URBAN | CROSSROADS

GOODMAN COMMERCE CENTER

TRAFFIC ANALYSIS

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Reference Number	Agency	Date
14915-04A TA Report	City of Cypress	January 27, 2023

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CAMUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
HCM	Highway Capacity Manual
ICU	Intersection Capacity Utilization
ITE	Institute of Transportation Engineers
LOS	Level of Service
OCTA	Orange County Transit Authority
PCE	Passenger Car Equivalent
PHF	Peak Hour Factor
Project	Goodman Commerce Center
TA	Traffic Analysis
v/c	Volume to Capacity
vphgpl	Vehicles per Hour Green per Lane

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1 INTRODUCTION

This report presents the results of the Traffic Analysis (TA) for Goodman Commerce Center development ("Project"), which is located at 5757 Plaza Drive (Assessor's Parcel Number: 241-101-26) in the City of Cypress, as shown on Exhibit 1-1. The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with the City's General Plan level of service goals and policies. The City does not have its own traffic study guidelines. This TA has been prepared in accordance with the County of Orange's Congestion Management Program (CMP) (November 2011) and through consultation with City of Cypress staff during the scoping process. (1) The Project traffic study scoping agreement is provided in Appendix 1.1 of this TA, which has been reviewed and approved by the City of Cypress.

1.1 SUMMARY OF FINDINGS

The Project is to construct the following improvements as design features in conjunction with development of the site:

- Project to construct the site frontage improvements needed to accommodate site access along Plaza Drive.
- Project to install stop controls for all egress traffic from each Project driveway. All driveways along Plaza Drive will accommodate full access (no turn restrictions).

Additional details and intersection lane geometrics are provided in Section 1.6 Recommendations of this report. The Project is not anticipated to require the construction any off-site improvements and would also contribute to improvement needs identified at off-site intersections for future cumulative traffic conditions. As such, the Project Applicant's responsibility for the Project's contributions towards off-site intersections is fulfilled through payment into pre-existing fee programs (if applicable).

1.2 PROJECT OVERVIEW

A preliminary site plan for the proposed Project is shown on Exhibit 1-2. The Project includes the development a of two proposed warehouse buildings: Building 1 with 204,909 square feet and Building 2 with 185,359 square feet for a total of 390,268 square feet. The proposed Project will replace an existing building which consists of 248,623 square feet of warehousing use and 88,020 square feet of office use. The existing building is shown on Exhibit 1-3. The anticipated Opening Year for the proposed Project is 2024. Access to the site will be accommodated via four driveways along Plaza Drive located where the existing access points are. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021). (2) The Project is anticipated to generate a total of 692 two-way trips per day with 35 AM peak hour trips and 43 PM peak hour trips (actual vehicles). The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 Project Trip Generation of this report.

