4009		67	4023			48	143	123	144	
v/s Ratio Prot	0.02	0.10		c0.02	c0.78						0.07	
v/s Ratio Perm								c0.07	0.00	0.05		
v/c Ratio	0.45	0.13		0.51	0.98			0.81	0.03	0.59	0.75	
Uniform Delay, d1	89.6	4.6		89.7	18.3			84.8	78.8	83.0	84.3	
Progression Factor	0.87	3.25		1.08	0.27			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.1		1.1	6.1			61.7	0.0	5.0	17.7	
Delay (s)	79.5	15.1		98.3	11.1			146.6	78.8	88.1	102.0	
Level of Service	E	B		F	B			F	E	F	F	
Approach Delay (s)		18.5			11.8			109.9			97.2	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	559	9	20	3760	33	19	10	44	1	14	43
Future Volume (vph)	7	559	9	20	3760	33	19	10	44	1	14	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.0		5.4	6.4			5.9		5.9	5.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00			0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	5074		1770	5079			1689		1770	1651	
Flt Permitted	0.95	1.00		0.95	1.00			0.88		0.45	1.00	
Satd. Flow (perm)	1770	5074		1770	5079			1501		837	1651	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	576	9	21	3876	34	20	10	45	1	14	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	33	0	0	42	0
Lane Group Flow (vph)	7	585	0	21	3910	0	0	42	0	1	16	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	160.0		4.8	163.0			9.9		9.9	9.9	
Effective Green, g (s)	0.6	159.0		3.8	163.0			8.9		8.9	8.9	
Actuated g/C Ratio	0.00	0.84		0.02	0.86			0.05		0.05	0.05	
Clearance Time (s)	4.4	6.0		4.4	6.4			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	5	4246		35	4357			70		39	77	
v/s Ratio Prot	0.00	0.12		c0.01	c0.77						0.01	
v/s Ratio Perm								c0.03		0.00		
v/c Ratio	1.40	0.14		0.60	0.90			0.59		0.03	0.21	
Uniform Delay, d1	94.7	2.9		92.3	8.3			88.8		86.4	87.2	
Progression Factor	1.40	0.23		1.00	0.89			1.00		1.00	1.00	
Incremental Delay, d2	573.6	0.1		1.7	0.3			8.7		0.1	0.5	
Delay (s)	706.0	0.7		93.7	7.7			97.5		86.5	87.7	
Level of Service	F	A		F	A			F		F	F	
Approach Delay (s)		9.1			8.2			97.5			87.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	672	32	55	3524	36	92	29	74	78	103	237
Future Volume (vph)	54	672	32	55	3524	36	92	29	74	78	103	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5051		1770	5078		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5051		1770	5078		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	56	693	33	57	3633	37	95	30	76	80	106	244
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	67	0	0	85
Lane Group Flow (vph)	56	724	0	57	3669	0	95	30	9	80	106	159
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.0	128.3		10.1	127.9		9.5	22.4	22.4	9.5	22.4	22.4
Effective Green, g (s)	10.0	128.3		10.1	127.9		9.5	22.4	22.4	9.5	22.4	22.4
Actuated g/C Ratio	0.05	0.68		0.05	0.67		0.05	0.12	0.12	0.05	0.12	0.12
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	93	3410		94	3418		88	219	186	88	219	186
v/s Ratio Prot	0.03	0.14		c0.03	c0.72		c0.05	0.02		0.05	0.06	
v/s Ratio Perm									0.01			c0.10
v/c Ratio	0.60	0.21		0.61	1.07		1.08	0.14	0.05	0.91	0.48	0.86
Uniform Delay, d1	88.1	11.7		88.0	31.0		90.2	75.1	74.3	89.8	78.4	82.2
Progression Factor	0.99	0.38		1.15	0.19		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.3	0.1		0.7	33.8		119.2	0.1	0.0	64.9	0.6	29.1
Delay (s)	94.3	4.6		102.3	39.7		209.4	75.2	74.4	154.7	79.0	111.3
Level of Service	F	A		F	D		F	E	E	F	E	F
Approach Delay (s)		11.0			40.7			138.3			111.4	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	616	63	23	3164	14	183	54	19	57	130	232
Future Volume (vph)	42	616	63	23	3164	14	183	54	19	57	130	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5015		1770	5085	1583	1770	3401		1770	3199	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5015		1770	5085	1583	1770	3401		1770	3199	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	648	66	24	3331	15	193	57	20	60	137	244
RTOR Reduction (vph)	0	6	0	0	0	6	0	18	0	0	47	0
Lane Group Flow (vph)	44	708	0	24	3331	9	193	59	0	60	334	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	5.3	116.4		4.1	115.2	115.2	23.5	23.5		26.1	26.1	
Effective Green, g (s)	5.3	116.4		4.1	115.2	115.2	23.5	23.5		26.1	26.1	
Actuated g/C Ratio	0.03	0.61		0.02	0.61	0.61	0.12	0.12		0.14	0.14	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	49	3072		38	3083	959	218	420		243	439	
v/s Ratio Prot	c0.02	0.14		0.01	c0.66		c0.11	0.02		0.03	c0.10	
v/s Ratio Perm						0.01						
v/c Ratio	0.90	0.23		0.63	1.08	0.01	0.89	0.14		0.25	0.92dr	
Uniform Delay, d1	92.1	16.6		92.2	37.4	14.8	81.9	74.3		73.2	78.9	
Progression Factor	0.70	1.74		1.32	0.30	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	87.2	0.2		2.3	36.9	0.0	32.5	0.2		0.8	8.0	
Delay (s)	151.7	29.1		124.3	48.2	14.8	114.4	74.4		74.0	87.0	
Level of Service	F	C		F	D	B	F	E		E	F	
Approach Delay (s)		36.2			48.6			103.0			85.2	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	53.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	722	25	186	2926	134	98	342	163	441	550	224
Future Volume (vph)	86	722	25	186	2926	134	98	342	163	441	550	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4723		3204	4916	1478	1711	4746	1478	3433	3385	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4723		3204	4916	1478	1711	4746	1478	3433	3385	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	91	760	26	196	3080	141	103	360	172	464	579	236
RTOR Reduction (vph)	0	2	0	0	0	39	0	0	123	0	23	0
Lane Group Flow (vph)	91	784	0	196	3080	102	103	360	49	464	792	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	5.6	97.1		15.5	107.1	107.1	12.7	34.0	34.0	23.6	44.7	
Effective Green, g (s)	5.6	97.1		15.5	107.1	107.1	12.7	34.0	34.0	23.6	44.7	
Actuated g/C Ratio	0.03	0.51		0.08	0.56	0.56	0.07	0.18	0.18	0.12	0.24	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	94	2413		261	2771	833	114	849	264	426	796	
v/s Ratio Prot	0.03	0.17		c0.06	c0.63		0.06	0.08		c0.14	c0.23	
v/s Ratio Perm						0.07			0.03			
v/c Ratio	0.97	0.32		0.75	1.11	0.12	0.90	0.42	0.19	1.09	1.00	
Uniform Delay, d1	92.1	27.2		85.4	41.5	19.4	88.0	69.3	66.2	83.2	72.5	
Progression Factor	0.97	0.86		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	80.7	0.4		10.3	56.0	0.3	54.0	0.6	0.6	69.8	30.5	
Delay (s)	169.8	23.9		95.6	97.4	19.7	142.1	69.9	66.8	153.0	103.1	
Level of Service	F	C		F	F	B	F	E	E	F	F	
Approach Delay (s)		39.0			94.1			80.8			121.2	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	90.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	366	697	303	161	102	133
Future Volume (vph)	366	697	303	161	102	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.95		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	3355		1743	1504
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	1863	3355		1743	1504
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	385	734	319	169	107	140
RTOR Reduction (vph)	0	0	97	0	13	60
Lane Group Flow (vph)	385	734	391	0	116	58
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	11.7	31.0	15.3		7.3	23.5
Effective Green, g (s)	11.7	31.0	15.3		7.3	23.5
Actuated g/C Ratio	0.24	0.65	0.32		0.15	0.49
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	433	1208	1073		266	739
v/s Ratio Prot	c0.22	c0.39	0.12		c0.07	0.04
v/s Ratio Perm						
v/c Ratio	0.89	0.61	0.36		0.44	0.08
Uniform Delay, d1	17.4	4.9	12.5		18.4	6.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	18.9	1.3	0.4		1.2	0.0
Delay (s)	36.4	6.2	12.9		19.5	6.5
Level of Service	D	A	B		B	A
Approach Delay (s)		16.6	12.9		13.3	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	266	8	56	651	231	1	1	9	55	1	10
Future Volume (vph)	66	266	8	56	651	231	1	1	9	55	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.96			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1770	1855		1770	1790			1649			1751	
Flt Permitted	0.22	1.00		0.58	1.00			0.96			0.94	
Satd. Flow (perm)	417	1855		1087	1790			1587			1710	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	69	280	8	59	685	243	1	1	9	58	1	11
RTOR Reduction (vph)	0	1	0	0	13	0	0	8	0	0	10	0
Lane Group Flow (vph)	69	287	0	59	915	0	0	3	0	0	60	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	31.8	31.8		31.2	31.2			3.9			3.9	
Effective Green, g (s)	31.8	31.8		31.2	31.2			3.9			3.9	
Actuated g/C Ratio	0.70	0.70		0.69	0.69			0.09			0.09	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	291	1296		745	1227			136			146	
v/s Ratio Prot		0.15			c0.51							
v/s Ratio Perm	0.17			0.05				0.00			c0.04	
v/c Ratio	0.24	0.22		0.08	0.75			0.02			0.41	
Uniform Delay, d1	2.5	2.4		2.4	4.6			19.1			19.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	0.1		0.0	2.5			0.0			0.7	
Delay (s)	2.8	2.5		2.4	7.1			19.1			20.4	
Level of Service	A	A		A	A			B			C	
Approach Delay (s)		2.6			6.8			19.1			20.4	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	45.5	Sum of lost time (s)	10.4
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	102	127	69	258	82	319	900	113	129	1705	435
Future Volume (vph)	91	102	127	69	258	82	319	900	113	129	1705	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	2035		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	2035		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	96	107	134	73	272	86	336	947	119	136	1795	458
RTOR Reduction (vph)	0	0	97	0	7	0	0	0	22	0	0	66
Lane Group Flow (vph)	96	107	37	73	351	0	336	947	97	136	1795	392
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	17.1	17.1	46.1	32.0	32.0		24.6	64.2	96.2	15.8	55.4	72.5
Effective Green, g (s)	17.1	17.1	41.7	32.0	32.0		24.6	64.2	96.2	15.8	55.4	72.5
Actuated g/C Ratio	0.11	0.11	0.28	0.21	0.21		0.16	0.43	0.64	0.11	0.37	0.48
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	188	198	425	352	434		280	1413	1015	174	1263	739
v/s Ratio Prot	0.06	c0.06	0.02	0.04	c0.17		c0.20	0.29	0.06	0.08	c0.52	0.26
v/s Ratio Perm												
v/c Ratio	0.51	0.54	0.09	0.21	0.81		1.20	0.67	0.10	0.78	1.42	0.53
Uniform Delay, d1	62.5	62.7	40.1	48.6	56.1		62.7	34.4	10.3	65.4	47.3	26.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.72	0.48	1.44	0.83	0.73	1.30
Incremental Delay, d2	1.3	1.9	0.0	0.3	10.6		93.3	0.2	0.0	9.6	191.8	0.2
Delay (s)	63.8	64.7	40.1	48.8	66.6		138.4	16.8	14.8	64.1	226.4	35.2
Level of Service	E	E	D	D	E		F	B	B	E	F	D
Approach Delay (s)		54.7			63.6			45.8			180.5	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	118.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	123	1	14	0	433	182	19	119	1
Future Volume (vph)	0	0	1	123	1	14	0	433	182	19	119	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			5.0	4.0		4.5	5.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.86			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1611			1775	1583		1863	1583	1770	1861	
Flt Permitted		1.00			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1611			1775	1583		1863	1583	1770	1861	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1	129	1	15	0	456	192	20	125	1
RTOR Reduction (vph)	0	1	0	0	0	12	0	0	63	0	0	0
Lane Group Flow (vph)	0	0	0	0	130	3	0	456	129	20	126	0
Turn Type		NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.5			8.4	8.4		16.5	29.4	0.4	20.9	
Effective Green, g (s)		0.5			7.4	8.4		16.5	28.4	0.4	20.9	
Actuated g/C Ratio		0.01			0.17	0.20		0.39	0.67	0.01	0.49	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		19			310	314		726	1062	16	919	
v/s Ratio Prot		c0.00			c0.07			c0.24	0.08	c0.01	0.07	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.42	0.01		0.63	0.12	1.25	0.14	
Uniform Delay, d1		20.7			15.5	13.6		10.4	2.5	20.9	5.8	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.3	0.0		1.7	0.1	314.0	0.1	
Delay (s)		20.7			15.9	13.6		12.1	2.5	335.0	5.9	
Level of Service		C			B	B		B	A	F	A	
Approach Delay (s)		20.7			15.6			9.3			51.0	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	326	87	123	868	50	271	120	111	3	15	24
Future Volume (vph)	168	326	87	123	868	50	271	120	111	3	15	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3427		1770	3510		1770	1863	1583	1770	1692	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3427		1770	3510		1770	1863	1583	1770	1692	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	177	343	92	129	914	53	285	126	117	3	16	25
RTOR Reduction (vph)	0	23	0	0	4	0	0	0	80	0	23	0
Lane Group Flow (vph)	177	412	0	129	963	0	285	126	37	3	18	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.2	29.0		4.8	24.1		6.4	10.9	20.6	0.7	5.2	
Effective Green, g (s)	10.2	29.0		4.8	24.1		6.4	10.9	20.6	0.7	5.2	
Actuated g/C Ratio	0.16	0.44		0.07	0.37		0.10	0.17	0.32	0.01	0.08	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	276	1524		130	1297		173	311	500	19	134	
v/s Ratio Prot	c0.10	0.12		c0.07	c0.27		c0.16	c0.07	0.02	0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.64	0.27		0.99	0.74		1.65	0.41	0.07	0.16	0.13	
Uniform Delay, d1	25.8	11.4		30.2	17.9		29.4	24.3	15.6	32.0	27.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.8	0.1		76.2	2.3		315.8	0.3	0.0	1.4	0.2	
Delay (s)	29.6	11.5		106.4	20.2		345.2	24.6	15.6	33.4	28.1	
Level of Service	C	B		F	C		F	C	B	C	C	
Approach Delay (s)		16.7			30.3			195.6			28.4	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	64.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	19.8
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1559	99	49	1344	516	25	30	33	75	17	62
Future Volume (vph)	170	1559	99	49	1344	516	25	30	33	75	17	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	4874		1681	1762	1583	1610	3045	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	4874		1681	1762	1583	1610	3045	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	1641	104	52	1415	543	26	32	35	79	18	65
RTOR Reduction (vph)	0	0	34	0	34	0	0	0	33	0	59	0
Lane Group Flow (vph)	179	1641	70	52	1924	0	23	35	2	56	48	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	18.9	94.5	94.5	5.6	81.2		6.4	6.4	6.4	14.0	14.0	
Effective Green, g (s)	18.9	94.5	94.5	5.6	81.2		6.4	6.4	6.4	14.0	14.0	
Actuated g/C Ratio	0.13	0.68	0.68	0.04	0.58		0.05	0.05	0.05	0.10	0.10	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	238	3432	1068	137	2826		76	80	72	161	304	
v/s Ratio Prot	c0.10	0.32		0.02	c0.39		0.01	c0.02		c0.03	0.02	
v/s Ratio Perm			0.04						0.00			
v/c Ratio	0.75	0.48	0.07	0.38	0.68		0.30	0.44	0.02	0.35	0.16	
Uniform Delay, d1	58.3	10.9	7.7	65.5	20.4		64.6	65.0	63.8	58.7	57.6	
Progression Factor	1.00	1.00	1.00	0.78	0.77		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.3	0.5	0.1	0.4	0.8		0.8	1.4	0.0	3.7	0.7	
Delay (s)	69.5	11.4	7.9	51.6	16.5		65.5	66.4	63.9	62.5	58.3	
Level of Service	E	B	A	D	B		E	E	E	E	E	
Approach Delay (s)		16.6			17.4			65.2			59.7	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	1072	154	421	1776	1608	144	275	406	237	50	42
Future Volume (vph)	375	1072	154	421	1776	1608	144	275	406	237	50	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	395	1128	162	443	1869	1693	152	289	427	249	53	44
RTOR Reduction (vph)	0	0	72	0	0	149	0	0	33	0	0	28
Lane Group Flow (vph)	395	1128	90	443	1869	1544	152	289	394	249	53	16
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	21.9	59.6	59.6	22.7	61.1	76.6	14.3	27.7	55.4	10.2	23.3	50.5
Effective Green, g (s)	21.9	59.6	59.6	22.7	61.1	76.6	14.3	27.7	55.4	10.2	23.3	50.5
Actuated g/C Ratio	0.16	0.43	0.43	0.16	0.44	0.55	0.10	0.20	0.40	0.07	0.17	0.36
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	537	2164	673	556	2219	1524	350	700	1102	250	588	571
v/s Ratio Prot	0.12	0.22		c0.13	0.37	c0.55	0.04	c0.08	0.14	0.07	0.01	0.01
v/s Ratio Perm			0.06									
v/c Ratio	0.74	0.52	0.13	0.80	0.84	1.01	0.43	0.41	0.36	1.00	0.09	0.03
Uniform Delay, d1	56.3	29.7	24.5	56.4	35.2	31.7	59.0	49.0	29.8	64.9	49.4	28.9
Progression Factor	1.00	0.69	0.74	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	0.8	0.4	7.3	4.1	26.3	0.3	0.9	0.4	55.4	0.1	0.0
Delay (s)	60.6	21.2	18.6	63.7	39.3	58.0	59.4	49.9	30.2	120.3	49.5	28.9
Level of Service	E	C	B	E	D	E	E	D	C	F	D	C
Approach Delay (s)		30.2			49.9			41.9			97.8	
Approach LOS		C			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1249	485	0	1939	622	0	0	0	838	0	1793
Future Volume (vph)	0	1249	485	0	1939	622	0	0	0	838	0	1793
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1315	511	0	2041	655	0	0	0	882	0	1887
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	21
Lane Group Flow (vph)	0	1315	511	0	2041	655	0	0	0	882	0	1866
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		48.5	120.0		48.5	120.0				59.3		59.3
Effective Green, g (s)		48.5	120.0		48.5	115.3				59.3		59.3
Actuated g/C Ratio		0.40	1.00		0.40	0.96				0.49		0.49
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2055	2787		2055	1520				1696		1377
v/s Ratio Prot		0.26			c0.40	0.41				0.26		c0.67
v/s Ratio Perm			0.18									
v/c Ratio		0.64	0.18		0.99	0.43				0.52		1.36
Uniform Delay, d1		28.7	0.0		35.6	0.2				20.7		30.4
Progression Factor		1.00	1.00		0.76	1.00				1.00		1.00
Incremental Delay, d2		1.5	0.1		17.0	0.1				0.1		164.7
Delay (s)		30.3	0.1		44.2	0.2				20.8		195.1
Level of Service		C	A		D	A				C		F
Approach Delay (s)		21.8			33.5			0.0			139.6	
Approach LOS		C			C			A			F	

Intersection Summary			
HCM 2000 Control Delay	70.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1271	792	0	1624	664	858	0	322	0	0	0
Future Volume (vph)	0	1271	792	0	1624	664	858	0	322	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1338	834	0	1709	699	903	0	339	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	29	0	0	0
Lane Group Flow (vph)	0	1338	834	0	1709	699	903	0	310	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		68.2	120.0		68.2	120.0	39.6		39.6			
Effective Green, g (s)		68.2	115.3		68.2	120.0	39.6		39.6			
Actuated g/C Ratio		0.57	0.96		0.57	1.00	0.33		0.33			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2889	1520		3641	1583	1132		919			
v/s Ratio Prot		0.26	c0.53		0.27		c0.26					
v/s Ratio Perm						0.44			0.11			
v/c Ratio		0.46	0.55		0.47	0.44	0.80		0.34			
Uniform Delay, d1		15.2	0.2		15.2	0.0	36.6		30.3			
Progression Factor		0.82	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	0.2		0.4	0.9	3.7		0.1			
Delay (s)		12.9	0.4		15.7	0.9	40.3		30.4			
Level of Service		B	A		B	A	D		C			
Approach Delay (s)		8.1			11.4			37.6			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	448	716	239	1878	0	0
Future Volume (vph)	448	716	239	1878	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	472	754	252	1977	0	0
RTOR Reduction (vph)	0	159	0	0	0	0
Lane Group Flow (vph)	472	595	252	1977	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	58.0	58.0	20.3	90.0		
Effective Green, g (s)	58.0	58.0	20.3	90.0		
Actuated g/C Ratio	0.64	0.64	0.23	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2280	1796	774	5085		
v/s Ratio Prot	0.13		0.07	c0.39		
v/s Ratio Perm		0.21				
v/c Ratio	0.21	0.33	0.33	0.39		
Uniform Delay, d1	6.6	7.2	29.1	0.0		
Progression Factor	1.00	1.00	0.99	1.00		
Incremental Delay, d2	0.2	0.5	0.1	0.2		
Delay (s)	6.8	7.7	28.9	0.2		
Level of Service	A	A	C	A		
Approach Delay (s)	7.4			3.4	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	395	0	0	807	1080	1057
Future Volume (vph)	0	395	0	0	807	1080	1057
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	416	0	0	849	1137	1113
RTOR Reduction (vph)	0	0	0	0	0	0	266
Lane Group Flow (vph)	0	416	0	0	849	1137	847
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		40.6			40.6	37.7	37.7
Effective Green, g (s)		40.6			40.6	37.7	37.7
Actuated g/C Ratio		0.45			0.45	0.42	0.42
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		1596			2293	1438	1167
v/s Ratio Prot		0.12			c0.17	c0.33	
v/s Ratio Perm							0.30
v/c Ratio		0.26			0.37	0.79	0.73
Uniform Delay, d1		15.4			16.3	22.7	21.8
Progression Factor		0.67			1.00	1.00	1.00
Incremental Delay, d2		0.4			0.5	2.8	1.9
Delay (s)		10.7			16.7	25.6	23.8
Level of Service		B			B	C	C
Approach Delay (s)		10.7			16.7	24.7	
Approach LOS		B			B	C	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1399	310	578	2204	131	1148
Future Volume (vph)	1399	310	578	2204	131	1148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6234		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6234		3433	6408	1770	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1473	326	608	2320	138	1208
RTOR Reduction (vph)	26	0	0	0	0	0
Lane Group Flow (vph)	1773	0	608	2320	138	1208
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	56.4		30.9	92.0	47.6	82.9
Effective Green, g (s)	56.4		30.9	92.0	47.6	82.9
Actuated g/C Ratio	0.38		0.21	0.61	0.32	0.55
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2343		707	3930	561	1540
v/s Ratio Prot	c0.28		c0.18	0.36	0.08	c0.43
v/s Ratio Perm						
v/c Ratio	0.76		0.86	0.59	0.25	0.78
Uniform Delay, d1	40.8		57.5	17.6	37.9	26.5
Progression Factor	1.00		1.49	0.67	1.00	1.00
Incremental Delay, d2	2.3		4.2	0.3	0.1	2.5
Delay (s)	43.2		89.8	12.0	38.0	29.0
Level of Service	D		F	B	D	C
Approach Delay (s)	43.2			28.2	29.9	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	315	2237	0	2602	1173	219	206
Future Volume (vph)	315	2237	0	2602	1173	219	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.93	
Flt Protected	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (prot)	3433	5085		5085	1583	3267	
Flt Permitted	0.95	1.00		1.00	1.00	0.97	
Satd. Flow (perm)	3433	5085		5085	1583	3267	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	332	2355	0	2739	1235	231	217
RTOR Reduction (vph)	0	0	0	0	3	107	0
Lane Group Flow (vph)	332	2355	0	2739	1232	341	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	16.2	105.3		85.6	125.0	34.0	
Effective Green, g (s)	16.2	105.3		85.6	125.0	34.0	
Actuated g/C Ratio	0.11	0.70		0.57	0.83	0.23	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	370	3569		2901	1319	740	
v/s Ratio Prot	c0.10	0.46		0.54	c0.78	0.10	
v/s Ratio Perm							
v/c Ratio	0.90	0.66		0.94	0.93	0.46	
Uniform Delay, d1	66.1	12.4		30.0	9.4	50.1	
Progression Factor	0.96	0.76		1.53	2.04	1.00	
Incremental Delay, d2	16.0	0.6		2.4	3.8	0.8	
Delay (s)	79.6	10.1		48.2	23.1	50.9	
Level of Service	E	B		D	C	D	
Approach Delay (s)		18.7		40.4		50.9	
Approach LOS		B		D		D	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	81	2385	3662	77	40	79
Future Volume (vph)	81	2385	3662	77	40	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	85	2511	3855	81	42	83
RTOR Reduction (vph)	0	0	0	8	0	67
Lane Group Flow (vph)	85	2511	3855	73	42	16
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	14.8	130.7	111.9	111.9	9.0	9.0
Effective Green, g (s)	14.8	130.7	111.9	111.9	9.0	9.0
Actuated g/C Ratio	0.10	0.87	0.75	0.75	0.06	0.06
Clearance Time (s)	4.4	5.8	5.4	5.4	4.5	4.5
Vehicle Extension (s)	2.0	4.6	5.2	5.2	3.0	3.0
Lane Grp Cap (vph)	174	4430	3793	1180	106	94
v/s Ratio Prot	0.05	c0.49	c0.76		c0.02	
v/s Ratio Perm				0.05		0.01
v/c Ratio	0.49	0.57	1.02	0.06	0.40	0.17
Uniform Delay, d1	64.0	2.5	19.0	5.1	67.9	67.0
Progression Factor	1.08	0.34	0.96	0.17	1.00	1.00
Incremental Delay, d2	0.6	0.4	13.9	0.0	2.4	0.9
Delay (s)	69.6	1.2	32.2	0.9	70.3	67.8
Level of Service	E	A	C	A	E	E
Approach Delay (s)		3.5	31.5		68.7	
Approach LOS		A	C		E	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	133	2439	0	3433	100	51	98
Future Volume (vph)	133	2439	0	3433	100	51	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.93	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3265	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.98	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3265	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	140	2567	0	3614	105	54	103
RTOR Reduction (vph)	0	0	0	0	6	49	48
Lane Group Flow (vph)	140	2567	0	3614	99	57	3
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	17.1	131.4		109.4	109.4	8.0	8.0
Effective Green, g (s)	17.1	131.4		109.4	109.4	8.0	8.0
Actuated g/C Ratio	0.11	0.88		0.73	0.73	0.05	0.05
Clearance Time (s)	4.9	5.7		5.7	5.7	4.9	4.9
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	201	4454		3708	1154	174	76
v/s Ratio Prot	c0.08	0.50		c0.71		c0.02	
v/s Ratio Perm					0.06		0.00
v/c Ratio	0.70	0.58		0.97	0.09	0.33	0.04
Uniform Delay, d1	64.0	2.3		19.0	5.9	68.4	67.3
Progression Factor	0.97	1.11		1.97	2.00	1.00	1.00
Incremental Delay, d2	8.7	0.5		1.5	0.0	1.1	0.2
Delay (s)	70.5	3.0		39.0	11.7	69.5	67.5
Level of Service	E	A		D	B	E	E
Approach Delay (s)		6.5		38.2		68.9	
Approach LOS		A		D		E	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1176	1354	28	22	2375	119	22	3	11	77	3	1423
Future Volume (vph)	1176	1354	28	22	2375	119	22	3	11	77	3	1423
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.99		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3204	5070		3204	5049		1652	1639		1625	1635	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3204	5070		3204	5049		1652	1639		1625	1635	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1238	1425	29	23	2500	125	23	3	12	81	3	1498
RTOR Reduction (vph)	0	1	0	0	4	0	0	12	0	0	0	302
Lane Group Flow (vph)	1238	1453	0	23	2621	0	23	3	0	42	42	1196
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	31.6	86.5		2.4	57.4		4.7	4.7		35.8	35.8	72.9
Effective Green, g (s)	31.6	86.5		2.4	57.4		4.7	4.7		35.8	35.8	72.9
Actuated g/C Ratio	0.21	0.58		0.02	0.38		0.03	0.03		0.24	0.24	0.49
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	674	2923		51	1932		51	51		387	390	1354
v/s Ratio Prot	c0.39	0.29		0.01	c0.52		c0.01	0.00		0.03	0.03	c0.43
v/s Ratio Perm												
v/c Ratio	1.84	0.50		0.45	1.36		0.45	0.07		0.11	0.11	0.88
Uniform Delay, d1	59.2	18.8		73.1	46.3		71.4	70.5		44.6	44.6	34.7
Progression Factor	0.94	1.24		1.28	0.84		1.00	1.00		1.23	1.23	0.76
Incremental Delay, d2	381.4	0.5		1.9	163.5		2.3	0.2		0.0	0.0	0.7
Delay (s)	437.2	23.8		95.4	202.5		73.7	70.7		54.9	54.9	27.0
Level of Service	F	C		F	F		E	E		D	D	C
Approach Delay (s)		213.9			201.5			72.5			28.5	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	166.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	115.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	141	809	0	2193	575	130	89
Future Volume (vph)	141	809	0	2193	575	130	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	5.4	5.7		6.0	6.0	4.9	4.9
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.98	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3167	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.96	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3167	1585
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	145	834	0	2261	593	134	92
RTOR Reduction (vph)	0	0	0	0	49	10	66
Lane Group Flow (vph)	145	834	0	2261	544	145	5
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	17.0	128.0		106.3	123.7	11.4	11.4
Effective Green, g (s)	16.0	128.0		106.3	123.7	11.4	11.4
Actuated g/C Ratio	0.11	0.85		0.71	0.82	0.08	0.08
Clearance Time (s)	4.4	5.7		6.0		4.9	4.9
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	182	4194		3483	1218	240	120
v/s Ratio Prot	c0.08	0.17		c0.46	0.37	c0.05	
v/s Ratio Perm							0.00
v/c Ratio	0.80	0.20		0.65	0.45	0.60	0.04
Uniform Delay, d1	65.4	1.9		11.8	3.6	67.1	64.3
Progression Factor	1.08	0.33		1.70	2.26	1.00	1.00
Incremental Delay, d2	18.2	0.1		0.1	0.0	2.9	0.1
Delay (s)	88.9	0.7		20.1	8.3	70.0	64.3
Level of Service	F	A		C	A	E	E
Approach Delay (s)		13.8		17.6		68.2	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	171	690	3121	430	960	602
Future Volume (vph)	171	690	3121	430	960	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4636	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4636	1271	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	174	704	3185	439	980	614
RTOR Reduction (vph)	0	0	1	69	0	1
Lane Group Flow (vph)	174	704	3228	326	980	613
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	7.6	103.0	91.2	91.2	36.0	48.6
Effective Green, g (s)	7.6	103.0	91.2	91.2	36.0	48.6
Actuated g/C Ratio	0.05	0.69	0.61	0.61	0.24	0.32
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	162	3258	2818	772	768	842
v/s Ratio Prot	c0.05	0.15	c0.70		c0.31	0.24
v/s Ratio Perm				0.26		
v/c Ratio	1.07	0.22	1.15	0.42	1.28	0.73
Uniform Delay, d1	71.2	8.6	29.4	15.5	57.0	44.9
Progression Factor	0.80	1.44	1.18	0.96	1.00	1.00
Incremental Delay, d2	91.4	0.2	68.1	0.9	134.2	2.7
Delay (s)	148.6	12.6	102.9	15.8	191.2	47.6
Level of Service	F	B	F	B	F	D
Approach Delay (s)		39.5	93.4		135.9	
Approach LOS		D	F		F	

Intersection Summary			
HCM 2000 Control Delay	96.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	1267	348	284	2840	33	305	29	227	40	85	90
Future Volume (vph)	17	1267	348	284	2840	33	305	29	227	40	85	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5076		1681	1581	1504		1741	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5076		1681	1581	1504		1741	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	17	1293	355	290	2898	34	311	30	232	41	87	92
RTOR Reduction (vph)	0	0	136	0	1	0	0	10	152	0	17	0
Lane Group Flow (vph)	17	1293	219	290	2931	0	199	185	27	0	203	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	2.6	74.8	74.8	17.0	88.8		22.7	22.7	22.7		16.1	
Effective Green, g (s)	2.6	74.8	74.8	17.0	88.8		22.7	22.7	22.7		16.1	
Actuated g/C Ratio	0.02	0.50	0.50	0.11	0.59		0.15	0.15	0.15		0.11	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	30	2535	789	389	3004		254	239	227		186	
v/s Ratio Prot	0.01	0.25		c0.08	c0.58		c0.12	0.12			c0.12	
v/s Ratio Perm			0.14						0.02			
v/c Ratio	0.57	0.51	0.28	0.75	0.98		0.78	0.77	0.12		1.09	
Uniform Delay, d1	73.1	25.3	21.9	64.4	29.6		61.3	61.2	55.0		67.0	
Progression Factor	1.49	0.42	0.46	1.26	0.72		1.00	1.00	1.00		1.00	
Incremental Delay, d2	7.5	0.4	0.5	3.9	8.0		13.5	13.2	0.1		92.6	
Delay (s)	116.5	10.9	10.5	85.3	29.4		74.8	74.4	55.1		159.5	
Level of Service	F	B	B	F	C		E	E	E		F	
Approach Delay (s)		11.9			34.4			68.5			159.5	
Approach LOS		B			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	71	1363	0	2865	141	118	216
Future Volume (vph)	71	1363	0	2865	141	118	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.2		5.8		5.5	5.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5050		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5050		3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	1435	0	3016	148	124	227
RTOR Reduction (vph)	0	0	0	2	0	0	71
Lane Group Flow (vph)	75	1435	0	3162	0	124	156
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	8.1	125.8		113.1		14.5	14.5
Effective Green, g (s)	7.1	125.8		113.1		13.5	13.5
Actuated g/C Ratio	0.05	0.84		0.75		0.09	0.09
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	162	4264		3807		308	250
v/s Ratio Prot	c0.02	0.28		c0.63		0.04	
v/s Ratio Perm							c0.06
v/c Ratio	0.46	0.34		0.83		0.40	0.62
Uniform Delay, d1	69.6	2.7		12.1		64.4	65.8
Progression Factor	0.75	1.09		0.47		1.00	1.00
Incremental Delay, d2	0.7	0.2		0.2		1.2	5.4
Delay (s)	52.8	3.2		5.9		65.6	71.2
Level of Service	D	A		A		E	E
Approach Delay (s)		5.6		5.9		69.2	
Approach LOS		A		A		E	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	1103	637	10	2754	126	1280	478	13	276	424	187
Future Volume (vph)	44	1103	637	10	2754	126	1280	478	13	276	424	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5052		2841	3022		3204	3377	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5052		2841	3022		3204	3377	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	45	1126	650	10	2810	129	1306	488	13	282	433	191
RTOR Reduction (vph)	0	0	36	0	3	0	0	1	0	0	34	0
Lane Group Flow (vph)	45	1126	614	10	2936	0	888	918	0	282	590	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.1	66.3	106.3	1.6	63.7		40.0	40.0		20.2	20.2	
Effective Green, g (s)	4.1	66.3	106.3	1.6	63.7		40.0	40.0		20.2	20.2	
Actuated g/C Ratio	0.03	0.44	0.71	0.01	0.42		0.27	0.27		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2172	1047	19	2145		757	805		431	454	
v/s Ratio Prot	c0.02	0.23	0.42	0.01	c0.58		c0.31	0.30		0.09	c0.17	
v/s Ratio Perm												
v/c Ratio	0.85	0.52	0.59	0.53	1.37		1.17	1.14		0.65	1.30	
Uniform Delay, d1	72.6	30.3	10.9	73.8	43.1		55.0	55.0		61.6	64.9	
Progression Factor	0.84	1.73	3.83	1.14	0.80		1.00	1.00		1.00	1.00	
Incremental Delay, d2	68.8	0.9	0.8	10.1	168.5		91.6	78.0		3.6	150.5	
Delay (s)	129.7	53.1	42.6	94.0	203.0		146.6	133.0		65.1	215.4	
Level of Service	F	D	D	F	F		F	F		E	F	
Approach Delay (s)		51.3			202.6			139.7			168.6	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	146.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	113.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1131	49	29	1846	18	237	13	85	46	1	45
Future Volume (vph)	39	1131	49	29	1846	18	237	13	85	46	1	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	6.5		5.5	7.0			6.2			5.2	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5053		1770	5078			1738			1697	
Flt Permitted	0.95	1.00		0.95	1.00			0.73			0.77	
Satd. Flow (perm)	1770	5053		1770	5078			1308			1338	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	1191	52	31	1943	19	249	14	89	48	1	47
RTOR Reduction (vph)	0	3	0	0	0	0	0	9	0	0	26	0
Lane Group Flow (vph)	41	1240	0	31	1962	0	0	343	0	0	70	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.6	86.3		4.5	83.7			44.0			44.0	
Effective Green, g (s)	6.6	85.3		3.5	82.7			43.0			44.0	
Actuated g/C Ratio	0.04	0.57		0.02	0.55			0.29			0.29	
Clearance Time (s)	4.5	5.5		4.5	6.0			5.2			5.2	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	77	2873		41	2799			374			392	
v/s Ratio Prot	c0.02	0.25		0.02	c0.39							
v/s Ratio Perm								c0.26			0.05	
v/c Ratio	0.53	0.43		0.76	0.70			0.92			0.18	
Uniform Delay, d1	70.2	18.5		72.8	24.6			51.8			39.5	
Progression Factor	1.52	0.33		1.04	1.21			1.00			1.00	
Incremental Delay, d2	3.0	0.4		39.4	1.1			26.1			0.1	
Delay (s)	109.8	6.5		115.2	30.8			77.9			39.6	
Level of Service	F	A		F	C			E			D	
Approach Delay (s)		9.8			32.1			77.9			39.6	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.2
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	592	649	0	704	1041	0	0	0	150	0	1200
Future Volume (vph)	0	592	649	0	704	1041	0	0	0	150	0	1200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	5.0		7.0	5.0				6.4		6.4
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	623	683	0	741	1096	0	0	0	158	0	1263
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	37
Lane Group Flow (vph)	0	623	683	0	741	1096	0	0	0	158	0	1226
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					7		
Permitted Phases			Free			Free						7
Actuated Green, G (s)		57.1	150.0		57.1	150.0				81.5		81.5
Effective Green, g (s)		56.1	150.0		56.1	150.0				80.5		80.5
Actuated g/C Ratio		0.37	1.00		0.37	1.00				0.54		0.54
Clearance Time (s)		6.0			6.0					5.4		5.4
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		1323	1583		1323	2787				1842		1495
v/s Ratio Prot		0.18			c0.21					0.05		
v/s Ratio Perm			0.43			0.39						c0.44
v/c Ratio		0.47	0.43		0.56	0.39				0.09		0.82
Uniform Delay, d1		35.7	0.0		37.2	0.0				16.9		28.8
Progression Factor		0.52	1.00		1.09	1.00				1.00		1.00
Incremental Delay, d2		1.1	0.8		1.6	0.4				0.0		3.6
Delay (s)		19.7	0.8		42.0	0.4				16.9		32.3
Level of Service		B	A		D	A				B		C
Approach Delay (s)		9.8			17.2			0.0			30.6	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	244	500	0	1415	133	520	0	716	0	0	0
Future Volume (vph)	0	244	500	0	1415	133	520	0	716	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	4.0	6.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	257	526	0	1489	140	547	0	754	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	610	0	0	0
Lane Group Flow (vph)	0	257	526	0	1489	140	547	0	144	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		108.3	150.0		108.3	150.0	28.6		28.6			
Effective Green, g (s)		108.3	150.0		108.3	150.0	28.6		28.6			
Actuated g/C Ratio		0.72	1.00		0.72	1.00	0.19		0.19			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2555	1583		4626	1583	654		531			
v/s Ratio Prot		0.07			0.23		c0.16					
v/s Ratio Perm			c0.33			0.09			0.05			
v/c Ratio		0.10	0.33		0.32	0.09	0.84		0.27			
Uniform Delay, d1		6.3	0.0		7.6	0.0	58.4		51.8			
Progression Factor		0.69	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	0.5		0.2	0.1	8.7		0.1			
Delay (s)		4.4	0.5		7.7	0.1	67.2		51.9			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		1.8			7.1			58.3			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	28	88	411	473	178	183	349	68	70	1082	178
Future Volume (vph)	18	28	88	411	473	178	183	349	68	70	1082	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.90			0.97		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3169			3385		1770	4961		1770	4978	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3169			3385		1770	4961		1770	4978	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	19	29	92	428	493	185	191	364	71	73	1127	185
RTOR Reduction (vph)	0	85	0	0	11	0	0	17	0	0	15	0
Lane Group Flow (vph)	0	55	0	0	1095	0	191	418	0	73	1297	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		10.0			41.1		14.6	43.4		8.1	36.5	
Effective Green, g (s)		10.0			41.1		14.6	43.4		8.1	36.5	
Actuated g/C Ratio		0.08			0.33		0.12	0.35		0.07	0.30	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		258			1132		210	1753		116	1479	
v/s Ratio Prot		c0.02			c0.32		c0.11	0.08		0.04	c0.26	
v/s Ratio Perm												
v/c Ratio		0.22			0.97		0.91	0.24		0.63	0.88	
Uniform Delay, d1		52.7			40.2		53.4	28.0		55.9	41.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			19.6		37.4	0.1		7.5	6.3	
Delay (s)		53.8			59.8		90.8	28.1		63.4	47.3	
Level of Service		D			E		F	C		E	D	
Approach Delay (s)		53.8			59.8			47.2			48.1	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	122.8	Sum of lost time (s)	20.6
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	0	5	69	3	71	106	606	18	21	1644	232
Future Volume (vph)	16	0	5	69	3	71	106	606	18	21	1644	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4		4.9	4.4	4.9	4.9	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711		1794	1770	1863	1583	3204	4894		1770	4991	
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711		1794	1770	1863	1583	3204	4894		1770	4991	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	17	0	5	73	3	75	112	638	19	22	1731	244
RTOR Reduction (vph)	0	0	5	0	0	69	0	1	0	0	7	0
Lane Group Flow (vph)	17	0	0	73	3	6	112	656	0	22	1968	0
Turn Type	Prot		Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	2.6		1.4	12.4	11.2	11.2	13.4	112.0		4.5	103.1	
Effective Green, g (s)	2.6		1.4	12.4	11.2	11.2	13.4	112.0		4.5	103.1	
Actuated g/C Ratio	0.02		0.01	0.08	0.07	0.07	0.09	0.75		0.03	0.69	
Clearance Time (s)	4.4		4.9	4.4	4.9	4.9	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0		2.0	3.0	2.0	2.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	29		16	146	139	118	286	3654		53	3430	
v/s Ratio Prot	0.01			c0.04	0.00		c0.03	0.13		0.01	c0.39	
v/s Ratio Perm			0.00			c0.00						
v/c Ratio	0.59		0.00	0.50	0.02	0.05	0.39	0.18		0.42	0.57	
Uniform Delay, d1	73.2		73.6	65.8	64.3	64.4	64.5	5.6		71.5	12.1	
Progression Factor	1.00		1.00	1.00	1.00	1.00	0.80	1.16		1.00	1.00	
Incremental Delay, d2	18.0		0.0	2.7	0.0	0.1	0.3	0.1		1.9	0.7	
Delay (s)	91.1		73.6	68.5	64.3	64.5	51.9	6.6		73.4	12.8	
Level of Service	F		E	E	E	E	D	A		E	B	
Approach Delay (s)		87.2			66.4			13.2			13.5	
Approach LOS		F			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	35	197	4	66	206	691	29	82	1582	22
Future Volume (vph)	2	1	35	197	4	66	206	691	29	82	1582	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1863	1742	3433	1599		3204	4916	1583	1770	5075	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1863	1742	3433	1599		3204	4916	1583	1770	5075	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	1	37	207	4	69	217	727	31	86	1665	23
RTOR Reduction (vph)	0	0	35	0	60	0	0	0	11	0	1	0
Lane Group Flow (vph)	2	1	2	207	13	0	217	727	20	86	1687	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	0.8	8.1	8.1	12.9	20.2		16.6	95.8	95.8	13.5	92.3	
Effective Green, g (s)	0.8	8.1	8.1	12.9	20.2		16.6	95.8	95.8	13.5	92.3	
Actuated g/C Ratio	0.01	0.05	0.05	0.09	0.13		0.11	0.64	0.64	0.09	0.62	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	3.5	3.5	3.0	3.3	
Lane Grp Cap (vph)	8	100	94	295	215		354	3139	1011	159	3122	
v/s Ratio Prot	0.00	0.00		c0.06	c0.01		c0.07	0.15		0.05	c0.33	
v/s Ratio Perm			0.00						0.01			
v/c Ratio	0.25	0.01	0.02	0.70	0.06		0.61	0.23	0.02	0.54	0.54	
Uniform Delay, d1	74.3	67.2	67.2	66.7	56.6		63.6	11.5	9.9	65.3	16.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.72	0.67	1.00	1.29	0.51	
Incremental Delay, d2	5.9	0.0	0.0	7.3	0.1		1.9	0.1	0.0	3.2	0.6	
Delay (s)	80.2	67.2	67.2	74.0	56.8		47.6	7.9	9.9	87.3	9.0	
Level of Service	F	E	E	E	E		D	A	A	F	A	
Approach Delay (s)		67.9			69.5			16.8			12.8	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	603	171	821	610	304	154	533	295	277	1254	167
Future Volume (vph)	153	603	171	821	610	304	154	533	295	277	1254	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.9	4.9	4.9	4.5	6.4	6.4	4.4	6.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	4996	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	4996	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	161	635	180	864	642	320	162	561	311	292	1320	176
RTOR Reduction (vph)	0	0	126	0	0	29	0	0	230	0	11	0
Lane Group Flow (vph)	161	635	54	864	642	291	162	561	81	292	1485	0
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	Prot	Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2	2	1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.4	30.7	30.7	40.6	59.9	84.1	13.0	39.2	39.2	19.3	45.8	
Effective Green, g (s)	11.4	30.7	30.7	40.6	59.9	84.1	13.0	39.2	39.2	19.3	45.8	
Actuated g/C Ratio	0.08	0.20	0.20	0.27	0.40	0.56	0.09	0.26	0.26	0.13	0.31	
Clearance Time (s)	4.5	4.5	4.5	4.9	4.9		4.5	6.4	6.4	4.4	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	2.0		3.0	3.5	3.5	2.0	3.4	
Lane Grp Cap (vph)	260	724	323	929	1413	887	153	924	413	227	1525	
v/s Ratio Prot	0.05	c0.18		c0.25	0.18	0.18	0.09	0.16	0.05	c0.17	c0.30	
v/s Ratio Perm			0.03									
v/c Ratio	0.62	0.88	0.17	0.93	0.45	0.33	1.06	0.61	0.20	1.29	0.97	
Uniform Delay, d1	67.2	57.8	49.1	53.3	33.1	17.7	68.5	48.6	43.1	65.3	51.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.43	0.55	1.02	0.87	0.75	
Incremental Delay, d2	4.3	11.6	0.2	15.2	0.1	0.1	86.1	2.7	1.0	154.4	16.0	
Delay (s)	71.5	69.4	49.4	68.5	33.1	17.8	184.1	29.7	44.9	211.4	54.7	
Level of Service	E	E	D	E	C	B	F	C	D	F	D	
Approach Delay (s)		66.1			47.2			58.4			80.3	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	3	214	18	90	28	846	239	197	2147	15
Future Volume (vph)	1	2	3	214	18	90	28	846	239	197	2147	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.91		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1681	1592		1770	3539	1583	1770	3535	
Flt Permitted		0.99		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1723		1681	1592		1770	3539	1583	1770	3535	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	2	3	225	19	95	29	891	252	207	2260	16
RTOR Reduction (vph)	0	3	0	0	34	0	0	0	50	0	0	0
Lane Group Flow (vph)	0	3	0	175	130	0	29	891	202	207	2276	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		1.2		21.2	21.2		4.9	79.1	79.1	28.6	102.8	
Effective Green, g (s)		1.2		21.2	21.2		4.9	79.1	79.1	28.6	102.8	
Actuated g/C Ratio		0.01		0.14	0.14		0.03	0.53	0.53	0.19	0.69	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		13		237	225		57	1866	834	337	2422	
v/s Ratio Prot		c0.00		c0.10	0.08		0.02	c0.25		0.12	c0.64	
v/s Ratio Perm									0.13			
v/c Ratio		0.23		0.74	0.58		0.51	0.48	0.24	0.61	0.94	
Uniform Delay, d1		73.9		61.7	60.2		71.4	22.4	19.2	55.6	20.9	
Progression Factor		1.00		1.00	1.00		1.15	0.53	0.21	0.67	0.48	
Incremental Delay, d2		3.3		12.7	4.8		2.0	0.7	0.5	1.2	4.9	
Delay (s)		77.3		74.4	65.0		83.8	12.5	4.5	38.4	14.9	
Level of Service		E		E	E		F	B	A	D	B	
Approach Delay (s)		77.3			69.8			12.5			16.9	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	46	24	69	537	651	31
Future Volume (vph)	46	24	69	537	651	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3515	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3515	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	48	25	73	565	685	33
RTOR Reduction (vph)	0	23	0	0	2	0
Lane Group Flow (vph)	48	2	73	565	716	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.1	6.1	5.4	73.8	64.0	
Effective Green, g (s)	6.1	6.1	5.4	73.8	64.0	
Actuated g/C Ratio	0.07	0.07	0.06	0.82	0.71	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	119	107	205	2901	2499	
v/s Ratio Prot	c0.03		c0.02	0.16	c0.20	
v/s Ratio Perm		0.00				
v/c Ratio	0.40	0.02	0.36	0.19	0.29	
Uniform Delay, d1	40.2	39.1	40.6	1.7	4.7	
Progression Factor	1.00	1.00	0.83	1.90	1.00	
Incremental Delay, d2	0.8	0.0	0.4	0.1	0.3	
Delay (s)	41.0	39.2	34.0	3.4	5.0	
Level of Service	D	D	C	A	A	
Approach Delay (s)	40.4			6.9	5.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	195	225	161	239	90	135	473	115	52	633	19
Future Volume (vph)	21	195	225	161	239	90	135	473	115	52	633	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.96		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3255		1770	3394		3433	3435		1770	3524	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3255		1770	3394		3433	3435		1770	3524	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	205	237	169	252	95	142	498	121	55	666	20
RTOR Reduction (vph)	0	180	0	0	52	0	0	19	0	0	2	0
Lane Group Flow (vph)	22	262	0	169	295	0	142	600	0	55	684	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.2	14.2		10.9	22.9		8.2	39.4		6.5	37.7	
Effective Green, g (s)	2.2	14.2		10.9	22.9		8.2	39.4		6.5	37.7	
Actuated g/C Ratio	0.02	0.16		0.12	0.25		0.09	0.44		0.07	0.42	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	43	513		214	863		312	1503		127	1476	
v/s Ratio Prot	0.01	c0.08		c0.10	0.09		c0.04	0.17		0.03	c0.19	
v/s Ratio Perm												
v/c Ratio	0.51	0.51		0.79	0.34		0.46	0.40		0.43	0.46	
Uniform Delay, d1	43.4	34.7		38.4	27.4		38.8	17.2		40.0	18.9	
Progression Factor	1.00	1.00		1.00	1.00		1.16	0.76		1.41	0.75	
Incremental Delay, d2	4.2	0.4		16.2	0.1		0.4	0.8		0.8	1.0	
Delay (s)	47.6	35.1		54.6	27.5		45.2	13.8		57.1	15.1	
Level of Service	D	D		D	C		D	B		E	B	
Approach Delay (s)		35.7			36.4			19.6			18.2	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	44	92	126	206	61	61	629	63	27	986	38
Future Volume (vph)	30	44	92	126	206	61	61	629	63	27	986	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1673		1770	1799		1770	3491		1770	3520	
Flt Permitted	0.37	1.00		0.55	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	685	1673		1024	1799		1770	3491		1770	3520	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	46	97	133	217	64	64	662	66	28	1038	40
RTOR Reduction (vph)	0	79	0	0	13	0	0	6	0	0	3	0
Lane Group Flow (vph)	32	64	0	133	268	0	64	722	0	28	1075	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	19.4	17.0		23.2	18.9		6.6	46.8		2.9	43.1	
Effective Green, g (s)	19.4	17.0		23.2	18.9		6.6	46.8		2.9	43.1	
Actuated g/C Ratio	0.22	0.19		0.26	0.21		0.07	0.52		0.03	0.48	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	176	316		299	377		129	1815		57	1685	
v/s Ratio Prot	0.00	0.04		c0.02	c0.15		c0.04	c0.21		0.02	c0.31	
v/s Ratio Perm	0.03			0.09								
v/c Ratio	0.18	0.20		0.44	0.71		0.50	0.40		0.49	0.64	
Uniform Delay, d1	28.4	30.8		27.5	33.0		40.1	13.1		42.8	17.6	
Progression Factor	1.00	1.00		1.00	1.00		0.99	1.17		1.31	0.82	
Incremental Delay, d2	0.2	0.1		0.4	4.9		0.9	0.6		2.2	1.7	
Delay (s)	28.6	30.9		27.9	38.0		40.6	15.8		58.2	16.2	
Level of Service	C	C		C	D		D	B		E	B	
Approach Delay (s)		30.5			34.7			17.8			17.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	122	102	129	160	110	42	343	31	82	940	134
Future Volume (vph)	227	122	102	129	160	110	42	343	31	82	940	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1736		1770	1749		1770	3495		1770	3473	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1736		1770	1749		1770	3495		1770	3473	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	239	128	107	136	168	116	44	361	33	86	989	141
RTOR Reduction (vph)	0	39	0	0	32	0	0	7	0	0	11	0
Lane Group Flow (vph)	239	196	0	136	252	0	44	387	0	86	1119	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.9	20.1		9.2	17.3		4.5	32.9		8.9	37.3	
Effective Green, g (s)	11.9	20.1		9.2	17.3		4.5	32.9		8.9	37.3	
Actuated g/C Ratio	0.13	0.22		0.10	0.19		0.05	0.37		0.10	0.41	
Clearance Time (s)	4.5	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	234	387		180	336		88	1277		175	1439	
v/s Ratio Prot	c0.14	c0.11		0.08	c0.14		0.02	0.11		c0.05	c0.32	
v/s Ratio Perm												
v/c Ratio	1.02	0.51		0.76	0.75		0.50	0.30		0.49	0.78	
Uniform Delay, d1	39.0	30.6		39.3	34.3		41.7	20.4		38.4	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.20	0.72		1.38	0.64	
Incremental Delay, d2	64.5	0.4		14.7	7.8		1.6	0.6		0.7	3.5	
Delay (s)	103.5	31.0		54.0	42.1		51.7	15.3		53.7	18.0	
Level of Service	F	C		D	D		D	B		D	B	
Approach Delay (s)		67.6			45.9			19.0			20.5	
Approach LOS		E			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	23	299	1	62	9	350	80	33	1391	0
Future Volume (vph)	3	1	23	299	1	62	9	350	80	33	1391	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.91		1.00	0.91	
Frt		0.88			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1638			1774	1583	1770	4944		1770	5085	
Flt Permitted		0.97			0.71	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1599			1316	1583	1770	4944		1770	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	1	24	315	1	65	9	368	84	35	1464	0
RTOR Reduction (vph)	0	16	0	0	0	45	0	35	0	0	0	0
Lane Group Flow (vph)	0	12	0	0	316	20	9	417	0	35	1464	0
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		28.3			28.3	28.3	1.0	43.2		3.8	46.2	
Effective Green, g (s)		28.3			28.3	28.3	1.0	43.2		3.8	46.2	
Actuated g/C Ratio		0.31			0.31	0.31	0.01	0.48		0.04	0.51	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		502			413	497	19	2373		74	2610	
v/s Ratio Prot							0.01	0.08		c0.02	c0.29	
v/s Ratio Perm		0.01			c0.24	0.01						
v/c Ratio		0.02			0.77	0.04	0.47	0.18		0.47	0.56	
Uniform Delay, d1		21.3			27.8	21.4	44.2	13.3		42.1	15.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.91	1.43	
Incremental Delay, d2		0.0			10.0	0.1	6.6	0.2		1.4	0.7	
Delay (s)		21.3			37.8	21.5	50.9	13.5		39.8	22.2	
Level of Service		C			D	C	D	B		D	C	
Approach Delay (s)		21.3			35.0			14.2			22.6	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	1003	214	377	1318	218	251	250	101	627	1538	472
Future Volume (vph)	146	1003	214	377	1318	218	251	250	101	627	1538	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9	4.5	4.5	4.5	4.4	5.9	5.9	4.5	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	154	1056	225	397	1387	229	264	263	106	660	1619	497
RTOR Reduction (vph)	0	0	80	0	0	84	0	0	91	0	0	66
Lane Group Flow (vph)	154	1056	145	397	1387	145	264	263	15	660	1619	431
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	6 7
Permitted Phases									2			
Actuated Green, G (s)	11.1	31.8	42.8	22.7	43.4	76.2	6.6	17.4	17.4	28.3	38.1	49.2
Effective Green, g (s)	11.1	31.8	38.4	22.7	43.4	76.2	6.6	17.4	17.4	28.3	38.1	49.2
Actuated g/C Ratio	0.09	0.27	0.32	0.19	0.36	0.64	0.05	0.14	0.14	0.24	0.32	0.41
Clearance Time (s)	4.9	4.9		4.5	4.5		4.4	5.9	5.9	4.5	7.0	
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	6.8	6.8	3.0	5.5	
Lane Grp Cap (vph)	317	1347	506	649	1839	1769	188	737	229	809	1614	649
v/s Ratio Prot	0.04	c0.21	0.09	0.12	c0.27	0.05	c0.08	0.05		0.19	c0.32	0.27
v/s Ratio Perm									0.01			
v/c Ratio	0.49	0.78	0.29	0.61	0.75	0.08	1.40	0.36	0.07	0.82	1.00	0.66
Uniform Delay, d1	51.7	40.9	30.5	44.6	33.6	8.4	56.7	46.3	44.3	43.4	41.0	28.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.78	0.40	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.8	0.1	1.7	1.8	0.0	210.4	1.3	0.6	6.4	23.1	2.0
Delay (s)	52.2	43.7	30.7	46.3	35.4	8.5	257.6	37.5	18.2	49.8	64.1	30.7
Level of Service	D	D	C	D	D	A	F	D	B	D	E	C
Approach Delay (s)		42.6			34.5			126.1			54.7	
Approach LOS		D			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	0	58	2	2	3	506	685	6	0	1582	385
Future Volume (vph)	47	0	58	2	2	3	506	685	6	0	1582	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91	1.00		0.91	
Frt	1.00	1.00	0.85		0.94		1.00	1.00	0.85		0.97	
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1681	1681	1583		1730		1770	5085	1583		4936	
Flt Permitted	0.95	0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1681	1681	1583		1730		1770	5085	1583		4936	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	0	61	2	2	3	533	721	6	0	1665	405
RTOR Reduction (vph)	0	0	59	0	3	0	0	0	1	0	33	0
Lane Group Flow (vph)	24	25	2	0	4	0	533	721	5	0	2037	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	3.3	3.3	3.3		0.8		43.2	100.1	100.1		52.5	
Effective Green, g (s)	3.3	3.3	3.3		0.8		43.2	100.1	100.1		52.5	
Actuated g/C Ratio	0.03	0.03	0.03		0.01		0.36	0.83	0.83		0.44	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)	46	46	43		11		637	4241	1320		2159	
v/s Ratio Prot	0.01	c0.01			c0.00		c0.30	0.14			c0.41	
v/s Ratio Perm			0.00						0.00			
v/c Ratio	0.52	0.54	0.04		0.37		0.84	0.17	0.00		0.94	
Uniform Delay, d1	57.6	57.6	56.8		59.3		35.2	1.9	1.7		32.3	
Progression Factor	1.00	1.00	1.00		1.00		1.23	0.81	1.00		0.17	
Incremental Delay, d2	4.8	6.9	0.1		7.4		8.4	0.1	0.0		5.4	
Delay (s)	62.4	64.5	56.9		66.7		51.8	1.6	1.7		11.0	
Level of Service	E	E	E		E		D	A	A		B	
Approach Delay (s)		59.8			66.7			22.8			11.0	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	191	1	566	8	562	51	275	1230	0
Future Volume (vph)	0	0	0	191	1	566	8	562	51	275	1230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	5.0	4.5	5.0		4.6	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.91		1.00	0.91	
Frt					1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	5022		1770	5085	
Flt Permitted					0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	5022		1770	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	201	1	596	8	592	54	289	1295	0
RTOR Reduction (vph)	0	0	0	0	0	28	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	202	568	8	639	0	289	1295	0
Turn Type				Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)					24.3	68.0	1.3	42.0		39.1	79.9	
Effective Green, g (s)					23.3	63.4	1.3	42.0		39.1	79.9	
Actuated g/C Ratio					0.19	0.53	0.01	0.35		0.33	0.67	
Clearance Time (s)					5.0		4.5	5.0		4.6	5.0	
Vehicle Extension (s)					2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)					263	836	19	1757		576	3385	
v/s Ratio Prot						c0.36	0.00	c0.13		0.16	c0.25	
v/s Ratio Perm					c0.15							
v/c Ratio					0.77	0.68	0.42	0.36		0.50	0.38	
Uniform Delay, d1					45.8	20.8	59.0	29.0		32.6	9.0	
Progression Factor					1.00	1.00	1.00	1.00		0.26	0.05	
Incremental Delay, d2					11.4	1.7	5.4	0.6		0.1	0.2	
Delay (s)					57.2	22.6	64.4	29.6		8.8	0.6	
Level of Service					E	C	E	C		A	A	
Approach Delay (s)		0.0			31.3			30.1			2.1	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	1047	190	92	1582	101	436	109	21	120	185	433
Future Volume (vph)	212	1047	190	92	1582	101	436	109	21	120	185	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	12	12	10	11	11	10	11	12
Total Lost time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86		0.86	0.86		0.97	0.91	0.91
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.97	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	3204	4916	1583	1652	6350		2841	2983		3204	1592	2882
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	3204	4916	1583	1652	6350		2841	2983		3204	1592	2882
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	219	1079	196	95	1631	104	449	112	22	124	191	446
RTOR Reduction (vph)	0	0	86	0	4	0	0	3	0	0	0	0
Lane Group Flow (vph)	219	1079	110	95	1731	0	301	279	0	124	236	401
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	18.0	88.5	88.5	15.1	85.4		29.9	29.9		35.9	35.9	59.2
Effective Green, g (s)	18.0	88.5	88.5	15.1	85.4		29.9	29.9		35.9	35.9	59.2
Actuated g/C Ratio	0.09	0.47	0.47	0.08	0.45		0.16	0.16		0.19	0.19	0.31
Clearance Time (s)	4.4	6.0	6.0	4.4	6.2		4.9	4.9		5.3	5.3	
Vehicle Extension (s)	3.0	5.3	5.3	2.0	3.4		5.4	5.4		4.1	4.1	
Lane Grp Cap (vph)	303	2289	737	131	2854		447	469		605	300	897
v/s Ratio Prot	c0.07	c0.22		0.06	c0.27		c0.11	0.09		0.04	c0.15	0.14
v/s Ratio Perm			0.07									
v/c Ratio	0.72	0.47	0.15	0.73	0.61		0.67	0.59		0.20	0.79	0.45
Uniform Delay, d1	83.6	34.7	29.1	85.4	39.6		75.4	74.4		65.0	73.4	52.3
Progression Factor	1.00	1.00	1.00	1.08	0.94		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.3	0.7	0.4	12.4	0.8		5.5	3.3		0.2	13.6	0.5
Delay (s)	91.8	35.4	29.6	104.5	37.9		81.0	77.7		65.3	87.0	52.8
Level of Service	F	D	C	F	D		F	E		E	F	D
Approach Delay (s)		42.9			41.4			79.4			65.4	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	50.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	1063	10	35	1534	105	22	29	224	544	120	269
Future Volume (vph)	103	1063	10	35	1534	105	22	29	224	544	120	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	10	12	10	12	12
Total Lost time (s)	4.5	6.0		4.4	6.2		4.4	5.5	5.5	4.4	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	5078		3204	5036		1652	1739	1583	3204	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	108	1119	11	37	1615	111	23	31	236	573	126	283
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	83	0	0	101
Lane Group Flow (vph)	108	1130	0	37	1723	0	23	31	153	573	126	182
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.8	101.2		5.7	95.8		22.7	24.7	24.7	38.1	39.9	39.9
Effective Green, g (s)	10.8	101.2		5.7	95.8		22.7	24.7	24.7	38.1	39.9	39.9
Actuated g/C Ratio	0.06	0.53		0.03	0.50		0.12	0.13	0.13	0.20	0.21	0.21
Clearance Time (s)	4.5	6.0		4.4	6.2		4.4	5.5	5.5	4.4	5.7	5.7
Vehicle Extension (s)	2.0	3.2		2.0	3.6		3.0	2.7	2.7	2.0	2.3	2.3
Lane Grp Cap (vph)	182	2704		96	2539		197	226	205	642	391	332
v/s Ratio Prot	c0.03	0.22		0.01	c0.34		0.01	0.02		c0.18	0.07	
v/s Ratio Perm									c0.10			0.11
v/c Ratio	0.59	0.42		0.39	0.68		0.12	0.14	0.75	0.89	0.32	0.55
Uniform Delay, d1	87.5	26.7		90.4	35.5		74.7	73.2	79.7	74.0	63.6	67.0
Progression Factor	1.08	0.80		0.72	1.27		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.4		0.7	1.2		0.3	0.2	13.4	14.4	0.3	1.3
Delay (s)	97.5	21.9		65.9	46.2		75.0	73.4	93.1	88.3	63.9	68.3
Level of Service	F	C		E	D		E	E	F	F	E	E
Approach Delay (s)		28.5			46.6			89.6			79.4	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	51.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1641	89	111	1004	131	170	49	395	1217	286	478
Future Volume (vph)	82	1641	89	111	1004	131	170	49	395	1217	286	478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.88	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	5046		1652	5085	1583	1652	2884	1489	3204	3893	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	5046		1652	5085	1583	1652	2884	1489	3204	3893	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	86	1727	94	117	1057	138	179	52	416	1281	301	503
RTOR Reduction (vph)	0	3	0	0	0	0	0	103	115	0	0	191
Lane Group Flow (vph)	86	1818	0	117	1057	138	179	157	93	1281	301	312
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	18.6	64.8		19.0	65.3	190.0	25.4	18.6	18.6	67.9	61.1	61.1
Effective Green, g (s)	18.6	64.8		19.0	65.3	190.0	25.4	18.6	18.6	67.9	61.1	61.1
Actuated g/C Ratio	0.10	0.34		0.10	0.34	1.00	0.13	0.10	0.10	0.36	0.32	0.32
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	161	1720		165	1747	1583	220	282	145	1145	1251	509
v/s Ratio Prot	0.05	c0.36		c0.07	0.21		0.11	0.05		c0.40	0.08	
v/s Ratio Perm						0.09			0.06			c0.20
v/c Ratio	0.53	1.06		0.71	0.61	0.09	0.81	0.56	0.64	1.12	0.24	0.61
Uniform Delay, d1	81.6	62.6		82.8	51.7	0.0	80.0	81.8	82.5	61.0	47.4	54.5
Progression Factor	0.97	0.94		0.92	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	37.0		10.4	1.5	0.1	20.1	2.7	10.0	65.5	0.2	3.1
Delay (s)	80.7	96.1		86.2	56.6	0.1	100.1	84.5	92.5	126.6	47.6	57.6
Level of Service	F	F		F	E	A	F	F	F	F	D	E
Approach Delay (s)		95.4			53.3			91.3			98.5	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	86.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	2797	97	30	670	9	185	20	101	90	8	305
Future Volume (vph)	232	2797	97	30	670	9	185	20	101	90	8	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	5060		1770	5075		1681	1574		1652	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	5060		1770	5075		1681	1574		1652	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	239	2884	100	31	691	9	191	21	104	93	8	314
RTOR Reduction (vph)	0	2	0	0	0	0	0	44	0	0	0	132
Lane Group Flow (vph)	239	2982	0	31	700	0	164	108	0	93	8	182
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases												
Actuated Green, G (s)	30.0	126.0		6.6	102.8		22.9	22.9		14.3	14.3	44.3
Effective Green, g (s)	30.0	126.0		6.6	102.8		22.9	22.9		14.3	14.3	44.3
Actuated g/C Ratio	0.16	0.66		0.03	0.54		0.12	0.12		0.08	0.08	0.23
Clearance Time (s)	4.4	6.0		4.4	5.8		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	279	3355		61	2745		202	189		124	140	369
v/s Ratio Prot	c0.14	c0.59		0.02	0.14		c0.10	0.07		c0.06	0.00	0.12
v/s Ratio Perm												
v/c Ratio	0.86	0.89		0.51	0.25		0.81	0.57		0.75	0.06	0.49
Uniform Delay, d1	77.9	26.3		90.1	23.2		81.5	78.9		86.1	81.6	63.1
Progression Factor	0.91	1.69		0.76	1.24		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.4	0.4		2.4	0.2		20.4	2.6		20.0	0.1	0.4
Delay (s)	73.3	44.7		70.7	29.1		101.8	81.5		106.1	81.7	63.5
Level of Service	E	D		E	C		F	F		F	F	E
Approach Delay (s)		46.8			30.9			92.1			73.4	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	2737	11	34	692	30	29	14	337	106	4	82
Future Volume (vph)	54	2737	11	34	692	30	29	14	337	106	4	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		5.4	5.7		5.4	6.0	5.0	4.4	5.9	5.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5053		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5053		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	55	2793	11	35	706	31	30	14	344	108	4	84
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	98	0	0	66
Lane Group Flow (vph)	55	2804	0	35	735	0	30	14	246	108	4	18
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	9.9	117.2		5.8	113.4		6.3	33.0	33.0	14.2	41.0	41.0
Effective Green, g (s)	8.9	117.2		4.8	113.4		5.3	32.0	33.0	14.2	40.0	40.0
Actuated g/C Ratio	0.05	0.62		0.03	0.60		0.03	0.17	0.17	0.07	0.21	0.21
Clearance Time (s)	4.4	6.0		4.4	5.7		4.4	5.0	5.0	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.8		2.0	4.5		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	82	3134		44	3015		49	313	274	132	392	333
v/s Ratio Prot	c0.03	c0.55		0.02	0.15		0.02	0.01		c0.06	0.00	
v/s Ratio Perm									c0.16			0.01
v/c Ratio	0.67	0.89		0.80	0.24		0.61	0.04	0.90	0.82	0.01	0.05
Uniform Delay, d1	89.1	31.1		92.1	18.1		91.3	66.2	76.9	86.6	59.3	59.9
Progression Factor	1.04	1.31		1.27	0.42		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.8	2.2		59.0	0.2		14.9	0.0	28.8	29.6	0.0	0.0
Delay (s)	100.8	43.0		175.9	7.8		106.2	66.2	105.7	116.3	59.3	59.9
Level of Service	F	D		F	A		F	E	F	F	E	E
Approach Delay (s)		44.1			15.4			104.3			91.0	
Approach LOS		D			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.7
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	2440	550	52	489	25	196	54	139	148	110	53
Future Volume (vph)	62	2440	550	52	489	25	196	54	139	148	110	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	11	12	12	10	12	14
Total Lost time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	4945		1652	5049		1625	1720	1583	1652	1863	1689
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	4945		1652	5049		1625	1720	1583	1652	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	2568	579	55	515	26	206	57	146	156	116	56
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	131	0	0	49
Lane Group Flow (vph)	65	3132	0	55	539	0	130	133	15	156	116	7
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	11.9	114.6		12.4	114.6		19.6	19.6	19.6	23.2	23.2	23.2
Effective Green, g (s)	11.9	114.6		12.4	114.6		19.6	19.6	19.6	23.2	23.2	23.2
Actuated g/C Ratio	0.06	0.60		0.07	0.60		0.10	0.10	0.10	0.12	0.12	0.12
Clearance Time (s)	4.4	6.0		4.4	6.5		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.9		2.0	3.8		2.0	2.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	103	2982		107	3045		167	177	163	201	227	206
v/s Ratio Prot	c0.04	c0.63		0.03	0.11		c0.08	0.08		c0.09	0.06	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.63	1.05		0.51	0.18		0.78	0.75	0.09	0.78	0.51	0.03
Uniform Delay, d1	86.9	37.7		85.9	16.7		83.1	82.8	77.1	80.9	78.1	73.5
Progression Factor	1.27	0.41		1.30	0.87		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	27.4		1.7	0.1		18.5	14.7	0.1	17.0	1.9	0.1
Delay (s)	114.6	42.9		113.1	14.6		101.6	97.5	77.2	97.8	80.0	73.6
Level of Service	F	D		F	B		F	F	E	F	F	E
Approach Delay (s)		44.3			23.7			91.6			87.4	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	2484	142	62	454	36	100	27	197	20	12	20
Future Volume (vph)	28	2484	142	62	454	36	100	27	197	20	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5044		1770	5029		3433	1617		1770	1690	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5044		1770	5029		3433	1617		1770	1690	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	2615	149	65	478	38	105	28	207	21	13	21
RTOR Reduction (vph)	0	2	0	0	3	0	0	94	0	0	19	0
Lane Group Flow (vph)	29	2762	0	65	513	0	105	141	0	21	15	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.7	134.0		11.4	138.7		10.2	21.0		3.9	14.7	
Effective Green, g (s)	6.7	134.0		11.4	138.7		10.2	21.0		3.9	14.7	
Actuated g/C Ratio	0.04	0.71		0.06	0.73		0.05	0.11		0.02	0.08	
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.3		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	62	3557		106	3671		184	178		36	130	
v/s Ratio Prot	0.02	c0.55		c0.04	0.10		c0.03	c0.09		0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.47	0.78		0.61	0.14		0.57	0.79		0.58	0.11	
Uniform Delay, d1	89.9	18.2		87.1	7.7		87.8	82.4		92.2	81.6	
Progression Factor	1.08	0.30		1.05	0.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.4		6.8	0.1		2.6	19.6		14.6	0.1	
Delay (s)	97.6	5.9		98.0	6.2		90.4	101.9		106.8	81.7	
Level of Service	F	A		F	A		F	F		F	F	
Approach Delay (s)		6.9			16.5			98.4			91.3	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	2329	180	198	430	195	183	370	604	538	321	53
Future Volume (vph)	64	2329	180	198	430	195	183	370	604	538	321	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5030		1652	4847		1652	3421	1531	3204	3464	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5030		1652	4847		1652	3421	1531	3204	3464	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	2377	184	202	439	199	187	378	616	549	328	54
RTOR Reduction (vph)	0	5	0	0	42	0	0	0	30	0	8	0
Lane Group Flow (vph)	65	2556	0	202	596	0	187	378	586	549	374	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	11.4	86.9		18.6	94.0		37.3	38.0	62.6	25.6	25.9	
Effective Green, g (s)	11.4	86.9		18.6	94.0		37.3	38.0	62.6	25.6	25.9	
Actuated g/C Ratio	0.06	0.46		0.10	0.49		0.20	0.20	0.33	0.13	0.14	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	99	2300		161	2397		324	684	504	431	472	
v/s Ratio Prot	0.04	c0.51		c0.12	0.12		0.11	0.11	c0.38	c0.17	0.11	
v/s Ratio Perm												
v/c Ratio	0.66	1.11		1.25	0.25		0.58	0.55	1.16	1.27	0.79	
Uniform Delay, d1	87.4	51.5		85.7	27.7		69.2	68.4	63.7	82.2	79.5	
Progression Factor	1.25	0.68		1.32	0.95		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.5	54.7		154.7	0.2		2.5	1.1	93.6	140.3	9.0	
Delay (s)	117.2	89.7		268.1	26.5		71.7	69.4	157.3	222.5	88.4	
Level of Service	F	F		F	C		E	E	F	F	F	
Approach Delay (s)		90.4			84.6			115.6			167.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	107.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	3255	32	62	818	83	13	20	41	64	3	28
Future Volume (vph)	142	3255	32	62	818	83	13	20	41	64	3	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5078		1770	5015			1828	1583	1770	1610	
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00	0.73	1.00	
Satd. Flow (perm)	1770	5078		1770	5015			1641	1583	1369	1610	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	146	3356	33	64	843	86	13	21	42	66	3	29
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	39	0	27	0
Lane Group Flow (vph)	146	3389	0	64	925	0	0	34	3	66	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	20.0	149.4		11.7	141.1			13.6	13.6	13.6	13.6	
Effective Green, g (s)	20.0	149.4		11.7	141.1			13.6	13.6	13.6	13.6	
Actuated g/C Ratio	0.11	0.79		0.06	0.74			0.07	0.07	0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.0			4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	4.4		2.0	4.3			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	186	3992		108	3724			117	113	97	115	
v/s Ratio Prot	c0.08	c0.67		0.04	0.18						0.00	
v/s Ratio Perm								0.02	0.00	c0.05		
v/c Ratio	0.78	0.85		0.59	0.25			0.29	0.03	0.68	0.04	
Uniform Delay, d1	82.9	13.0		86.8	7.7			83.6	82.0	86.1	82.1	
Progression Factor	1.07	0.36		0.94	0.80			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.9	0.2		5.6	0.2			0.5	0.0	14.5	0.1	
Delay (s)	90.5	5.0		87.5	6.3			84.1	82.1	100.6	82.2	
Level of Service	F	A		F	A			F	F	F	F	
Approach Delay (s)		8.5			11.6			83.0			94.6	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	3344	22	50	926	46	4	22	69	48	4	13
Future Volume (vph)	37	3344	22	50	926	46	4	22	69	48	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	5080		1770	5050			1677		1770	1649	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.31	1.00	
Satd. Flow (perm)	1770	5080		1770	5050			1663		569	1649	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	38	3447	23	52	955	47	4	23	71	49	4	13
RTOR Reduction (vph)	0	0	0	0	2	0	0	57	0	0	12	0
Lane Group Flow (vph)	38	3470	0	52	1000	0	0	41	0	49	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.5	151.1		10.5	153.8			13.1		13.1	13.1	
Effective Green, g (s)	7.5	151.1		10.5	153.8			13.1		13.1	13.1	
Actuated g/C Ratio	0.04	0.80		0.06	0.81			0.07		0.07	0.07	
Clearance Time (s)	4.4	6.0		4.4	6.3			4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.5			2.0		2.0	2.0	
Lane Grp Cap (vph)	69	4039		97	4087			114		39	113	
v/s Ratio Prot	0.02	c0.68		c0.03	c0.20						0.00	
v/s Ratio Perm								0.02		c0.09		
v/c Ratio	0.55	0.86		0.54	0.24			0.36		1.26	0.04	
Uniform Delay, d1	89.6	12.6		87.4	4.3			84.5		88.5	82.6	
Progression Factor	1.24	0.35		0.78	2.22			1.00		1.00	1.00	
Incremental Delay, d2	2.9	1.5		2.7	0.1			0.7		229.2	0.1	
Delay (s)	113.7	5.8		70.6	9.7			85.2		317.7	82.7	
Level of Service	F	A		E	A			F		F	F	
Approach Delay (s)		7.0			12.7			85.2			257.1	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	3104	212	101	934	85	39	80	107	29	51	91
Future Volume (vph)	116	3104	212	101	934	85	39	80	107	29	51	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5037		1770	5022		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5037		1770	5022		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	122	3267	223	106	983	89	41	84	113	31	54	96
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	101	0	0	90
Lane Group Flow (vph)	122	3487	0	106	1068	0	41	84	12	31	54	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	17.4	134.4		17.5	134.0		5.6	14.6	14.6	3.8	12.8	12.8
Effective Green, g (s)	17.4	134.4		17.5	134.0		5.6	14.6	14.6	3.8	12.8	12.8
Actuated g/C Ratio	0.09	0.71		0.09	0.71		0.03	0.08	0.08	0.02	0.07	0.07
Clearance Time (s)	4.4	6.0		4.4	6.5		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	3.5		2.0	3.2		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	162	3563		163	3541		52	143	121	35	125	106
v/s Ratio Prot	c0.07	c0.69		0.06	0.21		c0.02	c0.05		0.02	0.03	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.75	0.98		0.65	0.30		0.79	0.59	0.10	0.89	0.43	0.06
Uniform Delay, d1	84.2	26.4		83.3	10.5		91.6	84.8	81.6	92.9	85.1	83.0
Progression Factor	0.88	0.64		0.91	0.65		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	7.0		6.4	0.2		50.6	3.9	0.1	103.6	0.9	0.1
Delay (s)	82.8	23.8		82.3	7.0		142.2	88.7	81.7	196.5	86.0	83.1
Level of Service	F	C		F	A		F	F	F	F	F	F
Approach Delay (s)		25.8			13.8			94.6			103.4	
Approach LOS		C			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	2598	284	73	982	75	167	164	41	52	132	75
Future Volume (vph)	138	2598	284	73	982	75	167	164	41	52	132	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5010		1770	5085	1583	1770	3434		1770	3347	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5010		1770	5085	1583	1770	3434		1770	3347	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	145	2735	299	77	1034	79	176	173	43	55	139	79
RTOR Reduction (vph)	0	7	0	0	0	34	0	11	0	0	45	0
Lane Group Flow (vph)	145	3027	0	77	1034	45	176	205	0	55	173	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	19.7	115.7		11.4	107.4	107.4	26.6	26.6		16.4	16.4	
Effective Green, g (s)	19.7	115.7		11.4	107.4	107.4	26.6	26.6		16.4	16.4	
Actuated g/C Ratio	0.10	0.61		0.06	0.57	0.57	0.14	0.14		0.09	0.09	
Clearance Time (s)	4.4	5.7		4.4	5.7	5.7	4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	4.2		2.0	4.6	4.6	3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	183	3050		106	2874	894	247	480		152	288	
v/s Ratio Prot	c0.08	c0.60		0.04	0.20		c0.10	0.06		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.79	0.99		0.73	0.36	0.05	0.71	0.43		0.36	0.60	
Uniform Delay, d1	83.2	36.7		87.8	22.5	18.5	78.0	74.7		81.9	83.7	
Progression Factor	1.25	0.40		1.12	0.63	0.16	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	7.9		16.4	0.3	0.1	9.8	0.8		2.2	4.3	
Delay (s)	111.3	22.7		114.6	14.6	3.1	87.8	75.5		84.1	87.9	
Level of Service	F	C		F	B	A	F	E		F	F	
Approach Delay (s)		26.8			20.3			81.0			87.2	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	2160	63	310	1024	269	151	658	141	338	485	134
Future Volume (vph)	236	2160	63	310	1024	269	151	658	141	338	485	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	11	10	11	10	10	12	12	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3424	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204	4726		3204	4916	1478	1711	4746	1478	3433	3424	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	243	2227	65	320	1056	277	156	678	145	348	500	138
RTOR Reduction (vph)	0	2	0	0	0	117	0	0	56	0	13	0
Lane Group Flow (vph)	243	2290	0	320	1056	160	156	678	89	348	625	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	18.4	94.6		20.4	96.7	96.7	18.7	34.5	34.5	20.7	36.3	
Effective Green, g (s)	18.4	94.6		20.4	96.7	96.7	18.7	34.5	34.5	20.7	36.3	
Actuated g/C Ratio	0.10	0.50		0.11	0.51	0.51	0.10	0.18	0.18	0.11	0.19	
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.4	5.2	5.2	4.4	5.4	
Vehicle Extension (s)	2.0	5.3		2.0	5.7	5.7	2.0	4.5	4.5	2.0	4.2	
Lane Grp Cap (vph)	310	2353		344	2501	752	168	861	268	374	654	
v/s Ratio Prot	0.08	c0.48		c0.10	0.21		0.09	0.14		c0.10	c0.18	
v/s Ratio Perm						0.11			0.06			
v/c Ratio	0.78	0.97		0.93	0.42	0.21	0.93	0.79	0.33	0.93	0.96	
Uniform Delay, d1	83.9	46.5		84.1	29.2	25.7	85.0	74.2	67.7	83.9	76.1	
Progression Factor	1.21	0.65		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.5	5.5		30.8	0.5	0.6	47.9	5.4	1.3	29.1	24.8	
Delay (s)	105.3	35.6		114.9	29.7	26.3	132.9	79.6	69.0	113.1	100.8	
Level of Service	F	D		F	C	C	F	E	E	F	F	
Approach Delay (s)		42.3			45.6			86.5			105.1	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	60.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	89	601	513	118	361	558
Future Volume (vph)	89	601	513	118	361	558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	1.00	0.97		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	3440		1729	1504
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	1863	3440		1729	1504
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	94	633	540	124	380	587
RTOR Reduction (vph)	0	0	30	0	16	78
Lane Group Flow (vph)	94	633	634	0	487	386
Turn Type	Prot	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases						
Actuated Green, G (s)	6.1	30.3	20.2		20.9	31.5
Effective Green, g (s)	6.1	30.3	20.2		20.9	31.5
Actuated g/C Ratio	0.10	0.50	0.33		0.34	0.52
Clearance Time (s)	4.0	5.0	5.0		4.5	
Vehicle Extension (s)	2.0	5.0	5.0		3.0	
Lane Grp Cap (vph)	177	929	1144		595	780
v/s Ratio Prot	0.05	c0.34	0.18		c0.28	0.26
v/s Ratio Perm						
v/c Ratio	0.53	0.68	0.55		0.82	0.49
Uniform Delay, d1	25.9	11.5	16.6		18.2	9.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5	2.7	1.0		8.6	0.5
Delay (s)	27.5	14.2	17.6		26.7	9.9
Level of Service	C	B	B		C	A
Approach Delay (s)		15.9	17.6		18.7	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	887	18	17	219	42	14	1	54	287	2	44
Future Volume (vph)	6	887	18	17	219	42	14	1	54	287	2	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.89			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1770	1857		1770	1818			1649			1754	
Flt Permitted	0.58	1.00		0.09	1.00			0.91			0.70	
Satd. Flow (perm)	1086	1857		169	1818			1524			1289	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	934	19	18	231	44	15	1	57	302	2	46
RTOR Reduction (vph)	0	1	0	0	8	0	0	40	0	0	6	0
Lane Group Flow (vph)	6	952	0	18	267	0	0	33	0	0	344	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	44.7	44.7		44.1	44.1			23.2			23.2	
Effective Green, g (s)	44.7	44.7		44.1	44.1			23.2			23.2	
Actuated g/C Ratio	0.58	0.58		0.57	0.57			0.30			0.30	
Clearance Time (s)	4.9	4.9		5.5	5.5			4.9			4.9	
Vehicle Extension (s)	2.8	2.8		2.8	2.8			2.0			2.0	
Lane Grp Cap (vph)	624	1068		95	1031			455			384	
v/s Ratio Prot		c0.51			0.15							
v/s Ratio Perm	0.01			0.11				0.02			c0.27	
v/c Ratio	0.01	0.89		0.19	0.26			0.07			0.90	
Uniform Delay, d1	7.0	14.4		8.1	8.5			19.5			26.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	9.5		0.9	0.1			0.0			21.9	
Delay (s)	7.1	23.9		9.0	8.6			19.6			48.0	
Level of Service	A	C		A	A			B			D	
Approach Delay (s)		23.8			8.7			19.6			48.0	
Approach LOS		C			A			B			D	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	10.4
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	413	286	461	89	68	175	129	2005	84	106	1606	100
Future Volume (vph)	413	286	461	89	68	175	129	2005	84	106	1606	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9		4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1531	1652	1884		1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1652	1739	1531	1652	1884		1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	435	301	485	94	72	184	136	2111	88	112	1691	105
RTOR Reduction (vph)	0	0	126	0	61	0	0	0	21	0	0	21
Lane Group Flow (vph)	435	301	359	94	195	0	136	2111	67	112	1691	84
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	4	4	4 5	8	8		5	2	2 8	1	6	6 4
Permitted Phases												
Actuated Green, G (s)	37.1	37.1	55.2	21.5	21.5		13.7	70.9	97.3	9.6	66.8	103.9
Effective Green, g (s)	37.1	37.1	50.8	21.5	21.5		13.7	70.9	92.4	9.6	66.8	103.9
Actuated g/C Ratio	0.23	0.23	0.32	0.13	0.13		0.09	0.44	0.58	0.06	0.42	0.65
Clearance Time (s)	5.9	5.9		4.9	4.9		4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9		2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	383	403	486	221	253		146	1463	914	99	1428	994
v/s Ratio Prot	c0.26	0.17	0.23	0.06	c0.10		c0.08	c0.64	0.04	0.07	0.49	0.05
v/s Ratio Perm												
v/c Ratio	1.14	0.75	0.74	0.43	0.77		0.93	1.44	0.07	1.13	1.18	0.08
Uniform Delay, d1	61.5	57.1	48.7	63.6	66.9		72.7	44.5	14.9	75.2	46.6	10.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.65	0.55	0.22	0.87	1.16	1.17
Incremental Delay, d2	88.3	6.7	5.2	1.2	13.5		10.0	199.7	0.0	122.1	89.1	0.0
Delay (s)	149.7	63.8	53.9	64.8	80.4		57.3	224.2	3.3	187.4	143.1	12.2
Level of Service	F	E	D	E	F		E	F	A	F	F	B
Approach Delay (s)		90.5			76.2			206.2			138.5	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	151.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	175	0	18	0	140	72	17	410	0
Future Volume (vph)	1	0	1	175	0	18	0	140	72	17	410	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.93			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1695			1770	1583		1863	1583	1770	1863	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1695			1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	1	184	0	19	0	147	76	18	432	0
RTOR Reduction (vph)	0	2	0	0	0	16	0	0	26	0	0	0
Lane Group Flow (vph)	0	0	0	0	184	3	0	147	50	18	432	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3		5	2	2 3	1	6	
Permitted Phases						3						
Actuated Green, G (s)		0.5			7.0	7.0		14.0	25.5	0.5	18.5	
Effective Green, g (s)		0.5			7.0	7.0		14.0	25.5	0.5	18.5	
Actuated g/C Ratio		0.01			0.18	0.18		0.36	0.66	0.01	0.48	
Clearance Time (s)		4.0			4.0	4.0		4.5		4.0	4.5	
Vehicle Extension (s)		2.0			2.0	2.0		3.0		2.0	3.0	
Lane Grp Cap (vph)		22			321	287		677	1048	22	895	
v/s Ratio Prot		c0.00			c0.10			0.08	0.03	0.01	c0.23	
v/s Ratio Perm						0.00						
v/c Ratio		0.00			0.57	0.01		0.22	0.05	0.82	0.48	
Uniform Delay, d1		18.8			14.4	12.9		8.5	2.3	19.0	6.8	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			1.5	0.0		0.2	0.0	105.7	0.4	
Delay (s)		18.8			15.9	12.9		8.6	2.3	124.7	7.2	
Level of Service		B			B	B		A	A	F	A	
Approach Delay (s)		18.8			15.6			6.5			11.9	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	38.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	956	250	113	320	7	139	9	216	74	84	124
Future Volume (vph)	24	956	250	113	320	7	139	9	216	74	84	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.1		4.4	5.6		4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3528		1770	1863	1583	1770	1697	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3429		1770	3528		1770	1863	1583	1770	1697	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	25	996	260	118	333	7	145	9	225	77	88	129
RTOR Reduction (vph)	0	22	0	0	2	0	0	0	64	0	72	0
Lane Group Flow (vph)	25	1234	0	118	339	0	145	9	161	77	145	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	2.1	35.3		4.6	38.3		5.6	13.0	22.5	3.9	11.3	
Effective Green, g (s)	2.1	35.3		4.6	38.3		5.6	13.0	22.5	3.9	11.3	
Actuated g/C Ratio	0.03	0.46		0.06	0.50		0.07	0.17	0.29	0.05	0.15	
Clearance Time (s)	4.4	6.1		4.4	5.6		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	2.7		2.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	48	1580		106	1764		129	316	464	90	250	
v/s Ratio Prot	0.01	c0.36		c0.07	0.10		c0.08	0.00	0.10	0.04	c0.09	
v/s Ratio Perm												
v/c Ratio	0.52	0.78		1.11	0.19		1.12	0.03	0.35	0.86	0.58	
Uniform Delay, d1	36.8	17.4		36.0	10.6		35.5	26.5	21.3	36.1	30.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	2.5		121.2	0.1		116.4	0.0	0.2	49.2	2.2	
Delay (s)	41.4	19.9		157.2	10.6		151.9	26.5	21.4	85.3	32.7	
Level of Service	D	B		F	B		F	C	C	F	C	
Approach Delay (s)		20.3			48.4			71.5			46.4	
Approach LOS		C			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	36.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	19.8
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	1181	418	250	1663	115	271	25	256	502	92	415
Future Volume (vph)	73	1181	418	250	1663	115	271	25	256	502	92	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5036		1681	1699	1583	1610	3035	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	74	1205	427	255	1697	117	277	26	261	512	94	423
RTOR Reduction (vph)	0	0	289	0	5	0	0	0	191	0	170	0
Lane Group Flow (vph)	74	1205	138	255	1809	0	150	153	70	358	501	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			
Actuated Green, G (s)	10.7	48.5	48.5	14.9	52.7		18.7	18.7	18.7	48.4	48.4	
Effective Green, g (s)	10.7	48.5	48.5	14.9	52.7		18.7	18.7	18.7	48.4	48.4	
Actuated g/C Ratio	0.07	0.32	0.32	0.10	0.35		0.12	0.12	0.12	0.32	0.32	
Clearance Time (s)	4.4	5.3	5.3	4.4	5.3		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	5.8	5.8	2.0	5.5		2.0	2.0	2.0	6.1	6.1	
Lane Grp Cap (vph)	126	1644	511	341	1769		209	211	197	519	979	
v/s Ratio Prot	0.04	0.24		c0.07	c0.36		0.09	c0.09		c0.22	0.17	
v/s Ratio Perm			0.09						0.04			
v/c Ratio	0.59	0.73	0.27	0.75	1.02		0.72	0.73	0.36	0.69	0.51	
Uniform Delay, d1	67.5	45.0	37.6	65.7	48.6		63.1	63.2	60.1	44.3	41.2	
Progression Factor	1.00	1.00	1.00	1.41	0.67		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.4	2.9	1.3	4.3	21.9		9.4	10.0	0.4	5.8	1.2	
Delay (s)	72.0	47.9	38.9	96.8	54.6		72.5	73.2	60.5	50.1	42.4	
Level of Service	E	D	D	F	D		E	E	E	D	D	
Approach Delay (s)		46.7			59.8			67.1			45.1	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	53.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	1676	187	514	1649	323	253	70	858	1058	264	198
Future Volume (vph)	27	1676	187	514	1649	323	253	70	858	1058	264	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	4.4	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3433	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	28	1764	197	541	1736	340	266	74	903	1114	278	208
RTOR Reduction (vph)	0	0	106	0	0	124	0	0	50	0	0	49
Lane Group Flow (vph)	28	1764	91	541	1736	216	266	74	853	1114	278	159
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.0	42.5	42.5	17.1	56.3	95.2	15.5	37.0	59.1	33.6	54.8	64.1
Effective Green, g (s)	4.0	42.5	42.5	17.1	56.3	95.2	15.5	37.0	59.1	33.6	54.8	64.1
Actuated g/C Ratio	0.03	0.28	0.28	0.11	0.38	0.63	0.10	0.25	0.39	0.22	0.37	0.43
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		4.4	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		2.0	4.6	
Lane Grp Cap (vph)	91	1440	448	391	1908	1768	354	872	1098	768	1292	676
v/s Ratio Prot	0.01	c0.35		c0.16	0.34	0.08	0.08	0.02	c0.31	c0.32	0.08	0.10
v/s Ratio Perm			0.06									
v/c Ratio	0.31	1.23	0.20	1.38	0.91	0.12	0.75	0.08	0.78	1.45	0.22	0.23
Uniform Delay, d1	71.6	53.8	40.9	66.5	44.4	10.9	65.4	43.5	39.7	58.2	32.8	27.3
Progression Factor	1.10	0.62	0.37	1.14	1.16	2.14	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	106.0	0.7	184.8	6.4	0.0	7.8	0.1	4.2	210.0	0.2	0.3
Delay (s)	79.5	139.6	15.9	260.9	57.9	23.3	73.1	43.6	43.9	268.2	32.9	27.7
Level of Service	E	F	B	F	E	C	E	D	D	F	C	C
Approach Delay (s)		126.5			95.3			50.1			196.1	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	117.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2284	1260	0	1481	945	0	0	0	242	0	877
Future Volume (vph)	0	2284	1260	0	1481	945	0	0	0	242	0	877
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	7.5				4.7		4.7
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2787		5085	1583				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2787		5085	1583				3433		2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2404	1326	0	1559	995	0	0	0	255	0	923
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	24
Lane Group Flow (vph)	0	2404	1326	0	1559	995	0	0	0	255	0	899
Turn Type		NA	Free		NA	pt+ov				Prot		Prot
Protected Phases		2			6	6 7				7		7
Permitted Phases			Free									
Actuated Green, G (s)		85.5	150.0		85.5	150.0				52.3		52.3
Effective Green, g (s)		85.5	150.0		85.5	145.3				52.3		52.3
Actuated g/C Ratio		0.57	1.00		0.57	0.97				0.35		0.35
Clearance Time (s)		7.5			7.5					4.7		4.7
Vehicle Extension (s)		2.0			2.0					1.0		1.0
Lane Grp Cap (vph)		2898	2787		2898	1533				1196		971
v/s Ratio Prot		c0.47			0.31	0.63				0.07		c0.32
v/s Ratio Perm			0.48									
v/c Ratio		0.83	0.48		0.54	0.65				0.21		0.93
Uniform Delay, d1		26.3	0.0		20.0	0.2				34.4		47.0
Progression Factor		0.66	1.00		1.04	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.1		0.7	0.6				0.0		14.0
Delay (s)		17.6	0.1		21.5	0.8				34.4		60.9
Level of Service		B	A		C	A				C		E
Approach Delay (s)		11.4			13.4			0.0			55.2	
Approach LOS		B			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1207	1364	0	1877	945	462	0	179	0	0	0
Future Volume (vph)	0	1207	1364	0	1877	945	462	0	179	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	7.5		7.5	4.0	4.7		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1244	1406	0	1935	974	476	0	185	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	154	0	0	0
Lane Group Flow (vph)	0	1244	1406	0	1935	974	476	0	31	0	0	0
Turn Type		NA	pt+ov		NA	Free	Prot		Perm			
Protected Phases		2	2 3		6		3					
Permitted Phases						Free			3			
Actuated Green, G (s)		112.3	150.0		112.3	150.0	25.5		25.5			
Effective Green, g (s)		112.3	145.3		112.3	150.0	25.5		25.5			
Actuated g/C Ratio		0.75	0.97		0.75	1.00	0.17		0.17			
Clearance Time (s)		7.5			7.5		4.7		4.7			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3806	1533		4797	1583	583		473			
v/s Ratio Prot		0.24	c0.89		0.30		0.14					
v/s Ratio Perm						0.62			0.01			
v/c Ratio		0.33	0.92		0.40	0.62	0.82		0.07			
Uniform Delay, d1		6.3	0.7		6.8	0.0	60.0		52.3			
Progression Factor		0.87	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1	5.8		0.3	1.8	8.2		0.0			
Delay (s)		5.6	6.5		7.0	1.8	68.2		52.3			
Level of Service		A	A		A	A	E		D			
Approach Delay (s)		6.1			5.3			63.8			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	736	619	306	1365	0	0
Future Volume (vph)	736	619	306	1365	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	4.7	7.0		
Lane Util. Factor	0.95	0.88	0.97	0.91		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3539	2787	3433	5085		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3539	2787	3433	5085		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	775	652	322	1437	0	0
RTOR Reduction (vph)	0	103	0	0	0	0
Lane Group Flow (vph)	775	549	322	1437	0	0
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	65.5	65.5	12.8	90.0		
Effective Green, g (s)	65.5	65.5	12.8	90.0		
Actuated g/C Ratio	0.73	0.73	0.14	1.00		
Clearance Time (s)	7.0	7.0	4.7	7.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		
Lane Grp Cap (vph)	2575	2028	488	5085		
v/s Ratio Prot	0.22		c0.09	c0.28		
v/s Ratio Perm		0.20				
v/c Ratio	0.30	0.27	0.66	0.28		
Uniform Delay, d1	4.3	4.2	36.5	0.0		
Progression Factor	1.00	1.00	0.78	1.00		
Incremental Delay, d2	0.3	0.3	2.3	0.1		
Delay (s)	4.6	4.5	30.9	0.1		
Level of Service	A	A	C	A		
Approach Delay (s)	4.5			5.8	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	628	0	0	892	693	745
Future Volume (vph)	0	628	0	0	892	693	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	4.7	4.7
Lane Util. Factor		0.95			0.91	0.97	0.88
Frt		1.00			1.00	1.00	0.85
Flt Protected		1.00			1.00	0.95	1.00
Satd. Flow (prot)		3539			5085	3433	2787
Flt Permitted		1.00			1.00	0.95	1.00
Satd. Flow (perm)		3539			5085	3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	661	0	0	939	729	784
RTOR Reduction (vph)	0	0	0	0	0	0	193
Lane Group Flow (vph)	0	661	0	0	939	729	591
Turn Type	Prot	NA			NA	Prot	Perm
Protected Phases	5	2			6	3	
Permitted Phases							3
Actuated Green, G (s)		52.5			52.5	25.8	25.8
Effective Green, g (s)		52.5			52.5	25.8	25.8
Actuated g/C Ratio		0.58			0.58	0.29	0.29
Clearance Time (s)		7.0			7.0	4.7	4.7
Vehicle Extension (s)		2.0			2.0	2.0	2.0
Lane Grp Cap (vph)		2064			2966	984	798
v/s Ratio Prot		c0.19			0.18	c0.21	
v/s Ratio Perm							0.21
v/c Ratio		0.32			0.32	0.74	0.74
Uniform Delay, d1		9.6			9.6	29.1	29.1
Progression Factor		1.18			1.00	1.00	1.00
Incremental Delay, d2		0.4			0.3	2.7	3.3
Delay (s)		11.7			9.9	31.7	32.3
Level of Service		B			A	C	C
Approach Delay (s)		11.7			9.9	32.0	
Approach LOS		B			A	C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1344	72	776	2673	218	1201
Future Volume (vph)	1344	72	776	2673	218	1201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		4.4	6.0	4.4	4.4
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6359		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6359		3433	6408	1770	2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1371	73	792	2728	222	1226
RTOR Reduction (vph)	5	0	0	0	0	1
Lane Group Flow (vph)	1439	0	792	2728	222	1225
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	8	8 1
Permitted Phases						
Actuated Green, G (s)	54.2		43.1	102.0	47.6	95.1
Effective Green, g (s)	54.2		43.1	102.0	47.6	95.1
Actuated g/C Ratio	0.34		0.27	0.64	0.30	0.59
Clearance Time (s)	6.3		4.4	6.0	4.4	
Vehicle Extension (s)	5.0		2.0	5.4	2.0	
Lane Grp Cap (vph)	2154		924	4085	526	1656
v/s Ratio Prot	0.23		c0.23	c0.43	0.13	c0.44
v/s Ratio Perm						
v/c Ratio	0.67		0.86	0.67	0.42	0.74
Uniform Delay, d1	45.2		55.5	18.3	45.1	23.5
Progression Factor	1.00		0.52	1.33	1.00	1.00
Incremental Delay, d2	1.7		0.8	0.1	0.2	1.5
Delay (s)	46.9		29.5	24.4	45.3	25.0
Level of Service	D		C	C	D	C
Approach Delay (s)	46.9			25.5	28.1	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	162	2349	0	3147	223	1216	445
Future Volume (vph)	162	2349	0	3147	223	1216	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	
Frt	1.00	1.00		1.00	0.85	0.96	
Flt Protected	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (prot)	3433	5085		5085	1583	3346	
Flt Permitted	0.95	1.00		1.00	1.00	0.96	
Satd. Flow (perm)	3433	5085		5085	1583	3346	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	164	2373	0	3179	225	1228	449
RTOR Reduction (vph)	0	0	0	0	0	24	0
Lane Group Flow (vph)	164	2373	0	3179	225	1653	0
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							
Actuated Green, G (s)	6.6	88.7		78.6	144.6	60.6	
Effective Green, g (s)	6.6	88.7		78.6	144.6	60.6	
Actuated g/C Ratio	0.04	0.55		0.49	0.90	0.38	
Clearance Time (s)	4.4	6.3		5.4		4.4	
Vehicle Extension (s)	2.0	5.0		6.1		4.5	
Lane Grp Cap (vph)	141	2818		2498	1430	1267	
v/s Ratio Prot	c0.05	0.47		c0.63	0.14	c0.49	
v/s Ratio Perm							
v/c Ratio	1.16	0.84		1.27	0.16	1.30	
Uniform Delay, d1	76.7	29.8		40.7	0.9	49.7	
Progression Factor	0.85	0.91		1.38	1.35	1.00	
Incremental Delay, d2	115.3	2.4		124.2	0.0	142.9	
Delay (s)	180.7	29.4		180.4	1.2	192.6	
Level of Service	F	C		F	A	F	
Approach Delay (s)		39.2		168.6		192.6	
Approach LOS		D		F		F	

