



HEXAGON TRANSPORTATION CONSULTANTS, INC.



2110 Old Middlefield Way Gas Station Development

Multi-Modal Transportation Analysis



Prepared for:

City of Mountain View



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Executive Summary

This report presents the results of the multi-modal transportation analysis (MTA) conducted for the proposed gas station at 2110 Old Middlefield Way in Mountain View, California. The site is located at the northwest corner of the Rengstorff Avenue and Old Middlefield Way intersection and is currently vacant. The project proposes to construct a gas station with 6 vehicle fueling positions, a 531-square-foot food mart, and a 652-square-foot drive-through car wash. Access to the gas station would be provided via two driveways: one on Rengstorff Avenue and one on Old Middlefield Way.

The MTA evaluates potential transportation effects of the project in accordance with the standards and methodologies set forth by the City of Mountain View’s *MTA Handbook*. The MTA includes an analysis of the traffic operational effects of the project on the key intersections in the vicinity of the site, an evaluation of City policy conformance, a review of site access and on-site circulation, and a parking evaluation.

Project Trip Estimates

Based on the ITE trip generation rates, the proposed project is estimated to generate 722 new daily trips, with 43 trips (21 inbound and 22 outbound) occurring during the AM peak hour and 58 trips (29 inbound and 29 outbound) occurring during the PM peak hour.

Intersection Level of Service Analysis

The results of the intersection level of service analysis (see Table ES-1) show that the study intersections would operate at an acceptable level of service with and without the project.

Table ES-1
Intersection Level of Service Summary

Intersection	Control	Peak Hour	Count Date	Existing		Background					
				No Project		No Project		With Project			
				Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. in Critical Delay	Incr. in Critical Delay
1 Rengstorff Avenue and Old Middlefield Way	Signal	AM	05/11/22	24.2	C	24.3	C	24.4	C	0.1	0.007
		PM	05/11/22	23.5	C	23.6	C	23.7	C	0.2	0.014
2 Rengstorff Avenue and W. Middlefield Road	Signal	AM	05/11/22	26.6	C	26.6	C	26.6	C	-0.1	0.002
		PM	05/11/22	31.8	C	31.8	C	31.8	C	-0.1	0.003

Other Transportation Issues

The proposed site plan shows adequate site access and on-site circulation, and no adverse traffic operational issues are expected to occur at the project driveways as a result of the project.

Hexagon has the following recommendation resulting from the site access, circulation, and parking evaluations.

Recommendation

- To avoid fuel delivery trucks going over the driveway curb and planter curbs on Rengstorff Avenue when entering the site, the project would need to widen the driveway curb on the north side of the driveway

1. Introduction

This report presents the results of the multi-modal transportation analysis (MTA) conducted for the proposed gas station at 2110 Old Middlefield Way in Mountain View, California (see Figure 1). The site is located at the northwest corner of the Rengstorff Avenue and Old Middlefield Way intersection and is currently vacant. The project proposes to construct a gas station with 6 vehicle fueling positions, a 531-square-foot food mart, and a 652-square-foot drive-thru car wash. Access to the gas station would be provided via two driveways: one on Rengstorff Avenue and one on Old Middlefield Way (see Figure 2).

Scope of Study

The purpose of the MTA is to evaluate the potential transportation operational effects of the project in accordance with the standards and methodologies set forth by the City of Mountain View. Based on the peak-hour trips estimated for the project (50 – 99 peak-hour trips), the project is considered a medium size project. Therefore, according to the City's *MTA Handbook* and the MTA checklist prepared by the City, the MTA includes an evaluation of existing conditions, conformance with City policies, intersection level of service, site access and circulation evaluation, and parking. A CEQA vehicle miles traveled (VMT) impact analysis is not required for the project because the proposed gas station meets the screening criterion for local-serving retail developments (50,000 square feet or less). Therefore, the project is expected to result in a less-than-significant VMT impact.

Intersection Traffic Operations

Intersection operations analysis was conducted at the following two signalized intersections in the project vicinity (see Figure 1) according to the City's *MTA Handbook* and MTA checklist.

1. Rengstorff Avenue and Old Middlefield Way
2. Rengstorff Avenue and W. Middlefield Way

Traffic conditions at the study intersections were analyzed for the weekday AM and PM peak hours of traffic. Locally, the AM peak hour of traffic is usually between 7:00 and 10:00 AM, and the PM peak hour is typically between 4:00 and 7:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday.

Intersection traffic conditions were evaluated for the following scenarios:

- **Existing Conditions.** Existing traffic volumes were obtained from traffic counts conducted in May 2022. Because more people have returned to workplaces and traffic volumes have been increasing since the Covid-19 pandemic, the travel pattern in the project area is considered normal and the new traffic counts were analyzed directly without further adjustment.

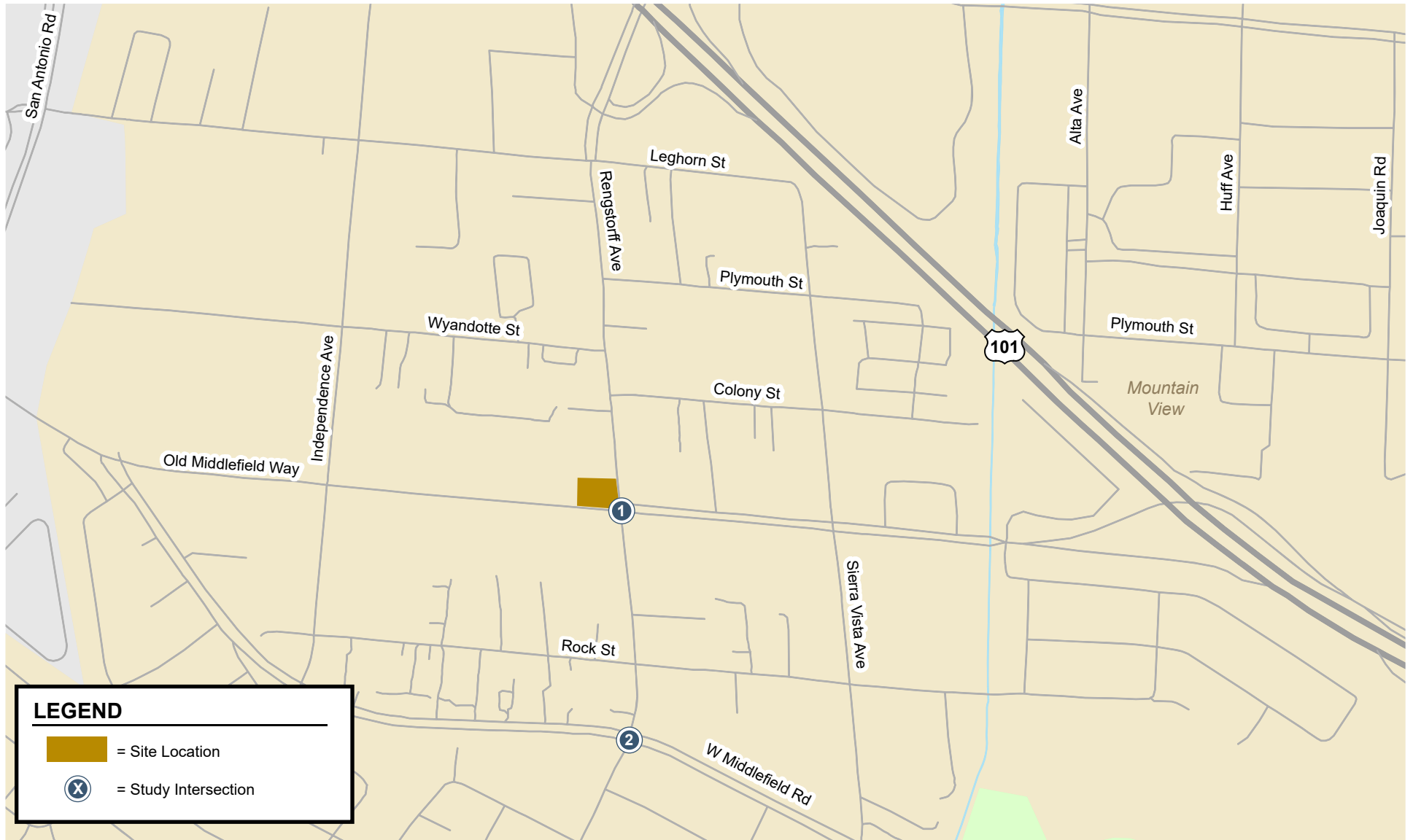


Figure 1
Site Location and Study Intersections

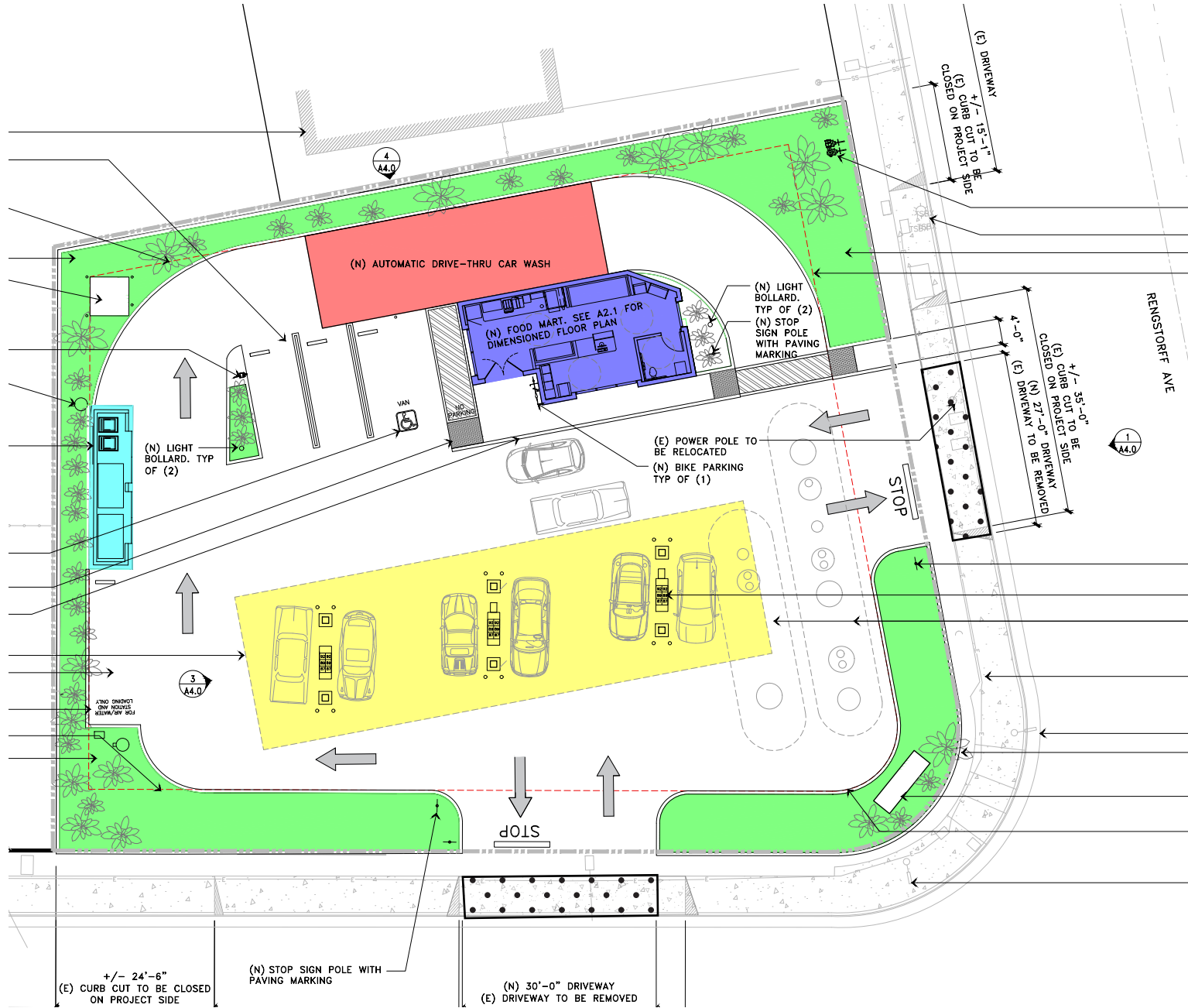


Figure 2
Site Plan

- **Background Conditions.** Background traffic volumes were estimated by adding to existing traffic volumes the projected volumes from approved but not yet constructed developments in the vicinity of the project. A list of approved but not yet constructed developments was provided by the City of Mountain View.
- **Background Plus Project Conditions.** Background plus project traffic volumes were estimated by adding the additional traffic generated by the project. Background plus project conditions were evaluated relative to background conditions in order to determine potential project adverse effects.

Other Transportation Issues

The MTA also includes an evaluation of City policy conformance, a review of site access and on-site circulation, and parking.

Intersection Operations Analysis Methodology

This section presents the methods used to determine traffic conditions at the study intersections and the traffic operation effects of the project. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, the City of Mountain View, previous transportation studies, and field observations. The following data were collected from these sources:

- Intersection traffic volumes
- Lane geometries
- Signal timing and phasing
- A list of approved but not yet constructed developments

Intersection Level of Service Analysis Methodologies and Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). Level of service is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays.

For signalized intersections, the level of service method evaluates intersection operations on the basis of average control delay time for all vehicles at the intersection based on the methodology described in the *2000 Highway Capacity Manual (HCM)*. Table 1 presents the level of service definitions for signalized intersections.

This study utilizes the TRAFFIX software to determine intersection levels of service based on the 2000 HCM methodology. Since TRAFFIX is approved by the Santa Clara Valley Transportation Authority (VTA) as the level of service analysis software for Congestion Management Program (CMP) signalized intersections, the City of Mountain View employs the CMP default values for the analysis parameters. TRAFFIX software was used to analyze intersection operations and intersection adverse effects based on the increases in critical-movement delay and the volume-to-capacity ratio (v/c) between no-project and project scenarios.

According to the City's MTA Handbook, the standard for signalized intersections is LOS D, except for CMP intersections and facilities, County Expressway intersections, and intersections in the Downtown and San Antonio Center planning areas, where the standard is LOS E.

Table 1
Signalized Intersection Level of Service Definitions Based on Average Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B+	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 12.0
B		12.1 to 18.0
B-		18.1 to 20.0
C+	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 23.0
C		23.1 to 32.0
C-		32.1 to 35.0
D+	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 39.0
D		39.1 to 51.0
D-		51.1 to 55.0
E+	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 60.0
E		60.1 to 75.0
E-		75.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p10-16. VTA Traffic Level of Service Analysis Guidelines (June 2003), Table 2.

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis at intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled approaches. The vehicle queuing analysis is used to determine the appropriate storage lengths for the high demand turn lanes where the project would add a substantial number of trips. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of “n” vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-\lambda}}{n!}$$

Where:

P (x=n) = probability of “n” vehicles in queue per lane
n = number of vehicles in the queue per lane

λ = average # of vehicles in the queue per lane (vehicles per hr per lane/signal cycles per hr)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles for a particular left-turn and right-turn movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

For signalized intersections, the 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles, or a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement.

Definition of Adverse Intersection Operational Effects

According to the City of Mountain View level of service standards, a development is said to create an adverse operational effect on traffic conditions at a signalized intersection if for either peak hour, either of the following conditions occurs:

1. The level of service at the intersection drops below its respective level of service standard when project traffic is added, or
2. An intersection that operates below its level of service standard under no-project conditions experiences an increase in critical-movement delay of four (4) or more seconds, and an increase in critical volume-to-capacity ratio (v/c) of one percent (0.01) or more when project traffic is added.

The exception to this threshold is when the addition of project traffic reduces the amount of average control delay for critical movements, i.e., the change in average control delay for critical movements are negative. In this case, the threshold is when the project increases the critical v/c value by 0.01 or more.

An adverse operational effect is said to be satisfactorily mitigated when measures are implemented that would restore intersection conditions to its acceptable level of service or to an average delay that is better than no-project conditions.

Report Organization

This report has a total of four chapters. Chapter 2 describes existing conditions including the existing roadway network, transit service, and bicycle and pedestrian facilities. Chapter 3 presents the intersection operational analysis including the method by which project traffic is estimated, the results of intersection level of service analysis for background and background plus project conditions, any adverse effects to intersection level of service caused by the project, and a vehicle queuing analysis. Chapter 4 presents the analyses of other transportation-related issues, including conformance with the General Plan, site access and on-site circulation, and parking.