EXHIBIT 1-1: LOCATION MAP

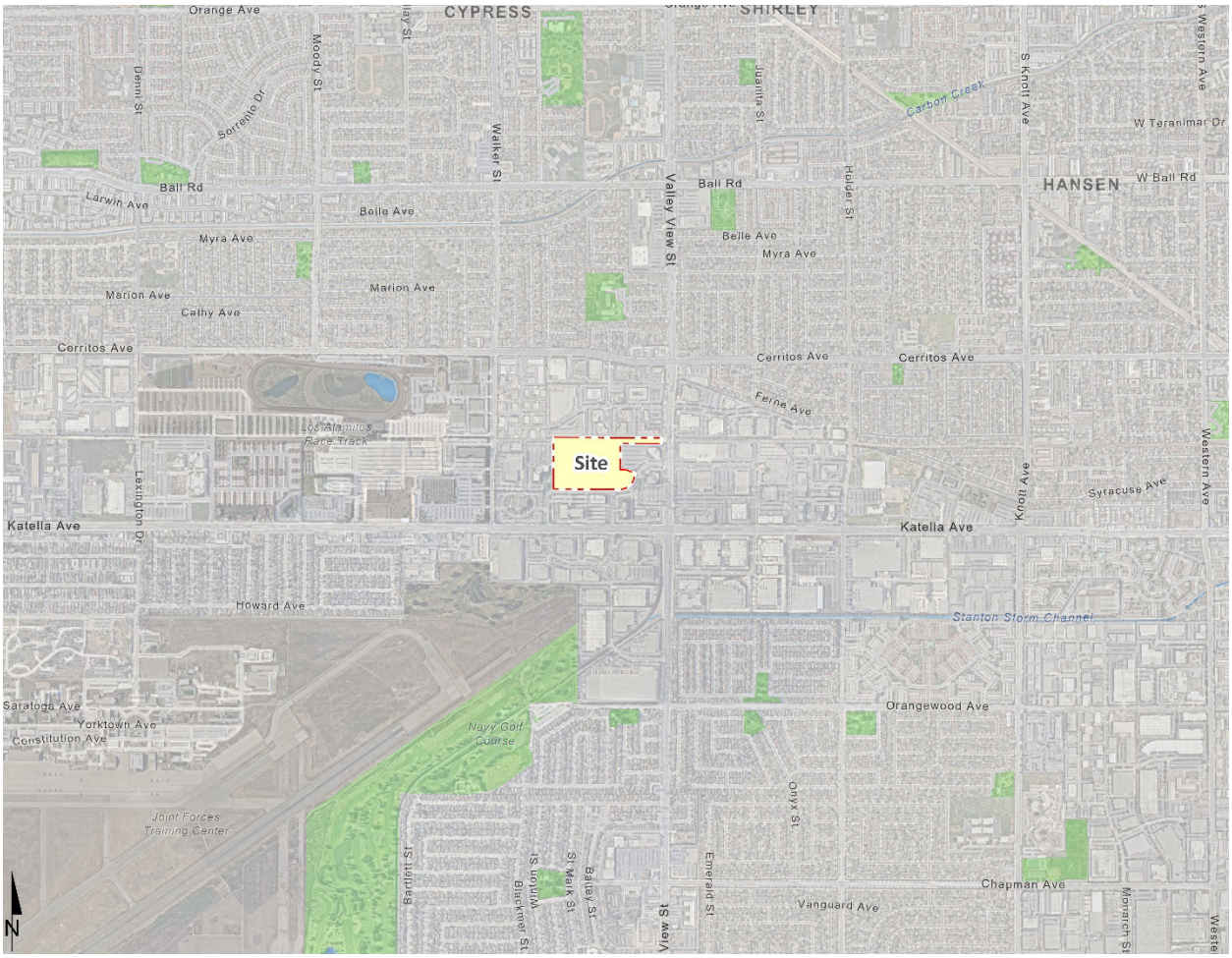


EXHIBIT 1-2: PRELIMINARY SITE PLAN