Intersection Summary			
HCM 2000 Control Delay	130.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	125.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	3388	3324	36	113	79
Future Volume (vph)	30	3388	3324	36	113	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	3566	3499	38	119	83
RTOR Reduction (vph)	0	0	0	4	0	45
Lane Group Flow (vph)	32	3566	3499	34	119	38
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	6.6	134.1	123.5	123.5	15.2	15.2
Effective Green, g (s)	6.6	134.1	123.5	123.5	15.2	15.2
Actuated g/C Ratio	0.04	0.84	0.77	0.77	0.09	0.09
Clearance Time (s)	4.4	5.8	5.4	5.4	4.9	4.9
Vehicle Extension (s)	2.0	4.6	5.2	5.2	2.0	2.0
Lane Grp Cap (vph)	73	4261	3924	1221	168	150
v/s Ratio Prot	0.02	c0.70	c0.69		c0.07	
v/s Ratio Perm				0.02		0.02
v/c Ratio	0.44	0.84	0.89	0.03	0.71	0.25
Uniform Delay, d1	74.9	7.0	13.4	4.3	70.2	67.1
Progression Factor	0.92	1.81	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.5	3.5	0.0	10.6	0.3
Delay (s)	69.6	13.2	16.9	4.3	80.8	67.4
Level of Service	E	B	B	A	F	E
Approach Delay (s)		13.7	16.7		75.3	
Approach LOS		B	B		E	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	35	3591	0	3106	50	116	119
Future Volume (vph)	35	3591	0	3106	50	116	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8		5.8	5.8	4.8	4.8
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.96	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (prot)	1770	5085		5085	1583	3341	1441
Flt Permitted	0.95	1.00		1.00	1.00	0.97	1.00
Satd. Flow (perm)	1770	5085		5085	1583	3341	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	3780	0	3269	53	122	125
RTOR Reduction (vph)	0	0	0	0	3	31	71
Lane Group Flow (vph)	37	3780	0	3269	50	139	6
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	7.7	138.0		125.3	125.3	12.0	12.0
Effective Green, g (s)	7.7	138.0		125.3	125.3	12.0	12.0
Actuated g/C Ratio	0.05	0.86		0.78	0.78	0.07	0.07
Clearance Time (s)	5.0	5.8		5.8	5.8	4.8	4.8
Vehicle Extension (s)	3.0	4.8		5.4	5.4	3.0	3.0
Lane Grp Cap (vph)	84	4369		3967	1235	249	107
v/s Ratio Prot	0.02	c0.74		0.64		c0.04	
v/s Ratio Perm					0.03		0.00
v/c Ratio	0.44	0.87		0.82	0.04	0.56	0.05
Uniform Delay, d1	74.4	6.2		10.9	4.0	71.7	69.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	2.5		2.1	0.1	2.7	0.2
Delay (s)	78.0	8.7		12.9	4.1	74.4	69.2
Level of Service	E	A		B	A	E	E
Approach Delay (s)		9.4		12.8		72.8	
Approach LOS		A		B		E	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	160.6	Sum of lost time (s)	15.6
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1397	2241	106	20	1427	77	54	67	9	153	1	1813
Future Volume (vph)	1397	2241	106	20	1427	77	54	67	9	153	1	1813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00		0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5046		1652	1831		1625	1630	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5046		1652	1831		1625	1630	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1471	2359	112	21	1502	81	57	71	9	161	1	1908
RTOR Reduction (vph)	0	3	0	0	4	0	0	4	0	0	0	247
Lane Group Flow (vph)	1471	2468	0	21	1579	0	57	76	0	80	82	1661
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	46.6	89.5		2.4	45.4		11.1	11.1		36.4	36.4	88.5
Effective Green, g (s)	46.6	89.5		2.4	45.4		11.1	11.1		36.4	36.4	88.5
Actuated g/C Ratio	0.29	0.56		0.01	0.28		0.07	0.07		0.23	0.23	0.55
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9		5.5	5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0		2.8	2.8	
Lane Grp Cap (vph)	933	2825		48	1431		114	127		369	370	1541
v/s Ratio Prot	c0.46	0.49		0.01	c0.31		0.03	c0.04		0.05	0.05	c0.60
v/s Ratio Perm												
v/c Ratio	1.58	0.87		0.44	1.10		0.50	0.60		0.22	0.22	1.08
Uniform Delay, d1	56.7	30.4		78.1	57.3		71.8	72.3		50.2	50.3	35.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.79	0.79	0.68
Incremental Delay, d2	264.7	4.1		2.3	57.5		1.3	5.4		0.0	0.0	36.4
Delay (s)	321.4	34.5		80.4	114.8		73.0	77.7		39.6	39.6	60.6
Level of Service	F	C		F	F		E	E		D	D	E
Approach Delay (s)		141.5			114.4			75.7			58.9	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	112.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	88	1903	0	908	130	403	144
Future Volume (vph)	88	1903	0	908	130	403	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	10	15
Total Lost time (s)	4.5	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		0.91	1.00	0.97	0.91
Frt	1.00	1.00		1.00	0.85	0.99	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1711	4916		4916	1478	3201	1585
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1711	4916		4916	1478	3201	1585
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	2003	0	956	137	424	152
RTOR Reduction (vph)	0	0	0	0	20	2	114
Lane Group Flow (vph)	93	2003	0	956	117	437	23
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 4	4	
Permitted Phases							4
Actuated Green, G (s)	13.1	121.8		104.2	136.5	26.3	26.3
Effective Green, g (s)	13.1	121.8		104.2	136.5	26.3	26.3
Actuated g/C Ratio	0.08	0.76		0.65	0.85	0.16	0.16
Clearance Time (s)	4.5	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	4.6		4.2		2.0	2.0
Lane Grp Cap (vph)	140	3739		3199	1260	525	260
v/s Ratio Prot	c0.05	c0.41		0.19	0.08	c0.14	
v/s Ratio Perm							0.01
v/c Ratio	0.66	0.54		0.30	0.09	0.83	0.09
Uniform Delay, d1	71.4	7.7		12.1	1.9	64.8	56.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.6		0.2	0.0	10.4	0.1
Delay (s)	80.2	8.3		12.4	1.9	75.2	56.8
Level of Service	F	A		B	A	E	E
Approach Delay (s)		11.5		11.0		70.8	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	160.1	Sum of lost time (s)	16.5
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	407	2310	947	1055	747	190
Future Volume (vph)	407	2310	947	1055	747	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	6.5	6.0	7.0	6.0	7.0	5.0
Lane Util. Factor	0.97	0.91	0.86	0.86	0.97	0.88
Frt	1.00	1.00	0.95	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4396	1271	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4396	1271	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	411	2333	957	1066	755	192
RTOR Reduction (vph)	0	0	56	273	0	47
Lane Group Flow (vph)	411	2333	1434	260	755	145
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	24.8	107.2	77.9	77.9	41.8	71.6
Effective Green, g (s)	22.8	107.2	76.9	77.9	39.8	71.6
Actuated g/C Ratio	0.14	0.67	0.48	0.49	0.25	0.45
Clearance Time (s)	4.5	6.0	6.0	6.0	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	456	3179	2112	618	796	1163
v/s Ratio Prot	c0.13	c0.49	0.33		c0.24	0.06
v/s Ratio Perm				0.20		
v/c Ratio	0.90	0.73	0.68	0.42	0.95	0.12
Uniform Delay, d1	67.5	17.1	32.0	26.5	59.1	25.9
Progression Factor	1.00	1.00	0.77	2.31	0.83	0.74
Incremental Delay, d2	20.3	1.5	1.1	1.3	19.8	0.0
Delay (s)	87.8	18.7	25.7	62.5	68.9	19.2
Level of Service	F	B	C	E	E	B
Approach Delay (s)		29.0	35.4		58.8	
Approach LOS		C	D		E	

Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	2733	238	189	1722	44	454	62	478	95	50	29
Future Volume (vph)	42	2733	238	189	1722	44	454	62	478	95	50	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1770	5085	1583	3433	5066		1681	1546	1504		1772	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1770	5085	1583	3433	5066		1681	1546	1504		1772	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	2877	251	199	1813	46	478	65	503	100	53	31
RTOR Reduction (vph)	0	0	48	0	1	0	0	21	107	0	5	0
Lane Group Flow (vph)	44	2877	203	199	1858	0	363	330	225	0	179	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.9	82.0	82.0	9.4	84.1		34.1	34.1	34.1		15.1	
Effective Green, g (s)	6.9	82.0	82.0	9.4	84.1		34.1	34.1	34.1		15.1	
Actuated g/C Ratio	0.04	0.51	0.51	0.06	0.53		0.21	0.21	0.21		0.09	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9		4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0		2.2	
Lane Grp Cap (vph)	76	2606	811	201	2662		358	329	320		167	
v/s Ratio Prot	0.02	c0.57		c0.06	0.37		c0.22	0.21			c0.10	
v/s Ratio Perm			0.13						0.15			
v/c Ratio	0.58	1.10	0.25	0.99	0.70		1.01	1.00	0.70		1.07	
Uniform Delay, d1	75.1	39.0	21.8	75.3	28.4		63.0	63.0	58.3		72.5	
Progression Factor	1.08	0.83	0.63	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	51.3	0.5	60.4	1.5		51.1	50.2	5.6		90.9	
Delay (s)	85.7	83.7	14.2	135.6	30.0		114.1	113.1	63.9		163.4	
Level of Service	F	F	B	F	C		F	F	E		F	
Approach Delay (s)		78.2			40.2			97.8			163.4	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	71.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	158	2774	0	1839	123	370	121
Future Volume (vph)	158	2774	0	1839	123	370	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.2		7.8		4.5	4.5
Lane Util. Factor	0.97	0.91		0.91		0.97	0.88
Frt	1.00	1.00		0.99		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	3433	5085		5038		3433	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	3433	5085		5038		3433	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	2920	0	1936	129	389	127
RTOR Reduction (vph)	0	0	0	4	0	0	107
Lane Group Flow (vph)	166	2920	0	2061	0	389	20
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	11.9	121.3		104.8		24.0	24.0
Effective Green, g (s)	11.9	119.3		102.8		24.0	24.0
Actuated g/C Ratio	0.08	0.77		0.66		0.15	0.15
Clearance Time (s)	4.0	5.2		5.8		4.5	4.5
Vehicle Extension (s)	2.0	5.2		4.5		4.0	4.0
Lane Grp Cap (vph)	263	3913		3341		531	431
v/s Ratio Prot	0.05	c0.57		0.41		c0.11	
v/s Ratio Perm							0.01
v/c Ratio	0.63	0.75		0.62		0.73	0.05
Uniform Delay, d1	69.4	9.7		14.9		62.4	55.8
Progression Factor	1.00	1.00		1.00		1.00	1.00
Incremental Delay, d2	3.6	1.3		0.9		5.5	0.1
Delay (s)	73.0	11.0		15.7		68.0	55.8
Level of Service	E	B		B		E	E
Approach Delay (s)		14.3		15.7		65.0	
Approach LOS		B		B		E	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2326	1343	40	1289	175	755	630	46	392	806	65
Future Volume (vph)	57	2326	1343	40	1289	175	755	630	46	392	806	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8		6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	4994		2841	3054		3204	3499	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	4994		2841	3054		3204	3499	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	58	2349	1357	40	1302	177	763	636	46	396	814	66
RTOR Reduction (vph)	0	0	17	0	11	0	0	2	0	0	4	0
Lane Group Flow (vph)	58	2349	1340	40	1468	0	687	756	0	396	876	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	8.1	68.0	104.9	4.0	63.8		36.9	36.9		29.2	29.2	
Effective Green, g (s)	8.1	68.0	104.9	4.0	63.8		36.9	36.9		29.2	29.2	
Actuated g/C Ratio	0.05	0.42	0.66	0.02	0.40		0.23	0.23		0.18	0.18	
Clearance Time (s)	4.4	5.7		4.4	5.8		6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	2089	969	45	1991		655	704		584	638	
v/s Ratio Prot	0.03	0.48	c0.91	c0.02	0.29		0.24	0.25		0.12	c0.25	
v/s Ratio Perm												
v/c Ratio	0.59	1.12	1.38	0.89	0.74		1.05	1.07		0.68	1.37	
Uniform Delay, d1	74.3	46.0	27.5	77.8	41.0		61.5	61.5		61.0	65.4	
Progression Factor	1.00	1.00	1.00	1.23	0.65		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.2	62.9	178.8	82.8	2.2		48.6	55.4		3.1	177.6	
Delay (s)	83.6	108.9	206.4	178.4	28.6		110.2	116.9		64.1	243.0	
Level of Service	F	F	F	F	C		F	F		E	F	
Approach Delay (s)		143.7			32.6			113.7			187.5	
Approach LOS		F			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	124.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	2772	134	57	1631	24	48	13	192	98	11	46
Future Volume (vph)	39	2772	134	57	1631	24	48	13	192	98	11	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	5050		1770	5074			1656			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.42	
Satd. Flow (perm)	1770	5050		1770	5074			1514			757	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	40	2829	137	58	1664	24	49	13	196	100	11	47
RTOR Reduction (vph)	0	3	0	0	1	0	0	74	0	0	10	0
Lane Group Flow (vph)	40	2963	0	58	1687	0	0	184	0	0	148	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.7	107.6		7.1	107.5			30.7			30.7	
Effective Green, g (s)	6.7	107.6		7.1	107.5			30.7			30.7	
Actuated g/C Ratio	0.04	0.67		0.04	0.67			0.19			0.19	
Clearance Time (s)	4.4	5.2		4.5	5.8			4.9			4.9	
Vehicle Extension (s)	2.0	3.9		2.0	3.3			2.0			2.0	
Lane Grp Cap (vph)	74	3396		78	3409			290			145	
v/s Ratio Prot	0.02	c0.59		c0.03	0.33							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio	0.54	0.87		0.74	0.49			0.63			1.02	
Uniform Delay, d1	75.1	20.8		75.6	12.9			59.5			64.7	
Progression Factor	1.04	0.69		0.93	1.26			1.00			1.00	
Incremental Delay, d2	1.1	0.9		25.1	0.5			3.3			80.9	
Delay (s)	79.4	15.2		95.1	16.7			62.8			145.5	
Level of Service	E	B		F	B			E			F	
Approach Delay (s)		16.1			19.4			62.8			145.5	
Approach LOS		B			B			E			F	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1571	1417	0	1076	999	0	0	0	29	0	596
Future Volume (vph)	0	1571	1417	0	1076	999	0	0	0	29	0	596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0		6.0	4.0				5.1		5.1
Lane Util. Factor		0.95	1.00		0.95	0.88				0.97		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3539	1583		3539	2787				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3539	1583		3539	2787				3433		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1620	1461	0	1109	1030	0	0	0	30	0	614
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	163
Lane Group Flow (vph)	0	1620	1461	0	1109	1030	0	0	0	30	0	451
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		118.7	160.0		118.7	160.0				30.2		30.2
Effective Green, g (s)		118.7	160.0		118.7	160.0				30.2		30.2
Actuated g/C Ratio		0.74	1.00		0.74	1.00				0.19		0.19
Clearance Time (s)		6.0			6.0					5.1		5.1
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2625	1583		2625	2787				647		526
v/s Ratio Prot		0.46			0.31					0.01		
v/s Ratio Perm			c0.92			0.37						0.16
v/c Ratio		0.62	0.92		0.42	0.37				0.05		0.86
Uniform Delay, d1		9.8	0.0		7.8	0.0				53.1		62.8
Progression Factor		0.90	1.00		0.55	1.00				1.00		1.00
Incremental Delay, d2		0.5	5.8		0.5	0.4				0.0		12.6
Delay (s)		9.4	5.8		4.8	0.4				53.1		75.4
Level of Service		A	A		A	A				D		E
Approach Delay (s)		7.7			2.6			0.0			74.3	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	486	1216	0	1282	174	739	0	774	0	0	0
Future Volume (vph)	0	486	1216	0	1282	174	739	0	774	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0		7.0	5.0	7.1		6.1			
Lane Util. Factor		0.95	1.00		0.86	1.00	0.97		0.88			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		3539	1583		6408	1583	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		3539	1583		6408	1583	3433		2787			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	496	1241	0	1308	178	754	0	790	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	294	0	0	0
Lane Group Flow (vph)	0	496	1241	0	1308	178	754	0	496	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Perm			
Protected Phases		2			6		8					
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		104.9	160.0		104.9	160.0	42.0		42.0			
Effective Green, g (s)		104.9	160.0		104.9	160.0	41.0		42.0			
Actuated g/C Ratio		0.66	1.00		0.66	1.00	0.26		0.26			
Clearance Time (s)		7.0			7.0		6.1		6.1			
Vehicle Extension (s)		2.0			2.0		1.0		1.0			
Lane Grp Cap (vph)		2320	1583		4201	1583	879		731			
v/s Ratio Prot		0.14			0.20		0.22					
v/s Ratio Perm			c0.78			0.11			0.18			
v/c Ratio		0.21	0.78		0.31	0.11	0.86		0.68			
Uniform Delay, d1		11.0	0.0		11.9	0.0	56.7		52.9			
Progression Factor		1.04	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.2	3.3		0.2	0.1	8.0		2.0			
Delay (s)		11.6	3.3		12.1	0.1	64.7		54.9			
Level of Service		B	A		B	A	E		D			
Approach Delay (s)		5.7			10.7			59.7			0.0	
Approach LOS		A			B			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.1
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	595	314	83	32	66	134	1093	658	295	488	49
Future Volume (vph)	120	595	314	83	32	66	134	1093	658	295	488	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.95			0.95		1.00	0.94		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3357			3272		1770	4799		1770	5015	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3357			3272		1770	4799		1770	5015	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	626	331	87	34	69	141	1151	693	311	514	52
RTOR Reduction (vph)	0	32	0	0	62	0	0	70	0	0	7	0
Lane Group Flow (vph)	0	1051	0	0	128	0	141	1774	0	311	559	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		37.1			12.4		13.9	39.0		15.6	40.3	
Effective Green, g (s)		37.1			12.4		13.9	39.0		15.6	40.3	
Actuated g/C Ratio		0.30			0.10		0.11	0.31		0.13	0.32	
Clearance Time (s)		4.9			4.9		4.4	6.0		4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5		2.0	3.3	
Lane Grp Cap (vph)		1001			326		197	1505		222	1625	
v/s Ratio Prot		c0.31			c0.04		0.08	c0.37		c0.18	0.11	
v/s Ratio Perm												
v/c Ratio		1.05			0.39		0.72	1.22dr		1.40	0.34	
Uniform Delay, d1		43.6			52.4		53.3	42.6		54.4	31.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		42.4			1.9		10.5	87.7		205.3	0.1	
Delay (s)		86.0			54.3		63.8	130.3		259.7	32.1	
Level of Service		F			D		E	F		F	C	
Approach Delay (s)		86.0			54.3			125.6			112.8	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	109.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	124.3	Sum of lost time (s)	20.6
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	3	105	32	0	32	11	1853	76	79	976	28
Future Volume (vph)	232	3	105	32	0	32	11	1853	76	79	976	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	16	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4		4.5	4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711	1863	1794	1770		1583	3204	4887		1770	5064	
Flt Permitted	0.95	1.00	1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1711	1863	1794	1770		1583	3204	4887		1770	5064	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	244	3	111	34	0	34	12	1951	80	83	1027	29
RTOR Reduction (vph)	0	0	104	0	0	33	0	2	0	0	1	0
Lane Group Flow (vph)	244	3	7	34	0	1	12	2029	0	83	1055	0
Turn Type	Prot	NA	Perm	Prot		Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	25.0	10.2	10.2	20.0		5.6	1.6	97.5		12.6	108.5	
Effective Green, g (s)	25.0	10.2	10.2	20.0		5.6	1.6	97.5		12.6	108.5	
Actuated g/C Ratio	0.16	0.06	0.06	0.12		0.03	0.01	0.61		0.08	0.68	
Clearance Time (s)	4.4	4.9	4.9	4.4		4.5	4.4	6.0		4.4	6.0	
Vehicle Extension (s)	2.0	3.0	3.0	3.0		3.0	2.0	3.5		2.0	3.3	
Lane Grp Cap (vph)	267	118	114	221		55	32	2978		139	3434	
v/s Ratio Prot	c0.14	0.00		c0.02			c0.00	c0.42		c0.05	0.21	
v/s Ratio Perm			0.00			0.00						
v/c Ratio	0.91	0.03	0.06	0.15		0.02	0.38	0.68		0.60	0.31	
Uniform Delay, d1	66.4	70.2	70.4	62.5		74.6	78.7	20.9		71.2	10.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00	0.66	0.06		1.00	1.00	
Incremental Delay, d2	32.6	0.1	0.2	0.3		0.2	1.8	0.9		4.5	0.2	
Delay (s)	99.0	70.3	70.6	62.8		74.7	54.1	2.1		75.8	10.7	
Level of Service	F	E	E	E		E	D	A		E	B	
Approach Delay (s)		90.0			68.7			2.4			15.4	
Approach LOS		F			E			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	4	257	131	1	46	13	2125	125	153	974	2
Future Volume (vph)	22	4	257	131	1	46	13	2125	125	153	974	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	15	12	12	12	10	11	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		0.97	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1863	1742	3433	1589		3204	4916	1583	1770	5084	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1863	1742	3433	1589		3204	4916	1583	1770	5084	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	4	271	138	1	48	14	2237	132	161	1025	2
RTOR Reduction (vph)	0	0	136	0	41	0	0	0	54	0	0	0
Lane Group Flow (vph)	23	4	135	138	8	0	14	2237	78	161	1027	0
Turn Type	Prot	NA	Prot	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	4	3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	4.0	18.2	18.2	10.2	24.4		1.6	94.7	94.7	17.2	109.9	
Effective Green, g (s)	4.0	18.2	18.2	10.2	24.4		1.6	94.7	94.7	17.2	109.9	
Actuated g/C Ratio	0.02	0.11	0.11	0.06	0.15		0.01	0.59	0.59	0.11	0.69	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)	41	211	198	218	242		32	2909	936	190	3492	
v/s Ratio Prot	0.01	0.00	c0.08	c0.04	0.01		0.00	c0.46		c0.09	0.20	
v/s Ratio Perm									0.05			
v/c Ratio	0.56	0.02	0.68	0.63	0.03		0.44	0.77	0.08	0.85	0.29	
Uniform Delay, d1	77.1	63.0	68.1	73.1	57.8		78.8	24.5	14.0	70.1	9.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.01	0.43	0.06	0.90	0.66	
Incremental Delay, d2	10.0	0.0	7.1	4.4	0.0		0.3	0.2	0.0	26.4	0.2	
Delay (s)	87.2	63.0	75.2	77.4	57.8		80.2	10.6	0.8	89.4	6.7	
Level of Service	F	E	E	E	E		F	B	A	F	A	
Approach Delay (s)		75.9			72.3			10.5			17.9	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	816	106	471	480	365	106	1799	651	270	852	104
Future Volume (vph)	257	816	106	471	480	365	106	1799	651	270	852	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.9	4.9	4.9	4.5	6.4	6.4	4.4	6.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	5003	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3539	1583	1770	5003	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	268	850	110	491	500	380	110	1874	678	281	888	108
RTOR Reduction (vph)	0	0	86	0	0	54	0	0	156	0	9	0
Lane Group Flow (vph)	268	850	24	491	500	326	110	1874	522	281	987	0
Turn Type	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	Prot	Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2	2	1	6	
Permitted Phases			4									
Actuated Green, G (s)	17.1	35.6	35.6	27.3	45.8	58.6	15.9	64.1	64.1	12.8	61.3	
Effective Green, g (s)	17.1	35.6	35.6	27.3	45.8	58.6	15.9	64.1	64.1	12.8	61.3	
Actuated g/C Ratio	0.11	0.22	0.22	0.17	0.29	0.37	0.10	0.40	0.40	0.08	0.38	
Clearance Time (s)	4.5	4.5	4.5	4.9	4.9		4.5	6.4	6.4	4.4	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	2.0		3.0	3.5	3.5	2.0	3.4	
Lane Grp Cap (vph)	366	787	352	585	1013	579	175	1417	634	141	1916	
v/s Ratio Prot	0.08	c0.24		c0.14	0.14	0.21	0.06	c0.53	0.33	c0.16	0.20	
v/s Ratio Perm			0.02									
v/c Ratio	0.73	1.08	0.07	0.84	0.49	0.56	0.63	1.32	0.82	1.99	0.52	
Uniform Delay, d1	69.2	62.2	49.1	64.2	47.5	40.5	69.2	48.0	42.9	73.6	37.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.39	0.34	0.85	0.76	
Incremental Delay, d2	7.4	55.9	0.1	9.8	0.1	0.8	0.6	145.6	1.2	470.0	0.9	
Delay (s)	76.6	118.1	49.2	74.0	47.6	41.2	75.2	164.3	15.6	532.4	29.6	
Level of Service	E	F	D	E	D	D	E	F	B	F	C	
Approach Delay (s)		102.9			55.3			122.8			140.2	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	108.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	6	22	245	2	239	11	2505	151	145	1366	5
Future Volume (vph)	17	6	22	245	2	239	11	2505	151	145	1366	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707		1681	1524		1770	3539	1583	1770	3537	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1707		1681	1524		1770	3539	1583	1770	3537	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	6	23	258	2	252	12	2637	159	153	1438	5
RTOR Reduction (vph)	0	22	0	0	193	0	0	0	53	0	0	0
Lane Group Flow (vph)	0	25	0	232	87	0	12	2637	106	153	1443	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		6.2		31.3	31.3		2.1	86.8	86.8	15.8	100.5	
Effective Green, g (s)		6.2		31.3	31.3		2.1	86.8	86.8	15.8	100.5	
Actuated g/C Ratio		0.04		0.20	0.20		0.01	0.54	0.54	0.10	0.63	
Clearance Time (s)		4.9		5.3	5.3		4.4	5.3	5.3	4.4	5.3	
Vehicle Extension (s)		2.0		4.4	4.4		2.0	4.4	4.4	2.0	4.4	
Lane Grp Cap (vph)		66		328	298		23	1919	858	174	2221	
v/s Ratio Prot		c0.01		c0.14	0.06		0.01	c0.75		c0.09	0.41	
v/s Ratio Perm									0.07			
v/c Ratio		0.38		0.71	0.29		0.52	1.37	0.12	0.88	0.65	
Uniform Delay, d1		75.0		60.1	54.9		78.5	36.6	18.0	71.2	18.7	
Progression Factor		1.00		1.00	1.00		0.95	0.61	0.11	0.78	1.14	
Incremental Delay, d2		1.3		7.7	0.9		0.9	168.7	0.0	31.9	1.3	
Delay (s)		76.3		67.7	55.8		75.8	191.2	2.0	87.4	22.5	
Level of Service		E		E	E		E	F	A	F	C	
Approach Delay (s)		76.3			61.2			180.0			28.8	
Approach LOS		E			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	118.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	181	119	161	791	672	69
Future Volume (vph)	181	119	161	791	672	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.2	5.2	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	3433	3539	3490	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	3433	3539	3490	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	191	125	169	833	707	73
RTOR Reduction (vph)	0	106	0	0	5	0
Lane Group Flow (vph)	191	19	169	833	775	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	15.9	15.9	9.5	79.0	65.1	
Effective Green, g (s)	15.9	15.9	9.5	79.0	65.1	
Actuated g/C Ratio	0.15	0.15	0.09	0.75	0.62	
Clearance Time (s)	4.9	4.9	4.4	5.2	5.2	
Vehicle Extension (s)	2.0	2.0	2.0	3.7	3.5	
Lane Grp Cap (vph)	268	239	310	2662	2163	
v/s Ratio Prot	c0.11		c0.05	0.24	c0.22	
v/s Ratio Perm		0.01				
v/c Ratio	0.71	0.08	0.55	0.31	0.36	
Uniform Delay, d1	42.4	38.3	45.7	4.2	9.7	
Progression Factor	1.00	1.00	1.09	0.51	1.00	
Incremental Delay, d2	7.3	0.1	0.8	0.2	0.5	
Delay (s)	49.6	38.3	50.8	2.4	10.2	
Level of Service	D	D	D	A	B	
Approach Delay (s)	45.2			10.6	10.2	
Approach LOS	D			B	B	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	284	281	80	163	91	218	855	167	123	708	51
Future Volume (vph)	31	284	281	80	163	91	218	855	167	123	708	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3275		1770	3349		3433	3452		1770	3503	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3275		1770	3349		3433	3452		1770	3503	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	299	296	84	172	96	229	900	176	129	745	54
RTOR Reduction (vph)	0	197	0	0	75	0	0	13	0	0	4	0
Lane Group Flow (vph)	33	398	0	84	193	0	229	1063	0	129	795	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.8	19.0		6.8	23.0		11.3	48.1		12.1	48.9	
Effective Green, g (s)	2.8	19.0		6.8	23.0		11.3	48.1		12.1	48.9	
Actuated g/C Ratio	0.03	0.18		0.06	0.22		0.11	0.46		0.12	0.47	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	47	592		114	733		369	1581		203	1631	
v/s Ratio Prot	0.02	c0.12		c0.05	c0.06		0.07	c0.31		c0.07	0.23	
v/s Ratio Perm												
v/c Ratio	0.70	0.67		0.74	0.26		0.62	0.67		0.64	0.49	
Uniform Delay, d1	50.7	40.1		48.2	34.0		44.8	22.3		44.3	19.4	
Progression Factor	1.00	1.00		1.00	1.00		1.29	0.49		1.24	0.69	
Incremental Delay, d2	32.1	2.4		19.0	0.1		1.9	1.8		4.6	1.0	
Delay (s)	82.7	42.5		67.3	34.0		59.8	12.8		59.5	14.4	
Level of Service	F	D		E	C		E	B		E	B	
Approach Delay (s)		44.6			42.0			21.0			20.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	281	116	38	42	30	54	1079	58	69	975	30
Future Volume (vph)	83	281	116	38	42	30	54	1079	58	69	975	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.94		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1781		1770	1745		1770	3512		1770	3523	
Flt Permitted	0.66	1.00		0.17	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1220	1781		321	1745		1770	3512		1770	3523	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	296	122	40	44	32	57	1136	61	73	1026	32
RTOR Reduction (vph)	0	15	0	0	24	0	0	3	0	0	2	0
Lane Group Flow (vph)	87	403	0	40	52	0	57	1194	0	73	1056	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	31.5	27.0		27.5	25.0		5.5	50.2		6.3	51.0	
Effective Green, g (s)	31.5	27.0		27.5	25.0		5.5	50.2		6.3	51.0	
Actuated g/C Ratio	0.30	0.26		0.26	0.24		0.05	0.48		0.06	0.49	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.3		4.4	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.4		2.0	4.4	
Lane Grp Cap (vph)	389	457		118	415		92	1679		106	1711	
v/s Ratio Prot	c0.01	c0.23		0.01	0.03		0.03	c0.34		c0.04	0.30	
v/s Ratio Perm	0.06			0.08								
v/c Ratio	0.22	0.88		0.34	0.12		0.62	0.71		0.69	0.62	
Uniform Delay, d1	27.1	37.5		30.6	31.4		48.7	21.7		48.4	19.8	
Progression Factor	1.00	1.00		1.00	1.00		1.36	0.25		1.09	0.68	
Incremental Delay, d2	0.1	17.4		0.6	0.0		4.5	1.4		12.2	1.5	
Delay (s)	27.2	54.9		31.3	31.5		70.7	6.8		64.9	15.1	
Level of Service	C	D		C	C		E	A		E	B	
Approach Delay (s)		50.1			31.4			9.8			18.3	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	289	173	30	87	57	96	1060	84	208	770	98
Future Volume (vph)	69	289	173	30	87	57	96	1060	84	208	770	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1758		1770	1752		1770	3500		1770	3479	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1758		1770	1752		1770	3500		1770	3479	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	304	182	32	92	60	101	1116	88	219	811	103
RTOR Reduction (vph)	0	21	0	0	23	0	0	6	0	0	9	0
Lane Group Flow (vph)	73	465	0	32	129	0	101	1198	0	219	905	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.6	29.4		2.4	26.2		9.8	39.6		14.7	44.5	
Effective Green, g (s)	5.6	29.4		2.4	26.2		9.8	39.6		14.7	44.5	
Actuated g/C Ratio	0.05	0.28		0.02	0.25		0.09	0.38		0.14	0.42	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	5.2		4.4	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.7		2.0	3.7	
Lane Grp Cap (vph)	94	492		40	437		165	1320		247	1474	
v/s Ratio Prot	c0.04	c0.26		0.02	0.07		0.06	c0.34		c0.12	0.26	
v/s Ratio Perm												
v/c Ratio	0.78	0.95		0.80	0.29		0.61	0.91		0.89	0.61	
Uniform Delay, d1	49.1	37.0		51.1	31.9		45.8	31.0		44.3	23.6	
Progression Factor	1.00	1.00		1.00	1.00		0.77	1.41		1.31	0.63	
Incremental Delay, d2	29.8	26.9		66.3	0.1		4.0	9.5		24.4	1.6	
Delay (s)	78.9	64.0		117.4	32.1		39.1	53.0		82.2	16.4	
Level of Service	E	E		F	C		D	D		F	B	
Approach Delay (s)		65.9			46.9			52.0			29.2	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	16	56	1	45	14	1460	329	82	956	8
Future Volume (vph)	0	0	16	56	1	45	14	1460	329	82	956	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.91		1.00	0.91	
Frt		0.86			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1775	1583	1770	4945		1770	5079	
Flt Permitted		1.00			0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1611			1337	1583	1770	4945		1770	5079	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	17	59	1	47	15	1537	346	86	1006	8
RTOR Reduction (vph)	0	15	0	0	0	42	0	21	0	0	1	0
Lane Group Flow (vph)	0	2	0	0	60	5	15	1862	0	86	1013	0
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		10.5			10.5	10.5	2.6	71.4		8.4	77.4	
Effective Green, g (s)		10.5			10.5	10.5	2.6	71.4		8.4	77.4	
Actuated g/C Ratio		0.10			0.10	0.10	0.02	0.68		0.08	0.74	
Clearance Time (s)		4.9			4.9	4.9	4.4	5.4		4.4	5.2	
Vehicle Extension (s)		2.0			5.4	5.4	2.0	8.0		2.0	4.5	
Lane Grp Cap (vph)		161			133	158	43	3362		141	3743	
v/s Ratio Prot		0.00					0.01	c0.38		c0.05	0.20	
v/s Ratio Perm					c0.04	0.00						
v/c Ratio		0.01			0.45	0.03	0.35	0.55		0.61	0.27	
Uniform Delay, d1		42.6			44.5	42.7	50.4	8.6		46.7	4.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.14	0.49	
Incremental Delay, d2		0.0			5.7	0.2	1.8	0.7		4.1	0.1	
Delay (s)		42.6			50.2	42.8	52.2	9.3		57.2	2.4	
Level of Service		D			D	D	D	A		E	A	
Approach Delay (s)		42.6			47.0			9.6			6.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	520	1174	280	275	1213	654	309	1377	376	461	815	280
Future Volume (vph)	520	1174	280	275	1213	654	309	1377	376	461	815	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9	4.5	4.5	4.5	4.4	5.9	5.9	4.5	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	547	1236	295	289	1277	688	325	1449	396	485	858	295
RTOR Reduction (vph)	0	0	48	0	0	73	0	0	44	0	0	27
Lane Group Flow (vph)	547	1236	247	289	1277	615	325	1449	352	485	858	268
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2	2 3	1	6	6 7
Permitted Phases												
Actuated Green, G (s)	27.4	54.7	73.3	15.9	43.2	71.3	18.6	46.0	67.8	23.6	50.0	77.4
Effective Green, g (s)	27.4	54.7	73.3	15.9	43.2	71.3	18.6	46.0	67.8	23.6	50.0	77.4
Actuated g/C Ratio	0.17	0.34	0.46	0.10	0.27	0.45	0.12	0.29	0.42	0.15	0.31	0.48
Clearance Time (s)	4.9	4.9		4.5	4.5		4.4	5.9		4.5	7.0	
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	6.8		3.0	5.5	
Lane Grp Cap (vph)	587	1738	725	341	1372	1241	399	1461	670	506	1589	765
v/s Ratio Prot	c0.16	0.24	0.16	0.08	c0.25	0.22	0.09	c0.28	0.22	c0.14	0.17	0.17
v/s Ratio Perm												
v/c Ratio	0.93	0.71	0.34	0.85	0.93	0.50	0.81	0.99	0.52	0.96	0.54	0.35
Uniform Delay, d1	65.4	45.8	27.8	70.9	56.9	31.6	69.0	56.8	34.2	67.7	45.5	25.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.63	0.46	1.00	1.00	1.00
Incremental Delay, d2	21.5	1.2	0.1	17.4	11.5	0.3	9.8	19.7	0.6	29.4	1.3	0.1
Delay (s)	86.9	46.9	27.9	88.3	68.4	31.9	57.7	55.2	16.4	97.1	46.8	25.8
Level of Service	F	D	C	F	E	C	E	E	B	F	D	C
Approach Delay (s)		54.8			59.8			48.5			57.9	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	55.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	424	4	649	10	2	6	79	1650	11	7	1406	90
Future Volume (vph)	424	4	649	10	2	6	79	1650	11	7	1406	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85		0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583		1731		1770	5085	1583	1770	5039	
Flt Permitted	0.95	0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583		1731		1770	5085	1583	1770	5039	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	437	4	669	10	2	6	81	1701	11	7	1449	93
RTOR Reduction (vph)	0	0	149	0	6	0	0	0	6	0	4	0
Lane Group Flow (vph)	218	223	520	0	12	0	81	1701	5	7	1538	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	57.4	57.4	57.4		2.5		10.4	79.1	79.1	0.8	69.5	
Effective Green, g (s)	57.4	57.4	57.4		2.5		10.4	79.1	79.1	0.8	69.5	
Actuated g/C Ratio	0.36	0.36	0.36		0.02		0.07	0.49	0.49	0.01	0.43	
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)	603	605	567		27		115	2513	782	8	2188	
v/s Ratio Prot	0.13	0.13			c0.01		0.05	c0.33		c0.00	c0.31	
v/s Ratio Perm			c0.33						0.00			
v/c Ratio	0.36	0.37	0.92		0.45		0.70	0.68	0.01	0.88	0.70	
Uniform Delay, d1	37.8	37.9	49.0		78.1		73.3	30.7	20.5	79.6	36.8	
Progression Factor	1.00	1.00	1.00		1.00		1.42	0.30	1.00	0.85	0.72	
Incremental Delay, d2	0.1	0.1	19.4		4.3		11.3	1.1	0.0	215.2	1.7	
Delay (s)	37.9	38.0	68.5		82.3		115.5	10.2	20.5	282.7	28.2	
Level of Service	D	D	E		F		F	B	C	F	C	
Approach Delay (s)		56.4			82.3			15.0			29.4	
Approach LOS		E			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	1	45	0	268	12	1323	168	928	813	10
Future Volume (vph)	0	14	1	45	0	268	12	1323	168	928	813	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	6.9	4.4	6.0		5.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.91		1.00	0.91	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1846			1770	1583	1770	4999		1770	5076	
Flt Permitted		1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1846			1393	1583	1770	4999		1770	5076	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	14	1	46	0	276	12	1364	173	957	838	10
RTOR Reduction (vph)	0	1	0	0	0	21	0	8	0	0	0	0
Lane Group Flow (vph)	0	14	0	0	46	255	12	1529	0	957	848	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		11.2			11.2	92.8	2.7	57.3		77.2	131.8	
Effective Green, g (s)		11.2			11.2	84.4	2.7	56.3		76.2	131.8	
Actuated g/C Ratio		0.07			0.07	0.53	0.02	0.35		0.48	0.82	
Clearance Time (s)		4.9			4.9		4.4	5.0		4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7		2.0	4.2	
Lane Grp Cap (vph)		129			97	835	29	1759		842	4181	
v/s Ratio Prot		0.01				0.16	0.01	c0.31		c0.54	0.17	
v/s Ratio Perm					c0.03							
v/c Ratio		0.11			0.47	0.31	0.41	0.87		1.14	0.20	
Uniform Delay, d1		69.7			71.6	21.3	77.9	48.4		41.9	3.0	
Progression Factor		1.00			1.00	1.00	1.09	0.61		1.03	0.54	
Incremental Delay, d2		0.1			1.3	0.1	2.7	4.8		71.6	0.1	
Delay (s)		69.9			72.9	21.4	87.4	34.4		114.5	1.7	
Level of Service		E			E	C	F	C		F	A	
Approach Delay (s)		69.9			28.7			34.8			61.5	
Approach LOS		E			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Appendix F
Caltrans Existing Freeway Volume Data

Dist	Route		County	Postmile		Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	805		SD	8.854		JCT. RTE. 54, SWEETWATER ROAD	19300	260000	246000	16800	223000	215000
11	805		SD	10.281		NATIONAL CITY, PLAZA BOULEVARD	16800	223000	215000	17300	234000	227000
11	805		SD	11.096		SAN DIEGO, 47TH STREET	17300	234000	227000	17600	243000	240000
11	805		SD	12.344		SAN DIEGO, IMPERIAL AVENUE	17600	243000	240000	19300	262000	260000
11	805		SD	12.953		SAN DIEGO, MARKET STREET	19300	262000	260000	17500	239000	229000
11	805		SD	13.507		SAN DIEGO, JCT. RTE. 94	17500	239000	229000	18100	236000	230000
11	805		SD	13.95		SAN DIEGO, HOME AVENUE	18100	236000	230000	23000	242000	235000
11	805		SD	14.641		SAN DIEGO, JCT. RTE. 15	23000	242000	235000	14000	187000	180000
11	805		SD	15.95		SAN DIEGO, UNIVERSITY AVENUE	14000	187000	180000	14900	196000	188000
11	805		SD	16.431		EL CAJON BOULEVARD	14900	196000	188000	15800	193000	192000
11	805		SD	16.989		SAN DIEGO, ADAMS AVENUE	15800	193000	192000	17700	215000	213000
11	805		SD	17.645		JCT. RTE. 8	17700	215000	213000	15900	211000	203000
11	805		SD	18.888		MURRAY RIDGE	15900	211000	203000	17000	202000	199000
11	805		SD	20.23		SAN DIEGO, KEARNY VILLA ROAD	17000	202000	199000	14700	180000	176000
11	805		SD	20.6		SAN DIEGO, JCT. RTE. 163	14700	180000	176000	17000	205000	197000
11	805		SD	21.654		SAN DIEGO, BALBOA AVENUE	17000	205000	197000	16400	198000	195000
11	805		SD	22.561		SAN DIEGO, CLAIREMONT MESA DRIVE	16400	198000	195000	14400	191000	185000
11	805		SD	23.651		JCT. RTE. 52	14400	191000	185000	16200	216000	204000
11	805		SD	24.44		GOVERNOR DRIVE	16200	216000	204000	15800	210000	200000
11	805		SD	25.476		SAN DIEGO, NOBEL DRIVE	15800	210000	200000	14400	192000	180000
11	805		SD	25.935		SAN DIEGO, MIRAMAR ROAD	14400	192000	180000	14200	190000	179000
11	805		SD	27.067		SAN DIEGO, MIRA MESA BOULEVARD	14200	190000	179000	13400	167000	163000
11	805		SD	28.502		JCT. RTE. 5	13400	167000	163000			
04	880	S	ALA	0	R	BEG RIGHT ALIGN, PORT OF OAKLAND				3150	49500	47000
04	880	S	ALA	1.257	R	END RIGHT ALIGN AT WB 80	3150	49500	47000			
04	880	S	ALA	0	L	BEGIN LEFT ALIGN, PORT OF OAKLAND				3150	49500	47000
04	880	S	ALA	1.463	L	END LEFT ALIGN	3150	49500	47000			
04	880		SCL	0		JCT. RTE. 280				11500	178000	169000
04	880		SCL	1.25		BASCOM AVENUE	11500	178000	169000	11400	176000	167000
04	880		SCL	2.075		SAN JOSE, JCT. RTE. 82	11400	176000	167000	11400	176000	167000
04	880		SCL	2.667		SAN JOSE, COLEMAN AVENUE	11400	176000	167000	11000	170000	161000
04	880		SCL	3.565		SAN JOSE, NORTH FIRST STREET	11000	170000	161000	11600	179000	170000
04	880		SCL	4.078		SAN JOSE, JCT. RTE. 101	11600	179000	170000	12400	192000	182000
04	880		SCL	4.275		SAN JOSE, OLD BAYSHORE HIGHWAY	12400	192000	182000	12300	190000	180000
04	880		SCL	5.337		COYOTE CREEK	12300	190000	180000	11700	181000	172000
04	880		SCL	6.712		TRIMBLE ROAD, MONTAGUE EXPRESSWAY	11700	181000	172000	12500	194000	184000
04	880		SCL	7.69		MILPITAS, GREAT MALL PARKWAY	12500	194000	184000	12100	188000	178000

									AM PEAK								PM PEAK						
DI	RTE	CO	PRE	PM	CS	LEG	YR	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH
04	580	ALA	R	39.24	153	A	14	W	6435	7.84	57.63	4.52	7	TUE	FEB	E	7162	8.17	61.56	5.03	15	MON	MAY
04	580	ALA	R	47.35	28	A	14	E	3784	7.29	55.78	4.07	7	WED	MAY	W	4106	7.75	56.96	4.41	17	WED	MAY
07	605	LA	R	2.31	220	O	15	N	7385	6.86	57.82	3.97	12	SAT	MAY	N	8798	8.04	58.81	4.73	16	TUE	JAN
07	605	LA	R	5.58	221	A	14	S	10418	6.57	53.81	3.53	7	TUE	OCT	S	10795	7.17	51.08	3.66	17	THU	OCT
07	605	LA	R	8.9	485	B	15	S	9482	5.88	54.85	3.22	6	THU	APR	S	9636	5.8	56.48	3.28	17	WED	APR
07	605	LA	R	11	222	B	14	N	7788	6.34	53.21	3.37	7	WED	NOV	N	8079	6.06	57.7	3.5	16	MON	NOV
07	605	LA	R	17.75	223	A	14	S	8294	6.31	58.59	3.7	6	WED	FEB	N	7777	6.33	54.76	3.46	17	WED	FEB
07	605	LA		22.92	547	O	15	S	5933	6.63	54.69	3.62	7	WED	MAY	N	5701	6.85	50.83	3.48	14	SAT	OCT
04	680	ALA	M	1.961	39	A	15	S	6856	8.98	56.75	5.1	9	THU	AUG	S	5717	7.88	53.96	4.25	17	TUE	SEP
04	680	ALA	R	20.06	157	A	15	N	6867	7.28	55.93	4.07	9	WED	NOV	N	7978	7.91	59.85	4.73	18	TUE	NOV
04	680	CC	R	.01	557	A	15	S	6653	7.57	51.37	3.89	8	TUE	AUG	S	7380	7.48	57.68	4.31	16	FRI	MAY
04	680	CC	R	.02	900	O	15	S	6186	7.63	52.67	4.02	8	TUE	JUN	S	6645	7.68	56.22	4.32	16	FRI	MAY
04	680	CC	R	6.764	419	O	15	S	6575	7.89	55.32	4.37	7	THU	FEB	N	6055	7.6	52.88	4.02	14	FRI	MAY
04	680	CC	R	18.71	301	B	15	S	9880	5.64	70.94	4	6	TUE	MAY	N	10782	6.5	67.15	4.37	17	THU	MAY
07	710	LA		7.6	37	A	15	S	5734	7.28	51.47	3.75	7	FRI	MAY	S	5159	6.59	51.19	3.37	16	WED	MAR
07	710	LA		10.31	38	A	15	S	7252	7.47	52.77	3.94	7	MON	APR	N	6714	7.1	51.39	3.65	16	MON	MAY
07	710	LA		11.5	421	A	15	S	7546	7.38	53.68	3.96	7	FRI	OCT	N	7372	7.03	55.05	3.87	17	THU	JUL
07	710	LA		14.4	39	O	14	S	9960	7.4	57.57	4.26	7	WED	NOV	N	9271	6.96	57.01	3.96	17	THU	APR
07	710	LA		23.28	41	B	13	S	8042	7.12	53.84	3.83	7	TUE	JAN	S	7391	6.57	53.62	3.52	13	THU	DEC
07	710	LA	R	27.11	436	A	15	S	2211	8.45	58.26	4.92	7	THU	APR	N	1935	7.63	56.45	4.31	16	TUE	FEB
04	780	SOL		2.955	339	A	13	E	3054	8.73	63.68	5.56	7	THU	SEP	W	2850	9.06	57.23	5.19	17	WED	MAR
04	780	SOL		3.995	357	A	13	E	3199	8.49	65.81	5.59	7	WED	SEP	W	2618	9.01	50.73	4.57	17	WED	JUN
04	780	SOL		6.656	341	A	15	E	2665	8.03	55.25	4.44	7	WED	MAR	W	2883	8.77	54.72	4.8	17	THU	FEB
11	805	SD		.647	922	A	15	S	2841	6.84	66.13	4.52	10	SAT	AUG	S	3540	8.3	67.87	5.63	15	FRI	JUN
11	805	SD		1.805	681	A	15	S	4974	6.73	59.31	3.99	7	TUE	JUL	S	5466	8	54.82	4.39	15	FRI	MAR
11	805	SD		5.542	684	O	13	N	6132	5.88	64.61	3.8	6	THU	MAR	S	7336	8.01	56.68	4.54	15	WED	DEC
11	805	SD		8.854	924	B	15	N	10107	6.04	70.42	4.25	6	TUE	APR	S	11051	7.7	60.39	4.65	16	WED	JAN
11	805	SD		8.854	944	A	15	N	9351	6.06	72.14	4.37	6	TUE	AUG	S	9849	7.8	59.04	4.61	15	THU	FEB
11	805	SD		11.10	925	B	15	N	11814	7.09	77.81	5.52	6	WED	OCT	S	9785	7.79	58.67	4.57	15	MON	DEC
11	805	SD		13.51	926	B	15	N	9715	6	72.56	4.36	6	WED	JUN	S	10289	7.59	60.75	4.61	15	MON	JUL
11	805	SD		14.46	966	B	15	S	10282	6.12	73.82	4.52	6	THU	AUG	N	10381	7.66	59.55	4.56	15	MON	APR
11	805	SD		16.43	927	B	15	N	7972	5.89	74.6	4.39	6	THU	AUG	S	9510	8.36	62.72	5.24	15	THU	OCT
11	805	SD		17.65	928	A	15	N	10698	7.6	69.94	5.31	7	FRI	OCT	S	10538	8.11	64.53	5.23	15	MON	NOV

									AM PEAK								PM PEAK						
DI	RTE	CO	PRE	PM	CS	LEG	YR	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH
11	805	SD		23.65	929	B	15	N	7461	5.71	71.34	4.07	6	WED	JUN	S	8763	7.73	61.88	4.79	15	WED	NOV
11	805	SD		24.44	683	X	13	N	9360	6.71	71.23	4.78	6	MON	SEP	S	8586	7.28	60.22	4.39	16	MON	JUN
04	880	ALA		2.283	127	A	14	S	7785	6.93	56.71	3.93	7	TUE	NOV	N	8790	7.67	57.79	4.43	14	FRI	MAY
04	880	ALA		26.61	129	A	14	N	7220	6.63	51.11	3.39	7	MON	MAY	N	7521	6.53	54.03	3.53	16	FRI	MAY
11	905	SD		3.207	932	A	15	W	2476	8.35	53.91	4.5	7	FRI	FEB	E	2669	9.24	52.48	4.85	16	FRI	FEB
11	905	SD		5.164	942	A	15	E	3987	8.47	66.99	5.67	7	MON	MAY	W	3775	8.46	63.51	5.37	16	THU	OCT
11	905	SD	R	9.778	128	B	15	W	2084	6.73	59.34	3.99	12	FRI	APR	W	2487	8.26	57.69	4.76	16	FRI	JUL
11	905	SD	R	11.37	126	B	15	W	1630	6.71	58.89	3.95	7	WED	APR	W	1849	7.3	61.37	4.48	13	MON	DEC
11	905	SD	R	11.37	127	A	15	W	1525	5.16	94.78	4.89	5	MON	DEC	E	1399	7.12	63.05	4.49	16	FRI	AUG

Dist	Route	County	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	015 S	SD	30.856	END ROUTE 15S HOV LANES ONLY; JCT. RTE. 15	4700	40000	35500			
11	015	SD	.405	MAIN STREET UC				620	7800	7600
11	015	SD	.553	JCT. RTE. 5	620	7800	7600	9700	111000	107700
11	015	SD	R .588	SAN DIEGO, OCEANVIEW BOULEVARD	9700	111000	107700	9100	122000	119000
11	015	SD	1.846	SAN DIEGO, MARKET STREET	9100	122000	119000	12000	135000	132000
11	015	SD	2.226	JCT. RTE. 94	12000	135000	132000	11700	129000	126000
11	015	SD	R 3.367	JCT. RTE. 805	11700	129000	126000	13600	175000	173000
11	015	SD	M 4.663	SAN DIEGO, UNIVERSITY AVENUE	13600	175000	173000	13800	172000	171000
11	015	SD	M 5.042	SAN DIEGO, EL CAJON BOULEVARD	13800	172000	171000	13700	170000	169000
11	015	SD	M 5.6	SAN DIEGO, ADAMS AVENUE	13700	170000	169000	14800	182000	177000
11	015	SD	R 6.132	JCT. RTE. 8	14800	182000	177000	17500	225000	217000
11	015	SD	R 6.817	SAN DIEGO, FRIARS ROAD	17500	225000	217000	18000	235000	224000
11	015	SD	R 8.366	SAN DIEGO, AERO DRIVE	18000	235000	224000	15200	199000	198000
11	015	SD	R 9.238	SAN DIEGO, BALBOA AVENUE	15200	199000	198000	14200	186000	184000
11	015	SD	R 9.995	CLAIREMONT MESA BOULEVARD	14200	186000	184000	13400	164000	160000
11	015	SD	R 10.58	JCT. RTE. 52	13400	164000	160000	14700	192000	190000
11	015	SD	M 12.002	ROUTE 15S HOV LANES	14700	192000	190000	14200	182000	181000
11	015	SD	M 12.124	JCT. RTE. 163	14200	182000	181000	26500	314000	305000
11	015	SD	M 13.334	SAN DIEGO, MIRAMAR WAY	26500	314000	305000	24800	310000	302000
11	015	SD	M 14.285	SAN DIEGO, MIRAMAR/ POMERADO ROADS	24800	310000	302000	23100	291000	285000
11	015	SD	M 15	CARROLL CANYON ROAD	23100	291000	285000	21800	280000	270000
11	015	SD	M 15.924	MIRA MESA BOULEVARD	21800	280000	270000	20500	270000	261000
11	015	SD	M 17.311	SAN DIEGO, MERCY ROAD	20500	270000	261000	19700	259000	248000
11	015	SD	M 18.176	SAN DIEGO, POWAY ROAD	19700	259000	248000	17800	231000	216000
11	015	SD	M 19.468	JCT. RTE. 56	17800	231000	216000	17900	243000	234000
11	015	SD	M 20.574	CARMEL MOUNTAIN ROAD	17900	243000	234000	16500	232000	223000
11	015	SD	M 21.915	SAN DIEGO, CAMINO DEL NORTE	16500	232000	223000	16400	232000	217000
11	015	SD	M 22.935	SAN DIEGO, BERNARDO CENTER DRIVE	16400	232000	217000	15900	224000	208000
11	015	SD	M 23.687	SAN DIEGO, RANCHO BERNARDO ROAD	15900	224000	208000	15000	208000	205000
11	015	SD	M 26.026	POMERADO ROAD	15000	208000	205000	17500	229000	224000
11	015	SD	M 26.97	ESCONDIDO, FELICITA ROAD	17500	229000	224000	17100	225000	215000
11	015	SD	M 27.65	ESCONDIDO, SO JCT. OF CENTRE CITY PARKWAY	17100	225000	215000	19900	246000	230000
11	015	SD	R 28.765	CITRACADO PARKWAY	19900	246000	230000	19300	255000	241000
11	015	SD	R 30.09	ESCONDIDO, 9TH AVENUE	19300	255000	241000	18300	228000	226000
11	015	SD	R 30.627	VALLEY PARKWAY	18300	228000	226000	19100	244000	243000
11	015	SD	R 31.517	JCT. RTE. 78	19100	244000	243000	12000	154000	150000
11	015	SD	R 32.861	ESCONDIDO, EL NORTE PARKWAY	12000	154000	150000	10200	137000	132000

									AM PEAK								PM PEAK						
DI	RTE	CO	PRE	PM	CS	LEG	YR	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH
06	014	KER		64.56	971	B	15	S	335	12.71	83.96	10.67	8	FRI	JUL	N	489	21.73	71.7	15.58	14	SUN	AUG
11	015	SD		20.58	997	B	15	S	1863	9.76	78.91	7.7	7	WED	SEP	N	3504	16.4	88.35	14.49	15	FRI	MAR
11	015	SD		.405	909	A	15	S	4526	7.48	57.66	4.31	6	MON	JUN	N	5245	9.38	53.28	5	15	MON	FEB
11	015	SD		2.226	836	B	15	N	5341	8.05	52.71	4.24	7	MON	OCT	N	6384	9.62	52.72	5.07	15	THU	OCT
11	015	SD	R	3.367	910	A	15	N	7331	7.15	60.23	4.3	6	WED	JUN	N	7146	8.15	51.47	4.19	15	TUE	MAY
11	015	SD	R	6.132	911	A	15	N	9570	7.72	60.48	4.67	7	THU	FEB	S	9388	7.54	60.77	4.58	17	FRI	MAY
11	015	SD	R	9.995	682	X	15	N	7019	8.7	51.34	4.47	7	WED	MAY	S	6475	7.94	51.93	4.12	15	TUE	AUG
11	015	SD	M	15	999	X	15	S	12012	8.11	58.02	4.71	7	THU	MAR	N	10798	7.74	54.65	4.23	17	THU	APR
11	015	SD	M	15.92	913	B	15	S	12674	8.13	58.51	4.76	7	TUE	OCT	N	11406	7.72	55.47	4.28	17	MON	JUN
11	015	SD	M	20.57	980	B	15	S	10544	7.89	56.29	4.44	7	WED	MAY	N	10297	7.9	54.91	4.34	15	THU	DEC
11	015	SD	M	26.03	934	B	15	S	9679	6.79	69.18	4.7	6	MON	JUN	N	9327	7.73	58.57	4.53	16	TUE	SEP
11	015	SD	M	26.03	935	A	15	S	9893	7.46	61.03	4.55	7	THU	AUG	N	10087	7.7	60.25	4.64	16	MON	JUL
11	015	SD	R	28.77	914	B	15	S	10649	6.98	71.87	5.02	6	THU	MAY	N	10640	8.25	60.77	5.01	16	TUE	MAR
11	015	SD	R	30.63	918	B	15	S	10153	6.83	67.27	4.59	6	MON	APR	N	10906	8.09	60.94	4.93	15	THU	APR
11	015	SD	R	31.52	915	A	15	S	7263	6.8	78.95	5.37	6	TUE	NOV	N	7241	8.06	66.46	5.35	16	THU	NOV
11	015	SD	R	36.64	916	A	15	S	6872	7.23	74.59	5.39	7	MON	MAR	N	6871	8.12	66.42	5.39	16	WED	MAR
11	015	SD	R	46.49	969	A	15	S	7460	7.26	77.78	5.65	6	THU	FEB	N	6637	7.57	66.43	5.03	15	THU	DEC
11	015	SD	R	54.07	917	B	15	S	7928	7.03	79.3	5.57	6	WED	JAN	N	6812	7.14	67.02	4.79	16	WED	MAR
11	015	SD	R	54.07	919	A	15	S	7275	6.53	78.68	5.14	6	TUE	APR	N	6757	7.13	66.97	4.77	16	TUE	JAN
08	015	RIV		20.96	622	A	15	S	4874	6.89	55.38	3.81	11	SUN	SEP	S	4957	7	55.41	3.88	16	FRI	MAR
08	015	RIV		44.66	156	A	13	S	5304	7.02	51.92	3.65	7	TUE	DEC	S	5591	7.19	53.47	3.84	15	WED	MAR
08	015	SBD		1.015	708	B	15	N	7588	6.63	52.3	3.47	6	MON	MAY	S	7167	6.29	52.15	3.28	13	SUN	JUN
08	015	SBD		5.973	605	A	15	S	7836	6.41	71.32	4.57	7	WED	AUG	N	6906	6.6	61.12	4.03	17	WED	MAR
08	015	SBD		70.10	515	B	13	N	3444	10.42	56.25	5.86	12	FRI	AUG	S	3581	10.93	55.73	6.09	13	SUN	JUL
08	015	SBD	R	81.83	604	B	15	N	2837	11.21	55.75	6.25	12	FRI	JUN	S	2899	9.73	65.63	6.39	17	SUN	MAR
08	015	SBD	R	138.5	907	A	15	S	2761	10.42	63.21	6.59	11	SUN	NOV	S	2831	10.83	62.37	6.76	14	SUN	SEP
03	016	COL		0	100	A	15	E	52	14.18	65.82	9.34	12	SUN	JUN	E	58	17.06	61.05	10.41	15	SUN	MAY
03	016	YOL		18.13	104	O	13	W	127	10.04	69.02	6.93	9	SAT	JUL	E	122	10.21	65.24	6.66	16	SAT	JUL
03	016	YOL		25.15	332	O	13	W	412	6.33	69.6	4.41	10	SAT	APR	W	590	10.12	62.37	6.31	17	SAT	JUL
03	016	SAC	R	11.47	117	B	15	W	570	8.35	70.63	5.9	6	MON	JUN	E	558	9.53	60.59	5.77	16	FRI	OCT
03	016	SAC	R	11.47	118	A	15	W	756	8.03	72.41	5.82	7	TUE	MAR	E	768	9.37	63.05	5.91	16	THU	FEB
03	016	SAC	R	16.81	334	A	14	W	1054	10.6	76.71	8.13	7	TUE	APR	E	823	9.39	67.63	6.35	16	THU	APR
03	016	SAC	R	23.96	232	O	13	W	312	6.86	79.19	5.43	6	MON	APR	W	343	8.65	69.01	5.97	17	TUE	JUL

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Appendix G
Off-Ramp Queueing Analysis Worksheets

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Existing Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1001	400	0	1587	502	0	0	0	722	0	1544
Future Volume (vph)	0	1001	400	0	1587	502	0	0	0	722	0	1544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1065	426	0	1688	534	0	0	0	768	0	1643
v/c Ratio		0.56	0.15		0.89	0.34				0.43		1.11
Control Delay		31.3	0.1		45.9	0.6				18.3		86.4
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		31.3	0.1		45.9	0.6				18.3		86.4
Queue Length 50th (ft)		237	0		480	0				180		~818
Queue Length 95th (ft)		283	0		540	4				227		#970
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		1894	2787		1894	1583				1805		1484
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.56	0.15		0.89	0.34				0.43		1.11

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1044	678	0	1255	542	837	0	297	0	0	0
Future Volume (vph)	0	1044	678	0	1255	542	837	0	297	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1099	714	0	1321	571	881	0	313	0	0	0
v/c Ratio		0.38	0.45		0.36	0.36	0.79		0.33			
Control Delay		12.2	2.2		14.7	0.6	42.3		23.5			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		12.2	2.2		14.7	0.6	42.3		23.5			
Queue Length 50th (ft)		134	52		151	0	318		79			
Queue Length 95th (ft)		203	133		208	0	352		108			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2923	1582		3683	1583	1553		1298			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.38	0.45		0.36	0.36	0.57		0.24			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	2	287	0	0	559	875	834
Future Volume (vph)	2	287	0	0	559	875	834
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	2	299	0	0	582	911	869
v/c Ratio	0.02	0.16			0.23	0.76	0.61
Control Delay	68.5	9.5			14.7	30.2	6.3
Queue Delay	0.0	0.0			0.0	0.0	0.0
Total Delay	68.5	9.5			14.7	30.2	6.3
Queue Length 50th (ft)	1	27			61	234	39
Queue Length 95th (ft)	m9	39			121	263	79
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)	110					675	
Base Capacity (vph)	143	1849			2545	1689	1722
Starvation Cap Reductn	0	0			0	0	0
Spillback Cap Reductn	0	0			0	0	0
Storage Cap Reductn	0	0			0	0	0
Reduced v/c Ratio	0.01	0.16			0.23	0.54	0.50

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	495	512	0	534	835	0	0	0	133	0	1061
Future Volume (vph)	0	495	512	0	534	835	0	0	0	133	0	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	556	575	0	600	938	0	0	0	149	0	1192
v/c Ratio		0.38	0.36		0.41	0.34				0.08		0.79
Control Delay		32.1	3.7		28.5	0.7				16.9		29.5
Queue Delay		0.5	0.0		0.1	0.0				0.0		15.8
Total Delay		32.6	3.7		28.6	0.7				16.9		45.4
Queue Length 50th (ft)		287	88		153	11				37		480
Queue Length 95th (ft)		356	255		292	23				41		428
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1458	1583		1458	2787				2158		1801
Starvation Cap Reductn		494	0		0	0				0		0
Spillback Cap Reductn		0	0		95	0				0		619
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.58	0.36		0.44	0.34				0.07		1.01

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	186	401	0	1152	109	402	0	588	0	0	0
Future Volume (vph)	0	186	401	0	1152	109	402	0	588	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	196	422	0	1213	115	423	0	619	0	0	0
v/c Ratio		0.07	0.27		0.25	0.07	0.81		0.65			
Control Delay		4.1	2.8		5.7	0.1	74.1		7.3			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.1	2.8		5.7	0.1	74.1		7.3			
Queue Length 50th (ft)		38	71		90	0	209		0			
Queue Length 95th (ft)		7	106		123	0	258		56			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2693	1583		4876	1583	1554		1600			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.07	0.27		0.25	0.07	0.27		0.39			