2. Existing Transportation Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit service, pedestrian and bicycle facilities, and traffic operations at the study intersections.

Existing Roadway Network

Roadway access to the project site is provided via Old Middlefield Way, W. Middlefield Road, and S. Rengstorff Avenue, as described below.

Old Middlefield Way is an east-west four-lane arterial between US 101 and W. Middlefield Road. Old Middlefield Way has a two-way left-turn lane with left-turn pockets at intersections. On-street parking is permitted along both sides of the street in the project vicinity. The speed limit is 35 miles per hour (mph). Old Middlefield Way provides direct access to the project site.

S. Rengstorff Avenue is a north-south four-lane arterial that extends from El Camino Real in the south and transitions into Amphitheatre Parkway in the north. On-street parking is prohibited along both sides of the street in the project vicinity. S. Rengstorff Avenue has bike lanes on both sides along the entire street. The speed limit is 35 mph. S. Rengstorff Avenue provides direct access to the project site.

W. Middlefield Road is an east-west four-lane arterial that runs parallel to US 101. It begins at the intersection of Central Expressway in Mountain View and traverses westward through Redwood City. Middlefield Road has landscaped medians with left-turn pockets at intersections and has bike lanes on both sides of the street. The bike lanes on Middlefield Road between Old Middlefield Way and Logue Avenue are part-time bike facilities that are used as bike lanes from 2 AM to 7 PM on weekdays and are used for on-street parking for the remaining hours (7 PM to 2 AM) and on weekends. The speed limit is 35 mph. Site access would be provided via the intersection with Rengstorff Avenue.

Existing Transit Services

Existing public transit services in the study area are provided by the VTA and the City of Mountain View. VTA operates bus and light-rail transit (LRT) services in Santa Clara County; and Google, partnering with Mountain View, provides free community shuttle service in the City.

The VTA bus route and MV community shuttle route in the project vicinity and the bus/shuttle stops near the project site are described below and shown on Figure 3.



Figure 3
Existing Transit Services

VTA Buses

VTA bus route 40 serves the project vicinity with bus stops located on Rengstorff Avenue, south of Old Middlefield Way, approximately 200 feet from the site. Route 40 runs between Foothill College and the Mountain View Transit Center, via North Bayshore between 6:15 AM and 10:30 PM with headways of 30 minutes.

Mountain View Community Shuttle

The Mountain View Community Shuttle provides service to many residential neighborhoods, senior residences and services, city offices, library, recreational facilities, medical offices, shopping centers, and entertainment venues in the City. The shuttle stops closest to the project site are on Rengstorff Avenue, south of W. Middlefield Road, approximately 1,295 feet away from the project site.

Existing Pedestrian Facilities

Pedestrian facilities consist of sidewalks and crosswalks, which are present along all study area roadways and at signalized intersections. Sidewalks are present along Old Middlefield Way and Rengstorff Avenue. Sidewalks are also present on virtually all other streets in the area.

Pedestrian signal heads and push buttons are present at the Rengstorff Avenue/Old Middlefield Way and Rengstorff Avenue/W. Middlefield Road intersections. High visibility crossings are present at Rengstorff Avenue and Rock Street, which is an unsignalized intersection. Therefore, continuous pedestrian facilities are present between the site and the surrounding land uses, including bus stops in the area.

Existing Bicycle Facilities

The bicycle facilities that exist within 1/2 mile of the project site (see Figure 4) include a multi-use trail (Class I bikeway), striped bike lanes (Class II bikeway), and shared bike routes/boulevards (Class III bikeway). Bike paths or multi-use trails are shared between pedestrians and bicyclists and separated from motor vehicle traffic. Bike lanes are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Bike routes are signed bike routes where bicyclists share a travel lane with motorists.

The Permanente Creek trail runs between W. Middlefield Road and Charleston Road. The trail is shared between pedestrians and bicyclists and separated from motor vehicle traffic. The trail includes an overcrossing over US 101 and undercrossing under Old Middlefield Way. Access to the trail is available from El Camino Real, just west of SR 85.

Striped bike lanes near the project site include those on W. Middlefield Road east of Old Middlefield Way and on Rengstorff Avenue for the entire street. The bike lanes on W. Middlefield Road between Old Middlefield Way and Logue Avenue are part-time bike facilities that are used as bike lanes from 2 AM to 7 PM on weekdays and are used for on-street parking for the remaining hours (7 PM to 2 AM) and on weekends.

Bike routes are typically designated with sharrows (shared-lane pavement markings), and bikes may take the travel lane. Bike routes are appropriate for low-volume streets with slow travel speeds, especially those on which motorist volumes are low enough that passing maneuvers can use the full street width, on roadways with bicycle demand but without adequate space for bike lanes, and as “gap fillers” where there are short breaks in bike lanes due to right-of-way constraints. Nearby bike routes include those on Rock Street west of the Permanente Creek Trail, Sierra Vista Avenue for the entire street, and Leghorn Street east of Independence Avenue.



Figure 4
Existing Bicycle Facilities

Existing Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were obtained from Google Earth and field observations (see Figure 5).

Existing peak-hour traffic volumes at study intersections are based on new traffic counts conducted on May 11, 2022. Because more people have returned to workplaces and traffic volumes have been increasing since the Covid-19 pandemic, the travel pattern in the project area is considered normal and the new traffic counts were analyzed directly without further adjustment. The existing volumes are shown in Figure 6. The intersection turning-movement counts conducted for this analysis are presented in Appendix A.

Existing Intersection Levels of Service

The results of the intersection level of service analysis show that all intersections operate at an acceptable level of service during both peak hours (see Table 2). The intersection levels of service calculation sheets are included in Appendix B.

Table 2
Existing Intersection Levels of Service

Intersection	Control	Peak Hour	Count Date	Avg. Delay (sec)	LOS
1 Rengstorff Avenue and Old Middlefield Way	Signal	AM	05/11/22	24.2	C
		PM	05/11/22	23.5	C
2 Rengstorff Avenue and W. Middlefield Road	Signal	AM	05/11/22	26.6	C
		PM	05/11/22	31.8	C

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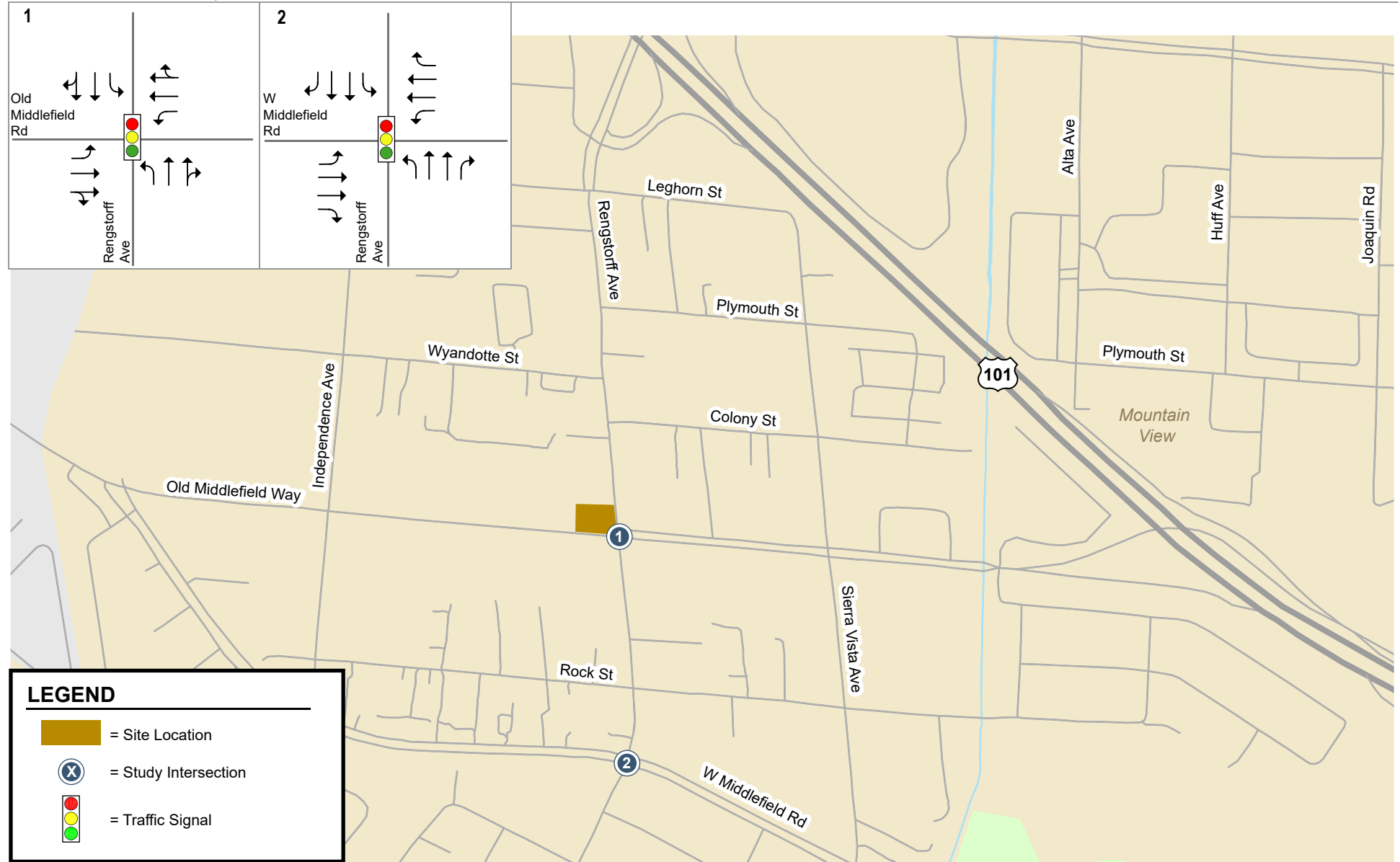


Figure 5
Existing Lane Configurations

2110 Old Middlefield Way Gas Station

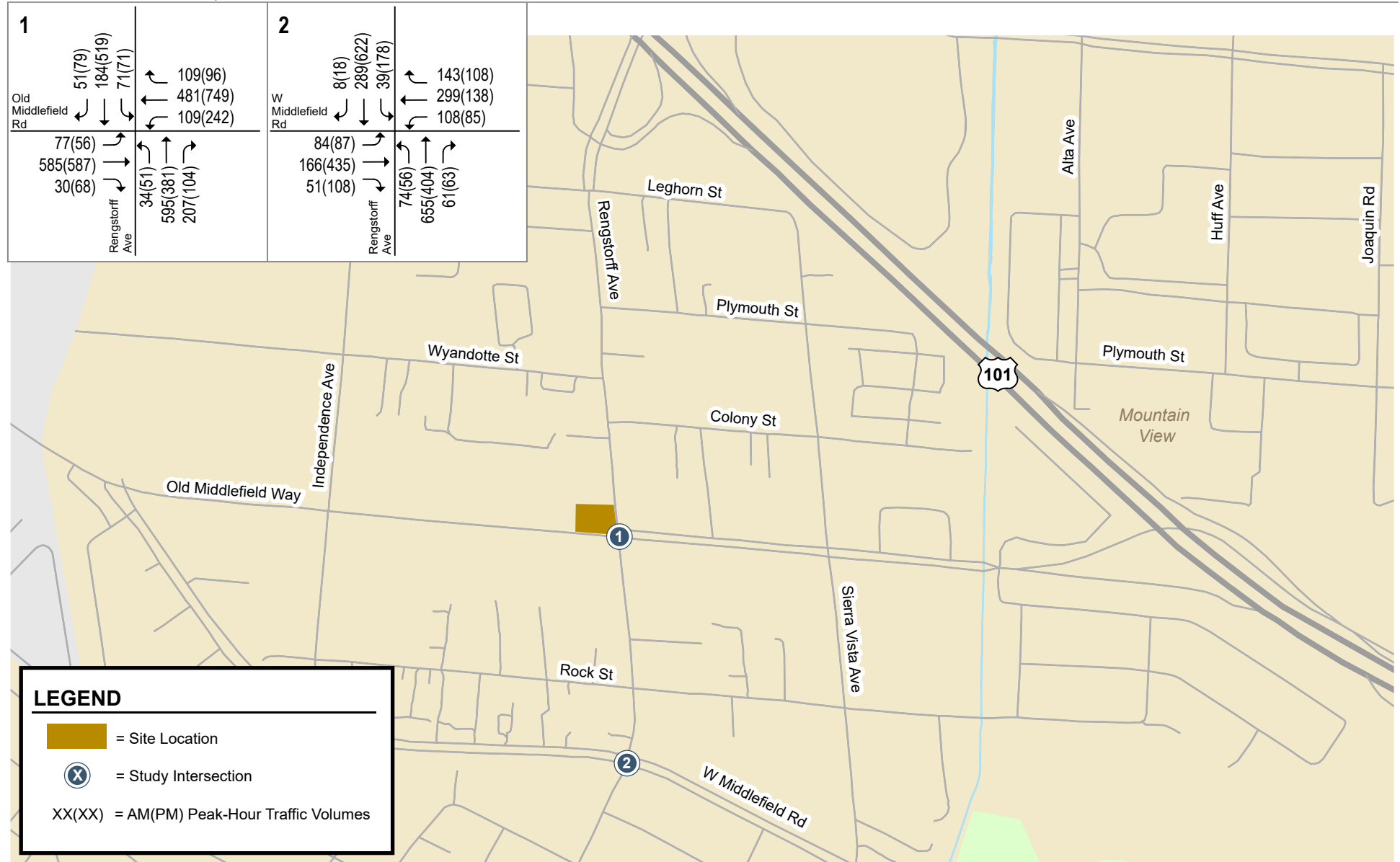


Figure 6
Existing Traffic Volumes

3.

Intersection Operational Analysis

This chapter presents the intersection operational analysis including the method by which project traffic is estimated, the results of intersection level of service analysis for background and background plus project, any adverse effects to intersection level of service caused by the project, and an intersection vehicle queuing analysis. A potential adverse effect on a study intersection is not considered a CEQA impact.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed project was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that show trip generation rates for many types of land uses. The data are published in the Institute of Transportation Engineers' (ITE) manual entitled *Trip Generation Manual, 11th Edition*. The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. Trips that would be generated by the proposed gas station were estimated using the ITE trip rates for "Gasoline/Service Station" (Land Use 944). This category typically includes small markets and car washes. Therefore, it is reasonable to use the trip rates for the project.

Trip generation for gas stations is typically adjusted to account for pass-by trips. Pass-by trips are trips that would already be on the adjacent roadways traveling to and from other places (and are therefore already counted in the existing traffic) and would stop at the gas station on the way. Pass-by trips are therefore excluded from the traffic projections (although pass-by traffic is accounted for at the site entrances). An average pass-by trip reduction of 30% was applied based on the maximum allowable pass-by trip reduction rate in the VTA *Transportation Impact Analysis Guidelines*. The average pass-by trip rate published by the ITE *Trip Generation Manual* is 49%. Therefore, the trip reduction based on the VTA rate is conservative.

Based on the ITE trip generation rates and transit trip reduction, it is estimated that the proposed project would generate 722 new daily trips, with 43 trips (21 inbound and 22 outbound) occurring during

the AM peak hour and 58 trips (29 inbound and 29 outbound) occurring during the PM peak hour (see Table 3).

**Table 3
Project Trip Generation Estimates**

Land Use	Size	Daily		AM Peak Hour			PM Peak Hour				
		Trip Rate	Trips	Trip Rate	Trips		Trip Rate	Trips			
					In	Out		Total	In	Out	Total
Gas Station¹	6 fueling positions	172.01	1,032	10.28	31	31	62	13.91	42	41	83
Pass-by Reduction ²			-310		-10	-9	-19		-13	-12	-25
Net Project Trips			722		21	22	43		29	29	58

Notes:
 All trip rates are from ITE *Trip Generation Manual*, 11th Edition, 2021.
 1. Average trip rates (in trips per vehicle fueling positions) for Gasoline/Service Station (Land Use 944) were used.
 2. An average 30% pass-by trip reduction was applied based on the maximum allowable pass-by trip reduction rate in the VTA *Transportation Impact Analysis Guidelines*, October 2014..