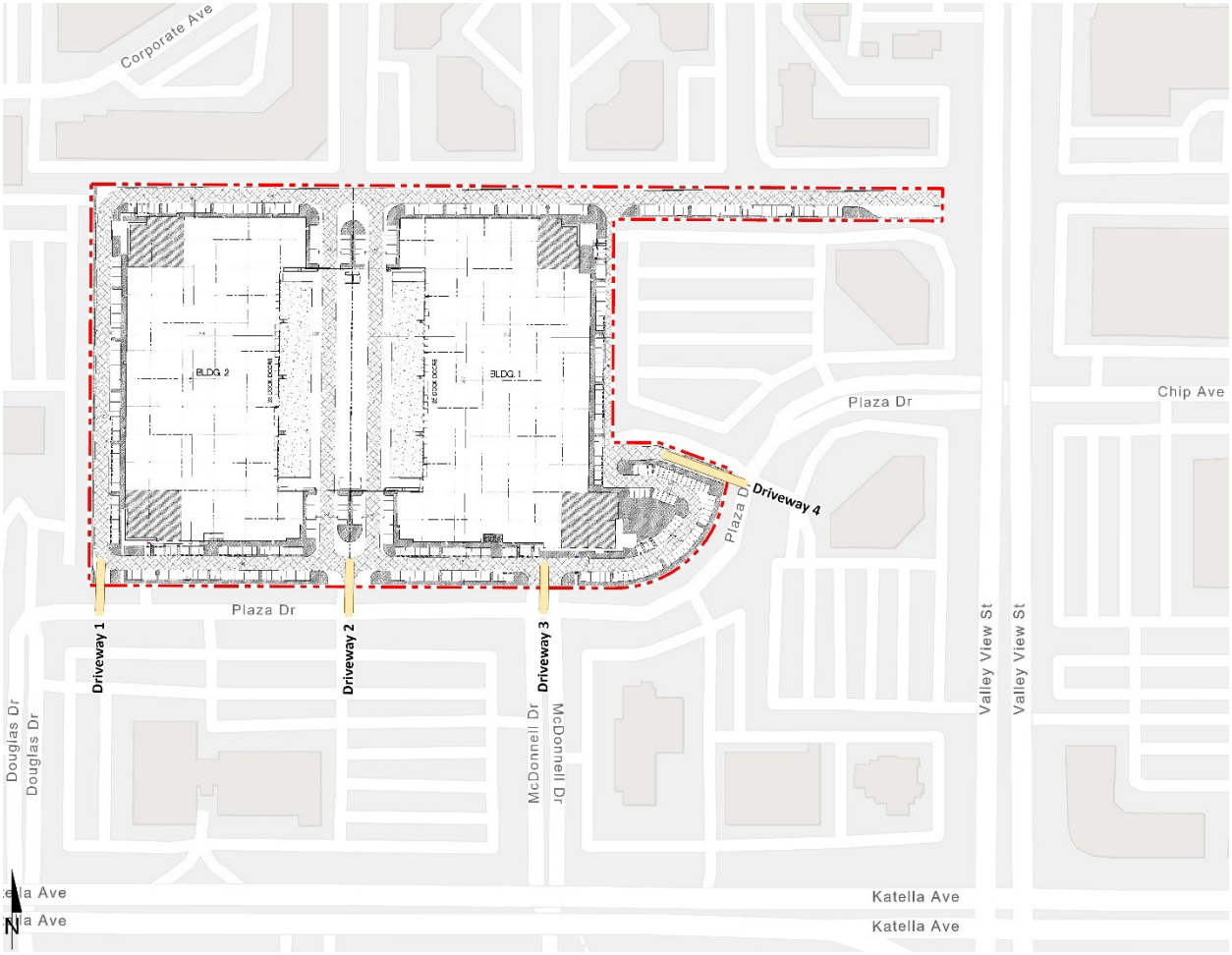
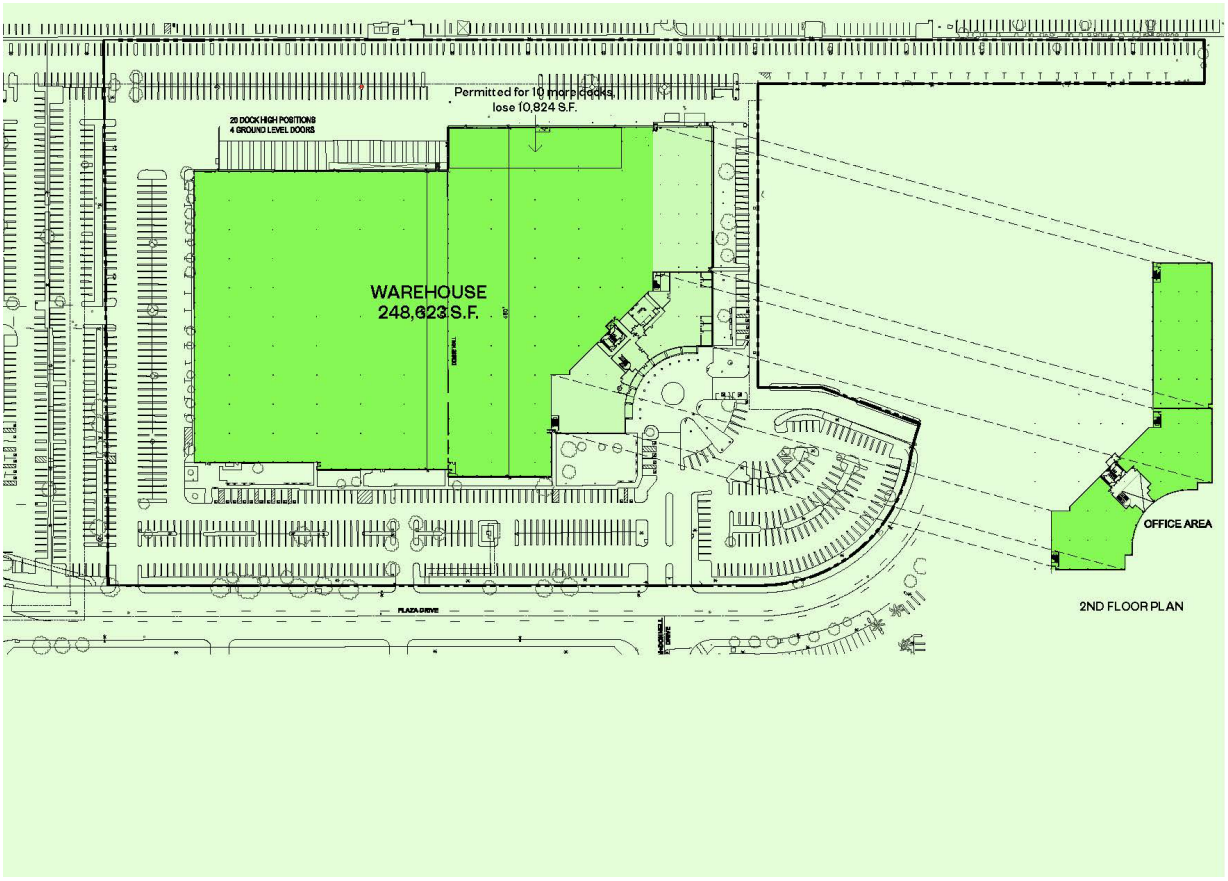