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1824	1040	0	1213	779	0	0	0	209	0	756
Future Volume (vph)	0	1824	1040	0	1213	779	0	0	0	209	0	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			30			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			24.6			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1940	1106	0	1290	829	0	0	0	222	0	804
v/c Ratio		0.63	0.40		0.42	0.52				0.21		0.89
Control Delay		19.6	0.4		13.8	2.6				34.7		53.6
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		19.6	0.4		13.8	2.6				34.7		53.6
Queue Length 50th (ft)		391	0		170	97				75		360
Queue Length 95th (ft)		513	0		351	137				99		414
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		3072	2787		3072	1569				1325		1119
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.63	0.40		0.42	0.53				0.17		0.72

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	958	1164	0	1478	772	450	0	142	0	0	0
Future Volume (vph)	0	958	1164	0	1478	772	450	0	142	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	988	1200	0	1524	796	464	0	146	0	0	0
v/c Ratio		0.27	0.76		0.33	0.50	0.75		0.23			
Control Delay		4.4	17.7		7.0	1.1	61.4		7.8			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.4	17.7		7.0	1.1	61.4		7.8			
Queue Length 50th (ft)		62	656		136	0	200		0			
Queue Length 95th (ft)		68	717		153	0	261		32			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3717	1574		4684	1583	684		672			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.27	0.76		0.33	0.50	0.68		0.22			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	453	0	0	634	562	557
Future Volume (vph)	0	453	0	0	634	562	557
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	498	0	0	697	618	612
v/c Ratio		0.22			0.22	0.74	0.60
Control Delay		8.3			8.0	36.8	9.4
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		8.3			8.0	36.8	9.4
Queue Length 50th (ft)		58			56	167	38
Queue Length 95th (ft)		100			90	205	82
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2220			3189	1422	1426
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.22			0.22	0.43	0.43

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1334	1175	0	806	800	0	0	0	25	0	527
Future Volume (vph)	0	1334	1175	0	806	800	0	0	0	25	0	527
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1375	1211	0	831	825	0	0	0	26	0	543
v/c Ratio		0.47	0.77		0.28	0.30				0.08		0.89
Control Delay		5.6	15.8		2.2	0.4				62.0		39.0
Queue Delay		0.5	0.0		0.0	0.0				0.0		0.0
Total Delay		6.0	15.8		2.2	0.4				62.0		39.0
Queue Length 50th (ft)		172	799		48	5				12		105
Queue Length 95th (ft)		248	902		83	9				27		175
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2943	1583		2943	2787				920		1019
Starvation Cap Reductn		974	0		0	0				0		0
Spillback Cap Reductn		0	0		155	0				0		16
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.70	0.77		0.30	0.30				0.03		0.54

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	383	975	0	1036	143	562	0	636	0	0	0
Future Volume (vph)	0	383	975	0	1036	143	562	0	636	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	391	995	0	1057	146	573	0	649	0	0	0
v/c Ratio		0.15	0.63		0.23	0.09	0.83		0.64			
Control Delay		8.9	5.7		8.1	0.1	72.3		10.4			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		8.9	5.7		8.1	0.1	72.3		10.4			
Queue Length 50th (ft)		62	528		100	0	300		38			
Queue Length 95th (ft)		95	530		137	0	349		100			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2540	1583		4600	1583	1714		1678			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.15	0.63		0.23	0.09	0.33		0.39			

Intersection Summary

Area Type: Other

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Existing Plus Project Phase 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1010	400	0	1623	538	0	0	0	726	0	1544
Future Volume (vph)	0	1010	400	0	1623	538	0	0	0	726	0	1544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1074	426	0	1727	572	0	0	0	772	0	1643
v/c Ratio		0.57	0.15		0.91	0.36				0.43		1.11
Control Delay		31.4	0.1		46.8	0.7				18.3		86.4
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		31.4	0.1		46.8	0.7				18.3		86.4
Queue Length 50th (ft)		239	0		493	1				181		~818
Queue Length 95th (ft)		286	0		554	9				228		#970
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		1894	2787		1894	1583				1805		1484
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.57	0.15		0.91	0.36				0.43		1.11

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1057	678	0	1327	556	837	0	306	0	0	0
Future Volume (vph)	0	1057	678	0	1327	556	837	0	306	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1113	714	0	1397	585	881	0	322	0	0	0
v/c Ratio		0.38	0.45		0.38	0.37	0.79		0.34			
Control Delay		12.4	2.2		15.0	0.7	42.3		24.2			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		12.4	2.2		15.0	0.7	42.3		24.2			
Queue Length 50th (ft)		137	50		163	0	318		84			
Queue Length 95th (ft)		207	134		222	0	352		113			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2923	1582		3683	1583	1553		1297			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.38	0.45		0.38	0.37	0.57		0.25			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	289	0	0	660	875	859
Future Volume (vph)	0	289	0	0	660	875	859
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	301	0	0	688	911	895
v/c Ratio		0.17			0.26	0.79	0.65
Control Delay		10.0			13.6	32.0	7.8
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		10.0			13.6	32.0	7.8
Queue Length 50th (ft)		28			76	238	53
Queue Length 95th (ft)		41			120	269	100
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1809			2600	1651	1685
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.17			0.26	0.55	0.53

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	502	526	0	540	835	0	0	0	133	0	1061
Future Volume (vph)	0	502	526	0	540	835	0	0	0	133	0	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	564	591	0	607	938	0	0	0	149	0	1192
v/c Ratio		0.39	0.37		0.42	0.34				0.09		0.79
Control Delay		31.7	4.0		29.0	0.7				17.4		29.7
Queue Delay		0.5	0.0		0.1	0.0				0.0		21.5
Total Delay		32.2	4.0		29.0	0.7				17.4		51.3
Queue Length 50th (ft)		292	96		155	12				37		482
Queue Length 95th (ft)		361	215		300	23				42		432
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1450	1583		1450	2787				2128		1794
Starvation Cap Reductn		479	0		0	0				0		0
Spillback Cap Reductn		0	0		94	0				0		634
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.58	0.37		0.45	0.34				0.07		1.03

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	193	401	0	1154	109	406	0	588	0	0	0
Future Volume (vph)	0	193	401	0	1154	109	406	0	588	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	422	0	1215	115	427	0	619	0	0	0
v/c Ratio		0.08	0.27		0.25	0.07	0.81		0.65			
Control Delay		4.0	2.7		5.7	0.1	74.0		7.2			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.0	2.7		5.7	0.1	74.0		7.2			
Queue Length 50th (ft)		38	69		90	0	211		0			
Queue Length 95th (ft)		7	103		125	0	260		56			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2688	1583		4868	1583	1554		1600			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.08	0.27		0.25	0.07	0.27		0.39			

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1863	1040	0	1231	797	0	0	0	225	0	756
Future Volume (vph)	0	1863	1040	0	1231	797	0	0	0	225	0	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1982	1106	0	1310	848	0	0	0	239	0	804
v/c Ratio		0.65	0.40		0.43	0.54				0.23		0.89
Control Delay		20.0	0.4		16.0	2.7				34.9		53.7
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		20.0	0.4		16.0	2.7				34.9		53.7
Queue Length 50th (ft)		406	0		284	104				81		361
Queue Length 95th (ft)		532	0		356	148				106		415
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		3068	2787		3068	1568				1325		1117
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.65	0.40		0.43	0.54				0.18		0.72

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1013	1164	0	1513	779	450	0	181	0	0	0
Future Volume (vph)	0	1013	1164	0	1513	779	450	0	181	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1044	1200	0	1560	803	464	0	187	0	0	0
v/c Ratio		0.28	0.76		0.33	0.51	0.75		0.29			
Control Delay		4.5	17.3		7.0	1.2	61.4		7.3			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.5	17.3		7.0	1.2	61.4		7.3			
Queue Length 50th (ft)		67	636		140	0	200		0			
Queue Length 95th (ft)		73	695		157	0	261		36			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3717	1574		4684	1583	684		705			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.28	0.76		0.33	0.51	0.68		0.27			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	461	0	0	683	562	659
Future Volume (vph)	0	461	0	0	683	562	659
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	507	0	0	751	618	724
v/c Ratio		0.23			0.24	0.74	0.71
Control Delay		8.4			8.2	36.5	14.8
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		8.4			8.2	36.5	14.8
Queue Length 50th (ft)		60			61	167	76
Queue Length 95th (ft)		101			98	205	132
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2214			3182	1422	1419
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.23			0.24	0.43	0.51

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1338	1182	0	830	800	0	0	0	25	0	527
Future Volume (vph)	0	1338	1182	0	830	800	0	0	0	25	0	527
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1379	1219	0	856	825	0	0	0	26	0	543
v/c Ratio		0.47	0.77		0.29	0.30				0.07		0.89
Control Delay		5.9	16.1		2.4	0.4				60.9		41.0
Queue Delay		0.5	0.0		0.0	0.0				0.0		0.0
Total Delay		6.3	16.1		2.4	0.4				60.9		41.0
Queue Length 50th (ft)		180	810		53	5				12		116
Queue Length 95th (ft)		250	902		88	8				27		185
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2918	1583		2918	2787				920		1006
Starvation Cap Reductn		957	0		0	0				0		0
Spillback Cap Reductn		0	0		173	0				0		17
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.70	0.77		0.31	0.30				0.03		0.55

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	387	975	0	1044	143	578	0	636	0	0	0
Future Volume (vph)	0	387	975	0	1044	143	578	0	636	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	395	995	0	1065	146	590	0	649	0	0	0
v/c Ratio		0.16	0.63		0.23	0.09	0.84		0.64			
Control Delay		9.4	5.6		8.5	0.1	71.7		10.7			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		9.4	5.6		8.5	0.1	71.7		10.7			
Queue Length 50th (ft)		72	526		103	0	308		41			
Queue Length 95th (ft)		100	528		141	0	357		103			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2521	1583		4564	1583	1714		1674			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.16	0.63		0.23	0.09	0.34		0.39			

Intersection Summary

Area Type: Other

Michael Baker
INTERNATIONAL

Existing Plus Project Buildout

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1042	400	0	1654	561	0	0	0	737	0	1544
Future Volume (vph)	0	1042	400	0	1654	561	0	0	0	737	0	1544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1109	426	0	1760	597	0	0	0	784	0	1643
v/c Ratio		0.59	0.15		0.93	0.38				0.43		1.11
Control Delay		31.8	0.1		48.0	0.8				18.4		86.4
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		31.8	0.1		48.0	0.8				18.4		86.4
Queue Length 50th (ft)		250	0		504	3				185		~818
Queue Length 95th (ft)		297	0		#584	14				233		#970
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		1894	2787		1894	1583				1805		1484
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.59	0.15		0.93	0.38				0.43		1.11

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1099	678	0	1382	567	837	0	328	0	0	0
Future Volume (vph)	0	1099	678	0	1382	567	837	0	328	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1157	714	0	1455	597	881	0	345	0	0	0
v/c Ratio		0.40	0.45		0.40	0.38	0.79		0.37			
Control Delay		13.0	2.1		15.2	0.7	42.3		25.8			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		13.0	2.1		15.2	0.7	42.3		25.8			
Queue Length 50th (ft)		148	41		172	0	318		95			
Queue Length 95th (ft)		219	40		234	0	352		125			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2923	1582		3683	1583	1553		1292			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.40	0.45		0.40	0.38	0.57		0.27			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	294	0	0	724	875	913
Future Volume (vph)	0	294	0	0	724	875	913
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	306	0	0	754	911	951
v/c Ratio		0.17			0.29	0.79	0.68
Control Delay		11.5			14.1	32.0	8.8
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		11.5			14.1	32.0	8.8
Queue Length 50th (ft)		38			87	236	63
Queue Length 95th (ft)		47			132	271	117
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1795			2579	1598	1680
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.17			0.29	0.57	0.57

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	520	537	0	560	835	0	0	0	133	0	1071
Future Volume (vph)	0	520	537	0	560	835	0	0	0	133	0	1071
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	584	603	0	629	938	0	0	0	149	0	1203
v/c Ratio		0.41	0.38		0.44	0.34				0.08		0.79
Control Delay		32.6	4.1		32.0	0.7				16.3		29.4
Queue Delay		0.6	0.0		0.0	0.0				0.0		25.3
Total Delay		33.2	4.1		32.0	0.7				16.3		54.7
Queue Length 50th (ft)		304	101		267	12				36		486
Queue Length 95th (ft)		373	291		359	22				41		443
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1428	1583		1428	2787				2158		1795
Starvation Cap Reductn		460	0		0	0				0		0
Spillback Cap Reductn		0	0		69	0				0		637
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.60	0.38		0.46	0.34				0.07		1.04

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	203	409	0	1164	109	417	0	588	0	0	0
Future Volume (vph)	0	203	409	0	1164	109	417	0	588	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	431	0	1225	115	439	0	619	0	0	0
v/c Ratio		0.08	0.27		0.25	0.07	0.85		0.65			
Control Delay		1.1	2.8		6.0	0.1	77.8		7.1			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		1.1	2.8		6.0	0.1	77.8		7.1			
Queue Length 50th (ft)		5	70		93	0	219		0			
Queue Length 95th (ft)		8	103		128	0	268		56			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2672	1583		4839	1583	1528		1598			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.08	0.27		0.25	0.07	0.29		0.39			

Intersection Summary

Area Type: Other

21: I-805 SB On Ramp/I-805 SB Off Ramp & La Jolla Village Dr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1905	1040	0	1263	819	0	0	0	240	0	756
Future Volume (vph)	0	1905	1040	0	1263	819	0	0	0	240	0	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2027	1106	0	1344	871	0	0	0	255	0	804
v/c Ratio		0.66	0.40		0.44	0.55				0.24		0.89
Control Delay		20.5	0.4		16.1	2.9				35.0		53.9
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		20.5	0.4		16.1	2.9				35.0		53.9
Queue Length 50th (ft)		424	0		294	113				87		364
Queue Length 95th (ft)		553	0		366	160				112		418
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		3059	2787		3059	1567				1325		1113
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.66	0.40		0.44	0.56				0.19		0.72

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1069	1164	0	1569	791	450	0	211	0	0	0
Future Volume (vph)	0	1069	1164	0	1569	791	450	0	211	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1102	1200	0	1618	815	464	0	218	0	0	0
v/c Ratio		0.30	0.76		0.35	0.51	0.75		0.32			
Control Delay		4.5	16.8		7.1	1.2	61.4		7.0			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.5	16.8		7.1	1.2	61.4		7.0			
Queue Length 50th (ft)		72	615		147	0	200		0			
Queue Length 95th (ft)		78	671		165	0	261		38			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3717	1574		4684	1583	684		729			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.30	0.76		0.35	0.51	0.68		0.30			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	468	0	0	746	562	736
Future Volume (vph)	0	468	0	0	746	562	736
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	514	0	0	820	618	809
v/c Ratio		0.23			0.26	0.73	0.79
Control Delay		8.6			8.6	35.9	19.6
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		8.6			8.6	35.9	19.6
Queue Length 50th (ft)		61			68	167	111
Queue Length 95th (ft)		107			112	200	168
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2202			3165	1422	1413
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.23			0.26	0.43	0.57

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1357	1194	0	857	800	0	0	0	25	0	539
Future Volume (vph)	0	1357	1194	0	857	800	0	0	0	25	0	539
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1399	1231	0	884	825	0	0	0	26	0	556
v/c Ratio		0.49	0.78		0.31	0.30				0.06		0.89
Control Delay		6.5	16.3		2.7	0.4				59.1		43.9
Queue Delay		0.5	0.0		0.0	0.0				0.0		0.0
Total Delay		7.0	16.3		2.7	0.4				59.1		44.0
Queue Length 50th (ft)		194	827		60	5				12		138
Queue Length 95th (ft)		253	901		97	7				26		205
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2873	1583		2873	2787				920		991
Starvation Cap Reductn		919	0		0	0				0		0
Spillback Cap Reductn		0	0		212	0				0		20
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.72	0.78		0.33	0.30				0.03		0.57

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	397	985	0	1057	143	593	0	636	0	0	0
Future Volume (vph)	0	397	985	0	1057	143	593	0	636	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	405	1005	0	1079	146	605	0	649	0	0	0
v/c Ratio		0.16	0.63		0.24	0.09	0.84		0.64			
Control Delay		10.0	5.7		8.8	0.1	71.0		11.8			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		10.0	5.7		8.8	0.1	71.0		11.8			
Queue Length 50th (ft)		88	524		106	0	316		50			
Queue Length 95th (ft)		105	527		145	0	364		114			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2502	1583		4532	1583	1714		1665			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.16	0.63		0.24	0.09	0.35		0.39			

Intersection Summary

Area Type: Other

Michael Baker
INTERNATIONAL

Near Term Year 2021
Without Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1046	418	0	1658	524	0	0	0	754	0	1613
Future Volume (vph)	0	1046	418	0	1658	524	0	0	0	754	0	1613
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1113	445	0	1764	557	0	0	0	802	0	1716
v/c Ratio		0.58	0.16		0.91	0.35				0.45		1.17
Control Delay		31.1	0.1		46.3	0.6				19.1		112.3
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		31.1	0.1		46.3	0.6				19.1		112.3
Queue Length 50th (ft)		247	0		505	0				193		~894
Queue Length 95th (ft)		295	0		565	4				243		#1047
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		1928	2787		1928	1583				1782		1466
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.58	0.16		0.91	0.35				0.45		1.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

22: I-805 NB Off Ramp/I-805 NB On Ramp & La Jolla Village Dr/Miramar Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1090	708	0	1311	566	874	0	310	0	0	0
Future Volume (vph)	0	1090	708	0	1311	566	874	0	310	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1147	745	0	1380	596	920	0	326	0	0	0
v/c Ratio		0.40	0.47		0.38	0.38	0.79		0.33			
Control Delay		13.2	2.3		15.9	0.7	41.0		24.3			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		13.2	2.3		15.9	0.7	41.0		24.3			
Queue Length 50th (ft)		144	55		165	0	330		87			
Queue Length 95th (ft)		216	139		227	0	361		115			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2850	1579		3591	1583	1582		1313			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.40	0.47		0.38	0.38	0.58		0.25			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	304	0	0	592	927	883
Future Volume (vph)	0	304	0	0	592	927	883
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	317	0	0	617	966	920
v/c Ratio		0.18			0.24	0.77	0.65
Control Delay		9.7			13.9	29.0	8.6
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		9.7			13.9	29.0	8.6
Queue Length 50th (ft)		27			69	243	65
Queue Length 95th (ft)		39			109	273	114
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1778			2556	1727	1714
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.18			0.24	0.56	0.54

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	517	535	0	558	872	0	0	0	139	0	1108
Future Volume (vph)	0	517	535	0	558	872	0	0	0	139	0	1108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	581	601	0	627	980	0	0	0	156	0	1245
v/c Ratio		0.43	0.38		0.47	0.35				0.08		0.79
Control Delay		35.6	4.1		33.1	0.8				14.8		27.4
Queue Delay		0.7	0.0		0.1	0.0				0.0		49.1
Total Delay		36.4	4.1		33.2	0.8				14.8		76.6
Queue Length 50th (ft)		303	98		168	15				36		494
Queue Length 95th (ft)		371	197		322	26				43		471
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1345	1583		1345	2787				2158		1795
Starvation Cap Reductn		431	0		0	0				0		0
Spillback Cap Reductn		0	0		60	0				0		676
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.64	0.38		0.49	0.35				0.07		1.11

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	194	419	0	1203	114	420	0	614	0	0	0
Future Volume (vph)	0	194	419	0	1203	114	420	0	614	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	204	441	0	1266	120	442	0	646	0	0	0
v/c Ratio		0.08	0.28		0.26	0.08	0.82		0.66			
Control Delay		2.9	3.1		6.0	0.1	73.6		7.1			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		2.9	3.1		6.0	0.1	73.6		7.1			
Queue Length 50th (ft)		22	78		97	0	218		0			
Queue Length 95th (ft)		7	112		133	0	267		56			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2672	1583		4839	1583	1531		1600			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.08	0.28		0.26	0.08	0.29		0.40			

Intersection Summary

Area Type: Other

21: I-805 SB On Ramp/I-805 SB Off Ramp & La Jolla Village Dr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1905	1086	0	1267	814	0	0	0	218	0	790
Future Volume (vph)	0	1905	1086	0	1267	814	0	0	0	218	0	790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2027	1155	0	1348	866	0	0	0	232	0	840
v/c Ratio		0.68	0.41		0.45	0.55				0.21		0.90
Control Delay		21.7	0.5		17.4	2.8				33.4		53.7
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		21.7	0.5		17.4	2.8				33.4		53.7
Queue Length 50th (ft)		439	0		303	106				77		381
Queue Length 95th (ft)		568	0		375	150				101		436
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2998	2787		2998	1560				1325		1113
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.68	0.41		0.45	0.56				0.18		0.75

Intersection Summary

Area Type: Other

22: I-805 NB Off Ramp/I-805 NB On Ramp & La Jolla Village Dr/Miramar Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1001	1216	0	1544	806	470	0	148	0	0	0
Future Volume (vph)	0	1001	1216	0	1544	806	470	0	148	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1032	1254	0	1592	831	485	0	153	0	0	0
v/c Ratio		0.28	0.79		0.34	0.52	0.76		0.24			
Control Delay		4.6	20.3		7.3	1.2	61.2		7.7			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.6	20.3		7.3	1.2	61.2		7.7			
Queue Length 50th (ft)		64	752		143	0	211		0			
Queue Length 95th (ft)		71	715		160	0	274		32			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3684	1566		4643	1583	679		674			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.28	0.80		0.34	0.52	0.71		0.23			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	480	0	0	671	595	590
Future Volume (vph)	0	480	0	0	671	595	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	527	0	0	737	654	648
v/c Ratio		0.24			0.24	0.75	0.64
Control Delay		8.9			8.6	36.3	13.0
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		8.9			8.6	36.3	13.0
Queue Length 50th (ft)		65			62	176	63
Queue Length 95th (ft)		110			99	214	113
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2179			3131	1460	1420
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.24			0.24	0.45	0.46

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1393	1227	0	842	836	0	0	0	26	0	550
Future Volume (vph)	0	1393	1227	0	842	836	0	0	0	26	0	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1436	1265	0	868	862	0	0	0	27	0	567
v/c Ratio		0.50	0.80		0.30	0.31				0.06		0.89
Control Delay		6.7	17.2		2.8	0.5				58.7		44.1
Queue Delay		0.6	0.0		0.0	0.0				0.0		0.1
Total Delay		7.3	17.2		2.8	0.5				58.7		44.1
Queue Length 50th (ft)		208	855		61	7				12		142
Queue Length 95th (ft)		253	901		98	10				27		210
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2864	1583		2864	2787				941		1010
Starvation Cap Reductn		929	0		0	0				0		0
Spillback Cap Reductn		0	0		232	0				0		22
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.74	0.80		0.33	0.31				0.03		0.57

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	400	1018	0	1082	149	587	0	664	0	0	0
Future Volume (vph)	0	400	1018	0	1082	149	587	0	664	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	408	1039	0	1104	152	599	0	678	0	0	0
v/c Ratio		0.16	0.66		0.24	0.10	0.84		0.67			
Control Delay		9.8	6.1		8.7	0.1	71.2		14.3			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		9.8	6.1		8.7	0.1	71.2		14.3			
Queue Length 50th (ft)		86	530		109	0	313		68			
Queue Length 95th (ft)		97	529		148	0	361		138			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2510	1583		4544	1583	1714		1663			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.16	0.66		0.24	0.10	0.35		0.41			

Intersection Summary

Area Type: Other

Michael Baker
INTERNATIONAL

Near Term Year 2021
With Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1056	418	0	1695	561	0	0	0	758	0	1613
Future Volume (vph)	0	1056	418	0	1695	561	0	0	0	758	0	1613
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1123	445	0	1803	597	0	0	0	806	0	1716
v/c Ratio		0.58	0.16		0.94	0.38				0.46		1.17
Control Delay		31.2	0.1		47.6	0.8				19.8		112.3
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		31.2	0.1		47.6	0.8				19.8		112.3
Queue Length 50th (ft)		251	0		518	1				198		~894
Queue Length 95th (ft)		299	0		#600	10				250		#1047
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		1928	2787		1928	1583				1753		1466
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.58	0.16		0.94	0.38				0.46		1.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1104	708	0	1384	581	874	0	320	0	0	0
Future Volume (vph)	0	1104	708	0	1384	581	874	0	320	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1162	745	0	1457	612	920	0	337	0	0	0
v/c Ratio		0.41	0.47		0.41	0.39	0.79		0.34			
Control Delay		13.5	2.3		16.2	0.7	40.8		24.8			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		13.5	2.3		16.2	0.7	40.8		24.8			
Queue Length 50th (ft)		149	52		178	0	330		92			
Queue Length 95th (ft)		222	140		243	0	361		119			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2844	1579		3584	1583	1582		1312			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.41	0.47		0.41	0.39	0.58		0.26			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	306	0	0	694	927	908
Future Volume (vph)	0	306	0	0	694	927	908
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	319	0	0	723	966	946
v/c Ratio		0.18			0.28	0.77	0.67
Control Delay		9.7			14.3	29.0	9.4
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		9.7			14.3	29.0	9.4
Queue Length 50th (ft)		27			83	243	75
Queue Length 95th (ft)		39			128	273	125
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1778			2556	1727	1712
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.18			0.28	0.56	0.55

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	524	550	0	564	872	0	0	0	139	0	1108
Future Volume (vph)	0	524	550	0	564	872	0	0	0	139	0	1108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	589	618	0	634	980	0	0	0	156	0	1245
v/c Ratio		0.44	0.39		0.47	0.35				0.08		0.79
Control Delay		35.4	4.4		33.7	0.8				14.7		27.5
Queue Delay		0.7	0.0		0.0	0.0				0.0		49.1
Total Delay		36.1	4.4		33.8	0.8				14.7		76.6
Queue Length 50th (ft)		307	107		172	15				36		495
Queue Length 95th (ft)		367	206		331	26				43		473
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1342	1583		1342	2787				2158		1794
Starvation Cap Reductn		424	0		0	0				0		0
Spillback Cap Reductn		0	0		57	0				0		676
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.64	0.39		0.49	0.35				0.07		1.11

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	201	419	0	1205	114	424	0	614	0	0	0
Future Volume (vph)	0	201	419	0	1205	114	424	0	614	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	212	441	0	1268	120	446	0	646	0	0	0
v/c Ratio		0.08	0.28		0.26	0.08	0.82		0.66			
Control Delay		3.0	3.1		6.2	0.1	73.4		7.0			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		3.0	3.1		6.2	0.1	73.4		7.0			
Queue Length 50th (ft)		23	76		99	0	220		0			
Queue Length 95th (ft)		7	107		135	0	269		56			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2665	1583		4822	1583	1528		1599			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.08	0.28		0.26	0.08	0.29		0.40			

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1945	1086	0	1285	832	0	0	0	234	0	790
Future Volume (vph)	0	1945	1086	0	1285	832	0	0	0	234	0	790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2069	1155	0	1367	885	0	0	0	249	0	840
v/c Ratio		0.69	0.41		0.46	0.56				0.22		0.90
Control Delay		22.2	0.5		17.4	3.0				33.5		53.8
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		22.2	0.5		17.4	3.0				33.5		53.8
Queue Length 50th (ft)		455	0		308	113				83		382
Queue Length 95th (ft)		587	0		382	162				107		438
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2993	2787		2993	1560				1325		1111
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.69	0.41		0.46	0.57				0.19		0.76

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1057	1216	0	1580	813	470	0	188	0	0	0
Future Volume (vph)	0	1057	1216	0	1580	813	470	0	188	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1090	1254	0	1629	838	485	0	194	0	0	0
v/c Ratio		0.30	0.79		0.35	0.53	0.76		0.29			
Control Delay		4.6	19.7		7.4	1.3	61.2		7.1			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.6	19.7		7.4	1.3	61.2		7.1			
Queue Length 50th (ft)		69	736		147	0	211		0			
Queue Length 95th (ft)		76	692		165	0	274		36			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3684	1566		4643	1583	679		706			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.30	0.80		0.35	0.53	0.71		0.27			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	488	0	0	721	595	693
Future Volume (vph)	0	488	0	0	721	595	693
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	536	0	0	792	654	762
v/c Ratio		0.25			0.25	0.75	0.76
Control Delay		9.0			8.8	36.0	19.0
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		9.0			8.8	36.0	19.0
Queue Length 50th (ft)		66			68	176	107
Queue Length 95th (ft)		111			107	214	164
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2173			3123	1460	1414
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.25			0.25	0.45	0.54

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1397	1234	0	866	836	0	0	0	26	0	550
Future Volume (vph)	0	1397	1234	0	866	836	0	0	0	26	0	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1440	1272	0	893	862	0	0	0	27	0	567
v/c Ratio		0.51	0.80		0.31	0.31				0.06		0.89
Control Delay		7.0	17.5		3.0	0.5				57.8		45.7
Queue Delay		0.6	0.0		0.0	0.0				0.0		0.1
Total Delay		7.6	17.5		3.0	0.5				57.8		45.8
Queue Length 50th (ft)		214	863		65	6				12		152
Queue Length 95th (ft)		254	1334		103	9				27		220
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2840	1583		2840	2787				941		998
Starvation Cap Reductn		913	0		0	0				0		0
Spillback Cap Reductn		0	0		249	0				0		22
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.75	0.80		0.34	0.31				0.03		0.58

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	404	1018	0	1090	149	603	0	664	0	0	0
Future Volume (vph)	0	404	1018	0	1090	149	603	0	664	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	412	1039	0	1112	152	615	0	678	0	0	0
v/c Ratio		0.17	0.66		0.25	0.10	0.84		0.67			
Control Delay		10.1	6.0		9.0	0.1	70.7		14.5			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		10.1	6.0		9.0	0.1	70.7		14.5			
Queue Length 50th (ft)		91	527		112	0	321		72			
Queue Length 95th (ft)		101	528		152	0	369		141			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2491	1583		4512	1583	1714		1659			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.17	0.66		0.25	0.10	0.36		0.41			

Intersection Summary

Area Type: Other

Michael Baker
INTERNATIONAL

Near Term Year 2025
Without Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1102	437	0	1768	583	0	0	0	792	0	1685
Future Volume (vph)	0	1102	437	0	1768	583	0	0	0	792	0	1685
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1172	465	0	1881	620	0	0	0	843	0	1793
v/c Ratio		0.61	0.17		0.98	0.39				0.47		1.22
Control Delay		31.7	0.1		52.6	0.8				19.5		134.4
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		31.7	0.1		52.6	0.8				19.5		134.4
Queue Length 50th (ft)		265	0		547	1				206		~966
Queue Length 95th (ft)		314	0		#647	10				259		#1119
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		1928	2787		1928	1583				1782		1466
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.61	0.17		0.98	0.39				0.47		1.22

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1151	740	0	1441	605	913	0	333	0	0	0
Future Volume (vph)	0	1151	740	0	1441	605	913	0	333	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1212	779	0	1517	637	961	0	351	0	0	0
v/c Ratio		0.44	0.49		0.43	0.40	0.80		0.35			
Control Delay		15.0	2.5		17.4	0.8	40.1		24.6			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		15.0	2.5		17.4	0.8	40.1		24.6			
Queue Length 50th (ft)		166	52		195	0	341		96			
Queue Length 95th (ft)		239	161		260	0	376		125			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2780	1573		3504	1583	1553		1287			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.44	0.50		0.43	0.40	0.62		0.27			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	324	0	0	728	982	960
Future Volume (vph)	0	324	0	0	728	982	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	338	0	0	758	1023	1000
v/c Ratio		0.20			0.31	0.77	0.70
Control Delay		10.5			15.5	27.9	11.2
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		10.5			15.5	27.9	11.2
Queue Length 50th (ft)		30			92	255	105
Queue Length 95th (ft)		43			140	282	153
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1708			2455	1727	1691
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.20			0.31	0.59	0.59

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	547	573	0	589	911	0	0	0	145	0	1157
Future Volume (vph)	0	547	573	0	589	911	0	0	0	145	0	1157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	615	644	0	662	1024	0	0	0	163	0	1300
v/c Ratio		0.48	0.41		0.52	0.37				0.08		0.80
Control Delay		35.4	5.0		37.0	0.8				13.8		27.3
Queue Delay		0.8	0.0		0.1	0.0				0.0		49.2
Total Delay		36.2	5.0		37.0	0.8				13.8		76.5
Queue Length 50th (ft)		324	216		185	19				35		506
Queue Length 95th (ft)		286	224		361	30				45		519
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1280	1583		1280	2787				2158		1789
Starvation Cap Reductn		363	0		0	0				0		0
Spillback Cap Reductn		0	0		43	0				0		721
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.67	0.41		0.54	0.37				0.08		1.22

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	210	438	0	1259	119	443	0	641	0	0	0
Future Volume (vph)	0	210	438	0	1259	119	443	0	641	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	461	0	1325	125	466	0	675	0	0	0
v/c Ratio		0.08	0.29		0.28	0.08	0.82		0.66			
Control Delay		2.4	3.3		6.5	0.1	72.7		6.8			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		2.4	3.3		6.5	0.1	72.7		6.8			
Queue Length 50th (ft)		6	83		107	0	230		0			
Queue Length 95th (ft)		8	114		146	0	279		56			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2645	1583		4790	1583	1531		1616			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.08	0.29		0.28	0.08	0.30		0.42			

Intersection Summary

Area Type: Other

21: I-805 SB On Ramp/I-805 SB Off Ramp & La Jolla Village Dr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2029	1134	0	1341	868	0	0	0	244	0	825
Future Volume (vph)	0	2029	1134	0	1341	868	0	0	0	244	0	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2159	1206	0	1427	923	0	0	0	260	0	878
v/c Ratio		0.74	0.43		0.49	0.58				0.23		0.91
Control Delay		24.5	0.5		18.8	3.3				32.4		54.6
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		24.5	0.5		18.8	3.3				32.4		54.6
Queue Length 50th (ft)		509	0		333	126				85		404
Queue Length 95th (ft)		636	0		404	177				111		467
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2925	2787		2925	1570				1335		1113
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.74	0.43		0.49	0.59				0.19		0.79

Intersection Summary

Area Type: Other

22: I-805 NB Off Ramp/I-805 NB On Ramp & La Jolla Village Dr/Miramar Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1101	1270	0	1648	849	491	0	194	0	0	0
Future Volume (vph)	0	1101	1270	0	1648	849	491	0	194	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1135	1309	0	1699	875	506	0	200	0	0	0
v/c Ratio		0.31	0.83		0.37	0.55	0.77		0.29			
Control Delay		5.0	22.3		7.7	1.4	61.8		7.0			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		5.0	22.3		7.7	1.4	61.8		7.0			
Queue Length 50th (ft)		72	743		156	0	222		0			
Queue Length 95th (ft)		93	745		175	0	287		36			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3667	1577		4620	1583	679		711			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.31	0.83		0.37	0.55	0.75		0.28			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	516	0	0	760	630	727
Future Volume (vph)	0	516	0	0	760	630	727
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	567	0	0	835	692	799
v/c Ratio		0.27			0.27	0.74	0.78
Control Delay		9.9			9.7	34.5	21.5
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		9.9			9.7	34.5	21.5
Queue Length 50th (ft)		73			75	186	132
Queue Length 95th (ft)		127			122	217	184
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2114			3038	1460	1393
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.27			0.27	0.47	0.57

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1459	1289	0	903	873	0	0	0	27	0	574
Future Volume (vph)	0	1459	1289	0	903	873	0	0	0	27	0	574
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1504	1329	0	931	900	0	0	0	28	0	592
v/c Ratio		0.54	0.84		0.34	0.32				0.06		0.89
Control Delay		7.9	19.6		3.5	0.5				55.3		49.1
Queue Delay		0.8	0.0		0.0	0.0				0.0		0.1
Total Delay		8.8	19.6		3.6	0.5				55.3		49.2
Queue Length 50th (ft)		248	919		76	8				13		183
Queue Length 95th (ft)		258	1365		118	9				27		250
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2774	1583		2774	2787				941		980
Starvation Cap Reductn		870	0		0	0				0		0
Spillback Cap Reductn		0	0		311	0				0		25
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.79	0.84		0.38	0.32				0.03		0.62

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	422	1063	0	1138	156	629	0	694	0	0	0
Future Volume (vph)	0	422	1063	0	1138	156	629	0	694	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	431	1085	0	1161	159	642	0	708	0	0	0
v/c Ratio		0.18	0.69		0.26	0.10	0.83		0.70			
Control Delay		10.6	6.6		9.8	0.1	69.0		19.9			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		10.6	6.6		9.8	0.1	69.0		19.9			
Queue Length 50th (ft)		102	531		122	0	334		118			
Queue Length 95th (ft)		111	703		167	0	379		186			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2455	1583		4445	1583	1735		1652			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.18	0.69		0.26	0.10	0.37		0.43			

Intersection Summary

Area Type: Other

Michael Baker
INTERNATIONAL

Near Term Year 2025
With Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1137	438	0	1808	593	0	0	0	791	0	1661
Future Volume (vph)	0	1137	438	0	1808	593	0	0	0	791	0	1661
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1210	466	0	1923	631	0	0	0	841	0	1767
v/c Ratio		0.63	0.17		1.00	0.40				0.49		1.21
Control Delay		32.1	0.1		57.5	0.9				21.2		130.2
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		32.1	0.1		57.5	0.9				21.2		130.2
Queue Length 50th (ft)		276	0		562	2				215		~946
Queue Length 95th (ft)		327	0		#672	11				270		#1098
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		1928	2787		1928	1583				1713		1457
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.63	0.17		1.00	0.40				0.49		1.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1200	743	0	1469	604	892	0	333	0	0	0
Future Volume (vph)	0	1200	743	0	1469	604	892	0	333	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1263	782	0	1546	636	939	0	351	0	0	0
v/c Ratio		0.45	0.49		0.44	0.40	0.81		0.36			
Control Delay		15.4	2.4		17.0	0.8	42.2		25.9			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		15.4	2.4		17.0	0.8	42.2		25.9			
Queue Length 50th (ft)		180	48		197	0	339		100			
Queue Length 95th (ft)		255	173		263	0	375		128			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2815	1575		3548	1583	1524		1283			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.45	0.50		0.44	0.40	0.62		0.27			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	334	0	0	768	1022	1027
Future Volume (vph)	0	334	0	0	768	1022	1027
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	348	0	0	800	1065	1070
v/c Ratio		0.21			0.34	0.77	0.74
Control Delay		11.1			16.5	27.2	13.0
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		11.1			16.5	27.2	13.0
Queue Length 50th (ft)		31			101	264	135
Queue Length 95th (ft)		44			153	290	184
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1659			2384	1727	1680
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.21			0.34	0.62	0.64

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	600	627	0	646	912	0	0	0	142	0	1149
Future Volume (vph)	0	600	627	0	646	912	0	0	0	142	0	1149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	674	704	0	726	1025	0	0	0	160	0	1291
v/c Ratio		0.54	0.44		0.59	0.37				0.08		0.79
Control Delay		36.2	6.1		42.4	0.8				13.0		26.2
Queue Delay		0.7	0.0		0.1	0.0				0.0		49.0
Total Delay		36.9	6.1		42.5	0.8				13.0		75.2
Queue Length 50th (ft)		362	212		270	19				29		442
Queue Length 95th (ft)		273	254		428	21				44		525
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1238	1583		1238	2787				2158		1779
Starvation Cap Reductn		257	0		0	0				0		0
Spillback Cap Reductn		0	0		44	0				0		657
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.69	0.44		0.61	0.37				0.07		1.15

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	220	476	0	1258	118	486	0	637	0	0	0
Future Volume (vph)	0	220	476	0	1258	118	486	0	637	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	232	501	0	1324	124	512	0	671	0	0	0
v/c Ratio		0.09	0.32		0.28	0.08	0.83		0.64			
Control Delay		2.6	4.1		7.2	0.1	71.1		6.3			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		2.6	4.1		7.2	0.1	71.1		6.3			
Queue Length 50th (ft)		5	105		114	0	252		0			
Queue Length 95th (ft)		18	135		155	0	301		55			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2593	1583		4696	1583	1531		1614			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.09	0.32		0.28	0.08	0.33		0.42			

Intersection Summary

Area Type: Other

21: I-805 SB On Ramp/I-805 SB Off Ramp & La Jolla Village Dr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2078	1138	0	1381	882	0	0	0	255	0	813
Future Volume (vph)	0	2078	1138	0	1381	882	0	0	0	255	0	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2211	1211	0	1469	938	0	0	0	271	0	865
v/c Ratio		0.75	0.43		0.50	0.59				0.24		0.90
Control Delay		24.8	0.5		18.7	3.5				32.8		54.6
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		24.8	0.5		18.7	3.5				32.8		54.6
Queue Length 50th (ft)		527	0		341	130				89		400
Queue Length 95th (ft)		663	0		416	188				115		460
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2937	2787		2937	1572				1335		1110
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.75	0.43		0.50	0.60				0.20		0.78

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1162	1277	0	1677	850	480	0	191	0	0	0
Future Volume (vph)	0	1162	1277	0	1677	850	480	0	191	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1198	1316	0	1729	876	495	0	197	0	0	0
v/c Ratio		0.33	0.83		0.37	0.55	0.79		0.29			
Control Delay		5.2	22.0		7.7	1.4	63.4		7.1			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		5.2	22.0		7.7	1.4	63.4		7.1			
Queue Length 50th (ft)		76	733		160	0	219		0			
Queue Length 95th (ft)		106	752		178	0	282		36			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3664	1577		4618	1583	654		709			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.33	0.83		0.37	0.55	0.76		0.28			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	532	0	0	816	656	773
Future Volume (vph)	0	532	0	0	816	656	773
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	585	0	0	897	721	849
v/c Ratio		0.28			0.30	0.73	0.81
Control Delay		10.9			10.7	32.9	23.5
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		10.9			10.7	32.9	23.5
Queue Length 50th (ft)		80			86	191	156
Queue Length 95th (ft)		140			141	217	204
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2058			2957	1460	1382
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.28			0.30	0.49	0.61

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1509	1343	0	995	875	0	0	0	27	0	594
Future Volume (vph)	0	1509	1343	0	995	875	0	0	0	27	0	594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1556	1385	0	1026	902	0	0	0	28	0	612
v/c Ratio		0.58	0.87		0.38	0.32				0.05		0.89
Control Delay		9.0	21.7		4.3	0.5				51.7		54.5
Queue Delay		1.0	0.0		0.1	0.0				0.0		0.2
Total Delay		10.0	21.7		4.4	0.5				51.7		54.6
Queue Length 50th (ft)		260	936		95	5				12		227
Queue Length 95th (ft)		264	1390		140	1				26		292
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2680	1583		2680	2787				941		941
Starvation Cap Reductn		780	0		0	0				0		0
Spillback Cap Reductn		0	0		540	0				0		37
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.82	0.87		0.48	0.32				0.03		0.68

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	432	1092	0	1142	154	701	0	689	0	0	0
Future Volume (vph)	0	432	1092	0	1142	154	701	0	689	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	441	1114	0	1165	157	715	0	703	0	0	0
v/c Ratio		0.19	0.70		0.27	0.10	0.84		0.67			
Control Delay		11.6	7.3		11.4	0.1	66.1		19.1			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		11.6	7.3		11.4	0.1	66.1		19.1			
Queue Length 50th (ft)		112	525		134	0	369		121			
Queue Length 95th (ft)		126	700		182	0	412		184			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2369	1583		4290	1583	1735		1644			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.19	0.70		0.27	0.10	0.41		0.43			

Intersection Summary

Area Type: Other

Michael Baker
INTERNATIONAL

Horizon Year 2050
Without Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1214	485	0	1880	594	0	0	0	838	0	1793
Future Volume (vph)	0	1214	485	0	1880	594	0	0	0	838	0	1793
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1278	511	0	1979	625	0	0	0	882	0	1887
v/c Ratio		0.62	0.18		0.96	0.39				0.52		1.35
Control Delay		30.1	0.1		39.4	0.8				22.0		190.3
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		30.1	0.1		39.4	0.8				22.0		190.3
Queue Length 50th (ft)		284	0		570	0				232		~1085
Queue Length 95th (ft)		334	0		#666	6				289		#1237
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2055	2787		2055	1583				1696		1397
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.62	0.18		0.96	0.39				0.52		1.35

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1236	792	0	1537	664	858	0	304	0	0	0
Future Volume (vph)	0	1236	792	0	1537	664	858	0	304	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1301	834	0	1618	699	903	0	320	0	0	0
v/c Ratio		0.45	0.53		0.44	0.44	0.80		0.34			
Control Delay		13.7	2.7		16.0	0.9	42.2		25.7			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		13.7	2.7		16.0	0.9	42.2		25.7			
Queue Length 50th (ft)		150	63		198	0	327		89			
Queue Length 95th (ft)		182	83		268	0	363		118			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2897	1570		3651	1583	1438		1196			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.45	0.53		0.44	0.44	0.63		0.27			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	384	0	0	744	1080	1029
Future Volume (vph)	0	384	0	0	744	1080	1029
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	404	0	0	783	1137	1083
v/c Ratio		0.25			0.34	0.79	0.75
Control Delay		11.5			17.5	26.8	14.8
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		11.5			17.5	26.8	14.8
Queue Length 50th (ft)		35			103	278	160
Queue Length 95th (ft)		47			152	312	213
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1595			2293	1689	1614
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.25			0.34	0.67	0.67

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	580	605	0	667	1041	0	0	0	150	0	1200
Future Volume (vph)	0	580	605	0	667	1041	0	0	0	150	0	1200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	611	637	0	702	1096	0	0	0	158	0	1263
v/c Ratio		0.45	0.40		0.51	0.39				0.08		0.81
Control Delay		29.0	5.6		40.0	0.9				15.3		29.5
Queue Delay		0.5	0.0		0.0	0.0				0.0		50.8
Total Delay		29.5	5.6		40.0	0.9				15.3		80.4
Queue Length 50th (ft)		317	168		226	23				36		515
Queue Length 95th (ft)		339	218		405	34				47		532
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1364	1583		1364	2787				2089		1736
Starvation Cap Reductn		349	0		0	0				0		0
Spillback Cap Reductn		0	0		25	0				0		961
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.60	0.40		0.52	0.39				0.08		1.63

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	232	500	0	1408	133	490	0	716	0	0	0
Future Volume (vph)	0	232	500	0	1408	133	490	0	716	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	244	526	0	1482	140	516	0	754	0	0	0
v/c Ratio		0.09	0.33		0.32	0.09	0.83		0.67			
Control Delay		4.9	5.3		7.6	0.1	71.1		6.4			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.9	5.3		7.6	0.1	71.1		6.4			
Queue Length 50th (ft)		47	142		132	0	254		0			
Queue Length 95th (ft)		42	378		179	0	303		56			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2589	1583		4689	1583	1508		1647			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.09	0.33		0.32	0.09	0.34		0.46			

Intersection Summary

Area Type: Other

21: I-805 SB On Ramp/I-805 SB Off Ramp & La Jolla Village Dr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2212	1260	0	1437	923	0	0	0	242	0	877
Future Volume (vph)	0	2212	1260	0	1437	923	0	0	0	242	0	877
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2328	1326	0	1513	972	0	0	0	255	0	923
v/c Ratio		0.80	0.48		0.52	0.61				0.21		0.93
Control Delay		17.8	0.1		22.0	3.6				34.2		60.1
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		17.8	0.1		22.0	3.6				34.2		60.1
Queue Length 50th (ft)		409	0		389	146				89		469
Queue Length 95th (ft)		m330	m0		453	203				119		552
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2903	2787		2903	1561				1311		1090
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.80	0.48		0.52	0.62				0.19		0.85

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1135	1364	0	1811	945	462	0	145	0	0	0
Future Volume (vph)	0	1135	1364	0	1811	945	462	0	145	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1170	1406	0	1867	974	476	0	149	0	0	0
v/c Ratio		0.31	0.89		0.39	0.62	0.82		0.25			
Control Delay		5.5	27.7		7.0	1.8	72.2		8.7			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		5.5	27.7		7.0	1.8	72.2		8.7			
Queue Length 50th (ft)		87	898		168	0	234		0			
Queue Length 95th (ft)		104	872		185	0	#302		35			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3806	1583		4797	1583	583		597			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.31	0.89		0.39	0.62	0.82		0.25			

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	607	0	0	843	693	687
Future Volume (vph)	0	607	0	0	843	693	687
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	639	0	0	887	729	723
v/c Ratio		0.31			0.30	0.76	0.73
Control Delay		11.5			10.1	34.7	21.3
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		11.5			10.1	34.7	21.3
Queue Length 50th (ft)		87			83	195	126
Queue Length 95th (ft)		168			131	230	176
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2089			3002	1460	1352
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.31			0.30	0.50	0.53

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1562	1381	0	1006	999	0	0	0	29	0	596
Future Volume (vph)	0	1562	1381	0	1006	999	0	0	0	29	0	596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1610	1424	0	1037	1030	0	0	0	30	0	614
v/c Ratio		0.60	0.90		0.39	0.37				0.05		0.89
Control Delay		9.8	21.7		4.8	0.7				51.2		55.1
Queue Delay		2.4	0.0		0.2	0.0				0.0		0.2
Total Delay		12.2	21.7		4.9	0.7				51.2		55.3
Queue Length 50th (ft)		268	906		105	15				13		234
Queue Length 95th (ft)		285	1392		154	6				27		297
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2664	1583		2664	2787				963		950
Starvation Cap Reductn		886	0		0	0				0		0
Spillback Cap Reductn		0	0		665	0				0		43
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.91	0.90		0.52	0.37				0.03		0.68

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	477	1216	0	1267	174	684	0	774	0	0	0
Future Volume (vph)	0	477	1216	0	1267	174	684	0	774	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	487	1241	0	1293	178	698	0	790	0	0	0
v/c Ratio		0.20	0.78		0.30	0.11	0.84		0.80			
Control Delay		11.4	11.0		11.3	0.1	66.8		32.6			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		11.4	11.0		11.3	0.1	66.8		32.6			
Queue Length 50th (ft)		94	535		149	0	361		227			
Queue Length 95th (ft)		142	1237		202	0	404		293			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2389	1583		4326	1583	1735		1612			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.20	0.78		0.30	0.11	0.40		0.49			

Intersection Summary

Area Type: Other

Michael Baker
INTERNATIONAL

Horizon Year 2050
With Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1249	485	0	1939	622	0	0	0	838	0	1793
Future Volume (vph)	0	1249	485	0	1939	622	0	0	0	838	0	1793
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1315	511	0	2041	655	0	0	0	882	0	1887
v/c Ratio		0.64	0.18		0.99	0.41				0.52		1.35
Control Delay		30.5	0.1		45.0	0.9				22.0		190.3
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		30.5	0.1		45.0	0.9				22.0		190.3
Queue Length 50th (ft)		295	0		593	0				232		~1085
Queue Length 95th (ft)		347	0		#690	9				289		#1237
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2055	2787		2055	1583				1696		1397
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.64	0.18		0.99	0.41				0.52		1.35

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1271	792	0	1624	664	858	0	322	0	0	0
Future Volume (vph)	0	1271	792	0	1624	664	858	0	322	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1338	834	0	1709	699	903	0	339	0	0	0
v/c Ratio		0.46	0.53		0.47	0.44	0.80		0.36			
Control Delay		13.6	2.6		16.5	0.9	42.0		26.6			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		13.6	2.6		16.5	0.9	42.0		26.6			
Queue Length 50th (ft)		153	59		217	0	324		97			
Queue Length 95th (ft)		184	77		287	0	363		127			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		2891	1570		3644	1583	1438		1193			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.46	0.53		0.47	0.44	0.63		0.28			

Intersection Summary

Area Type: Other

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	395	0	0	807	1080	1057
Future Volume (vph)	0	395	0	0	807	1080	1057
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	416	0	0	849	1137	1113
v/c Ratio		0.26			0.37	0.79	0.78
Control Delay		11.6			17.8	26.8	16.4
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		11.6			17.8	26.8	16.4
Queue Length 50th (ft)		35			114	278	179
Queue Length 95th (ft)		48			165	312	233
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		1595			2293	1689	1603
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.26			0.37	0.67	0.69

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	592	649	0	704	1041	0	0	0	150	0	1200
Future Volume (vph)	0	592	649	0	704	1041	0	0	0	150	0	1200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	623	683	0	741	1096	0	0	0	158	0	1263
v/c Ratio		0.47	0.43		0.56	0.39				0.09		0.82
Control Delay		20.7	6.8		44.1	0.9				15.8		31.5
Queue Delay		0.5	0.0		1.5	0.0				0.0		49.6
Total Delay		21.2	6.8		45.6	0.9				15.8		81.1
Queue Length 50th (ft)		91	199		257	22				37		531
Queue Length 95th (ft)		92	254		428	14				48		560
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		1322	1583		1322	2787				2050		1696
Starvation Cap Reductn		317	0		0	0				0		0
Spillback Cap Reductn		0	0		376	0				0		745
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.62	0.43		0.78	0.39				0.08		1.33

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	244	500	0	1415	133	520	0	716	0	0	0
Future Volume (vph)	0	244	500	0	1415	133	520	0	716	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			295			898			96	
Travel Time (s)		18.7			4.5			20.4			2.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	526	0	1489	140	547	0	754	0	0	0
v/c Ratio		0.10	0.33		0.32	0.09	0.84		0.66			
Control Delay		4.8	4.2		8.1	0.1	69.9		6.1			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		4.8	4.2		8.1	0.1	69.9		6.1			
Queue Length 50th (ft)		52	210		139	0	269		0			
Queue Length 95th (ft)		55	59		187	0	318		55			
Internal Link Dist (ft)		1152			215			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2554	1583		4625	1583	1508		1647			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.10	0.33		0.32	0.09	0.36		0.46			

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2284	1260	0	1481	945	0	0	0	242	0	877
Future Volume (vph)	0	2284	1260	0	1481	945	0	0	0	242	0	877
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		750	0		0	0		0	460		0
Storage Lanes	0		2	0		1	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2025			1082			1047			1412	
Travel Time (s)		27.6			14.8			23.8			32.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2404	1326	0	1559	995	0	0	0	255	0	923
v/c Ratio		0.83	0.48		0.54	0.63				0.21		0.93
Control Delay		18.4	0.1		22.2	3.9				34.1		60.3
Queue Delay		0.0	0.0		0.0	0.0				0.0		0.0
Total Delay		18.4	0.1		22.2	3.9				34.1		60.3
Queue Length 50th (ft)		479	0		404	189				89		471
Queue Length 95th (ft)		m343	m0		469	252				119		555
Internal Link Dist (ft)		1945			1002			967			1332	
Turn Bay Length (ft)			750							460		
Base Capacity (vph)		2896	2787		2896	1559				1311		1087
Starvation Cap Reductn		0	0		0	0				0		0
Spillback Cap Reductn		0	0		0	0				0		0
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.83	0.48		0.54	0.64				0.19		0.85

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1207	1364	0	1877	945	462	0	179	0	0	0
Future Volume (vph)	0	1207	1364	0	1877	945	462	0	179	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		720	0		500	0		300	0		0
Storage Lanes	0		1	0		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		1082			2031			1329			1532	
Travel Time (s)		14.8			27.7			30.2			34.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1244	1406	0	1935	974	476	0	185	0	0	0
v/c Ratio		0.33	0.89		0.40	0.62	0.82		0.30			
Control Delay		5.6	27.2		7.1	1.8	72.2		8.1			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		5.6	27.2		7.1	1.8	72.2		8.1			
Queue Length 50th (ft)		90	834		177	0	234		0			
Queue Length 95th (ft)		122	728		194	0	#302		39			
Internal Link Dist (ft)		1002			1951			1249			1452	
Turn Bay Length (ft)			720			500			300			
Base Capacity (vph)		3806	1583		4797	1583	583		627			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.33	0.89		0.40	0.62	0.82		0.30			

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	628	0	0	892	693	745
Future Volume (vph)	0	628	0	0	892	693	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		675	0
Storage Lanes	1		0	0		2	2
Taper Length (ft)	25			25		25	
Right Turn on Red			Yes				Yes
Link Speed (mph)		50			50	35	
Link Distance (ft)		796			2473	1101	
Travel Time (s)		10.9			33.7	21.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	661	0	0	939	729	784
v/c Ratio		0.32			0.32	0.74	0.79
Control Delay		12.8			10.7	33.5	24.8
Queue Delay		0.0			0.0	0.0	0.0
Total Delay		12.8			10.7	33.5	24.8
Queue Length 50th (ft)		93			91	193	155
Queue Length 95th (ft)		200			145	223	202
Internal Link Dist (ft)		716			2393	1021	
Turn Bay Length (ft)						675	
Base Capacity (vph)		2064			2966	1460	1341
Starvation Cap Reductn		0			0	0	0
Spillback Cap Reductn		0			0	0	0
Storage Cap Reductn		0			0	0	0
Reduced v/c Ratio		0.32			0.32	0.50	0.58

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1571	1417	0	1076	999	0	0	0	29	0	596
Future Volume (vph)	0	1571	1417	0	1076	999	0	0	0	29	0	596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		0
Storage Lanes	0		1	0		2	0		0	2		2
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		323			1232			170			300	
Travel Time (s)		4.9			18.7			3.9			6.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1620	1461	0	1109	1030	0	0	0	30	0	614
v/c Ratio		0.62	0.92		0.42	0.37				0.05		0.89
Control Delay		10.3	24.2		5.1	0.6				49.9		57.8
Queue Delay		2.9	0.0		0.3	0.0				0.0		0.2
Total Delay		13.2	24.2		5.4	0.6				49.9		58.0
Queue Length 50th (ft)		268	1360		116	12				13		252
Queue Length 95th (ft)		285	#667		167	12				27		314
Internal Link Dist (ft)		243			1152			90			220	
Turn Bay Length (ft)												
Base Capacity (vph)		2626	1583		2626	2787				963		926
Starvation Cap Reductn		866	0		0	0				0		0
Spillback Cap Reductn		0	0		747	0				0		42
Storage Cap Reductn		0	0		0	0				0		0
Reduced v/c Ratio		0.92	0.92		0.59	0.37				0.03		0.69

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	486	1216	0	1282	174	739	0	774	0	0	0
Future Volume (vph)	0	486	1216	0	1282	174	739	0	774	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		220	0		0	0		0
Storage Lanes	0		1	0		1	2		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1232			669			898			96	
Travel Time (s)		18.7			10.1			20.4			2.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	496	1241	0	1308	178	754	0	790	0	0	0
v/c Ratio		0.21	0.78		0.31	0.11	0.86		0.77			
Control Delay		12.5	11.2		12.7	0.1	66.6		30.9			
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0			
Total Delay		12.5	11.2		12.7	0.1	66.6		30.9			
Queue Length 50th (ft)		106	152		162	0	391		228			
Queue Length 95th (ft)		158	1237		217	0	432		291			
Internal Link Dist (ft)		1152			589			818			16	
Turn Bay Length (ft)						220						
Base Capacity (vph)		2319	1583		4199	1583	1714		1606			
Starvation Cap Reductn		0	0		0	0	0		0			
Spillback Cap Reductn		0	0		0	0	0		0			
Storage Cap Reductn		0	0		0	0	0		0			
Reduced v/c Ratio		0.21	0.78		0.31	0.11	0.44		0.49			

Intersection Summary

Area Type: Other

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Appendix H
SANDAG Series 12
Select Zone Model Plots

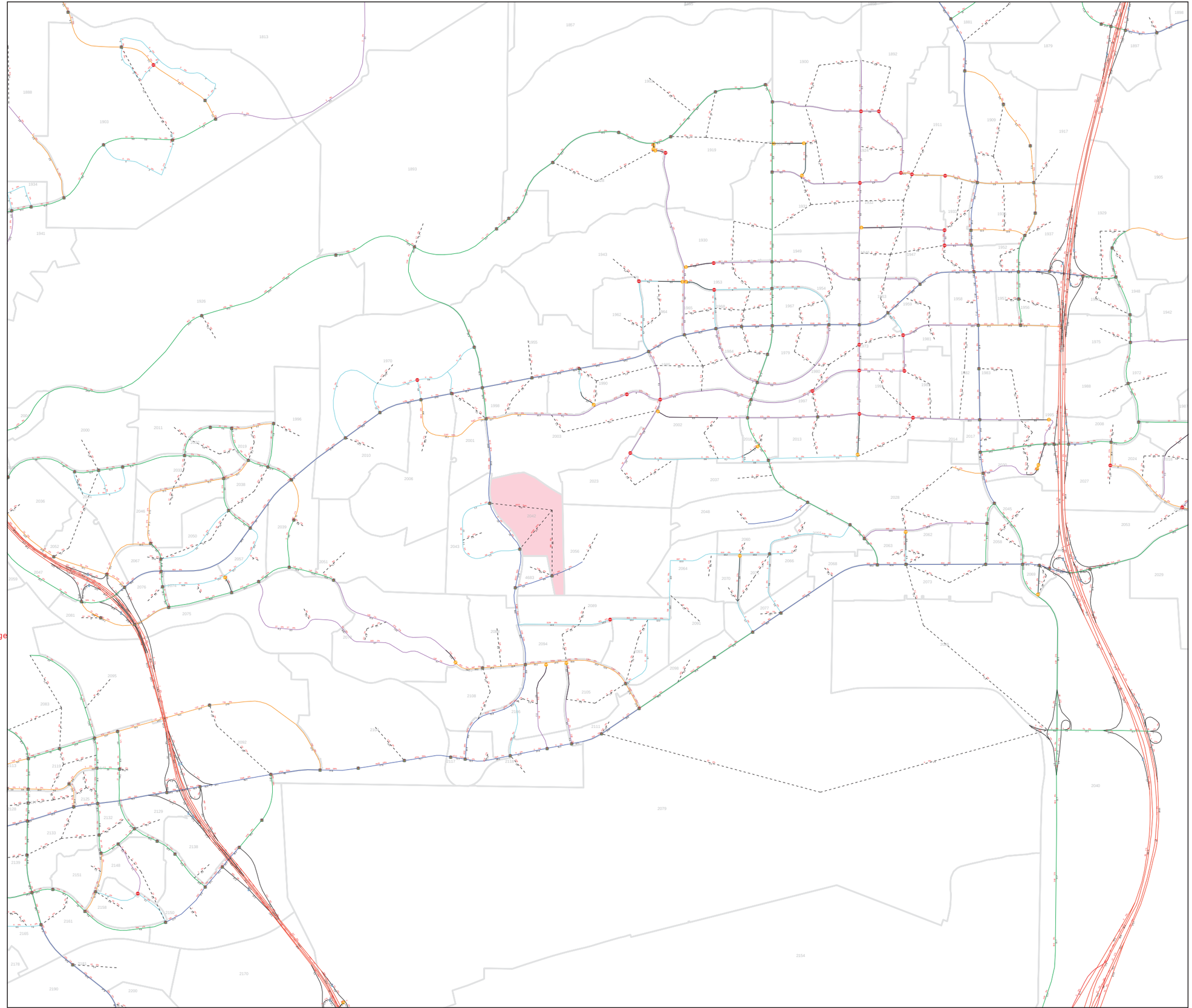
SANDAG
Series 12

Hanson Cantera
Modeling

2020 alt1

TAZ 2042

Select Zone Plot



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
- Zone Connector

Traffic Analysis Zones

\# Selz Volumes & Percentage

\# Unadjusted ADT(x1000)

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Web site: www.sandag.org

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Miles

SANDAG

servicebureau

Date: February 27, 2016

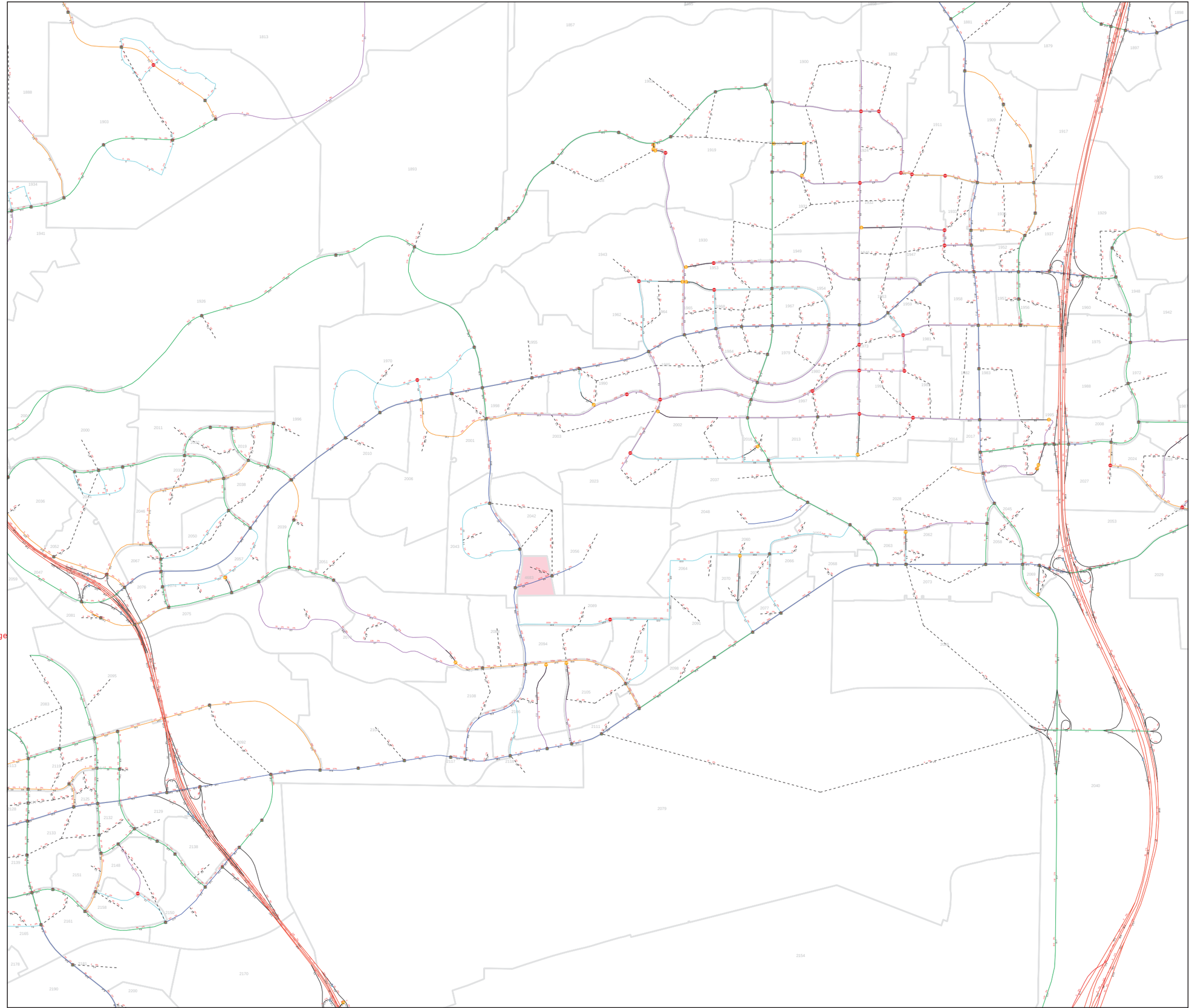
SANDAG
Series 12

Hanson Cantera
Modeling

2020 alt1

TAZ 4683

Select Zone Plot



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
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- Freeway Ramp
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Traffic Analysis Zones

\# Selz Volumes & Percentage

\# Unadjusted ADT(x1000)

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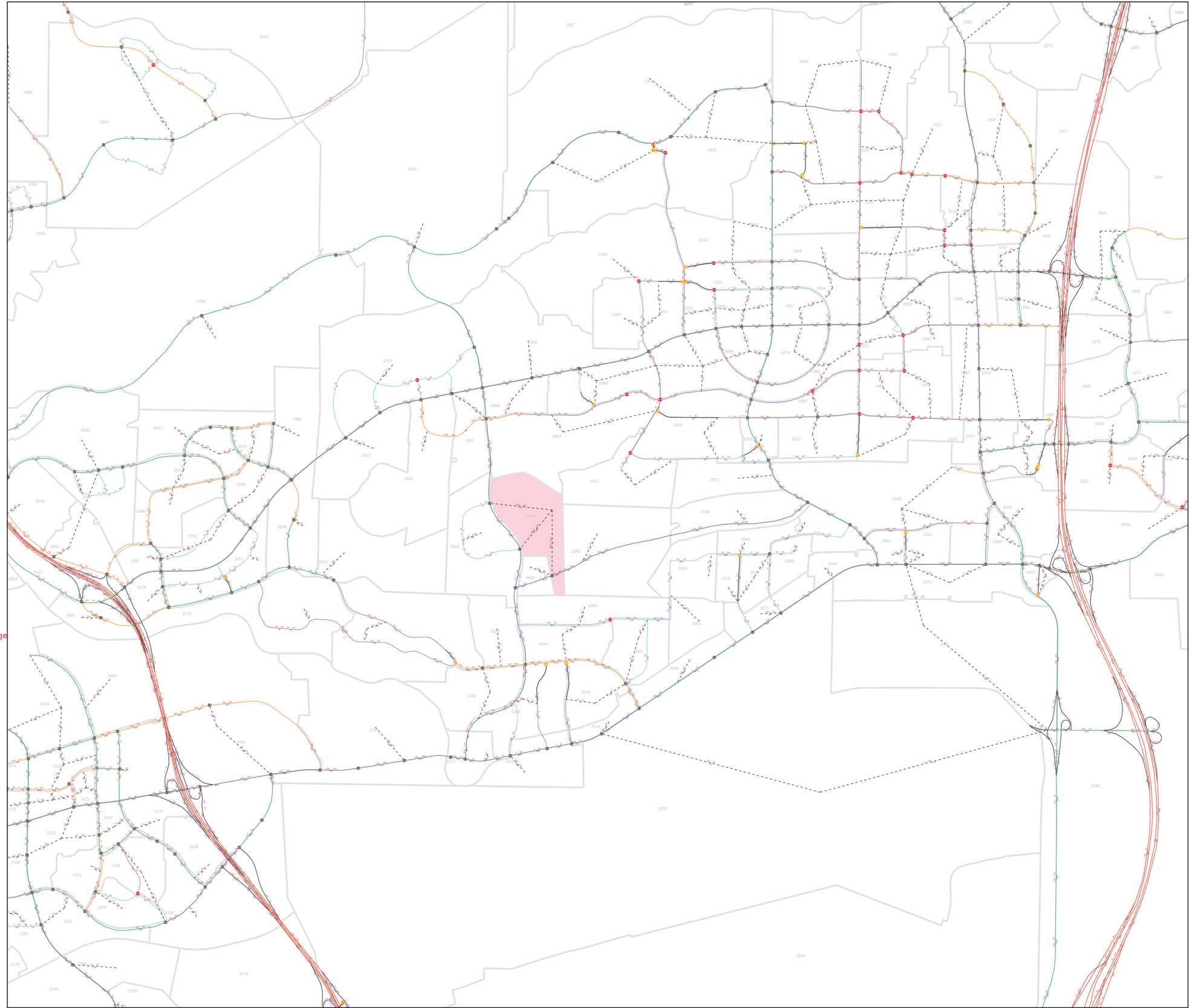
Series 12

Hanson Cantera
Modeling

2020 alt2

TAZ 2042

Select Zone Plot



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
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Traffic Analysis Zones

\# Selz Volumes & Percentage

\# Unadjusted ADT(x1000)

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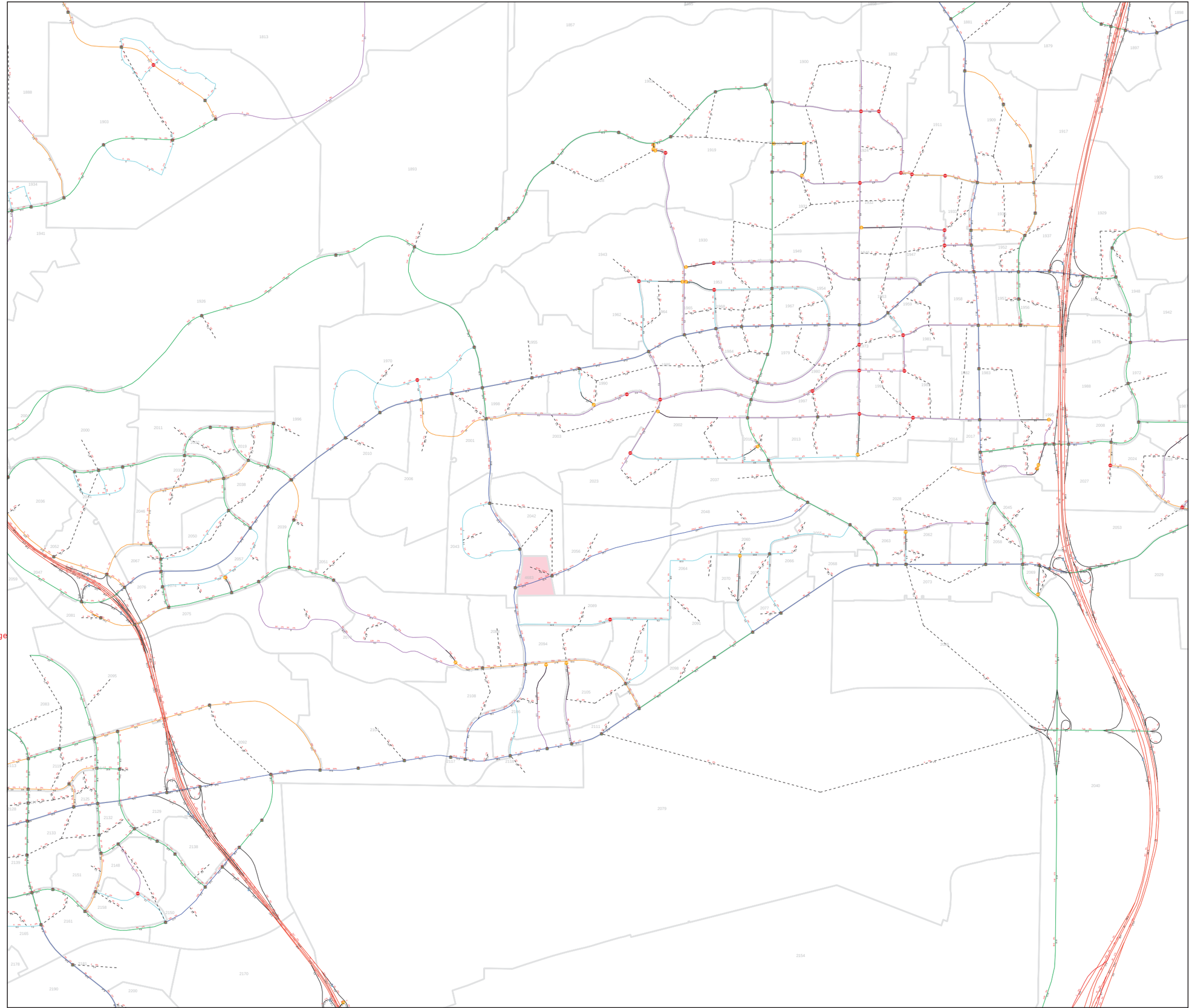
Series 12

Hanson Cantera
Modeling

2020 alt2

TAZ 4683

Select Zone Plot



Functional Classifications

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- Prime
- Major
- Collector
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- Local
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Traffic Analysis Zones

\# Selz Volumes & Percentage

\# Unadjusted ADT(x1000)

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Modeling

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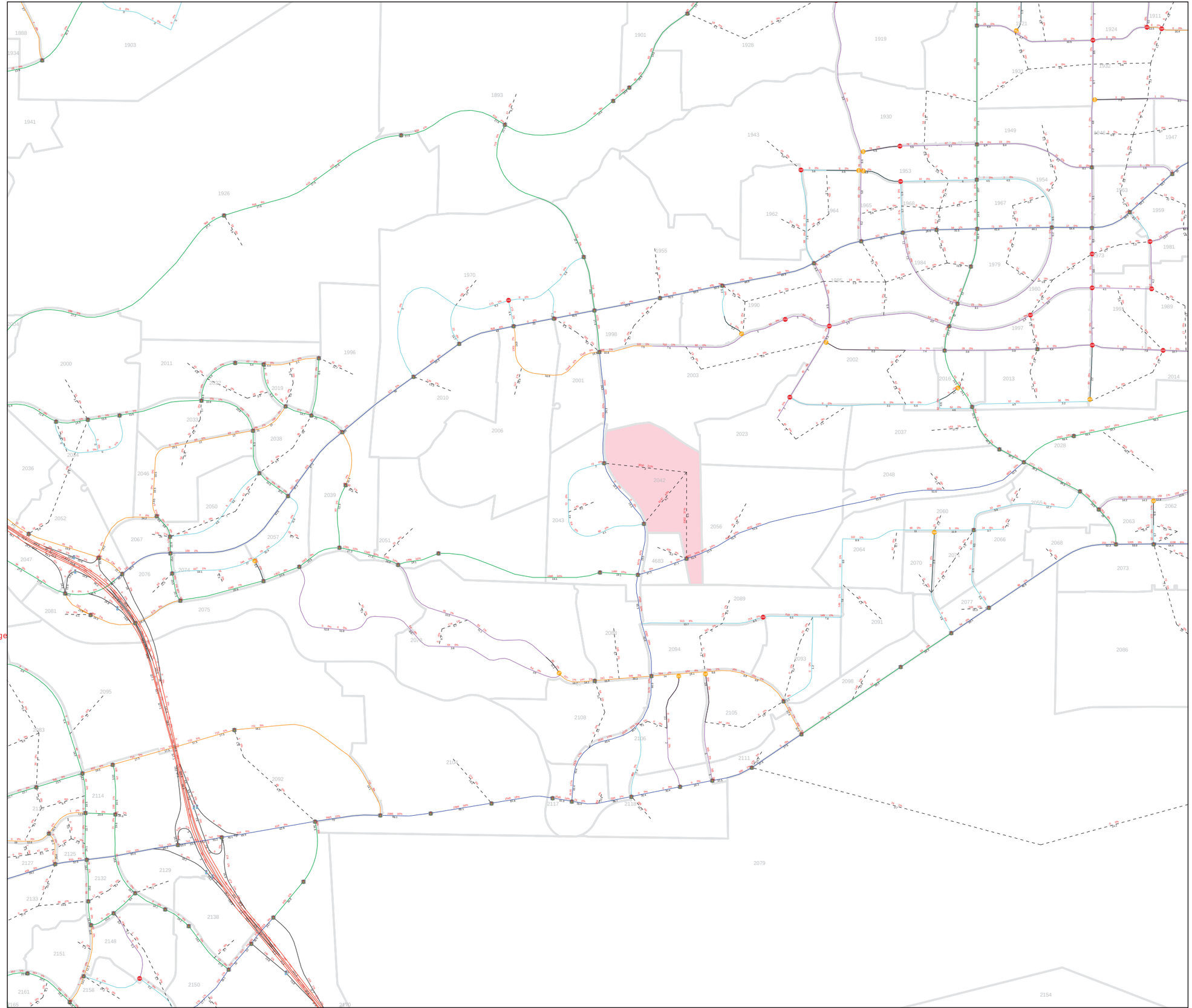
TAZ 2042

Select Zone Plot



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
- Zone Connector

Traffic Analysis Zones

Selz Volumes & Percentage

Unadjusted ADT(x1000)

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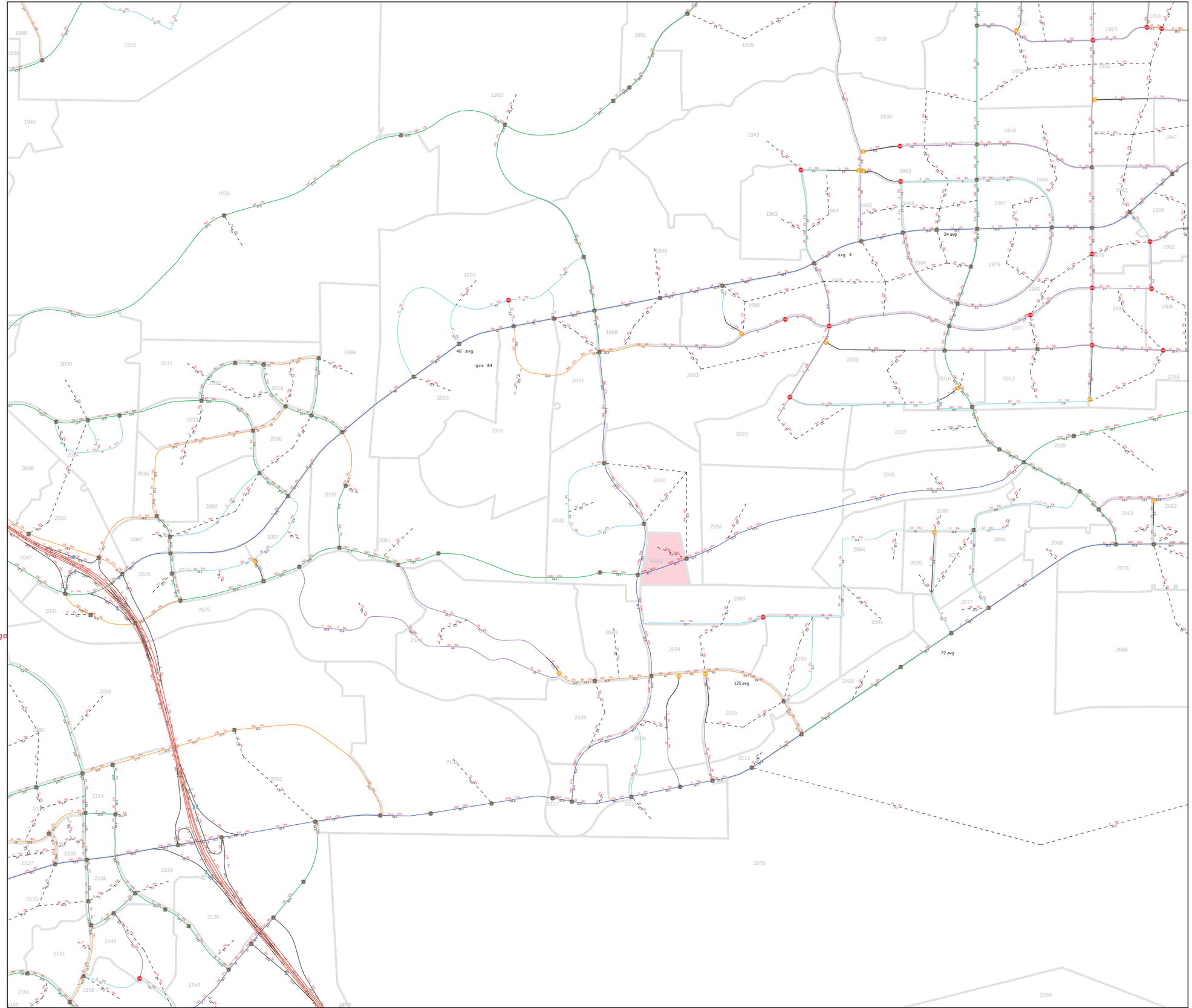
TAZ 4683

Select Zone Plot



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
- Zone Connector

Traffic Analysis Zones

Selz Volumes & Percentage

Unadjusted ADT(x1000)

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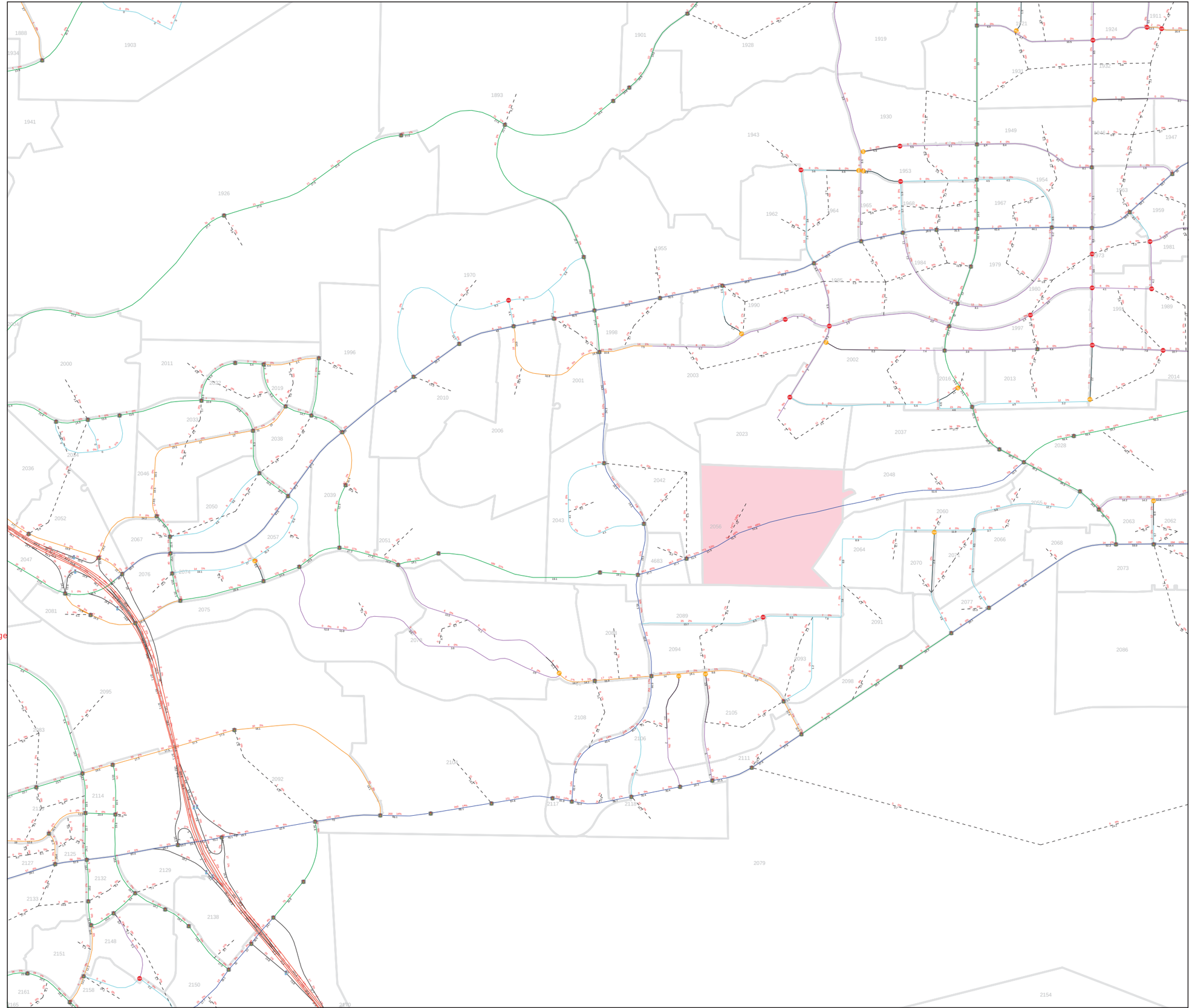
Modeling