Trip Distribution and Assignment

The trip distribution for the project was estimated based on existing travel patterns on the surrounding roadway network and the locations of complementary land uses (see Figure 7). The peak-hour trips generated by the proposed project were assigned to the roadway system based on the directions of approach and departure, the roadway network connections, and the location of project driveways (see Figure 7). Because the proposed driveways would be located approximately 50 feet from the Rengstorff Avenue/Old Middlefield Way intersection, vehicle queues longer than 2 vehicles at the intersection would block left-turn access to the site from both streets. Additionally, because the southbound and eastbound left-turn lanes at the Rengstorff Avenue/Old Middlefield Way intersection are 100 feet long, any left-turn vehicles exiting the site would need to cross the left-turn lanes. Therefore, it is expected that most vehicles would access the site via right turns.

Roadway Network

The roadway network under background and background plus project conditions would be the same as existing conditions because there are no planned and funded transportation improvements at the study intersections that would alter the existing intersection lane configurations, and the project would not alter the existing intersection lane configurations.

Traffic Volumes

Background Traffic Volumes

Background traffic volumes for the study intersections (see Figure 8) were estimated by adding to the existing traffic volumes the trips generated by nearby approved projects that have not been constructed or occupied.

A list of approved projects was obtained from the City of Mountain View. Hexagon considered both the location and size of the approved projects in order to eliminate those that were too far away or too small to affect traffic conditions of the study intersections. Vehicle trips from the approved projects were obtained from the project’s traffic study or environmental document (initial study or EIR), if available.

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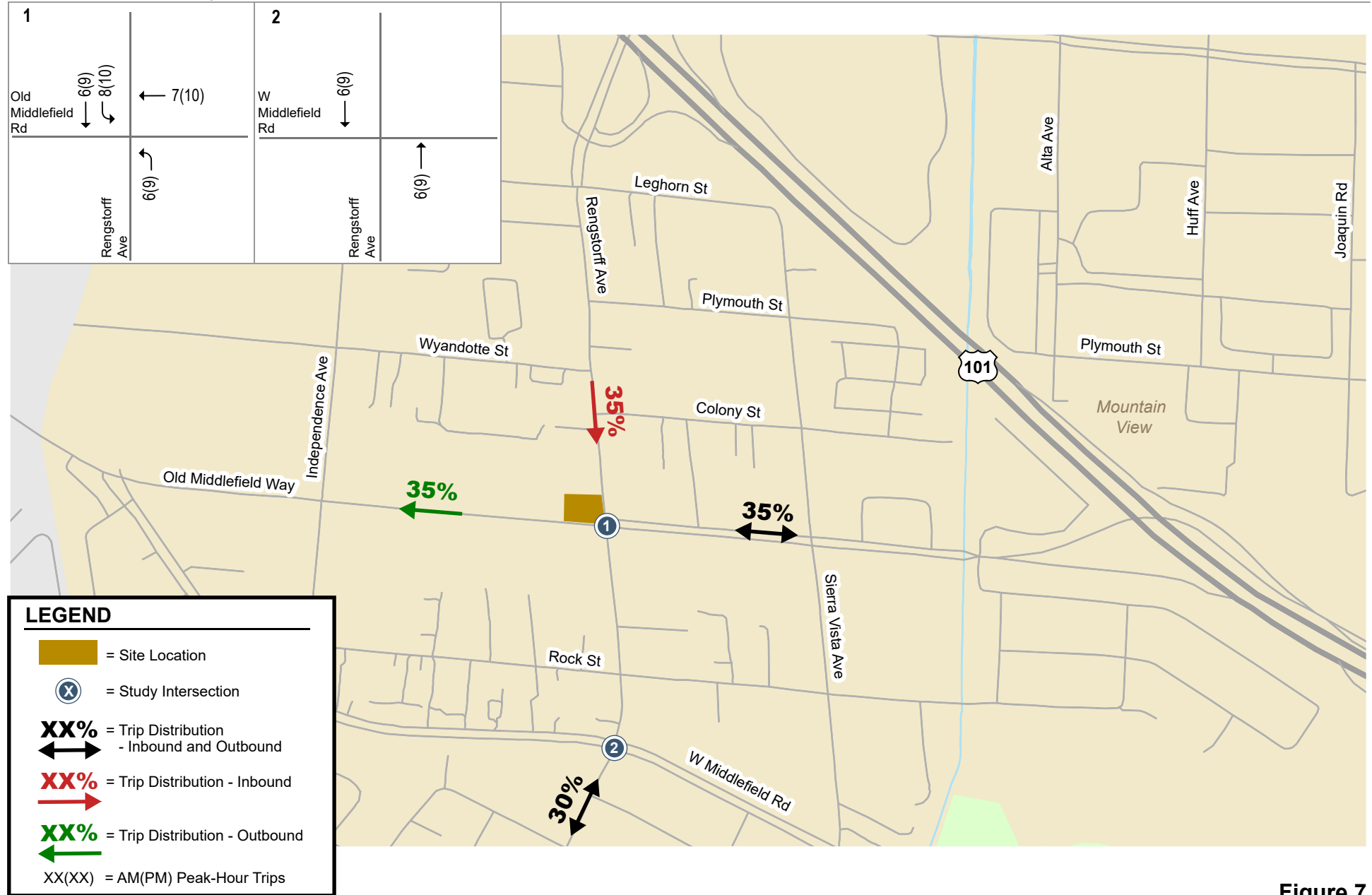


Figure 7
Project Trip Distribution and Assignment

2110 Old Middlefield Way Gas Station

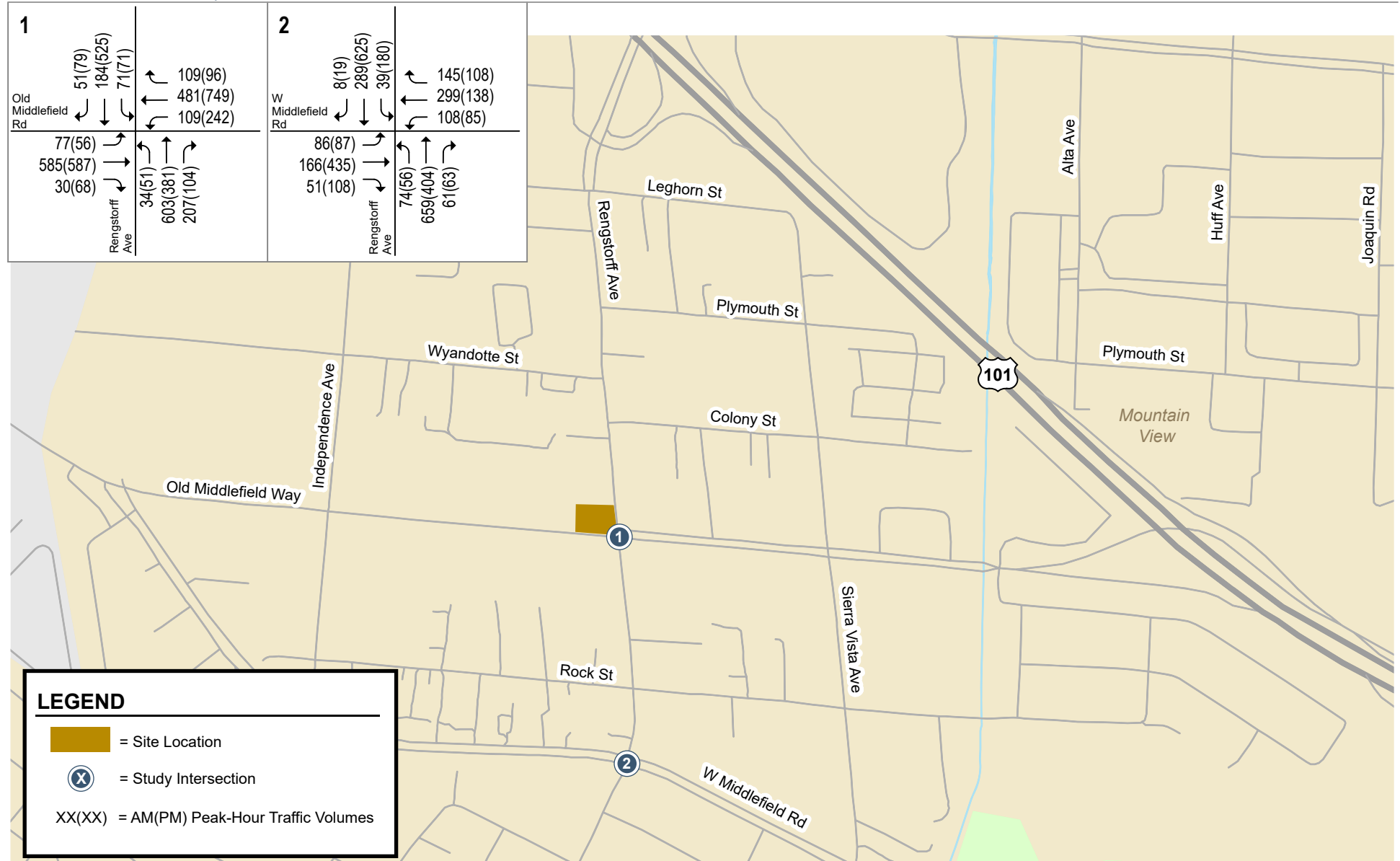


Figure 8
Background Traffic Volumes

For projects without a traffic study, trip estimates were developed using rates published in the *Trip Generation Manual*. The estimated trips were assigned to the study intersections according to distributions identified in the development traffic studies, if available, or knowledge of the study area.

The approved trips and traffic volumes for all components of traffic are tabulated in Appendix C.

Background Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to background traffic volumes to obtain background plus project traffic volumes (see Figure 9).

Intersection Levels of Service

The results of the intersection level of service analysis (see Table 4) show that all study intersections would operate at acceptable levels during both the AM and PM peak hours of traffic under background conditions, with and without the project. The intersection level of service calculation sheets are included in Appendix B.

Table 4
Background Plus Project Intersection Levels of Service

Intersection	Control	Peak Hour	Background Conditions					
			No Project		With Project			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. in Critical Delay (sec)	Incr. In Crit. V/C
1 Rengstorff Avenue and Old Middlefield Way	Signal	AM	24.3	C	24.4	C	0.1	0.007
		PM	23.6	C	23.7	C	0.2	0.014
2 Rengstorff Avenue and W. Middlefield Road	Signal	AM	26.6	C	26.6	C	-0.1	0.002
		PM	31.8	C	31.8	C	-0.1	0.003

The average critical delay under project conditions is shown to be less than under no project conditions at the Rengstorff Avenue/Middlefield Road intersection. The decrease in average critical delay can be less under project conditions because the delay is a weighted average of all critical movements. The addition of project traffic to critical movements with delays lower than the average critical delay can reduce the average critical delay for the intersection.

Intersection Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis for intersections where the project would add a substantial number of trips to the left-turn movements. This analysis provides a basis for estimating future storage requirements at the intersections under existing, background, and project conditions. Vehicle queues were estimated using a Poisson probability distribution, described in Chapter 1. The vehicle queuing analysis was conducted for the southbound left-turn movement from Rengstorff Avenue to Old Middlefield Way, and the results of the queuing analysis are summarized in Table 5. The queuing analysis indicates that there would be no queuing deficiencies caused or exacerbated by the project.

2110 Old Middlefield Way Gas Station

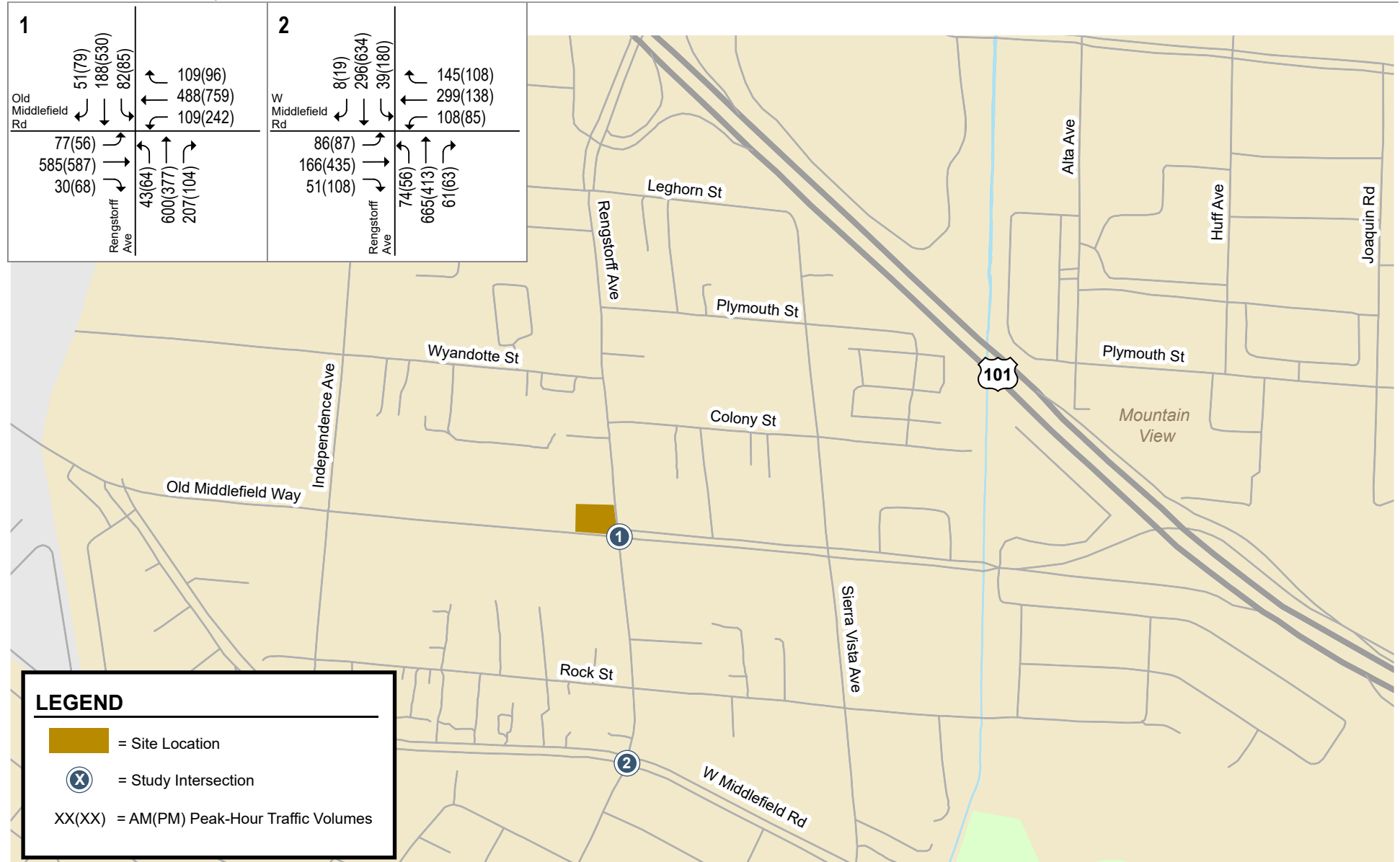


Figure 9
Background Plus Project Traffic Volumes

Table 5
Intersection Queuing Analysis Summary

Analysis Scenario	Rengstorff Ave & Old Middlefield Way	
	SBL	
	AM	PM
Existing		
Cycle (sec)	60	67
Volume (vphpl)	71	71
95th % Queue (veh/ln)	3	3
95th % Queue ¹ (ft/ln)	75	75
Storage (ft/ln)	125	125
Adequate (Y/N)	Y	Y
Background		
Cycle (sec)	60	67
Volume (vphpl)	71	71
95th % Queue (veh/ln)	3	3
95th % Queue ¹ (ft/ln)	75	75
Storage (ft/ln)	125	125
Adequate (Y/N)	Y	Y
Background Plus Project		
Cycle (sec)	60	67
Volume (vphpl)	82	85
95th % Queue (veh/ln)	4	4
95th % Queue ¹ (ft/ln)	100	100
Storage (ft/ln)	125	125
Adequate (Y/N)	Y	Y
<u>Notes:</u>		
SBL = southbound left-turn movement		
Assumes 25 feet per vehicle queued.		

4. Other Transportation Issues

This chapter presents other transportation issues associated with the project, including:

- Conformance to the Mountain View 2030 General Plan
- Site access and circulation
- Parking

The analyses in this chapter are based on the City's *MTA Handbook* and professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Conformance with the Mountain View 2030 General Plan

The project is located within the Monta Loma/Farley/Rock planning area, which is bounded by US 101, N. Shoreline Boulevard, Central Expressway, and San Antonio Road. The project is in conformance with the planning area, as described below:

- **Encourage new service uses.** The project would be building on an underused site, as the site is currently vacant.
- **Protect the service commercial zone.** The Old Middlefield Way corridor should be protected for important service commercial uses, such as auto repair and light manufacturing. The project is a service commercial use, and it would replace a vacant lot, which would not affect any of the existing service commercial uses.
- **Connect the neighborhood.** The project would improve pedestrian connections by creating new 10-foot sidewalks along the project frontages on Rengstorff Avenue and Old Middlefield Way, as well as new ADA curb ramps at the northwest corner of the Rengstorff Avenue and Old Middlefield Way intersection.