EXHIBIT 1-3: EXISTING SITE PLAN



1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2022) Conditions
- Opening Year Cumulative (2024) Without Project
- Opening Year Cumulative (2024) With Project

1.3.1 EXISTING (2022) CONDITIONS

Information for Existing (2022) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. For a detailed discussion on the existing traffic counts, see Section 3.6 Existing Traffic Counts.

1.3.2 OPENING YEAR CUMULATIVE (2024) CONDITIONS

The Opening Year Cumulative (2024) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2022) conditions of 4.04% (2 percent per year, compounded over 2 years) is included for Opening Year Cumulative (2024) traffic conditions. Conservatively, this TA estimates the area ambient traffic growth and then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed ambient growth rates; and some of these related projects may not be implemented and operational within the 2024 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in the TA (ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2024 conditions.

1.4 STUDY AREA

To ensure that this TA satisfies the City of Cypress's traffic study requirements, Urban Crossroads, Inc. prepared a Project traffic study scoping package for review by City of Cypress staff prior to the preparation of this report. This agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the City is included in Appendix 1.1 of this TA.

The 6 study area intersections shown on Exhibit 1-4 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with City of Cypress staff. At a minimum, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the County's CMP Guidelines. (1) The "50 peak hour trip" criterion represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and used throughout the County for the purposes of estimating a potential area of influence (i.e., study area).