2050 alt1

TAZ 2056

Select Zone Plot



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
- Zone Connector

Traffic Analysis Zones

\# Selz Volumes & Percentage

\# Unadjusted ADT(x1000)

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Appendix I
Arterial Analysis Worksheets

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	2.7	41.3	0.40	35.1	A
Reagan Rd	II	50	34.7	25.2	59.9	0.40	24.3	C
Total	II		73.3	27.9	101.2	0.81	28.7	B

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	16.4	47.2	0.32	24.8	D
Parkdale Ave	I	50	34.7	9.7	44.4	0.40	32.7	C
Total	I		65.5	26.1	91.6	0.73	28.6	C

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	16.0	54.6	0.40	26.5	C
Reagan Rd	II	50	34.7	14.7	49.4	0.40	29.4	B
Total	II		73.3	30.7	104.0	0.81	27.9	C

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	13.9	44.7	0.32	26.1	D
Parkdale Ave	I	50	34.7	6.1	40.8	0.40	35.6	B
Total	I		65.5	20.0	85.5	0.73	30.7	C

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	3.6	42.2	0.40	34.3	B
Reagan Rd	II	50	34.7	25.4	60.1	0.40	24.2	C
Total	II		73.3	29.0	102.3	0.81	28.4	B

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	17.9	48.7	0.32	24.0	D
Parkdale Ave	I	50	34.7	15.6	50.3	0.40	28.9	C
Total	I		65.5	33.5	99.0	0.73	26.5	D

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	16.6	55.2	0.40	26.2	C
Reagan Rd	II	50	34.7	16.4	51.1	0.40	28.4	B
Total	II		73.3	33.0	106.3	0.81	27.3	C

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	13.9	44.7	0.32	26.1	D
Parkdale Ave	I	50	34.7	7.0	41.7	0.40	34.9	B
Total	I		65.5	20.9	86.4	0.73	30.4	C

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	4.5	43.1	0.40	33.6	B
Reagan Rd	II	50	34.7	25.7	60.4	0.40	24.1	C
Total	II		73.3	30.2	103.5	0.81	28.0	B

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	25.6	56.4	0.32	20.7	E
Parkdale Ave	I	50	34.7	29.8	64.5	0.40	22.5	D
Total	I		65.5	55.4	120.9	0.73	21.7	D

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	19.1	57.7	0.40	25.1	C
Reagan Rd	II	50	34.7	32.8	67.5	0.40	21.5	D
Total	II		73.3	51.9	125.2	0.81	23.2	C

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	16.5	47.3	0.32	24.7	D
Parkdale Ave	I	50	34.7	7.6	42.3	0.40	34.4	B
Total	I		65.5	24.1	89.6	0.73	29.3	C

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	4.6	43.2	0.40	33.5	B
Reagan Rd	II	50	34.7	26.5	61.2	0.40	23.8	C
Total	II		73.3	31.1	104.4	0.81	27.8	C

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	24.9	55.7	0.32	21.0	E
Parkdale Ave	I	50	34.7	13.5	48.2	0.40	30.2	C
Total	I		65.5	38.4	103.9	0.73	25.2	D

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	21.4	60.0	0.40	24.1	C
Reagan Rd	II	50	34.7	17.4	52.1	0.40	27.9	C
Total	II		73.3	38.8	112.1	0.81	25.9	C

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	14.4	45.2	0.32	25.9	D
Parkdale Ave	I	50	34.7	6.5	41.2	0.40	35.3	B
Total	I		65.5	20.9	86.4	0.73	30.4	C

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	5.4	44.0	0.40	32.9	B
Reagan Rd	II	50	34.7	26.3	61.0	0.40	23.8	C
Total	II		73.3	31.7	105.0	0.81	27.6	C

Arterial Level of Service: WB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	28.5	59.3	0.32	19.7	E
Parkdale Ave	I	50	34.7	28.1	62.8	0.40	23.1	D
Total	I		65.5	56.6	122.1	0.73	21.5	D

Arterial Level of Service: EB Mira Mesa Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Parkdale Ave	II	38	38.6	23.1	61.7	0.40	23.5	C
Reagan Rd	II	50	34.7	20.7	55.4	0.40	26.2	C
Total	II		73.3	43.8	117.1	0.81	24.8	C

Arterial Level of Service: WB Mira Mesa Blvd

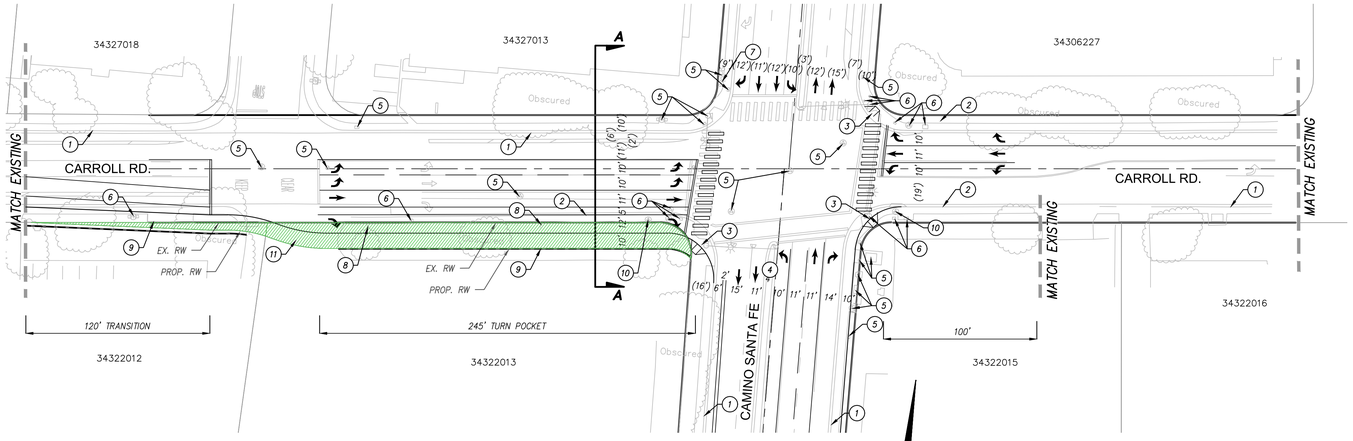
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Reagan Rd	I	50	30.8	14.5	45.3	0.32	25.8	D
Parkdale Ave	I	50	34.7	7.3	42.0	0.40	34.6	B
Total	I		65.5	21.8	87.3	0.73	30.0	C

Michael Baker
INTERNATIONAL

Appendix J
Conceptual Design Exhibits of Mitigation Measures & Project Access Intersections

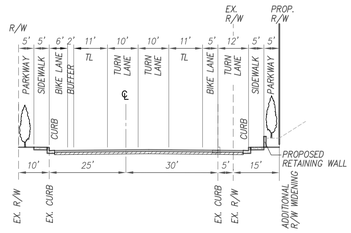
3 ROOTS VTM EXHIBIT 'A'

REZONE NO. 2069822/VESTING TENTATIVE MAP NO. 2069827/SITE DEVELOPMENT PERMIT NO. 2069825/ LAND USE PLAN NO. 2069831/PLANNED DEVELOPMENT PERMIT NO. 2068725/AMENDED CUP 87-2069822/PROJ. NO. 587128



INT. NO. 16 MITIGATION MEASURE (T-3)
CAMINO SANTA FE AND CARROLL ROAD

SCALE: 1"=40'



CARROLL ROAD SECTION A-A

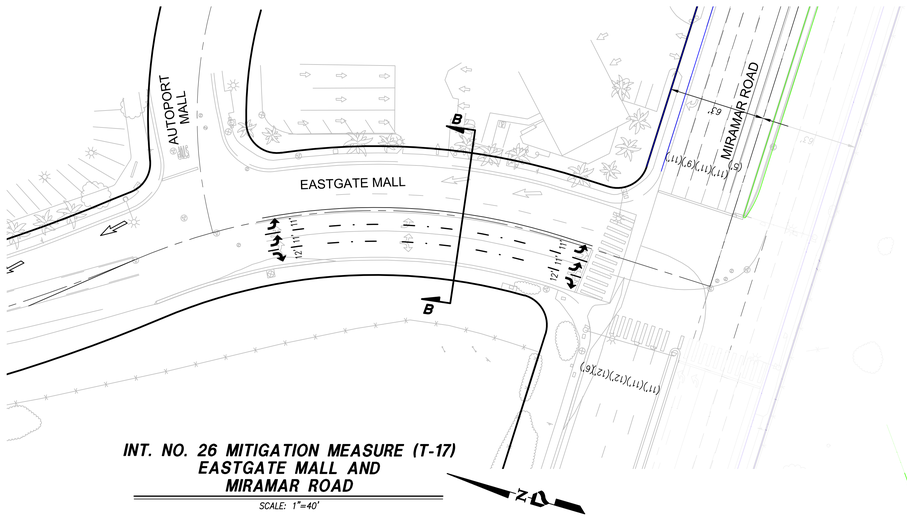
SCALE: 1"=20'

ROW WIDENING AREA TABLE

PARCEL	ROW ACQUISITION AREA (SF)
34322012	515
34322013	4,555

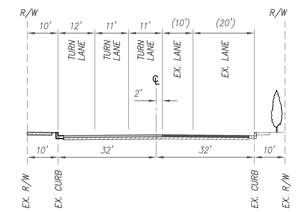
NOTES

1	EXISTING CURB AND GUTTER TO REMAIN
2	EXISTING CURB AND GUTTER REMOVE AND REPLACE
3	EXISTING CURB RAMP REMOVE AND REPLACE
4	EXISTING MEDIAN TO REMAIN
5	EXISTING UTILITY TO REMAIN
6	EXISTING UTILITY TO BE RELOCATED
7	EXISTING SIGNAGE TO REMAIN
8	EXISTING SIGNAGE TO BE RELOCATED
9	PROPOSED RETAINING WALL
10	EXISTING DRAINAGE INLET TO BE RELOCATED
11	PROPOSED DRIVEWAY
17	EXISTING TRAFFIC SIGNAL TO REMAIN
18	EXISTING PEDESTRIAN RAMP TO REMAIN



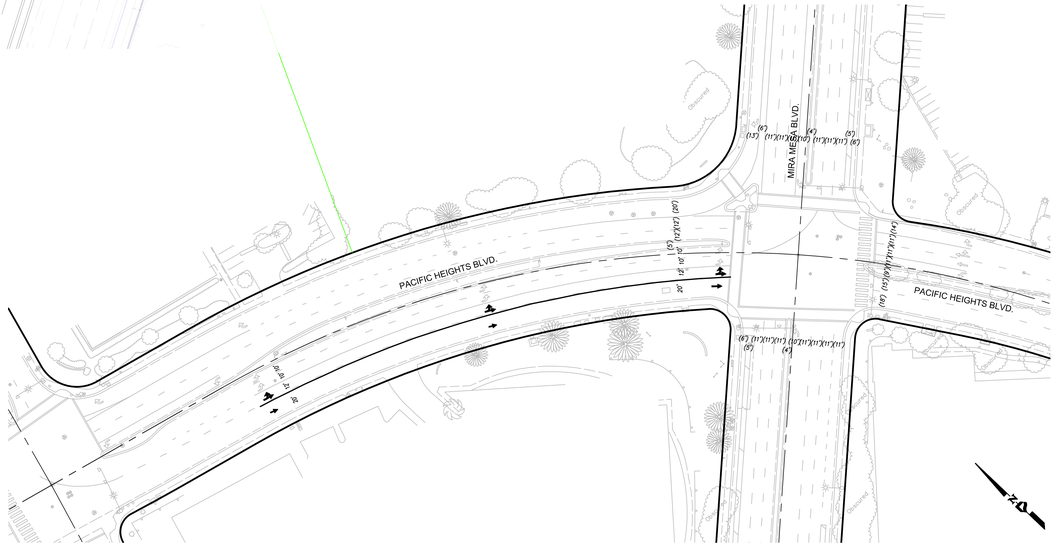
INT. NO. 26 MITIGATION MEASURE (T-17)
EASTGATE MALL AND MIRAMAR ROAD

SCALE: 1"=40'



EASTGATE MALL SECTION B-B

SCALE: 1"=20'



INT. NO. 3 MITIGATION MEASURE (T-1)
PACIFIC HEIGHTS BLVD. AND MIRA MESA BOULEVARD

SCALE: 1"=60'

40 20 0 40 80 120

SCALE: 1"=40'

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REVISION 01:	03/26/2018
ORIGINAL DATE:	11/28/2017

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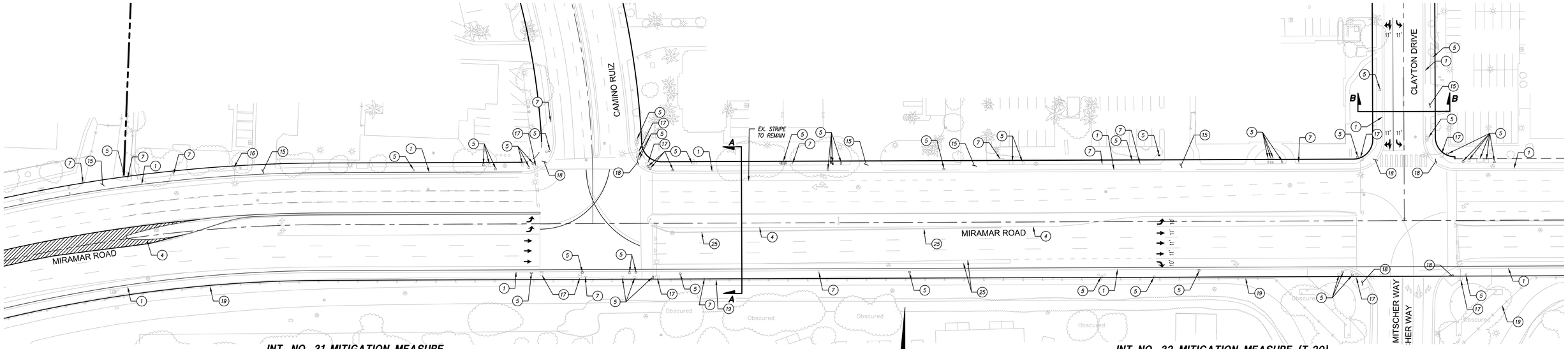
3 ROOTS VTM EXHIBIT 'A'

REZONE NO. 2069822/VESTING TENTATIVE MAP NO. 2069827/SITE DEVELOPMENT PERMIT NO. 2069825/ LAND USE PLAN NO. 2069831/PLANNED DEVELOPMENT PERMIT NO. 2068725/AMENDED CUP 87-2069822/PROJ. NO. 587128

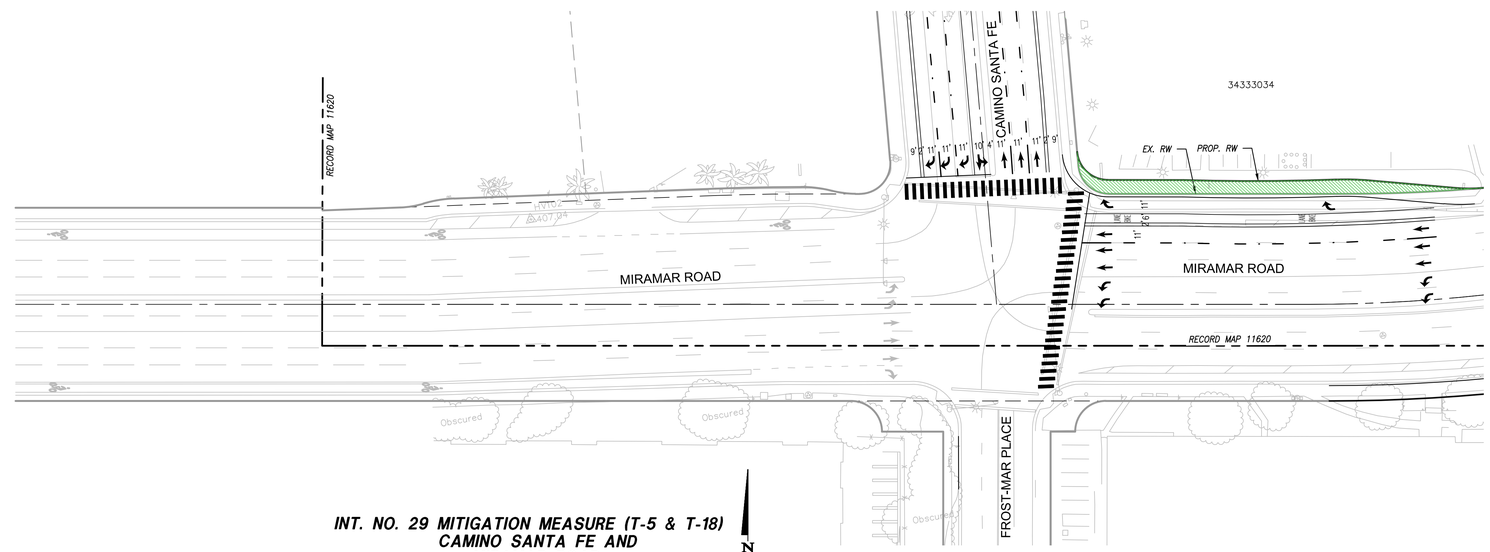


INT. NO. 31 MITIGATION MEASURE CAMINO RUIZ AND MIRAMAR ROAD

SCALE: 1"=40'

INT NO. 32 MITIGATION MEASURE (T-20) CLAYTON DRIVE/MITSCHER WAY AND MIRAMAR ROAD

SCALE: 1"=40'



INT. NO. 29 MITIGATION MEASURE (T-5 & T-18) CAMINO SANTA FE AND MIRAMAR ROAD

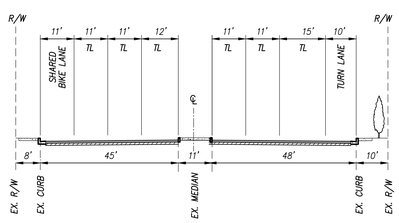
SCALE: 1"=40'

NOTES

1	EXISTING CURB AND GUTTER TO REMAIN
4	EXISTING MEDIAN TO REMAIN
5	EXISTING UTILITY TO REMAIN
7	EXISTING SIGNAGE TO REMAIN
15	EXISTING DRIVEWAY TO REMAIN
16	EXISTING STREET LIGHT TO REMAIN
17	EXISTING TRAFFIC SIGNAL TO REMAIN
18	EXISTING PEDESTRIAN RAMP TO REMAIN
19	EXISTING FENCE TO REMAIN
25	EXISTING STRIPING TO BE REMOVED

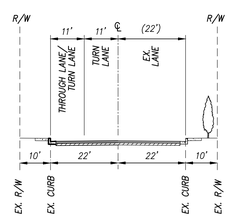
ROW WIDENING AREA TABLE

PARCEL	ROW ACQUISITION AREA (SF)
34333034	1,977



MIRAMAR ROAD SECTION A-A

SCALE: 1"=20'



CLAYTON DRIVE SECTION B-B

SCALE: 1"=20'

SCALE: 1"=##

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3 ROOTS VTM EXHIBIT 'A'

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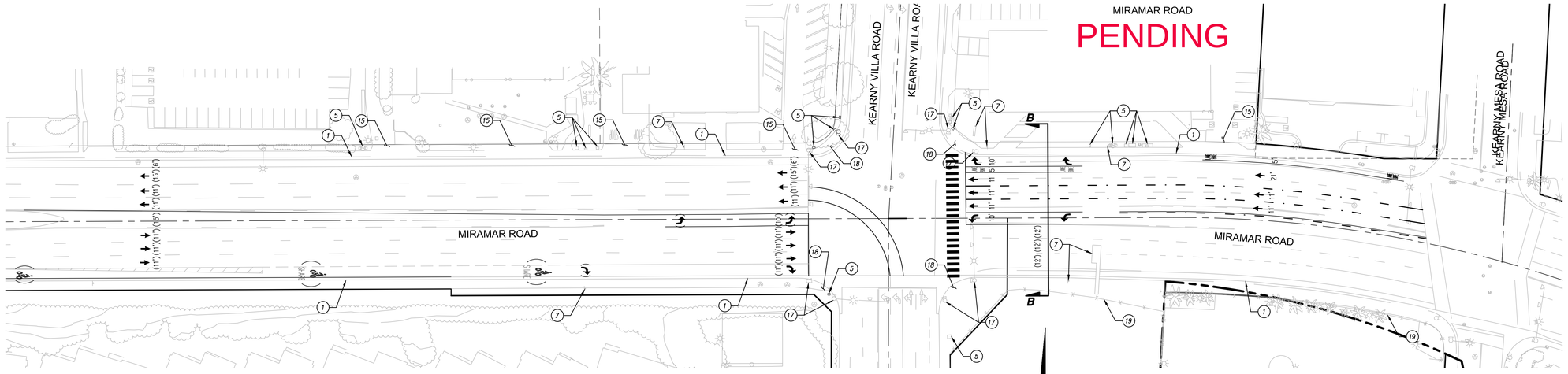
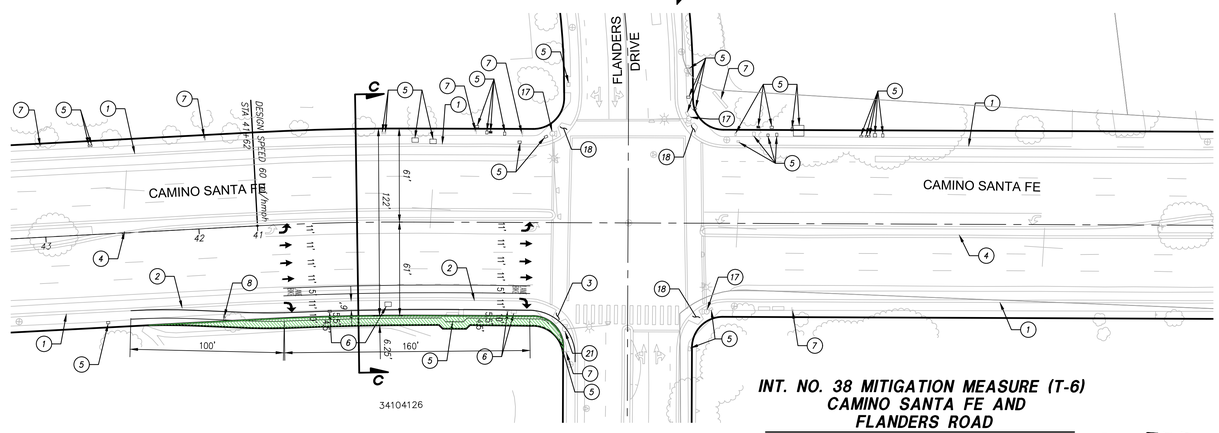


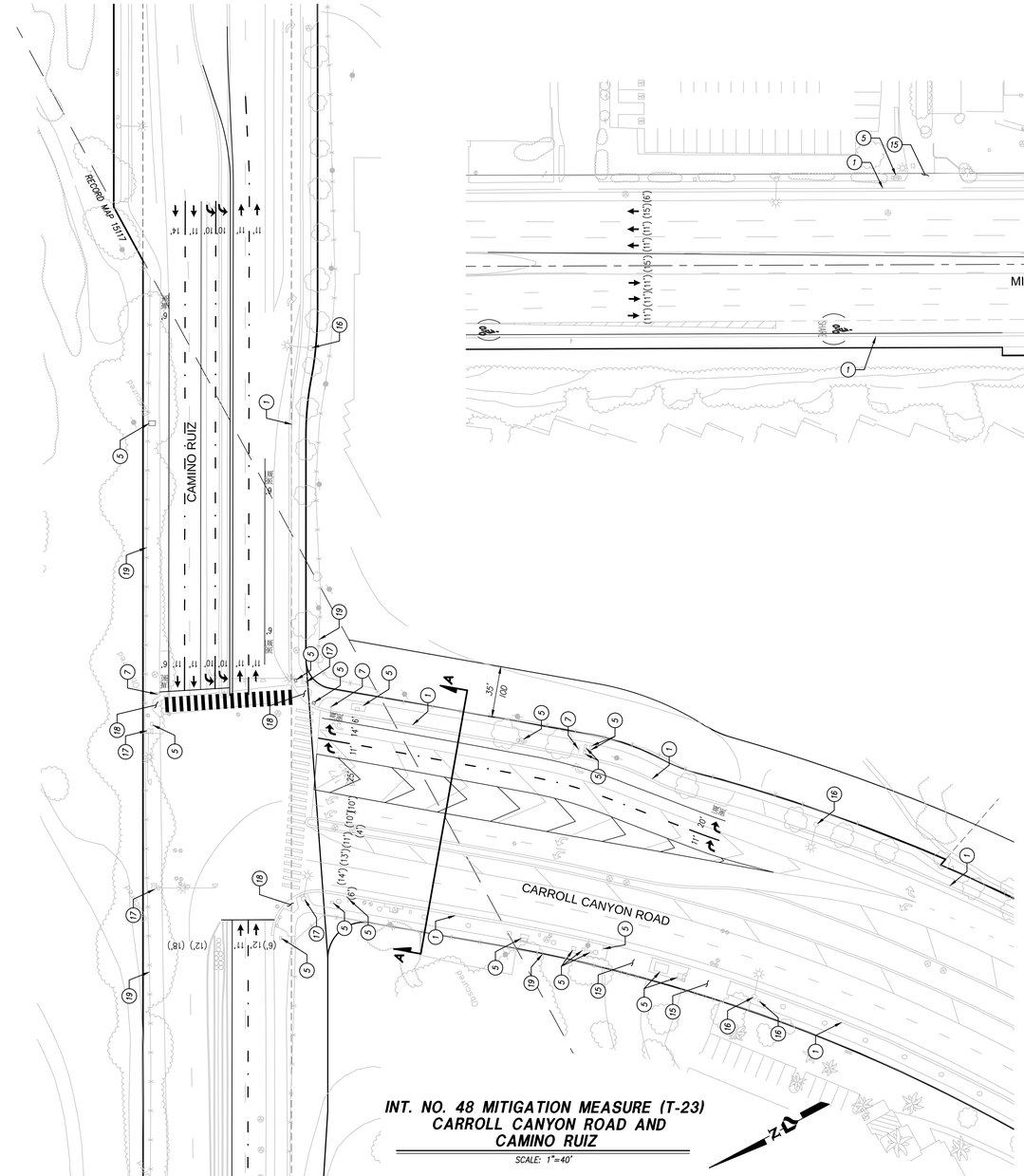
INT. NO. 34 MITIGATION MEASURE (T-21)
KEARNY VILLA ROAD AND
MIRAMAR ROAD (2025)

SCALE: 1"=40'



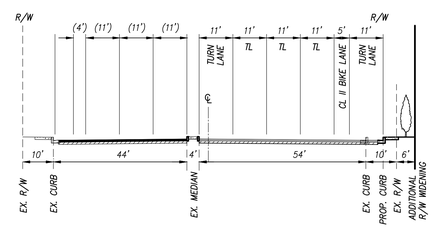
INT. NO. 38 MITIGATION MEASURE (T-6)
CAMINO SANTA FE AND
FLANDERS ROAD

SCALE: 1"=40'



INT. NO. 48 MITIGATION MEASURE (T-23)
CARROLL CANYON ROAD AND
CAMINO RUIZ

SCALE: 1"=40'

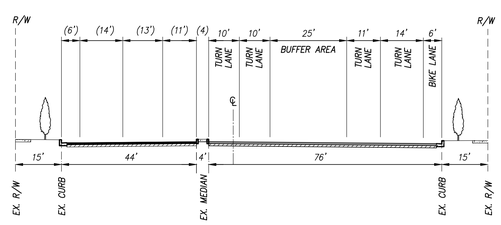


CAMINO SANTA FE SECTION C-C

SCALE: 1"=20'

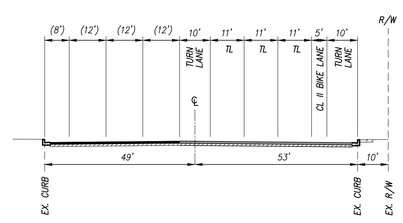
ROW WIDENING AREA TABLE

PARCEL	ROW ACQUISITION AREA (SF)
34104126	1,456



CARROLL CANYON ROAD SECTION A-A

SCALE: 1"=20'



MIRAMAR ROAD SECTION B-B

SCALE: 1"=20'

NOTES

1	EXISTING CURB AND GUTTER TO REMAIN
2	EXISTING CURB AND GUTTER REMOVE AND REPLACE
4	EXISTING MEDIAN TO REMAIN
5	EXISTING UTILITY TO REMAIN
6	EXISTING UTILITY TO BE RELOCATED
7	EXISTING SIGNAGE TO REMAIN
8	EXISTING SIGNAGE TO BE RELOCATED
15	EXISTING DRIVEWAY TO REMAIN
16	EXISTING STREET LIGHT TO REMAIN
17	EXISTING TRAFFIC SIGNAL TO REMAIN
18	EXISTING PEDESTRIAN RAMP TO REMAIN
19	EXISTING FENCE TO REMAIN
21	EXISTING TRAFFIC SIGNAL TO BE RELOCATED

40 20 0 40 80 120

SCALE: 1"=40'

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3 ROOTS VTM EXHIBIT 'A'

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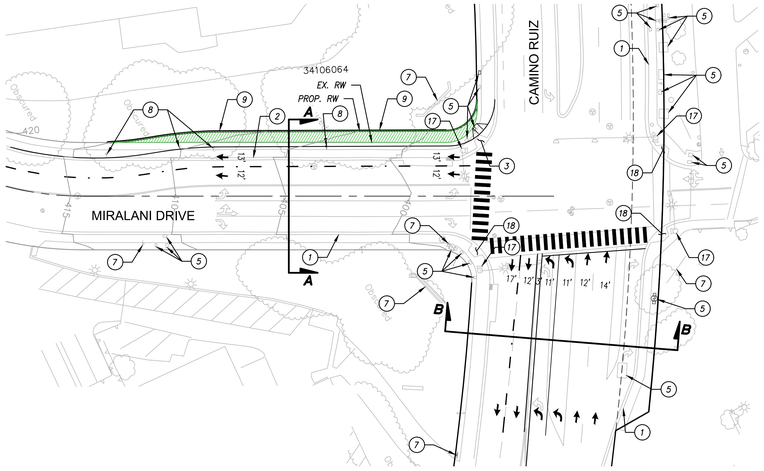
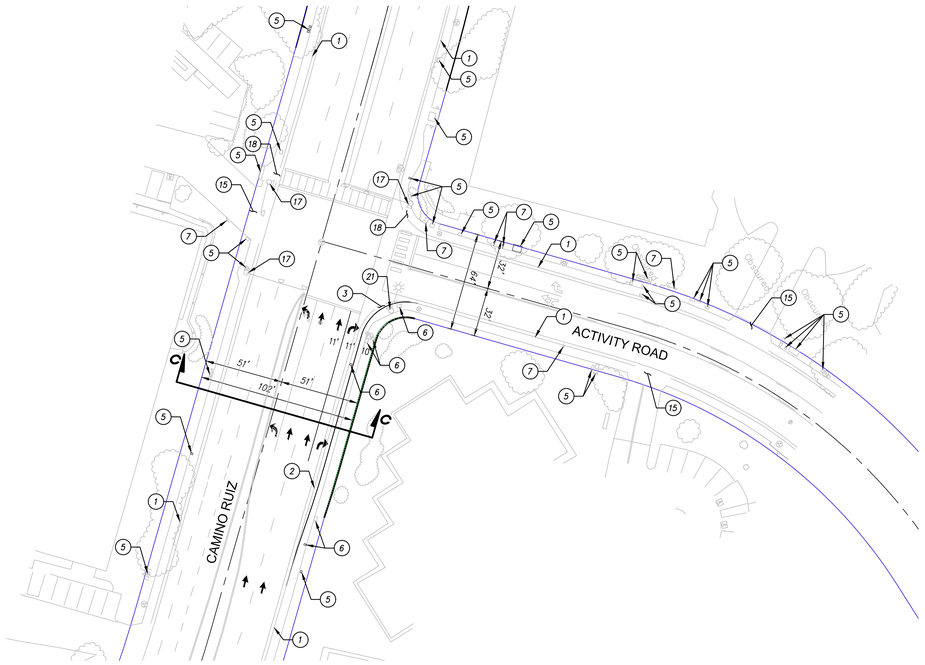


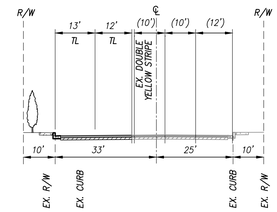
INT. NO. 49 MITIGATION MEASURE (T-24)
CAMINO RUIZ AND
MIRALANI DRIVE

SCALE: 1"=40'



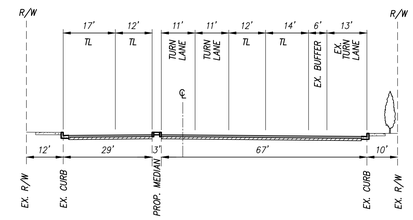
INT. NO. 50 MITIGATION MEASURE (T-25)
ACTIVITY ROAD AND
CAMINO RUIZ

SCALE: 1"=40'



MIRALANI DRIVE SECTION A-A

SCALE: 1"=20'



CAMINO RUIZ SECTION B-B

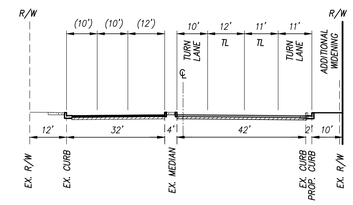
SCALE: 1"=20'

NOTES

1	EXISTING CURB AND GUTTER TO REMAIN
2	EXISTING CURB AND GUTTER REMOVE AND REPLACE
3	EXISTING CURB RAMP REMOVE AND REPLACE
5	EXISTING UTILITY TO REMAIN
6	EXISTING UTILITY TO BE RELOCATED
7	EXISTING SIGNAGE TO REMAIN
8	EXISTING SIGNAGE TO BE RELOCATED
9	PROPOSED RETAINING WALL
15	EXISTING DRIVEWAY TO REMAIN
17	EXISTING TRAFFIC SIGNAL TO REMAIN
18	EXISTING PEDESTRIAN RAMP TO REMAIN
21	EXISTING TRAFFIC SIGNAL TO BE RELOCATED

ROW WIDENING AREA TABLE

PARCEL	ROW ACQUISITION AREA (SF)
34106064	1,504



CAMINO RUIZ SECTION C-C

SCALE: 1"=20'

SCALE: 1"=##'

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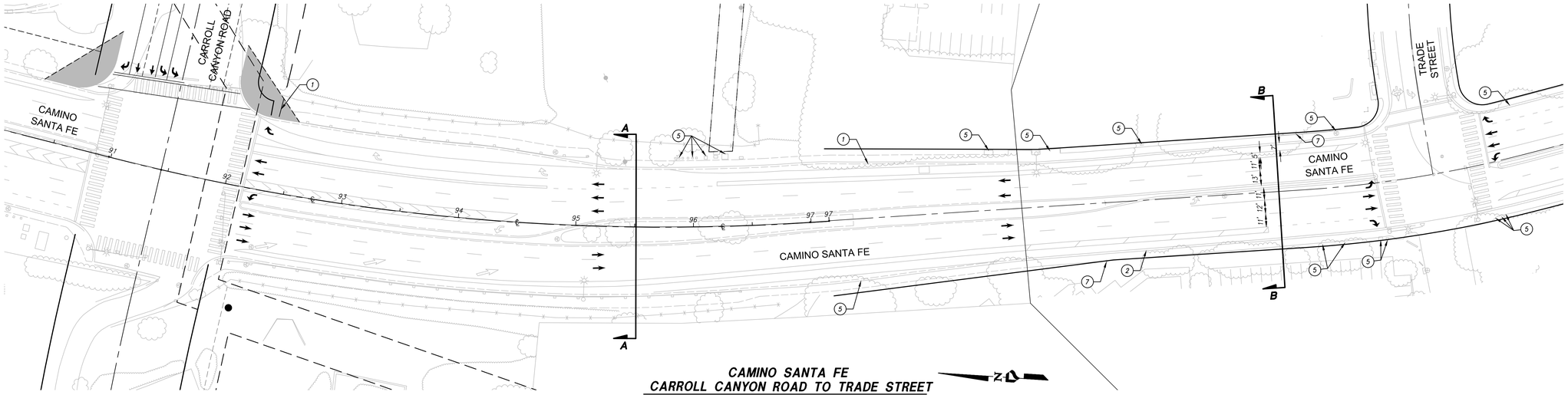
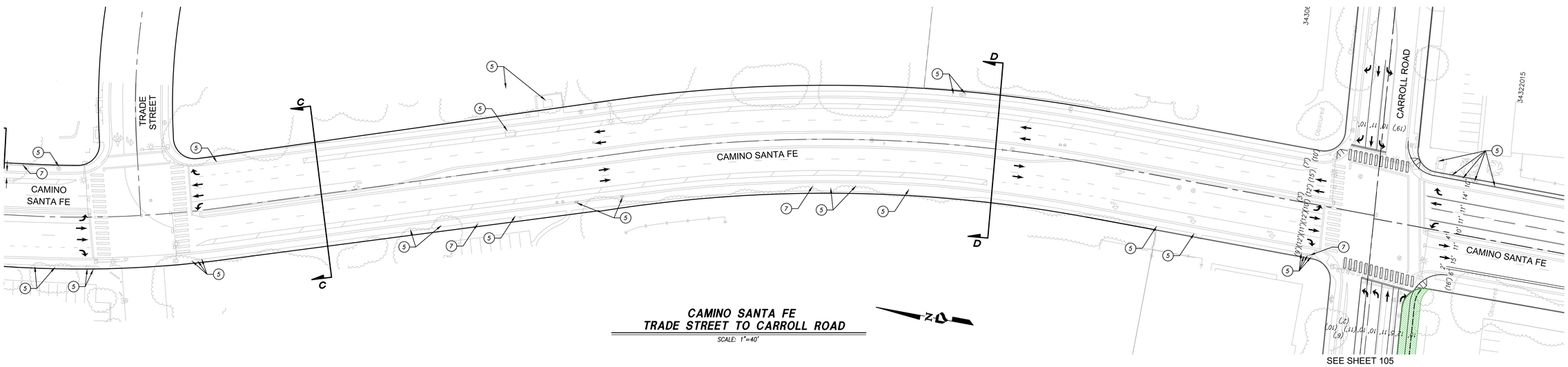


CAMINO SANTA FE
CARROLL CANYON ROAD TO TRADE STREET
SCALE: 1"=40'

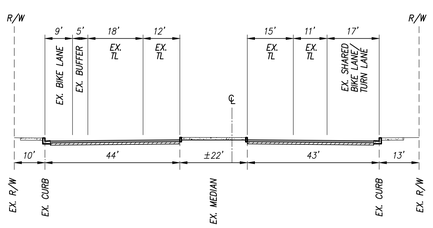
NOTES

1	EXISTING CURB AND GUTTER TO REMAIN
2	EXISTING CURB AND GUTTER REMOVE AND REPLACE
5	EXISTING UTILITY TO REMAIN
7	EXISTING SIGNAGE TO REMAIN

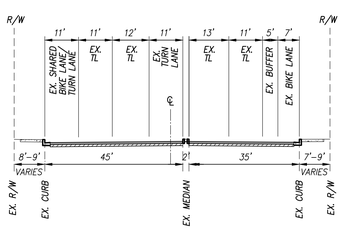


SEE SHEET 105

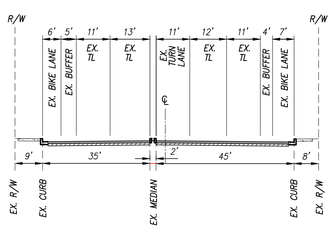
CAMINO SANTA FE
TRADE STREET TO CARROLL ROAD
SCALE: 1"=40'



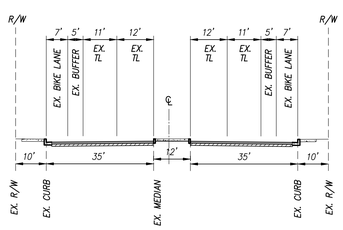
CAMINO SANTA FE SECTION A-A
SCALE: 1"=20'



CAMINO SANTA FE SECTION B-B
SCALE: 1"=20'



CAMINO SANTA FE SECTION C-C
SCALE: 1"=20'



CAMINO SANTA FE SECTION D-D
SCALE: 1"=20'

0 ## ## ## ##
SCALE: 1"=##'

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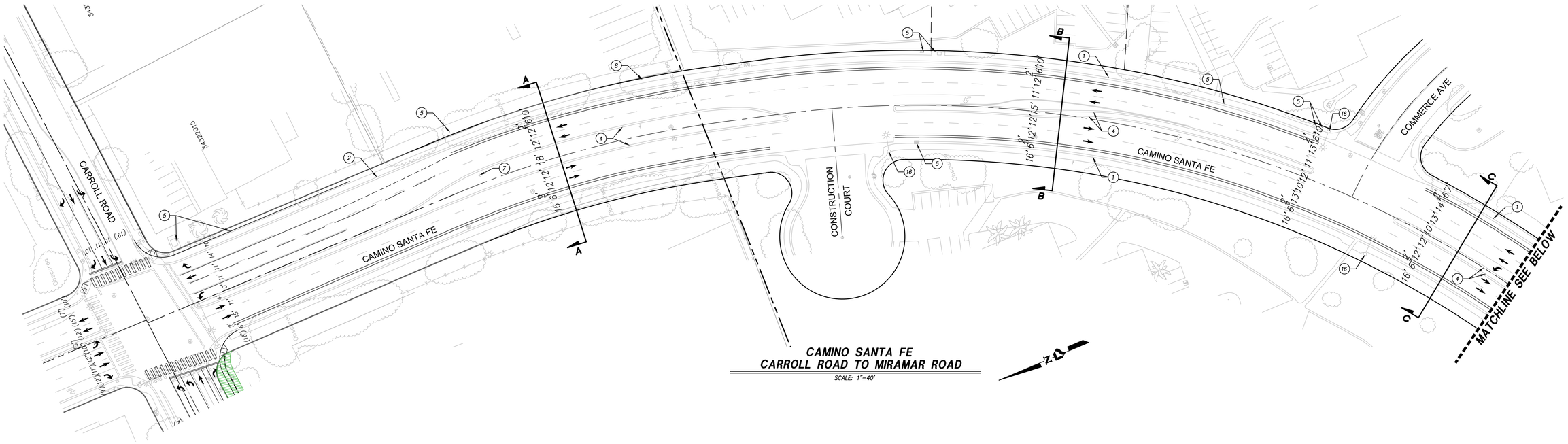
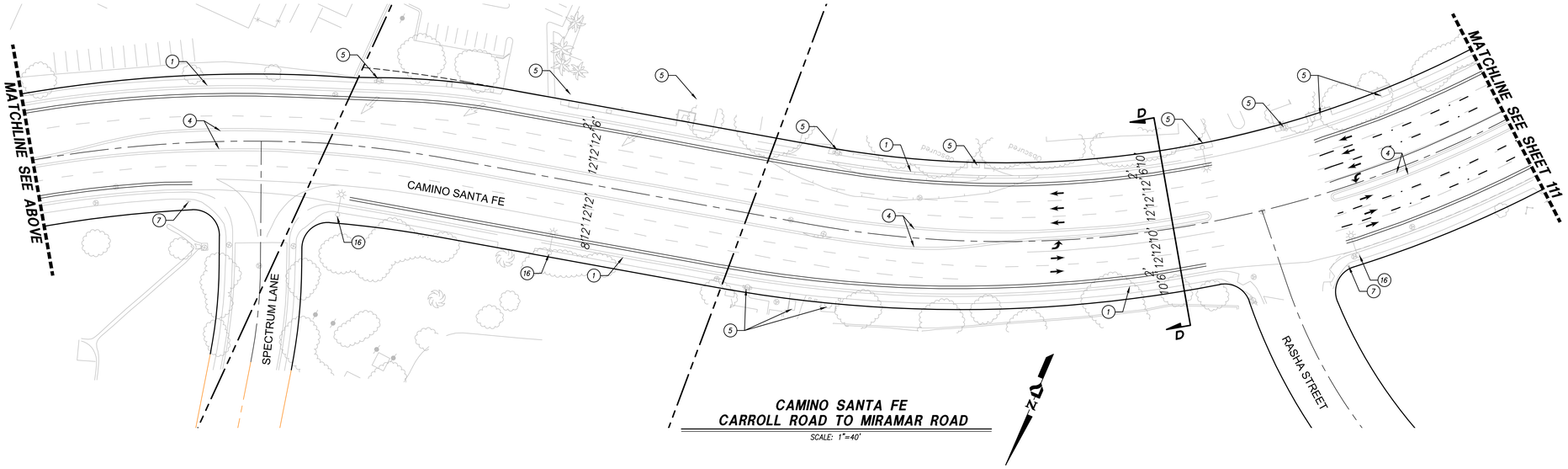


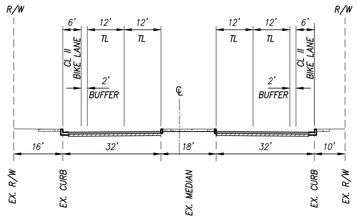
CAMINO SANTA FE
CARROLL ROAD TO MIRAMAR ROAD
SCALE: 1"=40'



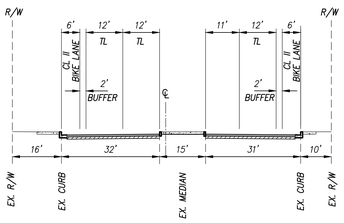
CAMINO SANTA FE
CARROLL ROAD TO MIRAMAR ROAD
SCALE: 1"=40'

NOTES

1	EXISTING CURB AND GUTTER TO REMAIN
2	EXISTING CURB AND GUTTER REMOVE AND REPLACE
4	EXISTING MEDIAN TO REMAIN
5	EXISTING UTILITY TO REMAIN
7	EXISTING SIGNAGE TO REMAIN
8	EXISTING SIGNAGE TO BE RELOCATED
16	EXISTING STREET LIGHT TO REMAIN



CAMINO SANTA FE SECTION A-A
SCALE: 1"=20'



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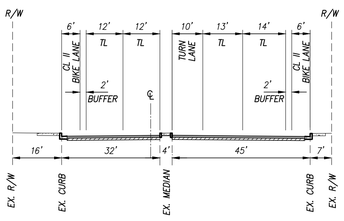

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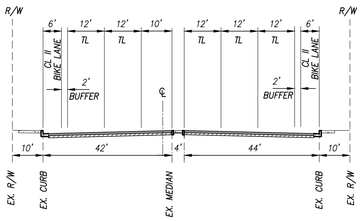
SCALE: 1"=20'



CAMINO SANTA FE SECTION D-D
SCALE: 1"=20'

SCALE: 1"=##'

3ROOTS by Mesa Canyon Community Partners
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PROJECT NAME:
3 ROOTS

SHEET TITLE:
OFFSITE TRAFFIC MITIGATION PLANS

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REVISION 13:	
REVISION 12:	
REVISION 11:	
REVISION 10:	
REVISION 09:	
REVISION 08:	
REVISION 07:	
REVISION 06:	
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REVISION 03:	10/08/2018
REVISION 02:	07/10/2018
REVISION 01:	03/26/2018
ORIGINAL DATE:	11/28/2017
SHEET	110 OF 346
DEP #	

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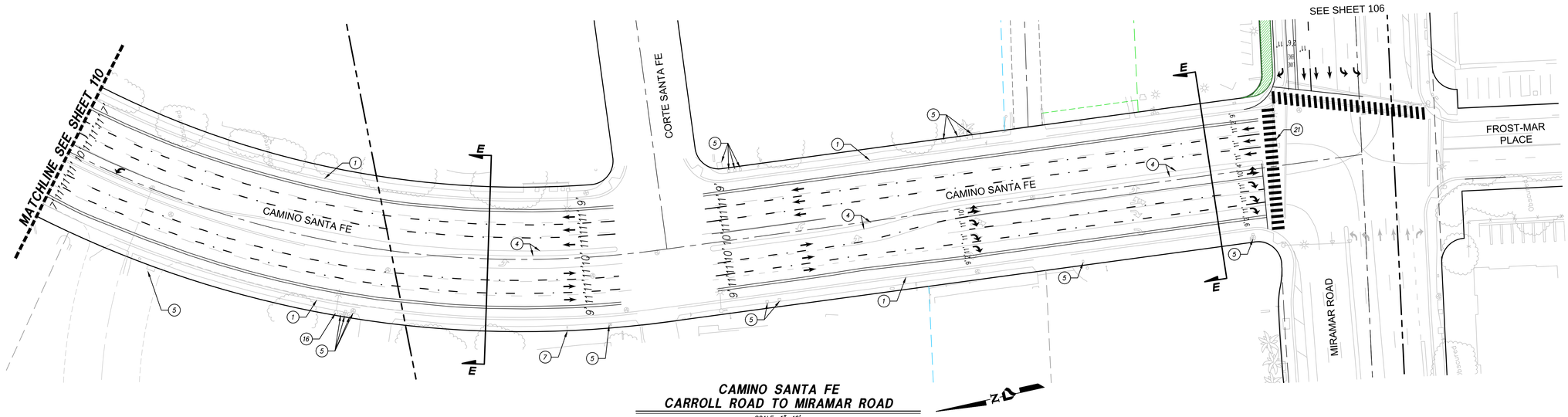
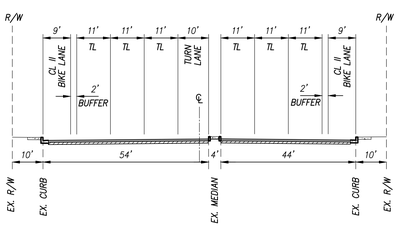
3 ROOTS VTM EXHIBIT 'A'

REZONE NO. 2069822/VESTING TENTATIVE MAP NO. 2069827/SITE DEVELOPMENT PERMIT NO. 2069825/
LAND USE PLAN NO. 2069831/PLANNED DEVELOPMENT PERMIT NO. 2068725/AMENDED CUP 87-2069822/PROJ. NO. 587128



CAMINO SANTA FE
CARROLL ROAD TO MIRAMAR ROAD

SCALE: 1"=40'



CAMINO SANTA FE SECTION E-E

SCALE: 1"=20'

NOTES

1	EXISTING CURB AND GUTTER TO REMAIN
4	EXISTING MEDIAN TO REMAIN
5	EXISTING UTILITY TO REMAIN
7	EXISTING SIGNAGE TO REMAIN
16	EXISTING STREET LIGHT TO REMAIN
21	EXISTING TRAFFIC SIGNAL TO BE RELOCATED

SCALE: 1"=##'

3ROOTS by Mesa Canyon Community Partners
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SHEET	111 OF 346
DEP #	

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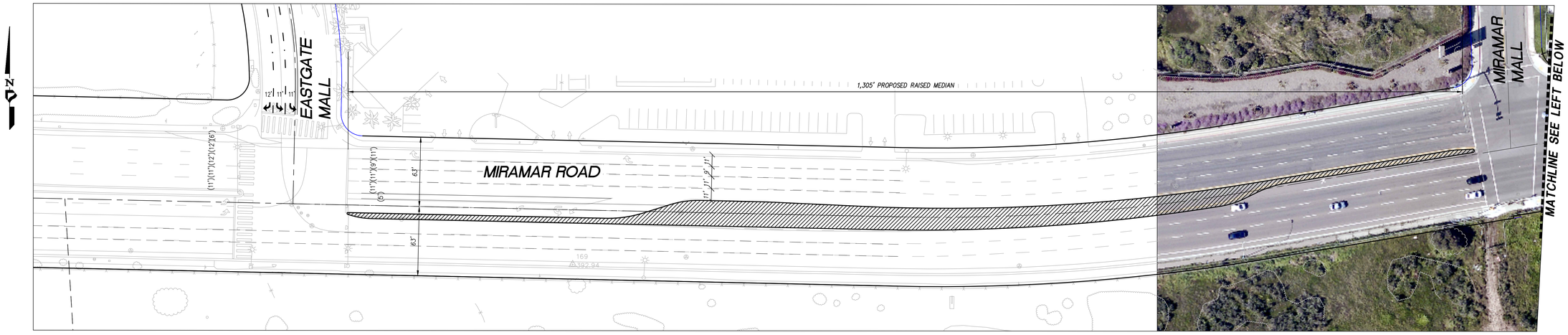
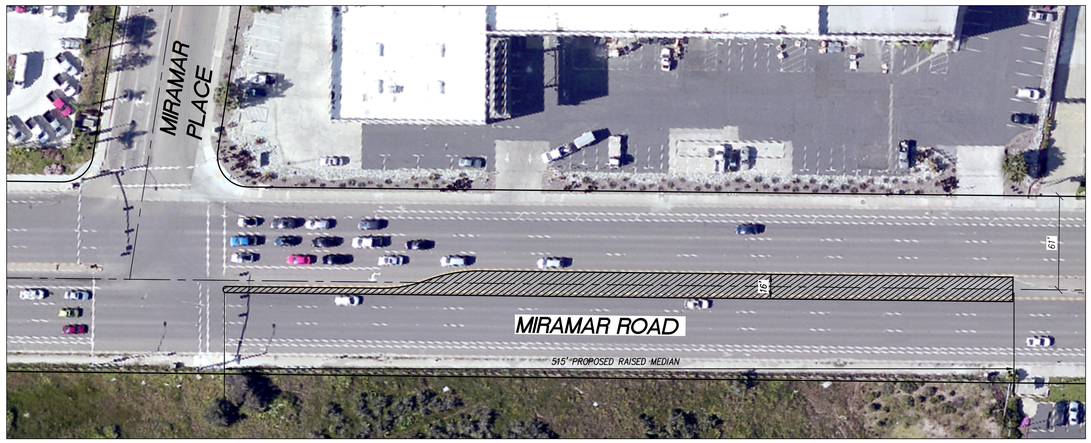
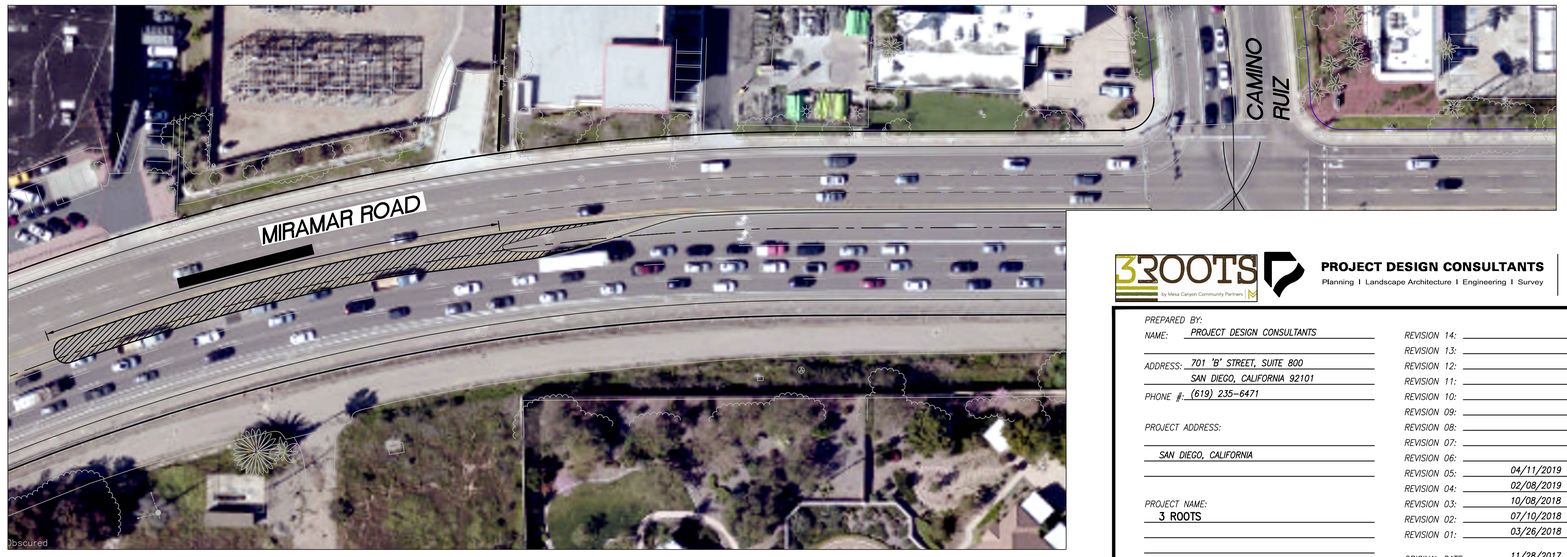
3 ROOTS VTM EXHIBIT 'A'

REZONE NO. 2069822/VESTING TENTATIVE MAP NO. 2069827/SITE DEVELOPMENT PERMIT NO. 2069825/
LAND USE PLAN NO. 2069831/PLANNED DEVELOPMENT PERMIT NO. 2068725/AMENDED CUP 87-2069822/PROJ. NO. 587128







40 20 0 40 80 120

SCALE: 1"=40'

3ROOTS by Mesa Canyon Community Partners

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SHEET	112 OF 346
DEP #	

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Michael Baker
INTERNATIONAL

Appendix K
Future Volume Development Methodology

	Intersection	Intersection Leg	Existing ADT Counts	Estimated Based on Existing Peak Hour Counts	Combined Existing Counts and Estimated ADT	Raw Series 12 2008 Base ADT	Adjusted Series 12 2008 Base ADT	2021 Phase 1															2025 Phase 2								
								Raw Alt.1 2020 ADT w/Proj	Adjusted Alt.1 2020 ADT w/Proj	Alt.1 Select Zone Trips	Percent Trips (%)	2020 Alt.1 ADT wo/Proj	Change in ADT 2020 wo/ Proj-2008	Growth 2008 to 2020 wo/ Project	Refined Alt.1 2020 ADT wo/Proj	Refined Change in ADT	Refined Growth 2008 to 2020	Annual Growth Rate	2021 Growth Factor (4 years)	Adjusted 2021 Growth Factor (4 years)	Final Alt.1 2021 wo/Proj ADT	2021-2025 Growth Factor (4 years)	2025 wo/proj ADT	Raw Alt.2 2020 ADT w/Proj	Change Alt. 2 - Alt. 1 ADT	Alt.1 Select Zone Trips	Alt.2 Select Zone Trips	Change Alt. 2 - Alt. 1 SZ Trips	Diverted Non-Project Traffic With CCR	2025 Alt. 2 wo/Proj ADT with CCR
1	Mira Mesa Blvd / Scranton Rd	North		15,399	15,399	16,600		24,100		229	1.0%	23,871	7,271	30.5%			30.5%	2.5%	1.102	1.034	15,924	1.034	16,467	24,000	-100	229	229	0	-100	16,367
		South		10,801	10,801	26,800	11,600	22,600		117	0.5%	22,483	10,883	48.4%			48.4%	4.0%	1.161	1.034	11,169	1.034	11,550	21,800	-800	117	120	3	-803	10,747
		East	42,695		42,695	47,700	40,100	46,200		852	3.7%	45,348	5,248	11.6%			11.6%	1.0%	1.039	1.034	44,150	1.034	45,655	45,300	-900	852	889	37	-937	44,718
		West		61,259	61,259	64,500	57,500	49,500	66,300	684	2.9%	65,616	8,116	12.4%			12.4%	1.0%	1.041	1.034	63,347	1.034	65,506	49,100	-400	684	708	24	-424	65,082
2	Mira Mesa Blvd / Lusk Blvd	North		12,118	12,118	7,100	10,900	9,100		93	0.4%	9,007	-1,893	-21.0%			-21.0%	-1.8%	0.930	1.034	12,531	1.034	12,958	9,400	300	93	93	0	300	13,258
		South		4,393	4,393	7,700	3,900	10,100		169	0.7%	9,931	6,031	60.7%			60.7%	5.1%	1.202	1.034	4,543	1.034	4,698	10,400	300	169	163	-6	306	5,004
		East	45,986		45,986	43,200		45,200	49,800	1,114	4.8%	48,686	5,486	11.3%			11.3%	0.9%	1.038	1.034	47,553	1.034	49,174	44,300	-900	1,114	1,145	31	-931	48,243
		West	42,695		42,695	47,700	40,100	46,200		852	3.7%	45,348	5,248	11.6%			11.6%	1.0%	1.039	1.034	44,150	1.034	45,655	45,300	-900	852	889	37	-937	44,718
3	Mira Mesa Blvd / Pacific Heights Dr	North		22,518	22,518	20,800		21,400		673	2.9%	20,727	-73	-0.4%			-0.4%	0.0%	0.999	1.034	23,285	1.034	24,079	21,300	-100	673	673	0	-100	23,979
		South		11,011	11,011	10,900		9,000		206	0.9%	8,794	-2,106	-23.9%			-23.9%	-2.0%	0.920	1.034	11,386	1.034	11,774	8,600	-400	206	204	-2	-398	11,376
		East	52,782		52,782	55,100	49,600	59,100	57,200	1,751	7.5%	55,449	5,849	10.5%			10.5%	0.9%	1.035	1.034	54,581	1.034	56,441	58,400	-700	1,751	1,788	37	-737	55,704
		West	45,986		45,986	43,200		45,200	49,800	1,114	4.8%	48,686	5,486	11.3%			11.3%	0.9%	1.038	1.034	47,553	1.034	49,174	44,300	-900	1,114	1,145	31	-931	48,243
4	Mira Mesa Blvd / Sequence Dr	North		7,405	7,405	0	8,000	0	7,500	0	0.0%	7,500	-500	-6.7%			-6.7%	-0.6%	0.978	1.034	7,657	1.034	7,918	0	0	0	0	0	0	7,918
		South		4,681	4,681	13,000	5,000	12,200	4,700	169	0.7%	4,531	-469	-10.4%			-10.4%	-0.9%	0.965	1.034	4,841	1.034	5,006	12,200	0	169	169	0	0	5,006
		East	43,716		43,716	64,200	41,100	68,100	47,400	1,920	8.2%	45,480	4,380	9.6%			9.6%	0.8%	1.032	1.034	45,206	1.034	46,747	67,400	-700	1,920	1,957	37	-737	46,010
		West	52,782		52,782	55,100	49,600	59,100	57,200	1,751	7.5%	55,449	5,849	10.5%			10.5%	0.9%	1.035	1.034	54,581	1.034	56,441	58,400	-700	1,751	1,788	37	-737	55,704
5	Mira Mesa Blvd / Genetic Center Dr	North		3,147	3,147	12,800	5,100	12,000	4,800	55	0.2%	4,745	-355	-7.5%			-7.5%	-0.6%	0.975	1.034	3,254	1.034	3,365	12,000	0	55	56	1	-1	3,364
		South		4,807	4,807	0	7,700	0	7,200	0	0.0%	7,200	-500	-6.9%			-6.9%	-0.6%	0.977	1.034	4,971	1.034	5,140	0	0	0	0	0	0	5,140
		East	48,493		48,493	54,200	43,400	57,600	50,000	1,975	8.5%	48,025	4,625	9.6%			9.6%	0.8%	1.032	1.034	50,146	1.034	51,855	56,900	-700	1,975	2,012	37	-737	51,118
		West	45,936		45,936	64,200	41,100	68,100	47,400	1,920	8.2%	45,480	4,380	9.6%			9.6%	0.8%	1.032	1.034	47,502	1.034	49,121	67,400	-700	1,920	1,957	37	-737	48,384
6	Mira Mesa Blvd / Flanders Dr	North		3,732	3,732	2,300		2,400		188	0.8%	2,212	-88	-4.0%			-4.0%	-0.3%	0.987	1.034	3,859	1.034	3,991	2,500	100	188	188	0	100	4,091
		South	8,070	8,544	8,544	8,300		9,600		1,082	4.6%	8,518	218	2.6%			2.6%	0.2%	1.009	1.034	8,835	1.034	9,136	9,400	-200	2,164	2,199	35	-235	8,901
		East	37,133	42,880	42,880	46,000	38,400	47,400	44,200	1,081	4.6%	43,119	4,719	10.9%			10.9%	0.9%	1.036	1.034	44,341	1.034	45,853	47,200	-200	0	0	0	-200	45,653
		West	48,493		48,493	54,200	43,400	57,600	50,000	1,751	7.5%	48,249	4,849	10.0%			10.0%	0.8%	1.033	1.034	50,146	1.034	51,855	56,900	-700	1,975	2,012	37	-737	51,118
7	Mira Mesa Blvd / Viper Way	North		1,715	1,715	6,300		6,600		0	0.0%	6,600	300	4.5%			4.5%	0.4%	1.015	1.034	1,773	1.034	1,834	6,400	-200	0	0	0	-200	1,634
		South		6,374	6,374	7,700		7,900		0	0.0%	7,900	200	2.5%			2.5%	0.2%	1.008	1.034	6,591	1.034	6,816	7,100	-800	0	0	0	-800	6,016
		East	37,133	39,155	39,155	44,400	37,100	45,200	42,700	1,081	4.6%	41,619	4,519	10.9%			10.9%	0.9%	1.036	1.034	40,489	1.034	41,869	44,500	-700	0	0	0	-700	41,169
		West	37,133	40,525	40,525	46,000	38,400	47,400	44,200	1,081	4.6%	43,119	4,719	10.9%			10.9%	0.9%	1.036	1.034	41,906	1.034	43,334	47,200	-200	0	0	0	-200	43,134
8	Mira Mesa Blvd / Camino Santa Fe	North		14,742	14,742	7,000	12,900	7,000	14,200	975	4.2%	13,225	325	2.5%			2.5%	0.2%	1.008	1.034	15,244	1.034	15,764	7,000	0	975	1,041	66	-66	15,698
		South	17,521		17,521	15,300		16,100	16,900	4,877	20.9%	12,023	-3,277	-27.3%			-27.3%	-2.3%	0.909	1.034	18,118	1.034	18,736	12,700	-3,400	3,796	1,630	-2,166	-1,234	17,502
		East		57,796	57,796	46,400	54,800	46,100	63,000	2,821	12.1%	60,179	5,379	8.9%			8.9%	0.7%	1.030	1.034	59,766	1.034	61,803	41,100	-5,000	2,821	591	-2,230	-2,770	59,033
		West	37,133	39,155	39,155	44,400	37,100	45,200	42,700	1,081	4.6%	41,619	4,519	10.9%			10.9%	0.9%	1.036	1.034	40,489	1.034	41,869	44,500	-700	0	0	0	-700	41,169
9	Mira Mesa Blvd / Schilling Ave	North		3,660	3,660	0		0		167	0.7%	-167	-167	100.0%			0.0%	0.0%	1.000	1.034	3,785	1.034	3,914	0	0	167	167	0	0	3,914
		South		1,992	1,992	1,700		1,900		0	0.0%	1,900	200	10.5%			10.5%	0.9%	1.035	1.034	2,060	1.034	2,130	1,600	-300	0	0	0	-300	1,830
		East		57,514	57,514	46,100	54,500	45,900	62,700	2,654	11.4%	60,046	5,546	9.2%			9.2%	0.8%	1.031	1.034	59,474	1.034	61,501	40,700	-5,200	2,654	424	-2,230	-2,970	58,531
		West		57,796	57,796	46,400	54,800	46,100	63,000	2,821	12.1%	60,179	5,379	8.9%			8.9%	0.7%	1.030	1.034	59,766	1.034	61,803	41,100	-5,000	2,821	591	-2,230	-2,770	59,033
10	Mira Mesa Blvd / Aderman Ave	North		1,848	1,848	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.034	1,911	1.034	1,976	0	0	0	0	0	0	1,976
		South		1,824	1,824	1,800		200		0	0.0%	0	-1,800	0.0%			0.0%	0.0%	1.000	1.034	1,886	1.034	1,950	200	0	0	0	0	0	1,950
		East	57,801		57,801	45,600	54,800	45,400	63,000	2,654	11.4%	60,346	5,546	9.2%			9.2%	0.8%	1.031	1.034	59,771	1.034	61,808	40,500	-4,900	2,654	424	-2,230	-2,670	59,138
		West		57,514	57,514	46,100	54,500	45,900	62,700	2,654	11.4%	60,046	5,546	9.2%			9.2%	0.8%	1.031	1.034	59,474	1.034	61,501	40,700	-5,200	2,654	424	-2,230	-2,970	58,531
11	Mira Mesa Blvd / Parkdale Ave	North		4,608	4,608	4,300		3,800		127	0.5%	3,673	-627	-17.1%			-17.1%	-1.4%	0.943	1.034	4,765	1.034	4,927	3,900	100	127	127	0	100	5,027
		South		6,816	6,816	5,100		6,000		37	0.2%	5,963	863	14.5%			14.5%	1.2%	1.048	1.034	7,048	1.034	7,289	4,700	-1,300	37	15	-22	-1,278	6,011
		East	50,807	56,135	56,135	49,700	53,200	47,200	61,200	2,654	11.4%	58,546	5,346	9.1%			9.1%	0.8%	1.030	1.034	58,048	1.034	60,027	42,000	-5,200	2,654	282	-2,372	-2,828	57,199
		West	57,801		57,801	45,600	54,800	45,400	63,000	2,490	10.7%	60,510	5,710	9.4%			9.4%	0.8%	1.031	1.034	59,771	1.034	61,808	40,500	-4,900	2,490	424	-2,066	-2,834	58,974
12	Mira Mesa Blvd / Reagan Rd	North			6,900	8,200		5,700		24	0.1%	5,676	-2,524	-44.5%			-44.5%	-3.7%	0.852	1.034	7,135	1.034	7,378	4,700	-1,000	24	13	-11	-989	6,389
		South			9,036	5,400		5,200		146	0.6%	5,054	-346	-6.8%			-6.8%	-0.6%	0.977	1.034	9,344	1.034	9,662	4,500	-700	146	91	-55	-645	9,017
		East	46,245		46,245	41,900	48,400	40,700	55,700	2,049	8.8%	53,651	5,251	9.8%			9.8%	0.8%	1.033	1.034	47,821	1.034	49,451	38,100	-2,600	2,049	174	-1,875	-725	48,726
		West	50,807		50,807	50,300	53,200	48,000	61,200	2,219	9.5%	58,981	5,781	9.8%			9.8%	0.8%	1.033	1.034	52,539	1.034	54,329	43,400	-4,600	2,219	200	-2,019	-2,581	51,748
13	Mira Mesa Blvd / Camino Ruiz	North		21,928	21,928	26,600		25,300		39	0.2%	25,261	25,261	100.0%			100.0%	8.3%	1.333	1.034	22,675	1.034	23,448	25,700	400	39	246	207	193	23,641
		South		18,430	18,430	17,800		17,200		0	0.0%	17,200	-600	-3.5%			-3.5%	-0.3%	0.988	1.034	19,058	1.034	19,708	18,100	900	0	956	956	-56	19,652
		East		51,655	51,655	37,300	48,000	37,800	55,500	1,741	7.5%	53,759	5,759	10.7%			10.7%	0.9%	1.036	1.034	53,415	1.034	55,236	36,500	-1,300	1,741	1,044	-697	-603	54,633
		West	46,245		46,245	37,200	43,000	36,300	49,700	1,781	7.6%	47,919	4,919	10.3%			10.3%	0.9%	1.034	1.034	47,821	1.034	49,451	34,000	-2,300	1,781	43	-1,738	-562	48,889
14	Carroll Canyon Rd / Pacific Heights Rd	North		9,515	9,515	5,500		7,400		162	0.7%	7,238	1,738	24.0%			24.0%	2.0%	1.080	1.066	10,144	1.066	10,815	6,900	-500	162	160	-2	-498	10,317
		South		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.000	0	1.000	0	0	0	0	0	0	0	0
		East	8,187		8,187	16,500	8,700	16,000	11,100	683	2.9%	10,417	1,717	16.5%			16.5%	1.4%	1.055	1.066	8,728	1.066	9,306	15,800	-200	683	645	-38	-162	9,144
		West		10,731	10,731	11,400		14,600		521	2.2%	14,079	2,679	19.0%			19.0%	1.6%	1.063	1.066	11,441	1.066	12,197	14,800	200	521	487	-34	234	12,431
15	Carroll Rd / Rehco Rd	North		3,420	3,420	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.046	3,577	1.046	3,742	0	0	0	0	0	0	3,742
		South		1,056	1,056	2,000		2,900		174	0.7%	2,726	726	26.6%			26.6%	2.2%	1.089	1.046	1,105	1.046	1,155	2,900	0	174	174	0	0	1,155
		East	16,754	15,888	15,888	16,600		19,300		1,312	5.6%	17,988	1,388	7.7%			7.7%	0.6%	1.026	1.046	16,620	1.046	17,385	19,900	600	1,312	1,267	-45	645	18,030
		West	13,265		13,265	16,300	13,900	18,200	16,100	1,139	4.9%	14,961	1,061	7.1%			7.1%	0.6%	1.024	1.046	13,876	1.046	14,515	18,700	500	1,139	1,093	-46	546	15,061
16	Carroll Rd / Camino Santa Fe	North	20,866		20,866	19,500	22,500	26,600	29,400	11,871	50.9%	17,529	-4,971	-28.4%	26,900	4,400	16.4%	1.4%	1.055	1.053	21,981	1.053	23,155	29,500	2,900	11,871	8,349	-3,522	6,422	29,577
		South		22,798	22,798	23,600	24,600	22,500	32,100	7,670	32.9%	24,430	-170	-0.7%	29,400	4,800	16.3%	1.4%	1.054	1.053	24,016	1.053	25,299	24,000	1,500	7,670	6,168	-1,502	3,002	28,301
		East	9,960		9,960	17,200		20,100		2,711	11.6%	17,389	189	1.1%			1.1%	0.1%	1.004	1.046	10,419	1.046	10,898	16,300	-3,800	2,711	737	-1,974	-1,826	9,072
		West	16,754		16,754	20,800		22,800		1,490	6.4%	21,310	510	2.4%			2.4%	0.2%	1.008	1.046	17,525	1.046	18,332	23,400	600	1,490	1,444	-46	646	18,978
17	Carroll Rd / Kenamar Dr	North		11,220	11,220	14,000		16,900		2,203	9.4%	14,697	697	4.7%			4.7%	0.4%	1.016	1.046	11,737	1.046	12,277	12,400	-4,500	2,203	228	-1,975	-2,525	9,752
		South	14,027		14,027	15,000		17,800		2,203	9.4%	15,597	597	3.8%			3.8%	0.3%	1.013	1.046	14,673	1.046	15,348	13,600	-4,200	2,203	228	-1,975	-2,225	13,123
		East		3,768	3,768	700		700		0	0.0%	700	0	0.0%			0.0%	0.0%	1.000	1.046	3,941	1.046	4,123	600	-100	0	0	0	-100	4,023
		West		36	36	1,900		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.046	38	1.046	39	0	0	0	0	0	0	39
18	Eastgate Dr / Judicial Dr	North		3,238	3,238	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.056	3,419	1.056	3,611	0	0	0	0	0	0	3,611
		South		7,213	7,213	4,000		8,400		184	0.8%	8,216	4,216	51.3%			51.3%	4.3%	1.171	1.056	7,617	1.056	8,043	8,300	-100	184	130	-54	-46	7,997
		East	14,317		14,317	8,700		11,500		934	4.0%	10,566	1,866	17.7%			17.7%	1.5%	1.059	1.056	15,118	1.056	15,964	11,700	200	934	879	-55	255	16,219
		West		15,675	15,675	8,200		10,500		748	3.2%	9,752	1,552	15.9%			15.9%	1.3%	1.053	1.056	16,552	1.056	17,478	10,600	100	748	695	-53	153	17,631

	Intersection	Intersection Leg	Existing ADT Counts	Estimated Based on Existing Peak Hour Counts	Combined Existing Counts and Estimated ADT	Raw Series 12 2008 Base ADT	Adjusted Series 12 2008 Base ADT	2021 Phase 1														2025 Phase 2								
								Raw Alt.1 2020 ADT w/Proj	Adjusted Alt.1 2020 ADT w/Proj	Alt.1 Select Zone Trips	Percent Trips (%)	2020 Alt.1 ADT wo/Proj	Change in ADT 2020 wo/ Proj-2008	Growth 2008 to 2020 wo/ Project	Refined Alt.1 2020 ADT wo/Proj	Refined Change in ADT	Refined Growth 2008 to 2020	Annual Growth Rate	2021 Growth Factor (4 years)	Adjusted 2021 Growth Factor (4 years)	Final Alt.1 2021 wo/Proj ADT	2021-2025 Growth Factor (4 years)	2025 wo/proj ADT	Raw Alt.2 2020 ADT w/Proj	Change Alt. 2 - Alt. 1 ADT	Alt.1 Select Zone Trips	Alt.2 Select Zone Trips	Change Alt. 2 - Alt. 1 SZ Trips	Diverted Non-Project Traffic With CCR	2025 Alt. 2 wo/Proj ADT with CCR
19	La Jolla Village Dr / Executive Way	North		11,807	11,807	10,200		14,100		62	0.3%	14,038	3,838	27.3%			27.3%	2.3%	1.091	1.044	12,332	1.044	12,881	13,900	-200	62	62	0	-200	12,681
		South		13,153	13,153	14,300		21,600		167	0.7%	21,433	7,133	33.3%			33.3%	2.8%	1.111	1.044	13,738	1.044	14,349	21,700	100	167	165	-2	102	14,451
		East	39,344		39,344	55,000	37,600	55,100	35,600	1,124	4.8%	34,476	-3,124	-9.1%			-9.1%	-0.8%	0.970	1.044	41,094	1.044	42,922	55,400	300	1,124	1,095	-29	329	43,251
		West		39,903	39,903	38,100		36,100		896	3.8%	35,204	-2,896	-8.2%			-8.2%	-0.7%	0.973	1.044	41,678	1.044	43,532	36,400	300	896	868	-28	328	43,860
20	La Jolla Village Dr / Towne Center Dr	North		25,809	25,809	36,200		32,300		12	0.1%	32,288	-3,912	-12.1%			-12.1%	-1.0%	0.960	1.044	26,957	1.044	28,156	32,300	0	12	12	0	0	28,156
		South		13,818	13,818	18,400		13,000		128	0.5%	12,872	-5,528	-42.9%			-42.9%	-3.6%	0.857	1.044	14,433	1.044	15,075	12,900	-100	128	128	0	-100	14,975
		East	59,451		59,451	60,700		59,500		1,263	5.4%	58,237	-2,463	-4.2%			-4.2%	-0.4%	0.986	1.044	62,096	1.044	64,858	59,700	200	1,263	1,235	-28	228	65,086
		West	39,344		39,344	55,000	37,600	55,100	35,600	1,124	4.8%	34,476	-3,124	-9.1%			-9.1%	-0.8%	0.970	1.044	41,094	1.044	42,922	55,400	300	1,124	1,095	-29	329	43,251
21	La Jolla Village Dr / I-805 SB Ramps	North		21,451	21,451	16,700		20,900		110	0.5%	20,790	4,090	19.7%			19.7%	1.6%	1.066	1.044	22,405	1.044	23,402	20,500	-400	110	46	-64	-336	23,066
		South		12,792	12,792	15,900		17,100		0	0.0%	17,100	1,200	7.0%			7.0%	0.6%	1.023	1.044	13,361	1.044	13,955	17,100	0	0	0	0	0	13,955
		East		49,508	49,508	57,600	50,500	48,600		1,373	5.9%	47,227	-3,273	-6.9%			-6.9%	-0.6%	0.977	1.044	51,710	1.044	54,011	48,800	200	1,373	1,282	-91	291	54,302
		West	59,451		59,451	60,600		59,500		1,263	5.4%	58,237	-2,363	-4.1%			-4.1%	-0.3%	0.986	1.044	62,096	1.044	64,858	59,700	200	1,263	1,235	-28	228	65,086
22	Miramar Rd / I-805 NB Ramps	North		9,508	9,508	10,700		8,200		193	0.8%	8,007	-2,693	-33.6%			-33.6%	-2.8%	0.888	1.044	9,931	1.044	10,373	8,200	0	193	178	-15	15	10,388
		South		21,611	21,611	29,200		29,100		770	3.3%	28,330	-870	-3.1%			-3.1%	-0.3%	0.990	1.044	22,572	1.044	23,576	28,200	-900	770	415	-355	-545	23,031
		East	45,040	41,205	41,205	54,600	41,800	43,100		2,337	10.0%	40,763	-1,037	-2.5%			-2.5%	-0.2%	0.992	1.044	43,038	1.044	44,952	42,300	-800	2,337	1,875	-462	-338	44,614
		West		49,815	49,815	55,500	50,500	48,600	52,100	1,373	5.9%	50,727	227	0.4%			0.4%	0.0%	1.001	1.044	52,031	1.044	54,346	48,800	200	1,373	1,282	-91	291	54,637
23	Nobel Dr / I-805 SB On-Ramp	North		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.059	0	1.059	0	0	0	0	0	0	0	0
		South		9,191	9,191	16,500		13,300		1,078	4.6%	12,222	-4,278	-35.0%			-35.0%	-2.9%	0.883	1.059	9,732	1.059	10,305	13,000	-300	1,078	512	-566	266	10,571
		East		22,690	22,690	29,400		33,700		1,393	6.0%	32,307	2,907	9.0%			9.0%	0.7%	1.030	1.059	24,026	1.059	25,441	33,400	-350	1,393	824	-569	219	25,660
		West		26,430	26,430	18,700		25,700		315	1.4%	25,385	6,685	26.3%			26.3%	2.2%	1.088	1.059	27,986	1.059	29,634	25,800	100	315	313	-2	102	29,736
24	Nobel Dr / I-805 NB Off-Ramp	North		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.059	0	1.059	0	0	0	0	0	0	0	0
		South		15,397	15,397	12,200		10,600		680	2.9%	9,920	-2,280	-23.0%			-23.0%	-1.9%	0.923	1.059	16,304	1.059	17,264	11,100	500	680	475	-205	705	17,969
		East	22,627		22,627	33,500		33,300		3,119	13.4%	30,181	-3,319	-11.0%			-11.0%	-0.9%	0.963	1.059	23,959	1.059	25,370	33,200	-100	3,119	2,134	-985	885	26,255
		West		22,690	22,690	29,400		32,500		2,440	10.5%	30,060	660	2.2%			2.2%	0.2%	1.007	1.059	24,026	1.059	25,441	32,100	-350	2,440	1,658	-782	432	25,873
25	Miramar Rd / Nobel Dr	North		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.059	0	1.059	0	0	0	0	0	0	0	0
		South	22,627		22,627	33,500		33,300		3,119	13.4%	30,181	-3,319	-11.0%			-11.0%	-0.9%	0.963	1.059	23,959	1.059	25,370	33,200	-100	3,119	2,134	-985	885	26,255
		East	62,742		62,742	66,000	58,200	57,900	60,000	5,493	23.6%	54,507	-3,693	-6.8%			-6.8%	-0.6%	0.977	1.044	65,533	1.044	68,448	57,300	-600	5,493	4,045	-1,448	848	69,296
		West	45,040		45,040	54,600	41,800	43,100		2,337	10.0%	40,763	-1,037	-2.5%			-2.5%	-0.2%	0.992	1.044	47,044	1.044	49,136	42,300	-800	2,337	1,875	-462	-338	48,798
26	Miramar Rd / Eastgate Mall	North	14,317	19,652	19,652	8,000		10,200		936	4.0%	9,264	1,264	13.6%			13.6%	1.1%	1.045	1.044	20,526	1.044	21,439	10,500	300	936	882	-54	354	21,793
		South		122	122	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	127	1.044	133	0	0	0	0	0	0	133
		East		70,285	70,285	73,100	65,200	66,400	67,200	6,429	27.6%	60,771	-4,429	-7.3%			-7.3%	-0.6%	0.976	1.044	73,412	1.044	76,677	66,000	-400	6,429	4,927	-1,502	1,102	77,779
		West	72,543	62,742	62,742	66,000	58,200	57,900	60,000	5,493	23.6%	54,507	-3,693	-6.8%			-6.8%	-0.6%	0.977	1.044	65,533	1.044	68,448	57,300	-600	5,493	4,045	-1,448	848	69,296
27	Miramar Rd / Miramar Mall	North		2,556	2,556	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	2,670	1.044	2,788	0	0	0	0	0	0	2,788
		South		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	0	1.044	0	0	0	0	0	0	0	0
		East	70,746		70,746	73,100	65,600	66,400	67,600	6,429	27.6%	61,171	-4,429	-7.2%			-7.2%	-0.6%	0.976	1.044	73,893	1.044	77,180	66,000	-400	6,429	4,927	-1,502	1,102	78,282
		West		70,285	70,285	73,100	65,200	66,400	67,200	6,429	27.6%	60,771	-4,429	-7.3%			-7.3%	-0.6%	0.976	1.044	73,412	1.044	76,677	66,000	-400	6,429	4,927	-1,502	1,102	77,779
28	Miramar Rd / Miramar Place	North		2,928	2,928	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	3,058	1.044	3,194	0	0	0		0	0	3,194
		South		60	60	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	63	1.044	65	0	0	0		0	0	65
		East		70,660	70,660	65,400	65,500	61,900	67,500	6,681	28.6%	60,819	-4,681	-7.7%			-7.7%	-0.6%	0.974	1.044	73,803	1.044	77,086	61,600	-300	6,681	5,179	-1,502	1,202	78,288
		West	70,746		70,746	65,400	65,600	61,900	67,600	6,681	28.6%	60,919	-4,681	-7.7%			-7.7%	-0.6%	0.974	1.044	73,893	1.044	77,180	61,600	-300	6,681	5,179	-1,502	1,202	78,382
29	Miramar Rd / Camino Santa Fe	North	24,399	25,872	25,872	26,900		25,500		6,681	28.6%	18,819	-8,081	-42.9%			-42.9%	-3.6%	0.857	1.044	27,023	1.044	28,225	26,400	900	6,681	5,179	-1,502	2,402	30,627
		South		2,544	2,544	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	2,657	1.044	2,775	0	0	0	0	0	0	2,775
		East		49,489	49,489	34,300	45,900	32,700	47,300	0	0.0%	47,300	1,400	3.0%			3.0%	0.2%	1.010	1.044	51,690	1.044	53,990	31,300	-1,400	0	0	0	-1,400	52,590
		West		70,660	70,660	65,400	65,500	61,900	67,500	6,681	28.6%	60,819	-4,681	-7.7%			-7.7%	-0.6%	0.974	1.044	73,803	1.044	77,086	61,600	-300	6,681	5,179	-1,502	1,202	78,288
30	Miramar Rd / Carroll Rd	North	14,027		14,027	15,000		17,800		2,203	9.4%	15,597	597	3.8%			3.8%	0.3%	1.013	1.044	14,651	1.044	15,303	13,600	-4,200	2,203	228	-1,975	-2,225	13,078
		South		60	60	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	63	1.044	65	0	0	0	0	0	0	65
		East	45,109		45,109	41,500		44,300		2,203	9.4%	42,097	597	1.4%			1.4%	0.1%	1.005	1.044	47,116	1.044	49,212	38,200	-6,100	2,203	228	-1,975	-4,125	45,087
		West		40,731	40,731	41,300	37,500	41,200	40,000	0	0.0%	40,000	2,500	6.3%			6.3%	0.5%	1.021	1.044	42,543	1.044	44,435	38,500	-2,700	0	0	0	-2,700	41,735
31	Miramar Rd / Camino Ruiz	North	21,228		21,228	25,400		27,700		21	0.1%	27,679	2,279	8.2%			8.2%	0.7%	1.027	1.027	21,811	1.027	22,409	28,200	500	21	3,720	3,699	-3,199	19,210
		South		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	0.000	1.027	0	1.027	0	0	0	0	0	0	0	0
		East	57,677		57,677	57,000		56,600		1,674	7.2%	54,926	-2,074	-3.8%			-3.8%	-0.3%	0.987	1.044	60,243	1.044	62,923	57,000	400	1,674	3,392	1,718	-1,318	61,605
		West		50,937	50,937	53,500		56,200		1,653	7.1%	54,547	1,047	1.9%			1.9%	0.2%	1.006	1.044	53,203	1.044	55,570	50,500	-5,700	1,653	327	-1,326	-4,374	51,196
32	Miramar Rd / Clayton Dr	North		3,419	3,419	6,800		6,800		41	0.2%	6,759	-41	-0.6%			-0.6%	-0.1%	0.998	1.044	3,571	1.044	3,730	6,900	100	41	12	-29	129	3,859
		South		11,947	11,947	3,500		4,400		67	0.3%	4,333	833	19.2%			19.2%	1.6%	1.064	1.044	12,478	1.044	13,034	4,200	-200	67	67	0	-200	12,834
		East	59,889		59,889	60,400		59,400		1,566	6.7%	57,834	-2,566	-4.4%			-4.4%	-0.4%	0.985	1.044	62,553	1.044	65,336	59,300	-100	1,566	3,296	1,730	-684	64,652
		West	57,677		57,677	57,000		56,600		1,674	7.2%	54,926	-2,074	-3.8%			-3.8%	-0.3%	0.987	1.044	60,243	1.044	62,923	57,000	400	1,674	3,392	1,718	-1,318	61,605
33	Miramar Rd / Black Mountain Rd	North		13,655	13,655	20,500		13,000		0	0.0%	13,000	-7,500	-57.7%			-57.7%	-4.8%	0.808	1.044	14,262	1.044	14,897	12,900	-100	0	0	0	-100	14,797
		South		191	191	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	0.000	1.044	199	1.044	208	0	0	0	0	0	0	208
		East	64,083		64,083	56,200		54,200		1,566	6.7%	52,634	-3,566	-6.8%			-6.8%	-0.6%	0.977	1.044	66,934	1.044	69,911	55,200	1,000	1,566	3,296	1,730	-730	69,181
		West	59,889		59,889	60,400		59,400		1,566	6.7%	57,834	-2,566	-4.4%			-4.4%	-0.4%	0.985	1.044	62,553	1.044	65,336	59,300	-100	1,566	3,296	1,730	-1,830	63,506
34	Miramar Rd / Kearny Villa Rd	North		17,136	17,136	17,400		19,300		0	0.0%	19,300	1,900	9.8%			9.8%	0.8%	1.033	1.044	17,898	1.044	18,694	19,100	-200	0	152	152	-352	18,342
		South	23,311		23,311	22,500		23,000		586	2.5%	22,414	-86	-0.4%			-0.4%	0.0%	0.999	1.044	24,348	1.044	25,431	23,300	300	586	1,312	726	-426	25,005
		East	54,102		54,102	56,200		55,000		980	4.2%	54,020	-2,180	-4.0%			-4.0%	-0.3%	0.987	1.044	56,509	1.044	59,022	56,700	1,700	980	2,134	1,154	546	59,568
		West	64,083		64,083	56,200		54,200		1,566	6.7%	52,634	-3,566	-6.8%			-6.8%	-0.6%	0.977	1.044	66,934	1.044	69,911	55,200	1,000	1,566	3,296	1,730	-730	69,181
35	Miramar Rd / Kearny Mesa Rd	North		2,280	2,280	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.044	2,381	1.044	2,487	0	0	0	0	0	0	2,487
		South		3,696	3,696	3,600		2,200		6	0.0%	2,194	-1,406	-64.1%			-64.1%	-5.3%	0.786	1.044	3,860	1.044	4,032	2,200	0	6	18	12	-12	4,020
		East		55,070	55,070	56,700		55,700		897	3.8%	54,803	-1,897	-3.5%			-3.5%	-0.3%	0.988	1.044	57,520	1.044	60,078	57,400	1,700	897	2,039	1,142	558	60,636
		West	54,102		54,102	56,200		55,000		980	4.2%	54,020	-2,180	-4.0%			-4.0%	-0.3%	0.987	1.044	56,509	1.044	59,022	56,700	1,700	980	2,134	1,154	546	59,568
36	Miramar Rd / I-15 SB Ramps	North		19,374	19,374	20,800		19,700		116	0.5%	19,584	-1,216	-6.2%			-6.2%	-0.5%	0.979	1.044	20,236	1.044	21,136	19,400	-300	115	237	122	-422	20,714
		South		16,838	16,838	9,200		9,200		205	0.9%	8,995	-205	-2.3%			-2.3%	-0.2%	0.992	1.044	17,587	1.044	18,369	9,500	300	205	610	405	-105	18,264
		East		42,488	42,488	31,300		29,700		577	2.5%	29,123	-2,177	-7.5%			-7.5%	-0.6%	0.975	1.044	44,378	1.044	46,352	30,400	700	577	1,207	630	70	46,422
		West		55,070	55,070	56,700		55,700		897	3.8%	54,803	-1,897	-3.5%			-3.5%	-0.3%	0.988	1.044	57,520	1.044	60,078	57,400	1,700	897	2,039	1,142	558	60,636