Vehicle Site Access and Circulation

A review of the project site plan was performed to determine if adequate vehicle site access and on-site circulation would be provided and to identify any access or circulation issues that should be improved. This review is based on the site plan dated August 15, 2022, presented on Figure 2 and in accordance with generally accepted traffic engineering standards.

Vehicular Site Access

Vehicle access to the project site would be provided via two new driveways: one on Old Middlefield Way and one on Rengstorff Avenue. Both driveways would be located approximately 50 feet from the intersection at Rengstorff Avenue and Old Middlefield Way. Both driveways include one inbound and one outbound lane and would allow full access from adjacent public streets. They are internally linked within the project site. According to the City of Mountain View Zoning Code, driveways should be a minimum of 18 feet wide for a two-way driveway. This provides adequate width for vehicular ingress and egress and provides a reasonably short crossing distance for pedestrians. The Rengstorff Avenue driveway would be 27 feet wide, and the Old Middlefield Way driveway would be 30 feet wide, which would meet City guidelines.

Traffic Operations at Project Driveways

The gross site trips that would occur at the project driveways are 31 inbound trips and 31 outbound trips during the AM peak hour, and 42 inbound trips and 41 outbound trips during the PM peak hour (see Table 5). Because both driveways are very close to the Rengstorff Avenue/Old Middlefield Way intersection, the southbound and eastbound queues at the intersection extend past the project driveways during red lights under existing and background conditions, which would often block the access to the site via left turns to and from both streets. Therefore, it is expected that most vehicles would access the site via right turns, and significant operational issues related to vehicle queuing and vehicle delay for inbound and outbound traffic are not expected to occur at the driveways. Figure 10 shows the project trip assignment at the driveways.

At the Rengstorff Avenue driveway, it is expected that some outbound vehicles would make southbound left turns at the Rengstorff Avenue/Old Middlefield Way intersection. Field observations showed that the southbound queues along Rengstorff Avenue occasionally passed the proposed driveway during both the AM and PM peak hours. However, gaps were quickly available, which would allow vehicles to make a right turn out of the driveway and travel to the southbound left turn lane.

Sight Distance at Project Driveways

The project driveways should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and vehicles and bicycles traveling on Rengstorff Avenue and Old Middlefield Way. According to the City's Standard Detail A-22, the stopping sight distance on Rengstorff Avenue and Old Middlefield Way is 250 feet due to the 35-mph speed limit. Thus, a driver must be able to see 250 feet looking left out of the driveway to locate a sufficient gap to turn out of the driveway. Both driveways would be located approximately 50 feet from the intersection. However, exiting vehicles would be able to see past the intersection, as there are no roadway curves on Rengstorff Avenue or Old Middlefield Way that would obstruct the vision of exiting drivers, and on-street parking along the project frontages is prohibited. Thus, adequate sight distance is provided at both driveways.

LEGEND

XX(XX) = AM(PM) Peak-Hour Trips

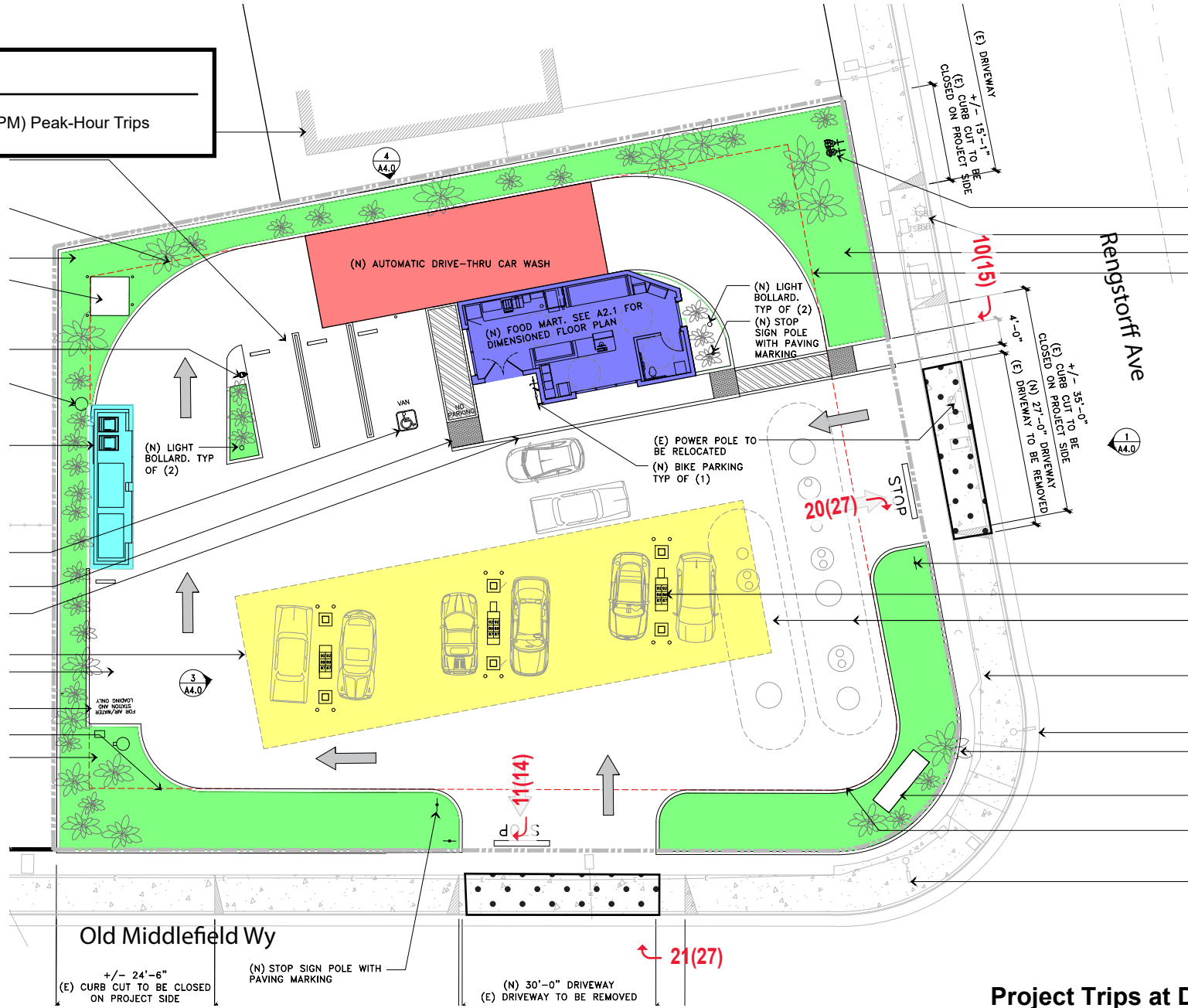


Figure 10
Project Trips at Driveways

Corner Visibility at Rengstorff Avenue and Old Middlefield Way

The project site fronts the northwest corner of the Rengstorff Avenue/Old Middlefield Way intersection. The intersection corners should be free and clear of any obstructions to optimize corner visibility per the City's Standard Details A-23, thereby ensuring the vehicles approaching the intersection can see other vehicles or bicycles traveling on the cross street. Any landscaping and signage within the safety visibility triangle at the intersection corners should be no taller than 3 feet and located in such a way to ensure an unobstructed view for drivers on the street.

The proposed landscaping features and signage shown on the site plan are not expected to obstruct the vision of drivers approaching the intersection provided the landscaping is kept at a low level within the safety visibility triangle.

On-Site Circulation

Within the site, there would be a two-way drive aisle with a 24-foot distance between the fueling pump canopy and the food mart and a 12-foot one-way drive aisle that provides access to the drive-thru car wash. The 12-foot drive aisle would run around the west side of the site from the Old Middlefield Way driveway to the car wash. The City of Mountain View does not provide a required drive aisle width for two-way traffic with single-loaded aisles. However, 24 feet is the City's minimum width for drive aisles with 90-degree parking.

Three parking spaces would be provided at 90 degrees to the main drive aisle in front of the general merchandise retail building. Another parallel parking space for loading would be provided at the southwest corner of the project site adjacent to the garbage bin. The stall depth (18 feet) of perpendicular parking spaces would meet City standards (17 feet). The length of the parallel parking space (24 feet) feet would also meet the minimum length requirement of 24 feet.

As is common for gas stations, there may be short periods where the inbound vehicle queue to the car wash would block access to the loading stall at the southwest corner of the project site during peak periods. However, as discussed below, the vehicle queue for the car wash would mostly be fewer than 3 vehicles and would not block the access to the loading stall most of the time.

The maximum vehicle queue for the car wash facility is expected to stay within the designated queueing space without interfering with fueling vehicles and vehicles accessing the Old Middlefield Way driveway. The vehicle queues for the fueling pumps are not expected to block the on-site drive aisles or extend to the driveways.

Truck Access and Circulation

Garbage bins are shown on the site plan near the car wash entrance on the west side of the property. Garbage trucks could enter the site from the driveway on Rengstorff Avenue and exit from the driveway on Old Middlefield Way without having to turn around on-site.

Figure 11 shows the turning path of a fuel delivery truck entering from the Rengstorff Avenue driveway, going over the underground storage tank located at the southwest corner of the site, and exiting at the Old Middlefield Way driveway. During fuel deliveries, the fuel tanker would likely park at the southwest corner of the site, which may temporarily block access to the east most fueling pump and a portion of the drive aisle in front of the Old Middlefield Way driveway. While blocking the drive aisle would be undesirable, fuel deliveries would occur infrequently and are typically scheduled for off peak hours.

Figure 11 shows that fuel delivery trucks would go over the driveway curb and planter curbs on Rengstorff Avenue when entering the site. Although fuel deliveries would occur infrequently, to accommodate the fuel delivery truck access, the project would need to widen the driveway curb on the north side of the Rengstorff Avenue driveway.

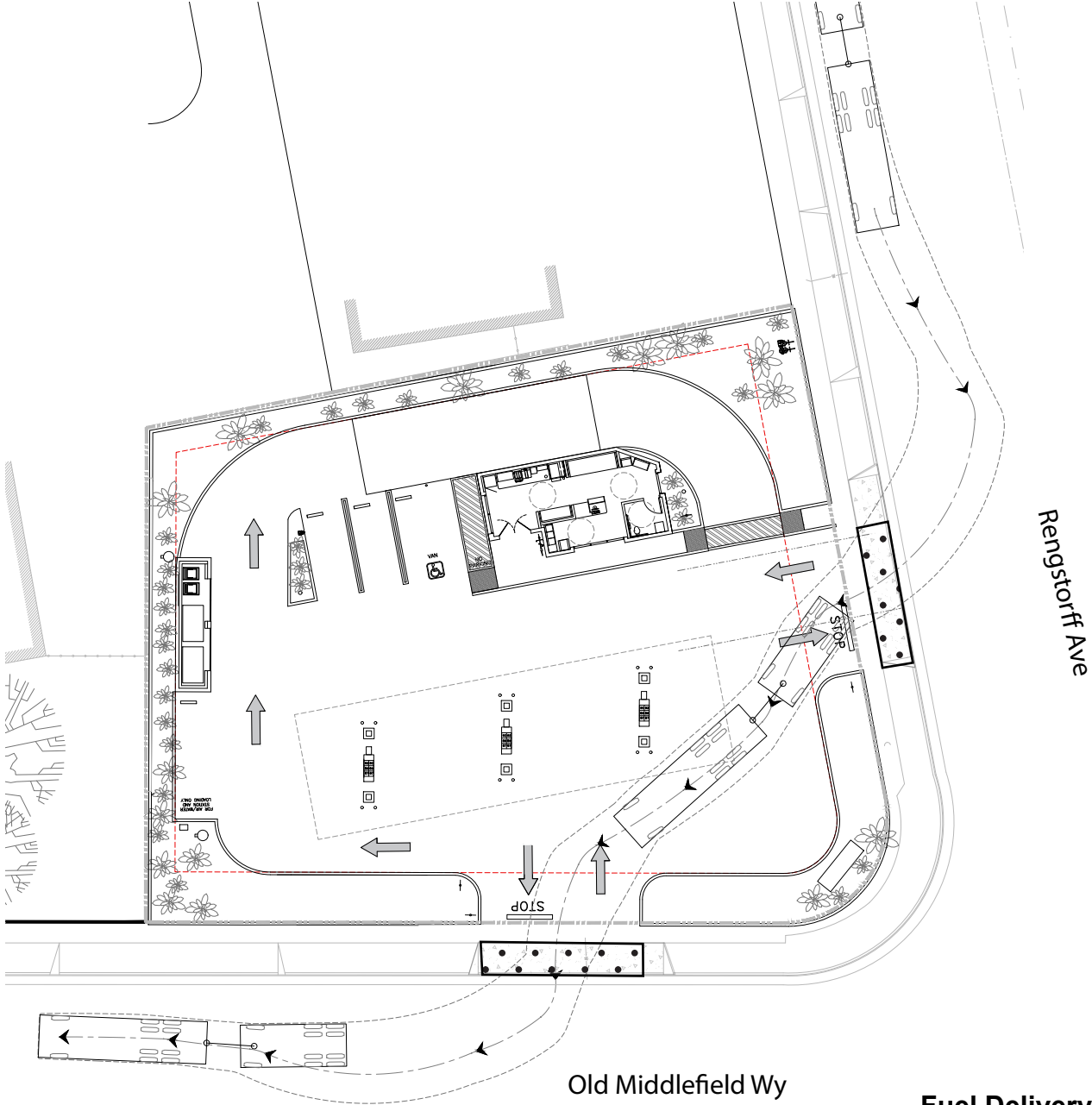


Figure 11
Fuel Delivery Truck Turning Path

Car Wash Queuing Analysis

A queuing analysis was conducted to determine the appropriate storage requirement for the on-site car wash. Hexagon conducted queuing observations in March 2021 for car washes at two gas stations with a general merchandise store: one located in Sunnyvale and another in Palo Alto, California. Both surveyed gas stations have similar site layouts with comparable sizes of the general merchandise store and number of fueling pumps on-site. Table 6 describes the two surveyed gas stations.

Table 6
Surveyed Gas Stations with Automatic Car Wash

Location	Area of General Merchandise Store (SF)	# of Fuel pumps	# of Parking Spaces	# of Single Tunnel Automatic Car Washes
3897 El Camino Real, Palo Alto	1,100 (approx.)	8	4	1
724 N. Mathilda Ave., Sunnyvale	1,500 (approx.)	8	6	1

Observations were conducted during the peak afternoon period from 4:00 PM to 6:00 PM on two typical weekdays and from 1:00 PM to 3:00 PM on two typical Saturdays for the gas stations. These time periods typically represent the peak demand for car wash usage at gas stations. The queues at the car wash were recorded every minute and measured from the pay machine which is located at the car wash entrance. The average storage length per vehicle was observed to be approximately 20 feet.

The results of the surveys were as follows:

- Thursday 3/11, 2021: 95th Percentile queue = 2 vehicles, Maximum queue = 3 vehicles
- Saturday 3/13, 2021: 95th Percentile queue = 2 vehicles, Maximum queue = 3 vehicles
- Tuesday 3/16, 2021: 95th Percentile queue = 1 vehicles, Maximum queue = 1 vehicle
- Saturday 3/20, 2021: 95th Percentile queue = 3 vehicles, Maximum queue = 4 vehicles

For this analysis, the 95th percentile queue is defined as the queue that would be exceeded 5 percent of the time. The 95th percentile queue length observed was 3 vehicles. The maximum vehicle queue length observed was 4 vehicles. This occurred at 2:12 PM on a Saturday. Assuming a length of 20 feet per vehicle, the queuing storage space required to accommodate the maximum observed queue is 80 feet.

The project site plan shows the car wash design would incorporate one drive-through car wash tunnel with queuing space of approximately 60 feet (3 vehicles) before blocking the loading stall and 120 feet (or 6 vehicles) before blocking the Old Middlefield Way driveway (see Figure 12). Based on the results of the queuing survey, the 95th percentile queue of 3 vehicles would not block the loading stall and the storage provided would be sufficient to meet the maximum queuing demand of the car wash.