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction	CMP?
1	Douglas Dr. & Katella Av.	City of Cypress	No
2	Driveway 1 & Plaza Dr.	City of Cypress	No
3	Driveway 2 & Plaza Dr.	City of Cypress	No
4	Driveway 3/Cara Wy. & Plaza Dr.	City of Cypress	No
5	Driveway 4 & Plaza Dr.	City of Cypress	No
6	Valley View St. & Plaza Dr.	City of Cypress	No

The intent of a CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Orange CMP became effective with the passage of Proposition 111 in 1990 and most recently updated in 2021. There are no study area intersections identified as a CMP intersection.

1.5 DEFICIENCIES

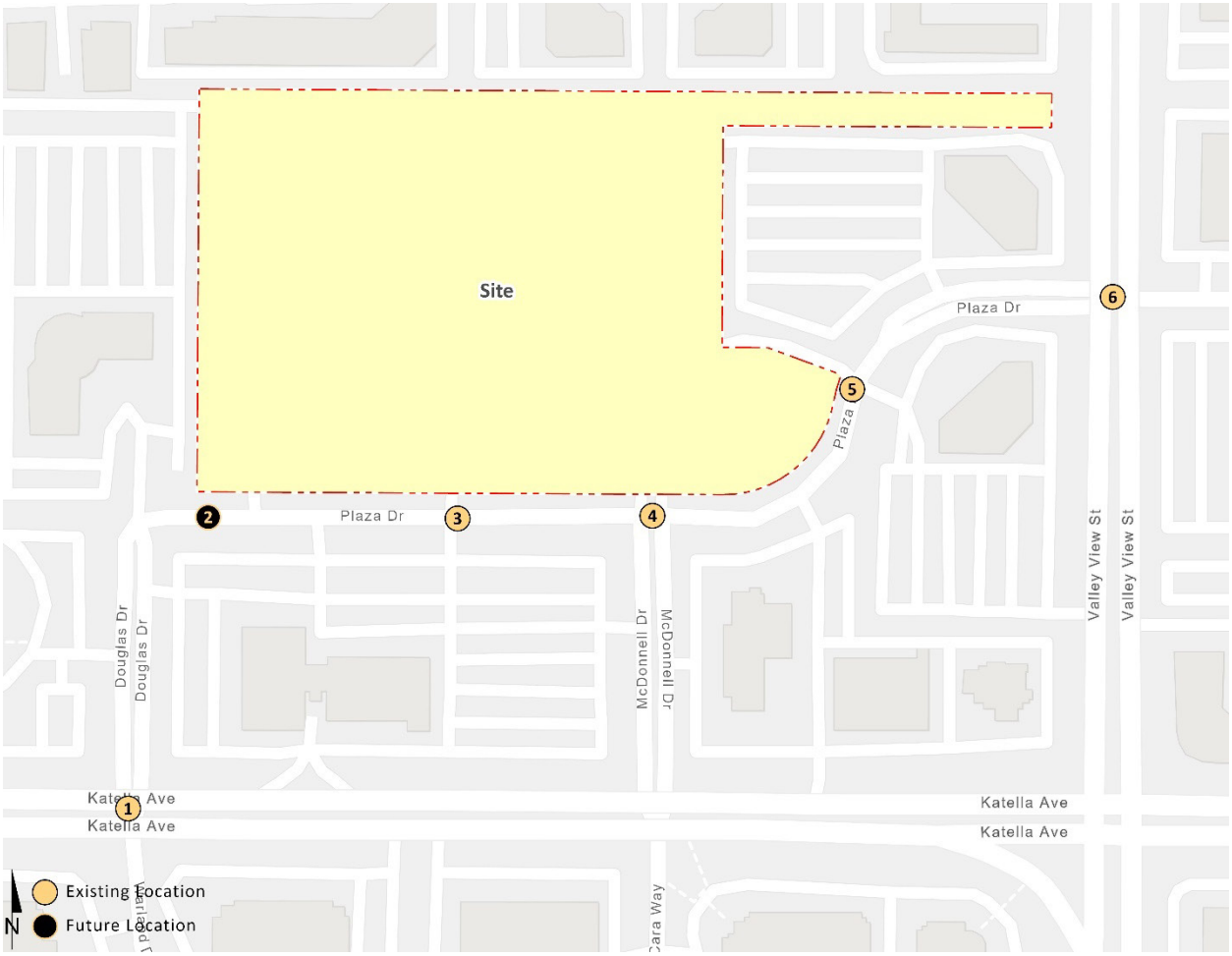
This section provides a summary of deficiencies by analysis scenario. Section 2 Methodologies provides information on the methodologies used in the analysis and Section 5 Opening Year Cumulative (2024) Traffic Conditions include the detailed analysis. A summary of level of service (LOS) results for all analysis scenarios is presented on Table 1-2.