	Intersection	Intersection Leg	Existing ADT Counts	Estimated Based on Existing Peak Hour Counts	Combined Existing Counts and Estimated ADT	Raw Series 12 2008 Base ADT	Adjusted Series 12 2008 Base ADT	2021 Phase 1														2025 Phase 2								
								Raw Alt.1 2020 ADT w/Proj	Adjusted Alt.1 2020 ADT w/Proj	Alt.1 Select Zone Trips	Percent Trips (%)	2020 Alt.1 ADT wo/Proj	Change in ADT 2020 wo/ Proj-2008	Growth 2008 to 2020 wo/ Project	Refined Alt.1 2020 ADT wo/Proj	Refined Change in ADT	Refined Growth 2008 to 2020	Annual Growth Rate	2021 Growth Factor (4 years)	Adjusted 2021 Growth Factor (4 years)	Final Alt.1 2021 wo/Proj ADT	2021-2025 Growth Factor (4 years)	2025 wo/proj ADT	Raw Alt.2 2020 ADT w/Proj	Change Alt. 2 - Alt. 1 ADT	Alt.1 Select Zone Trips	Alt.2 Select Zone Trips	Change Alt. 2 - Alt. 1 SZ Trips	Diverted Non-Project Traffic With CCR	2025 Alt. 2 wo/Proj ADT with CCR
37	Miramar Rd / I-15 NB Ramps	North		2,055	2,055	2,700		2,400		0	0.0%	2,400	-300	-12.5%			-12.5%	-1.0%	0.958	1.044	2,146	1.044	2,242	2,400	0	0	0	0	0	2,242
		South		31,226	31,226	25,400		24,900		160	0.7%	24,740	-660	-2.7%			-2.7%	-0.2%	0.991	1.044	32,615	1.044	34,066	25,100	200	160	574	414	-214	33,852
		East		31,585	31,585	29,600		28,400		416	1.8%	27,984	-1,616	-5.8%			-5.8%	-0.5%	0.981	1.044	32,990	1.044	34,458	28,300	-100	416	601	185	-285	34,173
		West		42,488	42,488	31,300		29,700		577	2.5%	29,123	-2,177	-7.5%			-7.5%	-0.6%	0.975	1.044	44,378	1.044	46,352	30,400	700	577	1,207	630	70	46,422
38	Camino Santa Fe / Flanders Dr	North	17,521		17,521	15,300	19,100	16,100	23,100	4,877	20.9%	18,223	-877	-4.8%	23,100	4,000	17.3%	1.4%	1.058	1.040	18,221	1.040	18,948	12,700	-3,400	3,796	1,630	-2,166	-1,234	17,714
		South	16,818		16,818	18,300		22,200		8,113	34.8%	14,087	-4,213	-29.9%	22,200	3,900	17.6%	1.5%	1.059	1.040	17,490	1.040	18,188	17,900	-4,300	8,113	4,929	-3,184	-1,116	17,072
		East		11,631	11,631	8,800	14,400	9,200	15,400	1,324	5.7%	14,076	-324	-2.3%	15,400	1,000	6.5%	0.5%	1.022	1.040	12,095	1.040	12,578	6,600	-2,600	1,324	269	-1,055	-1,545	11,033
		West	8,070		8,070	10,000		10,700		1,493	6.4%	9,207	-793	-8.6%	10,700	700	6.5%	0.5%	1.022	1.040	8,392	1.040	8,727	10,900	200	1,493	2,611	1,118	-918	7,809
39	Camino Santa Fe / Miratech Dr	North	16,818		16,818	18,300		22,200		8,113	34.8%	14,087	-4,213	-29.9%	22,200	3,900	17.6%	1.5%	1.059	1.053	17,716	1.053	18,663	17,900	-4,300	8,113	4,929	-3,184	-1,116	17,547
		South	16,240		16,240	18,300		15,400		2,541	10.9%	12,859	-5,441	-42.3%	21,400	3,100	14.5%	1.2%	1.048	1.053	17,108	1.053	18,022	13,500	-1,900	2,541	1,199	-1,342	-558	17,464
		East		12	12	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.053	13	1.053	13	0	0	0	0	0	0	13
		West		2,556	2,556	1,350		1,200		0	0.0%	1,200	-150	-12.5%			-12.5%	-1.0%	0.958	1.053	2,693	1.053	2,836	1,000	-200	0	0	0	-200	2,636
40	Camino Santa Fe / Summer Ridge Rd	North	16,240		16,240	18,300		15,400		2,541	10.9%	12,859	-5,441	-42.3%	21,400	3,100	14.5%	1.2%	1.048	1.053	17,108	1.053	18,022	13,500	-1,900	2,541	1,199	-1,342	-558	17,464
		South	17,070		17,070	18,500		24,700		10,605	45.5%	14,095	-4,405	-31.3%	22,500	4,000	17.8%	1.5%	1.059	1.053	17,982	1.053	18,943	20,500	-4,200	10,605	7,007	-3,598	-602	18,341
		East		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.053	0	1.053	0	0	0	0	0	0	0	0
		West		1,320	1,320	1,350		1,300		99	0.4%	1,201	-149	-12.4%			-12.4%	-1.0%	0.959	1.053	1,391	1.053	1,465	1,600	300	99	99	0	300	1,765
41	Camino Santa Fe / Carroll Canyon Rd	North	17,070		17,070	18,500		24,700		10,605	45.5%	14,095	-4,405	-31.3%	22,500	4,000	17.8%	1.5%	1.059	1.053	17,982	1.053	18,943	20,500	-4,200	10,605	7,007	-3,598	-602	18,341
		South	18,695		18,695	15,900	20,100	24,200	26,300	14,016	60.1%	12,284	-3,616	-29.4%	24,100	4,000	16.6%	1.4%	1.055	1.053	19,694	1.053	20,746	27,100	2,900	14,016	9,214	-4,802	7,702	28,448
		East		756	756	100		8,600		8,560	36.7%	100	0	0.0%			0.0%	0.0%	1.000	1.053	796	1.053	839	21,400	12,800	8,560	4,671	-3,889	16,689	17,528
		West		24	24	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.053	25	1.053	27	0	0	0	0	0	0	27
42	Camino Santa Fe / Trade St	North	18,695		18,695	15,900	20,100	24,200	26,300	14,016	60.1%	12,284	-7,816	-63.6%	24,100	4,000	16.6%	1.4%	1.055	1.053	19,694	1.053	20,746	27,100	2,900	14,016	9,214	-4,802	7,702	28,448
		South	20,886		20,886	19,500	22,500	26,600	29,400	11,871	50.9%	17,529	-4,971	-28.4%	26,900	4,400	16.4%	1.4%	1.055	1.053	22,002	1.053	23,177	29,500	2,900	11,871	8,349	-3,522	6,422	29,599
		East		6,526	6,526	8,700		10,000		2,144	9.2%	7,856	-844	-10.7%			-10.7%	-0.9%	0.964	1.053	6,875	1.053	7,242	9,200	-800	2,144	863	-1,281	481	7,723
		West		637	637	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.053	671	1.053	707	0	0	0	0	0	0	707
43	Camino Ruiz / Mira Mesa Mall	North	18,430		18,430	17,800		17,200		0	0.0%	17,200	-600	-3.5%			-3.5%	-0.3%	0.988	1.027	18,936	1.027	19,456	18,100	900	0	956	956	-56	19,400
		South	18,002		18,002	14,700		13,200		0	0.0%	13,200	-1,500	-11.4%			-11.4%	-0.9%	0.962	1.027	18,496	1.027	19,004	14,600	1,400	0	1,111	1,111	289	19,293
		East		0	0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.027	0	1.027	0	0	0	0	0	0	0	0
		West		5,128	5,128	13,300		13,500		0	0.0%	13,500	200	1.5%			1.5%	0.1%	1.005	1.027	5,269	1.027	5,413	14,500	1,000	0	156	156	844	6,257
44	Camino Ruiz / Reagan Rd	North	18,002		18,002	14,700		13,200		0	0.0%	13,200	-1,500	-11.4%			-11.4%	-0.9%	0.962	1.027	18,496	1.027	19,004	14,600	1,400	0	1,111	1,111	289	19,293
		South	21,879		21,879	21,500		19,900		73	0.3%	19,827	-1,673	-8.4%			-8.4%	-0.7%	0.972	1.027	22,479	1.027	23,096	24,500	4,600	73	1,255	1,182	3,418	26,514
		East		8,136	8,136	6,000		5,700		73	0.3%	5,627	-373	-6.6%			-6.6%	-0.6%	0.978	1.027	8,359	1.027	8,589	8,900	3,200	73	105	32	3,168	11,757
		West		9,564	9,564	2,500		2,300		0	0.0%	2,300	-200	-8.7%			-8.7%	-0.7%	0.971	1.027	9,826	1.027	10,096	2,300	0	0	39	39	-39	10,057
45	Camino Ruiz / Flanders Dr	North	21,879		21,879	21,500		19,900		73	0.3%	19,827	-1,673	-8.4%			-8.4%	-0.7%	0.972	1.027	22,479	1.027	23,096	24,500	4,600	73	1,255	1,182	3,418	26,514
		South	21,689		21,689	23,300		21,500		55	0.2%	21,445	-1,855	-8.7%			-8.7%	-0.7%	0.971	1.027	22,284	1.027	22,896	25,500	4,000	55	1,296	1,241	2,759	25,655
		East		5,844	5,844	2,100		2,600		429	1.8%	2,171	71	3.3%			3.3%	0.3%	1.011	1.027	6,004	1.027	6,169	2,200	-400	429	17	-412	12	6,181
		West		7,500	7,500	4,800		6,000		557	2.4%	5,443	643	11.8%			11.8%	1.0%	1.039	1.027	7,706	1.027	7,917	4,000	-2,000	557	24	-533	-1,467	6,450
46	Camino Ruiz / Gold Coast Dr	North	21,689		21,689	23,300		21,500		55	0.2%	21,445	-1,855	-8.7%			-8.7%	-0.7%	0.971	1.027	22,284	1.027	22,896	25,500	4,000	55	1,296	1,241	2,759	25,655
		South	20,750		20,750	20,800		19,200		87	0.4%	19,113	-1,687	-8.8%			-8.8%	-0.7%	0.971	1.027	21,319	1.027	21,905	21,900	2,700	87	1,341	1,254	1,446	23,351
		East		8,982	8,982	9,500		10,000		204	0.9%	9,796	296	3.0%			3.0%	0.3%	1.010	1.027	9,229	1.027	9,482	9,900	-100	204	45	-159	59	9,541
		West		9,868	9,868	6,600		6,600		235	1.0%	6,365	-235	-3.7%			-3.7%	-0.3%	0.988	1.027	10,139	1.027	10,417	5,100	-1,500	235	0	-235	-1,265	9,152
47	Camino Ruiz / Jade Coast Dr	North	20,750		20,750	20,100		18,200		31	0.1%	18,169	-1,931	-10.6%			-10.6%	-0.9%	0.965	1.027	21,319	1.027	21,905	21,200	3,000	31	1,341	1,310	1,690	23,595
		South	23,702		23,702	24,900		22,400		53	0.2%	22,347	-2,553	-11.4%			-11.4%	-1.0%	0.962	1.027	24,353	1.027	25,021	28,700	6,300	53	2,233	2,180	4,120	29,141
		East		4,246	4,246	4,100		3,400		47	0.2%	3,353	-747	-22.3%			-22.3%	-1.9%	0.926	1.027	4,363	1.027	4,482	5,200	1,800	47	542	495	1,305	5,787
		West		154	154	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.027	158	1.027	163	0	0	0	0	0	0	163
48	Camino Ruiz / Carroll Canyon Rd	North	23,702		23,702	24,900		22,500		55	0.2%	22,445	-2,455	-10.9%			-10.9%	-0.9%	0.964	1.027	24,353	1.027	25,021	28,800	6,300	55	2,241	2,186	4,114	29,135
		South	24,519		24,519	25,500		23,100		99	0.4%	23,001	-2,499	-10.9%			-10.9%	-0.9%	0.964	1.027	25,192	1.027	25,883	28,100	5,000	99	5,702	5,603	-603	25,280
		East			0	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.027	0	1.027	0	0	0	0	0	0	0	0
		West	1,792		1,792	2,300		2,000		44	0.2%	1,956	-344	-17.6%			-17.6%	-1.5%	0.941	1.027	1,841	1.027	1,892	25,700	23,700	44	7,944	7,900	15,800	17,692
49	Camino Ruiz / Miralani Dr	North	24,519		24,519	25,500		23,100		99	0.4%	23,001	-2,499	-10.9%			-10.9%	-0.9%	0.964	1.027	25,192	1.027	25,883	28,100	5,000	99	5,702	5,603	-603	25,280
		South	28,933		28,933	34,900		35,000		1,026	4.4%	33,974	-926	-2.7%			-2.7%	-0.2%	0.991	1.027	29,727	1.027	30,543	39,700	4,700	1,026	6,553	5,527	-827	29,716
		East		407	407	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.027	418	1.027	430	0	0	0	0	0	0	430
		West		14,125	14,125	13,100		14,200		1,125	4.8%	13,075	-25	-0.2%			-0.2%	0.0%	0.999	1.027	14,513	1.027	14,911	12,000	-2,200	1,125	150	-975	-1,225	13,686
50	Camino Ruiz / Activity Rd	North	28,933		28,933	34,900		35,000		1,026	4.4%	33,974	-926	-2.7%			-2.7%	-0.2%	0.991	1.027	29,727	1.027	30,543	39,700	4,700	1,026	6,553	5,527	-827	29,716
		South	21,228		21,228	25,400		27,700		21	0.1%	27,679	2,279	8.2%			8.2%	0.7%	1.027	1.027	21,811	1.027	22,409	29,346	1,646	21	3,720	3,699	-2,053	20,356
		East		16,920	16,920	12,800		15,400		1,004	4.3%	14,396	1,596	11.1%			11.1%	0.9%	1.037	1.027	17,384	1.027	17,862	15,600	200	1,004	1,833	829	-629	17,233
		West		420	420	0		0		0	0.0%	0	0	0.0%			0.0%	0.0%	1.000	1.027	432	1.027	443	0	0	0	0	0	0	443

23324

Mira Mesa Average:	1.034
Miramar Average:	1.044
Camino Santa Fe Average:	1.053
Camino Ruiz Average:	1.027

	Intersection	Intersection Leg	Model Alt.2 2020 ADT w/Proj	Alt.2 Select Zone Trips	Model Alt.2 2020 ADT wo/Proj	2025 Alt. 2 wo/Proj ADT with CCR	Model 2050 ADT w/Proj	TAZ 2042 SZ Trips Q2	TAZ 4683 SZ Trips Q1	TAZ 2056 SZ Trips Q3	Total Select Zone Trips	Model 2050 ADT wo/Proj	Change Model 2050 wo/proj - 2020 Alt2 wo/proj ADT	% Change 2050-2020 ADT	Annual Growth Rate 2020 to 2050	2025-2050 Growth Factor (25 years)	Adjusted 2025-2050 Growth Factor (25 years)	Adjusted 2050 ADT wo/Proj
1	Mira Mesa Blvd / Scranton Rd	North	24,000	229	23,771	16,367	26,800	141	65	10	216	26,584	2,813	11.8%	0.4%	1.10		17,981
		South	21,800	120	21,680	10,747	26,200	213	244	40	497	25,703	4,023	18.6%	0.6%	1.15		12,409
		East	45,300	889	44,411	44,718	49,400	169	0	0	169	49,231	4,820	10.9%	0.4%	1.09		48,762
		West	49,100	708	48,392	65,082	54,900	241	179	30	450	54,450	6,058	12.5%	0.4%	1.10		71,871
2	Mira Mesa Blvd / Lusk Blvd	North	9,400	93	9,307	13,258	10,500	66	20	3	89	10,411	1,104	11.9%	0.4%	1.10		14,569
		South	10,400	163	10,237	5,004	11,700	0	0	0	0	11,700	1,463	14.3%	0.5%	1.12		5,599
		East	44,300	1,145	43,155	48,243	48,300	235	20	3	258	48,042	4,887	11.3%	0.4%	1.09		52,796
		West	45,300	889	44,411	44,718	49,400	169	0	0	169	49,231	4,820	10.9%	0.4%	1.09		48,762
3	Mira Mesa Blvd / Pacific Heights Dr	North	21,300	673	20,627	23,979	24,700	442	199	29	670	24,030	3,403	16.5%	0.5%	1.14		27,276
		South	8,600	204	8,396	11,376	10,700	0	219	32	251	10,449	2,053	24.5%	0.8%	1.20		13,694
		East	58,400	1,788	56,612	55,704	60,400	677	0	0	677	59,723	3,111	5.5%	0.2%	1.05		58,255
		West	44,300	1,145	43,155	48,243	48,300	235	20	3	258	48,042	4,887	11.3%	0.4%	1.09		52,796
4	Mira Mesa Blvd / Sequence Dr	North	0	0	0	7,918	0	0	0	0	0	0	0		0.0%	1.00	1.10	8,710
		South	12,200	169	12,031	5,006	13,300	129	40	6	175	13,125	1,094	9.1%	0.3%	1.08		5,385
		East	67,400	1,957	65,443	46,010	68,800	806	40	6	852	67,948	2,505	3.8%	0.1%	1.03		47,477
		West	58,400	1,788	56,612	55,704	60,400	677	0	0	677	59,723	3,111	5.5%	0.2%	1.05		58,255
5	Mira Mesa Blvd / Genetic Center Dr	North	12,000	56	11,944	3,364	14,700	23	17	3	43	14,657	2,713	22.7%	0.8%	1.19		4,001
		South	0	0	0	5,140	0	0	0	0	0	0	0		0.0%	1.00	1.10	5,654
		East	56,900	2,012	54,888	51,118	56,600	828	56	8	892	55,708	820	1.5%	0.0%	1.01		51,754
		West	67,400	1,957	65,443	48,384	68,800	806	40	6	852	67,948	2,505	3.8%	0.1%	1.03		49,927
6	Mira Mesa Blvd / Flanders Dr	North	2,500	188	2,312	4,091	2,900	173	57	8	238	2,662	350	15.1%	0.5%	1.13		4,607
		South	9,400	2,199	7,201	8,901	9,900	1,001	113	16	1,130	8,770	1,569	21.8%	0.7%	1.18		10,518
		East	47,200	0	47,200	45,653	46,600	0	0	0	0	46,600	-600	-1.3%	0.0%	0.99		45,169
		West	56,900	2,012	54,888	51,118	56,600	828	56	8	892	55,708	820	1.5%	0.0%	1.01		51,754
7	Mira Mesa Blvd / Viper Way	North	6,400	0	6,400	1,634	7,200	0	0	0	0	7,200	800	12.5%	0.4%	1.10		1,804
		South	7,100	0	7,100	6,016	8,300	0	0	0	0	8,300	1,200	16.9%	0.6%	1.14		6,863
		East	44,500	0	44,500	41,169	43,800	0	0	0	0	43,800	-700	-1.6%	-0.1%	0.99		40,630
		West	47,200	0	47,200	43,134	46,600	0	0	0	0	46,600	-600	-1.3%	0.0%	0.99		42,677
8	Mira Mesa Blvd / Camino Santa Fe	North	7,000	1,041	5,959	15,698	8,700	719	293	40	1,052	7,648	1,689	28.3%	0.9%	1.24		19,406
		South	12,700	1,630	11,070	17,502	14,800	1,270	450	64	1,784	13,016	1,946	17.6%	0.6%	1.15		20,066
		East	41,100	591	40,509	59,033	43,500	551	157	24	732	42,768	2,259	5.6%	0.2%	1.05		61,776
		West	44,500	0	44,500	41,169	43,800	0	0	0	0	43,800	-700	-1.6%	-0.1%	0.99		40,630
9	Mira Mesa Blvd / Schilling Ave	North	7,400	167	7,233	3,914	8,000	56	89	14	159	7,841	608	8.4%	0.3%	1.07		4,188
		South	1,600	0	1,600	1,830	1,600	0	0	0	0	1,600	0	0.0%	0.0%	1.00	1.07	1,958
		East	40,700	424	40,276	58,531	43,500	495	68	10	573	42,927	2,651	6.6%	0.2%	1.05		61,742
		West	41,100	591	40,509	59,033	43,200	551	157	24	732	42,468	1,959	4.8%	0.2%	1.04		61,412
10	Mira Mesa Blvd / Aderman Ave	North	0	0	0	1,976	0	0	0	0	0	0	0		0.0%	1.00	1.10	2,174
		South	200	0	200	1,950	200	0	0	0	0	200	0	0.0%	0.0%	1.00	1.10	2,145
		East	40,500	424	40,076	59,138	42,700	495	68	10	573	42,127	2,051	5.1%	0.2%	1.04		61,660
		West	40,700	424	40,276	58,531	43,200	495	68	10	573	42,627	2,351	5.8%	0.2%	1.05		61,378

Intersection		Intersection Leg	Model Alt.2 2020 ADT w/Proj	Alt.2 Select Zone Trips	Model Alt.2 2020 ADT wo/Proj	2025 Alt. 2 wo/Proj ADT with CCR	Model 2050 ADT w/Proj	TAZ 2042 SZ Trips Q2	TAZ 4683 SZ Trips Q1	TAZ 2056 SZ Trips Q3	Total Select Zone Trips	Model 2050 ADT wo/Proj	Change Model 2050 wo/proj - 2020 Alt2 wo/proj ADT	% Change 2050-2020 ADT	Annual Growth Rate 2020 to 2050	2025-2050 Growth Factor (25 years)	Adjusted 2025-2050 Growth Factor (25 years)	Adjusted 2050 ADT wo/Proj
11	Mira Mesa Blvd / Parkdale Ave	North	3,900	127	3,773	5,027	4,300	68	60	10	138	4,162	389	10.3%	0.3%	1.09		5,459
		South	4,700	15	4,685	6,011	5,300	14	0	0	14	5,286	601	12.8%	0.4%	1.11		6,653
		East	42,000	282	41,718	57,199	44,500	414	8	0	422	44,078	2,360	5.7%	0.2%	1.05		59,895
		West	40,500	424	40,076	58,974	42,700	495	68	10	573	42,127	2,051	5.1%	0.2%	1.04		61,489
12	Mira Mesa Blvd / Reagan Rd	North	4,700	13	4,687	6,389	5,700	5	0	1	6	5,694	1,007	21.5%	0.7%	1.18		7,533
		South	4,500	91	4,409	9,017	5,600	71	36	7	114	5,486	1,077	24.4%	0.8%	1.20		10,853
		East	38,100	174	37,926	48,726	39,500	327	0	0	327	39,173	1,247	3.3%	0.1%	1.03		50,061
		West	43,400	200	43,200	51,748	45,200	252	35	5	292	44,908	1,708	4.0%	0.1%	1.03		53,453
13	Mira Mesa Blvd / Camino Ruiz	North	25,700	246	25,454	23,641	26,800	21	173	32	226	26,574	1,120	4.4%	0.1%	1.04		24,508
		South	18,100	956	17,144	19,652	19,100	0	198	35	233	18,867	1,723	10.1%	0.3%	1.08		21,298
		East	36,500	1,044	35,456	54,633	37,400	73	12	2	87	37,313	1,857	5.2%	0.2%	1.04		57,017
		West	34,000	43	33,957	48,889	34,000	94	13	2	109	33,891	-66	-0.2%	0.0%	1.00		48,810
14	Carroll Canyon Rd / Pacific Heights Rd	North	6,900	160	6,740	10,317	9,300	83	256	38	377	8,923	2,183	32.4%	1.1%	1.27		13,102
		South	0	0	0	0	0	0	0	0	0	0	0		0.0%	0.00		0
		East	15,800	645	15,155	9,144	27,500	1,385	1,067	163	2,615	24,885	9,730	64.2%	2.1%	1.54		14,036
		West	14,800	487	14,313	12,431	21,800	1,303	811	125	2,239	19,561	5,248	36.7%	1.2%	1.31		16,230
15	Carroll Rd / Rehco Rd	North	0	0	0	3,742	0	0	0	0	0	0	0		0.0%	1.00	1.07	3,989
		South	2,900	174	2,726	1,155	3,100	94	56	8	158	2,942	216	7.9%	0.3%	1.07		1,232
		East	19,900	1,267	18,633	18,030	15,900	241	115	17	373	15,527	-3,106	-16.7%	-0.6%	0.86		15,525
		West	18,700	1,093	17,607	15,061	14,600	147	59	9	215	14,385	-3,222	-18.3%	-0.6%	0.85		12,764
16	Carroll Rd / Camino Santa Fe	North	29,500	8,349	21,151	29,577	36,200	4,080	2,204	304	6,588	29,612	8,461	40.0%	1.3%	1.33		39,437
		South	24,000	6,168	17,832	28,301	33,100	3,170	1,846	251	5,267	27,833	10,001	56.1%	1.9%	1.47		41,528
		East	16,300	737	15,563	9,072	14,100	564	191	29	784	13,316	-2,247	-14.4%	-0.5%	0.88		7,981
		West	23,400	1,444	21,956	18,978	20,200	346	167	25	538	19,662	-2,294	-10.4%	-0.3%	0.91		17,326
17	Carroll Rd / Kenamar Dr	North	12,400	228	12,172	9,752	9,800	200	58	9	267	9,533	-2,639	-21.7%	-0.7%	0.82		7,990
		South	13,600	228	13,372	13,123	12,400	200	58	9	267	12,133	-1,239	-9.3%	-0.3%	0.92		12,110
		East	600	0	600	4,023	1,200	0	0	0	0	1,200	600	100.0%	3.3%	1.83	1.10	4,425
		West	0	0	0	39	0	0	0	0	0	0	0		0.0%	1.00	1.10	43
18	Eastgate Dr / Judicial Dr	North	0	0	0	3,611	0	0	0	0	0	0	0		0.0%	1.00	1.10	3,972
		South	8,300	130	8,170	7,997	10,500	108	68	10	186	10,314	2,144	26.2%	0.9%	1.22		9,746
		East	11,700	879	10,821	16,219	14,900	710	198	30	938	13,962	3,141	29.0%	1.0%	1.24		20,142
		West	10,600	695	9,905	17,631	13,800	602	130	20	752	13,048	3,143	31.7%	1.1%	1.26		22,294
19	La Jolla Village Dr / Executive Way	North	13,900	62	13,838	12,681	17,100	41	20	3	64	17,036	3,198	23.1%	0.8%	1.19		15,123
		South	21,700	165	21,535	14,451	20,500	110	50	8	168	20,332	-1,203	-5.6%	-0.2%	0.95	1.10	15,896
		East	55,400	1,095	54,305	43,251	60,400	610	439	68	1,117	59,283	4,978	9.2%	0.3%	1.08		46,555
		West	36,400	868	35,532	43,860	42,400	459	370	57	886	41,514	5,982	16.8%	0.6%	1.14		50,013
20	La Jolla Village Dr / Towne Center Dr	North	32,300	12	32,288	28,156	35,700	6	8	1	15	35,685	3,397	10.5%	0.4%	1.09		30,625
		South	12,900	128	12,772	14,975	15,900	95	56	9	160	15,740	2,968	23.2%	0.8%	1.19		17,875
		East	59,700	1,235	58,465	65,086	67,300	712	503	77	1,292	66,008	7,543	12.9%	0.4%	1.11		72,084
		West	55,400	1,095	54,305	43,251	60,400	610	439	68	1,117	59,283	4,978	9.2%	0.3%	1.08		46,555

Intersection		Intersection Leg	Model Alt.2 2020 ADT w/Proj	Alt.2 Select Zone Trips	Model Alt.2 2020 ADT wo/Proj	2025 Alt. 2 wo/Proj ADT with CCR	Model 2050 ADT w/Proj	TAZ 2042 SZ Trips Q2	TAZ 4683 SZ Trips Q1	TAZ 2056 SZ Trips Q3	Total Select Zone Trips	Model 2050 ADT wo/Proj	Change Model 2050 wo/proj - 2020 Alt2 wo/proj ADT	% Change 2050-2020 ADT	Annual Growth Rate 2020 to 2050	2025-2050 Growth Factor (25 years)	Adjusted 2025-2050 Growth Factor (25 years)	Adjusted 2050 ADT wo/Proj
21	La Jolla Village Dr / I-805 SB Ramps	North	20,500	46	20,454	23,066	22,400	0	0	0	0	22,400	1,946	9.5%	0.3%	1.08		24,895
		South	17,100	0	17,100	13,955	18,100	0	0	0	0	18,100	1,000	5.8%	0.2%	1.05		14,635
		East	48,800	1,282	47,518	54,302	53,400	742	520	79	1,341	52,059	4,541	9.6%	0.3%	1.08		58,626
		West	59,700	1,235	58,465	65,086	67,300	712	503	77	1,292	66,008	7,543	12.9%	0.4%	1.11		72,084
22	Miramar Rd / I-805 NB Ramps	North	8,200	178	8,022	10,388	9,800	0	0	0	0	9,800	1,778	22.2%	0.7%	1.18		12,306
		South	28,200	415	27,785	23,031	26,900	174	191	17	382	26,518	-1,267	-4.6%	-0.2%	0.96		22,156
		East	42,300	1,875	40,425	44,614	48,500	916	711	96	1,723	46,777	6,352	15.7%	0.5%	1.13		50,456
		West	48,800	1,282	47,518	54,637	53,400	742	520	79	1,341	52,059	4,541	9.6%	0.3%	1.08		58,988
23	Nobel Dr / I-805 SB On-Ramp	North	0	0	0	0	0	0	0	0	0	0	0		0.0%	0.00		0
		South	13,000	512	12,488	10,571	13,800	149	161	20	330	13,470	982	7.9%	0.3%	1.07		11,264
		East	33,400	824	32,576	25,660	42,400	363	316	44	723	41,677	9,101	27.9%	0.9%	1.23		31,634
		West	25,800	313	25,487	29,736	35,800	215	155	25	395	35,405	9,918	38.9%	1.3%	1.32		39,379
24	Nobel Dr / I-805 NB Off-Ramp	North	0	0	0	0	0	0	0	0	0	0	0		0.0%	0.00		0
		South	11,100	475	10,625	17,969	11,700	155	174	17	346	11,354	729	6.9%	0.2%	1.06		18,996
		East	33,200	2,134	31,066	26,255	37,900	693	592	73	1,358	36,542	5,476	17.6%	0.6%	1.15		30,112
		West	32,100	1,658	30,442	25,873	37,800	538	418	56	1,012	36,788	6,346	20.8%	0.7%	1.17		30,368
25	Miramar Rd / Nobel Dr	North	0	0	0	0	0	0	0	0	0	0	0		0.0%	0.00		0
		South	33,200	2,134	31,066	26,255	37,900	693	592	73	1,358	36,542	5,476	17.6%	0.6%	1.15		30,112
		East	57,300	4,045	53,255	69,296	64,100	1,655	1,311	170	3,136	60,964	7,709	14.5%	0.5%	1.12		77,655
		West	42,300	1,875	40,425	48,798	48,500	916	711	96	1,723	46,777	6,352	15.7%	0.5%	1.13		55,188
26	Miramar Rd / Eastgate Mall	North	10,500	882	9,618	21,793	13,400	711	201	30	942	12,458	2,840	29.5%	1.0%	1.25		27,156
		South	0	0	0	133	0	0	0	0	0	0	0		0.0%	1.00	1.10	146
		East	66,000	4,927	61,073	77,779	76,500	2,366	1,512	200	4,078	72,422	11,349	18.6%	0.6%	1.15		89,824
		West	57,300	4,045	53,255	69,296	64,100	1,655	1,311	170	3,136	60,964	7,709	14.5%	0.5%	1.12		77,655
27	Miramar Rd / Miramar Mall	North	0	0	0	2,788	0	0	0	0	0	0	0		0.0%	1.00	1.10	3,067
		South	0	0	0	0	0	0	0	0	0	0	0		0.0%	1.00		0
		East	66,000	4,927	61,073	78,282	76,500	2,366	1,512	200	4,078	72,422	11,349	18.6%	0.6%	1.15		90,405
		West	66,000	4,927	61,073	77,779	76,500	2,366	1,512	200	4,078	72,422	11,349	18.6%	0.6%	1.15		89,824
28	Miramar Rd / Miramar Place	North	0		0	3,194	0	0	0	0	0	0	0		0.0%	1.00	1.10	3,514
		South	0		0	65	0	0	0	0	0	0	0		0.0%	1.00		65
		East	61,600	5,179	56,421	78,288	70,200	2,546	1,583	211	4,340	65,860	9,439	16.7%	0.6%	1.14		89,203
		West	61,600	5,179	56,421	78,382	70,200	2,546	1,583	211	4,340	65,860	9,439	16.7%	0.6%	1.14		89,310
29	Miramar Rd / Camino Santa Fe	North	26,400	5,179	21,221	30,627	33,300	2,520	1,564	208	4,292	29,008	7,787	36.7%	1.2%	1.31		39,992
		South	0	0	0	2,775	0	0	0	0	0	0	0		0.0%	1.00	1.10	3,053
		East	31,300	0	31,300	52,590	33,100	26	19	3	48	33,052	1,752	5.6%	0.2%	1.05		55,043
		West	61,600	5,179	56,421	78,288	70,200	2,546	1,583	211	4,340	65,860	9,439	16.7%	0.6%	1.14		89,203
30	Miramar Rd / Carroll Rd	North	13,600	228	13,372	13,078	12,400	200	58	9	267	12,133	-1,239	-9.3%	-0.3%	0.92		12,068
		South	0	0	0	65	0	0	0	0	0	0	0		0.0%	1.00		65
		East	38,200	228	37,972	45,087	35,600	200	58	9	267	35,333	-2,639	-6.9%	-0.2%	0.94		42,475
		West	38,500	0	38,500	41,735	38,200	0	0	0	0	38,200	-300	-0.8%	0.0%	0.99		41,464

	Intersection	Intersection Leg	Model Alt.2 2020 ADT w/Proj	Alt.2 Select Zone Trips	Model Alt.2 2020 ADT wo/Proj	2025 Alt. 2 wo/Proj ADT with CCR	Model 2050 ADT w/Proj	TAZ 2042 SZ Trips Q2	TAZ 4683 SZ Trips Q1	TAZ 2056 SZ Trips Q3	Total Select Zone Trips	Model 2050 ADT wo/Proj	Change Model 2050 wo/proj - 2020 Alt2 wo/proj ADT	% Change 2050-2020 ADT	Annual Growth Rate 2020 to 2050	2025-2050 Growth Factor (25 years)	Adjusted 2025-2050 Growth Factor (25 years)	Adjusted 2050 ADT wo/Proj
31	Miramar Rd / Camino Ruiz	North	28,200	3,720	24,480	19,210	33,000	1,356	1,119	211	2,686	30,314	5,834	23.8%	0.8%	1.20		23,025
		South	0	0	0	0	0	0	0	0	0	0	0		0.0%	0.00		0
		East	57,000	3,392	53,608	61,605	55,100	1,205	1,026	197	2,428	52,672	-936	-1.7%	-0.1%	0.99		60,708
		West	50,500	327	50,173	51,196	49,400	151	92	14	257	49,143	-1,030	-2.1%	-0.1%	0.98		50,320
32	Miramar Rd / Clayton Dr	North	6,900	12	6,888	3,859	6,700	32	7	2	41	6,659	-229	-3.3%	-0.1%	0.97	1.10	4,245
		South	4,200	67	4,133	12,834	7,100	73	20	3	96	7,004	2,871	69.5%	2.3%	1.58		20,263
		East	59,300	3,296	56,004	64,652	59,200	1,138	1,002	194	2,334	56,866	862	1.5%	0.1%	1.01		65,481
		West	57,000	3,392	53,608	61,605	55,100	1,205	1,026	197	2,428	52,672	-936	-1.7%	-0.1%	0.99		60,708
33	Miramar Rd / Black Mountain Rd	North	12,900	0	12,900	14,797	8,100	15	4	1	20	8,080	-4,820	-37.4%	-1.2%	0.69		10,190
		South	0	0	0	208	0	0	0	0	0	0	0		0.0%	1.00		208
		East	55,200	3,296	51,904	69,181	56,900	1,153	1,005	195	2,353	54,547	2,643	5.1%	0.2%	1.04		72,117
		West	59,300	3,296	56,004	63,506	59,200	1,138	1,002	194	2,334	56,866	862	1.5%	0.1%	1.01		64,320
34	Miramar Rd / Kearny Villa Rd	North	19,100	152	18,948	18,342	29,000	40	59	12	111	28,889	9,941	52.5%	1.7%	1.44		26,362
		South	23,300	1,312	21,988	25,005	35,000	623	540	117	1,280	33,720	11,732	53.4%	1.8%	1.44		36,123
		East	56,700	2,134	54,566	59,568	60,300	571	524	89	1,184	59,116	4,550	8.3%	0.3%	1.07		63,708
		West	55,200	3,296	51,904	69,181	56,900	1,153	1,005	195	2,353	54,547	2,643	5.1%	0.2%	1.04		72,117
35	Miramar Rd / Kearny Mesa Rd	North	0	0	0	2,487	0	0	0	0	0	0	0		0.0%	1.00	1.10	2,736
		South	2,200	18	2,182	4,020	3,300	12	3	1	16	3,284	1,102	50.5%	1.7%	1.42		5,712
		East	57,400	2,039	55,361	60,636	60,700	511	493	84	1,088	59,612	4,251	7.7%	0.3%	1.06		64,517
		West	56,700	2,134	54,566	59,568	60,300	571	524	89	1,184	59,116	4,550	8.3%	0.3%	1.07		63,708
36	Miramar Rd / I-15 SB Ramps	North	19,400	237	19,163	20,714	20,500	0	0	0	0	20,500	1,337	7.0%	0.2%	1.06		21,918
		South	9,500	610	8,890	18,264	11,300	230	272	47	549	10,751	1,861	20.9%	0.7%	1.17		21,451
		East	30,400	1,207	29,193	46,422	34,700	283	229	39	551	34,149	4,956	17.0%	0.6%	1.14		52,990
		West	57,400	2,039	55,361	60,636	60,700	511	493	84	1,088	59,612	4,251	7.7%	0.3%	1.06		64,517
37	Miramar Rd / I-15 NB Ramps	North	2,400	0	2,400	2,242	1,900	0	0	0	0	1,900	-500	-20.8%	-0.7%	0.83	1.10	2,466
		South	25,100	574	24,526	33,852	28,500	173	141	30	344	28,156	3,630	14.8%	0.5%	1.12		38,027
		East	28,300	601	27,699	34,173	32,200	137	41	6	184	32,016	4,317	15.6%	0.5%	1.13		38,611
		West	30,400	1,207	29,193	46,422	34,700	283	229	39	551	34,149	4,956	17.0%	0.6%	1.14		52,990
38	Camino Santa Fe / Flanders Dr	North	12,700	1,630	11,070	17,714	14,800	1,270	450	64	1,784	13,016	1,946	17.6%	0.6%	1.15		20,309
		South	17,900	4,929	12,971	17,072	21,600	2,959	986	145	4,090	17,510	4,539	35.0%	1.2%	1.29		22,050
		East	6,600	269	6,331	11,033	7,800	158	143	23	324	7,476	1,145	18.1%	0.6%	1.15		12,696
		West	10,900	2,611	8,289	7,809	11,800	1,248	260	38	1,546	10,254	1,965	23.7%	0.8%	1.20		9,352
39	Camino Santa Fe / Miratech Dr	North	17,900	4,929	12,971	17,547	21,600	2,959	986	145	4,090	17,510	4,539	35.0%	1.2%	1.29		22,664
		South	13,500	1,199	12,301	17,464	16,700	0	986	145	1,131	15,569	3,268	26.6%	0.9%	1.22		21,330
		East	0	0	0	13	0	0	0	0	0	0	0		0.0%	1.00		13
		West	1,000	0	1,000	2,636	2,000	72	0	0	72	1,928	928	92.8%	3.1%	1.77		4,675
40	Camino Santa Fe / Summer Ridge Rd	North	13,500	1,199	12,301	17,464	16,700	0	986	145	1,131	15,569	3,268	26.6%	0.9%	1.22		21,330
		South	20,500	7,007	13,493	18,341	26,800	6,079	1,056	155	7,290	19,510	6,017	44.6%	1.5%	1.37		25,156
		East	0	0	0	0	0	0	0	0	0	0	0		0.0%	0.00		0
		West	1,600	99	1,501	1,765	4,100	68	70	10	148	3,952	2,451	163.3%	5.4%	2.36		4,166

Intersection		Intersection Leg	Model Alt.2 2020 ADT w/Proj	Alt.2 Select Zone Trips	Model Alt.2 2020 ADT wo/Proj	2025 Alt. 2 wo/Proj ADT with CCR	Model 2050 ADT w/Proj	TAZ 2042 SZ Trips Q2	TAZ 4683 SZ Trips Q1	TAZ 2056 SZ Trips Q3	Total Select Zone Trips	Model 2050 ADT wo/Proj	Change Model 2050 wo/proj - 2020 Alt2 wo/proj ADT	% Change 2050-2020 ADT	Annual Growth Rate 2020 to 2050	2025-2050 Growth Factor (25 years)	Adjusted 2025-2050 Growth Factor (25 years)	Adjusted 2050 ADT wo/Proj
41	Camino Santa Fe / Carroll Canyon Rd	North	20,500	7,007	13,493	18,341	26,800	6,079	1,056	155	7,290	19,510	6,017	44.6%	1.5%	1.37		25,156
		South	27,100	9,214	17,886	28,448	38,800	4,593	2,464	339	7,396	31,404	13,518	75.6%	2.5%	1.63	1.33	37,931
		East	21,400	4,671	16,729	17,528	47,100	0	4,628	663	5,291	41,809	25,080	149.9%	5.0%	2.25		39,426
		West	0	0	0	27	19,200	1,486	1,108	169	2,763	16,437	16,437		0.0%	1.00		16,437
42	Camino Santa Fe / Trade St	North	27,100	9,214	17,886	28,448	38,800	4,593	2,464	339	7,396	31,404	13,518	75.6%	2.5%	1.63	1.33	37,931
		South	29,500	8,349	21,151	29,599	36,200	4,080	2,204	304	6,588	29,612	8,461	40.0%	1.3%	1.33		39,466
		East	9,200	863	8,337	7,723	11,400	513	260	35	808	10,592	2,255	27.0%	0.9%	1.23		9,464
		West	0	0	0	707	0	0	0	0	0	0	0	0.0%	0.0%	1.00	1.10	778
43	Camino Ruiz / Mira Mesa Mall	North	18,100	956	17,144	19,400	19,100	0	198	35	233	18,867	1,723	10.1%	0.3%	1.08		21,024
		South	14,600	1,111	13,489	19,293	15,300	0	289	49	338	14,962	1,473	10.9%	0.4%	1.09		21,048
		East	0	0	0	0	0	0	0	0	0	0	0		0.0%	1.00		0
		West	14,500	156	14,344	6,257	15,900	0	91	14	105	15,795	1,451	10.1%	0.3%	1.08		6,785
44	Camino Ruiz / Reagan Rd	North	14,600	1,111	13,489	19,293	15,300	0	289	49	338	14,962	1,473	10.9%	0.4%	1.09		21,048
		South	24,500	1,255	23,245	26,514	24,700	23	413	69	505	24,195	950	4.1%	0.1%	1.03		27,417
		East	8,900	105	8,795	11,757	8,300	23	88	13	124	8,176	-619	-7.0%	-0.2%	0.94	1.10	12,932
		West	2,300	39	2,261	10,057	3,000	0	36	7	43	2,957	696	30.8%	1.0%	1.26		12,637
45	Camino Ruiz / Flanders Dr	North	24,500	1,255	23,245	26,514	24,700	23	413	69	505	24,195	950	4.1%	0.1%	1.03		27,417
		South	25,500	1,296	24,204	25,655	25,900	17	444	74	535	25,365	1,161	4.8%	0.2%	1.04		26,680
		East	2,200	17	2,183	6,181	2,500	7	11	2	20	2,480	297	13.6%	0.5%	1.11		6,882
		West	4,000	24	3,976	6,450	4,600	13	20	3	36	4,564	588	14.8%	0.5%	1.12		7,245
46	Camino Ruiz / Gold Coast Dr	North	25,500	1,296	24,204	25,655	25,900	17	444	74	535	25,365	1,161	4.8%	0.2%	1.04		26,680
		South	21,900	1,341	20,559	23,351	22,900	45	464	78	587	22,313	1,754	8.5%	0.3%	1.07		25,011
		East	9,900	45	9,855	9,541	8,300	28	20	3	51	8,249	-1,606	-16.3%	-0.5%	0.86		8,245
		West	5,100	0	5,100	9,152	5,400	0	0	0	0	5,400	300	5.9%	0.2%	1.05		9,601
47	Camino Ruiz / Jade Coast Dr	North	21,200	1,341	19,859	23,595	22,900	85	523	88	696	22,204	2,345	11.8%	0.4%	1.10		25,916
		South	28,700	2,233	26,467	29,141	29,700	204	777	129	1,110	28,590	2,123	8.0%	0.3%	1.07		31,089
		East	5,200	542	4,658	5,787	4,500	57	113	18	188	4,312	-346	-7.4%	-0.2%	0.94		5,429
		West	0	0	0	163	0	0	0	0	0	0	0		0.0%	1.00		163
48	Camino Ruiz / Carroll Canyon Rd	North	28,800	2,241	26,559	29,135	38,700	367	1,024	168	1,559	37,141	10,582	39.8%	1.3%	1.33		38,808
		South	28,100	5,702	22,398	25,280	34,500	1,777	1,371	256	3,404	31,096	8,698	38.8%	1.3%	1.32		33,461
		East	0	0	0	0	44,600	2,660	1,764	278	4,702	39,898	39,898		0.0%	1.00		39,898
		West	25,700	7,944	17,756	17,692	52,900	4,804	4,159	701	9,664	43,236	25,480	143.5%	4.8%	2.20		38,848
49	Camino Ruiz / Miralani Dr	North	28,100	5,702	22,398	25,280	34,700	1,777	1,371	256	3,404	31,296	8,898	39.7%	1.3%	1.33		33,650
		South	39,700	6,553	33,147	29,716	38,800	1,686	1,314	244	3,244	35,556	2,409	7.3%	0.2%	1.06		31,772
		East	0	0	0	430	0	0	0	0	0	0	0		0.0%	1.00	1.10	473
		West	12,000	150	11,850	13,686	12,000	91	57	12	160	11,840	-10	-0.1%	0.0%	1.00		13,676
50	Camino Ruiz / Activity Rd	North	39,700	6,553	33,147	29,716	38,800	1,686	1,314	244	3,244	35,556	2,409	7.3%	0.2%	1.06		31,772
		South	29,346	3,720	25,626	20,356	33,000	1,356	1,119	211	2,686	30,314	4,688	18.3%	0.6%	1.15		23,460
		East	15,600	1,833	13,767	17,233	11,400	330	195	32	557	10,843	-2,924	-21.2%	-0.7%	0.82		14,182
		West	0	0	0	443	0	0	0	0	0	0	0		0.0%	1.00	1.10	488

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Appendix L
Mitigation LOS & Fair Share Calculation Worksheets

Michael Baker
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Near Term Year 2021
With Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	567	1221	337	317	1589	1203	30	69	94	103	27	103
Future Volume (vph)	567	1221	337	317	1589	1203	30	69	94	103	27	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.86	0.86	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1652	4920		1652	5085	1583	1652	3086	1489	2841	3429	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1652	4920		1652	5085	1583	1652	3086	1489	2841	3429	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	585	1259	347	327	1638	1240	31	71	97	106	28	106
RTOR Reduction (vph)	0	15	0	0	0	0	0	43	49	0	0	100
Lane Group Flow (vph)	585	1591	0	327	1638	1240	31	73	3	71	63	6
Turn Type	Prot	NA		Prot	NA	Free	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	68.6	124.6		47.5	103.6	216.1	11.0	11.0	11.0	12.8	12.8	12.8
Effective Green, g (s)	68.6	124.6		47.5	103.6	216.1	11.0	11.0	11.0	12.8	12.8	12.8
Actuated g/C Ratio	0.32	0.58		0.22	0.48	1.00	0.05	0.05	0.05	0.06	0.06	0.06
Clearance Time (s)	4.4	6.0		4.4	5.9		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.6	3.6	3.6	4.9	4.9	4.9
Lane Grp Cap (vph)	524	2836		363	2437	1583	84	157	75	168	203	93
v/s Ratio Prot	c0.35	0.32		c0.20	0.32		0.02	0.02		0.02	0.02	
v/s Ratio Perm						c0.78			0.00			0.00
v/c Ratio	1.12	0.56		0.90	0.67	0.78	0.37	0.47	0.04	0.42	0.31	0.07
Uniform Delay, d1	73.8	28.6		82.0	43.2	0.0	99.2	99.7	97.5	98.1	97.4	96.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	75.3	0.8		24.0	1.5	4.0	3.3	2.7	0.2	3.4	1.8	0.6
Delay (s)	149.1	29.4		106.0	44.7	4.0	102.5	102.4	97.7	101.5	99.2	96.6
Level of Service	F	C		F	D	A	F	F	F	F	F	F
Approach Delay (s)		61.4			35.2			101.2			98.7	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	49.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	216.1	Sum of lost time (s)	20.2
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	309	107	755	2756	339	184	164	159	112	289	60
Future Volume (vph)	24	309	107	755	2756	339	184	164	159	112	289	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	10	10
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4889		3204	5002		1652	3421	1531	3204	3218	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4889		3204	5002		1652	3421	1531	3204	3218	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	315	109	770	2812	346	188	167	162	114	295	61
RTOR Reduction (vph)	0	32	0	0	8	0	0	0	29	0	10	0
Lane Group Flow (vph)	24	392	0	770	3150	0	188	167	133	114	346	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.2	32.9		86.2	115.8		23.7	39.5	131.7	10.5	25.9	
Effective Green, g (s)	3.2	32.9		86.2	115.8		23.7	39.5	131.7	10.5	25.9	
Actuated g/C Ratio	0.02	0.17		0.45	0.61		0.12	0.21	0.69	0.06	0.14	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	27	846		1453	3048		206	711	1061	177	438	
v/s Ratio Prot	c0.01	0.08		0.24	c0.63		c0.11	0.05	0.09	0.04	c0.11	
v/s Ratio Perm												
v/c Ratio	0.89	0.46		0.53	1.03		0.91	0.23	0.13	0.64	0.79	
Uniform Delay, d1	93.2	70.6		37.3	37.1		82.1	62.7	9.8	87.9	79.4	
Progression Factor	0.99	0.98		0.78	0.53		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	121.7	0.6		0.6	20.6		39.1	0.2	0.1	5.9	9.5	
Delay (s)	213.8	69.9		29.6	40.4		121.3	62.9	9.9	93.8	89.0	
Level of Service	F	E		C	D		F	E	A	F	F	
Approach Delay (s)		77.6			38.3			67.5			90.1	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	48.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	131	133	64	324	93	334	489	104	201	1018	369
Future Volume (vph)	65	131	133	64	324	93	334	489	104	201	1018	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9	4.9	4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	1739	1531	1652	2111	1583	1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	1739	1531	1652	2111	1583	1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	141	143	69	348	100	359	526	112	216	1095	397
RTOR Reduction (vph)	0	0	79	0	0	79	0	0	43	0	0	46
Lane Group Flow (vph)	70	141	64	69	348	21	359	526	69	216	1095	351
Confl. Bikes (#/hr)												5
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	6 7
Permitted Phases						8						
Actuated Green, G (s)	7.3	21.9	53.5	10.3	24.9	24.9	25.7	47.5	63.5	19.8	41.6	54.6
Effective Green, g (s)	7.3	21.9	53.5	10.3	24.9	24.9	25.7	47.5	63.5	19.8	41.6	54.6
Actuated g/C Ratio	0.06	0.18	0.44	0.09	0.21	0.21	0.21	0.39	0.53	0.16	0.35	0.45
Clearance Time (s)	5.9	5.9		4.9	4.9	4.9	4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9	2.9	2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	194	316	680	141	436	327	365	1303	834	271	1182	694
v/s Ratio Prot	0.02	0.08	0.04	c0.04	c0.16		c0.21	0.16	0.04	0.13	c0.32	0.23
v/s Ratio Perm						0.01						
v/c Ratio	0.36	0.45	0.09	0.49	0.80	0.06	0.98	0.40	0.08	0.80	0.93	0.51
Uniform Delay, d1	54.3	43.9	19.4	52.5	45.4	38.4	47.1	26.3	14.1	48.4	37.9	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.5	0.0	2.5	9.8	0.1	42.3	0.3	0.1	14.0	12.4	0.8
Delay (s)	54.9	44.4	19.4	55.1	55.1	38.5	89.5	26.5	14.1	62.4	50.3	24.1
Level of Service	D	D	B	E	E	D	F	C	B	E	D	C
Approach Delay (s)		36.4			51.9			47.8			45.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.4	Sum of lost time (s)	20.9
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	331	930	136	359	1518	1385	117	222	324	209	44	37
Future Volume (vph)	331	930	136	359	1518	1385	117	222	324	209	44	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	5.0	5.0	5.0	5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3109	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3109	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	345	969	142	374	1581	1443	122	231	338	218	46	39
RTOR Reduction (vph)	0	0	63	0	0	126	0	0	162	0	0	26
Lane Group Flow (vph)	345	969	79	374	1581	1317	122	231	176	146	118	13
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pt+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	4 5
Permitted Phases			2			6						
Actuated Green, G (s)	22.3	69.5	69.5	22.8	70.7	105.2	22.5	22.5	50.3	34.5	34.5	56.8
Effective Green, g (s)	22.3	69.5	69.5	22.8	70.7	105.2	22.5	22.5	50.3	34.5	34.5	56.8
Actuated g/C Ratio	0.13	0.41	0.41	0.13	0.42	0.62	0.13	0.13	0.30	0.20	0.20	0.33
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3	5.3	5.0	5.0		5.3	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3	4.6	5.2	5.2		4.6	4.6	
Lane Grp Cap (vph)	450	2078	647	460	2114	1811	454	468	824	617	630	528
v/s Ratio Prot	0.10	0.19		c0.11	0.31	c0.15	0.04	c0.07	0.06	0.05	0.04	0.01
v/s Ratio Perm			0.05			0.33						
v/c Ratio	0.77	0.47	0.12	0.81	0.75	0.73	0.27	0.49	0.21	0.24	0.19	0.02
Uniform Delay, d1	71.3	36.7	31.3	71.5	42.1	22.5	66.3	68.5	45.0	56.7	56.1	38.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	0.8	0.4	10.0	2.5	1.7	0.7	1.8	0.3	0.4	0.3	0.0
Delay (s)	78.2	37.5	31.6	81.5	44.6	24.2	67.1	70.3	45.3	57.1	56.4	38.0
Level of Service	E	D	C	F	D	C	E	E	D	E	E	D
Approach Delay (s)		46.6			40.0			57.5			54.4	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	44.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	893	1120	24	21	2230	102	19	3	10	52	2	1048
Future Volume (vph)	893	1120	24	21	2230	102	19	3	10	52	2	1048
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9			5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00			1.00	0.76
Frt	1.00	1.00		1.00	0.99		1.00	0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	3204	5069		3204	5052		1652	1643			1718	3610
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)	3204	5069		3204	5052		1652	1643			1718	3610
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	940	1179	25	22	2347	107	20	3	11	55	2	1103
RTOR Reduction (vph)	0	1	0	0	4	0	0	11	0	0	0	400
Lane Group Flow (vph)	940	1203	0	22	2450	0	20	3	0	0	57	704
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	43.6	100.8		3.1	60.4		4.5	4.5			21.0	70.1
Effective Green, g (s)	43.6	100.8		3.1	60.4		4.5	4.5			21.0	70.1
Actuated g/C Ratio	0.29	0.67		0.02	0.40		0.03	0.03			0.14	0.47
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9			5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0			2.8	
Lane Grp Cap (vph)	931	3406		66	2034		49	49			240	1687
v/s Ratio Prot	c0.29	0.24		0.01	c0.49		c0.01	0.00			0.03	c0.19
v/s Ratio Perm												
v/c Ratio	1.01	0.35		0.33	1.20		0.41	0.07			0.24	0.42
Uniform Delay, d1	53.2	10.6		72.4	44.8		71.4	70.7			57.4	26.4
Progression Factor	0.93	1.25		1.13	0.78		1.00	1.00			1.00	1.00
Incremental Delay, d2	30.4	0.3		0.7	95.4		2.0	0.2			0.5	0.1
Delay (s)	79.6	13.5		82.7	130.5		73.5	70.9			57.8	26.6
Level of Service	E	B		F	F		E	E			E	C
Approach Delay (s)		42.5			130.0			72.4			28.1	
Approach LOS		D			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	77.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	25	74	389	451	170	163	306	70	63	783	159
Future Volume (vph)	16	25	74	389	451	170	163	306	70	63	783	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91	1.00	1.00	0.91	
Frt		0.90			0.97		1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3176			3385		1770	5085	1583	1770	4956	
Flt Permitted		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3176			3385		1770	5085	1583	1770	4956	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	17	26	77	405	470	177	170	319	73	66	816	166
RTOR Reduction (vph)	0	70	0	0	12	0	0	0	50	0	22	0
Lane Group Flow (vph)	0	50	0	0	1040	0	170	319	23	66	960	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		9.6			40.1		13.6	34.8	34.8	7.1	27.9	
Effective Green, g (s)		9.6			40.1		13.6	34.8	34.8	7.1	27.9	
Actuated g/C Ratio		0.09			0.36		0.12	0.31	0.31	0.06	0.25	
Clearance Time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)		272			1214		215	1582	492	112	1236	
v/s Ratio Prot		c0.02			c0.31		c0.10	0.06		0.04	c0.19	
v/s Ratio Perm									0.01			
v/c Ratio		0.18			0.86		0.79	0.20	0.05	0.59	0.78	
Uniform Delay, d1		47.5			33.2		47.7	28.3	26.9	50.9	39.1	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8			6.9		17.0	0.1	0.0	5.0	3.2	
Delay (s)		48.3			40.1		64.7	28.4	26.9	56.0	42.2	
Level of Service		D			D		E	C	C	E	D	
Approach Delay (s)		48.3			40.1			39.2			43.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	20.6
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1519	80	108	958	123	141	32	336	1041	234	408
Future Volume (vph)	74	1519	80	108	958	123	141	32	336	1041	234	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.9	4.9	4.9	4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.86	0.86	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1652	5047		1652	5085	1583	1652	2865	1489	2841	3423	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1652	5047		1652	5085	1583	1652	2865	1489	2841	3423	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	85	1746	92	124	1101	141	162	37	386	1197	269	469
RTOR Reduction (vph)	0	3	0	0	0	0	0	118	118	0	0	152
Lane Group Flow (vph)	85	1835	0	124	1101	141	162	112	75	802	664	317
Turn Type	Prot	NA		Prot	NA	Free	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	15.5	73.7		16.6	74.9	190.4	23.8	23.8	23.8	56.1	56.1	56.1
Effective Green, g (s)	15.5	73.7		16.6	74.9	190.4	23.8	23.8	23.8	56.1	56.1	56.1
Actuated g/C Ratio	0.08	0.39		0.09	0.39	1.00	0.12	0.12	0.12	0.29	0.29	0.29
Clearance Time (s)	4.4	6.0		4.4	5.9		4.9	4.9	4.9	4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.6	3.6	3.6	4.9	4.9	4.9
Lane Grp Cap (vph)	134	1953		144	2000	1583	206	358	186	837	1008	466
v/s Ratio Prot	0.05	c0.36		c0.08	0.22		c0.10	0.04		c0.28	0.19	
v/s Ratio Perm						0.09			0.05			0.20
v/c Ratio	0.63	0.94		0.86	0.55	0.09	0.79	0.31	0.40	0.96	0.66	0.68
Uniform Delay, d1	84.7	56.2		85.8	44.7	0.0	80.8	75.9	76.7	66.0	58.8	59.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.0	10.4		36.6	1.1	0.1	18.3	0.6	1.7	21.7	2.1	5.0
Delay (s)	91.7	66.6		122.3	45.8	0.1	99.1	76.5	78.5	87.7	60.8	64.2
Level of Service	F	E		F	D	A	F	E	E	F	E	E
Approach Delay (s)		67.7			48.0			83.4			72.8	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	66.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	190.4	Sum of lost time (s)	20.2
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	2370	146	258	416	179	171	317	572	422	237	42
Future Volume (vph)	59	2370	146	258	416	179	171	317	572	422	237	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5041		3204	4855		1652	3421	1531	3204	3459	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5041		3204	4855		1652	3421	1531	3204	3459	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	60	2418	149	263	424	183	174	323	584	431	242	43
RTOR Reduction (vph)	0	4	0	0	40	0	0	0	29	0	8	0
Lane Group Flow (vph)	60	2563	0	263	567	0	174	323	555	431	277	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	10.8	86.9		15.5	91.5		45.6	42.0	63.5	24.7	20.7	
Effective Green, g (s)	10.8	86.9		15.5	91.5		45.6	42.0	63.5	24.7	20.7	
Actuated g/C Ratio	0.06	0.46		0.08	0.48		0.24	0.22	0.33	0.13	0.11	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	93	2305		261	2338		396	756	511	416	376	
v/s Ratio Prot	0.04	c0.51		0.08	0.12		0.11	0.09	c0.36	c0.13	0.08	
v/s Ratio Perm												
v/c Ratio	0.65	1.11		1.01	0.24		0.44	0.43	1.09	1.04	0.74	
Uniform Delay, d1	87.7	51.5		87.2	28.9		61.3	63.7	63.2	82.7	82.0	
Progression Factor	1.22	0.62		1.04	0.60		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.0	55.5		57.1	0.2		0.8	0.5	65.0	53.8	7.4	
Delay (s)	114.7	87.6		147.9	17.6		62.1	64.1	128.2	136.4	89.4	
Level of Service	F	F		F	B		E	E	F	F	F	
Approach Delay (s)		88.2			57.0			98.4			117.7	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	89.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	364	316	485	81	88	237	131	1173	79	134	745	79
Future Volume (vph)	364	316	485	81	88	237	131	1173	79	134	745	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	16	12	11	10	12	10	11	11
Total Lost time (s)	5.9	5.9	5.9	4.9	4.9	4.9	4.4	5.7	5.7	4.4	5.7	5.7
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3204	1739	1531	1652	2111	1583	1711	3303	1583	1652	3421	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3204	1739	1531	1652	2111	1583	1711	3303	1583	1652	3421	1531
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	400	347	533	89	97	260	144	1289	87	147	819	87
RTOR Reduction (vph)	0	0	56	0	0	165	0	0	40	0	0	35
Lane Group Flow (vph)	400	347	477	89	97	95	144	1289	47	147	819	52
Confl. Bikes (#/hr)												5
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	6 7
Permitted Phases						8						
Actuated Green, G (s)	20.5	35.9	57.9	11.0	26.4	26.4	16.1	59.6	76.3	14.8	58.3	84.5
Effective Green, g (s)	20.5	35.9	57.9	11.0	26.4	26.4	16.1	59.6	76.3	14.8	58.3	84.5
Actuated g/C Ratio	0.14	0.25	0.41	0.08	0.19	0.19	0.11	0.42	0.54	0.10	0.41	0.59
Clearance Time (s)	5.9	5.9		4.9	4.9	4.9	4.4	5.7		4.4	5.7	
Vehicle Extension (s)	2.2	2.2		2.9	2.9	2.9	2.0	3.6		2.0	3.9	
Lane Grp Cap (vph)	461	439	623	127	391	293	193	1384	849	171	1402	909
v/s Ratio Prot	c0.12	c0.20	c0.31	0.05	0.05		0.08	c0.39	0.03	0.09	0.24	0.03
v/s Ratio Perm						0.06						
v/c Ratio	0.87	0.79	0.77	0.70	0.25	0.32	0.75	0.93	0.05	0.86	0.58	0.06
Uniform Delay, d1	59.5	49.6	36.3	64.0	49.4	50.2	61.1	39.4	15.7	62.7	32.5	12.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.4	8.9	5.2	15.8	0.3	0.6	12.8	11.6	0.0	31.4	0.7	0.0
Delay (s)	74.9	58.5	41.5	79.8	49.7	50.8	73.9	50.9	15.8	94.1	33.3	12.2
Level of Service	E	E	D	E	D	D	E	D	B	F	C	B
Approach Delay (s)		56.6			56.3			51.1			40.0	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	142.2	Sum of lost time (s)	20.9
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1460	165	439	1404	279	204	57	688	932	233	174
Future Volume (vph)	24	1460	165	439	1404	279	204	57	688	932	233	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.5	5.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3115	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3115	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	1570	177	472	1510	300	219	61	740	1002	251	187
RTOR Reduction (vph)	0	0	67	0	0	87	0	0	32	0	0	53
Lane Group Flow (vph)	26	1570	110	472	1510	213	219	61	708	671	582	134
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pt+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	4 5
Permitted Phases			2			6						
Actuated Green, G (s)	4.4	54.2	54.2	24.5	75.0	122.0	26.3	26.3	55.8	47.0	47.0	51.4
Effective Green, g (s)	4.4	54.2	54.2	24.5	75.0	122.0	26.3	26.3	55.8	47.0	47.0	51.4
Actuated g/C Ratio	0.03	0.32	0.32	0.14	0.44	0.71	0.15	0.15	0.32	0.27	0.27	0.30
Clearance Time (s)	4.0	5.5	5.5	4.5	5.3	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3	4.6	5.2	5.2		4.6	4.6	
Lane Grp Cap (vph)	87	1602	498	489	2217	1976	524	541	904	831	851	473
v/s Ratio Prot	0.01	c0.31		c0.14	0.30	0.03	0.06	0.02	c0.25	c0.22	0.19	0.08
v/s Ratio Perm			0.07			0.05						
v/c Ratio	0.30	0.98	0.22	0.97	0.68	0.11	0.42	0.11	0.78	0.81	0.68	0.28
Uniform Delay, d1	82.3	58.4	43.4	73.3	38.9	7.9	65.9	62.8	52.6	58.3	55.9	46.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	18.2	1.0	31.5	1.7	0.0	1.2	0.2	5.2	6.5	2.7	0.6
Delay (s)	83.0	76.6	44.4	104.8	40.6	7.9	67.1	63.0	57.9	64.7	58.6	46.8
Level of Service	F	E	D	F	D	A	E	E	E	E	E	D
Approach Delay (s)		73.5			49.6			60.2			59.9	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	60.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	172.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1146	1854	88	19	1340	68	47	58	8	103	1	1232
Future Volume (vph)	1146	1854	88	19	1340	68	47	58	8	103	1	1232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7		4.9	4.9			5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	1.00			1.00	0.76
Frt	1.00	0.99		1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	3204	5051		3204	5049		1652	1827			1716	3610
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)	3204	5051		3204	5049		1652	1827			1716	3610
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1232	1994	95	20	1441	73	51	62	9	111	1	1325
RTOR Reduction (vph)	0	3	0	0	4	0	0	4	0	0	0	329
Lane Group Flow (vph)	1232	2086	0	20	1510	0	51	67	0	0	112	996
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	55.8	98.7		2.4	45.4		10.3	10.3			28.0	89.3
Effective Green, g (s)	55.8	98.7		2.4	45.4		10.3	10.3			28.0	89.3
Actuated g/C Ratio	0.35	0.62		0.01	0.28		0.06	0.06			0.18	0.56
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9			5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0			2.8	
Lane Grp Cap (vph)	1117	3115		48	1432		106	117			300	2014
v/s Ratio Prot	c0.38	0.41		0.01	c0.30		0.03	c0.04			0.07	c0.28
v/s Ratio Perm												
v/c Ratio	1.10	0.67		0.42	1.05		0.48	0.57			0.37	0.49
Uniform Delay, d1	52.1	20.0		78.1	57.3		72.3	72.7			58.3	21.6
Progression Factor	0.92	0.78		1.01	0.92		1.00	1.00			1.00	1.00
Incremental Delay, d2	56.4	0.8		2.1	39.4		1.3	4.2			0.7	0.2
Delay (s)	104.6	16.5		80.8	92.1		73.5	76.9			59.0	21.7
Level of Service	F	B		F	F		E	E			E	C
Approach Delay (s)		49.2			92.0			75.5			24.6	
Approach LOS		D			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	615	299	91	31	63	112	891	644	287	498	44
Future Volume (vph)	108	615	299	91	31	63	112	891	644	287	498	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91	1.00	1.00	0.91	
Frt		0.96			0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3366			3279		1770	5085	1583	1770	5024	
Flt Permitted		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3366			3279		1770	5085	1583	1770	5024	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	114	647	315	96	33	66	118	938	678	302	524	46
RTOR Reduction (vph)	0	30	0	0	51	0	0	0	252	0	6	0
Lane Group Flow (vph)	0	1046	0	0	144	0	118	938	426	302	564	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		39.1			13.1		12.8	33.1	33.1	19.6	39.5	
Effective Green, g (s)		39.1			13.1		12.8	33.1	33.1	19.6	39.5	
Actuated g/C Ratio		0.31			0.10		0.10	0.26	0.26	0.16	0.32	
Clearance Time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)		1052			343		181	1345	418	277	1586	
v/s Ratio Prot		c0.31			c0.04		0.07	0.18		c0.17	0.11	
v/s Ratio Perm									c0.27			
v/c Ratio		0.99			0.42		0.65	0.70	1.02	1.09	0.36	
Uniform Delay, d1		42.9			52.4		54.0	41.5	46.0	52.8	33.0	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		26.4			2.0		6.9	1.7	49.3	80.3	0.2	
Delay (s)		69.3			54.5		60.9	43.1	95.3	133.1	33.1	
Level of Service		E			D		E	D	F	F	C	
Approach Delay (s)		69.3			54.5			64.7			67.7	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	66.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	125.1	Sum of lost time (s)	20.6
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Near Term Year 2025
With Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	348	1003	143	382	1616	1452	121	230	341	218	46	39
Future Volume (vph)	348	1003	143	382	1616	1452	121	230	341	218	46	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3109	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3109	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	362	1045	149	398	1683	1512	126	240	355	227	48	41
RTOR Reduction (vph)	0	0	57	0	0	168	0	0	120	0	0	29
Lane Group Flow (vph)	363	1045	92	398	1683	1345	126	240	235	152	123	12
Turn Type	Prot	NA	Perm	Prot	NA	custom	Prot	NA	pt+ov	Split	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8!	8 1!	4!	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	19.9	75.9	75.9	20.5	77.2	86.5	6.6	19.8	45.3	16.9	16.9	42.1
Effective Green, g (s)	19.9	75.9	75.9	20.5	77.2	86.5	6.6	19.8	45.3	16.9	16.9	42.1
Actuated g/C Ratio	0.14	0.54	0.54	0.15	0.55	0.62	0.05	0.14	0.32	0.12	0.12	0.30
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		5.3	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		4.6	4.6	
Lane Grp Cap (vph)	487	2756	858	502	2804	1721	161	500	901	367	375	476
v/s Ratio Prot	0.11	0.21		c0.12	0.33	c0.48	0.04	c0.07	0.08	0.05	0.04	0.01
v/s Ratio Perm			0.06									
v/c Ratio	0.75	0.38	0.11	0.79	0.60	0.78	0.78	0.48	0.26	0.41	0.33	0.03
Uniform Delay, d1	57.6	18.5	15.6	57.7	21.1	19.8	66.0	55.4	35.0	57.0	56.4	34.5
Progression Factor	1.33	0.55	0.32	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	0.4	0.2	7.8	1.0	2.2	20.0	1.6	0.3	1.4	0.9	0.0
Delay (s)	81.5	10.5	5.3	65.5	22.0	22.0	86.0	57.0	35.3	58.3	57.3	34.5
Level of Service	F	B	A	E	C	C	F	E	D	E	E	C
Approach Delay (s)		26.6			26.8			51.4			54.8	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	281	2047	0	2368	1026	182	165
Future Volume (vph)	281	2047	0	2368	1026	182	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	4.4
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	5085		5085	1583	3433	1583
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	5085		5085	1583	3433	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	296	2155	0	2493	1080	192	174
RTOR Reduction (vph)	0	0	0	0	6	0	124
Lane Group Flow (vph)	296	2155	0	2493	1074	192	50
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							7
Actuated Green, G (s)	16.4	112.5		92.6	124.8	26.8	26.8
Effective Green, g (s)	16.4	112.5		92.6	124.8	26.8	26.8
Actuated g/C Ratio	0.11	0.75		0.62	0.83	0.18	0.18
Clearance Time (s)	4.4	6.3		5.4		4.4	4.4
Vehicle Extension (s)	2.0	5.0		6.1		4.5	4.5
Lane Grp Cap (vph)	375	3813		3139	1317	613	282
v/s Ratio Prot	c0.09	0.42		0.49	c0.68	0.06	
v/s Ratio Perm							0.03
v/c Ratio	0.79	0.57		0.79	0.82	0.31	0.18
Uniform Delay, d1	65.1	8.1		21.5	6.6	53.6	52.2
Progression Factor	0.96	0.71		1.75	2.30	1.00	1.00
Incremental Delay, d2	7.3	0.4		1.1	2.3	0.5	0.5
Delay (s)	69.5	6.2		38.8	17.4	54.1	52.8
Level of Service	E	A		D	B	D	D
Approach Delay (s)		13.9		32.3		53.5	
Approach LOS		B		C		D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1061	1156	25	22	2269	107	20	3	10	54	2	1232
Future Volume (vph)	1061	1156	25	22	2269	107	20	3	10	54	2	1232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7	4.0	4.9	4.9			5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	1.00			1.00	0.76
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3204	5069		3204	5085	1583	1652	1643			1718	3610
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3204	5069		3204	5085	1583	1652	1643			1718	3610
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1117	1217	26	23	2388	113	21	3	11	57	2	1297
RTOR Reduction (vph)	0	1	0	0	0	113	0	11	0	0	0	398
Lane Group Flow (vph)	1117	1242	0	23	2388	0	21	3	0	0	59	899
Turn Type	Prot	NA		Prot	NA	NA	Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	37.1	96.1		2.4	61.5	0.0	4.5	4.5			26.4	69.0
Effective Green, g (s)	37.1	96.1		2.4	61.5	0.0	4.5	4.5			26.4	69.0
Actuated g/C Ratio	0.25	0.64		0.02	0.41	0.00	0.03	0.03			0.18	0.46
Clearance Time (s)	4.4	5.8		4.4	5.7		4.9	4.9			5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4		2.0	2.0			2.8	
Lane Grp Cap (vph)	792	3247		51	2084	0	49	49			302	1660
v/s Ratio Prot	c0.35	0.24		0.01	c0.47		c0.01	0.00			0.03	c0.25
v/s Ratio Perm												
v/c Ratio	1.41	0.38		0.45	1.15	0.00	0.43	0.07			0.20	0.54
Uniform Delay, d1	56.5	12.8		73.1	44.2	75.0	71.5	70.7			52.7	29.1
Progression Factor	1.02	1.21		1.24	0.77	1.00	1.00	1.00			1.12	0.02
Incremental Delay, d2	191.2	0.3		1.7	70.3	0.0	2.2	0.2			0.1	0.1
Delay (s)	248.8	15.8		92.5	104.3	75.0	73.7	70.9			59.3	0.6
Level of Service	F	B		F	F	E	E	E			E	A
Approach Delay (s)		126.1			102.8			72.6			3.1	
Approach LOS		F			F			E			A	

Intersection Summary			
HCM 2000 Control Delay	89.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	162	702	3167	456	918	513
Future Volume (vph)	162	702	3167	456	918	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4916	1478	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4916	1478	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	165	716	3232	465	937	523
RTOR Reduction (vph)	0	0	0	83	0	1
Lane Group Flow (vph)	165	716	3232	382	937	522
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	7.8	102.0	90.0	90.0	37.0	49.8
Effective Green, g (s)	7.8	102.0	90.0	90.0	37.0	49.8
Actuated g/C Ratio	0.05	0.68	0.60	0.60	0.25	0.33
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	166	3227	2949	886	790	863
v/s Ratio Prot	c0.05	0.15	c0.66		c0.29	0.20
v/s Ratio Perm				0.26		
v/c Ratio	0.99	0.22	1.10	0.43	1.19	0.61
Uniform Delay, d1	71.1	9.0	30.0	16.2	56.5	41.9
Progression Factor	0.86	1.34	1.17	1.07	1.00	1.00
Incremental Delay, d2	67.3	0.2	47.2	1.0	96.4	0.8
Delay (s)	128.4	12.3	82.3	18.4	152.9	42.7
Level of Service	F	B	F	B	F	D
Approach Delay (s)		34.1	74.3		113.4	
Approach LOS		C	E		F	