Fueling Pump Queuing Analysis

Vehicle queuing for the fuel pumps was estimated using the Poisson probability distribution method. For the total 42 inbound trips in the PM peak hour, there would be one vehicle every 8.5 minutes accessing a pump. For the purpose of the queuing estimates, it is assumed that approximately 90 percent of the inbound vehicles would pull up to a fueling pump, while 10 percent of the inbound vehicles might stop for other purposes first (car wash, food mart, and/or air/water station). Based on these assumptions, it is estimated that a maximum on-site queue of 9 vehicles would occur during the weekday PM peak hour of traffic. The current site plan shows the site can accommodate one vehicle behind 5 of the fueling pumps, except the pump toward the west end of the station, before blocking the drive aisles. Thus, the 3 vehicles queued behind the 6 fueling vehicles at the pumps is not expected to affect on-site circulation or result in vehicle queues extending to the adjacent streets.

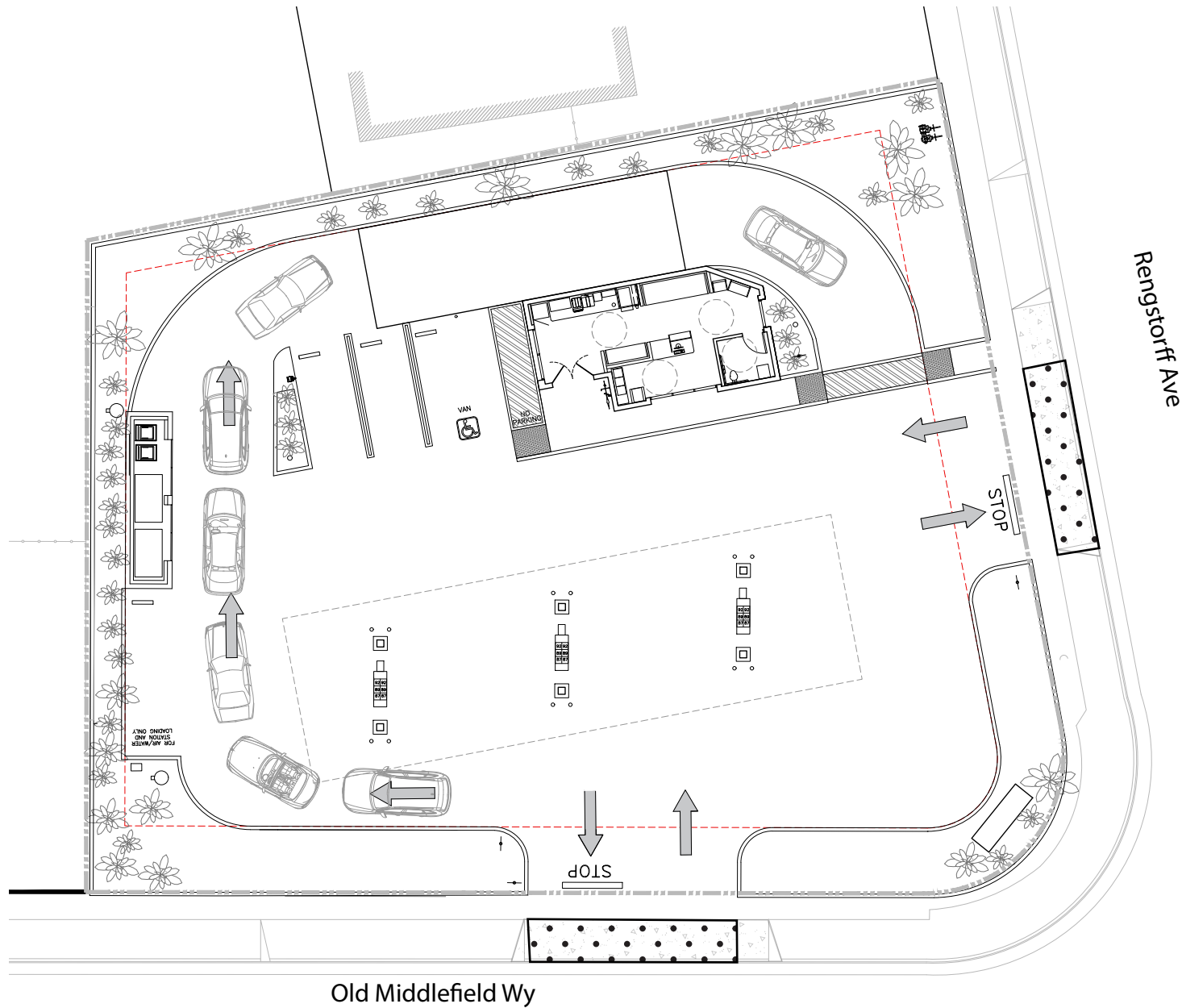


Figure 12
Car Wash Queue Layout

Evaluation of Driveway Width and Location

The Rengstorff Avenue driveway would be 27 feet wide, and the Old Middlefield Way driveway would be 30 feet wide. As shown on Figure 11, the driveways provide necessary width for fuel delivery trucks to enter and exit the site. Additionally, to avoid fuel delivery trucks going over the driveway curb and planter curbs on Rengstorff Avenue when entering the site, the project would need to widen the driveway curb on the north side of the driveway.

The driveway location was evaluated for the Rengstorff Avenue driveway to determine whether moving this driveway west to align with the drive aisle to the carwash would create any issues for site access and on-site circulation. As shown in Figure 2, because the underground storage tank would be located at the southeast corner of the site, it would be infeasible for fuel delivery trucks to exit the site through the western driveway. Fuel delivery trucks would need to travel through the northwest corner of the fueling pump canopy to exit the western driveway, which would block access to the car wash and access for inbound vehicles via the Old Middlefield Way driveway. Also, with 3 vehicles queued for the car wash and a vehicle fueling at the west most fueling pump, the western driveway potentially could be blocked. Therefore, moving the western driveway would not provide better access or onsite circulation compared to the proposed driveway location.

Pedestrian Access and Circulation

Pedestrian access to the site would be provided via sidewalks on Old Middlefield Way and Rengstorff Avenue. The project would widen the existing sidewalks to 10 feet along the project frontage. The project would also update the curb ramp at the northwest corner of the Rengstorff Avenue and Old Middlefield Way intersection with truncated domes and ADA compliant curb ramp slopes. These improvements would enhance the pedestrian accommodation in the project vicinity.

Within the site, a pedestrian pathway with high visibility pavement markings would be provided that connects the existing sidewalks on Rengstorff Avenue, through the outbound drive aisle of the carwash, to the food mart.

Parking

Vehicle Parking

The proposed project would have three components: six fueling pumps, a 531 square-foot food mart, and a single-tunnel automatic car wash facility. Per City of Mountain View City Parking Code Section 36.32.50, for general merchandise retail land uses, one parking space is required per 180 square feet of floor space. The Parking Code does not have specific requirements for land uses related to car washes or fuel pumps. Therefore, the project is required to provide a minimum of three parking spaces (531 divided by 180) on-site.

In addition to the car wash queuing, a parking survey was conducted at the two existing gas stations to determine the peak parking demand and the number of parking spaces provided on-site. Based on the survey, the maximum parking demand was two vehicles, and the average on-site parking supply was five parking spaces. Therefore, the surveyed parking supply at the two similar gas stations with car washes are comparable with what is required by the City Parking Code.

The project proposes a total of four parking spaces, which meets the City Parking Code requirements. Three parking spaces would be located adjacent to the food mart building and one would be located at the southwest corner of the project site.

Bicycle Parking

The bicycle parking requirements for the project were calculated based on the City of Mountain View Zoning Ordinance, Section 36.32.50. The City requires a bike parking ratio of five percent of the required number of vehicle parking spaces. The site plan shows a bike rack would be provide next to the entrance of the food mart, which meets the City Parking Code requirements.

**2110 Old Middlefield Way Gas station Development
Multi-modal Transportation Analysis**

Technical Appendices

August 30, 2022

Appendix A

Traffic Counts

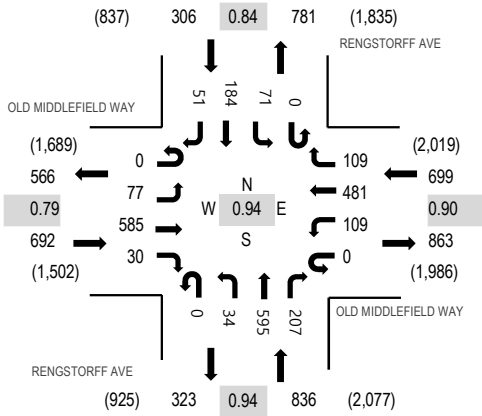
Location: 1 RENGSTORFF AVE & OLD MIDDLEFIELD WAY AM

Date: Wednesday, May 11, 2022

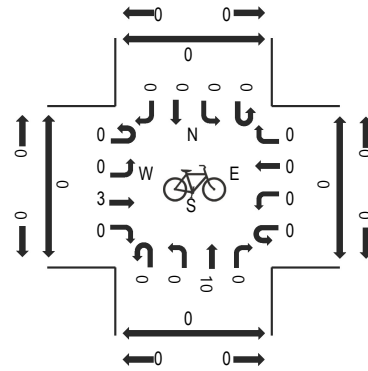
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Peak 15-Minutes: 08:45 AM - 09:00 AM

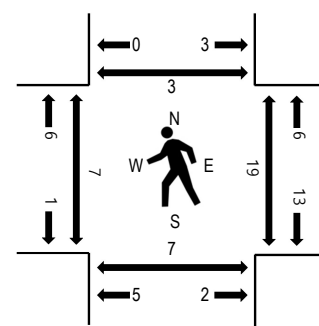
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OLD MIDDLEFIELD WAY Eastbound				OLD MIDDLEFIELD WAY Westbound				RENGSTORFF AVE Northbound				RENGSTORFF AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	7:00 AM	0	3	56	6	0	20	137	18	0	4	77	25	0	7	27			7	387	1,742	0
7:15 AM	0	8	65	3	0	25	116	25	0	5	85	42	0	8	37	9	428	1,930	3	1	0	2
7:30 AM	0	9	99	5	0	25	108	16	0	10	81	49	0	7	36	9	454	2,110	4	1	0	0
7:45 AM	0	12	71	4	0	24	145	20	0	5	66	51	0	11	52	12	473	2,269	3	6	3	0
8:00 AM	0	12	89	6	0	36	128	13	0	14	144	68	0	6	46	13	575	2,471	2	2	1	0
8:15 AM	0	7	121	7	0	28	127	16	0	9	159	60	0	13	50	11	608	2,533	1	3	1	0
8:30 AM	0	24	160	8	0	19	102	31	0	7	140	46	0	19	46	11	613	2,460	0	6	2	0
8:45 AM	0	33	177	8	0	34	117	31	0	12	150	49	0	19	29	16	675	2,342	3	4	3	2
9:00 AM	0	13	127	7	0	28	135	31	0	6	146	52	0	20	59	13	637	2,222	3	6	1	1
9:15 AM	0	16	115	3	0	24	113	10	0	10	122	45	0	10	53	14	535		2	5	1	2
9:30 AM	0	18	100	8	0	17	101	26	0	2	115	41	0	9	47	11	495		0	2	0	0
9:45 AM	0	12	88	2	0	24	129	20	0	8	126	46	0	15	72	13	555		1	4	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	4	1	0	0	4	0	0	0	0	0	0	0	0	0	9
Lights	0	77	573	28	0	103	472	105	0	34	587	204	0	69	179	49	2,480
Mediums	0	0	8	1	0	6	5	4	0	0	8	3	0	2	5	2	44
Total	0	77	585	30	0	109	481	109	0	34	595	207	0	71	184	51	2,533



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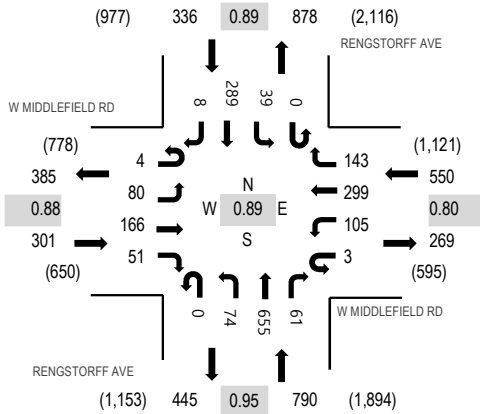
Location: 2 RENGSTORFF AVE & W MIDDLEFIELD RD AM

Date: Wednesday, May 11, 2022

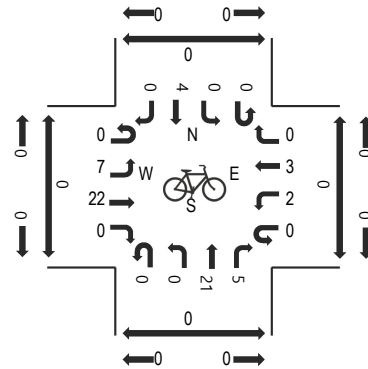
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Peak 15-Minutes: 08:15 AM - 08:30 AM

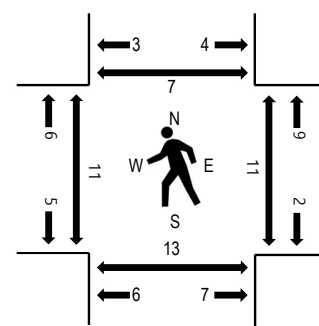
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	W MIDDLEFIELD RD Eastbound				W MIDDLEFIELD RD Westbound				RENGSTORFF AVE Northbound				RENGSTORFF AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	7:00 AM	2	10	9	2	0	4	27	12	0	4	92	5	0	8	51			4	230	1,227	0
7:15 AM	3	13	11	5	0	9	30	16	0	6	90	4	0	5	62	3	257	1,506	0	1	3	3
7:30 AM	4	16	18	8	0	18	45	21	0	9	112	8	0	8	57	1	325	1,804	3	2	4	3
7:45 AM	1	23	32	7	0	24	61	21	0	14	115	14	0	8	95	0	415	1,946	3	3	5	3
8:00 AM	1	22	25	10	0	32	78	29	0	15	173	19	0	9	95	1	509	1,977	2	2	4	0
8:15 AM	3	23	43	17	2	39	89	42	0	20	157	21	0	9	89	1	555	1,870	1	5	5	4
8:30 AM	0	17	48	11	0	16	73	37	0	15	175	11	0	13	47	4	467	1,660	6	2	3	1
8:45 AM	0	18	50	13	1	18	59	35	0	24	150	10	0	8	58	2	446	1,543	2	2	1	2
9:00 AM	5	12	33	6	1	14	35	30	0	16	155	12	0	11	69	3	402	1,438	3	2	1	1
9:15 AM	1	9	26	8	1	13	25	29	0	12	128	7	0	13	70	3	345		1	1	1	0
9:30 AM	3	7	24	10	0	14	35	32	0	2	125	11	0	7	78	2	350		1	1	4	0
9:45 AM	2	7	22	10	0	13	21	20	0	9	143	11	0	17	61	5	341		2	3	1	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	1	0	0	1	0	0	0	0	1	0	0	1	0	5
Lights	4	80	165	48	3	100	298	143	0	72	641	57	0	38	278	8	1,935
Mediums	0	0	0	2	0	5	0	0	0	2	14	3	0	1	10	0	37
Total	4	80	166	51	3	105	299	143	0	74	655	61	0	39	289	8	1,977

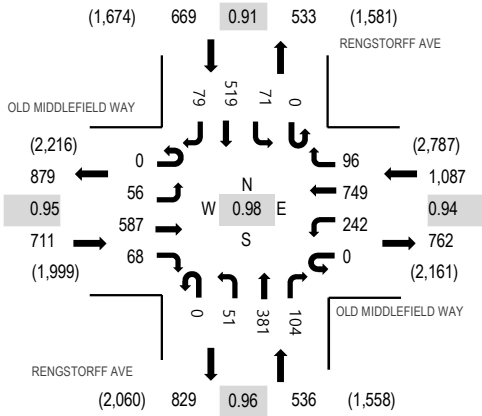
Location: 1 RENGSTORFF AVE & OLD MIDDLEFIELD WAY PM