TABLE 1-2: SUMMARY OF LOS

		Existing		2024 NP		2024 WP	
#	Intersection	AM	PM	AM	PM	AM	PM
1	Douglas Dr. & Katella Av.						
2	Driveway 1 & Plaza Dr.						
3	Driveway 2 & Plaza Dr.						
4	Driveway 3/Cara Wy. & Plaza Dr.						
5	Driveway 4 & Plaza Dr.						
6	Valley View St. & Plaza Dr.						

= A - D = E = F

EXHIBIT 1-4: STUDY AREA



1.5.1 EXISTING (2022) CONDITIONS

The study area intersections are currently operating at an acceptable LOS during the peak hours.

1.5.2 OPEINNG YEAR CUMULATIVE (2024) CONDITIONS

The study area intersections are anticipated to continue to operate at an acceptable LOS under Opening Year Cumulative (2024) Without and With Project traffic conditions.

1.6 RECOMMENDATIONS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project.

Recommendation 1 **–** Driveway 1 & Plaza Drive (#2) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection. Driveway 1 will accommodate site access for passenger cars and will accommodate full access (no turn restrictions). Left turn storage into the Project is anticipated to be accommodated by the painted median.

Recommendation 2 **–** Driveway 2 & Plaza Drive (#3) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection. Driveway 2 will accommodate site access for passenger cars and will accommodate full access (no turn restrictions). Left turn storage into the Project is anticipated to be accommodated by the painted median.

Recommendation 3 **–** Driveway 3 & Plaza Drive (#4) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection. Driveway 3 will accommodate site access for passenger cars and will accommodate full access (no turn restrictions). Left turn storage into the Project is anticipated to be accommodated by the painted median.

Recommendation 4 **–** Driveway 4 & Plaza Drive (#5) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection. Driveway 4 will accommodate site access for passenger cars and will accommodate full access (no turn restrictions). Left turn storage into the Project is anticipated to be accommodated by the painted median.

Recommendation 5 **–** Plaza Drive – It is recommended that Plaza Drive be restriped to accommodate the anticipated increased truck traffic and reduce conflicts at the driveways.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and City of Cypress sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

1.7 TRUCK ACCESS

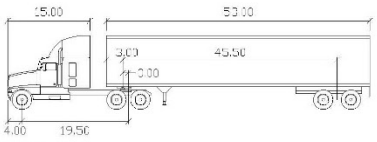
Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at Driveway 2 which is anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see concept striping plans on Exhibit 1-5). A WB-67 truck (53-foot trailer) has been utilized for the purposes of this analysis. As shown previously on Exhibit 1-5, Driveway 2 on Plaza Drive is anticipated to accommodate the ingress and egress of heavy trucks as currently designed.

1.8 QUEUING ANALYSIS

The traffic modeling and signal timing optimization software package SimTraffic has been utilized to assess the queues. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. These random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each applicable turn lane. A SimTraffic simulation has been recorded up to 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals.