Intersection Summary			
HCM 2000 Control Delay	77.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	1370	226	196	2855	30	193	25	144	36	77	89
Future Volume (vph)	28	1370	226	196	2855	30	193	25	144	36	77	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	3433	5077		1681	1588	1504	1770	1713	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5085	1583	3433	5077		1681	1588	1504	1770	1713	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	29	1398	231	200	2913	31	197	26	147	37	79	91
RTOR Reduction (vph)	0	0	74	0	1	0	0	9	103	0	28	0
Lane Group Flow (vph)	29	1398	157	200	2943	0	128	118	12	37	143	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.2	89.0	89.0	13.1	95.5		16.0	16.0	16.0	12.5	12.5	
Effective Green, g (s)	6.2	89.0	89.0	13.1	95.5		16.0	16.0	16.0	12.5	12.5	
Actuated g/C Ratio	0.04	0.59	0.59	0.09	0.64		0.11	0.11	0.11	0.08	0.08	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0	2.2	2.2	
Lane Grp Cap (vph)	73	3017	939	299	3232		179	169	160	147	142	
v/s Ratio Prot	0.02	0.27		c0.06	c0.58		c0.08	0.07		0.02	c0.08	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	0.40	0.46	0.17	0.67	0.91		0.72	0.70	0.08	0.25	1.00	
Uniform Delay, d1	70.1	17.1	13.8	66.3	23.6		64.8	64.7	60.3	64.4	68.8	
Progression Factor	1.42	0.30	0.07	1.01	0.72		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.3	0.2	2.2	2.6		10.7	9.7	0.1	0.5	76.5	
Delay (s)	100.5	5.4	1.1	69.5	19.5		75.5	74.4	60.4	64.8	145.2	
Level of Service	F	A	A	E	B		E	E	E	E	F	
Approach Delay (s)		6.5			22.7			70.4			130.8	
Approach LOS		A			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	1092	530	9	2616	118	946	331	9	192	295	135
Future Volume (vph)	46	1092	530	9	2616	118	946	331	9	192	295	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5085	1583	2841	3019		3204	3372	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5085	1583	2841	3019		3204	3372	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	47	1114	541	9	2669	120	965	338	9	196	301	138
RTOR Reduction (vph)	0	0	43	0	0	51	0	1	0	0	36	0
Lane Group Flow (vph)	47	1114	498	9	2669	69	647	664	0	196	403	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	4.1	72.9	109.8	1.6	70.3	70.3	36.9	36.9		16.7	16.7	
Effective Green, g (s)	4.1	72.9	109.8	1.6	70.3	70.3	36.9	36.9		16.7	16.7	
Actuated g/C Ratio	0.03	0.49	0.73	0.01	0.47	0.47	0.25	0.25		0.11	0.11	
Clearance Time (s)	4.4	5.7		4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2389	1081	19	2383	741	698	742		356	375	
v/s Ratio Prot	c0.02	0.23	0.34	0.00	c0.52		c0.23	0.22		0.06	c0.12	
v/s Ratio Perm						0.04						
v/c Ratio	0.89	0.47	0.46	0.47	1.12	0.09	0.93	0.90		0.55	1.08	
Uniform Delay, d1	72.7	25.6	8.1	73.8	39.9	22.1	55.2	54.7		63.1	66.7	
Progression Factor	0.89	1.73	4.39	1.19	0.77	0.54	1.00	1.00		1.00	1.00	
Incremental Delay, d2	79.7	0.6	0.3	6.0	59.8	0.2	18.3	13.3		1.8	68.2	
Delay (s)	144.6	45.1	36.0	94.0	90.5	12.2	73.6	68.0		64.9	134.9	
Level of Service	F	D	D	F	F	B	E	E		E	F	
Approach Delay (s)		44.9			87.2			70.7			113.3	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	75.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	280	634	469	219	1155	558
Future Volume (vph)	280	634	469	219	1155	558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	0.88	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	2787	3433	3539	3366	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	2787	3433	3539	3366	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	298	674	499	233	1229	594
RTOR Reduction (vph)	0	45	0	0	44	0
Lane Group Flow (vph)	298	629	499	233	1779	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	25.3	51.2	21.0	93.9	67.4	
Effective Green, g (s)	25.3	51.2	21.0	93.9	67.4	
Actuated g/C Ratio	0.19	0.39	0.16	0.72	0.52	
Clearance Time (s)	4.9		4.4	5.9	7.0	
Vehicle Extension (s)	2.0		2.0	6.8	5.5	
Lane Grp Cap (vph)	668	1097	554	2556	1745	
v/s Ratio Prot	0.09	c0.23	c0.15	0.07	c0.53	
v/s Ratio Perm						
v/c Ratio	0.45	0.57	0.90	0.09	1.02	
Uniform Delay, d1	46.2	30.9	53.5	5.4	31.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.5	17.4	0.1	26.5	
Delay (s)	46.3	31.3	70.9	5.4	57.8	
Level of Service	D	C	E	A	E	
Approach Delay (s)	35.9			50.0	57.8	
Approach LOS	D			D	E	

Intersection Summary			
HCM 2000 Control Delay	50.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	0	68	2	2	3	596	650	6	0	1502	293
Future Volume (vph)	37	0	68	2	2	3	596	650	6	0	1502	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95	1.00		0.95	
Frt		1.00	0.85		0.94		1.00	1.00	0.85		0.98	
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		1770	1583		1730		3433	3539	1583		3452	
Flt Permitted		0.95	1.00		0.99		0.95	1.00	1.00		1.00	
Satd. Flow (perm)		1770	1583		1730		3433	3539	1583		3452	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	40	0	73	2	2	3	641	699	6	0	1615	318
RTOR Reduction (vph)	0	0	69	0	3	0	0	0	1	0	7	0
Lane Group Flow (vph)	0	40	4	0	4	0	641	699	5	0	1926	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)		7.8	7.8		1.2		32.2	125.2	125.2		88.6	
Effective Green, g (s)		7.8	7.8		1.2		32.2	125.2	125.2		88.6	
Actuated g/C Ratio		0.05	0.05		0.01		0.21	0.83	0.83		0.59	
Clearance Time (s)		4.9	4.9		4.9		4.4	6.0	6.0		6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	5.4	5.4		5.4	
Lane Grp Cap (vph)		92	82		13		736	2953	1321		2038	
v/s Ratio Prot		c0.02			c0.00		c0.19	0.20			c0.56	
v/s Ratio Perm			0.00						0.00			
v/c Ratio		0.43	0.05		0.31		0.87	0.24	0.00		0.95	
Uniform Delay, d1		69.0	67.6		74.0		56.9	2.6	2.1		28.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		1.2	0.1		4.9		10.7	0.2	0.0		10.6	
Delay (s)		70.2	67.7		78.9		67.6	2.7	2.1		39.1	
Level of Service		E	E		E		E	A	A		D	
Approach Delay (s)		68.5			78.9			33.6			39.1	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	220	1	693	7	557	53	315	1248	0
Future Volume (vph)	0	0	0	220	1	693	7	557	53	315	1248	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.9	4.9	4.4	5.0	5.0	4.4	5.0	
Lane Util. Factor					1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1774	1583	1770	3539	1583	1770	3539	
Flt Permitted					0.73	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1355	1583	1770	3539	1583	1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	232	1	729	7	586	56	332	1314	0
RTOR Reduction (vph)	0	0	0	0	0	25	0	0	39	0	0	0
Lane Group Flow (vph)	0	0	0	0	233	704	7	586	17	332	1314	0
Turn Type				Perm	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)					28.0	73.4	1.2	36.7	36.7	41.0	76.5	
Effective Green, g (s)					28.0	69.0	1.2	36.7	36.7	41.0	76.5	
Actuated g/C Ratio					0.23	0.58	0.01	0.31	0.31	0.34	0.64	
Clearance Time (s)					4.9		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)					2.0		2.0	3.7	3.7	2.0	4.2	
Lane Grp Cap (vph)					316	910	17	1082	484	604	2256	
v/s Ratio Prot						c0.44	0.00	c0.17		0.19	c0.37	
v/s Ratio Perm					0.17				0.01			
v/c Ratio					0.74	0.77	0.41	0.54	0.04	0.55	0.58	
Uniform Delay, d1					42.6	19.5	59.0	34.7	29.2	32.0	12.5	
Progression Factor					1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2					7.5	3.8	5.8	1.9	0.1	0.6	1.1	
Delay (s)					50.1	23.3	64.9	36.6	29.4	32.6	13.6	
Level of Service					D	C	E	D	C	C	B	
Approach Delay (s)		0.0			29.8			36.3			17.5	
Approach LOS		A			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1569	174	465	1498	292	212	59	721	973	243	182
Future Volume (vph)	25	1569	174	465	1498	292	212	59	721	973	243	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3115	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3115	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	1687	187	500	1611	314	228	63	775	1046	261	196
RTOR Reduction (vph)	0	0	92	0	0	133	0	0	66	0	0	81
Lane Group Flow (vph)	27	1687	95	500	1611	181	228	63	709	701	606	115
Turn Type	Prot	NA	Perm	Prot	NA	custom	Prot	NA	pt+ov	Split	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8!	8 1!	4!	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.0	57.0	57.0	23.6	77.3	86.6	11.5	45.6	74.2	37.8	37.8	47.1
Effective Green, g (s)	4.0	57.0	57.0	23.6	77.3	86.6	11.5	45.6	74.2	37.8	37.8	47.1
Actuated g/C Ratio	0.03	0.38	0.38	0.16	0.52	0.58	0.08	0.30	0.49	0.25	0.25	0.31
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		5.3	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		4.6	4.6	
Lane Grp Cap (vph)	91	1932	601	540	2620	1609	263	1075	1378	767	784	497
v/s Ratio Prot	0.01	c0.33		c0.15	0.32	0.07	c0.07	0.02	0.25	c0.23	0.19	0.07
v/s Ratio Perm			0.06									
v/c Ratio	0.30	0.87	0.16	0.93	0.61	0.11	0.87	0.06	0.51	0.91	0.85dl	0.23
Uniform Delay, d1	71.6	43.1	30.7	62.3	25.8	14.3	68.5	37.0	25.7	54.5	52.1	38.1
Progression Factor	1.02	0.59	0.34	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	5.1	0.5	21.6	1.1	0.0	23.9	0.1	0.7	15.8	5.4	0.4
Delay (s)	73.3	30.6	11.0	84.0	26.9	14.3	92.3	37.0	26.4	70.4	57.5	38.5
Level of Service	E	C	B	F	C	B	F	D	C	E	E	D
Approach Delay (s)		29.3			37.0			41.1			61.0	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	145	2220	0	2796	198	990	357
Future Volume (vph)	145	2220	0	2796	198	990	357
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	4.4
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	5085		5085	1583	3433	1583
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	5085		5085	1583	3433	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	146	2242	0	2824	200	1000	361
RTOR Reduction (vph)	0	0	0	0	2	0	34
Lane Group Flow (vph)	146	2242	0	2824	198	1000	327
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							7
Actuated Green, G (s)	7.8	101.7		90.4	143.4	47.6	47.6
Effective Green, g (s)	7.8	101.7		90.4	143.4	47.6	47.6
Actuated g/C Ratio	0.05	0.64		0.57	0.90	0.30	0.30
Clearance Time (s)	4.4	6.3		5.4		4.4	4.4
Vehicle Extension (s)	2.0	5.0		6.1		4.5	4.5
Lane Grp Cap (vph)	167	3232		2873	1418	1021	470
v/s Ratio Prot	c0.04	0.44		c0.56	0.13	c0.29	
v/s Ratio Perm							0.21
v/c Ratio	0.87	0.69		0.98	0.14	0.98	0.70
Uniform Delay, d1	75.6	19.0		34.0	1.0	55.7	49.8
Progression Factor	0.96	0.85		0.36	0.64	1.00	1.00
Incremental Delay, d2	29.4	1.0		10.1	0.1	23.1	5.1
Delay (s)	101.9	17.1		22.5	0.7	78.8	54.9
Level of Service	F	B		C	A	E	D
Approach Delay (s)		22.3		21.1		72.5	
Approach LOS		C		C		E	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1338	1921	92	20	1364	71	49	61	8	108	1	1478
Future Volume (vph)	1338	1921	92	20	1364	71	49	61	8	108	1	1478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	11	11	12
Total Lost time (s)	4.4	5.8		4.4	5.7	5.7	4.9	4.9			5.5	5.5
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	1.00	1.00			1.00	0.76
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3204	5050		3204	5085	1583	1652	1829			1716	3610
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3204	5050		3204	5085	1583	1652	1829			1716	3610
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1439	2066	99	22	1467	76	53	66	9	116	1	1589
RTOR Reduction (vph)	0	3	0	0	0	54	0	4	0	0	0	327
Lane Group Flow (vph)	1439	2162	0	22	1467	22	53	71	0	0	117	1262
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		4	4	4 5
Permitted Phases						6						
Actuated Green, G (s)	51.2	94.1		2.4	45.4	45.4	10.6	10.6			32.3	89.0
Effective Green, g (s)	51.2	94.1		2.4	45.4	45.4	10.6	10.6			32.3	89.0
Actuated g/C Ratio	0.32	0.59		0.01	0.28	0.28	0.07	0.07			0.20	0.56
Clearance Time (s)	4.4	5.8		4.4	5.7	5.7	4.9	4.9			5.5	
Vehicle Extension (s)	2.0	4.8		2.0	5.4	5.4	2.0	2.0			2.8	
Lane Grp Cap (vph)	1025	2970		48	1442	449	109	121			346	2008
v/s Ratio Prot	c0.45	0.43		0.01	c0.29		0.03	c0.04			0.07	c0.35
v/s Ratio Perm						0.01						
v/c Ratio	1.40	0.73		0.46	1.02	0.05	0.49	0.59			0.34	0.63
Uniform Delay, d1	54.4	23.7		78.2	57.3	41.6	72.1	72.6			54.7	24.2
Progression Factor	0.94	1.32		1.00	1.15	3.46	1.00	1.00			1.00	1.00
Incremental Delay, d2	185.5	1.0		2.5	27.9	0.2	1.2	4.7			0.5	0.6
Delay (s)	236.7	32.2		80.5	93.8	144.1	73.3	77.2			55.2	24.8
Level of Service	F	C		F	F	F	E	E			E	C
Approach Delay (s)		113.9			96.1			75.6			26.9	
Approach LOS		F			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	88.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	385	2350	961	1093	708	165
Future Volume (vph)	385	2350	961	1093	708	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4916	1478	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4916	1478	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	389	2374	971	1104	715	167
RTOR Reduction (vph)	0	0	0	312	0	102
Lane Group Flow (vph)	389	2374	971	792	715	65
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	21.1	113.0	87.7	87.7	36.0	62.1
Effective Green, g (s)	21.1	113.0	87.7	87.7	36.0	62.1
Actuated g/C Ratio	0.13	0.71	0.55	0.55	0.22	0.39
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	422	3351	2694	810	720	1009
v/s Ratio Prot	c0.12	0.50	0.20		c0.22	0.02
v/s Ratio Perm				c0.54		
v/c Ratio	0.92	0.71	0.36	0.98	0.99	0.06
Uniform Delay, d1	68.6	13.8	20.4	35.2	61.9	30.7
Progression Factor	0.94	1.55	0.78	2.14	1.00	1.00
Incremental Delay, d2	23.2	1.2	0.3	22.9	31.6	0.0
Delay (s)	87.6	22.6	16.1	98.2	93.5	30.7
Level of Service	F	C	B	F	F	C
Approach Delay (s)		31.8	59.8		81.6	
Approach LOS		C	E		F	

Intersection Summary			
HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	2834	159	127	1803	40	300	55	303	86	45	41
Future Volume (vph)	47	2834	159	127	1803	40	300	55	303	86	45	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94	0.85	1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	3433	5069		1681	1560	1504	1770	1729	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5085	1583	3433	5069		1681	1560	1504	1770	1729	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	2983	167	134	1898	42	316	58	319	91	47	43
RTOR Reduction (vph)	0	0	31	0	1	0	0	18	70	0	21	0
Lane Group Flow (vph)	49	2983	136	134	1939	0	240	218	147	91	69	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	7.2	95.1	95.1	9.3	96.8		27.4	27.4	27.4	8.8	8.8	
Effective Green, g (s)	7.2	95.1	95.1	9.3	96.8		27.4	27.4	27.4	8.8	8.8	
Actuated g/C Ratio	0.05	0.59	0.59	0.06	0.60		0.17	0.17	0.17	0.06	0.06	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0	2.2	2.2	
Lane Grp Cap (vph)	79	3022	940	199	3066		287	267	257	97	95	
v/s Ratio Prot	0.03	c0.59		c0.04	0.38		c0.14	0.14		c0.05	0.04	
v/s Ratio Perm			0.09						0.10			
v/c Ratio	0.62	0.99	0.14	0.67	0.63		0.84	0.82	0.57	0.94	0.73	
Uniform Delay, d1	75.1	31.8	14.4	73.9	20.2		64.1	63.9	60.9	75.3	74.4	
Progression Factor	1.11	0.84	0.61	0.70	2.21		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.8	10.5	0.2	5.4	0.8		17.9	16.4	1.9	70.3	21.6	
Delay (s)	89.8	37.1	8.9	57.4	45.5		82.0	80.3	62.9	145.6	96.1	
Level of Service	F	D	A	E	D		F	F	E	F	F	
Approach Delay (s)		36.4			46.3			75.4			121.0	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	2264	1079	36	1283	164	589	436	32	273	561	51
Future Volume (vph)	60	2264	1079	36	1283	164	589	436	32	273	561	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1947	4916	1478	1829	5085	1583	2841	3050		3204	3495	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99		0.95	1.00	
Satd. Flow (perm)	1947	4916	1478	1829	5085	1583	2841	3050		3204	3495	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	61	2287	1090	36	1296	166	595	440	32	276	567	52
RTOR Reduction (vph)	0	0	14	0	0	84	0	2	0	0	4	0
Lane Group Flow (vph)	61	2287	1076	36	1296	82	524	541	0	276	615	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	8.2	72.6	115.2	3.2	67.5	67.5	36.9	36.9		25.4	25.4	
Effective Green, g (s)	8.2	72.6	115.2	3.2	67.5	67.5	36.9	36.9		25.4	25.4	
Actuated g/C Ratio	0.05	0.45	0.72	0.02	0.42	0.42	0.23	0.23		0.16	0.16	
Clearance Time (s)	4.4	5.7		4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	99	2230	1064	36	2145	667	655	703		508	554	
v/s Ratio Prot	0.03	c0.47	c0.73	c0.02	0.25		0.18	0.18		0.09	c0.18	
v/s Ratio Perm						0.05						
v/c Ratio	0.62	1.03	1.01	1.00	0.60	0.12	0.80	0.77		0.54	1.11	
Uniform Delay, d1	74.4	43.7	22.4	78.4	35.9	28.2	58.1	57.6		62.0	67.3	
Progression Factor	1.19	0.75	0.82	1.35	0.60	0.40	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	22.2	24.8	142.3	1.1	0.3	6.9	5.1		1.2	71.9	
Delay (s)	95.8	55.1	43.3	247.9	22.8	11.6	65.0	62.6		63.2	139.2	
Level of Service	F	E	D	F	C	B	E	E		E	F	
Approach Delay (s)		52.1			26.9			63.8			115.8	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	56.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	516	552	631	1267	706	356
Future Volume (vph)	516	552	631	1267	706	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.4	5.9	7.0	
Lane Util. Factor	0.97	0.88	0.97	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	2787	3433	3539	3361	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	2787	3433	3539	3361	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	543	581	664	1334	743	375
RTOR Reduction (vph)	0	66	0	0	62	0
Lane Group Flow (vph)	543	515	664	1334	1056	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	20.8	50.1	24.4	68.4	38.5	
Effective Green, g (s)	20.8	50.1	24.4	68.4	38.5	
Actuated g/C Ratio	0.21	0.50	0.24	0.68	0.38	
Clearance Time (s)	4.9		4.4	5.9	7.0	
Vehicle Extension (s)	2.0		2.0	6.8	5.5	
Lane Grp Cap (vph)	714	1396	837	2420	1293	
v/s Ratio Prot	c0.16	0.18	c0.19	0.38	c0.31	
v/s Ratio Perm						
v/c Ratio	0.76	0.37	0.79	0.55	0.82	
Uniform Delay, d1	37.3	15.3	35.4	8.0	27.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.3	0.1	4.9	0.9	5.8	
Delay (s)	41.6	15.3	40.3	8.9	33.4	
Level of Service	D	B	D	A	C	
Approach Delay (s)	28.0			19.4	33.4	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	354	4	720	9	2	5	86	1534	11	5	1168	81
Future Volume (vph)	354	4	720	9	2	5	86	1534	11	5	1168	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1775	1583		1735		3433	3539	1583	1770	3505	
Flt Permitted		0.95	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1775	1583		1735		3433	3539	1583	1770	3505	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	365	4	742	9	2	5	89	1581	11	5	1204	84
RTOR Reduction (vph)	0	0	102	0	5	0	0	0	6	0	3	0
Lane Group Flow (vph)	0	369	640	0	11	0	89	1581	5	5	1285	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)		56.3	56.3		1.6		6.8	71.1	71.1	0.8	65.1	
Effective Green, g (s)		56.3	56.3		1.6		6.8	71.1	71.1	0.8	65.1	
Actuated g/C Ratio		0.38	0.38		0.01		0.05	0.47	0.47	0.01	0.43	
Clearance Time (s)		4.9	4.9		4.9		4.4	6.0	6.0	4.4	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	5.4	5.4	2.0	5.4	
Lane Grp Cap (vph)		666	594		18		155	1677	750	9	1521	
v/s Ratio Prot		0.21			c0.01		0.03	c0.45		c0.00	0.37	
v/s Ratio Perm			c0.40						0.00			
v/c Ratio		0.55	1.08		0.61		0.57	0.94	0.01	0.56	0.84	
Uniform Delay, d1		36.9	46.9		73.9		70.2	37.5	20.8	74.4	37.9	
Progression Factor		1.00	1.00		1.00		1.42	0.30	1.00	1.00	1.00	
Incremental Delay, d2		0.6	59.6		36.5		1.4	6.3	0.0	36.0	5.9	
Delay (s)		37.5	106.5		110.4		101.2	17.5	20.8	110.4	43.9	
Level of Service		D	F		F		F	B	C	F	D	
Approach Delay (s)		83.6			110.4			21.9			44.1	
Approach LOS		F			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	1	48	0	336	10	1293	181	1028	849	10
Future Volume (vph)	0	13	1	48	0	336	10	1293	181	1028	849	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9	4.9	4.4	5.0	5.0	4.4	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.99			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1845			1770	1583	1770	3539	1583	1770	3533	
Flt Permitted		1.00			0.75	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1845			1394	1583	1770	3539	1583	1770	3533	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	13	1	49	0	346	10	1333	187	1060	875	10
RTOR Reduction (vph)	0	1	0	0	0	21	0	0	41	0	0	0
Lane Group Flow (vph)	0	13	0	0	49	325	10	1333	146	1060	885	0
Turn Type		NA		Perm	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		11.4			11.4	88.1	2.6	52.0	52.0	72.3	121.7	
Effective Green, g (s)		11.4			11.4	83.7	2.6	52.0	52.0	72.3	121.7	
Actuated g/C Ratio		0.08			0.08	0.56	0.02	0.35	0.35	0.48	0.81	
Clearance Time (s)		4.9			4.9		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)		2.0			2.0		2.0	3.7	3.7	2.0	4.2	
Lane Grp Cap (vph)		140			105	883	30	1226	548	853	2866	
v/s Ratio Prot		0.01				0.21	0.01	c0.38		c0.60	0.25	
v/s Ratio Perm					c0.04				0.09			
v/c Ratio		0.09			0.47	0.37	0.33	1.09	0.27	1.24	0.31	
Uniform Delay, d1		64.5			66.4	18.4	72.8	49.0	35.3	38.9	3.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	0.98	0.57	
Incremental Delay, d2		0.1			1.2	0.1	2.4	52.9	1.2	113.5	0.1	
Delay (s)		64.6			67.6	18.5	75.2	101.9	36.5	151.4	2.2	
Level of Service		E			E	B	E	F	D	F	A	
Approach Delay (s)		64.6			24.6			93.7			83.5	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	81.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Michael Baker
INTERNATIONAL

Horizon Year 2050
With Project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	629	1345	379	340	1657	1283	36	91	111	120	41	121
Future Volume (vph)	629	1345	379	340	1657	1283	36	91	111	120	41	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.86	0.86	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.95	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1652	4918		1652	5085	1583	1652	3109	1489	2841	3439	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.64	1.00
Satd. Flow (perm)	1652	4918		1652	5085	1583	1652	3109	1489	2841	2260	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	648	1387	391	351	1708	1323	37	94	114	124	42	125
RTOR Reduction (vph)	0	20	0	0	0	0	0	34	60	0	0	114
Lane Group Flow (vph)	648	1758	0	351	1708	1323	37	109	5	83	83	11
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	69.6	103.2		45.1	78.8	190.0	4.8	13.4	13.4	8.6	25.8	17.2
Effective Green, g (s)	69.6	103.2		45.1	78.8	190.0	4.8	13.4	13.4	8.6	25.8	17.2
Actuated g/C Ratio	0.37	0.54		0.24	0.41	1.00	0.03	0.07	0.07	0.05	0.14	0.09
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	605	2671		392	2108	1583	41	219	105	128	360	143
v/s Ratio Prot	c0.39	0.36		0.21	0.34		0.02	0.03		0.03	0.01	
v/s Ratio Perm						c0.84			0.00		0.02	0.01
v/c Ratio	1.07	0.66		0.90	0.81	0.84	0.90	0.50	0.04	0.65	0.23	0.08
Uniform Delay, d1	60.2	30.9		70.2	49.0	0.0	92.4	85.0	82.3	89.2	73.2	79.1
Progression Factor	1.12	1.31		1.10	0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	52.3	1.0		11.5	1.6	2.5	102.4	2.1	0.2	8.2	0.7	0.5
Delay (s)	119.7	41.4		89.0	36.5	2.5	194.7	87.2	82.5	97.4	73.9	79.6
Level of Service	F	D		F	D	A	F	F	F	F	E	E
Approach Delay (s)		62.3			28.6			102.2			83.1	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	46.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	310	107	770	2848	372	182	199	102	142	380	77
Future Volume (vph)	29	310	107	770	2848	372	182	199	102	142	380	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	10	12	10	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	4890		3204	4997		1652	3421	1531	3204	3449	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	4890		3204	4997		1652	3421	1531	3204	3449	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	30	316	109	786	2906	380	186	203	104	145	388	79
RTOR Reduction (vph)	0	32	0	0	9	0	0	0	46	0	9	0
Lane Group Flow (vph)	30	393	0	786	3277	0	186	203	58	145	458	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	3.4	55.9		59.1	111.5		24.1	41.6	106.7	12.5	29.6	
Effective Green, g (s)	3.4	55.9		59.1	111.5		24.1	41.6	106.7	12.5	29.6	
Actuated g/C Ratio	0.02	0.29		0.31	0.59		0.13	0.22	0.56	0.07	0.16	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	29	1438		996	2932		209	749	859	210	537	
v/s Ratio Prot	0.02	0.08		c0.25	c0.66		c0.11	0.06	0.04	0.05	c0.13	
v/s Ratio Perm												
v/c Ratio	1.03	0.27		0.79	1.12		0.89	0.27	0.07	0.69	0.85	
Uniform Delay, d1	93.3	51.5		59.8	39.2		81.6	61.6	19.0	86.9	78.1	
Progression Factor	0.98	1.05		0.97	0.47		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	177.8	0.2		2.2	54.8		33.5	0.2	0.0	7.6	12.5	
Delay (s)	269.2	54.3		60.1	73.4		115.2	61.8	19.0	94.5	90.6	
Level of Service	F	D		E	E		F	E	B	F	F	
Approach Delay (s)		68.5			70.8			72.9			91.5	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	73.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	1071	154	421	1775	1608	144	275	406	237	50	42
Future Volume (vph)	375	1071	154	421	1775	1608	144	275	406	237	50	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3109	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3109	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	395	1127	162	443	1868	1693	152	289	427	249	53	44
RTOR Reduction (vph)	0	0	62	0	0	150	0	0	106	0	0	29
Lane Group Flow (vph)	395	1127	100	443	1868	1543	152	289	321	167	135	15
Turn Type	Prot	NA	Perm	Prot	NA	custom	Prot	NA	pt+ov	Split	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8!	8 1!	4!	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	22.9	70.6	70.6	22.5	70.9	80.2	6.7	23.1	50.6	20.1	20.1	48.3
Effective Green, g (s)	22.9	70.6	70.6	22.5	70.9	80.2	6.7	23.1	50.6	20.1	20.1	48.3
Actuated g/C Ratio	0.16	0.50	0.50	0.16	0.51	0.57	0.05	0.17	0.36	0.14	0.14	0.34
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		5.3	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		4.6	4.6	
Lane Grp Cap (vph)	561	2564	798	551	2575	1596	164	583	1007	437	446	546
v/s Ratio Prot	0.12	0.22		c0.13	0.37	c0.55	0.04	c0.08	0.12	0.05	0.04	0.01
v/s Ratio Perm			0.06									
v/c Ratio	0.70	0.44	0.13	0.80	0.73	0.97	0.93	0.50	0.32	0.38	0.30	0.03
Uniform Delay, d1	55.3	22.1	18.4	56.6	27.0	28.6	66.4	53.2	32.3	54.3	53.7	30.3
Progression Factor	1.24	0.59	0.41	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.5	0.3	7.9	1.8	15.1	48.3	1.5	0.4	1.0	0.7	0.0
Delay (s)	71.6	13.5	7.9	64.5	28.8	43.8	114.7	54.6	32.7	55.3	54.4	30.4
Level of Service	E	B	A	E	C	D	F	D	C	E	D	C
Approach Delay (s)		26.6			39.1			54.3			51.8	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	315	2234	0	2599	1172	217	206
Future Volume (vph)	315	2234	0	2599	1172	217	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	4.4
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	5085		5085	1583	3433	1583
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	5085		5085	1583	3433	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	332	2352	0	2736	1234	228	217
RTOR Reduction (vph)	0	0	0	0	3	0	107
Lane Group Flow (vph)	332	2352	0	2736	1231	228	110
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							7
Actuated Green, G (s)	16.2	105.3		85.6	125.0	34.0	34.0
Effective Green, g (s)	16.2	105.3		85.6	125.0	34.0	34.0
Actuated g/C Ratio	0.11	0.70		0.57	0.83	0.23	0.23
Clearance Time (s)	4.4	6.3		5.4		4.4	4.4
Vehicle Extension (s)	2.0	5.0		6.1		4.5	4.5
Lane Grp Cap (vph)	370	3569		2901	1319	778	358
v/s Ratio Prot	c0.10	0.46		0.54	c0.78	0.07	
v/s Ratio Perm							0.07
v/c Ratio	0.90	0.66		0.94	0.93	0.29	0.31
Uniform Delay, d1	66.1	12.4		29.9	9.4	48.0	48.2
Progression Factor	0.96	0.76		1.53	2.04	1.00	1.00
Incremental Delay, d2	16.0	0.6		2.4	3.9	0.4	0.8
Delay (s)	79.6	10.1		48.2	23.0	48.4	49.0
Level of Service	E	B		D	C	D	D
Approach Delay (s)		18.7		40.4		48.7	
Approach LOS		B		D		D	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	171	690	3121	428	957	602
Future Volume (vph)	171	690	3121	428	957	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4916	1478	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4916	1478	3204	2601
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	174	704	3185	437	977	614
RTOR Reduction (vph)	0	0	0	79	0	1
Lane Group Flow (vph)	174	704	3185	358	977	613
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	7.6	101.0	89.2	89.2	38.0	50.6
Effective Green, g (s)	7.6	101.0	89.2	89.2	38.0	50.6
Actuated g/C Ratio	0.05	0.67	0.59	0.59	0.25	0.34
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	162	3195	2923	878	811	877
v/s Ratio Prot	c0.05	0.15	c0.65		c0.30	0.24
v/s Ratio Perm				0.24		
v/c Ratio	1.07	0.22	1.09	0.41	1.20	0.70
Uniform Delay, d1	71.2	9.4	30.4	16.3	56.0	43.1
Progression Factor	0.87	1.82	1.18	1.05	1.00	1.00
Incremental Delay, d2	91.4	0.2	44.2	0.8	103.7	2.0
Delay (s)	153.5	17.3	79.9	17.8	159.7	45.1
Level of Service	F	B	E	B	F	D
Approach Delay (s)		44.3	72.5		115.5	
Approach LOS		D	E		F	

Intersection Summary			
HCM 2000 Control Delay	79.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	1264	348	284	2838	33	305	29	227	40	85	90
Future Volume (vph)	17	1264	348	284	2838	33	305	29	227	40	85	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.96	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	3433	5076		1681	1581	1504	1770	1719	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5085	1583	3433	5076		1681	1581	1504	1770	1719	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	17	1290	355	290	2896	34	311	30	232	41	87	92
RTOR Reduction (vph)	0	0	136	0	1	0	0	10	152	0	25	0
Lane Group Flow (vph)	17	1290	219	290	2929	0	199	185	27	41	154	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	2.7	77.5	77.5	17.0	91.4		22.7	22.7	22.7	13.4	13.4	
Effective Green, g (s)	2.7	77.5	77.5	17.0	91.4		22.7	22.7	22.7	13.4	13.4	
Actuated g/C Ratio	0.02	0.52	0.52	0.11	0.61		0.15	0.15	0.15	0.09	0.09	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0	2.2	2.2	
Lane Grp Cap (vph)	31	2627	817	389	3092		254	239	227	158	153	
v/s Ratio Prot	0.01	0.25		c0.08	c0.58		c0.12	0.12		0.02	c0.09	
v/s Ratio Perm			0.14						0.02			
v/c Ratio	0.55	0.49	0.27	0.75	0.95		0.78	0.77	0.12	0.26	1.00	
Uniform Delay, d1	73.0	23.5	20.3	64.4	27.1		61.3	61.2	55.0	63.7	68.3	
Progression Factor	1.51	0.33	0.36	1.25	0.72		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.1	0.4	0.5	4.0	5.0		13.5	13.2	0.1	0.4	73.6	
Delay (s)	116.2	8.2	7.8	84.7	24.6		74.8	74.4	55.1	64.1	141.9	
Level of Service	F	A	A	F	C		E	E	E	E	F	
Approach Delay (s)		9.2			30.0			68.5			127.4	
Approach LOS		A			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	1100	636	10	2753	126	1279	478	13	276	424	187
Future Volume (vph)	44	1100	636	10	2753	126	1279	478	13	276	424	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	0.88	1.00	0.91	1.00	0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98		0.95	1.00	
Satd. Flow (prot)	1947	4916	2601	1829	5085	1583	2841	3022		3204	3377	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98		0.95	1.00	
Satd. Flow (perm)	1947	4916	2601	1829	5085	1583	2841	3022		3204	3377	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	45	1122	649	10	2809	129	1305	488	13	282	433	191
RTOR Reduction (vph)	0	0	63	0	0	55	0	1	0	0	34	0
Lane Group Flow (vph)	45	1122	586	10	2809	74	887	918	0	282	590	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	4.1	66.3	106.3	1.6	63.7	63.7	40.0	40.0		20.2	20.2	
Effective Green, g (s)	4.1	66.3	106.3	1.6	63.7	63.7	40.0	40.0		20.2	20.2	
Actuated g/C Ratio	0.03	0.44	0.71	0.01	0.42	0.42	0.27	0.27		0.13	0.13	
Clearance Time (s)	4.4	5.7		4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	2172	1843	19	2159	672	757	805		431	454	
v/s Ratio Prot	c0.02	0.23	0.23	0.01	c0.55		c0.31	0.30		0.09	c0.17	
v/s Ratio Perm						0.05						
v/c Ratio	0.85	0.52	0.32	0.53	1.30	0.11	1.17	1.14		0.65	1.30	
Uniform Delay, d1	72.6	30.3	8.2	73.8	43.1	26.0	55.0	55.0		61.6	64.9	
Progression Factor	0.83	1.71	3.43	1.14	0.82	0.93	1.00	1.00		1.00	1.00	
Incremental Delay, d2	68.8	0.9	0.1	10.2	138.5	0.3	91.0	78.0		3.6	150.5	
Delay (s)	128.9	52.6	28.3	94.1	173.8	24.5	146.0	133.0		65.1	215.4	
Level of Service	F	D	C	F	F	C	F	F		E	F	
Approach Delay (s)		45.8			167.0			139.4			168.6	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	131.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	111.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	28	88	411	473	178	188	346	68	70	1079	178
Future Volume (vph)	18	28	88	411	473	178	188	346	68	70	1079	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91	1.00	1.00	0.91	
Frt		0.90			0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3169			3385		1770	5085	1583	1770	4977	
Flt Permitted		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3169			3385		1770	5085	1583	1770	4977	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	19	29	92	428	493	185	196	360	71	73	1124	185
RTOR Reduction (vph)	0	84	0	0	11	0	0	0	47	0	16	0
Lane Group Flow (vph)	0	56	0	0	1095	0	196	360	24	73	1293	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		9.8			37.1		12.6	38.1	38.1	7.4	32.5	
Effective Green, g (s)		9.8			37.1		12.6	38.1	38.1	7.4	32.5	
Actuated g/C Ratio		0.09			0.33		0.11	0.34	0.34	0.07	0.29	
Clearance Time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)		275			1115		198	1720	535	116	1436	
v/s Ratio Prot		c0.02			c0.32		c0.11	0.07		0.04	c0.26	
v/s Ratio Perm									0.02			
v/c Ratio		0.20			0.98		0.99	0.21	0.04	0.63	0.90	
Uniform Delay, d1		47.8			37.4		49.9	26.5	25.0	51.3	38.5	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9			22.7		60.3	0.1	0.0	7.5	8.2	
Delay (s)		48.7			60.1		110.3	26.6	25.1	58.7	46.7	
Level of Service		D			E		F	C	C	E	D	
Approach Delay (s)		48.7			60.1			52.6			47.3	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	112.6	Sum of lost time (s)	20.6
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1640	89	111	1003	129	170	49	395	1215	286	478
Future Volume (vph)	82	1640	89	111	1003	129	170	49	395	1215	286	478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	10	12	12	10	11	13	10	15	12
Total Lost time (s)	4.4	6.0		4.4	5.9	4.0	4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.91	0.91	0.86	0.86	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.88	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1652	5046		1652	5085	1583	1652	2884	1489	2841	3424	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.56	1.00
Satd. Flow (perm)	1652	5046		1652	5085	1583	1652	2884	1489	2841	1961	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	86	1726	94	117	1056	136	179	52	416	1279	301	503
RTOR Reduction (vph)	0	3	0	0	0	0	0	123	123	0	0	166
Lane Group Flow (vph)	86	1817	0	117	1056	136	179	137	85	857	723	337
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						Free			8			4
Actuated Green, G (s)	18.6	74.0		16.1	71.6	190.0	23.8	24.6	24.6	55.6	84.6	56.4
Effective Green, g (s)	18.6	74.0		16.1	71.6	190.0	23.8	24.6	24.6	55.6	84.6	56.4
Actuated g/C Ratio	0.10	0.39		0.08	0.38	1.00	0.13	0.13	0.13	0.29	0.45	0.30
Clearance Time (s)	4.4	6.0		4.4	5.9		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.5		2.0	5.0		3.0	3.6	3.6	2.0	4.9	4.9
Lane Grp Cap (vph)	161	1965		139	1916	1583	206	373	192	831	1301	469
v/s Ratio Prot	0.05	c0.36		c0.07	0.21		0.11	0.05		c0.30	0.16	
v/s Ratio Perm						0.09			0.06		0.08	c0.21
v/c Ratio	0.53	0.92		0.84	0.55	0.09	0.87	0.37	0.44	1.03	0.56	0.72
Uniform Delay, d1	81.6	55.3		85.7	46.6	0.0	81.6	75.6	76.4	67.2	38.8	59.7
Progression Factor	1.02	1.01		0.92	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	7.8		32.3	1.1	0.1	29.8	0.8	2.0	39.5	0.9	6.3
Delay (s)	85.0	63.5		110.7	44.6	0.1	111.4	76.3	78.4	106.7	39.7	66.0
Level of Service	F	E		F	D	A	F	E	E	F	D	E
Approach Delay (s)		64.4			45.9			86.7			73.6	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	66.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	2329	178	196	430	195	181	367	602	538	319	53
Future Volume (vph)	64	2329	178	196	430	195	181	367	602	538	319	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	10	12	10	10	11	11	10	12	12
Total Lost time (s)	4.4	6.1		4.4	6.2		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	5031		3204	4847		1652	3421	1531	3204	3464	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	5031		3204	4847		1652	3421	1531	3204	3464	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	2377	182	200	439	199	185	374	614	549	326	54
RTOR Reduction (vph)	0	4	0	0	42	0	0	0	30	0	8	0
Lane Group Flow (vph)	65	2555	0	200	596	0	185	374	584	549	372	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases												
Actuated Green, G (s)	11.4	85.9		16.6	91.0		40.4	39.0	61.6	27.6	25.8	
Effective Green, g (s)	11.4	85.9		16.6	91.0		40.4	39.0	61.6	27.6	25.8	
Actuated g/C Ratio	0.06	0.45		0.09	0.48		0.21	0.21	0.32	0.15	0.14	
Clearance Time (s)	4.4	6.1		4.4	6.2		4.4	6.0		4.4	6.4	
Vehicle Extension (s)	2.0	4.3		2.0	4.2		3.0	3.5		2.0	3.2	
Lane Grp Cap (vph)	99	2274		279	2321		351	702	496	465	470	
v/s Ratio Prot	0.04	c0.51		0.06	0.12		0.11	0.11	c0.38	c0.17	0.11	
v/s Ratio Perm												
v/c Ratio	0.66	1.12		0.72	0.26		0.53	0.53	1.18	1.18	0.79	
Uniform Delay, d1	87.4	52.0		84.4	29.4		66.3	67.4	64.2	81.2	79.5	
Progression Factor	1.27	0.67		1.31	0.93		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.1	60.2		7.0	0.3		1.4	0.9	99.4	101.5	9.0	
Delay (s)	119.3	94.9		117.8	27.5		67.8	68.2	163.6	182.7	88.5	
Level of Service	F	F		F	C		E	E	F	F	F	
Approach Delay (s)		95.5			49.1			118.1			144.2	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	101.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	115.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	1674	187	513	1647	323	253	70	857	1058	264	198
Future Volume (vph)	27	1674	187	513	1647	323	253	70	857	1058	264	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5	5.5	4.9	5.3	5.3	4.4	5.0	5.0	5.3	5.3	5.3
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.95	0.88	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3115	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	2787	3433	3539	2787	3044	3115	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	28	1762	197	540	1734	340	266	74	902	1114	278	208
RTOR Reduction (vph)	0	0	94	0	0	139	0	0	65	0	0	81
Lane Group Flow (vph)	28	1762	103	540	1734	201	266	74	837	746	646	127
Turn Type	Prot	NA	Perm	Prot	NA	custom	Prot	NA	pt+ov	Split	NA	pt+ov
Protected Phases	5	2		1	6	6 7	3	8!	8 1!	4!	4	4 5
Permitted Phases			2									
Actuated Green, G (s)	4.0	54.9	54.9	24.6	76.2	85.5	12.6	46.7	76.3	37.8	37.8	47.1
Effective Green, g (s)	4.0	54.9	54.9	24.6	76.2	85.5	12.6	46.7	76.3	37.8	37.8	47.1
Actuated g/C Ratio	0.03	0.37	0.37	0.16	0.51	0.57	0.08	0.31	0.51	0.25	0.25	0.31
Clearance Time (s)	4.4	5.5	5.5	4.9	5.3		4.4	5.0		5.3	5.3	
Vehicle Extension (s)	2.0	4.5	4.5	2.0	4.3		2.0	5.2		4.6	4.6	
Lane Grp Cap (vph)	91	1861	579	563	2583	1588	288	1101	1417	767	784	497
v/s Ratio Prot	0.01	c0.35		c0.16	0.34	0.07	c0.08	0.02	0.30	c0.25	0.21	0.08
v/s Ratio Perm			0.07									
v/c Ratio	0.31	0.95	0.18	0.96	0.67	0.13	0.92	0.07	0.59	0.97	0.91dl	0.26
Uniform Delay, d1	71.6	46.1	32.2	62.2	27.6	14.9	68.2	36.3	25.9	55.6	53.0	38.4
Progression Factor	1.01	0.56	0.42	1.01	1.26	4.93	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	9.2	0.5	23.5	1.1	0.0	33.0	0.1	1.0	25.9	7.7	0.5
Delay (s)	73.0	34.9	13.9	86.3	35.8	73.7	101.2	36.4	26.9	81.5	60.7	38.9
Level of Service	E	C	B	F	D	E	F	D	C	F	E	D
Approach Delay (s)		33.4			51.2			43.4			67.6	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	162	2343	0	3141	220	1214	445
Future Volume (vph)	162	2343	0	3141	220	1214	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3		5.4	5.4	4.4	4.4
Lane Util. Factor	0.97	0.91		0.91	1.00	0.97	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	5085		5085	1583	3433	1583
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	5085		5085	1583	3433	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	164	2367	0	3173	222	1226	449
RTOR Reduction (vph)	0	0	0	0	1	0	33
Lane Group Flow (vph)	164	2367	0	3173	221	1226	416
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	Perm
Protected Phases	5	2	1	6	6 7	7	
Permitted Phases							7
Actuated Green, G (s)	7.6	98.7		87.6	143.6	50.6	50.6
Effective Green, g (s)	7.6	98.7		87.6	143.6	50.6	50.6
Actuated g/C Ratio	0.05	0.62		0.55	0.90	0.32	0.32
Clearance Time (s)	4.4	6.3		5.4		4.4	4.4
Vehicle Extension (s)	2.0	5.0		6.1		4.5	4.5
Lane Grp Cap (vph)	163	3136		2784	1420	1085	500
v/s Ratio Prot	c0.05	0.47		c0.62	0.14	c0.36	
v/s Ratio Perm							0.26
v/c Ratio	1.01	0.75		1.14	0.16	1.13	0.83
Uniform Delay, d1	76.2	22.0		36.2	1.0	54.7	50.8
Progression Factor	0.93	0.88		1.50	1.45	1.00	1.00
Incremental Delay, d2	61.6	1.3		65.3	0.0	70.5	12.2
Delay (s)	132.8	20.5		119.5	1.5	125.2	63.0
Level of Service	F	C		F	A	F	E
Approach Delay (s)		27.8		111.8		108.5	
Approach LOS		C		F		F	

Intersection Summary			
HCM 2000 Control Delay	83.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	406	2310	947	1050	743	189
Future Volume (vph)	406	2310	947	1050	743	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	10
Total Lost time (s)	4.4	6.0	5.8	5.8	5.0	5.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3204	4746	4916	1478	3204	2601
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3204	4746	4916	1478	3204	2601
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	410	2333	957	1061	751	191
RTOR Reduction (vph)	0	0	0	331	0	98
Lane Group Flow (vph)	410	2333	957	730	751	93
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	5	2	6		4	4 5
Permitted Phases				6		
Actuated Green, G (s)	22.1	110.4	84.1	84.1	38.6	65.7
Effective Green, g (s)	22.1	110.4	84.1	84.1	38.6	65.7
Actuated g/C Ratio	0.14	0.69	0.53	0.53	0.24	0.41
Clearance Time (s)	4.4	6.0	5.8	5.8	5.0	
Vehicle Extension (s)	2.0	3.8	4.3	4.3	2.0	
Lane Grp Cap (vph)	442	3274	2583	776	772	1068
v/s Ratio Prot	c0.13	0.49	0.19		c0.23	0.04
v/s Ratio Perm				c0.49		
v/c Ratio	0.93	0.71	0.37	0.94	0.97	0.09
Uniform Delay, d1	68.2	15.1	22.4	35.6	60.2	28.8
Progression Factor	1.06	1.08	0.81	1.50	0.82	0.93
Incremental Delay, d2	23.3	1.2	0.3	15.6	25.4	0.0
Delay (s)	95.5	17.5	18.4	69.0	74.5	26.8
Level of Service	F	B	B	E	E	C
Approach Delay (s)		29.2	45.0		64.8	
Approach LOS		C	D		E	

Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	2729	238	189	1717	44	454	62	478	95	50	29
Future Volume (vph)	42	2729	238	189	1717	44	454	62	478	95	50	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	3433	5066		1681	1546	1504	1770	1760	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5085	1583	3433	5066		1681	1546	1504	1770	1760	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	2873	251	199	1807	46	478	65	503	100	53	31
RTOR Reduction (vph)	0	0	48	0	2	0	0	21	86	0	13	0
Lane Group Flow (vph)	44	2873	203	199	1851	0	363	330	246	100	71	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	6.9	87.1	87.1	9.8	89.6		34.1	34.1	34.1	9.6	9.6	
Effective Green, g (s)	6.9	87.1	87.1	9.8	89.6		34.1	34.1	34.1	9.6	9.6	
Actuated g/C Ratio	0.04	0.54	0.54	0.06	0.56		0.21	0.21	0.21	0.06	0.06	
Clearance Time (s)	4.4	5.2	5.2	4.4	5.6		4.9	4.9	4.9	4.9	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.5		2.0	2.0	2.0	2.2	2.2	
Lane Grp Cap (vph)	76	2768	861	210	2836		358	329	320	106	105	
v/s Ratio Prot	0.02	c0.56		c0.06	c0.37		c0.22	0.21		c0.06	0.04	
v/s Ratio Perm			0.13						0.16			
v/c Ratio	0.58	1.04	0.24	0.95	0.65		1.01	1.00	0.77	0.94	0.67	
Uniform Delay, d1	75.1	36.5	19.0	74.8	24.4		63.0	63.0	59.3	74.9	73.7	
Progression Factor	1.06	1.08	1.02	0.61	1.87		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	24.9	0.4	41.4	1.0		51.1	50.2	9.6	68.7	13.4	
Delay (s)	84.0	64.3	19.9	87.4	46.6		114.1	113.1	68.9	143.6	87.0	
Level of Service	F	E	B	F	D		F	F	E	F	F	
Approach Delay (s)		61.1			50.6			99.4			117.8	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	65.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2322	1341	40	1287	175	753	630	46	392	806	65
Future Volume (vph)	57	2322	1341	40	1287	175	753	630	46	392	806	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	11	10	13	12	12	10	11	12	10	12	12
Total Lost time (s)	4.4	5.7	5.7	4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Lane Util. Factor	1.00	0.91	0.88	1.00	0.91	1.00	0.86	0.86		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1947	4916	2601	1829	5085	1583	2841	3054		3204	3499	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1947	4916	2601	1829	5085	1583	2841	3054		3204	3499	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	58	2345	1355	40	1300	177	761	636	46	396	814	66
RTOR Reduction (vph)	0	0	18	0	0	90	0	2	0	0	4	0
Lane Group Flow (vph)	58	2345	1337	40	1300	87	685	756	0	396	876	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	8.1	65.0	101.9	4.0	60.8	60.8	36.9	36.9		32.2	32.2	
Effective Green, g (s)	8.1	65.0	101.9	4.0	60.8	60.8	36.9	36.9		32.2	32.2	
Actuated g/C Ratio	0.05	0.41	0.64	0.02	0.38	0.38	0.23	0.23		0.20	0.20	
Clearance Time (s)	4.4	5.7		4.4	5.8	5.8	6.0	6.0		5.8	5.8	
Vehicle Extension (s)	3.0	3.3		2.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	1997	1656	45	1932	601	655	704		644	704	
v/s Ratio Prot	0.03	c0.48	0.51	c0.02	0.26		0.24	c0.25		0.12	c0.25	
v/s Ratio Perm						0.06						
v/c Ratio	0.59	1.17	0.81	0.89	0.67	0.14	1.05	1.07		0.61	1.24	
Uniform Delay, d1	74.3	47.5	21.7	77.8	41.3	32.5	61.5	61.5		58.2	63.9	
Progression Factor	1.14	0.73	0.62	1.17	0.65	0.71	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	82.9	2.4	82.8	1.7	0.4	47.7	55.4		1.7	121.7	
Delay (s)	92.1	117.6	15.8	173.4	28.6	23.4	109.3	116.9		60.0	185.6	
Level of Service	F	F	B	F	C	C	F	F		E	F	
Approach Delay (s)		80.5			31.8			113.3			146.6	
Approach LOS		F			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	87.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	595	318	82	32	66	134	1087	657	295	481	49
Future Volume (vph)	120	595	318	82	32	66	134	1087	657	295	481	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Lane Util. Factor		0.95			0.95		1.00	0.91	1.00	1.00	0.91	
Frt		0.95			0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3356			3271		1770	5085	1583	1770	5014	
Flt Permitted		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3356			3271		1770	5085	1583	1770	5014	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	626	335	86	34	69	141	1144	692	311	506	52
RTOR Reduction (vph)	0	33	0	0	62	0	0	0	208	0	7	0
Lane Group Flow (vph)	0	1054	0	0	127	0	141	1144	484	311	551	0
Turn Type	Split	NA		Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		37.1			12.4		13.9	39.0	39.0	15.6	40.3	
Effective Green, g (s)		37.1			12.4		13.9	39.0	39.0	15.6	40.3	
Actuated g/C Ratio		0.30			0.10		0.11	0.31	0.31	0.13	0.32	
Clearance Time (s)		4.9			4.9		4.4	6.0	6.0	4.4	6.4	
Vehicle Extension (s)		5.5			5.5		2.3	3.5	3.5	2.0	3.3	
Lane Grp Cap (vph)		1001			326		197	1595	496	222	1625	
v/s Ratio Prot		c0.31			c0.04		0.08	0.22		c0.18	0.11	
v/s Ratio Perm									c0.31			
v/c Ratio		1.05			0.39		0.72	0.72	0.98	1.40	0.34	
Uniform Delay, d1		43.6			52.4		53.3	37.8	42.2	54.4	31.9	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		43.4			1.9		10.5	1.6	34.0	205.3	0.1	
Delay (s)		87.0			54.3		63.8	39.4	76.2	259.7	32.0	
Level of Service		F			D		E	D	E	F	C	
Approach Delay (s)		87.0			54.3			54.0			113.5	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	75.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	124.3	Sum of lost time (s)	20.6
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

34 - Kearny Villa Road / Miramar Road
Horizon Year 2050
AM Peak Hour

Movement	Existing	Horizon Year 2050 Without Project	Horizon Year 2050 With Project
NBL	853	1,247	1,280
NBT	308	478	478
NBR	9	13	13
SBL	179	276	276
SBT	276	424	424
SBR	122	187	187
EBL	39	44	44
EBT	903	1,016	1,103
EBR	437	586	637
WBL	9	10	10
WBT	2,307	2,717	2,754
WBR	107	126	126
Total	**5549**	**7124**	**7332**

Project Trips (With Project - No Project) >>	208
Intersection Volume Increase (HY 2050 - Existing) >>	1,783
Fair Share % (Project Trips / Total Existing to Cumulative Volume Increase) >>	**11.7%**

34 - Kearny Villa Road / Miramar Road
Horizon Year 2050
PM Peak Hour

Movement	Existing	Horizon Year 2050 Without Project	Horizon Year 2050 With Project
NBL	484	691	755
NBT	407	630	630
NBR	30	46	46
SBL	255	392	392
SBT	524	806	806
SBR	42	65	65
EBL	51	57	57
EBT	2,012	2,265	2,326
EBR	962	1,303	1,343
WBL	33	40	40
WBT	1,035	1,219	1,289
WBR	149	175	175
Total	**5984**	**7689**	**7924**

Project Trips (With Project - No Project) >>	235
Intersection Volume Increase (HY 2050 - Existing) >>	1,940
Fair Share % (Project Trips / Total Existing to Cumulative Volume Increase) >>	**12.1%**

Michael Baker
INTERNATIONAL

Appendix M
Public Facilities Financing Plan (PFFP), Regional Transportation Plan (RTP) Projects & CAPCOA VMT Mitigation Worksheets

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: MIRA MESA BOULEVARD - BLACK MOUNTAIN ROAD TO I-15

PROJECT: T-3

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

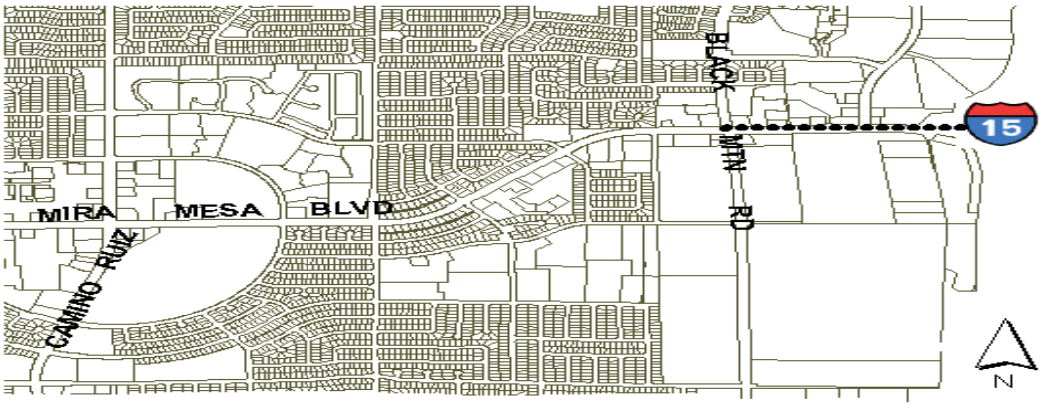
THIS PROJECT PROVIDES FOR THE WIDENING OF MIRA MESA BOULEVARD TO AN EIGHT-LANE PRIMARY ARTERIAL WITH LANDSCAPED MEDIAN AND CLASS II BIKE LANES FROM BLACK MOUNTAIN ROAD TO THE I-15.

JUSTIFICATION:

THIS PROJECT IMPLEMENTS THE MIRA MESA COMMUNITY PLAN WHICH CLASSIFIES MIRA MESA BLVD AS AN EIGHT-LANE PRIMARY ARTERIAL FROM BLACK MOUNTAIN ROAD TO THE I-15, AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

DESIGN, LAND ACQUISITION, AND CONSTRUCTION ON THE NORTH SIDE OF MIRA MESA BOULEVARD AS WELL AS CONSTRUCTION OF THE THIRD LANE AND PART OF THE FOURTH LANE ON THE SOUTH SIDE IS COMPLETE. THE FOURTH LANE ON THE SOUTH SIDE OF MIRA MESA BOULEVARD FROM BLACK MOUNTAIN ROAD EASTERLY TO THE WESTERN BOUNDARY OF MIRA MESA MARKET CENTER REMAINS TO BE CONSTRUCTED. CONSTRUCTION WILL OCCUR ON THE SOUTH SIDE WHEN ADDITIONAL FUNDING IS SECURED.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$2,780,000**	$1,155,000						
STATE								
OTHER								
UNIDENT								
TOTAL	**$2,780,000**	$1,155,000	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CARROLL CANYON ROAD - WESTERN FENTON BOUNDARY TO CARROLL ROAD

PROJECT: T-5A

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF CARROLL CANYON ROAD AS A FOUR-LANE MAJOR STREET WITH CLASS II BIKE LANES FROM THE WESTERN FENTON PROPERTY BOUNDARY WESTERLY TO CARROLL ROAD.

JUSTIFICATION:

THIS PROJECT IMPLEMENTS THE TRANSPORTATION SYSTEM OF THE MIRA MESA COMMUNITY PLAN WHICH CLASSIFIES CARROLL CANYON ROAD AS A FOUR-LANE MAJOR STREET FROM SCRANTON ROAD TO CAMINO SANTA FE, AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT WILL BE COMPLETED WITHIN THE SAME TIMEFRAME AS THE OTHER SEGMENTS OF CARROLL CANYON ROAD (PROJECTS T-5B AND T-5C). THE TIMING IS DEPENDENT UPON THE DEVELOPMENT OF THE CARROLL CANYON MASTER PLAN AREA.

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$8,180,000**							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	**$8,180,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM			$2,000,000	$6,180,000				
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$2,000,000	$6,180,000	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CARROLL CANYON ROAD - CAMINO SANTA FE TO WESTERN FENTON BOUNDARY

PROJECT: T-5B

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF CARROLL CANYON ROAD AS A FOUR LANE MAJOR STREET WITH CLASS II BIKE LANES FROM CAMINO SANTA FE WESTERLY TO FENTON PROPERTY BOUNDARY.

JUSTIFICATION:

THIS PROJECT IMPLEMENTS THE TRANSPORTATION SYSTEM OF THE MIRA MESA COMMUNITY PLAN WHICH CLASSIFIES CARROLL CANYON ROAD AS A FOUR-LANE MAJOR STREET FROM SCRANTON ROAD TO CAMINO SANTA FE, AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT WILL BE COMPLETED WITHIN THE SAME TIMEFRAME AS THE OTHER SEGMENTS OF CARROLL CANYON ROAD (PROJECTS T-5A AND T-5C). THE TIMING IS DEPENDENT UPON THE DEVELOPMENT OF THE CARROLL CANYON MASTER PLAN AREA.

NOTES:

SEGMENT 5B OF CARROLL CANYON ROAD WILL BE THE RESPONSIBILITY OF THE FRONTING PROPERTY OWNER(S), WHICH MAY INCLUDE THE OWNERS OF THE FOLLOWING PARCELS; 341-040-40 & 341-050-43 (ASSMT. NO. 412), AND 341-470-10 & 341-470-11 (ASSMT. NO. 367).

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$14,000,000**							
STATE								
OTHER								
UNIDENT								
TOTAL	**$14,000,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CARROLL CANYON ROAD - CAMINO RUIZ TO CAMINO SANTA FE

PROJECT: T-5C

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF CARROLL CANYON ROAD AS A SIX-LANE PRIMARY ARTERIAL WITH CLASS II BIKE LANES FROM CAMINO RUIZ WESTERLY TO CAMINO SANTA FE.

JUSTIFICATION:

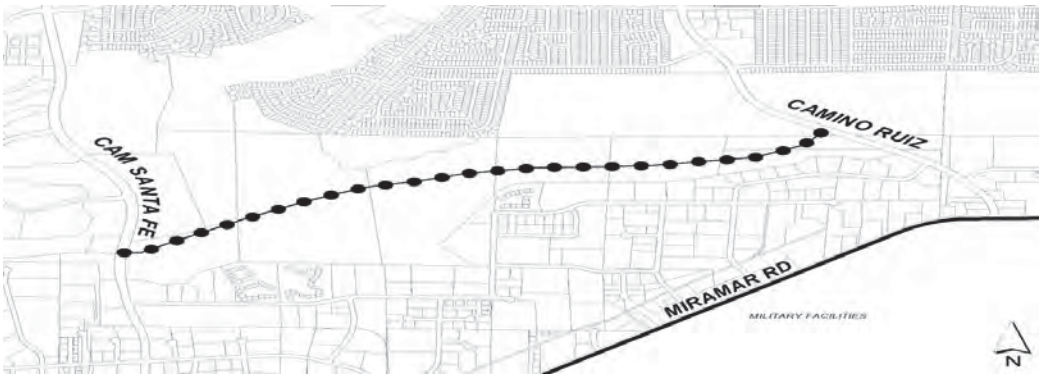
THIS PROJECT IMPLEMENTS THE TRANSPORTATION SYSTEM OF THE MIRA MESA COMMUNITY PLAN WHICH CLASSIFIES CARROLL CANYON ROAD AS A SIX-LANE PRIMARY ARTERIAL STREET FROM CAMINO RUIZ TO CAMINO SANTA FE, AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT WILL BE COMPLETED WITHIN THE SAME TIMEFRAME AS THE OTHER SEGMENTS OF CARROLL CANYON ROAD (PROJECTS T-5A AND T-5B). THE TIMING IS DEPENDENT UPON THE DEVELOPMENT OF THE CARROLL CANYON MASTER PLAN AREA.

NOTES:

SEGMENT 5C OF CARROLL CANYON ROAD WILL BE THE RESPONSIBILITY OF THE FRONTING PROPERTY OWNER(S), WHICH MAY INCLUDE THE OWNERS OF THE FOLLOWING PARCELS; 341-050-38-42 & 341-060-82 (ASSMT. NO. 400), 341-060-42 (ASSMT. NO. 257), 341-060-90 (ASSMT. NO. 157), 341-480-02 (ASSMT. NO. 258), AND 341-480-05-06 (ASSMT. NO. 410)



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$35,400,000**							
STATE								
OTHER								
UNIDENT								
TOTAL	**$35,400,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CARROLL CANYON ROAD - CAMINO RUIZ TO BLACK MOUNTAIN ROAD

PROJECT: T-6

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF CARROLL CANYON ROAD FROM CAMINO RUIZ TO BLACK MOUNTAIN ROAD. CONSTRUCT AS A SIX-LANE MAJOR STREET WITH CLASS II BIKE LANES FROM CAMINO RUIZ TO MAYA LINDA ROAD. CONSTRUCT AS A FOUR-LANE MAJOR STREET WITH CLASS II BIKE LANES FROM MAYA LINDA ROAD TO BLACK MOUNTAIN ROAD. INCLUDE MEDIANS CONSISTENT WITH COMMUNITY PLAN.

JUSTIFICATION:

CARROLL CANYON ROAD IS PART OF THE TRANSPORTATION PLAN INFRASTRUCTURE WHICH SUPPORTS THE COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT WILL BE CONSTRUCTED BY SUBDIVIDER OF STONE CREEK AFTER THE EXISTING MINING AND RECLAMATION OPERATIONS ON THE FRONTING PROPERTY IS COMPLETED AND AFTER DEVELOPMENT BEGINS.

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$13,000,000**							
STATE								
OTHER*	**$75,268**							
UNIDENT								
TOTAL	**$13,075,268**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

* FAIR SHARE CONTRIBUTION RECEIVED FROM SCRIPPS MESA DEVELOPERS PER CONDITION NO. 32 OF PDP 294375/SDP 294373 FOR ITS CASA MIRA VIEW PROJECT.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: MAYA LINDA ROAD - CARROLL CANYON ROAD TO BLACK MOUNTAIN ROAD

PROJECT: T-6B

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

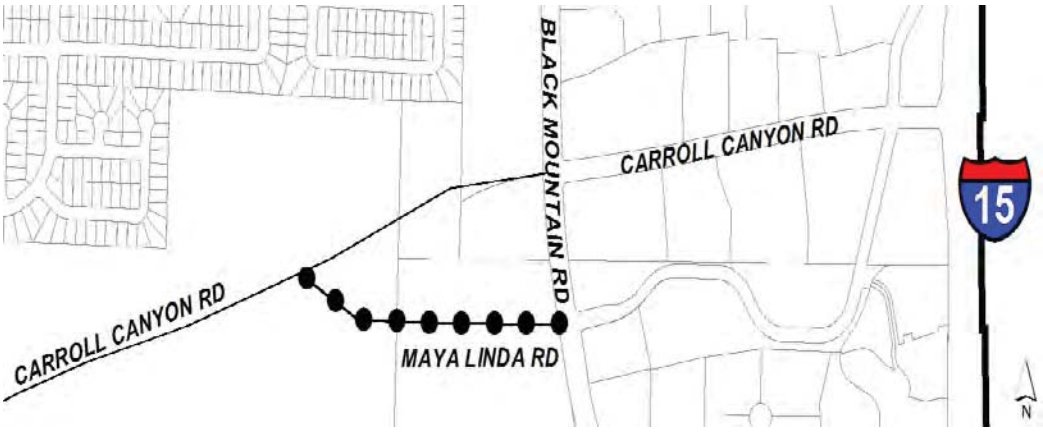
THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF MAYA LINDA ROAD FROM CARROLL CANYON ROAD TO BLACK MOUNTAIN ROAD. CONSTRUCT AS A FOUR-LANE COLLECTOR STREET WITH CLASS II BICYCLE LANES. INCLUDE MEDIAN CONSISTENT WITH COMMUNITY PLAN. IMPROVEMENTS INCLUDE RECONFIGURATION OF WEST LEG OF MAYA LINDA ROAD AT BLACK MOUNTAIN ROAD TO PROVIDE DUAL LEFT-TURN LANES, A THRU LANE, AND A RIGHT-TURN LANE, AND ALSO TO PROVIDE FOR A SECOND NORTHBOUND LEFT-TURN LANE ON BLACK MOUNTAIN ROAD.

JUSTIFICATION:

MAYA LINDA ROAD IS PART OF THE TRANSPORTATION PLAN INFRASTRUCTURE WHICH SUPPORTS THE COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT WILL BE CONSTRUCTED BY SUBDIVIDER OF STONE CREEK AFTER THE EXISTING MINING AND RECLAMATION OPERATIONS ON THE FRONTING PROPERTY IS COMPLETED AND AFTER DEVELOPMENT BEGINS.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$1,610,000**							
STATE								
OTHER								
UNIDENT								
TOTAL	**$1,610,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO RUIZ - GOLD COAST DRIVE TO EAST LEG OF JADE COAST DRIVE AND FROM MIRALANI DRIVE TO MIRAMAR ROAD**

PROJECT: T-10

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: 52-389.0/S-01018

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

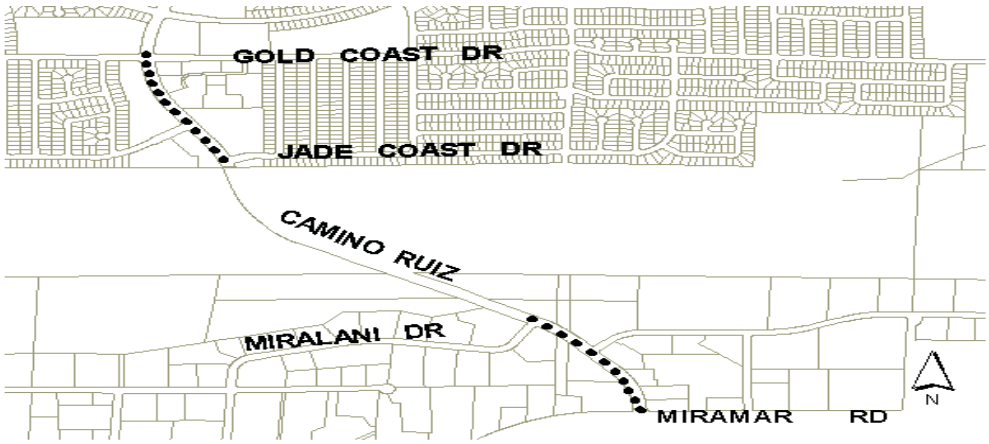
THIS PROJECT WILL WIDEN CAMINO RUIZ FROM GOLD COAST DRIVE TO THE EAST LEG OF JADE COAST AND FROM THE NORTHERN MOST BOUNDARIES OF MIRALANI BUSINESS PARK TO MIRAMAR ROAD TO A MODIFIED SIX-LANE MAJOR STREET. THE PROJECT INCLUDES CLASS II BICYCLE LANES BETWEEN MIRA MESA BOULEVARD AND GOLD COAST DRIVE AND WITHIN THE PROJECT LIMITS.

JUSTIFICATION:

THIS PROJECTS IS CONSISTENT WITH THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT CANNOT PRECEDE PROJECT T-10A. THIS CIP AS CURRENTLY DESCRIBED WAS CLOSED BY THE TRANSPORTATION DEPARTMENT IN FY 2013. A NEW PROJECT WILL BE CREATED IN THE FUTURE. THE FUNDING HAS BEEN SCHEDULED FOR FY 2024-2025, ALTHOUGH IT IS DEPENDENT UPON THE COMPLETION OF PROJECT T-10A.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$10,400,000**							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	**$10,400,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM				$1,400,000	$9,000,000			
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$1,400,000	$9,000,000	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CAMINO RUIZ - JADE COAST TO MIRALANI DRIVE

PROJECT: T-10A

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

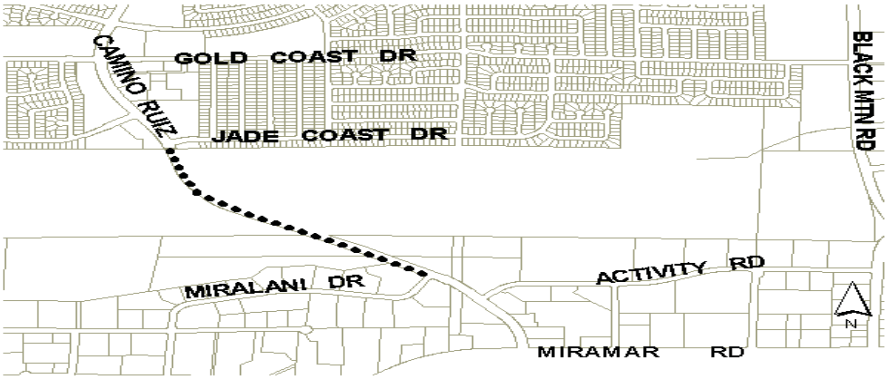
THIS PROJECT PROVIDES FOR THE WIDENING OF CAMINO RUIZ IN THE NORTHBOUND DIRECTION FROM THE EAST LEG OF JADE COAST DRIVE TO MIRALANI DRIVE FOR THE NORTHBOUND SIDE AND IN THE SOUTHBOUND DIRECTION SIDE, FROM JADE COAST DRIVE TO THE NORTHERN MOST BOUNDARIES OF THE MIRALANI BUSINESS PARK. THE PROJECT PROVIDES FOR THE WIDENING OF CAMINO RUIZ FROM A FOUR-LANE TO A SIX-LANE MAJOR STREET WITH A 14-FT WIDE, LANDSCAPED, RAISED-CENTER-MEDIAN (WITH DUAL 10-FT LEFT-TURN LANES AT CARROLL CANYON ROAD), STREETLIGHTS AND CLASS II BIKE LANES. THE PROJECT WILL ALSO RECONSTRUCT EXISTING CURVE TO INCREASE STOP/SIGHT DISTANCE.

JUSTIFICATION:

THIS PROJECT IS CONSISTENT WITH THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT WILL BE CONSTRUCTED BY RESPONSIBLIE SUBDIVIDER. IT MUST COINCIDE WITH OR PRECEDE PROJECT T-10. RESPONSIBLE SUBDIVIDERS MAY INCLUDE THE OWNERS OF THE FOLLOWING PARCELS; 341-060-042 (ASSMT NO. 257), 341-060-41 (ASSMT NO. 364), 341-480-01 (ASSMT NO. 406), AND 341-480-02 (ASSMT NO. 258).



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$3,960,000**							
STATE								
UNIDENT								
TOTAL	**$3,960,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CARROLL CANYON ROAD - SORRENTO VALLEY ROAD TO 1,000 FT EAST OF CENTERLINE OF I-805

PROJECT: T-29

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: 52-392.0/S-00841

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR A MODIFIED FOUR-LANE COLLECTOR STREET FROM SORRENTO VALLEY ROAD, UNDER INTERSTATE 805 TO SCRANTON ROAD AS PART OF A JOINT PROJECT WITH CALTRANS. CARROLL CANYON ROAD WILL INCLUDE CLASS II BIKE LANES AND DIRECT ACCESS RAMPS ONTO I-805 FROM CARROLL CANYON ROAD TO THE I-5 INTERCHANGE. INCLUDES INSTALLATION OF A TRAFFIC SIGNAL AT CARROLL CANYON RD AND SCRANTON RD. THIS PROJECT ALSO INCLUDES PROJECT T-28.

JUSTIFICATION:

THIS PROJECT IS CONSISTENT WITH THE MIRA MESA COMMUNITY PLAN AND IS IN CONFORMANCE WITH THE CITY'S GENERAL PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

LAND ACQUISITION AND DESIGN WAS COMPLETED IN FY 2010. CONSTRUCTION BEGAN IN FY 2010 AND WAS COMPLETED IN FY 2015. THE WARRANTY PERIOD WILL END IN FISCAL YEAR 2016.

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$3,308,000**	$2,960,912	$347,088					
FBA CREDIT								
TRANSNET	**$9,683,193**	$9,478,347	$204,846					
DEV/SUBD*	**$2,700,000**	$2,700,000						
STATE								
OTHER**	**$150,000**	$149,522	$478					
HISTORICAL	**$6,313,930**							
TOTAL	**$22,155,123**	$15,288,781	$552,412	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
HISTORICAL								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

* MITIGATION SATISFACTION AGREEMENT WITH QUALCOMM INC., R-306576, DATED 2/9/11 - FUND 400843.
** TORREY PINES DIF FUND 400133

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: TRAFFIC SIGNALS - VARIOUS LOCATIONS

PROJECT: T-40

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE INSTALLATION OF TRAFFIC SIGNALS AT VARIOUS LOCATIONS WITHIN THE MIRA MESA COMMUNITY, SUBJECT TO CITY DETERMINING NEED FOR THE SIGNALS. REFER TO MAP ON PAGE 36 FOR LOCATION OF SIGNALS.

JUSTIFICATION:

A NETWORK OF TRAFFIC SIGNALS IS NEEDED TO SUPPORT THE SAFE FLOW OF TRAFFIC IN THE COMMUNITY.

	ESTIMATE	FY	RESPONSIBILITY
8-CAMINO RUIZ & AQUARIUS DRIVE (1)	$275,000	2025	FBA
25-CARROLL CANYON ROAD & SCRANTON ROAD	(2)	2014	FBA
28-CARROLL CANYON ROAD & CARROLL ROAD	$275,000	TBD	SUBDIV
44-WESTMORE & WESTONHILL	$275,000	2025	FBA
1-BLACK MOUNTAIN ROAD & COMMUNITY COLLEGE		COMPLETED	FBA
2-BLACK MOUNTAIN ROAD & MERCY ROAD		COMPLETED	SUBDIV
3-BLACK MOUNTAIN ROAD & WESTVIEW PARKWAY		COMPLETED	SUBDIV
4-BLACK MOUNTAIN ROAD & CAPRICORN WAY		COMPLETED	SUBDIV
5-BLACK MOUNTAIN ROAD & GALVIN AVENUE		COMPLETED	SUBDIV
6-CAMINO RUIZ & CALLE CRISTOBAL		COMPLETED	FBA
7-CAMINO RUIZ & CAPRICORN WAY		COMPLETED	SUBDIV/CITY
10-CAMINO RUIZ & CARROLL CANYON ROAD		COMPLETED	SUBDIV
11-DOWDY DRIVE & MIRAMAR ROAD		COMPLETED	SUBDIV
12-CAMINO SANTA FE & CALLE CRISTOBAL		COMPLETED	SUBDIV
13-CAMINO SANTA FE & CARROLL ROAD		COMPLETED	FBA
14-CAMINO SANTA FE & MIRAMAR ROAD		COMPLETED	SUBDIV
15-CALLE CRISTOBAL & CAMINO PROPICO (3)		COMPLETED	FBA
16-WESTVIEW PARKWAY & COMPASS POINT DRIVE S.		COMPLETED	SUBDIV
17-CALLE CRISTOBAL & CAMINO MIRANDA		COMPLETED	TRANSNET
18-CAMINO RUIZ & JADE COAST		COMPLETED	FSTP
19-BLACK MOUNTAIN ROAD & ACTIVITY ROAD		COMPLETED	FSTP
20-MIRA MESA BLVD & PACIFIC HEIGHTS ROAD		COMPLETED	SUBDIV
21-MIRA MESA BLVD & FLANDERS DRIVE		COMPLETED	SUBDIV
22-MIRA MESA BLVD & CAMINO SANTA FE		COMPLETED	SUBDIV
24-MIRA MESA BLVD & MAYA LINDA DRIVE		COMPLETED	SUBDIV
26-CARROLL CANYON ROAD & NANCY RIDGE DRIVE		COMPLETED	SUBDIV
27-CARROLL CANYON ROAD & PACIFIC HEIGHTS ROAD		COMPLETED	SUBDIV
29-CARROLL CANYON ROAD & CAMINO SANTA FE		COMPLETED	SUBDIV
30-TRADE STREET & CAMINO SANTA FE		COMPLETED	SUBDIV
31-MERCY ROAD & I-15 RAMP-WEST SIDE		COMPLETED	SUBDIV
34-LUSK BLVD & BARNES CANYON ROAD		COMPLETED	SUBDIV
35-WESTMORE ROAD & MIRA MESA BLVD		COMPLETED	FBA
36-WESTMORE ROAD & CAMINO RUIZ		COMPLETED	FBA
37-WEST REGAN ROAD & MIRA MESA BLVD		COMPLETED	FBA
38-REGAN ROAD/NEW SALEM & MIRA MESA BLVD		COMPLETED	FBA
40-GALVIN AVENUE & WESTVIEW PARKWAY		COMPLETED	SUBDIV
41-CAMINO RUIZ & MIRALANI DRIVE		COMPLETED	FBA
42-BLACK MOUNTAIN ROAD & HILLARY DRIVE		COMPLETED	SUBDIV
43-CAMINO SANTA FE & FLANDERS		COMPLETED	SUBDIV
45-MIRAMAR ROAD AND EMPIRE STREET		COMPLETED	FSTP

(1) DEFERRED PER COMMUNITY REQUEST
(2) COMPLETED AS PART OF PROJECT T-29.
(3) COMPLETED IN CONJUNCTION WITH LOPEZ RIDGE NEIGHBORHOOD PARK (P-67)

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020-FY 2035
FBA-MM	**$849,389**	$299,389						$550,000
TRANSNET	**$275,000**	$275,000						
DEV/SUBD	**$612,000**	$612,000						
TOTAL	**$1,736,389**	$1,186,389	$0	$0	$0	$0	$0	$550,000

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: PEDESTRIAN BRIDGE - BLACK MOUNTAIN ROAD AT COMMUNITY COLLEGE

PROJECT: T-51

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: 53-052.0

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

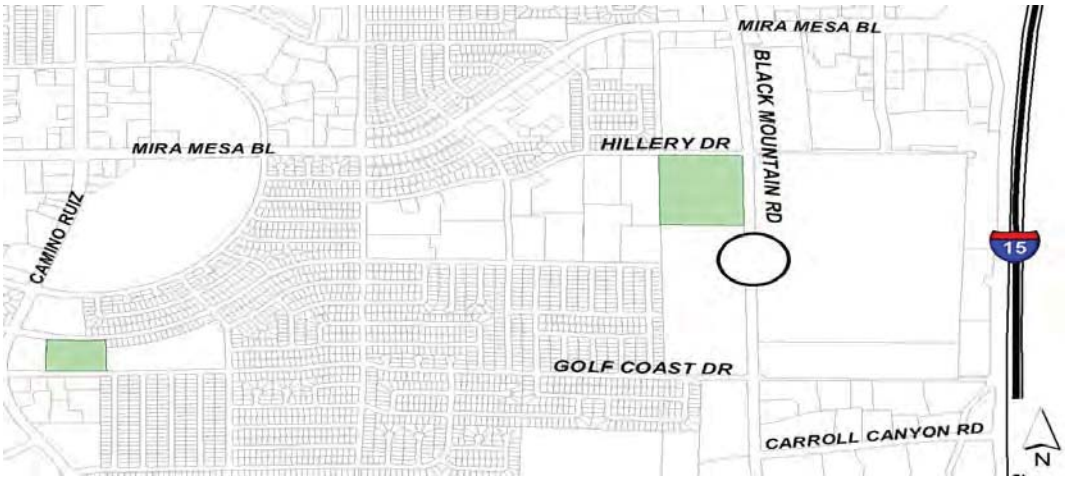
THIS PROJECT WILL PROVIDE A MID-BLOCK PEDESTRIAN BRIDGE ACROSS BLACK MOUNTAIN ROAD BETWEEN GOLD COAST DRIVE AND HILLERY DRIVE. THE BRIDGE WILL PROVIDE AN ABOVE GROUND STREET CROSSING FOR NEARBY SCHOOLS AND PEDESTRIAN TRAFFIC GENERATED BY HOURGLASS COMMUNITY PARK.

JUSTIFICATION:

THIS PROJECTS IS CONSISTENT WITH THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THE BRIDGE WILL BE CONSTRUCTED AFTER BLACK MOUNTAIN ROAD IS IMPROVED TO ITS PLANNED CLASSIFICATION AND TROLLEY ALIGNMENTS ALONG BLACK MOUNTAIN ROAD HAVE BEEN APPROVED. THIS PROJECT IS CURRENTLY SCHEDULED FOR FY 2027.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$3,400,000**							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	**$3,400,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM							$3,400,000	
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$3,400,000	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: BLACK MOUNTAIN ROAD - GEMINI AVENUE TO MIRA MESA BOULEVARD

PROJECT: T-81

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT WIDENS THE EAST SIDE OF BLACK MOUNTAIN ROAD FROM GEMINI AVENUE TO MIRA MESA BOULEVARD FOR A THIRD NORTHBOUND LANE. CLASS II BIKE LANES ARE INCLUDED.

JUSTIFICATION:

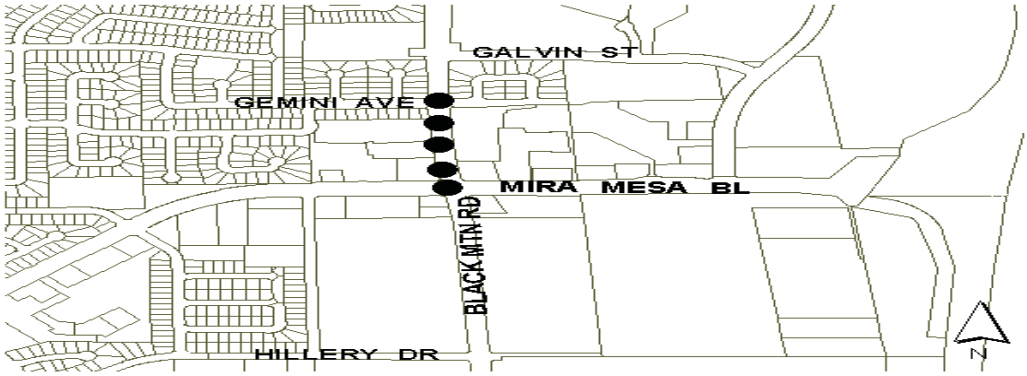
BLACK MOUNTAIN ROAD IS TO BE A SIX-LANE PRIMARY ARTERIAL ACCORDING TO THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT WAS ORIGINALLY SCHEDULED FOR THE 2003-2006 TIME FRAME. DUE TO DELAYED DEVELOPMENT, THE PROJECT TIMING HAS BEEN ADJUSTED SUCH THAT PRELIMINARY ENGINEERING IS SCHEDULED FOR FY 2020, DESIGN IS SCHEDULED FOR FY 2021, LAND ACQUISITION AND CONSTRUCTION IN FY 2022.

NOTES:

A TRAFFIC STUDY WILL BE CONDUCTED PRIOR TO DESIGN TO DETERMINE IF THE WIDENING OF THE ROADWAY CAN BE ACCOMMODATED WITHIN THE EXISTING RIGHT-OF-WAY.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$1,300,000**							$650,000
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	**$1,300,000**	$0	$0	$0	$0	$0	$0	$650,000

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM	$650,000							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$650,000	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: BLACK MOUNTAIN ROAD - GALVIN AVENUE TO GEMINI AVENUE

PROJECT: T-82

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: NA

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE WIDENING OF BLACK MOUNTAIN ROAD FROM GALVIN AVENUE TO GEMINI AVENUE TO A SIX-LANE PRIMARY ARTERIAL WITH CLASS II BIKE LANES.