Date: Wednesday, May 11, 2022

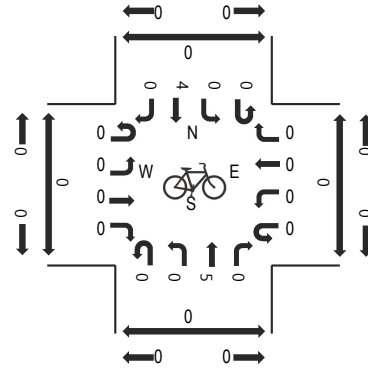
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Peak 15-Minutes: 05:15 PM - 05:30 PM

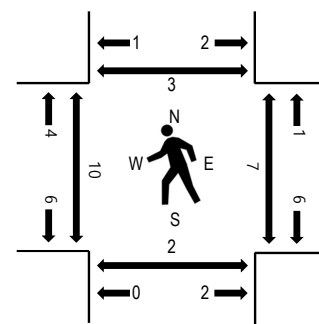
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OLD MIDDLEFIELD WAY Eastbound				OLD MIDDLEFIELD WAY Westbound				RENGSTORFF AVE Northbound				RENGSTORFF AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	4:00 PM	0	14	138	15	0	43	135	18	0	9	105	21	0	11	101			8	618	2,553	1
4:15 PM	0	18	123	12	0	34	132	25	0	9	95	26	0	18	102	16	610	2,665	3	2	1	1
4:30 PM	0	10	124	13	0	51	135	20	0	10	105	25	0	17	80	13	603	2,821	6	2	1	2
4:45 PM	0	16	134	18	0	44	197	31	0	10	92	32	0	24	111	13	722	2,982	10	0	2	2
5:00 PM	0	18	146	18	0	59	167	25	0	10	96	27	0	23	129	12	730	3,003	1	1	0	0
5:15 PM	0	15	130	7	0	71	184	30	0	13	107	23	0	17	139	30	766	2,990	1	1	0	2
5:30 PM	0	13	147	24	0	52	195	15	0	13	95	30	0	17	147	16	764	2,801	2	2	1	0
5:45 PM	0	10	164	19	0	60	203	26	0	15	83	24	0	14	104	21	743	2,629	6	3	1	1
6:00 PM	0	27	132	33	0	36	150	28	0	12	103	29	0	16	136	15	717	2,462	3	5	0	3
6:15 PM	0	11	143	10	0	33	135	36	0	3	69	33	0	8	87	9	577		3	1	0	1
6:30 PM	0	12	115	3	0	47	148	25	0	6	82	36	0	19	80	19	592		2	1	1	0
6:45 PM	0	17	135	15	0	43	132	22	0	8	67	35	0	5	84	13	576		2	1	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	4
Lights	0	54	583	68	0	239	747	96	0	51	375	102	0	71	510	79	2,975
Mediums	0	2	4	0	0	1	2	0	0	0	4	2	0	0	9	0	24
Total	0	56	587	68	0	242	749	96	0	51	381	104	0	71	519	79	3,003

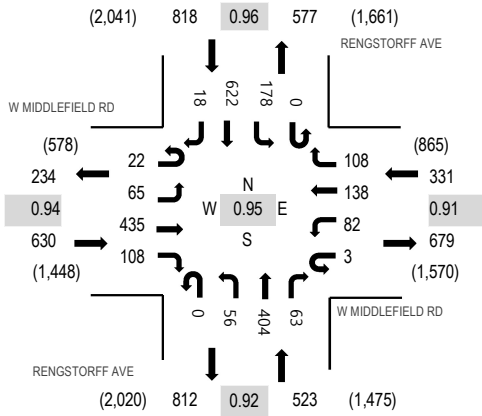
Location: 2 RENGSTORFF AVE & W MIDDLEFIELD RD PM

Date: Wednesday, May 11, 2022

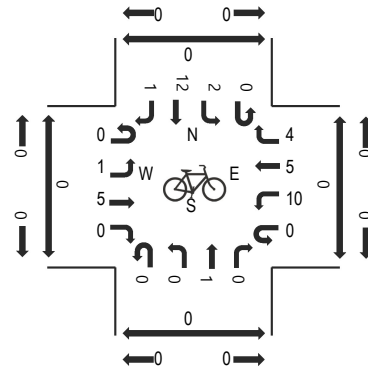
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

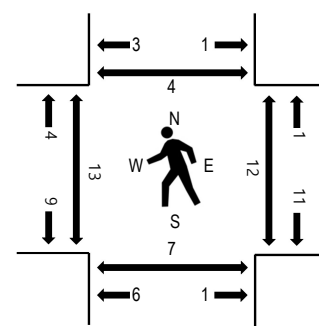
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	W MIDDLEFIELD RD Eastbound				W MIDDLEFIELD RD Westbound				RENGSTORFF AVE Northbound				RENGSTORFF AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	4:00 PM	2	20	55	19	1	19	31	14	0	6	110	11	0	27	112			3	430	1,845	3
4:15 PM	3	13	72	17	0	14	32	25	0	4	102	19	0	33	103	3	440	2,020	1	1	0	0
4:30 PM	5	14	68	25	1	20	33	33	0	9	100	19	0	28	126	4	485	2,180	6	0	0	0
4:45 PM	1	21	88	20	0	15	30	25	0	14	90	8	0	37	134	7	490	2,263	0	0	0	0
5:00 PM	4	21	115	28	0	20	37	26	0	9	111	22	0	43	166	3	605	2,302	3	0	0	2
5:15 PM	6	20	108	25	2	25	34	30	0	16	110	10	0	50	158	6	600	2,202	0	4	5	0
5:30 PM	5	8	106	36	1	20	38	22	0	17	88	14	0	47	158	8	568	2,035	4	5	1	0
5:45 PM	7	16	106	19	0	17	29	30	0	14	95	17	0	38	140	1	529	1,839	6	3	1	2
6:00 PM	0	11	80	19	0	13	26	38	0	8	91	10	0	48	158	3	505	1,682	0	3	7	0
6:15 PM	4	16	64	18	1	17	31	23	0	5	94	15	0	25	117	3	433		0	5	10	2
6:30 PM	2	18	61	14	2	7	28	7	0	8	94	9	0	24	96	2	372		7	1	3	4
6:45 PM	1	7	47	13	0	11	22	15	0	11	103	12	0	26	101	3	372		3	4	5	1

Peak Rolling Hour Flow Rates

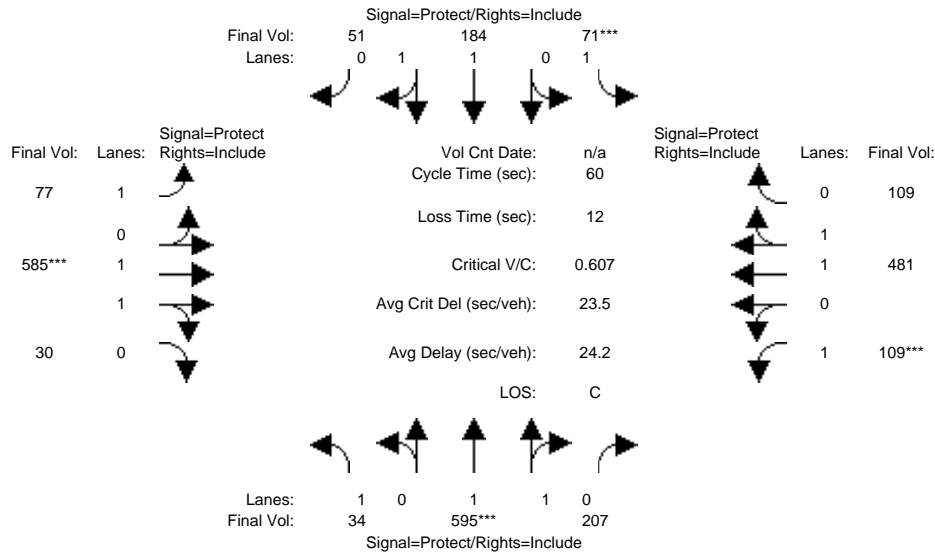
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4
Lights	22	65	434	107	3	80	138	106	0	56	398	59	0	175	613	18	2,274
Mediums	0	0	1	1	0	2	0	2	0	0	4	4	0	3	7	0	24
Total	22	65	435	108	3	82	138	108	0	56	404	63	0	178	622	18	2,302

Appendix B

Level of Service Calculations

2110 Old Middlefield Way Gas Station
 Mountain View, CA
 Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Existing AM

Intersection #1: Rengstorff Avenue/Old Middlefield Way



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	34	595	207	71	184	51	77	585	30	109	481	109
Growth 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
Initial Bse:	34	595	207	71	184	51	77	585	30	109	481	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	595	207	71	184	51	77	585	30	109	481	109
User 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
PHF 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
PHF Volume:	34	595	207	71	184	51	77	585	30	109	481	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	595	207	71	184	51	77	585	30	109	481	109
PCE 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
MLF 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
Final Volume:	34	595	207	71	184	51	77	585	30	109	481	109

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.47	0.53	1.00	1.55	0.45	1.00	1.90	0.10	1.00	1.62	0.38
Final Sat.:	1750	2744	955	1750	2896	803	1750	3519	180	1750	3016	683

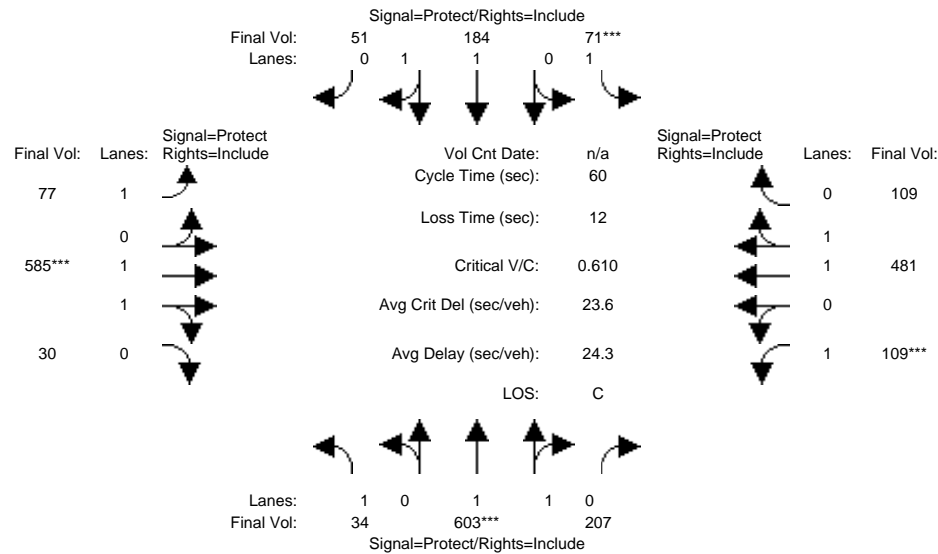
Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.02	0.22	0.22	0.04	0.06	0.06	0.04	0.17	0.17	0.06	0.16	0.16
Crit Moves:	****			****			****			****		
Green Time:	10.8	19.2	19.2	7.0	15.4	15.4	9.0	14.8	14.8	7.0	12.8	12.8
Volume/Cap:	0.11	0.68	0.68	0.35	0.25	0.25	0.29	0.68	0.68	0.53	0.75	0.75
Delay/Veh:	21.3	20.8	20.8	29.0	18.3	18.3	25.6	24.5	24.5	34.6	28.5	28.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.3	20.8	20.8	29.0	18.3	18.3	25.6	24.5	24.5	34.6	28.5	28.5
LOS by Move:	C+	C+	C+	C	B-	B-	C	C	C	C-	C	C
HCM2kAvgQ:	1	7	7	2	2	2	2	7	7	3	7	7

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
Mountain View, CA
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #1: Rengstorff Avenue/Old Middlefield Way



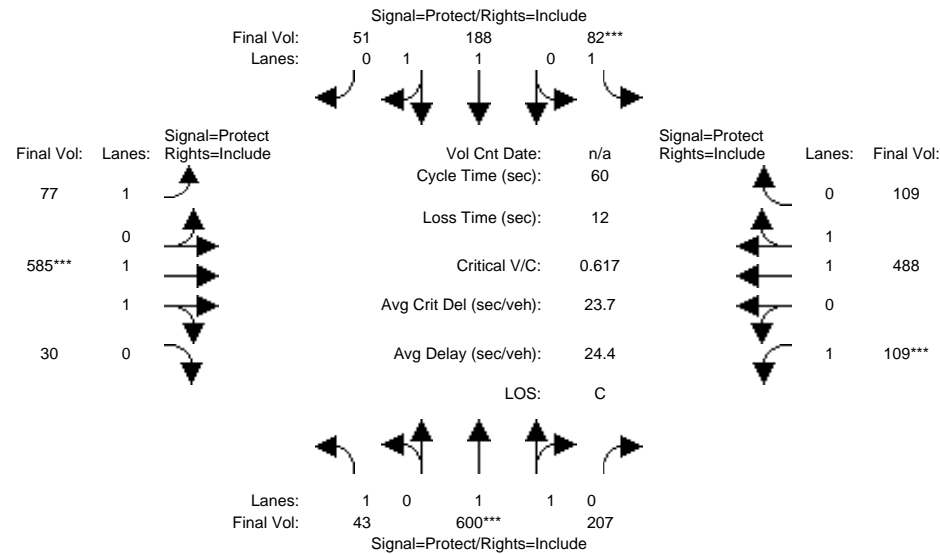
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	34	603	207	71	184	51	77	585	30	109	481	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	603	207	71	184	51	77	585	30	109	481	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	603	207	71	184	51	77	585	30	109	481	109
User 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
PHF 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
PHF Volume:	34	603	207	71	184	51	77	585	30	109	481	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	603	207	71	184	51	77	585	30	109	481	109
PCE 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
MLF 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
Final Volume:	34	603	207	71	184	51	77	585	30	109	481	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.47	0.53	1.00	1.55	0.45	1.00	1.90	0.10	1.00	1.62	0.38
Final Sat.:	1750	2754	945	1750	2896	803	1750	3519	180	1750	3016	683
Capacity Analysis Module:												
Vol/Sat:	0.02	0.22	0.22	0.04	0.06	0.06	0.04	0.17	0.17	0.06	0.16	0.16
Crit Moves:	****			****			****			****		
Green Time:	10.8	19.3	19.3	7.0	15.5	15.5	8.9	14.7	14.7	7.0	12.7	12.7
Volume/Cap:	0.11	0.68	0.68	0.35	0.25	0.25	0.30	0.68	0.68	0.53	0.75	0.75
Delay/Veh:	21.2	20.8	20.8	29.0	18.2	18.2	25.6	24.6	24.6	34.6	28.7	28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.2	20.8	20.8	29.0	18.2	18.2	25.6	24.6	24.6	34.6	28.7	28.7
LOS by Move:	C+	C+	C+	C	B-	B-	C	C	C	C-	C	C
HCM2kAvgQ:	1	7	7	2	2	2	2	7	7	3	7	7

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
Mountain View, CA
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background + Prj AM

Intersection #1: Rengstorff Avenue/Old Middlefield Way



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:												
Base Vol:	34	603	207	71	184	51	77	585	30	109	481	109
Growth 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
Initial Bse:	34	603	207	71	184	51	77	585	30	109	481	109
Added Vol:	6	0	0	8	7	0	0	0	0	0	7	0
PasserByVol:	3	-3	0	3	-3	0	0	0	0	0	0	0
Initial Fut:	43	600	207	82	188	51	77	585	30	109	488	109
User 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
PHF 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
PHF Volume:	43	600	207	82	188	51	77	585	30	109	488	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	600	207	82	188	51	77	585	30	109	488	109
PCE 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
MLF 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
Final Volume:	43	600	207	82	188	51	77	585	30	109	488	109

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.47	0.53	1.00	1.56	0.44	1.00	1.90	0.10	1.00	1.62	0.38
Final Sat.:	1750	2750	949	1750	2910	789	1750	3519	180	1750	3024	675