A queuing analysis has been conducted for all study area intersections under Opening Year Cumulative (2024) traffic conditions to ensure the existing and proposed left turn storage can accommodate the 95th percentile peak hour queues. The results of the queuing analysis are shown in Table 1-3 and the worksheets for the weekday AM and PM peak hours are provided in Appendix 1.2 of this report for Opening Year Cumulative (2024) traffic conditions. As shown on Table 1-3, there are no improvements needed to the turn lane storage lengths.

EXHIBIT 1-5: TRUCK ACCESS

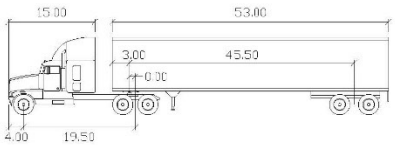


WB 67
Not to Scale
Feet

Tractor Width	8.00	Lock to Lock Time	6.0
Trailer Width	8.50	Steering Angle	28.4
Tractor Track	8.00	Articulating Angle	75.0
Trailer Track	8.50		

GRAPHIC SCALE
0 30 60
1" = 60'

N



WB-67
Not to Scale

Tractor Width	8.00	Lock to Lock Time	6.0
Trailer Width	8.50	Steering Angle	23.4
Tractor Track	8.00	Articulating Angle	75.0
Trailer Track	8.50		

GRAPHIC SCALE
0 30 60
1"=60'

N

TABLE 1-3: PEAK HOUR QUEUING ANALYSIS

Intersection	Movement	Available Stacking Distance (Feet)[3]	95th Percentile Queue (Feet) AM Peak	95th Percentile Queue (Feet) PM Peak	Acceptable? [1] AM	Acceptable? [1] PM
Douglas Dr. & Katella Av.	NBL	115	45	76	Yes	Yes
	SBL	90	7	39	Yes	Yes
	SBR	90	27	36	Yes	Yes
	EBL	250	84	74	Yes	Yes
	EBR	100	53	69	Yes	Yes
	WBL	250	81	64	Yes	Yes
	WBR	130	48	14	Yes	Yes
Driveway 1 & Plaza Dr.	EBL	100	0	5	Yes	Yes
Driveway 2 & Plaza Dr.	WBL	100	5	0	Yes	Yes
Driveway3 & Plaza Dr.	WBL	100	0	7	Yes	Yes
Driveway 4 & Plaza Dr.	WBL	100	14	8	Yes	Yes
Valley View St. & Plaza Dr.	NBL	190	97	34	Yes	Yes
	SBL	160	121	70	Yes	Yes
	EBL	110	26	87	Yes	Yes
	WBL	65	20	71	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with the County's CMP Guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (5) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

Intersection Capacity Utilization (ICU)

The City of Cypress requires signalized intersections to be evaluated through ICU analysis which compares the peak hour traffic volumes to intersection capacity. Lane capacities of 1,700 vehicles per hour of green time have been assumed for the ICU calculations. 0.05 of volume to capacity (V/C) has been assumed representing 5 percent for the yellow and all-red signal indication and inherent vehicle delay between cycles with an assumed signal cycle of 100 seconds. The ICU LOS definitions based on V/C ratio are presented in Table 2-1. The Traffix software package has been utilized to evaluate the signalized intersections using the ICU methodology with the analysis parameters discussed above.

TABLE 2-1 INTERSECTION CAPACITY UTILIZATION (ICU) LOS DEFINITIONS

Level of Service	Critical Volume to Capacity Ratio
A	0.00 - 0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90
E	0.91 - 1.00
F	>1.00

Source: 2010 LA County CMP

Highway Capacity Analysis (HCM)

Intersection LOS operations have also been reported based on the HCM methodology which are based on an intersection's average control delay. (3) Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-2.