JUSTIFICATION:

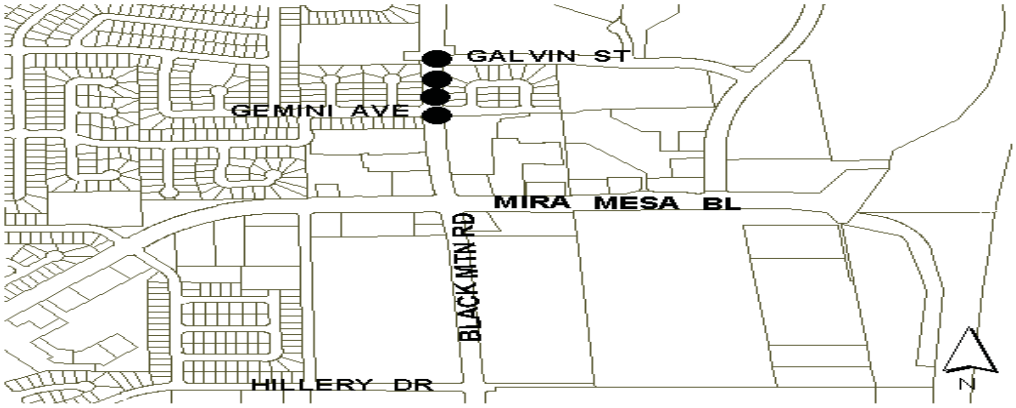
BLACK MOUNTAIN ROAD IS TO BE A SIX-LANE PRIMARY ARTERIAL ACCORDING TO THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT WILL BE SCHEDULED WHEN FUNDING IS IDENTIFIED.

NOTES:

THE TRAFFIC STUDY WILL BE CONDUCTED PRIOR TO DESIGN TO DETERMINE IF THE WIDENING OF THE ROADWAY CAN BE ACCOMMODATED WITHIN THE EXISTING RIGHT-OF-WAY.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT	**$2,080,000**							
TOTAL	**$2,080,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: BLACK MOUNTAIN ROAD - HILLERY DRIVE TO GOLD COAST DRIVE

PROJECT: T-83

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE WIDENING OF BLACK MOUNTAIN ROAD FROM HILLERY DRIVE TO GOLD COAST DRIVE TO A SIX-LANE PRIMARY ARTERIAL WITH CLASS II BIKE LANES.

JUSTIFICATION:

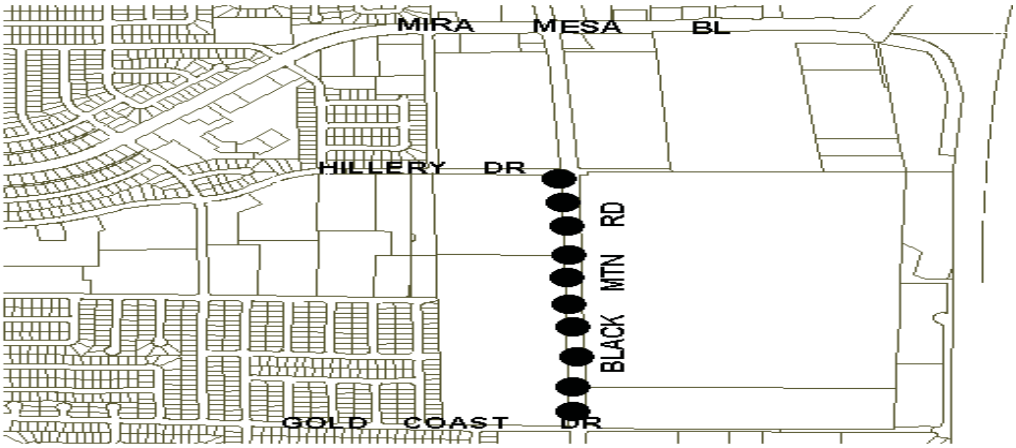
BLACK MOUNTAIN ROAD IS TO BE A SIX-LANE PRIMARY ARTERIAL ACCORDING TO THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT WILL BE COMPLETED WHEN A RESPONSIBLE SUBDIVIDER IS IDENTIFIED AND DEVELOPS THE FRONTING PROPERTY.

NOTES:

"OTHER" FUNDING BELOW REFERS TO DEVELOPER'S FAIR SHARE PREVIOUSLY COLLECTED FOR THIS PROJECT UNDER THE "EIGHT OWNERS AGREEMENT". THE CONTRIBUTION RESIDES IN FUND 400198 (FORMERLY 10607).



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$1,350,000**							
STATE								
OTHER*	**$2,539,293**							
UNIDENT								
TOTAL	**$3,889,293**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

*FUNDS AVAILABLE FOR THIS PROJECT IN FUND 400198.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CAMINO SANTA FE - CARROLL ROAD TO 350 FEET SOUTH OF COMMERCE AVENUE

PROJECT: T-85

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

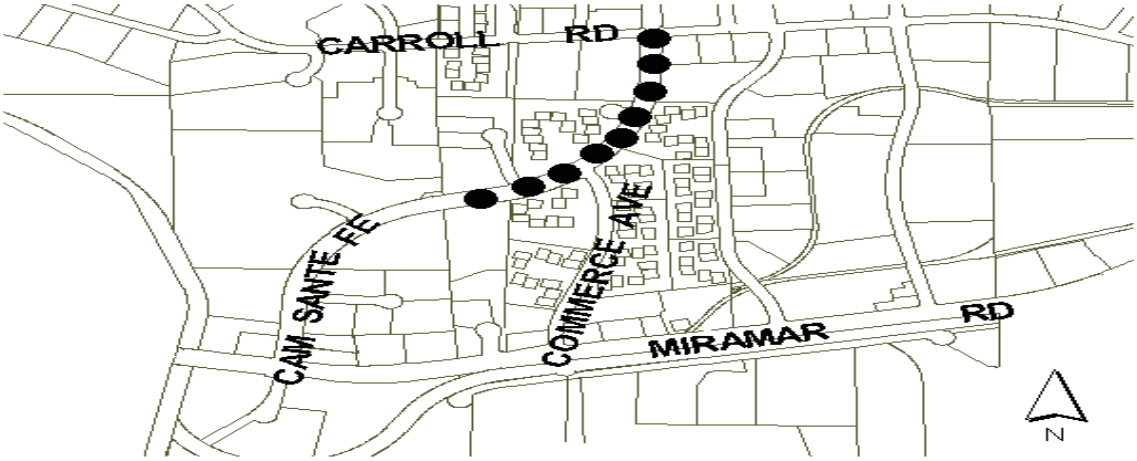
THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF CAMINO SANTA FE FROM CARROLL ROAD TO 350 FEET SOUTH OF COMMERCE AVENUE. WIDEN TO A SIX-LANE MAJOR STREET WITH CLASS II BIKE LANES.

JUSTIFICATION:

CAMINO SANTA FE IS TO BE WIDENED TO A SIX-LANE MAJOR STREET IN ACCORDANCE WITH THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT WILL BE COMPLETED WHEN A RESPONSIBLE SUBDIVIDER IS IDENTIFIED AND DEVELOPS THE FRONTING PROPERTY.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$3,400,000**							
STATE								
OTHER								
UNIDENT								
TOTAL	**$3,400,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CAMINO SANTA FE/MIRAMAR ROAD INTERSECTION IMPROVEMENTS

PROJECT: T-87

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

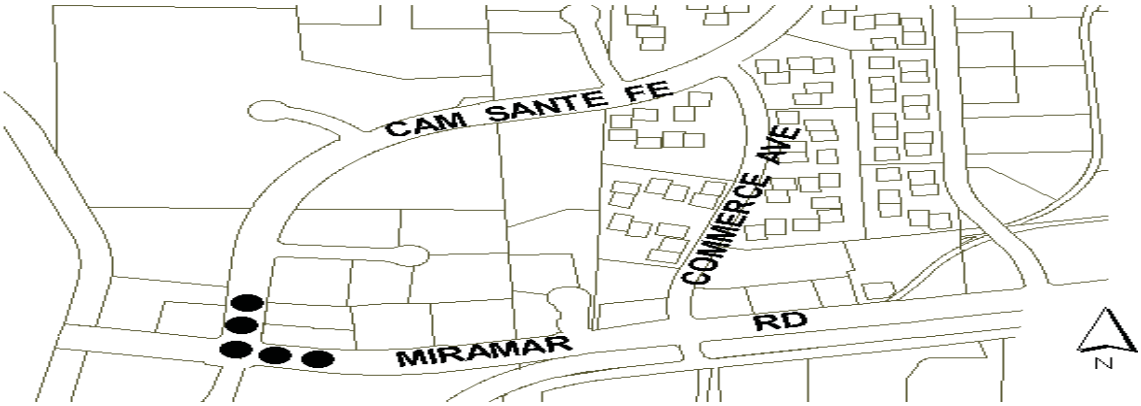
THIS PROJECT WILL RESTRIPE THE NORTH LEG OF CAMINO SANTA FE AND WIDEN THE EAST LEG OF MIRAMAR ROAD BY ADDING A SOUTHBOUND TO WESTBOUND RIGHT TURN LANE AND A WESTBOUND TO NORTHBOUND RIGHT TURN LANE. ACQUISITION OF RIGHT-OF-WAY IS NECESSARY.

JUSTIFICATION:

THE WIDENING IS NECESSARY TO IMPROVE THE LEVEL OF SERVICE OF THE INTERSECTION. THIS PROJECTS IS CONSISTENT WITH THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT IS CURRENTLY SCHEDULED TO BEGIN IN FY 2025.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$500,000**							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	**$500,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM					$500,000			
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$500,000	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: BLACK MOUNTAIN ROAD/MERCY ROAD INTERSECTION IMPROVEMENTS

PROJECT: T-88

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT WILL WIDEN THE NORTH LEG OF BLACK MOUNTAIN ROAD, NORTHERLY OF THE BLACK MOUNTAIN ROAD/MERCY ROAD INTERSECTION, TO PROVIDE A THIRD NORTHBOUND LANE AND A THIRD SOUTHBOUND THRU LANE TRANSITIONING TO FOUR LANES PRIOR TO THE PENASQUITOS CANYON CREEK BRIDGE.

JUSTIFICATION:

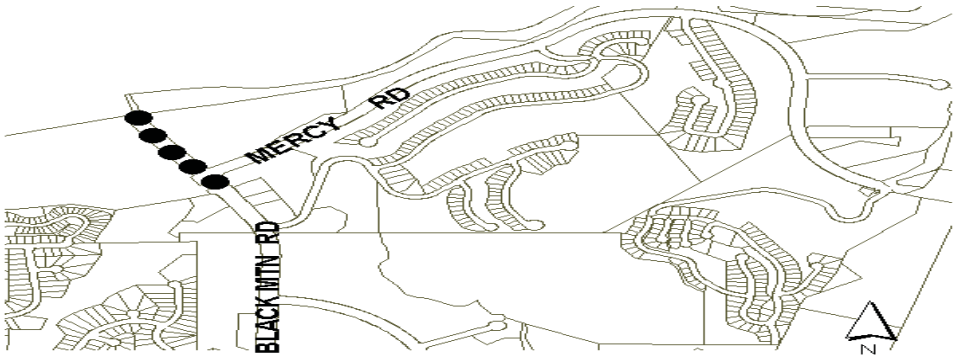
BLACK MOUNTAIN ROAD IS CLASSIFIED AS A SIX-LANE PRIMARY ARTERIAL IN THE MIRA MESA COMMUNITY PLAN. THIS PROJECT IS CONSISTENT WITH THE COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

PROJECT HAS BEEN PERMITTED AND IS CONSTRUCTION IS ANTICIPATED TO BEGIN IN LATE FY 2016.

NOTES:

THIS PROJECT WILL BE CONSTRUCTED BY SCRIPPS MESA DEVELOPERS LLC, PER CONDITION NO. 34 OF PDP 294375/SDP 294373 FOR ITS CASA MIRA VIEW PROJECT.



SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$500,000**		$25,000	$475,000				
STATE								
OTHER								
UNIDENT								
TOTAL	**$500,000**	$0	$25,000	$475,000	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: KEARNY VILLA ROAD/MIRAMAR ROAD INTERSECTION IMPROVEMENTS

PROJECT: T-89

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT WILL WIDEN BOTH THE EAST AND WEST LEGS OF MIRAMAR ROAD AT THE KEARNY VILLA ROAD INTERSECTION BY ADDING ADDITIONAL LEFT HAND AND RIGHT HAND TURN LANES.

JUSTIFICATION:

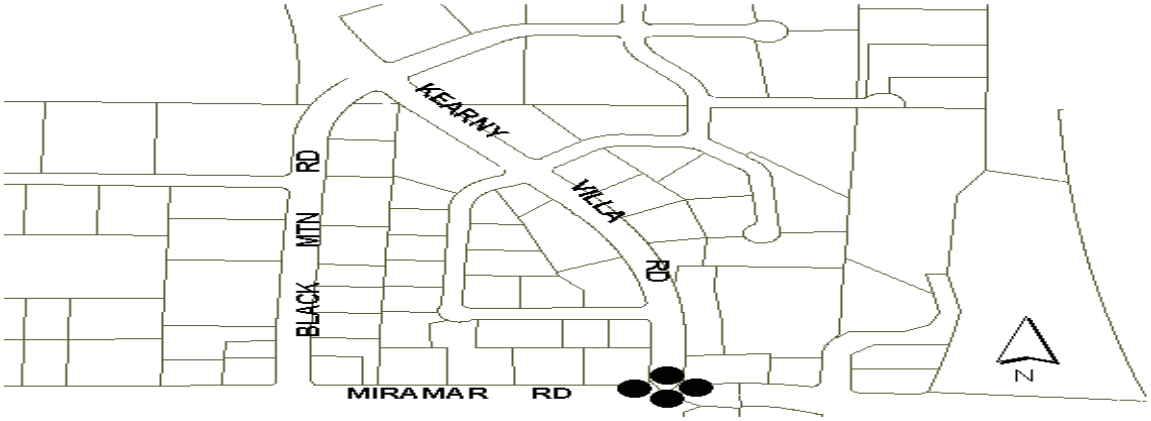
THIS PROJECTS IS CONSISTENT WITH THE MIRA MESA COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT IS SCHEDULED FOR COMPLETION IN FY 2024.

NOTES:

PER THE FENTON-CARROLL CANYON TECHNOLOGY CENTER EIR, $177,683 HAS BEEN COLLECTED FOR THIS PROJECT AND DEPOSITED INTO FUND 400264.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$902,317**							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER*	**$177,683**							
UNIDENT								
TOTAL	**$1,080,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM					$902,317			
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER					$177,683			
UNIDENT								
TOTAL	$0	$0	$0	$0	$1,080,000	$0	$0	$0

* FUND 400264 - PRIVATE & OTHERS CONTRIBUTION - CIP

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: BLACK MOUNTAIN ROAD - MIRA MESA BOULEVARD TO HILLERY DRIVE

PROJECT: T-90

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE WIDENING OF BLACK MOUNTAIN ROAD TO A SIX-LANE PRIMARY ARTERIAL WITH CLASS II BIKE LANES BETWEEN MIRA MESA BOULEVARD AND HILLERY DRIVE.

JUSTIFICATION:

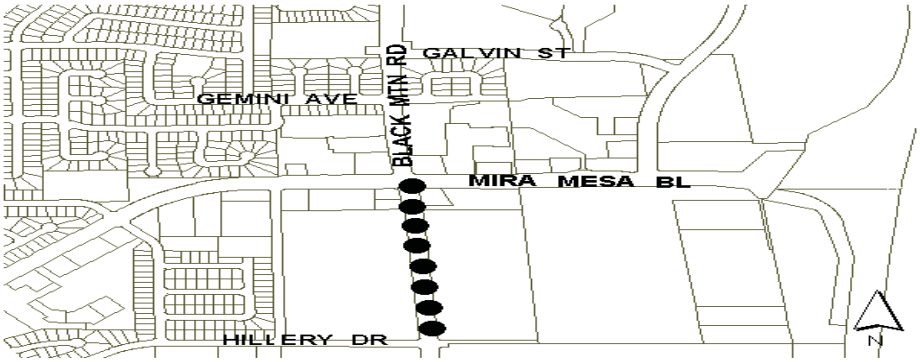
BLACK MOUNTAIN ROAD IS CLASSIFIED AS A SIX-LANE PRIMARY ARTERIAL IN THE MIRA MESA COMMUNITY PLAN. THIS PROJECT IS CONSISTENT WITH THE COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

A TRAFFIC STUDY MAY BE NEEDED TO EVALUATE THE CONTINUED NEED FOR THIS PROJECT.

NOTES:

NO FBA FUNDS ARE TO BE USED FOR THIS PROJECT. THIS PROJECT MAY BE COMPLETED WITH SUBDIVIDER FUNDING IF IT IS REQUIRED AS A CONDITION OF DEVELOPMENT.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT	**$10,600,000**							
TOTAL	**$10,600,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: BLACK MOUNTAIN ROAD - GOLD COAST DRIVE TO MAYA LINDA ROAD

PROJECT: T-91

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE WIDENING OF BLACK MOUNTAIN ROAD TO A SIX-LANE PRIMARY ARTERIAL WITH CLASS II BIKE LANES BETWEEN GOLD COAST DRIVE AND MAYA LINDA ROAD.

JUSTIFICATION:

BLACK MOUNTAIN ROAD IS CLASSIFIED AS A SIX-LANE PRIMARY ARTERIAL IN THE MIRA MESA COMMUNITY PLAN. THIS PROJECT IS CONSISTENT WITH THE COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

A TRAFFIC STUDY MAY BE NEEDED TO EVALUATE THE CONTINUED NEED FOR THIS PROJECT.

NOTES:

NO FBA FUNDS ARE TO BE USED FOR THIS PROJECT. THIS PROJECT MAY BE COMPLETED WITH SUBDIVIDER FUNDING IF IT IS REQUIRED AS A CONDITION OF DEVELOPMENT.

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD	**$947,250**							
STATE								
OTHER								
UNIDENT	**$3,262,750**							
TOTAL	**$4,210,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM								
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: KEARNY VILLA ROAD - BLACK MOUNTAIN ROAD TO 600 FEET S/O MIRAMAR ROAD

PROJECT: T-92

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

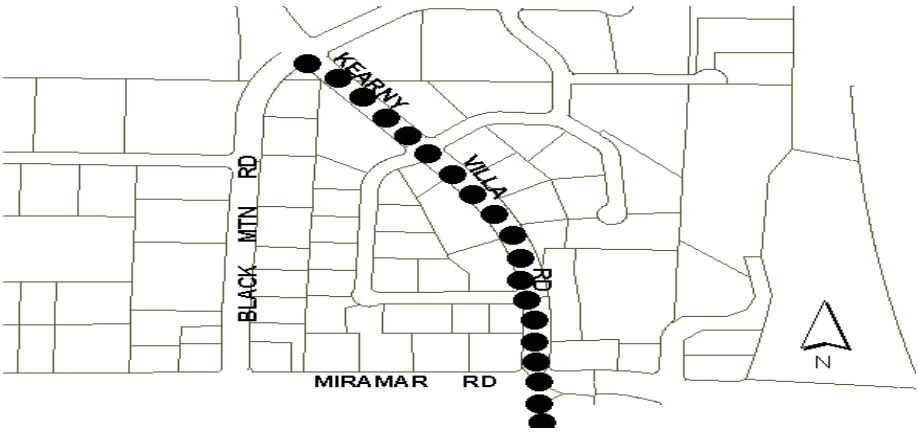
THIS PROJECT PROVIDES FOR THE WIDENING OF KEARNY VILLA ROAD TO A MODIFIED SIX-LANE PRIMARY MAJOR WITH CLASS II BIKE LANES BETWEEN BLACK MOUNTAIN ROAD AND MIRAMAR ROAD. ASSUME NO SIDEWALK ON WEST SIDE OF KEARNY VILLA ROAD SOUTH OF MIRAMAR ROAD.

JUSTIFICATION:

THE WIDENING TO SIX LANES IS NECESSARY BECAUSE THE PROJECTED TRAFFIC VOLUME FOR THIS STREET WILL EXCEED THE MAXIMUM AVERAGE DAILY TRAFFIC FOR A FOUR-LANE MAJOR STREET. THIS PROJECT IS CONSISTENT WITH THE COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT IS CURRENTLY SCHEDULED TO BEGIN IN FY 2023.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$8,240,000**							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	**$8,240,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM			$8,240,000					
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$0	$8,240,000	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CARROLL CANYON ROAD - SCRANTON ROAD TO EL CAMINO MEMORIAL PARK WESTERN

PROJECT: T-96

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

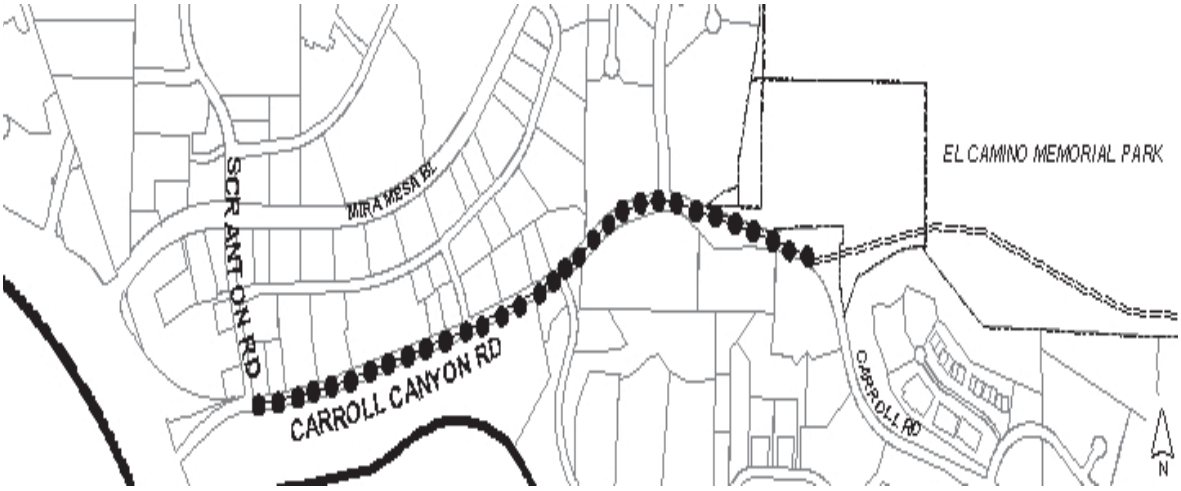
PROVIDES ALL NECESSARY IMPROVEMENTS TO UPGRADE CARROLL CANYON ROAD BETWEEN SCRANTON ROAD AND EL CAMINO MEMORIAL PARK'S WESTERN ENTRANCE TO A MODIFIED FOUR-LANE COLLECTOR STREET, WHICH INCLUDES NO PARKING ON NORTH OR SOUTH SIDE. A TRAFFIC SIGNAL AT YOUNGSTOWN WAY IS INCLUDED.

JUSTIFICATION:

THIS PROJECT WILL BRING THIS SEGMENT INTO CONFORMANCE WITH THE COMMUNITY PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

SCHEDULE:

THIS PROJECT SHOULD BE COMPLETED IN ORDER TO ACCOMMODATE THE COMPLETION OF PROJECT T-5A, WHICH IS CURRENTLY SCHEDULED IN FY 2023-2024.



SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-MM	**$2,900,000**							
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	**$2,900,000**	$0	$0	$0	$0	$0	$0	$0

SOURCE	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028-2035
FBA-MM		$2,900,000						
FBA CREDIT								
TRANSNET								
DEV/SUBD								
STATE								
OTHER								
UNIDENT								
TOTAL	$0	$2,900,000	$0	$0	$0	$0	$0	$0

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE:

CAMINO SANTA FE - TRADE STREET TO 1,500 FEET SOUTH OF MIRA MESA BOULEVARD

PROJECT: T-21

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT COMPLETED THE PORTION OF CAMINO SANTA FE FROM 1,500' SOUTH OF MIRA MESA BOULEVARD TO TRADE STREET. CONSTRUCTED AS A SIX-LANE PRIMARY ARTERIAL WITH RAISED CENTER MEDIANS AND CLASS II BICYCLE LANES.

JUSTIFICATION:

CAMINO SANTA FE IS A SIX-LANE PRIME ARTERIAL IN ACCORDANCE WITH THE COMMUNITY PLAN.

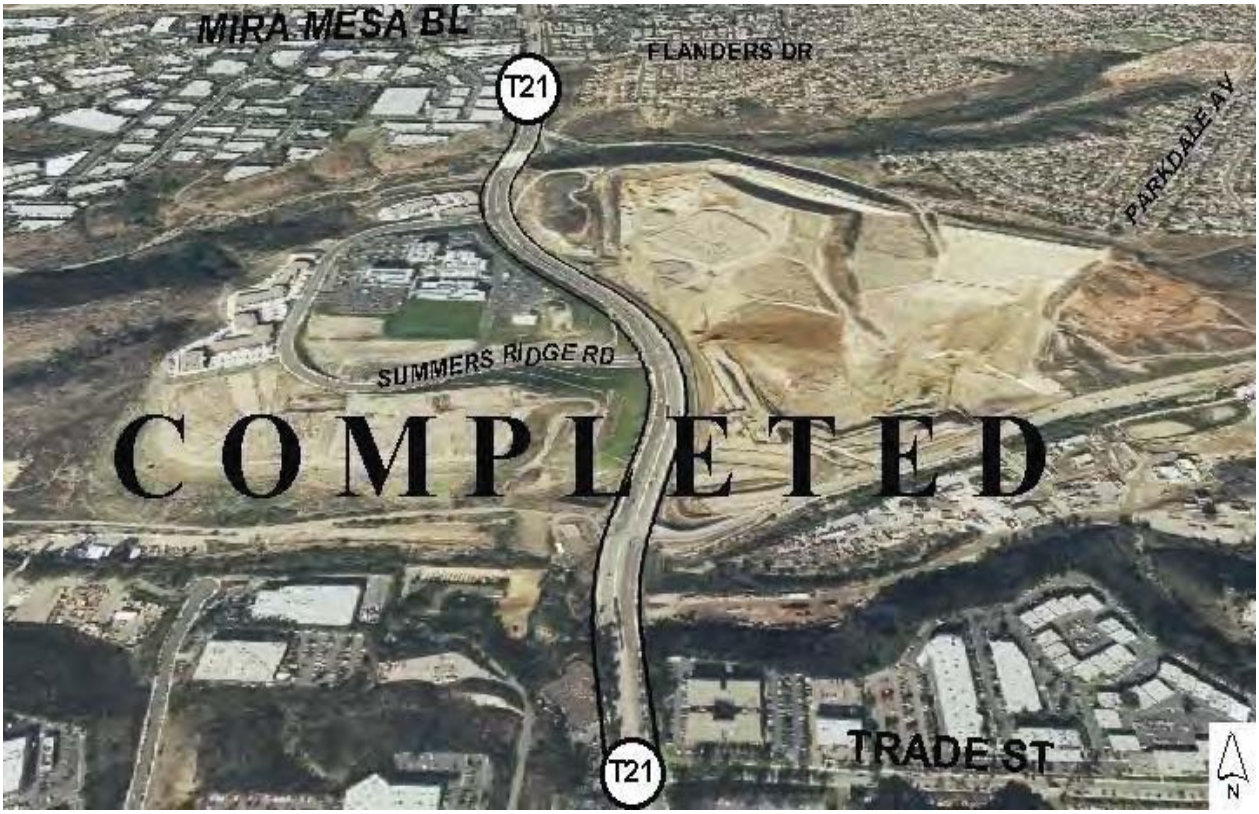
SCHEDULE:

COMPLETED IN FY 2007 BY FENTON-CARROLL CANYON DEVELOPMENT AS A CONDITION OF TENTATIVE MAP 98-1199.

COST/FUNDING:

SUBDIV* $32,872,000

*SUBDIVIDER FUNDED PROJECT. COST SHOWN IS AN ESTIMATE.



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: CAMINO SANTA FE - CARROLL ROAD TO TRADE STREET

PROJECT: T-43

DEPARTMENT: TRANSPORTATION & STORM WATER
CIP/WBS #: N/A

COUNCIL DISTRICT: 6
COMMUNITY PLAN: MIRA MESA

DESCRIPTION:

THIS PROJECT WIDENED CAMINO SANTA FE NORTH OF CARROLL ROAD TO TRADE STREET TO A MODIFIED SIX-LANE PRIME ARTERIAL WITH CLASS II BIKE LANES.

JUSTIFICATION:

A COMMUNITY PLAN REVISION APPROVED BY COUNCIL REQUIRED DEVELOPERS OF THE LUSK BUSINESS PARK EAST AND THE PACIFIC CORPORATE CENTER PROJECTS TO FUND SEVERAL TRANSPORTATION PROJECTS, TO INCLUDE THIS PROJECT.

SCHEDULE:

PROJECT COMPLETED.

COST/FUNDING:

SUBDIV* $460,000

*SUBDIVIDER FUNDED PROJECT. COST SHOWN IS AN ESTIMATE.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **EASTGATE MALL - MIRAMAR ROAD TO SDG&E EASEMENT** **PROJECT:** **NUC-34**

DEPARTMENT:
ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: 524170 / S-00848

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

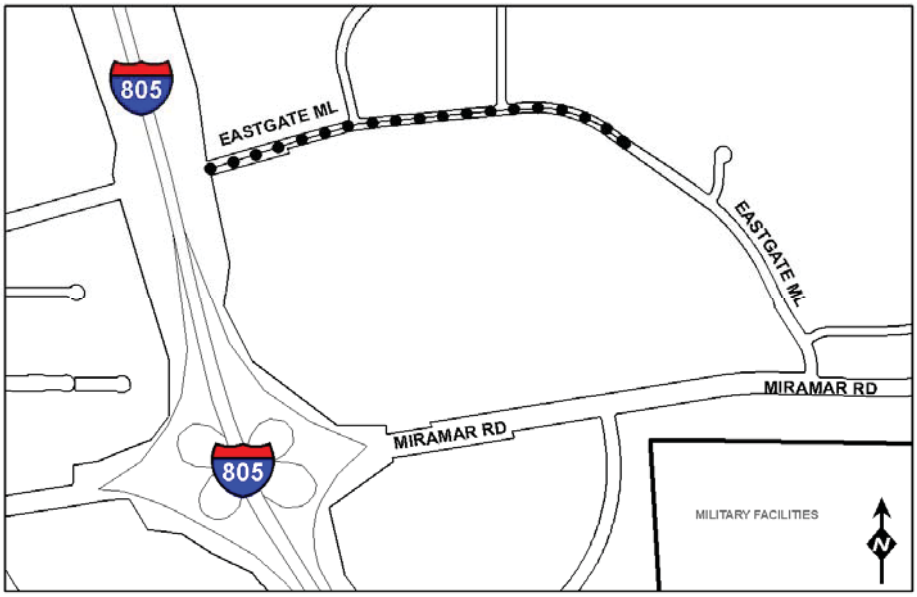
DESCRIPTION:
THIS PROJECT PROVIDES FOR WIDENING EASTGATE MALL TO A FOUR-LANE COLLECTOR STREET BETWEEN MIRAMAR ROAD AND THE SDG&E EASEMENT, INCLUDING CLASS II BICYCLE LANES.

JUSTIFICATION:
THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

FUNDING / NOTES / SCHEDULE:
THE FBA AND DEVELOPER PORTIONS OF THE PROJECT EAST OF THE SDG&E EASEMENT ARE COMPLETE (TRANSPORTATION THRESHOLD 1, PROJECT 3 COMPLETED). THE REMAINDER OF THE PROJECT IS ON HOLD PENDING PROJECT APPROVAL AND PROPERTY ACQUISITION FROM THE DEPARTMENT OF THE NAVY.

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012-16	FY 2017	FY 2018	FY 2019-20
FBA-NUC	$4,053,000	$730,635	$751,366	$0	$1,285,000	$1,285,999	$0
TOTAL	**$4,053,000**	**$730,635**	**$751,366**	**$0**	**$1,285,000**	**$1,285,999**	**$0**

CONTACT:
MARK NASSAR, SR. CIVIL ENGINEER
619-533-3172
mnassar@sandiego.gov



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **MIRAMAR ROAD - I-805 EASTERLY RAMPS TO 300' EAST OF EASTGATE MALL** **PROJECT:** **NUC-50**

DEPARTMENT:
ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: MULTIPLE / S-00880

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

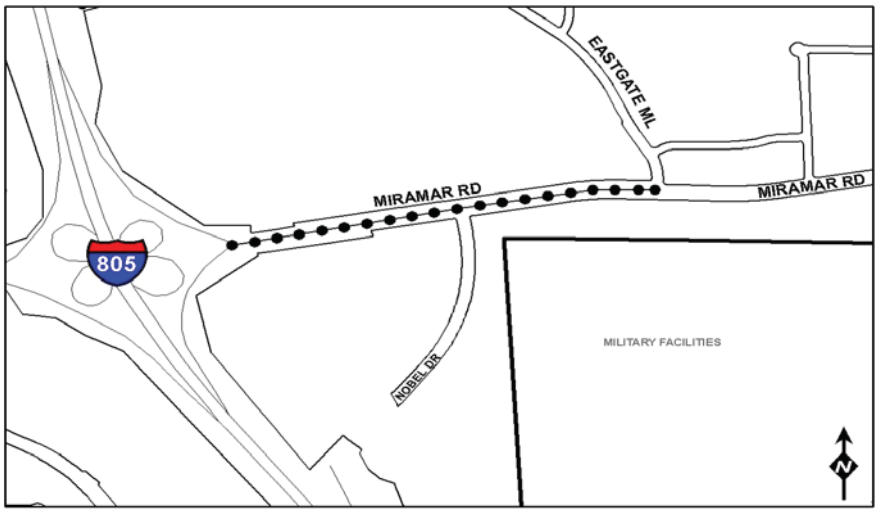
DESCRIPTION:
THIS PROJECT PROVIDES FOR WIDENING MIRAMAR ROAD TO EIGHT LANES FROM THE I-805 EASTERLY ON AND OFF-RAMPS TO 300 FEET EAST OF EASTGATE MALL, INCLUDING DUAL LEFT-TURN LANES AT EASTGATE MALL. PHASE I WORK CONSISTS OF ROAD IMPROVEMENTS WEST OF EASTGATE MALL; PHASE II WORK CONSISTS OF A RIGHT TURN ONLY LANE ON WESTBOUND MIRAMAR ROAD APPROACHING EASTGATE MALL.

JUSTIFICATION:
THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

FUNDING / NOTES / SCHEDULE:
THE PROJECT WAS SEPARATED INTO TWO PHASES BECAUSE ADDITIONAL FUNDS WERE REQUIRED FOR LAND ACQUISITION. CONSTRUCTION BEGAN IN FY 2006, AND COMPLETION OF THE WESTBOUND RIGHT TURN LANE ON MIRAMAR ROAD AT EASTGATE MALL IS EXPECTED IN FY 2013.

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012	FY 2013	FY 2014	FY 2015-20
FBA-NUC	$6,279,019	$4,538,640	$1,740,379	$0	$0	$0	$0
TRANSNET	$500,000	$0	$500,000	$0	$0	$0	$0
PROP A	$925,000	$74,974	$850,026	$0	$0	$0	$0
TOTAL	**$7,704,019**	**$4,613,614**	**$3,090,405**	**$0**	**$0**	**$0**	**$0**

CONTACT:
ABI PALASEYED, SR. CIVIL ENGINEER
619-533-4654
apalaseyed@sandiego.gov



February 2010

I-805 Managed Lanes North Project

FACT SHEET

PURPOSE

The overall purpose of the project is to provide safe and efficient regional movement of people and goods through design year 2030

OBJECTIVES

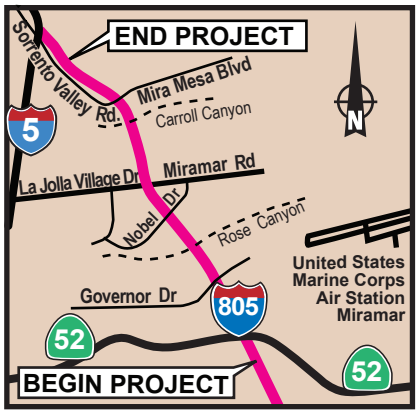
- Provide facilities to enable the use of transit and encourage carpooling
- Provide consistency with SANDAG's 2030 Regional Transportation Plan
- Maintain or improve current traffic levels of service and travel times within the corridor
- Protect or enhance the human and natural environment along the I-805 project area

CONTACT

Ron Caraet
(619) 220-5391
or by email
ron_caraet@dot.ca.gov

Department of Transportation
4050 Taylor Street
San Diego, CA 92110
Ph: (619) 688-6670
Fax: (619) 688-3695
www.dot.ca.gov/dist11

THE PROJECT



The California Department of Transportation (Caltrans) in conjunction with the San Diego Association of Governments (SANDAG) has proposed a Managed Lanes project located on Interstate 805 (I-805) from just south of State Route 52 (SR-52) to just north of Mira Mesa Boulevard. The 4.4 mile project proposes to add four managed lanes (two in each direction) from SR-52 to La Jolla Village Drive. Two high occupancy vehicle (HOV) lanes (one in each direction) are proposed from La Jolla Village Drive to just north of Mira Mesa Boulevard. The project would also construct a transit station and Direct Access Ramp (DAR) at Nobel Drive, a park-n-ride at Governor Drive, the south facing portion of the Carroll Canyon DAR, and a direct connector from the SR-52 to the I-805 Managed Lanes.

The I-805 freeway was opened to traffic in the early 1970s. It is a major north-south freeway beginning at its southern junction with Interstate 5 (I-5) near the international border with Mexico and continuing approximately 29 miles north where it again joins with I-5 in Sorrento Valley. I-805 runs generally parallel to I-5, traversing the central portion of the San Diego urbanized area. The I-805 provides an alternative route for the I-5 north-south movement of traffic through San Diego, bypassing Downtown San Diego and other urban areas. It provides direct access to the major employment centers in Otay Mesa, Kearny Mesa, University City, and Sorrento Valley, and is a major commuter route.

SCHEDULE

Subject to receipt of all necessary approvals, construction should begin in 2014, with a projected completion date of 2019. Design is anticipated to begin in 2012 and a final environmental document is anticipated in mid-2010.

COST

The total project cost is estimated to be $615 million. The funding for this project would come from federal, state, and local sources. The environmental phase has been funded with $1.8 million of federal funds (Regional Surface Transportation Program) and $7.6 million of local funds (TransNet II).

Table A.1 (continued)

Revenue Constrained Projects

Managed Lanes/Toll Lanes Projects (continued)

TransNet	Freeway	From	To	Existing	With Improvements	Transit Route	Capital Cost ($2014); millions	Capital Cost ($YOE); millions
TransNet	I-805	SR 54	SR 94	8F+2ML	8F+4ML	225, 650, 688, 689	$704	$1,096
TransNet	I-805	SR 94	Carroll Canyon Rd	8F	8F+4ML	30, 225, 650, 653, 688, 689, 690, 870, 890	$2,585	$4,441
						Subtotal	**$16,231**	**$29,699**

Highway Projects

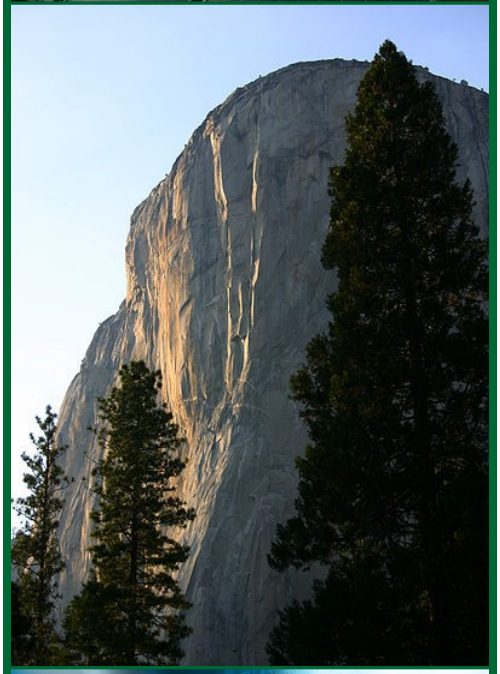
TransNet	Freeway	From	To	Existing	With Improvements	Capital Cost ($2014); millions	Capital Cost ($YOE); millions
TransNet	I-8	2nd St	Los Coches	4F/6F	6F	$35	$88
	SR 52	I-5	I-805	4F	6F	$111	$276
	SR 52	Mast Blvd	SR 125	4F	6F	$76	$131
TransNet	SR 56	I-5	I-15	4F	6F	$141	$351
TransNet	SR 67	Mapleview St	Dye Rd	2C/4C	4C	$636	$1,418
TransNet	SR 76	Mission	I-15	2C	4C	$305	$305
TransNet	SR 94	SR 125	Avocado Blvd	4F	6F	$111	$221
TransNet	SR 94	Avocado Blvd	Jamacha	4C	6C	$91	$225
TransNet	SR 94	Jamacha	Steele Canyon Rd	2C/4C	4C	$40	$100
	SR 125	SR 905	San Miguel Rd	4T	8F	$323	$661
	SR 125	San Miguel Rd	SR 54	4F	8F	$177	$438
					Subtotal	**$2,046**	**$4,214**

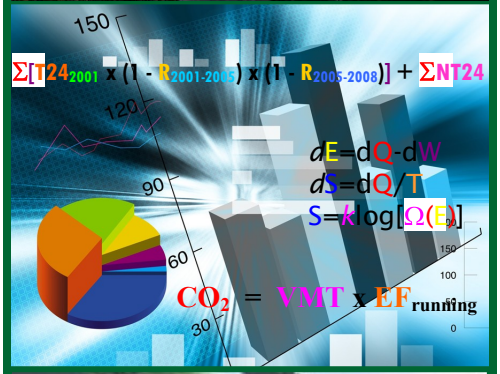
Operational Improvements

TransNet	Freeway	From	To	Existing	With Improvements	Capital Cost ($2014); millions	Capital Cost ($YOE); millions
TransNet	I-5	SR 15	I-8	8F	8F+Operational	$1,177	$2,919
	I-8	I-5	SR 125	8F/10F	8F/10F+Operational	$667	$1,654
	I-8	SR 125	2nd St	6F/8F	6F/8F+Operational	$167	$413

CAPCOA

CALIFORNIA AIR POLLUTION CONTROL OFFICERS ASSOCIATION





Quantifying Greenhouse Gas Mitigation Measures

A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures

August, 2010

Table 6-2: Transportation Category

Transportation						
Category	Measure Number	Strategy	BMP	Grouped With #	Range of Effectiveness	
					Percent Reduction in GHG Emissions	Basis
Land Use / Location	LUT-1	Increase Density			1.5-30.0%	VMT
	LUT-2	Increase Location Efficiency			10-65%	VMT
	LUT-3	Increase Diversity of Urban and Suburban Developments (Mixed Use)			9-30%	VMT
	LUT-4	Incr. Destination Accessibility			6.7-20%	VMT
	LUT-5	Increase Transit Accessibility			0.5-24.6%	VMT
	LUT-6	Integrate Affordable and Below Market Rate Housing			0.04-1.20%	VMT
	LUT-7	Orient Project Toward Non-Auto Corridor			NA	
	LUT-8	Locate Project near Bike Path/Bike Lane			NA	
	LUT-9	Improve Design of Development			3.0-21.3%	VMT
Neighborhood / Site Design	SDT-1	Provide Pedestrian Network Improvements			0-2%	VMT
	SDT-2	Traffic Calming Measures			0.25-1.00%	VMT
	SDT-3	Implement a Neighborhood Electric Vehicle (NEV) Network			0.5-12.7%	VMT
	SDT-4	Urban Non-Motorized Zones		SDT-1	NA	
	SDT-5	Incorporate Bike Lane Street Design (on-site)		LUT-9	NA	
	SDT-6	Provide Bike Parking in Non-Residential Projects		LUT-9	NA	
	SDT-7	Provide Bike Parking in Multi-Unit Residential Projects		LUT-9	NA	
	SDT-8	Provide EV Parking		SDT-3	NA	
	SDT-9	Dedicate Land for Bike Trails		LUT-9	NA	
Parking Policy / Pricing	PDT-1	Limit Parking Supply			5-12.5%	
	PDT-2	Unbundle Parking Costs from Property Cost			2.6-13%	
	PDT-3	Implement Market Price Public Parking (On-Street)			2.8-5.5%	
	PDT-4	Require Residential Area Parking Permits		PDT-1, 2 & 3	NA	

Transportation - continued						
Category	Measure Number	Strategy	BMP	Grouped With #	Range of Effectiveness	
					Percent Reduction in GHG Emissions	Basis
Trip Reduction Programs	TRT-1	Implement Voluntary CTR Programs			1.0-6.2%	Commute VMT
	TRT-2	Implement Mandatory CTR Programs – Required Implementation/Monitoring			4.2-21.0%	Commute VMT
	TRT-3	Provide Ride-Sharing Programs			1-15%	Commute VMT
	TRT-4	Implement Subsidized or Discounted Transit Prog.			0.3-20.0%	Commute VMT
	TRT-5	Provide End of Trip Facilities		TRT-1, 2 & 3	NA	
	TRT-6	Telecommuting and Alternative Work Schedules			0.07-5.50%	Commute VMT
	TRT-7	Implement Commute Trip Reduction Marketing			0.8-4.0%	Commute VMT
	TRT-8	Implement Preferential Parking Permit Program		TRT-1, 2 & 3	NA	
	TRT-9	Implement Car-Sharing Program			0.4-0.7%	VMT
	TRT-10	Implement School Pool Program			7.2-15.8%	School VMT
	TRT-11	Provide Employer-Sponsored Vanpool/Shuttle			0.3-13.4%	Commute VMT
	TRT-12	Implement Bike-Sharing Program		SDT-5, LUT-9	NA	
	TRT-13	Implement School Bus Program			38-63%	School VMT
	TRT-14	Price Workplace Parking			0.1-19.7%	Commute VMT
	TRT-15	Implement Employee Parking "Cash-Out"			0.6-7.7%	Commute VMT

Transportation - continued						
Category	Measure Number	Strategy	BMP	Grouped With #	Range of Effectiveness	
					Percent Reduction in GHG Emissions	Basis
Transit System Improvements	TST-1	Provide a Bus Rapid Transit System			0.02-3.2%	VMT
	TST-2	Implement Transit Access Improvements		TST-3, TST-4	NA	
	TST-3	Expand Transit Network			0.1-8.2%	VMT
	TST-4	Increase Transit Service Frequency/Speed			0.02-2.5%	VMT
	TST-5	Provide Bike Parking Near Transit		TST-3, TST-4	NA	
	TST-6	Provide Local Shuttles		TST-3, TST-4	NA	
Road Pricing / Management	RPT-1	Implement Area or Cordon Pricing			7.9-22.0%	VMT
	RPT-2	Improve Traffic Flow			0-45%	VMT
	RPT-3	Require Project Contributions to Transportation Infrastructure Improvement Projects		RPT-2, TST-1 to 6	NA	
	RPT-4	Install Park-and-Ride Lots		RPT-1, TRT-11, TRT-3, TST-1 to 6	NA	
Vehicles	VT-1	Electrify Loading Docks and/or Require Idling-Reduction Systems			26-71%	Truck Idling Time
	VT-2	Utilize Alternative Fueled Vehicles			Varies	
	VT-3	Utilize Electric or Hybrid Vehicles			0.4-20.3%	Fuel Use

3.4.7 Implement Commute Trip Reduction Marketing

Range of Effectiveness: 0.8 – 4.0% commute vehicle miles traveled (VMT) reduction and therefore 0.8 – 4.0% reduction in commute trip GHG emissions.

Measure Description:

The project will implement marketing strategies to reduce commute trips. Information sharing and marketing are important components to successful commute trip reduction strategies. Implementing commute trip reduction strategies without a complementary marketing strategy will result in lower VMT reductions. Marketing strategies may include:

- New employee orientation of trip reduction and alternative mode options
- Event promotions
- Publications

CTR marketing is often part of a CTR program, voluntary or mandatory. CTR marketing is discussed separately here to emphasis the importance of not only providing employees with the options and monetary incentives to use alternative forms of transportation, but to clearly and deliberately promote and educate employees of the various options. This will greatly improve the impact of the implemented trip reduction strategies.

Measure Applicability:

- Urban and suburban context
- Negligible in a rural context
- Appropriate for residential, retail, office, industrial and mixed-use projects

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled
$EF_{running}$ = emission factor for running emissions

Inputs:

The following information needs to be provided by the Project Applicant:

- Percentage of project employees eligible (i.e. percentage of employers choosing to participate)

Mitigation Method:

% Commute VMT Reduction = A * B * C

Where

A = % reduction in commute vehicle trips (from [1])

B = % employees eligible

C = Adjustment from commute VT to commute VMT

Detail:

- A: 4% (per [1])
- C: 1.0 (see Appendix C for detail)

Assumptions:

Data based upon the following references:

[1] Pratt, Dick. Personal communication regarding the *Draft of TCRP 95 Traveler Response to Transportation System Changes – Chapter 19 Employer and Institutional TDM Strategies.* Transit Cooperative Research Program.

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[61]
CO_2e	0.8 – 4.0% of running
PM	0.8 – 4.0% of running
CO	0.8 – 4.0% of running
NOx	0.8 – 4.0% of running
SO_2	0.8 – 4.0% of running
ROG	0.5 – 2.4% of total

[61] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

Discussion:

The effectiveness of commute trip reduction marketing in reducing VMT depends on which commute reduction strategies are being promoted. The effectiveness levels provided below should only be applied if other programs are offered concurrently, and represent the total effectiveness of the full suite of measures.

This strategy is often part of a CTR Program, another strategy documented separately (see strategy T# E1). Take care not to double count the impacts.

Example:

Sample calculations are provided below:

- Low Range % VMT Reduction (20% eligible) = 4% * 20% = 0.8%
- High Range % VMT Reduction (100% eligible) = 4% * 100% = 4.0%

Preferred Literature:

- 4-5% commute vehicle trips reduced with full-scale employer support

TCRP 95 Draft Chapter 19 notes the average empirically-based estimate of reductions in vehicle trips for full-scale, site-specific employer support programs alone is 4-5%. This effectiveness assumes there are alternative commute modes available which have on-going employer support. For a program to receive credit for such outreach and marketing efforts, it should contain guarantees that the program will be maintained permanently, with promotional events delivered regularly and with routine performance monitoring.

Alternative Literature:

- 5-15% reduction in commute vehicle trips
- 3% increase in effectiveness of marketed transportation demand management (TDM) strategies

VTPI [2] notes that providing information on alternative travel modes by employers was one of the most important factors contributing to mode shifting. One study (Shadoff,1993) estimates that marketing increases the effectiveness of other TDM strategies by up to 3%. Given adequate resources, marketing programs may reduce vehicle trips by 5-15%. The 5 – 15% range comes from a variety of case studies across the world. U.S. specific case studies include: 9% reduction in vehicle trips with TravelSmart in Portland (12% reduction in VMT), 4-8% reduction in vehicle trips from four cities with individualized marketing pilot projects from the Federal Transit Administration (FTA). Averaged across the four pilot projects, there was a 6.75% reduction in VMT.

Alternative Literature References:

[2] VTPI, TDM Encyclopedia – TDM Marketing; http://www.vtpi.org/tdm/tdm23.htm; accessed 3/5/2010. Table 7 (citing FTA, 2006)

Other Literature Reviewed:

None

3.4.9 Implement Car-Sharing Program

Range of Effectiveness: 0.4 – 0.7% vehicle miles traveled (VMT) reduction and therefore 0.4 – 0.7% reduction in GHG emissions.

Measure Description:

This project will implement a car-sharing project to allow people to have on-demand access to a shared fleet of vehicles on an as-needed basis. User costs are typically determined through mileage or hourly rates, with deposits and/or annual membership fees. The car-sharing program could be created through a local partnership or through one of many existing car-share companies. Car-sharing programs may be grouped into three general categories: residential- or citywide-based, employer-based, and transit station-based. Transit station-based programs focus on providing the "last-mile" solution and link transit with commuters' final destinations. Residential-based programs work to substitute entire household based trips. Employer-based programs provide a means for business/day trips for alternative mode commuters and provide a guaranteed ride home option.

Measure Applicability:

- Urban and suburban context
- Negligible in a rural context
- Appropriate for residential, retail, office, industrial, and mixed-use projects

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled

$EF_{running}$ = emission factor for running emissions

Inputs:

The following information needs to be provided by the Project Applicant:

- Urban or suburban context

Mitigation Method:

% VMT Reduction = A * B / C

Where

A = % reduction in car-share member annual VMT (from the literature)

B = number of car share members per shared car (from the literature)

C = deployment level based on urban or suburban context

Detail:

- A: 37% *(per [1])*
- B: 20 *(per [2])*
- C:

Project setting	1 shared car per X population
Urban	1,000
Suburban	2,000
Source: *Moving Cooler*	

Assumptions:

Data based upon the following references:

[1] Millard-Ball, Adam. "Car-Sharing: Where and How it Succeeds," (2005) Transit Cooperative Research Program (108). P. 4-22

[2] Cambridge Systematics. *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions.* Technical Appendices. Prepared for the Urban Land Institute. (p. B-52, Table D.3) http://www.movingcooler.info/Library/Documents/Moving%20Cooler_Appendices_Complete_102209.pdf

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[62]
CO_2e	0.4 – 0.7% of running
PM	0.4 – 0.7% of running
CO	0.4 – 0.7% of running
NOx	0.4 – 0.7% of running
SO_2	0.4 – 0.7% of running
ROG	0.24 – 0.42% of total

[62] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

Discussion:

Variable C in the mitigation method section represents suggested levels of deployment based on the literature. Levels of deployment may vary based on the characteristics of the project site and the needs of the project residents and employees. This variable should be adjusted accordingly.

The methodology for calculation of VMT reduction utilizes *Moving Cooler's* rule of thumb[63] for the estimated number of car share members per vehicle. An estimate of 50% reduction in car-share member annual VMT (from *Moving Cooler*) was high compared to other literature sources, and *TCRP 108's* 37% reduction was used in the calculations instead.

Example:

Sample calculations are provided below:

- Low Range % VMT Reduction (suburban) = 37% * 20 / 2000 = 0.4%
- High Range % VMT Reduction (urban) = 37% * 20 / 1000 = 0.7%

Preferred Literature:

- 37% reduction in car-share member VMT

The *TCRP 108* [1] report conducted a survey of car-share members in the United States and Canada in 2004. The results of the survey showed that respondents, on average, drove only 63% of the average mileage they previously drove when not car-share members.

Alternative Literature:

Alternate – Residential or Citywide Based:

- 0.05-0.27% reduction in GHG
- 0.33% reduction in VMT in urban areas

Moving Cooler [2] assumed an aggressive deployment of one car per 2,000 inhabitants of medium-density census tracks and of one car per 1,000 inhabitants of high-density census tracks. This strategy assumes providing a subsidy to a public, private, or nonprofit car-sharing organization and providing free or subsidized lease for usage of public street parking. *Moving Cooler* assumed 20 members per shared car and 50% reduction in VMT per equivalent car. The percent reduction calculated assumes a percentage of urban areas are low, medium, and high density, thus resulting in a lower

[63] See discussion in Alternative Literature section for "rule of thumb" detail.

than expected reduction in VMT assuming an aggressive deployment in medium and high density areas.

Alternate – Transit Station and Employer Based:

- 23-44% reduction in drive-alone mode share
- Average daily VMT reduction of 18 – 23 miles

TCRP 95 Draft Chapter 19 [3] looked at two demonstrations, CarLink I and CarLink II, in the San Francisco Bay Area. CarLink I ran from January to November 1999. It involved 54 individuals and 12 rental cars stationed at the Dublin-Pleasanton BART station. CarLink II ran from July 2001 to June 2002 and involved 107 individuals and 19 rental cars. CarLink II was based in Palo Alto in conjunction with Caltrain commuter rail service and several employers in the Stanford Research Park. Both CarLink demonstrations were primarily targeted for commuters. CarLink I had a 23% increase in rail mode share, a reduction in drive-alone mode share of 44%, and a decrease in Average Daily VMT of 18 miles. CarLink II had a VMT for round-trip commuters decrease of 23 miles per day and a mode share for drive alone decrease of 22.9%.

Alternate:

- 50% reduction in driving for car-share members

A UC Berkeley study of San Francisco's City CarShare [4] found that members drive nearly 50% less after joining. The study also found that when people joined the car-sharing organization, nearly 30% reduced their household vehicle ownership and two-thirds avoided purchasing another car. The UC Berkeley study found that almost 75% of vehicle trips made by car-sharing members were for social trips such as running errands and visiting friends. Only 25% of trips were for commuting to work or for recreation. Most trips were also made outside of peak periods. Therefore, car-sharing may generate limited impact on peak period traffic.

Alternative Literature References:

[3] Cambridge Systematics. *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions.* Technical Appendices. Prepared for the Urban Land Institute. (p. B-52, Table D.3) http://www.movingcooler.info/Library/Documents/Moving%20Cooler_Appendices_Complete_102209.pdf

[4] Pratt, Dick. *Personal Communication Regarding the Draft of TCRP 95 Traveler Response to Transportation System Changes – Chapter 19 Employer and Institutional TDM Strategies.* Transit Cooperative Research Program.

Preferred Literature:

- 7,711 – 18,659 daily VMT reduction

As presented in the TDM Case Studies [1] compilation, the SchoolPool program in Denver saved 18,659 VMT per day in 1995, compared with 7,711 daily in 1994 – a 142% increase. The Denver Regional Council of Governments (DRCOG) [2] enrolled approximately 7,000 families and 32 private schools in the program. The DRCOG staff surveyed a school or interested families to collect home location and schedules of the students. The survey also identified prospective drivers. DRCOG then used carpool-matching software and GIS to match families. These match lists were sent to the parents for them to form their own school pools. 16% of families in the database formed carpools. The average carpool carried 3.1 students.

The SchoolPool program is still in effect and surveys are conducted every few years to monitor the effectiveness of the program. The latest survey report received was in 2008. The report showed that the participant database had increased to over 10,000 families, an 18% increase from 2005. 29% of participants used the list to form a school carpool. This percentage was lower than 35% in 2005 but higher than prior to 2005, at 24%. The average number of families in each carpool ranged from 2.1 prior to 2005 to 2.8 in 2008. The average number of carpool days per week was roughly 4.7. The number of school weeks per year was 39. Per discussions with the Schoolpool Coordinator, a main factor of success was establishing a large database. This was achieved by having parents opt-out of the database versus opting-in.

Alternative Literature:

None

Alternative Literature References:

None

Other Literature Reviewed:

None

3.4.11 Provide Employer-Sponsored Vanpool/Shuttle

Range of Effectiveness: 0.3 – 13.4% commute vehicle miles traveled (VMT) reduction and therefore 0.3 – 13.4% reduction in commute trip GHG emissions.

Measure Description:

This project will implement an employer-sponsored vanpool or shuttle. A vanpool will usually service employees' commute to work while a shuttle will service nearby transit stations and surrounding commercial centers. Employer-sponsored vanpool programs entail an employer purchasing or leasing vans for employee use, and often subsidizing the cost of at least program administration, if not more. The driver usually receives personal use of the van, often for a mileage fee. Scheduling is within the employer's purview, and rider charges are normally set on the basis of vehicle and operating cost.

Measure Applicability:

- Urban, suburban, and rural context
- Appropriate for office, industrial, and mixed-use projects

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled
$EF_{running}$ = emission factor for running emissions

Inputs:

The following information needs to be provided by the Project Applicant:

- Percentage of employees eligible

Mitigation Method:

$$\% \text{ VMT Reduction} = A * B * C$$

Where
A = % shift in vanpool mode share of commute trips (from [1])
B = % employees eligible
C = adjustments from vanpool mode share to commute VMT

Detail:

- A: 2-20% annual reduction in vehicle mode share (*from [1]*)
  - Low range: low degree of implementation, smaller employers
  - High range: high degree of implementation, larger employers
- C: 0.67 (See Appendix C for detail)

Assumptions:

Data based upon the following references:

[1] TCRP Report 95. *Chapter 5: Vanpools and Buspools - Traveler Response to Transportation System Changes.* http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c5.pdf. (p.5-8)

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[65]
CO_2e	0.3 – 13.4% of running
PM	0.3 – 13.4% of running
CO	0.3 – 13.4% of running
NOx	0.3 – 13.4% of running
SO_2	0.3 – 13.4% of running
ROG	0.18 – 8.0% of total

Discussion:

Vanpools are generally more successful with the largest of employers, as large employee counts create the best opportunities for employees to find a suitable number of travel companions to form a vanpool. In the San Francisco Bay Area several large companies (such as Google, Apple, and Genentech) provide regional bus transportation for their employees. No specific studies of these large buspools were identified in the literature. However, the GenenBus serves as a key element of the overall commute trip reduction (CTR) program for Genentech, as discussed in the CTR Program – Required strategy.

This strategy is often part of a CTR Program, another strategy documented separately (see strategy T# E1). Take care not to double count the impacts.

Example:

Sample calculations are provided below:

[65] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

- Low Range % VMT Reduction (low implementation/small employer, 20% eligible) = 2% * 20% * 0.67 = 0.3%
- High Range % VMT Reduction (high implementation/large employer, 100% eligible) = 20% * 100% * 0.67 = 13.4%

Preferred Literature:

- 2-20% vanpool mode share

TCRP Report 95 [1] notes that vanpools can capture 2 to 20% mode share. This range can be attributed to differences in programs, access to high-occupancy vehicle (HOV) lanes, and geographic range. The *TCRP Report* highlights a case study of the 3M Corporation, which with the implementation of a vanpooling program saw drive alone mode share decrease by 10 percentage points and vanpooling mode share increase to 7.8 percent. The *TCRP Report* notes most vanpools programs do best where one-way trip lengths exceed 20 miles, where work schedules are fixed and regular, where employer size is sufficient to allow matching of 5 to 12 people from the same residential area, where public transit is inadequate, and were some congestion or parking problems exist.

Alternative Literature:

In *TDM Case Studies* [2], a case study of Kaiser Permanente Hospital has shown their employer-sponsored shuttle service eliminated 380,100 miles per month, or nearly 4 million miles of travel per year, and four tons of smog precursors annually.

Alternative Literature References:

[2] Transportation Demand Management Institute of the Association for Commuter Transportation. *TDM Case Studies and Commuter Testimonials*. Prepared for the US EPA. 1997. http://www.epa.gov/OMS/stateresources/rellinks/docs/tdmcases.pdf

Other Literature Reviewed:

None

3.4.12 Implement Bike-Sharing Programs

Range of Effectiveness: Grouped strategy (see SDT-5 and LUT-9)

Measure Description:

This project will establish a bike sharing program. Stations should be at regular intervals throughout the project site. The number of bike-share kiosks throughout the project area should vary depending on the density of the project and surrounding area. Paris' bike-share program places a station every few blocks throughout the city (approximately 28 bike stations/square mile). Bike-station density should increase around commercial and transit hubs.

Bike sharing programs have minimal impacts when implemented alone. This strategy's effectiveness is heavily dependent on the location and context. Bike-sharing programs have worked well in densely populated areas (examples in Barcelona, London, Lyon, and Paris) with existing infrastructure for bicycling. Bike sharing programs should be combined with **Bike Lane Street Design (SDT-5)** and **Improve Design of Development (LUT-9)**.

Taking evidence from the literature, a 135-300% increase in bicycling (of which roughly 7% are shifting from vehicle travel) results in a negligible impact (around 0.03% vehicle miles traveled (VMT) reduction (see Appendix C for calculations)).

Measure Applicability:

- Urban and suburban-center context only
- Negligible in a rural context
- Appropriate for residential, retail, office, industrial, and mixed-use projects

Alternative Literature:

Alternate:

The International Review [1] found bike mode share increases:

- from 0.75% in 2005 to 1.76% in 2007 in Barcelona (Romero, 2008) (135% increase)
- From 1% in 2001 to 2.5% in 2007 in Paris (Nadal, 2007; City of Paris, 2007) (150% increase)
- From 0.5% in 1995 to 2% in 2006 in Lyon (Bonnette, 2007; Velo'V, 2009) (300% increase)

London [2] is the only study that reports the breakdown of the prior mode In London: 6% of users reported shifting from driving, 34% from transit, 23% said they would not have

travelled (Noland and Ishaque, 2006). Additionally, 68% of the bike trips were for leisure or recreation. Companion strategies included concurrent improvements in bicycle facilities.

The London program was implemented west of Central London in a densely populated area, mainly residential, with several employment centers. A relatively well developed bike network existed, including over 1,000 bike racks. The program implemented 25 locker stations with 70 bikes total.

Alternate:

- 1/3 vehicle trip reduced per day per bicycle (1,000 vehicle trips reduced per day in Lyon)

The Bike Share Opportunities [3] report looks at two case studies of bike-sharing implementation in France. In Lyon, the 3,000 bike-share system shifts 1,000 car trips to bicycle each day. Surveys indicate that 7% of the bike share trips would have otherwise been made by car. Lyon saw a 44% increase in bicycle riding within the first year of their program while Paris saw a 70% increase in bicycle riding and a 5% reduction in car use and congestion within the first year and a half of their program. The Bike Share Opportunities report found that population density is an important part of a successful program. Paris' bike share subscription rates range between 6% and 9% of the total population. This equates to an average of 75,000 rentals per day. The effectiveness of bike share programs at sub-city scales are not addressed in the literature.

Alternative Literature References:

[1] Pucher J., Dill, J., and Handy, S. Infrastructure, Programs and Policies to Increase Bicycling: An International Review. February 2010. (Table 4)

[2] Noland, R.B., Ishaque, M.M., 2006. "Smart Bicycles in an urban area: Evaluation of a pilot scheme in London." *Journal of Public Transportation*. 9(5), 71-95. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.117.8173&rep=rep1&type=pdf#page=76

[3] NYC Department of City Planning, *Bike-Share Opportunities in New York City,* 2009. (p. 11, 14, 24, 68) http://www.nyc.gov/html/dcp/html/transportation/td_bike_share.shtml

Other Literature Reviewed:

None

3.5 Transit System Improvements

3.5.1 Provide a Bus Rapid Transit System

Range of Effectiveness: 0.02 – 3.2% vehicle miles traveled (VMT) reduction and therefore 0.02 – 3% reduction in GHG emissions.

Measure Description:

The project will provide a Bus Rapid Transit (BRT) system with design features for high quality and cost-effective transit service. These include:

- Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route.
- Frequent, high-capacity service
- High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride.
- Pre-paid fare collection to minimize boarding delays.
- Integrated fare systems, allowing free or discounted transfers between routes and modes.
- Convenient user information and marketing programs.
- High quality bus stations with Transit Oriented Development in nearby areas.
- Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services.

BRT systems vary significantly in the level of travel efficiency offered above and beyond "identity" features and BRT branding. The following effectiveness ranges represent general guidelines. Each proposed BRT should be evaluated specifically based on its characteristics in terms of time savings, cost, efficiency, and way-finding advantages. These types of features encourage people to use public transit and therefore reduce VMT.

Measure Applicability:

- Urban and suburban context
- Negligible in a rural context. Other measures are more appropriate to rural areas, such as express bus service to urban activity centers with park-and-ride lots at system-efficient rural access points.
- Appropriate for specific or general plans

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled

$EF_{running}$ = emission factor for running emissions

Inputs:

The following information needs to be provided by the Project Applicant:

- Existing transit mode share
- Percentage of lines serving Project converting to BRT

The following are optional inputs. Average (default) values are included in the calculations but can be updated to project specificity if desired. Please see Appendix C for calculation detail:

- Average vehicle occupancy

Mitigation Method:

% VMT Reduction = Riders * Mode * Lines * D

Where

Riders = % increase in transit ridership on BRT line (28% from [1])

Mode = Existing transit mode share (see table below)

Lines = Percentage of lines serving project converting to BRT

D = Adjustments from transit ridership increase to VMT (0.67, see Appendix C)

Project setting	Transit mode share
Suburban	1.3%
Urban	4%
Urban Center	17%
Source: NHTS, 2001 http://www.dot.ca.gov/hq/tsip/tab/documents/travelsurveys/Final2001_StwTravelSurveyWkdayRpt.pdf (Urban – MTC, SACOG. Suburban – SCAG, SANDAG, Fresno County.) Urban Center from San Francisco County Transportation Authority Countywide Transportation Plan, 2000.	

- D: 0.67 (see Appendix C for detail)

Assumptions:

Data based upon the following references:

[1] FTA, August 2005. "Las Vegas Metropolitan Area Express BRT Demonstration Project", NTD, http://www.ntdprogram.gov/ntdprogram/cs?action=showRegionAgencies&region=9

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[70]
CO_2e	0.02 – 3.2% of running
PM	0.02 – 3.2% of running
CO	0.02 – 3.2% of running
NOx	0.02 – 3.2% of running
SO_2	0.02 – 3.2% of running
ROG	0.012 – 1.9% of total

Discussion:

Increases in transit ridership due to shifts from other lines do not need to be addressed since it is already incorporated in the literature.

In general, transit operational strategies alone are not enough for a large modal shift [2], as evidenced by the low range in VMT reductions. Through case study analysis, the TCRP report [2] observed that strategies that focused solely on improving level of service or quality of transit were unsuccessful at achieving a significant shift. Strategies that reduce the attractiveness of vehicle travel should be implemented in combination to attract a larger shift in transit ridership. The three following factors directly impact the attractiveness of vehicle travel: urban expressway capacity, urban core density, and downtown parking availability.

Example:

Sample calculations are provided below:

- Low Range % VMT Reduction (suburban,10% of lines) = 28% * 1.3% * 10% * 0.67 = 0.02%

[70] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

- High Range % VMT Reduction (urban, 100% of lines) = 28% * 17% * 100% * 0.67 = 3.2%

Preferred Literature:

- 28% increase in transit ridership in the existing corridor

The FTA study [1] looks at the implementation of the Las Vegas BRT system. The BRT supplemented an existing route along a 7.5 mile corridor. The existing route was scaled back. Total ridership on the corridor (both routes combined) increased 61,704 monthly riders, 28% increase on the existing corridor and 1.4% increase in system ridership. The route represented an increase in 2.1% of system service miles provided.

Alternative Literature:

Alternate:

- 27-84% increase in total transit ridership

Various bus rapid transit systems obtained the following total transit ridership growth: Vancouver 96B (30%), Las Vegas Max (35-40%), Boston Silver Line (84%), Los Angeles (27-42%), and Oakland (66%). VTPI [3] obtained the BRT data from BC Transit's unpublished research. The effectiveness of a BRT strategy depends largely on the land uses the BRT serves and their design and density.

Alternate:

- 50% increase in weekly transit ridership
- 60 – 80% shorter travel time compared to vehicle trip

The Martin Luther King, Jr. East Busway in Pennsylvania opened in 1983 as a separate roadway exclusively for public buses. The busway was 6.8 miles long with six stations. Ridership has grown from 20,000 to 30,000 weekday riders over 10 years. The busway saves commuters significant time compared with driving: 12 minutes versus 30-45 minutes in the AM or an hour in the PM [4].

Alternative Literature References:

[2] Transit Cooperative Research Program. TCRP 27 – Building Transit Ridership: An Exploration of Transit's Market Share and the Public Policies That Influence It (p.47-48). 1997. [cited in discussion section above]

[3] TDM Encyclopedia; Victoria Transport Policy Institute (2010). Bus Rapid Transit; (http://www.vtpi.org/tdm/tdm120.htm); updated 1/25/2010; accessed 3/3/2010.

[4] Transportation Demand Management Institute of the Association for Commuter Transportation. *TDM Case Studies and Commuter Testimonials*. Prepared for the US EPA. 1997. (p.55-56) http://www.epa.gov/OMS/stateresources/rellinks/docs/tdmcases.pdf

3.5.2 Implement Transit Access Improvements

Range of Effectiveness: Grouped strategy. [See TST-3 and TST-4]

Measure Description:

This project will improve access to transit facilities through sidewalk/ crosswalk safety enhancements and bus shelter improvements. The benefits of Transit Access Improvements alone have not been quantified and should be grouped with Transit Network Expansion (TST-3) and Transit Service Frequency and Speed (TST-4).

Measure Applicability:

- Urban, suburban context
- Appropriate for residential, retail, office, mixed use, and industrial projects

Alternative Literature:

No literature was identified that specifically looks at the quantitative impact of improving transit facilities as a standalone strategy.

Alternative Literature References:

None

Other Literature Reviewed:

None

Growing Cooler [2] looked at various reports which studied the effect of site design on VMT, showing a range of 2-19% reduction in VMT. In each case, alternative development plans for the same site were compared to a baseline or trend plan. Results suggest that VMT and CO_2 per capita decline as site density increases as well as the mix of jobs, housing, and retail uses become more balanced. *Growing Cooler* notes that the limited number of studies, differences in assumptions and methodologies, and variability of results make it difficult to generalize.

Alternate:

- 3 – 17% shift in mode share from auto to non-auto

The Marshall and Garrick paper [3] analyzes the differences in mode shares for grid and non-grid ("tree") neighborhoods. For a city with a tributary tree street network, a neighborhood with a tree network had auto mode share of 92% while a neighborhood with a grid network had auto mode share of 89% (3% difference). For a city with a tributary radial street network, a tree neighborhood had auto mode share of 97% while a grid neighborhood had auto mode share of 84% (13% difference). For a city with a grid network, a tree neighborhood had auto mode share of 95% while a grid neighborhood had auto mode share of 78% (17% difference). The research is based on 24 California cities with populations between 30,000 and 100,000.

Alternative Literature References:

[2] Ewing, et al, 2008. Growing Cooler – The Evidence on Urban Development and Climate Change. Urban Land Institute.

[3] Marshall and Garrick, 2009. "The Effect of Street Network Design on Walking and Biking." Submitted to the 89th Annual Meeting of Transportation Research Board, January 2010. (Table 3)

Other Literature Reviewed:

None

3.2 Neighborhood/Site Enhancements

3.2.1 Provide Pedestrian Network Improvements

Range of Effectiveness: 0 - 2% vehicle miles traveled (VMT) reduction and therefore 0 - 2% reduction in GHG emissions.

Measure Description:

Providing a pedestrian access network to link areas of the Project site encourages people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The project will provide a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site. The project will minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, landscaping, and slopes that impede pedestrian circulation will be eliminated.

Measure Applicability:

- Urban, suburban, and rural context
- Appropriate for residential, retail, office, industrial and mixed-use projects
- Reduction benefit only occurs if the project has both pedestrian network improvements on site and connections to the larger off-site network.

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled

$EF_{running}$ = emission factor for running emissions

Inputs:

The project applicant must provide information regarding pedestrian access and connectivity within the project and to/from off-site destinations.

Mitigation Method:

Estimated VMT Reduction	Extent of Pedestrian Accommodations	Context
2%	Within Project Site and Connecting Off-Site	Urban/Suburban
1%	Within Project Site	Urban/Suburban
< 1%	Within Project Site and Connecting Off-Site	Rural

Assumptions:

Data based upon the following references:

- Center for Clean Air Policy (CCAP) Transportation Emission Guidebook. http://www.ccap.org/safe/guidebook/guide_complete.html (accessed March 2010)
- 1000 Friends of Oregon (1997) "Making the Connections: A Summary of the LUTRAQ Project" (p. 16): http://www.onethousandfriendsoforegon.org/resources/lut_vol7.html

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[45]
CO_2e	0 - 2% of running
PM	0 - 2% of running
CO	0 - 2% of running
NOx	0 - 2% of running
SO_2	0 - 2% of running
ROG	0 – 1.2% of total

Discussion:

As detailed in the preferred literature section below, the lower range of 1 – 2% VMT reduction was pulled from the literature to provide a conservative estimate of reduction potential. The literature does not speak directly to a rural context, but an assumption was made that the benefits will likely be lower than a suburban/urban context.

Example:

N/A – calculations are not needed.

Preferred Literature:

[45] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

- 1 - 2% reduction in VMT

The Center for Clean Air Policy (CCAP) attributes a 1% reduction in VMT from pedestrian-oriented design assuming this creates a 5% decrease in automobile mode share (e.g. auto split shifts from 95% to 90%). This mode split is based on the Portland Regional Land Use Transportation and Air Quality (LUTRAQ) project. The LUTRAQ analysis also provides the high end of 10% reduction in VMT. This 10% assumes the following features:

- Compact, mixed-use communities
- Interconnected street network
- Narrower roadways and shorter block lengths
- Sidewalks
- Accessibility to transit and transit shelters
- Traffic calming measures and street trees
- Parks and public spaces

Other strategies (development density, diversity, design, transit accessibility, traffic calming) are intended to account for the effects of many of the measures in the above list. Therefore, the assumed effectiveness of the Pedestrian Network measure should utilize the lower end of the 1 - 10% reduction range. If the pedestrian improvements are being combined with a significant number of the companion strategies, trip reductions for those strategies should be applied as well, based on the values given specifically for those strategies in other sections of this report. Based upon these findings, and drawing upon recommendations presented in the alternate literature below, the recommended VMT reduction attributable to pedestrian network improvements, above and beyond the benefits of other measures in the above bullet list, should be 1% for comprehensive pedestrian accommodations within the development plan or project itself, or 2% for comprehensive internal accommodations and external accommodations connecting to off-site destinations.

Alternative Literature:

Alternate:

- Walking is three times more common with enhanced pedestrian infrastructure
- 58% increase in non-auto mode share for work trips

The Nelson\Nygaard [1] report for the City of Santa Monica Land Use and Circulation Element EIR summarized studies looking at pedestrian environments. These studies have found a direct connection between non-auto forms of travel and a high quality pedestrian environment. Walking is three times more common with communities that have pedestrian friendly streets compared to less pedestrian friendly communities. Non-auto mode share for work trips is 49% in a pedestrian friendly community, compared to 31% in an auto-oriented community. Non-auto mode share for non-work trips is 15%, compared to 4% in an auto-oriented community. However, these effects also depend upon other aspects of the pedestrian friendliness being present, which are accounted for separately in this report through land use strategy mitigation measures such as density and urban design.

Alternate:

- 0.5% - 2.0% reduction in VMT

The Sacramento Metropolitan Air Quality Management District (SMAQMD) Recommended Guidance for Land Use Emission Reductions [2] attributes 1% reduction for a project connecting to *existing* external streets and pedestrian facilities. A 0.5% reduction is attributed to connecting to *planned* external streets and pedestrian facilities (which must be included in a pedestrian master plan or equivalent). Minimizing pedestrian barriers attribute an additional 1% reduction in VMT. These recommendations are generally in line with the recommended discounts derived from the preferred literature above.

Preferred and Alternative Literature Notes:

[1] Nelson\Nygaard, 2010. City of Santa Monica Land Use and Circulation Element EIR Report, Appendix – Santa Monica Luce Trip Reduction Impacts Analysis (p.401). http://www.shapethefuture2025.net/

Nelson\Nygaard looked at the following studies: Anne Vernez Moudon, Paul Hess, Mary Catherine Snyder and Kiril Stanilov (2003), Effects of Site Design on Pedestrian Travel in Mixed Use, Medium-Density Environments, http://www.wsdot.wa.gov/research/reports/fullreports/432.1.pdf; Robert Cervero and Carolyn Radisch (1995), Travel Choices in Pedestrian Versus Automobile Oriented Neighborhoods, http://www.uctc.net/papers/281.pdf;

[2] Sacramento Metropolitan Air Quality Management District (SMAQMD) Recommended Guidance for Land Use Emission Reductions. (p. 11) http://www.airquality.org/ceqa/GuidanceLUEmissionReductions.pdf

Other Literature Reviewed:

None

3.2.2 Provide Traffic Calming Measures

Range of Effectiveness: 0.25 – 1.00% vehicle miles traveled (VMT) reduction and therefore 0.25 – 1.00% reduction in GHG emissions.

Measure Description:

Providing traffic calming measures encourages people to walk or bike instead of using a vehicle. This mode shift will result in a decrease in VMT. Project design will include pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways will be designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips with traffic calming features. Traffic calming features may include: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others.

Measure Applicability:

- Urban, suburban, and rural context
- Appropriate for residential, retail, office, industrial and mixed-use projects

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled

$EF_{running}$ = emission factor for running emissions

Inputs:

The following information needs to be provided by the Project Applicant:

- Percentage of streets within project with traffic calming improvements
- Percentage of intersections within project with traffic calming improvements

Mitigation Method:

		% of streets with improvements			
		25%	*50%*	*75%*	*100%*
		% VMT Reduction			
% of intersections with improvements	*25%*	**0.25%**	**0.25%**	**0.5%**	**0.5%**
	50%	**0.25%**	**0.5%**	**0.5%**	**0.75%**
	75%	**0.5%**	**0.5%**	**0.75%**	**0.75%**
	100%	**0.5%**	**0.75%**	**0.75%**	**1%**

Assumptions:

Data based upon the following references:

[1] Cambridge Systematics. *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions.*(p. B-25) http://www.movingcooler.info/Library/Documents/Moving%20Cooler_Appendices_Complete_102209.pdf

[2] Sacramento Metropolitan Air Quality Management District (SMAQMD) *Recommended Guidance for Land Use Emission Reductions.* (p.13) http://www.airquality.org/ceqa/GuidanceLUEmissionReductions.pdf

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[46]
CO_2e	0.25 – 1.00% of running
PM	0.25 – 1.00% of running
CO	0.25 – 1.00% of running
NOx	0.25 – 1.00% of running
SO_2	0.25 – 1.00% of running
ROG	0.15 – 0.6% of total

Discussion:

The table above allows the Project Applicant to choose a range of street and intersection improvements to determine an appropriate VMT reduction estimate. The Applicant will look at the rows on the left and choose the percent of intersections within

[46] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

the project which will have traffic calming improvements. Then, the Applicant will look at the columns along the top and choose the percent of streets within the project which will have traffic calming improvements. The intersection cell of the row and column selected in the matrix is the VMT reduction estimate.

Though the literature provides some difference between a suburban and urban context, the difference is small and thus a conservative estimate was used to be applied to all contexts. Rural context is not specifically discussed in the literature but is assumed to have similar impacts.

For a low range, a project is assumed to have 25% of its streets with traffic calming improvements and 25% of its intersections with traffic calming improvements. For a high range, 100% of streets and intersections are assumed to have traffic calming improvements

Example:

N/A - No calculations needed.

Preferred Literature:

- -0.03 = elasticity of VMT with respect to a pedestrian environment factor (PEF)
- 1.5% - 2.0% reduction in suburban VMT
- 0.5% - 0.6% reduction in urban VMT

Moving Cooler [1] looked at Ewing's synthesis elasticity from the Smart Growth INDEX model (-0.03) to estimate VMT reduction for a suburban and urban location. The estimated reduction in VMT came from looking at the difference between the VMT results for Moving Cooler's strategy of pedestrian accessibility only compared to an aggressive strategy of pedestrian accessibility and traffic calming.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) *Recommended Guidance for Land Use Emission Reductions* [2] attributes 0.25 – 1% of VMT reductions to traffic calming measures. The table above illustrates the range of VMT reductions based on the percent of streets and intersections with traffic calming measures implemented. This range of reductions is recommended because it is generally consistent with the effectiveness ranges presented in the other preferred literature for situations in which the effects of traffic calming are distinguished from the other measures often found to co-exist with calming, and because it provides graduated effectiveness estimates depending on the degree to which calming is implemented.

Alternative Literature:

None

Alternative Literature References:

None

Other Literature Reviewed:

None

3.2.5 Incorporate Bike Lane Street Design (on-site)

Range of Effectiveness: Grouped strategy. [See LUT-9]

Measure Description:

The project will incorporate bicycle lanes, routes, and shared-use paths into street systems, new subdivisions, and large developments. These on-street bike accommodations will be created to provide a continuous network of routes, facilitated with markings and signage. These improvements can help reduce peak-hour vehicle trips by making commuting by bike easier and more convenient for more people. In addition, improved bicycle facilities can increase access to and from transit hubs, thereby expanding the "catchment area" of the transit stop or station and increasing ridership. Bicycle access can also reduce parking pressure on heavily-used and/or heavily-subsidized feeder bus lines and auto-oriented park-and-ride facilities.

Refer to Improve Design of Development (LUT-9) strategy for overall effectiveness levels. The benefits of Bike Lane Street Design are small and should be grouped with the Improve Design of Development strategy to strengthen street network characteristics and enhance multi-modal environments.

Measure Applicability:

- Urban and suburban context
- Appropriate for residential, retail, office, industrial, and mixed-use projects

Alternative Literature:

Alternate:

- 1% increase in share of workers commuting by bicycle (for each additional mile of bike lanes per square mile)

Dill and Carr (2003) [1] showed that each additional mile of Type 2 bike lanes per square mile is associated with a 1% increase in the share of workers commuting by bicycle. Note that increasing by 1 mile is significant compared to the current average of 0.34 miles per square mile. Also, an increase in 1% in share of bicycle commuters would double the number of bicycle commuters in many areas with low existing bicycle mode share.

Alternate:

- 0.05 – 0.14% annual greenhouse gas (GHG) reduction
- 258 – 830% increase in bicycle community

Moving Cooler [2], based off of a national baseline, estimates 0.05% annual reduction in GHG emissions and 258% increase in bicycle commuting assuming 2 miles of bicycle

lanes per square mile in areas with density > 2,000 persons per square mile. For 4 miles of bicycle lanes, estimates 0.09% GHG reductions and 449% increase in bicycle commuting. For 8 miles of bicycle lanes, estimates 0.14% GHG reductions and 830% increase in bicycle commuting. Companion strategies assumed include bicycle parking at commercial destinations, busses fitted with bicycle carriers, bike accessible rapid transit lines, education, bicycle stations, end-trip facilities, and signage.