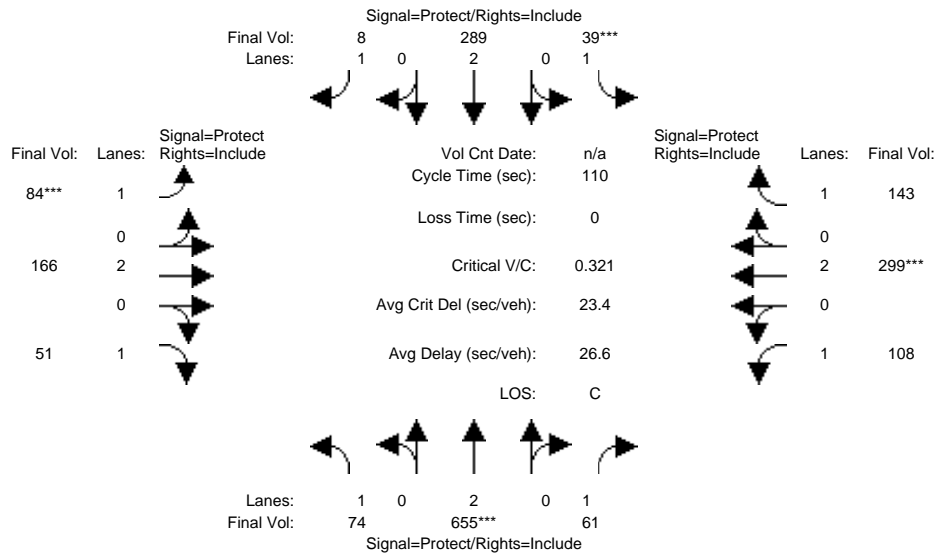
Capacity Analysis Module:												
Vol/Sat:	0.02	0.22	0.22	0.05	0.06	0.06	0.04	0.17	0.17	0.06	0.16	0.16
Crit Moves:	****			****			****			****		
Green Time:	10.8	19.3	19.3	7.0	15.5	15.5	8.9	14.7	14.7	7.0	12.8	12.8
Volume/Cap:	0.14	0.68	0.68	0.40	0.25	0.25	0.30	0.68	0.68	0.53	0.76	0.76
Delay/Veh:	21.6	20.8	20.8	30.4	18.3	18.3	25.6	24.6	24.6	34.6	28.9	28.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.6	20.8	20.8	30.4	18.3	18.3	25.6	24.6	24.6	34.6	28.9	28.9
LOS by Move:	C+	C+	C+	C	B-	B-	C	C	C	C-	C	C
HCM2kAvgQ:	1	7	7	2	2	2	2	7	7	3	7	7

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
 Mountain View, CA
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Existing AM

Intersection #2: Rengstorff Avenue/W. Middlefield Road



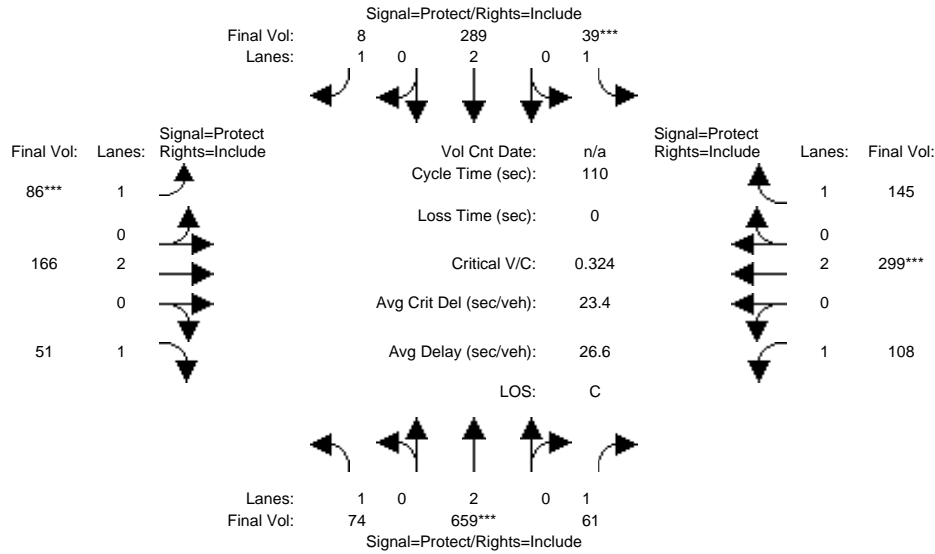
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	74	655	61	39	289	8	84	166	51	108	299	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	655	61	39	289	8	84	166	51	108	299	143
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	655	61	39	289	8	84	166	51	108	299	143
User 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
PHF 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
PHF Volume:	74	655	61	39	289	8	84	166	51	108	299	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	655	61	39	289	8	84	166	51	108	299	143
PCE 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
MLF 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
FinalVolume:	74	655	61	39	289	8	84	166	51	108	299	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.03	0.02	0.08	0.00	0.05	0.04	0.03	0.06	0.08	0.08
Crit Moves:	****			****			****			****		
Green Time:	27.4	59.0	59.0	7.6	39.2	39.2	16.4	25.5	25.5	17.9	26.9	26.9
Volume/Cap:	0.17	0.32	0.06	0.32	0.21	0.01	0.32	0.19	0.13	0.38	0.32	0.33
Delay/Veh:	32.5	14.4	12.3	50.3	24.7	22.9	42.5	34.0	33.6	42.0	34.2	34.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.5	14.4	12.3	50.3	24.7	22.9	42.5	34.0	33.6	42.0	34.2	34.6
LOS by Move:	C-	B	B	D	C	C+	D	C-	C-	D	C-	C-
HCM2kAvgQ:	2	6	1	1	3	0	3	2	1	4	4	4

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
Mountain View, CA
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #2: Rengstorff Avenue/W. Middlefield Road



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:

Base Vol:	74	659	61	39	289	8	86	166	51	108	299	145
Growth 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
Initial Bse:	74	659	61	39	289	8	86	166	51	108	299	145
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	659	61	39	289	8	86	166	51	108	299	145
User 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
PHF 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
PHF Volume:	74	659	61	39	289	8	86	166	51	108	299	145
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	659	61	39	289	8	86	166	51	108	299	145
PCE 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
MLF 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
Final Volume:	74	659	61	39	289	8	86	166	51	108	299	145

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	3800	1750	1750	3800	1750

Capacity Analysis Module:

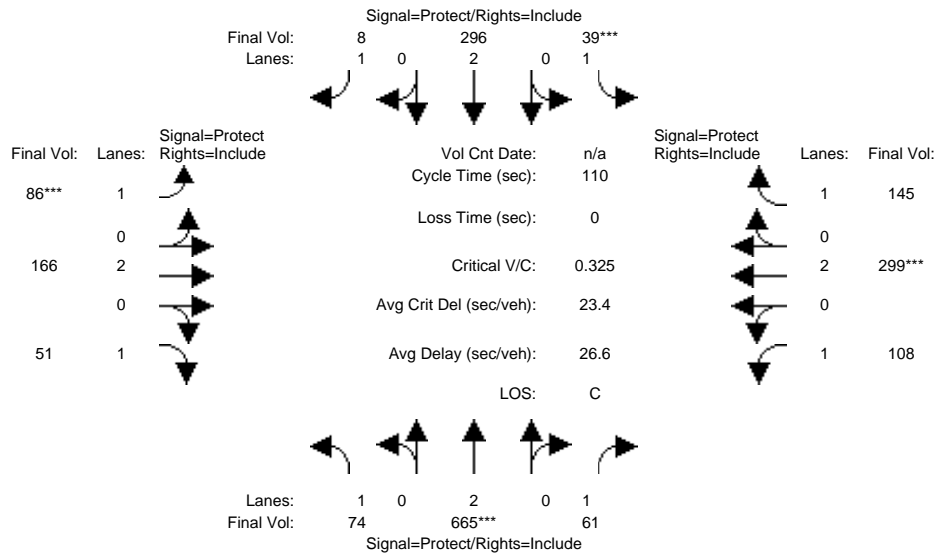
Vol/Sat:	0.04	0.17	0.03	0.02	0.08	0.00	0.05	0.04	0.03	0.06	0.08	0.08
Crit Moves:	****			****			****			****		
Green Time:	27.4	59.0	59.0	7.6	39.1	39.1	16.7	25.6	25.6	17.9	26.8	26.8
Volume/Cap:	0.17	0.32	0.07	0.32	0.21	0.01	0.32	0.19	0.13	0.38	0.32	0.34
Delay/Veh:	32.6	14.4	12.3	50.3	24.8	22.9	42.3	34.0	33.5	41.9	34.4	34.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.6	14.4	12.3	50.3	24.8	22.9	42.3	34.0	33.5	41.9	34.4	34.8
LOS by Move:	C-	B	B	D	C	C+	D	C-	C-	D	C-	C-
HCM2kAvgQ:	2	6	1	1	3	0	3	2	1	4	4	4

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
 Mountain View, CA
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Background + Prj AM

Intersection #2: Rengstorff Avenue/W. Middlefield Road



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:

Base Vol:	74	659	61	39	289	8	86	166	51	108	299	145
Growth 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
Initial Bse:	74	659	61	39	289	8	86	166	51	108	299	145
Added Vol:	0	6	0	0	7	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	665	61	39	296	8	86	166	51	108	299	145
User 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
PHF 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
PHF Volume:	74	665	61	39	296	8	86	166	51	108	299	145
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	665	61	39	296	8	86	166	51	108	299	145
PCE 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
MLF 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
Final Volume:	74	665	61	39	296	8	86	166	51	108	299	145

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	3800	1750	1750	3800	1750

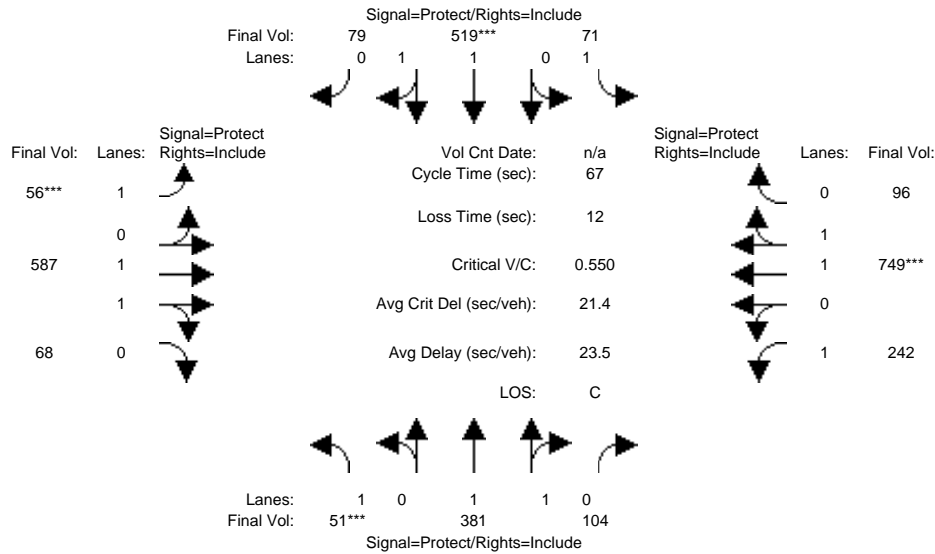
Capacity Analysis Module:

Vol/Sat:	0.04	0.17	0.03	0.02	0.08	0.00	0.05	0.04	0.03	0.06	0.08	0.08
Crit Moves:	****			****			****			****		
Green Time:	27.5	59.2	59.2	7.5	39.3	39.3	16.6	25.4	25.4	17.8	26.6	26.6
Volume/Cap:	0.17	0.33	0.06	0.33	0.22	0.01	0.33	0.19	0.13	0.38	0.33	0.34
Delay/Veh:	32.5	14.3	12.2	50.4	24.7	22.9	42.4	34.1	33.6	42.0	34.5	34.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.5	14.3	12.2	50.4	24.7	22.9	42.4	34.1	33.6	42.0	34.5	34.9
LOS by Move:	C-	B	B	D	C	C+	D	C-	C-	D	C-	C-
HCM2kAvgQ:	2	6	1	1	3	0	3	2	1	4	4	4

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
 Mountain View, CA
 Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Existing PM

Intersection #1: Rengstorff Avenue/Old Middlefield Way



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	51	381	104	71	519	79	56	587	68	242	749	96
Growth 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
Initial Bse:	51	381	104	71	519	79	56	587	68	242	749	96
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	381	104	71	519	79	56	587	68	242	749	96
User 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
PHF 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
PHF Volume:	51	381	104	71	519	79	56	587	68	242	749	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	381	104	71	519	79	56	587	68	242	749	96
PCE 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
MLF 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
Final Volume:	51	381	104	71	519	79	56	587	68	242	749	96

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.56	0.44	1.00	1.73	0.27	1.00	1.79	0.21	1.00	1.77	0.23
Final Sat.:	1750	2906	793	1750	3211	489	1750	3316	384	1750	3279	420

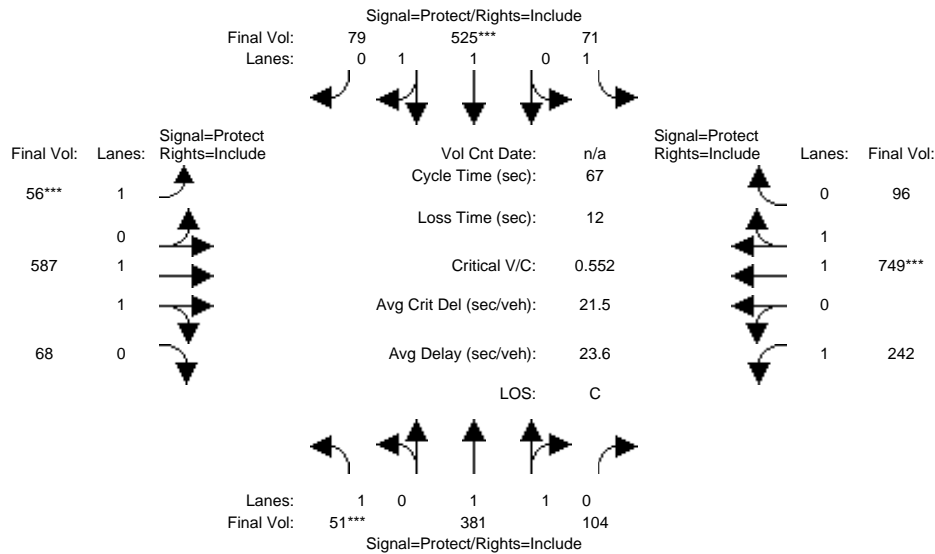
Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.03	0.13	0.13	0.04	0.16	0.16	0.03	0.18	0.18	0.14	0.23	0.23
Crit Moves:	****			****			****			****		
Green Time:	7.0	14.1	14.1	9.9	17.0	17.0	7.0	17.4	17.4	13.6	24.0	24.0
Volume/Cap:	0.28	0.62	0.62	0.28	0.64	0.64	0.31	0.68	0.68	0.68	0.64	0.64
Delay/Veh:	28.5	25.6	25.6	26.0	23.7	23.7	28.7	24.3	24.3	30.0	18.9	18.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.5	25.6	25.6	26.0	23.7	23.7	28.7	24.3	24.3	30.0	18.9	18.9
LOS by Move:	C	C	C	C	C	C	C	C	C	C	B-	B-
HCM2kAvgQ:	1	5	5	2	7	7	1	8	8	6	8	8

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
 Mountain View, CA
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Background PM

Intersection #1: Rengstorff Avenue/Old Middlefield Way



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:

Base Vol:	51	381	104	71	525	79	56	587	68	242	749	96
Growth 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
Initial Bse:	51	381	104	71	525	79	56	587	68	242	749	96
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	381	104	71	525	79	56	587	68	242	749	96
User 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
PHF 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
PHF Volume:	51	381	104	71	525	79	56	587	68	242	749	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	381	104	71	525	79	56	587	68	242	749	96
PCE 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
MLF 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
FinalVolume:	51	381	104	71	525	79	56	587	68	242	749	96

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.56	0.44	1.00	1.73	0.27	1.00	1.79	0.21	1.00	1.77	0.23
Final Sat.:	1750	2906	793	1750	3216	484	1750	3316	384	1750	3279	420

Capacity Analysis Module:

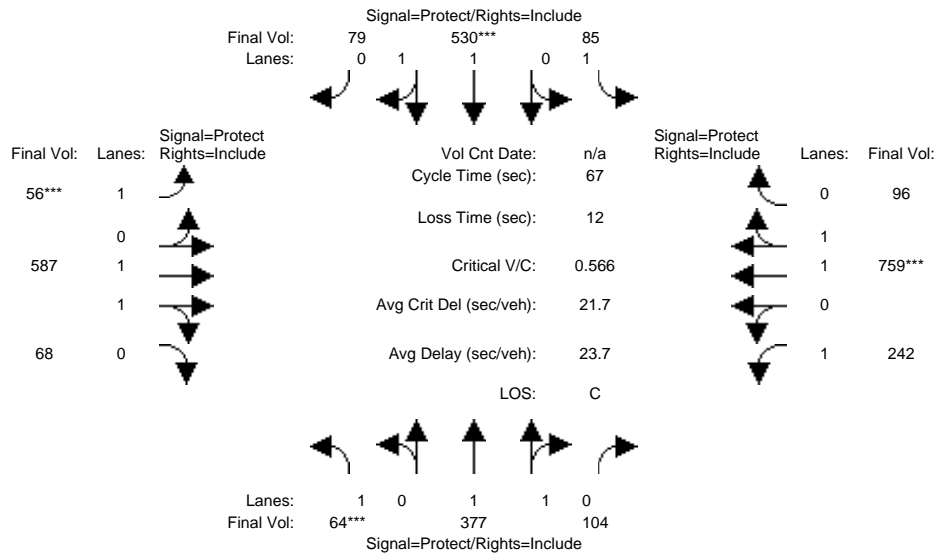
Vol/Sat:	0.03	0.13	0.13	0.04	0.16	0.16	0.03	0.18	0.18	0.14	0.23	0.23
Crit Moves:	****			****			****			****		
Green Time:	7.0	14.2	14.2	9.9	17.1	17.1	7.0	17.4	17.4	13.6	23.9	23.9
Volume/Cap:	0.28	0.62	0.62	0.27	0.64	0.64	0.31	0.68	0.68	0.68	0.64	0.64
Delay/Veh:	28.5	25.5	25.5	25.9	23.7	23.7	28.7	24.4	24.4	30.2	19.0	19.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.5	25.5	25.5	25.9	23.7	23.7	28.7	24.4	24.4	30.2	19.0	19.0
LOS by Move:	C	C	C	C	C	C	C	C	C	C	B-	B-
HCM2kAvgQ:	1	5	5	2	7	7	1	8	8	6	8	8

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
 Mountain View, CA
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Background + Prj PM

Intersection #1: Rengstorff Avenue/Old Middlefield Way



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:

Base Vol:	51	381	104	71	525	79	56	587	68	242	749	96
Growth 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
Initial Bse:	51	381	104	71	525	79	56	587	68	242	749	96
Added Vol:	9	0	0	10	9	0	0	0	0	0	10	0
PasserByVol:	4	-4	0	4	-4	0	0	0	0	0	0	0
Initial Fut:	64	377	104	85	530	79	56	587	68	242	759	96
User 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
PHF 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
PHF Volume:	64	377	104	85	530	79	56	587	68	242	759	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	377	104	85	530	79	56	587	68	242	759	96
PCE 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
MLF 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
Final Volume:	64	377	104	85	530	79	56	587	68	242	759	96

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.56	0.44	1.00	1.73	0.27	1.00	1.79	0.21	1.00	1.77	0.23
Final Sat.:	1750	2899	800	1750	3220	480	1750	3316	384	1750	3284	415

Capacity Analysis Module:

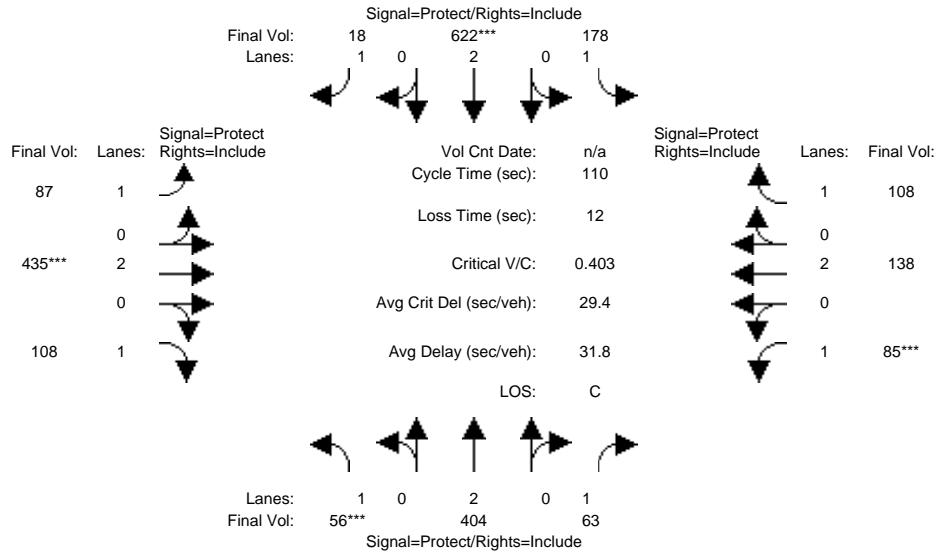
Vol/Sat:	0.04	0.13	0.13	0.05	0.16	0.16	0.03	0.18	0.18	0.14	0.23	0.23
Crit Moves:	****			****			****			****		
Green Time:	7.0	14.2	14.2	9.9	17.1	17.1	7.0	17.4	17.4	13.6	23.9	23.9
Volume/Cap:	0.35	0.62	0.62	0.33	0.65	0.65	0.31	0.68	0.68	0.68	0.65	0.65
Delay/Veh:	29.0	25.4	25.4	26.3	23.9	23.9	28.7	24.4	24.4	30.1	19.1	19.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.0	25.4	25.4	26.3	23.9	23.9	28.7	24.4	24.4	30.1	19.1	19.1
LOS by Move:	C	C	C	C	C	C	C	C	C	C	B-	B-
HCM2kAvgQ:	1	5	5	2	7	7	1	8	8	6	9	9

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
Mountain View, CA
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #2: Rengstorff Avenue/W. Middlefield Road



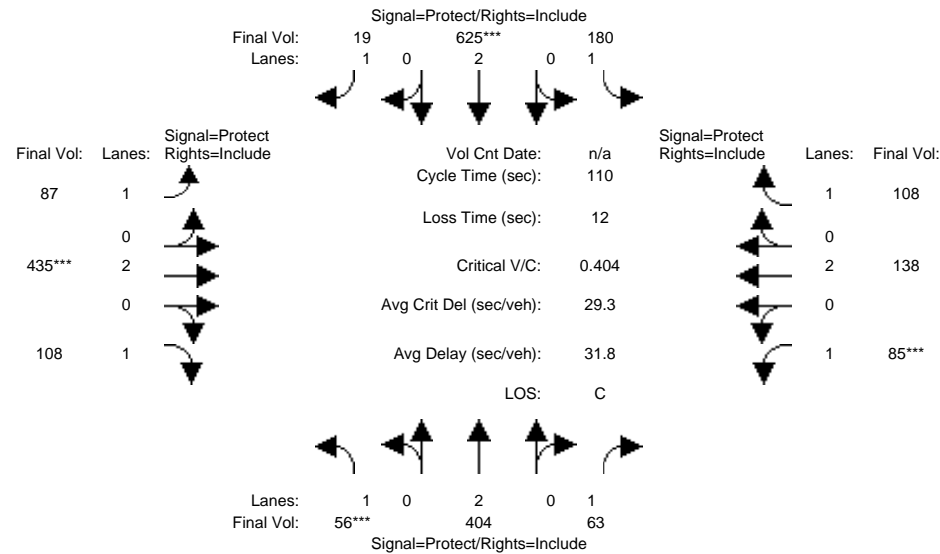
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	404	63	178	622	18	87	435	108	85	138	108
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	404	63	178	622	18	87	435	108	85	138	108
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	404	63	178	622	18	87	435	108	85	138	108
User 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
PHF 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
PHF Volume:	56	404	63	178	622	18	87	435	108	85	138	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	404	63	178	622	18	87	435	108	85	138	108
PCE 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
MLF 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
Final Volume:	56	404	63	178	622	18	87	435	108	85	138	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.04	0.10	0.16	0.01	0.05	0.11	0.06	0.05	0.04	0.06
Crit Moves:	****			****			****		****			
Green Time:	8.7	27.3	27.3	26.1	44.7	44.7	18.3	31.3	31.3	13.3	26.2	26.2
Volume/Cap:	0.40	0.43	0.14	0.43	0.40	0.03	0.30	0.40	0.22	0.40	0.15	0.26
Delay/Veh:	50.1	35.1	32.4	36.3	23.3	19.6	40.8	32.1	30.2	46.0	33.2	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.1	35.1	32.4	36.3	23.3	19.6	40.8	32.1	30.2	46.0	33.2	34.4
LOS by Move:	D	D+	C-	D+	C	B-	D	C-	C	D	C-	C-
HCM2kAvgQ:	2	6	2	5	7	0	3	6	3	3	2	3

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
Mountain View, CA
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #2: Rengstorff Avenue/W. Middlefield Road



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:

Base Vol:	56	404	63	180	625	19	87	435	108	85	138	108
Growth 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
Initial Bse:	56	404	63	180	625	19	87	435	108	85	138	108
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	404	63	180	625	19	87	435	108	85	138	108
User 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
PHF 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
PHF Volume:	56	404	63	180	625	19	87	435	108	85	138	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	404	63	180	625	19	87	435	108	85	138	108
PCE 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
MLF 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
Final Volume:	56	404	63	180	625	19	87	435	108	85	138	108

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	3800	1750	1750	3800	1750

Capacity Analysis Module:

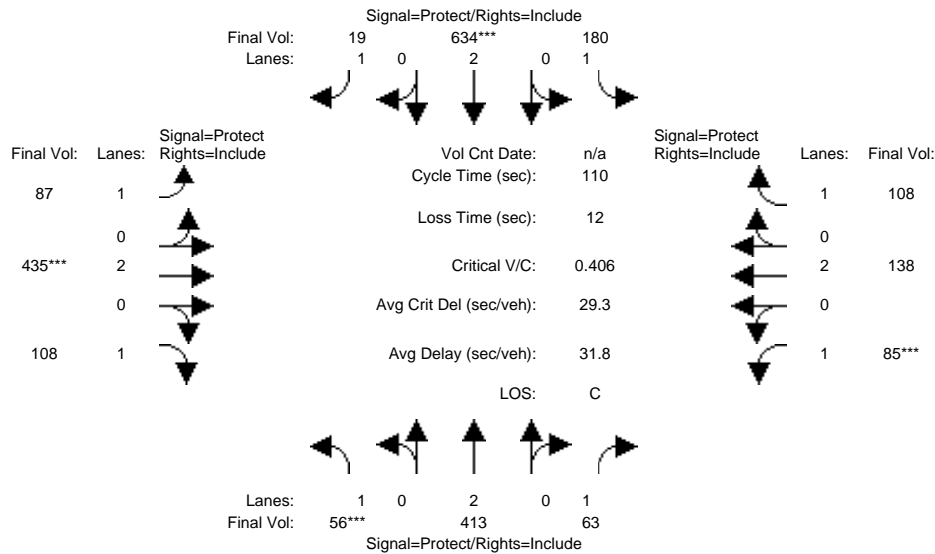
Vol/Sat:	0.03	0.11	0.04	0.10	0.16	0.01	0.05	0.11	0.06	0.05	0.04	0.06
Crit Moves:	****			****			****			****		
Green Time:	8.7	27.2	27.2	26.3	44.8	44.8	18.3	31.2	31.2	13.2	26.1	26.1
Volume/Cap:	0.40	0.43	0.15	0.43	0.40	0.03	0.30	0.40	0.22	0.40	0.15	0.26
Delay/Veh:	50.1	35.2	32.5	36.2	23.3	19.5	40.8	32.1	30.3	46.0	33.2	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.1	35.2	32.5	36.2	23.3	19.5	40.8	32.1	30.3	46.0	33.2	34.4
LOS by Move:	D	D+	C-	D+	C	B-	D	C-	C	D	C-	C-
HCM2kAvgQ:	2	6	2	5	7	0	3	6	3	3	2	3

Note: Queue reported is the number of cars per lane.

2110 Old Middlefield Way Gas Station
 Mountain View, CA
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Background + Prj PM

Intersection #2: Rengstorff Avenue/W. Middlefield Road



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	404	63	180	625	19	87	435	108	85	138	108
Growth 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
Initial Bse:	56	404	63	180	625	19	87	435	108	85	138	108
Added Vol:	0	9	0	0	9	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	413	63	180	634	19	87	435	108	85	138	108
User 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
PHF 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
PHF Volume:	56	413	63	180	634	19	87	435	108	85	138	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	413	63	180	634	19	87	435	108	85	138	108
PCE 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
MLF 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
Final Volume:	56	413	63	180	634	19	87	435	108	85	138	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.04	0.10	0.17	0.01	0.05	0.11	0.06	0.05	0.04	0.06
Crit Moves:	****			****			****			****		
Green Time:	8.7	27.7	27.7	26.2	45.2	45.2	18.2	31.0	31.0	13.2	26.0	26.0
Volume/Cap:	0.41	0.43	0.14	0.43	0.41	0.03	0.30	0.41	0.22	0.41	0.15	0.26
Delay/Veh:	50.2	34.9	32.1	36.3	23.1	19.3	40.9	32.3	30.5	46.1	33.4	34.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.2	34.9	32.1	36.3	23.1	19.3	40.9	32.3	30.5	46.1	33.4	34.5
LOS by Move:	D	C-	C-	D+	C	B-	D	C-	C	D	C-	C-
HCM2kAvgQ:	2	6	2	5	7	0	3	6	3	3	2	3

Note: Queue reported is the number of cars per lane.

Appendix C

Volume Summary

Intersection Number: **1**
 Traffic Node Number: 1
 Intersection Name: Rengstorff Avenue and Old Middlefield Way
 Peak Hour: AM
 Count Date: 05/11/22
 Date of Analysis: 05/19/22

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	51	184	71	109	481	109	207	595	34	30	585	77	2533
Approved Project Trips													
2019 leghorn street	0	0	0	0	0	0	0	8	0	0	0	0	8
Total Approved Project Trips	0	0	0	0	0	0	0	8	0	0	0	0	8
Background Conditions	51	184	71	109	481	109	207	603	34	30	585	77	2541
Proposed Project Trips	0	7	8	0	7	0	0	0	6	0	0	0	28
Passby Trips	0	-3	3	0	0	0	0	-3	3	0	0	0	0
Background + Project Conditions	51	188	82	109	488	109	207	600	43	30	585	77	2569
	check												0

Intersection Number: **2**
 Traffic Node Number: 2
 Intersection Name: Rengstorff Avenue and W. Middlefield Road
 Peak Hour: AM
 Count Date: 05/11/22
 Date of Analysis: 05/19/22

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	8	289	39	143	299	108	61	655	74	51	166	84	1977
Approved Project Trips													
2019 leghorn street	0	0	0	2	0	0	0	4	0	0	0	2	8
Total Approved Project Trips	0	0	0	2	0	0	0	4	0	0	0	2	8
Background Conditions	8	289	39	145	299	108	61	659	74	51	166	86	1985
Proposed Project Trips	0	7	0	0	0	0	0	6	0	0	0	0	13
Passby Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
Background + Project Conditions	8	296	39	145	299	108	61	665	74	51	166	86	1998
	check												0

Intersection Number: **1**
 Traffic Node Number: 1
 Intersection Name: Rengstorff Avenue and Old Middlefield Way
 Peak Hour: PM
 Count Date: 05/11/22
 Date of Analysis: 05/19/22

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	79	519	71	96	749	242	104	381	51	68	587	56	3003
Approved Project Trips													
2019 leghorn street	0	6	0	0	0	0	0	0	0	0	0	0	6
Total Approved Project Trips	0	6	0	0	0	0	0	0	0	0	0	0	6
Background Conditions	79	525	71	96	749	242	104	381	51	68	587	56	3009
Proposed Project Trips	0	9	10	0	10	0	0	0	9	0	0	0	38
Passby Trips	0	-4	4	0	0	0	0	-4	4	0	0	0	0
Background + Project Conditions	79	530	85	96	759	242	104	377	64	68	587	56	3047
	check												0

Intersection Number: **2**
 Traffic Node Number: 2
 Intersection Name: Rengstorff Avenue and W. Middlefield Road
 Peak Hour: PM
 Count Date: 05/11/22
 Date of Analysis: 05/19/22

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	18	622	178	108	138	85	63	404	56	108	435	87	2302
Approved Project Trips													
2019 leghorn street	1	3	2	0	0	0	0	0	0	0	0	0	6
Total Approved Project Trips	1	3	2	0	0	0	0	0	0	0	0	0	6
Background Conditions	19	625	180	108	138	85	63	404	56	108	435	87	2308
Proposed Project Trips	0	9	0	0	0	0	0	9	0	0	0	0	18
Passby Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
Background + Project Conditions	19	634	180	108	138	85	63	413	56	108	435	87	2326
	check												0