Alternate:

- 0.075% increase in bicycle commuting with each mile of bikeway per 100,000 residents

A before-and-after study by Nelson and Allen (1997) [3] of bicycle facility implementation found that each mile of bikeway per 100,000 residents increases bicycle commuting 0.075%, all else being equal.

Alternative Literature References:

[1] Dill, Jennifer and Theresa Carr (2003). "Bicycle Commuting and Facilities in Major U.S. Cities: If You Build Tem, Commuters Will Use Them – Another Look." *TRB 2003 Annual Meeting CD-ROM*.

[2] Cambridge Systematics. *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions.* Technical Appendices. Prepared for the Urban Land Institute. http://www.movingcooler.info/Library/Documents/Moving%20Cooler_Appendix%20B_Effectiveness_102209.pdf

[3] Nelson, Arthur and David Allen (1997). "If You Build Them, Commuters Will Use Them; Cross-Sectional Analysis of Commuters and Bicycle Facilities." *Transportation Research Record 1578.*

Other Literature Reviewed:

None

3.2.7 Provide Bike Parking with Multi-Unit Residential Projects

Range of Effectiveness: Grouped strategy. [See LUT-9]

Measure Description:

Long-term bicycle parking will be provided at apartment complexes or condominiums without garages. Refer to Improve Design of Development (LUT-9) strategy for effectiveness ranges in this category. The benefits of Bike Parking with Multi-Unit Residential Projects have no quantified impacts and should be grouped with the Improve Design of Development strategy to encourage bicycling by providing strengthened street network characteristics and bicycle facilities.

Measure Applicability:

- Urban, suburban, or rural contexts
- Appropriate for residential projects

Alternative Literature:

No literature was identified that specifically looks at the quantitative impact of including bicycle parking at multi-unit residential sites.

Alternative Literature References:

None

Other Literature Reviewed:

None

3.1.3 Increase Diversity of Urban and Suburban Developments (Mixed Use)

Range of Effectiveness: 9-30% vehicle miles traveled (VMT) reduction and therefore 9-30% reduction in GHG emissions.

Measure Description:

Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport. For example when residential areas are in the same neighborhood as retail and office buildings, a resident does not need to travel outside of the neighborhood to meet his/her trip needs. A description of diverse uses for urban and suburban areas is provided below.

Urban:

The urban project will be predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design. The mixed-use development should encourage walking and other non-auto modes of transport from residential to office/commercial/institutional locations (and vice versa). The residential units should be within ¼-mile of parks, schools, or other civic uses. The project should minimize the need for external trips by including services/facilities for day care, banking/ATM, restaurants, vehicle refueling, and shopping.

Suburban:

The suburban project will have at least three of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office. The mixed-use development should encourage walking and other non-auto modes of transport from residential to office/commercial locations (and vice versa). The project should minimize the need for external trips by including services/facilities for day care, banking/ATM, restaurants, vehicle refueling, and shopping.

Measure Applicability:

- Urban and suburban context
- Negligible impact in a rural context (unless the project is a master-planned community)
- Appropriate for mixed-use projects

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled

$EF_{running}$ = emission factor for running emissions

Inputs:

The following information needs to be provided by the Project Applicant:

- Percentage of each land use type in the project (to calculate land use index)

Mitigation Method:

% VMT Reduction = Land Use * B [not to exceed 30%]

Where

Land Use = Percentage increase in land use index versus single use development = (land use index – 0.15)/0.15 (see Appendix C for detail)

Land use index = -a / ln(6) (from [2])

$$a = \sum_{i=1}^{6} a_i \times \ln(a_i)$$

a_i = building floor area of land use i / total square feet of area considered

- a_1 = single family residential
- a_2 = multifamily residential
- a_3 = commercial
- a_4 = industrial
- a_5 = institutional
- a_6 = park

if land use is not present and a_i is equal to 0, set a_i equal to 0.01

B = elasticity of VMT with respect to land use index (0.09 from [1])

not to exceed 500% increase

Assumptions:

Data based upon the following references:

[1] Ewing, R., and Cervero, R., "Travel and the Built Environment - A Meta-Analysis." *Journal of the American Planning Association*, <to be published> (2010). Table 4.

[2] Song, Y., and Knaap, G., "Measuring the effects of mixed land uses on housing values." *Regional Science and Urban Economics 34 (2004) 663-680.* (p. 669) http://urban.csuohio.edu/~sugie/papers/RSUE/RSUE2005_Measuring%20the%20effects%20of%20mixed%20land%20use.pdf

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[36]
CO_2e	9-30% of running
PM	9-30% of running
CO	9-30% of running
NOx	9-30% of running
SO_2	9-30% of running
ROG	5.4-18% of total

Discussion:

In the above calculation, a land use index of 0.15 is used as a baseline representing a development with a single land use (see Appendix C for calculations).

There are two separate maxima noted in the fact sheet: a cap of 500% on the allowable percentage increase of land use index (variable A) and a cap of 30% on % VMT reduction. The rationale for the 500% cap is that there are diminishing returns to any change in environment. For example, it is reasonably doubtful that increasing the land use index by a factor of six instead of five would produce any additional change in travel behavior. The purpose for the 30% cap is to limit the influence of any single environmental factor (such as diversity). This emphasizes that community designs that implement multiple land use strategies (such as density, design, diversity, etc.) will show more of a reduction than relying on improvements from a single land use factor.

[36] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

Example:

Sample calculations are provided below:

90% single family homes, 10% commercial

- Land use index = -[0.9*ln(0.9)+ 0.1*ln(0.1)+ 4*0.01*ln(0.01)] / ln(6) = 0.3
- Low Range % VMT Reduction = (0.3 – 0.15)/0.15 *0.09 = 9%

1/6 single family, 1/6 multi-family, 1/6 commercial, 1/6 industrial, 1/6 institutional, 1/6 parks

- Land use index = -[6*0.17*ln(0.17)] / ln(6) = 1
- High Range % VMT Reduction (land use index = 1)
- Land use = (1-0.15)/0.15 = 5.6 or 566%. Since this is greater than 500%, set to 500%.
- % VMT Reduction = (5 x 0.09) = 0.45 or 45%. Since this is greater than 30%, set to 30%.

Preferred Literature:

- -0.09 = elasticity of VMT with respect to land use index

The land use (or entropy) index measurement looks at the mix of land uses of a development. An index of 0 indicates a single land use while 1 indicates a full mix of uses. Ewing's [1] synthesis looked at a total of 10 studies, where none controlled for self-selection[37]. The weighted average elasticity of VMT with respect to the land use mix index is -0.09. The methodology for calculating the land use index is described in Song and Knaap [2].

Alternative Literature:

- Vehicle trip reduction = [1 - (ABS(1.5*h-e) / (1.5*h+e)) - 0.25] / 0.25*0.03

Where :
h = study area housing units, and
e = study area employment.

Nelson\Nygaard's report [3] describes a calculation adapted from Criterion and Fehr & Peers [4]. The formula assumes an "ideal" housing balance of 1.5 jobs per household and a baseline diversity of 0.25. The maximum trip reduction with this method is 9%.

[37] Self selection occurs when residents or employers that favor travel by non-auto modes choose locations where this type of travel is possible. They are therefore more inclined to take advantage of the available options than a typical resident or employee might otherwise be.

Alternative Literature References:

[3] Nelson\Nygaard, 2005. Crediting Low-Traffic Developments (p.12). http://www.montgomeryplanning.org/transportation/documents/TripGenerationAnalysisUsingURBEMIS.pdf

[4] Criteron Planner/Engineers and Fehr & Peers Associates (2001). Index 4D Method. *A Quick-Response Method of Estimating Travel Impacts from Land-Use Changes*. Technical Memorandum prepared for US EPA, October 2001.

Other Literature Reviewed:

None

3.1.4 Increase Destination Accessibility

Range of Effectiveness: 6.7 – 20% vehicle miles traveled (VMT) reduction and therefore 6.7-20% reduction in GHG emissions.

Measure Description:

The project will be located in an area with high accessibility to destinations. Destination accessibility is measured in terms of the number of jobs or other attractions reachable within a given travel time, which tends to be highest at central locations and lowest at peripheral ones. The location of the project also increases the potential for pedestrians to walk and bike to these destinations and therefore reduces the VMT.

Measure Applicability:

- Urban and suburban context
- Negligible impact in a rural context
- Appropriate for residential, retail, office, industrial and mixed-use projects

Baseline Method:

See introduction to transportation section for a discussion of how to estimate trip rates and VMT. The CO_2 emissions are calculated from VMT as follows:

$$CO_2 = VMT \times EF_{running}$$

Where:

VMT = vehicle miles traveled

$EF_{running}$ = emission factor for running emissions

Inputs:

The following information needs to be provided by the Project Applicant:

- Distance to downtown or major job center

Mitigation Method:

% VMT Reduction = Center Distance * B [not to exceed 30%]

Where

Center Distance = Percentage decrease in distance to downtown or major job center versus typical ITE suburban development = (distance to downtown/job center for typical ITE development – distance to downtown/job center for project) / (distance to downtown/job center for typical ITE development)

Center Distance = 12 - Distance to downtown/job center for project) / 12
See Appendix C for detail

B = Elasticity of VMT with respect to distance to downtown or major job center (0.20 from [1])

Assumptions:

Data based upon the following references:

[1] Ewing, R., and Cervero, R., "Travel and the Built Environment - A Meta-Analysis." Journal of the American Planning Association, <to be published> (2010). Table 4.

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[38]
CO_2e	6.7 – 20% of running
PM	6.7 – 20% of running
CO	6.7 – 20% of running
NOx	6.7 – 20% of running
SO_2	6.7 – 20% of running
ROG	4 – 12% of total

Discussion:

The VMT reductions for this strategy are based on changes in distance to key destinations versus the standard suburban distance in North America. This distance is used as a baseline to mirror the distance to destinations reflected in the land uses for the ITE Trip Generation Manual, which is the baseline method for determining VMT.

The purpose for the 30% cap on % VMT reduction is to limit the influence of any single environmental factor (such as destination accessibility). This emphasizes that community designs that implement multiple land use strategies (such as density,

[38] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

design, diversity, destination, etc.) will show more of a reduction than relying on improvements from a single land use factor.

Example:

Sample calculations are provided below:

- Low Range % VMT Reduction (8 miles to downtown/job center) = $\frac{12-8}{12} \times 0.20 = 6.7\%$
- High Range % VMT Reduction (0.1 miles to downtown/job center) = $\frac{12-0.1}{12} \times 0.20 = 20.0\%$

Preferred Literature:

- -0.20 = elasticity of VMT with respect to job accessibility by auto
- -0.20 = elasticity of VMT with respect to distance to downtown

The Ewing and Cervero report [1] finds that VMT is strongly related to measures of accessibility to destinations. The weighted average elasticity of VMT with respect to job accessibility by auto is -0.20 (looking at five total studies). The weighted average elasticity of VMT with respect to distance to downtown is -0.22 (looking at four total studies, of which one controls for self selection[39]).

Alternative Literature:

- 10-30% reduction in vehicle trips

The VTPI literature [2] suggests a 10-30% reduction in vehicle trips for "smart growth" development practices that result in more compact, accessible, multi-modal communities where travel distances are shorter, people have more travel options, and it is possible to walk and bicycle more.

Alternative Literature References:

[2] Litman, T., 2009. "Win-Win Emission Reduction Strategies." Victoria Transport Policy Institute (VTPI). Website: http://www.vtpi.org/wwclimate.pdf. Accessed March 2010. (p. 7, Table 3)

[39] Self selection occurs when residents or employers that favor travel by non-auto modes choose locations where this type of travel is possible. They are therefore more inclined to take advantage of the available options than a typical resident or employee might otherwise be.

Other Literature Reviewed:

None

Intersections = Percentage increase in intersections versus a typical ITE suburban development

$$= \frac{\text{Intersections per square mile of project} - \text{Intersections per square mile of typical ITE suburban development}}{\text{Intersections per square mile of typical ITE suburban development}}$$

$$= \frac{\text{Intersections per square mile of project} - 36}{36}$$

See Appendix C for detail [not to exceed 500% increase]

B = Elasticity of VMT with respect to percentage of intersections (0.12 from [1])

Assumptions:

Data based upon the following references:

[1] Ewing, R., and Cervero, R., "Travel and the Built Environment - A Meta-Analysis." *Journal of the American Planning Association*, <to be published> (2010). Table 4.

Emission Reduction Ranges and Variables:

Pollutant	Category Emissions Reductions[43]
CO_2e	3.0 – 21.3% of running
PM	3.0 – 21.3% of running
CO	3.0 – 21.3% of running
NOx	3.0 – 21.3% of running
SO_2	3.0 – 21.3% of running
ROG	1.8 – 12.8% of total

Discussion:

The VMT reductions for this strategy are based on changes in intersection density versus the standard suburban intersection density in North America. This standard density is used as a baseline to mirror the density reflected in the *ITE Trip Generation Manual*, which is the baseline method for determining VMT.

The calculations in the Example section look at a low and high range of intersection densities. The low range is simply a slightly higher density than the typical ITE

[43] The percentage reduction reflects emission reductions from running emissions. The actual value will be less than this when starting and evaporative emissions are factored into the analysis. ROG emissions have been adjusted to reflect a ratio of 40% evaporative and 60% exhaust emissions based on a statewide EMFAC run of all vehicles.

development. The high range uses an average intersection density of mixed use/transit-oriented development sites (TOD Site surveys in the Bay Area for *Candlestick-Hunters Point Phase II TIA,* Fehr & Peers, 2009).

There are two separate maxima noted in the fact sheet: a cap of 500% on the allowable percentage increase of intersections per square mile (variable A) and a cap of 30% on % VMT reduction. The rationale for the 500% cap is that there are diminishing returns to any change in environment. For example, it is reasonably doubtful that increasing intersection density by a factor of six instead of five would produce any additional change in travel behavior. The purpose for the 30% cap is to limit the influence of any single environmental factor (such as design). This emphasizes that community designs that implement multiple land use strategies (such as density, design, diversity, etc.) will show more of a reduction than relying on improvements from a single land use factor.

Example:

Sample calculations are provided below:

- Low Range % VMT Reduction (45 intersections per square mile) = (45 – 36) / 36 * 0.12 = 3.0%
- High Range % VMT Reduction (100 intersections per square mile) = (100 – 36) / 36 * 0.12 = 21.3%

Preferred Literature:

- -0.12 = elasticity of VMT with respect to design (intersection/street density)
- -0.12 = elasticity of VMT with respect to design (% of 4-way intersections)

Ewing and Cervero's [1] synthesis showed a strong relationship of VMT to design elements, second only to destination accessibility. The weighted average elasticity of VMT to intersection/street density was -0.12 (looking at six studies). The weighted average elasticity of VMT to percentage of 4-way intersections was -0.12 (looking at four studies, of which one controlled for self-selection[44]).

Alternative Literature:

Alternate:

- 2-19% reduction in VMT

[44] Self selection occurs when residents or employers that favor travel by non-auto modes choose locations where this type of travel is possible. They are therefore more inclined to take advantage of the available options than a typical resident or employee might otherwise be.

Growing Cooler [2] looked at various reports which studied the effect of site design on VMT, showing a range of 2-19% reduction in VMT. In each case, alternative development plans for the same site were compared to a baseline or trend plan. Results suggest that VMT and CO_2 per capita decline as site density increases as well as the mix of jobs, housing, and retail uses become more balanced. *Growing Cooler* notes that the limited number of studies, differences in assumptions and methodologies, and variability of results make it difficult to generalize.

Alternate:

- 3 – 17% shift in mode share from auto to non-auto

The Marshall and Garrick paper [3] analyzes the differences in mode shares for grid and non-grid ("tree") neighborhoods. For a city with a tributary tree street network, a neighborhood with a tree network had auto mode share of 92% while a neighborhood with a grid network had auto mode share of 89% (3% difference). For a city with a tributary radial street network, a tree neighborhood had auto mode share of 97% while a grid neighborhood had auto mode share of 84% (13% difference). For a city with a grid network, a tree neighborhood had auto mode share of 95% while a grid neighborhood had auto mode share of 78% (17% difference). The research is based on 24 California cities with populations between 30,000 and 100,000.

Alternative Literature References:

[2] Ewing, et al, 2008. Growing Cooler – The Evidence on Urban Development and Climate Change. Urban Land Institute.

[3] Marshall and Garrick, 2009. "The Effect of Street Network Design on Walking and Biking." Submitted to the 89th Annual Meeting of Transportation Research Board, January 2010. (Table 3)

Other Literature Reviewed:

None

Michael Baker
INTERNATIONAL

Appendix N
Internal Intersection LOS Worksheets

Michael Baker
INTERNATIONAL

Near Term Year 2025
With Project

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	35	140	2	10	19
Future Vol, veh/h	5	35	140	2	10	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	37	147	2	11	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	149	0	-	0	195	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	47	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1432	-	-	-	794	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	975	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1432	-	-	-	791	899
Mov Cap-2 Maneuver	-	-	-	-	791	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	972	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	-	859
HCM Lane V/C Ratio	0.004	-	-	-	0.036
HCM Control Delay (s)	7.5	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	20	9	3	42	7	35	1	13	27	3	65
Future Vol, veh/h	16	20	9	3	42	7	35	1	13	27	3	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	21	9	3	44	7	37	1	14	28	3	68
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.8	7.9	8	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	7%	0%	69%	0%	86%	0%	4%
Vol Right, %	0%	93%	0%	31%	0%	14%	0%	96%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	14	16	29	3	49	27	68
LT Vol	35	0	16	0	3	0	27	0
Through Vol	0	1	0	20	0	42	0	3
RT Vol	0	13	0	9	0	7	0	65
Lane Flow Rate	37	15	17	31	3	52	28	72
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.055	0.017	0.025	0.04	0.005	0.069	0.042	0.083
Departure Headway (Hd)	5.373	4.22	5.446	4.727	5.44	4.839	5.34	4.168
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	670	852	660	761	661	743	674	864
Service Time	3.079	1.926	3.154	2.435	3.148	2.547	3.044	1.873
HCM Lane V/C Ratio	0.055	0.018	0.026	0.041	0.005	0.07	0.042	0.083
HCM Control Delay	8.4	7	8.3	7.6	8.2	7.9	8.3	7.3
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.1	0	0.2	0.1	0.3

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	86	105	47	63
Demand Flow Rate, veh/h	87	107	47	64
Vehicles Circulating, veh/h	145	51	26	103
Vehicles Exiting, veh/h	22	22	206	55
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.5	4.3	3.6	4.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	87	107	47	64
Cap Entry Lane, veh/h	977	1074	1101	1019
Entry HV Adj Factor	0.989	0.981	0.995	0.983
Flow Entry, veh/h	86	105	47	63
Cap Entry, veh/h	966	1054	1095	1002
V/C Ratio	0.089	0.100	0.043	0.063
Control Delay, s/veh	4.5	4.3	3.6	4.1
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	61	62	202
Demand Flow Rate, veh/h	62	64	206
Vehicles Circulating, veh/h	140	16	34
Vehicles Exiting, veh/h	100	186	46
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.3	3.8	5.1
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	62	64	206
Cap Entry Lane, veh/h	982	1112	1092
Entry HV Adj Factor	0.984	0.975	0.982
Flow Entry, veh/h	61	62	202
Cap Entry, veh/h	966	1084	1072
V/C Ratio	0.063	0.058	0.189
Control Delay, s/veh	4.3	3.8	5.1
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	23	108	6	81	6	162	3	10	26	9	48
Future Vol, veh/h	12	23	108	6	81	6	162	3	10	26	9	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	24	114	6	85	6	171	3	11	27	9	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	92	0	0	24	0	0	180	153	24	157	150	88
Stage 1	-	-	-	-	-	-	49	49	-	101	101	-
Stage 2	-	-	-	-	-	-	131	104	-	56	49	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1503	-	-	1591	-	-	782	739	1052	809	742	970
Stage 1	-	-	-	-	-	-	964	854	-	905	811	-
Stage 2	-	-	-	-	-	-	873	809	-	956	854	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1503	-	-	1591	-	-	727	730	1052	791	733	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	727	730	-	791	733	-
Stage 1	-	-	-	-	-	-	956	847	-	897	808	-
Stage 2	-	-	-	-	-	-	815	806	-	935	847	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.5	11.3	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	727	955	1503	-	-	1591	-	-	877
HCM Lane V/C Ratio	0.235	0.014	0.008	-	-	0.004	-	-	0.1
HCM Control Delay (s)	11.5	8.8	7.4	-	-	7.3	-	-	9.6
HCM Lane LOS	B	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.9	0	0	-	-	0	-	-	0.3

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	294	142	339	182
Demand Flow Rate, veh/h	300	144	346	185
Vehicles Circulating, veh/h	279	322	16	401
Vehicles Exiting, veh/h	307	39	563	65
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.4	6.3	6.3	7.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	300	144	346	185
Cap Entry Lane, veh/h	855	819	1112	757
Entry HV Adj Factor	0.980	0.984	0.980	0.982
Flow Entry, veh/h	294	142	339	182
Cap Entry, veh/h	837	805	1090	743
V/C Ratio	0.351	0.176	0.311	0.244
Control Delay, s/veh	8.4	6.3	6.3	7.6
LOS	A	A	A	A
95th %tile Queue, veh	2	1	1	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	557	898	243	430	237
Future Volume (veh/h)	79	557	898	243	430	237
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	83	586	945	256	453	249
Adj No. of Lanes	1	3	3	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	531	3556	1729	538	674	310
Arrive On Green	0.30	0.70	0.68	0.68	0.20	0.20
Sat Flow, veh/h	1774	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	83	586	945	256	453	249
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1583	1721	1583
Q Serve(g_s), s	3.4	3.9	9.5	7.6	12.2	15.0
Cycle Q Clear(g_c), s	3.4	3.9	9.5	7.6	12.2	15.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	531	3556	1729	538	674	310
V/C Ratio(X)	0.16	0.16	0.55	0.48	0.67	0.80
Avail Cap(c_a), veh/h	531	3556	1729	538	1291	594
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.97	0.97	1.00	1.00
Uniform Delay (d), s/veh	25.8	5.1	12.1	11.8	37.2	38.4
Incr Delay (d2), s/veh	0.1	0.1	1.2	2.9	1.2	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.8	4.4	3.7	5.9	12.8
LnGrp Delay(d),s/veh	25.9	5.2	13.3	14.7	38.4	43.2
LnGrp LOS	C	A	B	B	D	D
Approach Vol, veh/h		669	1201		702	
Approach Delay, s/veh		7.8	13.6		40.1	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		75.9		24.1	35.9	40.0		
Change Period (Y+Rc), s		6.0		4.5	6.0	* 6		
Max Green Setting (Gmax), s		52.0		37.5	13.5	* 34		
Max Q Clear Time (g_c+I1), s		5.9		17.0	5.4	11.5		
Green Ext Time (p_c), s		4.5		2.6	2.5	7.5		

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	957	16	10	1069	6	15	0	10	24	0	56
Future Volume (veh/h)	14	957	16	10	1069	6	15	0	10	24	0	56
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	1007	17	11	1125	6	16	0	11	25	0	59
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	631	3952	67	23	2140	11	117	0	110	160	0	110
Arrive On Green	0.71	1.00	1.00	0.00	0.14	0.14	0.07	0.00	0.07	0.07	0.00	0.07
Sat Flow, veh/h	1774	5151	87	1774	5220	28	1338	0	1583	1398	0	1583
Grp Volume(v), veh/h	15	663	361	11	731	400	16	0	11	25	0	59
Grp Sat Flow(s),veh/h/ln	1774	1695	1847	1774	1695	1858	1338	0	1583	1398	0	1583
Q Serve(g_s), s	0.2	0.0	0.0	0.6	20.1	20.1	1.2	0.0	0.7	1.7	0.0	3.6
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.6	20.1	20.1	4.8	0.0	0.7	2.4	0.0	3.6
Prop In Lane	1.00		0.05	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	631	2601	1418	23	1390	762	117	0	110	160	0	110
V/C Ratio(X)	0.02	0.25	0.25	0.47	0.53	0.53	0.14	0.00	0.10	0.16	0.00	0.54
Avail Cap(c_a), veh/h	631	2601	1418	151	1390	762	499	0	562	559	0	562
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	49.4	34.2	34.2	47.3	0.0	43.6	44.7	0.0	45.0
Incr Delay (d2), s/veh	0.0	0.2	0.4	13.7	1.4	2.5	0.5	0.0	0.4	0.4	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.2	0.4	9.7	10.9	0.4	0.0	0.3	0.7	0.0	1.7
LnGrp Delay(d),s/veh	9.4	0.2	0.4	63.1	35.6	36.7	47.8	0.0	44.0	45.1	0.0	49.0
LnGrp LOS	A	A	A	E	D	D	D		D	D		D
Approach Vol, veh/h		1039			1142			27			84	
Approach Delay, s/veh		0.4			36.2			46.2			47.8	
Approach LOS		A			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	82.7		11.5	41.5	47.0		11.5
Change Period (Y+Rc), s	4.5	6.0		4.5	6.0	* 6		4.5
Max Green Setting (Gmax), s	8.5	41.0		35.5	8.5	* 41		35.5
Max Q Clear Time (g_c+I1), s	2.6	2.0		5.6	2.2	22.1		6.8
Green Ext Time (p_c), s	0.0	7.3		0.5	1.1	6.7		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.5
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	983	1055	3	13	30
Future Volume (veh/h)	8	983	1055	3	13	30
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	8	1035	1111	3	14	32
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	18	4368	4210	11	64	57
Arrive On Green	0.01	0.86	1.00	1.00	0.04	0.04
Sat Flow, veh/h	1774	5253	5404	14	1774	1583
Grp Volume(v), veh/h	8	1035	719	395	14	32
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1860	1774	1583
Q Serve(g_s), s	0.4	3.6	0.0	0.0	0.8	2.0
Cycle Q Clear(g_c), s	0.4	3.6	0.0	0.0	0.8	2.0
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	18	4368	2726	1496	64	57
V/C Ratio(X)	0.45	0.24	0.26	0.26	0.22	0.56
Avail Cap(c_a), veh/h	151	4368	2726	1496	630	562
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.98	1.00	1.00
Uniform Delay (d), s/veh	49.2	1.2	0.0	0.0	46.8	47.4
Incr Delay (d2), s/veh	16.7	0.1	0.2	0.4	1.7	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	0.1	0.2	0.4	1.9
LnGrp Delay(d),s/veh	65.9	1.4	0.2	0.4	48.5	55.7
LnGrp LOS	E	A	A	A	D	E
Approach Vol, veh/h		1043	1114		46	
Approach Delay, s/veh		1.9	0.3		53.5	
Approach LOS		A	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		91.9		8.1	5.5	86.4		
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0		
Max Green Setting (Gmax), s		54.0		35.5	8.5	41.0		
Max Q Clear Time (g_c+I1), s		5.6		4.0	2.4	2.0		
Green Ext Time (p_c), s		25.4		0.1	0.0	22.6		

Intersection Summary	
HCM 2010 Ctrl Delay	2.2
HCM 2010 LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	988	1028	3	13	30
Future Volume (veh/h)	8	988	1028	3	13	30
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	8	1040	1082	3	14	32
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	681	4368	2173	6	64	57
Arrive On Green	0.77	1.00	0.41	0.41	0.04	0.04
Sat Flow, veh/h	1774	5253	5404	15	1774	1583
Grp Volume(v), veh/h	8	1040	701	384	14	32
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1860	1774	1583
Q Serve(g_s), s	0.1	0.0	15.2	15.2	0.8	2.0
Cycle Q Clear(g_c), s	0.1	0.0	15.2	15.2	0.8	2.0
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	681	4368	1407	772	64	57
V/C Ratio(X)	0.01	0.24	0.50	0.50	0.22	0.56
Avail Cap(c_a), veh/h	681	4368	1407	772	621	554
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	21.6	21.6	46.8	47.4
Incr Delay (d2), s/veh	0.0	0.1	1.3	2.3	1.7	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	7.3	8.3	0.4	1.9
LnGrp Delay(d),s/veh	7.2	0.1	22.8	23.9	48.5	55.7
LnGrp LOS	A	A	C	C	D	E
Approach Vol, veh/h		1048	1085		46	
Approach Delay, s/veh		0.2	23.2		53.5	
Approach LOS		A	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		91.9		8.1	44.4	47.5		
Change Period (Y+Rc), s		6.0		4.5	6.0	* 6		
Max Green Setting (Gmax), s		54.5		35.0	8.5	* 42		
Max Q Clear Time (g_c+I1), s		2.0		4.0	2.1	17.2		
Green Ext Time (p_c), s		9.8		0.1	3.6	8.0		

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↑	↱		↑↑↑
Traffic Vol, veh/h	0	76	527	248	0	1322
Future Vol, veh/h	0	76	527	248	0	1322
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	80	555	261	0	1392

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	277	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	614	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	614	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	614	-
HCM Lane V/C Ratio	-	-	0.13	-
HCM Control Delay (s)	-	-	11.7	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	155	66	11	5	8
Future Vol, veh/h	20	155	66	11	5	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	163	69	12	5	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	81	0	-	0	280	75
Stage 1	-	-	-	-	75	-
Stage 2	-	-	-	-	205	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1517	-	-	-	710	986
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	700	986
Mov Cap-2 Maneuver	-	-	-	-	700	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	852
HCM Lane V/C Ratio	0.014	-	-	-	0.016
HCM Control Delay (s)	7.4	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	49	39	14	29	30	17	3	6	13	1	31
Future Vol, veh/h	72	49	39	14	29	30	17	3	6	13	1	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	52	41	15	31	32	18	3	6	14	1	33
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.1	7.7	8.2	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	33%	0%	56%	0%	49%	0%	3%
Vol Right, %	0%	67%	0%	44%	0%	51%	0%	97%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	9	72	88	14	59	13	32
LT Vol	17	0	72	0	14	0	13	0
Through Vol	0	3	0	49	0	29	0	1
RT Vol	0	6	0	39	0	30	0	31
Lane Flow Rate	18	9	76	93	15	62	14	34
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.028	0.012	0.109	0.113	0.022	0.078	0.021	0.042
Departure Headway (Hd)	5.668	4.697	5.2	4.389	5.364	4.506	5.651	4.468
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	635	765	681	805	671	799	637	805
Service Time	3.375	2.404	2.991	2.18	3.07	2.212	3.357	2.174
HCM Lane V/C Ratio	0.028	0.012	0.112	0.116	0.022	0.078	0.022	0.042
HCM Control Delay	8.5	7.5	8.6	7.7	8.2	7.6	8.5	7.4
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.4	0.4	0.1	0.3	0.1	0.1

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	40	48	205	71
Demand Flow Rate, veh/h	41	49	208	72
Vehicles Circulating, veh/h	88	141	32	113
Vehicles Exiting, veh/h	96	99	97	77
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	4.2	5.1	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	41	49	208	72
Cap Entry Lane, veh/h	1035	981	1094	1009
Entry HV Adj Factor	0.976	0.980	0.985	0.993
Flow Entry, veh/h	40	48	205	71
Cap Entry, veh/h	1010	961	1078	1002
V/C Ratio	0.040	0.050	0.190	0.071
Control Delay, s/veh	3.9	4.2	5.1	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	0

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	126	183	92
Demand Flow Rate, veh/h	128	187	94
Vehicles Circulating, veh/h	64	73	52
Vehicles Exiting, veh/h	82	119	208
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.5	5.1	4.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	128	187	94
Cap Entry Lane, veh/h	1060	1050	1073
Entry HV Adj Factor	0.984	0.980	0.976
Flow Entry, veh/h	126	183	92
Cap Entry, veh/h	1043	1030	1047
V/C Ratio	0.121	0.178	0.088
Control Delay, s/veh	4.5	5.1	4.2
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	98	165	11	37	28	139	10	9	12	4	23
Future Vol, veh/h	53	98	165	11	37	28	139	10	9	12	4	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	103	174	12	39	29	146	11	9	13	4	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	68	0	0	103	0	0	306	307	103	302	292	54
Stage 1	-	-	-	-	-	-	215	215	-	77	77	-
Stage 2	-	-	-	-	-	-	91	92	-	225	215	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1533	-	-	1489	-	-	646	607	952	650	619	1013
Stage 1	-	-	-	-	-	-	787	725	-	932	831	-
Stage 2	-	-	-	-	-	-	916	819	-	778	725	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1533	-	-	1489	-	-	606	580	952	613	592	1013
Mov Cap-2 Maneuver	-	-	-	-	-	-	606	580	-	613	592	-
Stage 1	-	-	-	-	-	-	758	699	-	898	824	-
Stage 2	-	-	-	-	-	-	882	812	-	731	699	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	1.1	12.5	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	712	1533	-	-	1489	-	-	795
HCM Lane V/C Ratio	0.241	0.028	0.036	-	-	0.008	-	-	0.052
HCM Control Delay (s)	12.8	10.2	7.4	-	-	7.4	-	-	9.8
HCM Lane LOS	B	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.9	0.1	0.1	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	334	64	644	118
Demand Flow Rate, veh/h	341	65	657	121
Vehicles Circulating, veh/h	162	560	75	440
Vehicles Exiting, veh/h	399	172	428	185
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.7	6.8	12.3	6.9
Approach LOS	A	A	B	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	341	65	657	121
Cap Entry Lane, veh/h	961	645	1048	728
Entry HV Adj Factor	0.981	0.982	0.980	0.979
Flow Entry, veh/h	334	64	644	118
Cap Entry, veh/h	942	634	1027	712
V/C Ratio	0.355	0.101	0.627	0.166
Control Delay, s/veh	7.7	6.8	12.3	6.9
LOS	A	A	B	A
95th %tile Queue, veh	2	0	5	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	151	852	674	463	351	211
Future Volume (veh/h)	151	852	674	463	351	211
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	159	897	709	487	369	222
Adj No. of Lanes	1	3	3	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	194	3659	2875	895	604	278
Arrive On Green	0.11	0.72	1.00	1.00	0.18	0.18
Sat Flow, veh/h	1774	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	159	897	709	487	369	222
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1583	1721	1583
Q Serve(g_s), s	8.8	6.0	0.0	0.0	9.9	13.4
Cycle Q Clear(g_c), s	8.8	6.0	0.0	0.0	9.9	13.4
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	194	3659	2875	895	604	278
V/C Ratio(X)	0.82	0.25	0.25	0.54	0.61	0.80
Avail Cap(c_a), veh/h	381	3659	2875	895	1222	562
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.96	0.96	1.00	1.00
Uniform Delay (d), s/veh	43.6	4.8	0.0	0.0	38.1	39.5
Incr Delay (d2), s/veh	8.3	0.2	0.2	2.3	1.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	2.8	0.1	0.6	4.8	11.6
LnGrp Delay(d),s/veh	51.9	4.9	0.2	2.3	39.1	44.8
LnGrp LOS	D	A	A	A	D	D
Approach Vol, veh/h		1056	1196		591	
Approach Delay, s/veh		12.0	1.0		41.2	
Approach LOS		B	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		78.0		22.0	15.4	62.5		
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0		
Max Green Setting (Gmax), s		54.0		35.5	21.5	28.0		
Max Q Clear Time (g_c+I1), s		8.0		15.4	10.8	2.0		
Green Ext Time (p_c), s		19.4		2.1	0.3	14.8		

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	1111	31	20	1079	26	31	0	20	11	0	26
Future Volume (veh/h)	61	1111	31	20	1079	26	31	0	20	11	0	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	64	1169	33	21	1136	27	33	0	21	12	0	27
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	729	2034	57	694	1942	46	131	0	93	136	0	93
Arrive On Green	0.82	0.80	0.80	0.78	0.76	0.76	0.06	0.00	0.06	0.06	0.00	0.06
Sat Flow, veh/h	1774	5084	143	1774	5110	121	1378	0	1583	1385	0	1583
Grp Volume(v), veh/h	64	779	423	21	754	409	33	0	21	12	0	27
Grp Sat Flow(s),veh/h/ln	1774	1695	1837	1774	1695	1841	1378	0	1583	1385	0	1583
Q Serve(g_s), s	0.7	8.5	8.5	0.3	9.6	9.6	2.3	0.0	1.3	0.8	0.0	1.6
Cycle Q Clear(g_c), s	0.7	8.5	8.5	0.3	9.6	9.6	4.0	0.0	1.3	2.1	0.0	1.6
Prop In Lane	1.00		0.08	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	729	1356	735	694	1288	700	131	0	93	136	0	93
V/C Ratio(X)	0.09	0.57	0.57	0.03	0.58	0.59	0.25	0.00	0.23	0.09	0.00	0.29
Avail Cap(c_a), veh/h	729	1356	735	694	1288	700	539	0	562	546	0	562
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.3	6.9	6.9	6.7	8.6	8.6	47.0	0.0	44.9	45.9	0.0	45.1
Incr Delay (d2), s/veh	0.0	1.7	3.1	0.0	1.9	3.5	1.0	0.0	1.2	0.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.0	4.6	0.1	4.5	5.2	0.9	0.0	0.6	0.3	0.0	0.8
LnGrp Delay(d),s/veh	5.3	8.5	9.9	6.7	10.5	12.0	48.0	0.0	46.1	46.2	0.0	46.8
LnGrp LOS	A	A	A	A	B	B	D		D	D		D
Approach Vol, veh/h		1266			1184			54			39	
Approach Delay, s/veh		8.8			11.0			47.2			46.6	
Approach LOS		A			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	46.0		10.4	45.6	44.0		10.4
Change Period (Y+Rc), s	4.5	6.0		4.5	4.5	6.0		4.5
Max Green Setting (Gmax), s	9.5	40.0		35.5	11.5	38.0		35.5
Max Q Clear Time (g_c+I1), s	2.3	10.5		4.1	2.7	11.6		6.0
Green Ext Time (p_c), s	0.1	8.5		0.4	0.1	7.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	1109	1111	14	6	14
Future Volume (veh/h)	33	1109	1111	14	6	14
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	35	1167	1169	15	6	15
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	759	4439	1992	26	39	35
Arrive On Green	0.86	1.00	0.77	0.77	0.02	0.02
Sat Flow, veh/h	1774	5253	5342	66	1774	1583
Grp Volume(v), veh/h	35	1167	766	418	6	15
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1851	1774	1583
Q Serve(g_s), s	0.3	0.0	9.5	9.5	0.3	0.9
Cycle Q Clear(g_c), s	0.3	0.0	9.5	9.5	0.3	0.9
Prop In Lane	1.00			0.04	1.00	1.00
Lane Grp Cap(c), veh/h	759	4439	1305	713	39	35
V/C Ratio(X)	0.05	0.26	0.59	0.59	0.15	0.43
Avail Cap(c_a), veh/h	759	4439	1305	713	621	554
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.97	1.00	1.00
Uniform Delay (d), s/veh	4.1	0.0	8.2	8.2	48.0	48.3
Incr Delay (d2), s/veh	0.0	0.1	1.9	3.4	1.8	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	4.6	5.3	0.2	0.9
LnGrp Delay(d),s/veh	4.2	0.1	10.0	11.6	49.8	56.4
LnGrp LOS	A	A	B	B	D	E
Approach Vol, veh/h		1202	1184		21	
Approach Delay, s/veh		0.3	10.6		54.5	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		93.3		6.7	48.8	44.5		
Change Period (Y+Rc), s		6.0		4.5	6.0	* 6		
Max Green Setting (Gmax), s		54.5		35.0	11.5	* 39		
Max Q Clear Time (g_c+I1), s		2.0		2.9	2.3	11.5		
Green Ext Time (p_c), s		11.7		0.0	5.3	9.3		

Intersection Summary	
HCM 2010 Ctrl Delay	5.8
HCM 2010 LOS	A

Notes

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	1082	1111	14	6	14
Future Volume (veh/h)	33	1082	1111	14	6	14
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	35	1139	1169	15	6	15
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	741	4439	2044	26	39	35
Arrive On Green	0.84	1.00	0.40	0.40	0.02	0.02
Sat Flow, veh/h	1774	5253	5342	66	1774	1583
Grp Volume(v), veh/h	35	1139	766	418	6	15
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1851	1774	1583
Q Serve(g_s), s	0.3	0.0	17.7	17.7	0.3	0.9
Cycle Q Clear(g_c), s	0.3	0.0	17.7	17.7	0.3	0.9
Prop In Lane	1.00			0.04	1.00	1.00
Lane Grp Cap(c), veh/h	741	4439	1339	731	39	35
V/C Ratio(X)	0.05	0.26	0.57	0.57	0.15	0.43
Avail Cap(c_a), veh/h	741	4439	1339	731	621	554
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.8	0.0	23.6	23.6	48.0	48.3
Incr Delay (d2), s/veh	0.0	0.1	1.8	3.2	1.8	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	8.5	9.6	0.2	0.9
LnGrp Delay(d),s/veh	4.8	0.1	25.4	26.9	49.8	56.4
LnGrp LOS	A	A	C	C	D	E
Approach Vol, veh/h		1174	1184		21	
Approach Delay, s/veh		0.3	25.9		54.5	
Approach LOS		A	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		93.3		6.7	47.8	45.5		
Change Period (Y+Rc), s		6.0		4.5	6.0	* 6		
Max Green Setting (Gmax), s		54.5		35.0	10.5	* 40		
Max Q Clear Time (g_c+I1), s		2.0		2.9	2.3	19.7		
Green Ext Time (p_c), s		11.3		0.0	4.7	8.2		

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↑	↱		↑↑↑
Traffic Vol, veh/h	0	72	1514	356	0	915
Future Vol, veh/h	0	72	1514	356	0	915
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	76	1594	375	0	963

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	797	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	283	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	283	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	283	-
HCM Lane V/C Ratio	-	-	0.268	-
HCM Control Delay (s)	-	-	22.3	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	1.1	-

Michael Baker
INTERNATIONAL

Horizon Year 2050
With Project

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	32	126	3	11	18
Future Vol, veh/h	4	32	126	3	11	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	34	133	3	12	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	136	0	-	0	176	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1448	-	-	-	814	915
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	812	915
Mov Cap-2 Maneuver	-	-	-	-	812	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	873
HCM Lane V/C Ratio	0.003	-	-	-	0.035
HCM Control Delay (s)	7.5	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	19	8	3	35	8	32	1	13	30	3	62
Future Vol, veh/h	16	19	8	3	35	8	32	1	13	30	3	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	20	8	3	37	8	34	1	14	32	3	65
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.9	7.8	7.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	7%	0%	70%	0%	81%	0%	5%
Vol Right, %	0%	93%	0%	30%	0%	19%	0%	95%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	14	16	27	3	43	30	65
LT Vol	32	0	16	0	3	0	30	0
Through Vol	0	1	0	19	0	35	0	3
RT Vol	0	13	0	8	0	8	0	62
Lane Flow Rate	34	15	17	28	3	45	32	68
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.05	0.017	0.025	0.037	0.005	0.06	0.047	0.077
Departure Headway (Hd)	5.35	4.197	5.432	4.723	5.43	4.799	5.318	4.049
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	673	857	662	762	662	750	677	869
Service Time	3.055	1.902	3.137	2.427	3.135	2.503	3.018	1.848
HCM Lane V/C Ratio	0.051	0.018	0.026	0.037	0.005	0.06	0.047	0.078
HCM Control Delay	8.3	7	8.3	7.6	8.2	7.8	8.3	7.2
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.1	0	0.2	0.1	0.2

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	86	106	52	65
Demand Flow Rate, veh/h	87	108	52	66
Vehicles Circulating, veh/h	153	50	21	109
Vehicles Exiting, veh/h	22	23	219	49
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.6	4.3	3.7	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	87	108	52	66
Cap Entry Lane, veh/h	970	1075	1106	1013
Entry HV Adj Factor	0.989	0.981	0.994	0.983
Flow Entry, veh/h	86	106	52	65
Cap Entry, veh/h	958	1055	1100	996
V/C Ratio	0.090	0.100	0.047	0.065
Control Delay, s/veh	4.6	4.3	3.7	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	66	62	215
Demand Flow Rate, veh/h	67	64	219
Vehicles Circulating, veh/h	150	18	30
Vehicles Exiting, veh/h	99	199	52
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.4	3.8	5.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	67	64	219
Cap Entry Lane, veh/h	973	1110	1097
Entry HV Adj Factor	0.985	0.974	0.982
Flow Entry, veh/h	66	62	215
Cap Entry, veh/h	958	1081	1077
V/C Ratio	0.069	0.058	0.200
Control Delay, s/veh	4.4	3.8	5.2
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	22	79	6	79	7	140	3	10	30	9	48
Future Vol, veh/h	12	22	79	6	79	7	140	3	10	30	9	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	23	83	6	83	7	147	3	11	32	9	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	23	0	0	177	151	23	154	147	87
Stage 1	-	-	-	-	-	-	48	48	-	99	99	-
Stage 2	-	-	-	-	-	-	129	103	-	55	48	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1504	-	-	1592	-	-	785	741	1054	813	744	971
Stage 1	-	-	-	-	-	-	965	855	-	907	813	-
Stage 2	-	-	-	-	-	-	875	810	-	957	855	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1504	-	-	1592	-	-	730	732	1054	795	735	971
Mov Cap-2 Maneuver	-	-	-	-	-	-	730	732	-	795	735	-
Stage 1	-	-	-	-	-	-	957	848	-	899	810	-
Stage 2	-	-	-	-	-	-	817	807	-	936	848	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.5	11	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	730	957	1504	-	-	1592	-	-	875
HCM Lane V/C Ratio	0.202	0.014	0.008	-	-	0.004	-	-	0.105
HCM Control Delay (s)	11.2	8.8	7.4	-	-	7.3	-	-	9.6
HCM Lane LOS	B	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.8	0	0	-	-	0	-	-	0.3

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	326	143	375	191
Demand Flow Rate, veh/h	332	145	383	195
Vehicles Circulating, veh/h	295	357	14	439
Vehicles Exiting, veh/h	339	40	613	63
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.1	6.6	6.7	8.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	332	145	383	195
Cap Entry Lane, veh/h	841	791	1114	728
Entry HV Adj Factor	0.982	0.984	0.980	0.982
Flow Entry, veh/h	326	143	375	191
Cap Entry, veh/h	826	778	1091	715
V/C Ratio	0.395	0.183	0.344	0.268
Control Delay, s/veh	9.1	6.6	6.7	8.2
LOS	A	A	A	A
95th %tile Queue, veh	2	1	2	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	1094	1488	278	477	250
Future Volume (veh/h)	80	1094	1488	278	477	250
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	84	1152	1566	293	502	263
Adj No. of Lanes	1	3	3	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	107	3602	3097	964	690	317
Arrive On Green	0.06	0.71	1.00	1.00	0.20	0.20
Sat Flow, veh/h	1774	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	84	1152	1566	293	502	263
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1583	1721	1583
Q Serve(g_s), s	5.4	9.8	0.0	0.0	15.7	18.3
Cycle Q Clear(g_c), s	5.4	9.8	0.0	0.0	15.7	18.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	107	3602	3097	964	690	317
V/C Ratio(X)	0.79	0.32	0.51	0.30	0.73	0.83
Avail Cap(c_a), veh/h	193	3602	3097	964	1122	516
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	53.3	6.3	0.0	0.0	43.0	44.1
Incr Delay (d2), s/veh	11.9	0.2	0.5	0.7	1.5	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.7	0.2	0.2	7.6	15.6
LnGrp Delay(d),s/veh	65.2	6.6	0.5	0.7	44.5	50.0
LnGrp LOS	E	A	A	A	D	D
Approach Vol, veh/h		1236	1859		765	
Approach Delay, s/veh		10.5	0.6		46.4	
Approach LOS		B	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.5		27.5	11.4	76.0		
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0		
Max Green Setting (Gmax), s		67.0		37.5	12.5	50.0		
Max Q Clear Time (g_c+I1), s		11.8		20.3	7.4	2.0		
Green Ext Time (p_c), s		38.9		2.7	0.1	35.2		

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1540	16	10	1696	7	15	0	10	26	0	54
Future Volume (veh/h)	13	1540	16	10	1696	7	15	0	10	26	0	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	14	1621	17	11	1785	7	16	0	11	27	0	57
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	2617	27	530	2637	10	105	0	105	146	0	105
Arrive On Green	0.60	1.00	1.00	0.60	1.00	1.00	0.07	0.00	0.07	0.07	0.00	0.07
Sat Flow, veh/h	1774	5189	54	1774	5229	21	1341	0	1583	1398	0	1583
Grp Volume(v), veh/h	14	1059	579	11	1157	635	16	0	11	27	0	57
Grp Sat Flow(s),veh/h/ln	1774	1695	1853	1774	1695	1859	1341	0	1583	1398	0	1583
Q Serve(g_s), s	0.4	0.0	0.0	0.3	0.0	0.0	1.3	0.0	0.8	2.1	0.0	4.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.3	0.0	0.0	5.4	0.0	0.8	2.9	0.0	4.0
Prop In Lane	1.00		0.03	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	530	1710	935	530	1710	938	105	0	105	146	0	105
V/C Ratio(X)	0.03	0.62	0.62	0.02	0.68	0.68	0.15	0.00	0.10	0.18	0.00	0.54
Avail Cap(c_a), veh/h	530	1710	935	530	1710	938	430	0	489	485	0	489
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	0.0	16.3	0.0	0.0	54.6	0.0	50.5	51.8	0.0	52.0
Incr Delay (d2), s/veh	0.0	1.5	2.8	0.0	2.0	3.6	0.7	0.0	0.4	0.6	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.7	0.1	0.5	0.9	0.5	0.0	0.3	0.8	0.0	1.9
LnGrp Delay(d),s/veh	16.3	1.5	2.8	16.3	2.0	3.6	55.3	0.0	50.9	52.4	0.0	56.3
LnGrp LOS	B	A	A	B	A	A	E		D	D		E
Approach Vol, veh/h		1652			1803			27			84	
Approach Delay, s/veh		2.1			2.7			53.5			55.0	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	38.9	64.0		12.1	38.9	64.0		12.1
Change Period (Y+Rc), s	4.5	6.0		4.5	4.5	6.0		4.5
Max Green Setting (Gmax), s	6.5	58.0		35.5	6.5	58.0		35.5
Max Q Clear Time (g_c+I1), s	2.3	2.0		6.0	2.4	2.0		7.4
Green Ext Time (p_c), s	0.0	15.8		0.5	0.0	18.6		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	4.0
HCM 2010 LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	1569	1684	4	14	29
Future Volume (veh/h)	7	1569	1684	4	14	29
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	7	1652	1773	4	15	31
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	558	4451	2665	6	59	53
Arrive On Green	0.63	1.00	1.00	1.00	0.03	0.03
Sat Flow, veh/h	1774	5253	5407	12	1774	1583
Grp Volume(v), veh/h	7	1652	1147	630	15	31
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1861	1774	1583
Q Serve(g_s), s	0.2	0.0	0.0	0.0	0.9	2.2
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.0	0.9	2.2
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	558	4451	1725	947	59	53
V/C Ratio(X)	0.01	0.37	0.67	0.67	0.25	0.58
Avail Cap(c_a), veh/h	558	4451	1725	947	540	482
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	0.0	0.0	54.2	54.8
Incr Delay (d2), s/veh	0.0	0.2	1.9	3.4	2.2	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.5	0.9	0.5	2.1
LnGrp Delay(d),s/veh	14.7	0.2	1.9	3.4	56.4	64.6
LnGrp LOS	B	A	A	A	E	E
Approach Vol, veh/h		1659	1777		46	
Approach Delay, s/veh		0.3	2.4		61.9	
Approach LOS		A	A		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		106.7		8.3	42.2	64.5		
Change Period (Y+Rc), s		6.0		4.5	6.0	* 6		
Max Green Setting (Gmax), s		69.5		35.0	6.5	* 59		
Max Q Clear Time (g_c+I1), s		2.0		4.2	2.2	2.0		
Green Ext Time (p_c), s		21.5		0.1	3.5	21.6		

Intersection Summary	
HCM 2010 Ctrl Delay	2.2
HCM 2010 LOS	A

Notes

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	1576	1659	4	14	29
Future Volume (veh/h)	7	1576	1659	4	14	29
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	7	1659	1746	4	15	31
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	558	4451	2665	6	59	53
Arrive On Green	0.63	1.00	0.51	0.51	0.03	0.03
Sat Flow, veh/h	1774	5253	5406	12	1774	1583
Grp Volume(v), veh/h	7	1659	1130	620	15	31
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1861	1774	1583
Q Serve(g_s), s	0.2	0.0	28.2	28.2	0.9	2.2
Cycle Q Clear(g_c), s	0.2	0.0	28.2	28.2	0.9	2.2
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	558	4451	1725	946	59	53
V/C Ratio(X)	0.01	0.37	0.66	0.66	0.25	0.58
Avail Cap(c_a), veh/h	558	4451	1725	946	540	482
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	20.8	20.8	54.2	54.8
Incr Delay (d2), s/veh	0.0	0.2	2.0	3.5	2.2	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	13.7	15.4	0.5	2.1
LnGrp Delay(d),s/veh	14.7	0.2	22.8	24.4	56.4	64.6
LnGrp LOS	B	A	C	C	E	E
Approach Vol, veh/h		1666	1750		46	
Approach Delay, s/veh		0.3	23.3		61.9	
Approach LOS		A	C		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		106.7		8.3	42.2	64.5		
Change Period (Y+Rc), s		6.0		4.5	6.0	* 6		
Max Green Setting (Gmax), s		69.5		35.0	6.5	* 59		
Max Q Clear Time (g_c+I1), s		2.0		4.2	2.2	30.2		
Green Ext Time (p_c), s		21.7		0.1	3.5	15.6		

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↑	↱		↑↑↑
Traffic Vol, veh/h	0	56	777	232	0	1580
Future Vol, veh/h	0	56	777	232	0	1580
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	59	818	244	0	1663

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	409	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	506	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	506	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	506	-
HCM Lane V/C Ratio	-	-	0.116	-
HCM Control Delay (s)	-	-	13.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	139	59	12	5	8
Future Vol, veh/h	19	139	59	12	5	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	146	62	13	5	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	75	0	-	0	254	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	186	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1524	-	-	-	735	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1524	-	-	-	725	995
Mov Cap-2 Maneuver	-	-	-	-	725	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	835	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1524	-	-	-	870
HCM Lane V/C Ratio	0.013	-	-	-	0.016
HCM Control Delay (s)	7.4	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	41	35	14	27	33	15	3	6	14	1	29
Future Vol, veh/h	68	41	35	14	27	33	15	3	6	14	1	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	43	37	15	28	35	16	3	6	15	1	31
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.1	7.6	8.1	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	33%	0%	54%	0%	45%	0%	3%
Vol Right, %	0%	67%	0%	46%	0%	55%	0%	97%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	9	68	76	14	60	14	30
LT Vol	15	0	68	0	14	0	14	0
Through Vol	0	3	0	41	0	27	0	1
RT Vol	0	6	0	35	0	33	0	29
Lane Flow Rate	16	9	72	80	15	63	15	32
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.025	0.012	0.103	0.097	0.022	0.078	0.023	0.039
Departure Headway (Hd)	5.627	4.657	5.195	4.371	5.34	4.453	5.61	4.429
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	639	772	682	808	673	808	641	812
Service Time	3.335	2.364	2.984	2.16	3.048	2.161	3.316	2.135
HCM Lane V/C Ratio	0.025	0.012	0.106	0.099	0.022	0.078	0.023	0.039
HCM Control Delay	8.5	7.4	8.6	7.6	8.2	7.5	8.4	7.3
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.3	0.3	0.1	0.3	0.1	0.1

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	40	50	222	64
Demand Flow Rate, veh/h	41	51	227	65
Vehicles Circulating, veh/h	89	148	26	121
Vehicles Exiting, veh/h	97	105	104	78
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	4.2	5.2	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	41	51	227	65
Cap Entry Lane, veh/h	1034	974	1101	1001
Entry HV Adj Factor	0.976	0.980	0.977	0.992
Flow Entry, veh/h	40	50	222	64
Cap Entry, veh/h	1009	955	1076	993
V/C Ratio	0.040	0.052	0.206	0.065
Control Delay, s/veh	3.9	4.2	5.2	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	0

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	127	201	101
Demand Flow Rate, veh/h	130	205	103
Vehicles Circulating, veh/h	70	80	54
Vehicles Exiting, veh/h	87	120	231
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.6	5.4	4.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	130	205	103
Cap Entry Lane, veh/h	1054	1043	1071
Entry HV Adj Factor	0.977	0.981	0.977
Flow Entry, veh/h	127	201	101
Cap Entry, veh/h	1029	1023	1046
V/C Ratio	0.123	0.197	0.096
Control Delay, s/veh	4.6	5.4	4.3
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	94	134	11	37	32	121	10	9	14	4	23
Future Vol, veh/h	53	94	134	11	37	32	121	10	9	14	4	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	99	141	12	39	34	127	11	9	15	4	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	99	0	0	304	307	99	300	290	56
Stage 1	-	-	-	-	-	-	211	211	-	79	79	-
Stage 2	-	-	-	-	-	-	93	96	-	221	211	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1527	-	-	1494	-	-	648	607	957	652	620	1011
Stage 1	-	-	-	-	-	-	791	728	-	930	829	-
Stage 2	-	-	-	-	-	-	914	815	-	781	728	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1527	-	-	1494	-	-	608	580	957	615	592	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	608	580	-	615	592	-
Stage 1	-	-	-	-	-	-	762	701	-	896	822	-
Stage 2	-	-	-	-	-	-	880	808	-	734	701	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	1	12.2	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	608	713	1527	-	-	1494	-	-	784
HCM Lane V/C Ratio	0.209	0.028	0.037	-	-	0.008	-	-	0.055
HCM Control Delay (s)	12.5	10.2	7.4	-	-	7.4	-	-	9.9
HCM Lane LOS	B	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.8	0.1	0.1	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	358	62	707	115
Demand Flow Rate, veh/h	365	63	721	118
Vehicles Circulating, veh/h	161	619	63	485
Vehicles Exiting, veh/h	442	165	462	197
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.0	7.2	13.9	7.2
Approach LOS	A	A	B	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	365	63	721	118
Cap Entry Lane, veh/h	962	608	1061	696
Entry HV Adj Factor	0.980	0.982	0.981	0.978
Flow Entry, veh/h	358	62	707	115
Cap Entry, veh/h	942	597	1041	680
V/C Ratio	0.379	0.104	0.680	0.170
Control Delay, s/veh	8.0	7.2	13.9	7.2
LOS	A	A	B	A
95th %tile Queue, veh	2	0	6	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	157	1583	1097	524	392	218
Future Volume (veh/h)	157	1583	1097	524	392	218
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	165	1666	1155	552	413	229
Adj No. of Lanes	1	3	3	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	200	3629	2827	880	624	287
Arrive On Green	0.11	0.71	1.00	1.00	0.18	0.18
Sat Flow, veh/h	1774	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	165	1666	1155	552	413	229
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1583	1721	1583
Q Serve(g_s), s	9.1	14.0	0.0	0.0	11.2	13.8
Cycle Q Clear(g_c), s	9.1	14.0	0.0	0.0	11.2	13.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	200	3629	2827	880	624	287
V/C Ratio(X)	0.83	0.46	0.41	0.63	0.66	0.80
Avail Cap(c_a), veh/h	381	3629	2827	880	1222	562
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.90	0.90	1.00	1.00
Uniform Delay (d), s/veh	43.4	6.1	0.0	0.0	38.1	39.2
Incr Delay (d2), s/veh	8.3	0.4	0.4	3.0	1.2	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	6.6	0.1	0.7	5.4	11.9
LnGrp Delay(d),s/veh	51.7	6.5	0.4	3.0	39.3	44.2
LnGrp LOS	D	A	A	A	D	D
Approach Vol, veh/h		1831	1707		642	
Approach Delay, s/veh		10.6	1.3		41.0	
Approach LOS		B	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		77.4		22.6	15.8	61.6		
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0		
Max Green Setting (Gmax), s		54.0		35.5	21.5	28.0		
Max Q Clear Time (g_c+I1), s		16.0		15.8	11.1	2.0		
Green Ext Time (p_c), s		31.7		2.3	0.3	22.8		

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	1886	31	20	1564	29	31	0	20	12	0	25
Future Volume (veh/h)	58	1886	31	20	1564	29	31	0	20	12	0	25
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	61	1985	33	21	1646	31	33	0	21	13	0	26
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	2282	38	592	3843	72	131	0	92	135	0	92
Arrive On Green	0.09	0.89	0.89	0.67	1.00	1.00	0.06	0.00	0.06	0.06	0.00	0.06
Sat Flow, veh/h	1774	5152	86	1774	5139	97	1379	0	1583	1385	0	1583
Grp Volume(v), veh/h	61	1306	712	21	1086	591	33	0	21	13	0	26
Grp Sat Flow(s),veh/h/ln	1774	1695	1848	1774	1695	1846	1379	0	1583	1385	0	1583
Q Serve(g_s), s	3.4	19.1	19.2	0.4	0.0	0.0	2.3	0.0	1.3	0.9	0.0	1.6
Cycle Q Clear(g_c), s	3.4	19.1	19.2	0.4	0.0	0.0	3.9	0.0	1.3	2.2	0.0	1.6
Prop In Lane	1.00		0.05	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	1502	819	592	2535	1380	131	0	92	135	0	92
V/C Ratio(X)	0.78	0.87	0.87	0.04	0.43	0.43	0.25	0.00	0.23	0.10	0.00	0.28
Avail Cap(c_a), veh/h	130	1502	819	592	2535	1380	533	0	554	539	0	554
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.1	4.3	4.3	11.1	0.0	0.0	47.0	0.0	44.9	46.0	0.0	45.1
Incr Delay (d2), s/veh	13.5	6.2	10.7	0.0	0.5	0.9	1.0	0.0	1.2	0.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.9	10.7	0.2	0.2	0.3	0.9	0.0	0.6	0.4	0.0	0.7
LnGrp Delay(d),s/veh	58.7	10.5	15.0	11.2	0.5	0.9	48.0	0.0	46.2	46.3	0.0	46.7
LnGrp LOS	E	B	B	B	A	A	D		D	D		D
Approach Vol, veh/h		2079			1698			54			39	
Approach Delay, s/veh		13.4			0.8			47.3			46.6	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	39.4	50.3		10.3	8.9	80.8		10.3
Change Period (Y+Rc), s	6.0	* 6		4.5	4.5	6.0		4.5
Max Green Setting (Gmax), s	5.7	* 44		35.0	7.3	42.7		35.0
Max Q Clear Time (g_c+I1), s	2.4	21.2		4.2	5.4	2.0		5.9
Green Ext Time (p_c), s	1.7	14.7		0.4	0.0	15.3		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	8.7
HCM 2010 LOS	A

Notes

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	1887	1600	16	7	13
Future Volume (veh/h)	31	1887	1600	16	7	13
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	33	1986	1684	17	7	14
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	53	4439	4142	42	39	35
Arrive On Green	0.06	1.00	1.00	1.00	0.02	0.02
Sat Flow, veh/h	1774	5253	5359	52	1774	1583
Grp Volume(v), veh/h	33	1986	1100	601	7	14
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1853	1774	1583
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.4	0.9
Cycle Q Clear(g_c), s	1.8	0.0	0.0	0.0	0.4	0.9
Prop In Lane	1.00			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	53	4439	2705	1479	39	35
V/C Ratio(X)	0.62	0.45	0.41	0.41	0.18	0.40
Avail Cap(c_a), veh/h	133	4439	2705	1479	621	554
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	46.4	0.0	0.0	0.0	48.0	48.2
Incr Delay (d2), s/veh	9.9	0.3	0.4	0.8	2.1	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.1	0.2	0.3	0.2	0.8
LnGrp Delay(d),s/veh	56.3	0.3	0.4	0.8	50.1	55.5
LnGrp LOS	E	A	A	A	D	E
Approach Vol, veh/h		2019	1701		21	
Approach Delay, s/veh		1.2	0.5		53.7	
Approach LOS		A	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		93.3		6.7	7.5	85.8		
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0		
Max Green Setting (Gmax), s		54.5		35.0	7.5	42.5		
Max Q Clear Time (g_c+I1), s		2.0		2.9	3.8	2.0		
Green Ext Time (p_c), s		47.6		0.0	0.0	37.5		

Intersection Summary	
HCM 2010 Ctrl Delay	1.2
HCM 2010 LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	1863	1603	16	7	13
Future Volume (veh/h)	31	1863	1603	16	7	13
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	33	1961	1687	17	7	14
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	670	4439	2258	23	39	35
Arrive On Green	0.76	1.00	0.44	0.44	0.02	0.02
Sat Flow, veh/h	1774	5253	5359	52	1774	1583
Grp Volume(v), veh/h	33	1961	1102	602	7	14
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1854	1774	1583
Q Serve(g_s), s	0.5	0.0	27.2	27.2	0.4	0.9
Cycle Q Clear(g_c), s	0.5	0.0	27.2	27.2	0.4	0.9
Prop In Lane	1.00			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	670	4439	1475	806	39	35
V/C Ratio(X)	0.05	0.44	0.75	0.75	0.18	0.40
Avail Cap(c_a), veh/h	670	4439	1475	806	621	554
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	0.0	23.6	23.6	48.0	48.2
Incr Delay (d2), s/veh	0.0	0.3	3.5	6.3	2.1	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	13.4	15.3	0.2	0.8
LnGrp Delay(d),s/veh	7.7	0.3	27.1	29.9	50.1	55.5
LnGrp LOS	A	A	C	C	D	E
Approach Vol, veh/h		1994	1704		21	
Approach Delay, s/veh		0.4	28.1		53.7	
Approach LOS		A	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		93.3		6.7	43.8	49.5		
Change Period (Y+Rc), s		6.0		4.5	6.0	* 6		
Max Green Setting (Gmax), s		54.5		35.0	6.5	* 44		
Max Q Clear Time (g_c+I1), s		2.0		2.9	2.5	29.2		
Green Ext Time (p_c), s		27.0		0.0	3.6	9.7		

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↑	↱		↑↑↑
Traffic Vol, veh/h	0	52	2024	327	0	1168
Future Vol, veh/h	0	52	2024	327	0	1168
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	55	2131	344	0	1229

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1065	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	188	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	188	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.8	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	188	-
HCM Lane V/C Ratio	-	-	0.291	-
HCM Control Delay (s)	-	-	31.8	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	1.2	-

Michael Baker
INTERNATIONAL

Appendix O
Signal Warrant Worksheets

2025 With Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC _____ DATE _____
CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Carroll Canyon Rd.
Minor St: Spine Rd.

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
} **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT 25,055 6,065

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... ____ A ____ B

2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

2025 With Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC _____ DATE _____
CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Carroll Canyon Rd.
Minor St: Park Access

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
} **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... ✓ RURAL.....

Minimum Requirements EADT 26,789 635

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

2025 With Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

CALC _____ DATE _____

CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Carroll Canyon Rd.

Minor St: Street G

Critical Approach Speed _____ mph

Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐ or

In built up area of isolated community of < 10,000 population..... ☐ } **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Minimum Requirements EADT 26,146 336

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80% | 2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

2025 With Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC _____ DATE _____
CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Carroll Canyon Rd.
Minor St: Street H

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)
☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... ✓ RURAL.....

Minimum Requirements EADT 25,971 335

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... ____ A ____ B

2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

2050 With Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

CALC _____ DATE _____

CHK _____ DATE _____

_____ DIST _____ CO _____ RTE _____ PM

Major St: Carroll Canyon Rd

Minor St: Spine Rd.

Critical Approach Speed _____ mph

Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐ or ☐ **RURAL (R)**

In built up area of isolated community of < 10,000 population..... ☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied ✓ Not Satisfied _____

Minimum Requirements EADT 49,460 6,487

Number of lanes for moving traffic on each approach: Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach: Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

2050 With Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

CALC _____ DATE _____

CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Carroll Canyon Rd

Minor St: Park Access

Critical Approach Speed _____ mph

Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐ or ☐ } **RURAL (R)**

In built up area of isolated community of < 10,000 population..... ☐

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... ✓ RURAL.....

Minimum Requirements EADT 51,734 635

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

2050 with Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC _____ DATE _____
CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Carroll Canyon Rd.
Minor St: Street G

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
} **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... ✓ RURAL.....

Minimum Requirements EADT 51,175 336

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

2050 With Project

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

CALC _____ DATE _____

CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Carroll Canyon Rd

Minor St: Street H

Critical Approach Speed _____ mph

Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐ or

In built up area of isolated community of < 10,000 population..... ☐ } **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... ✓ RURAL.....

Minimum Requirements EADT 50,964 335

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Michael Baker
INTERNATIONAL

Appendix P
MTS Routes 927, 973, 978 & 979
Route Maps

Effective OCTOBER 8, 2018

COASTER CONNECTION

Sorrento Valley COASTER Station

- **972** Sorrento Mesa
- **973** Carroll Canyon
- **978** Torrey Pines
- **979** North University City

CASH FARES / *Tarifas en efectivo*

The Sorrento Valley COASTER Connection is a free service for COASTER passengers! This service is provided as a courtesy by the Metropolitan Transit System and the North County Transit District.

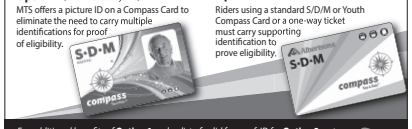
¡El Sorrento Valley COASTER Connection es un servicio gratuito para los pasajeros del COASTER! Este servicio es proveído como cortesía por el Metropolitan Transit System y el North County Transit District.

compass card

S/D/M and Youth Compass Card
All riders using reduced fares must comply with one of the following options:

Option 1 *(Recommended by MTS)*
MTS offers a picture ID on a Compass Card to eliminate the need to carry multiple identifications for proof of eligibility.

Option 2
Riders using a standard S/D/M or Youth Compass Card or a one-way ticket must carry supporting identification to prove eligibility.



*For additional benefits of **Option 1** and or list of valid forms of ID for **Option 2** go to: www.sdmts.com/reduced-fares*

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 238-0100**
SafeWatch	**(619) 557-4500**
Lost & Found *Objetos extraviados*	**(619) 557-4555**
Transit Store	**(619) 234-1060** 12th & Imperial Transit Center M–F 8am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

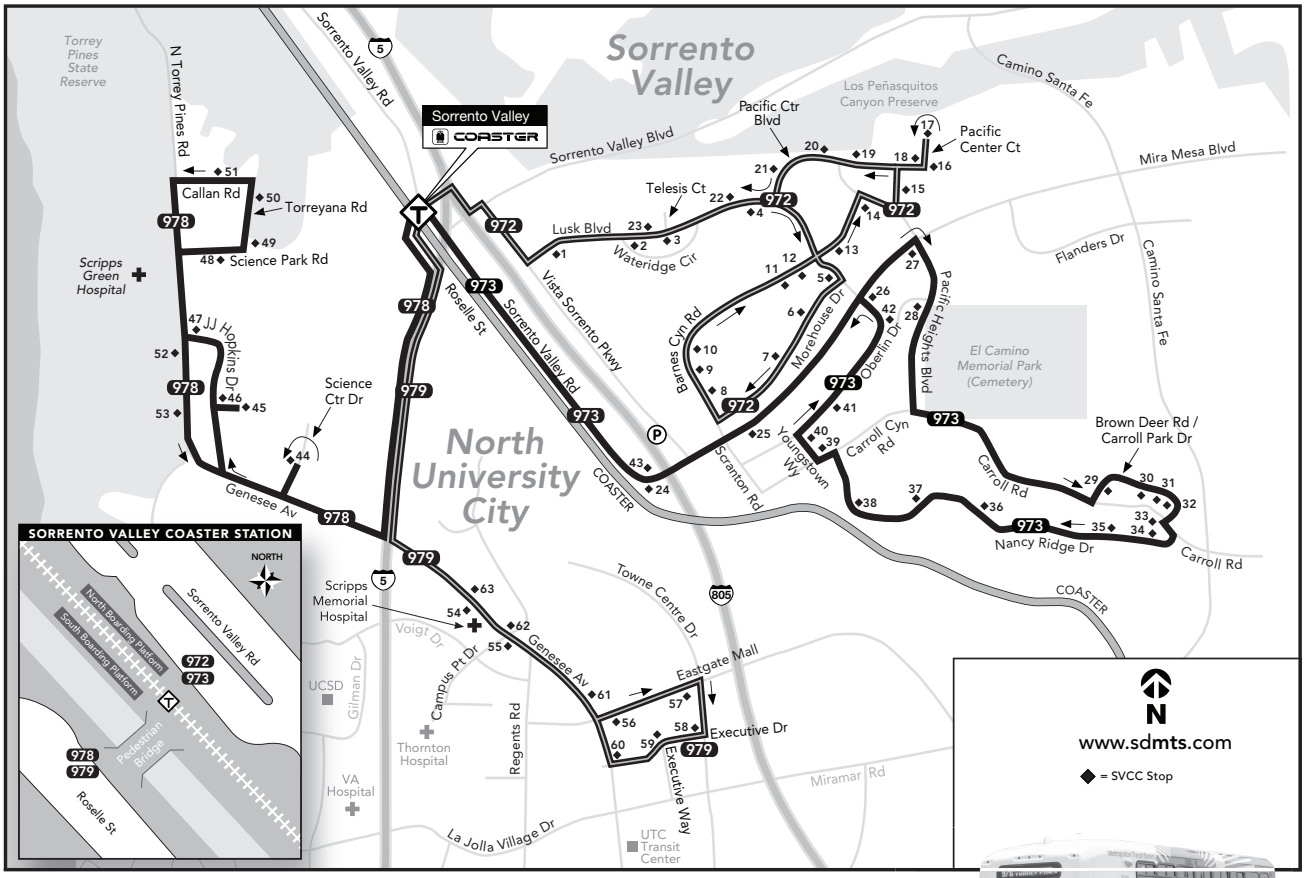
For more information on riding MTS services, pick up a Rider's Guide on a bus or at the Transit Store, or visit **www.sdmts.com**.

*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en la Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

MTS Metropolitan Transit System

10/18



COASTER

Monday through Friday / *lunes a viernes*

Oceanside ➡ San Diego

	Morning (AM)				Afternoon/Evening (PM)		
Oceanside	6:02a	6:33a	7:15a	7:40a	**3:32p**	**5:11p**	**5:41p**
Carlsbad Village	6:06	6:37	7:20	7:44	**3:36**	**5:16**	**5:46**
Carlsbad Poinsettia	6:12	6:42	7:26	7:49	**3:43**	**5:21**	**5:51**
Encinitas	6:18	6:50	7:32	7:56	**3:49**	**5:27**	**5:56**
Solana Beach	6:23	6:57	7:39	8:01	**3:54**	**5:34**	**6:01**
Sorrento Valley	6:40	7:08	7:49	8:12	**4:03**	**5:43**	**6:11**
Old Town	7:04	7:30	8:12	8:35	**4:28**	**6:07**	**6:37**
San Diego	7:11	7:38	8:20	8:43	**4:35**	**6:15**	**6:45**

San Diego ➡ Oceanside

	Morning (AM)		Afternoon/Evening (PM)				
San Diego	6:15a	7:39a	**3:36p**	**4:21p**	**4:53p**	**5:38p**	**6:26p**
Old Town	6:23	7:47	**3:44**	**4:29**	**5:01**	**5:46**	**6:34**
Sorrento Valley	6:45	8:10	**4:06**	**4:51**	**5:24**	**6:08**	**6:56**
Solana Beach	6:57	8:23	**4:17**	**5:00**	**5:34**	**6:20**	**7:06**
Encinitas	7:03	8:30	**4:23**	**5:08**	**5:40**	**6:26**	**7:12**
Carlsbad Poinsettia	7:09	8:36	**4:29**	**5:14**	**5:46**	**6:32**	**7:18**
Carlsbad Village	7:15	8:42	**4:35**	**5:21**	**5:52**	**6:38**	**7:24**
Oceanside	7:20	8:47	**4:41**	**5:28**	**5:58**	**6:45**	**7:30**

COASTER schedule shown is effective October 8, 2017 and is subject to change without notice. This may not reflect the most current schedule. Only trips that connect with the Sorrento Valley COASTER Connection are shown. Additional days and times of service can be found at www.gonctd.com.
COASTER calendario que se muestra es a partir del 8 del octubre de 2017 y está sujeto a cambios sin previo aviso. Esto puede no reflejar el calendario más actual. Sólo los viajes que conectan con el Sorrento Valley COASTER Connection se muestran. Días adicionales y las horas de servicio se pueden encontrar en www.gonctd.com.

ROUTE DEVIATIONS / *Desviaciones de la Ruta*

The SVCC is a demand-response service that will provide a route deviation of up to 3/4 of a mile off an operating SVCC route for requesting passengers traveling to or from the Sorrento Valley COASTER Station. This service is provided anywhere in the SVCC service area during the corresponding hours that the SVCC service operates. Lift-equipped buses are available. To ensure availability, please call (877) 841-3278 at least one hour before your trip to schedule a curb-to-curb trip.

El SVCC es un servicio de demanda-respuesta que proveerá una desviación de ruta de hasta 3/4 de milla de una ruta SVCC operativa a pasajeros que viajen a y de Sorrento Valley COASTER Station. Este servicio es proveído en cualquier parte del la área de servicio del SVCC, durante las horas correspondientes a al servicio que SVCC opera. Autobuses equipados para levantar sillas también están disponibles. Para asegurarse de su disponibilidad, por favor hable al (877) 841-3278 por lo menos una hora antes de su viaje para fijar el horario de su viaje de banqueta-a-banqueta.

COMMUTER TAX BENEFIT PROGRAM FOR EMPLOYERS / *Programa de Asistencia de Tránsito del Empleador*

Employers can provide their employees a payroll tax deduction for riding transit to work of up to $125 per month. Employers benefit from this program through reduced payroll taxes and other business deductions. For more information about this and other free commuter services for employers visit iCommuteSD.com or call 511 and say "iCommute."

Los empleadores pueden proporcionar a sus empleados una deducción de los impuestos sobre nóminas de hasta $125 dólares al mes por trasladarse al trabajo usando el transporte interurbano. Los empleadores sacan provecho de este programa mediante menores impuestos sobre nómina y otras deducciones empresariales. Para mayores informes sobre éste y otros servicios gratuitos para pasajeros interurbanos para los empleadores, favor de visitar iCommuteSD.com o llamar al 511 y decir 'iCommute'.

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*

Route 972 – Monday through Friday / *lunes a viernes*

Sorrento Mesa ➡ Sorrento Valley COASTER Station

		Morning (AM)				Afternoon/Evening (PM)				
	Sorrento Valley COASTER Station **DEPART***	6:40a	7:10a	7:50a	8:16a	—	4:05p	4:40p	5:22p	6:10p
1	10525 Vista Sorrento					3:30p				
2	EB Lusk Blvd & Wateridge Circle (after intersection)									
3	EB Lusk Blvd & Telesis Ct. (after intersection)									
4	Across from 6455 Lusk Blvd.	6:47	7:17	7:57	8:23	3:31	4:14	4:49	5:31	6:19
5	10225 Lusk Blvd. (electrical boxes)									
6	Across from 5525 Morehouse Drive									
7	5510 Morehouse Drive									
8	5424 Scranton Road									
9	9605 Scranton Road									
10	9805 Scranton Road									
11	10055 Barnes Canyon Road									
12	10225 Barnes Canyon Road									
13	EB Barnes Canyon Road & Lusk Blvd. (after intersection)	6:53	7:23	8:03	8:29	3:37	4:20	4:55	5:37	6:25
14	EB Barnes Canyon Road & Pacific Heights Blvd. (before turn)									
15	10211 Pacific Mesa Blvd.									
16	10309 Pacific Center Ct.									
17	10450 Pacific Center Ct.									
18	5910 Pacific Center Blvd.									
19	5788 Pacific Center Blvd.									
20	5764 Pacific Center Blvd.									
21	WB Pacific Center Blvd & McKellar Ct. (after intersection)									
22	Qualcomm Design Center (45 mph sign)	7:01	7:31	8:11	8:37	3:45	4:28	5:03	5:45	6:33
23	WB Lush Blvd & Telesis Ct. (after intersection)									
	Sorrento Valley COASTER Station **ARRIVE**	7:07	7:37	8:16	—	3:54	4:37	5:12	5:56	6:42

Route 973 – Monday through Friday / *lunes a viernes*

Carroll Canyon ➡ Sorrento Valley COASTER Station

		Morning (AM)				Afternoon/Evening (PM)				
	Sorrento Valley COASTER Station **DEPART***	6:40a	7:10a	7:53a	8:22a	—	4:06p	4:41p	5:25p	6:10p
24	10240 Sorrento Valley Road					—				
25	EB Mira Mesa Blvd & Scranton Road (after intersection)					3:30p				
26	EB Mira Mesa Blvd & Oberlin Drive (after intersection)									
27	Pacific Heights Blvd & Mira Mesa Blvd. (after turn, electrical boxes)	6:48	7:18	8:01	8:30	3:31	4:14	4:49	5:33	6:18
28	Pacific Heights Blvd & Cornerstone Ct. (after intersection)									
29	Brown Deer Road & Ferris Square (at pedestrian crossing sign)									
30	9215 Brown Deer Road									
31	9339 Carroll Park Drive									
32	9449 Carroll Park Drive									
33	Nancy Ridge Drive & Carroll Road (after turn, Carroll Ridge Bus. Park)	6:57	7:27	8:09	8:39	3:40	4:23	4:58	5:42	6:27
34	Phage Biotechnology									
35	6650 Nancy Ridge Drive									
36	6310 Nancy Ridge Drive (electrical boxes in front of Nancy Ridge Technology Park)									
37	6150 Nancy Ridge Drive (Sorrento Ridge Business Park)									
38	5960 Nancy Ridge Drive (Sorrento Vista Industrial Park)									
39	5280 Carroll Canyon Road									
40	Youngstown Way & Oberlin Drive (before turn, at fire hydrant)									
41	5807 Oberlin Drive									
42	5871 Oberlin Drive (mailboxes)	7:01	7:31	8:13	8:43	3:44	4:27	5:02	5:46	6:31
43	45mph sign across street from Websense									
	Sorrento Valley COASTER Station **ARRIVE**	7:10	7:40	8:22	—	3:54	4:37	5:12	5:56	6:41

Route 978 – Monday through Friday / *lunes a viernes*

Torrey Pines ➡ Sorrento Valley COASTER Station

		Morning (AM)				Afternoon/Evening (PM)				
	Sorrento Valley COASTER Station **DEPART***	6:40a	7:14a	7:55a	8:24a	—	4:10p	4:40p	5:23p	6:10p
44	10240 Science Center Drive	6:46	7:20	8:01	8:30	3:34p	4:16	4:48	5:33	6:20
45	General Atomics Court (at end of turnaround)									
46	General Aromics Court & John Hopkins Drive (before turn)									
47	John Hopkins Drive & North Torrey Pines Road (before turn)									
48	3033 Science Park Road (driveway to L3 Communications)									
49	Torreyana Rd & Road to the Cure (before intersection)	6:53	7:27	8:07	8:37	3:41	4:23	4:55	5:40	6:27
50	Torreyana Rd & Callan Road (before turn)									
51	11099 Callan Road									
52	10666 North Torrey Pines Road	6:56	7:30	8:10	8:40	3:44	4:26	4:58	5:43	6:30
53	3366 North Torrey Pines Road									
	Sorrento Valley COASTER Station **ARRIVE**	7:14	7:46	8:24	—	3:53	4:37	5:10	5:55	6:41

Route 979 – Monday through Friday / *lunes a viernes*

University City ➡ Sorrento Valley COASTER Station

		Morning (AM)				Afternoon/Evening (PM)				
	Sorrento Valley COASTER Station **DEPART***	6:40a	7:10a	7:49a	8:17a	—	4:13p	4:46p	5:30p	6:16p
54	SB Genesee Ave & Scripps Driveway (after intersection)					—				
55	SB Genesee Ave & Campus Point Drive (after intersection)	6:47	7:17	7:56	8:24	3:35p	4:20	4:53	5:37	6:23
56	EB Eastgate Mall & Easter Way (before intersection)									
57	EB Eastgate Mall & Towne Centre Way (before turn)									
58	Towne Centre Way & Executive Drive (before turn)									
59	Executive Way & Executive Drive	6:52	7:22	8:01	8:29	3:40	4:25	4:58	5:42	6:28
60	NB Genesee Ave & Executive Drive (after turn)									
61	NB Genesee Ave & Eastgate Mall (after intersection)									
62	NB Genesee Ave & Campus Point Drive (after intersection)									
63	NB Genesee Ave & Scripps Driveway (after intersection)									
	Sorrento Valley COASTER Station **ARRIVE**	7:02	7:32	8:11	—	3:53	4:40	5:13	5:57	6:41

Routes 972, 973, 978, and 979 do not operate on weekends or on the observation of the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas
Las rutas 972, 973, 978 y 979 no ofrecen servicio durante el fin de semana ó durante los siguientes días festivos: Año Nuevo, Memorial Day, Día de la Independencia (E.E.U.U.), Labor Day, Día de Acción de Gracias, y Navidad

* All morning departures from Sorrento Valley COASTER Station wait for the arriving southbound train. Morning buses may depart the station earlier than time shown, once all passengers have transferred from the designated COASTER train. Afternoon departures from Sorrento Valley COASTER Station may leave up to ten minutes earlier than shown.

Todas las salidas de Sorrento Valley COASTER Station en la mañana esperan la llegada del tren hacia el sur. En la mañana, cuando todos los pasajeros del COASTER se han trasladado a los autobuses, los autobuses podrán salir de la estación, aunque sea unos minutos antes del horario. En la tarde, las salidas de Sorrento Valley COASTER Station pueden salir hasta diez minutos antes de lo mostrado.

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses. / *Los horarios e información que se indican en este itineratio están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.*