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-2: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

A saturation flow rate of 1900 has been utilized for all study area intersections. The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (5)

2.2.2 UNSIGNALIZED INTERSECTIONS

The ICU methodology is not applicable to unsignalized intersections As such, the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (5) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-3). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-3: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term “signal warrants” refers to the list of established criteria used by the California Department of Transportation (Caltrans) and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (6)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school

areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (6) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Rural warrants have been used as posted speed limits on the major roadways with unsignalized intersections are over 40 miles per hour while urban warrants have been used where speeds are 40 miles per hour or below.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. Traffic signal warrant analyses were performed for the following study area intersection shown on Table 2-4:

TABLE 2-4: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
2	Driveway 1 & Plaza Dr.
3	Driveway 2 & Plaza Dr.
4	Driveway 3/Cara Wy. & Plaza Dr.
5	Driveway 4 & Plaza Dr.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 Area Conditions of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 Opening Year Cumulative (2024) Traffic Conditions of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

The definition of an intersection deficiency has been obtained from the City's General Plan. The City of Cypress has adopted LOS D or better as the desired citywide operating standard for most City streets. However, given the influence of regional traffic on Valley View Street, Lincoln Avenue, and Katella Avenue, which are beyond the control of the City of Cypress, LOS E or better has been adopted as the minimum operating LOS for street segments and intersections on these arterials due to the high volume of traffic carried on these roadways.

2.5 DEFICIENCY CRITERIA

For the study area intersections that lie within the City of Cypress, to determine whether the addition of project traffic (as defined through the comparison of Opening Year Cumulative Without and With Project traffic conditions) at a study intersection would result in a direct project-specific traffic deficiency, the following conditions must occur:

- Any study intersection operating at an acceptable LOS D or better without project in which the addition of project traffic causes the intersection to degrade to LOS E or F shall identify improvements to improve the operations to LOS D or better.

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3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Cypress General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the scoping agreement with City of Cypress staff (Appendix 1.1), the study area includes a total of 6 existing and future intersections as shown previously on Exhibit 1-3, where the Project is anticipated to contribute 50 or more peak hour trips or were added at the City's request during the scoping process. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF CYPRESS GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located within the City of Cypress. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on City of Cypress General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the City of Cypress General Plan Circulation Element and Exhibit 3-3 illustrates the City of Cypress General Plan roadway cross-sections.

Major roadways are six-lane roadways and typically include a raised median. These roadways typically have a 120-foot right-of-way and a 104-foot curb-to-curb measurement. These roadways typically direct traffic through major development areas. The following study area roadways within the City are classified as a Major:

- Katella Avenue
- Valley View Street

3.3 BICYCLE & PEDESTRIAN FACILITIES

The City's bike network is shown on Exhibit 3-4. As shown on Exhibit 3-4, both Katella Avenue and Valley View Street currently accommodate off-street bike paths. Exhibit 3-5 illustrates the existing crosswalks and sidewalks throughout the study area. As shown on Exhibit 3-5, there are pedestrian facilities in place in the vicinity of the Project site along Douglas Drive, Katella Avenue, and Valley View Street.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

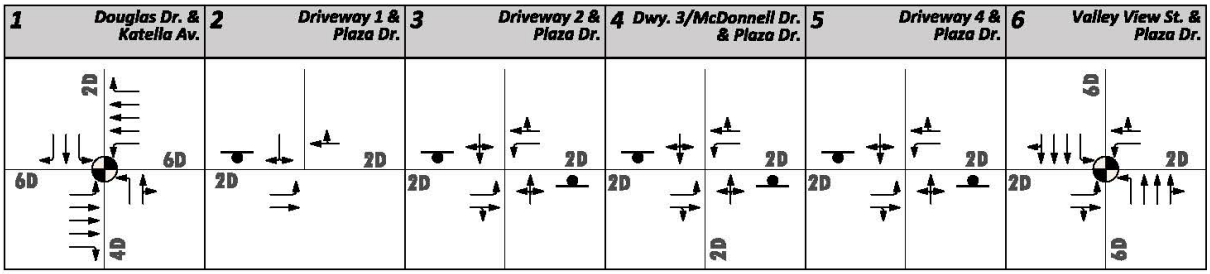
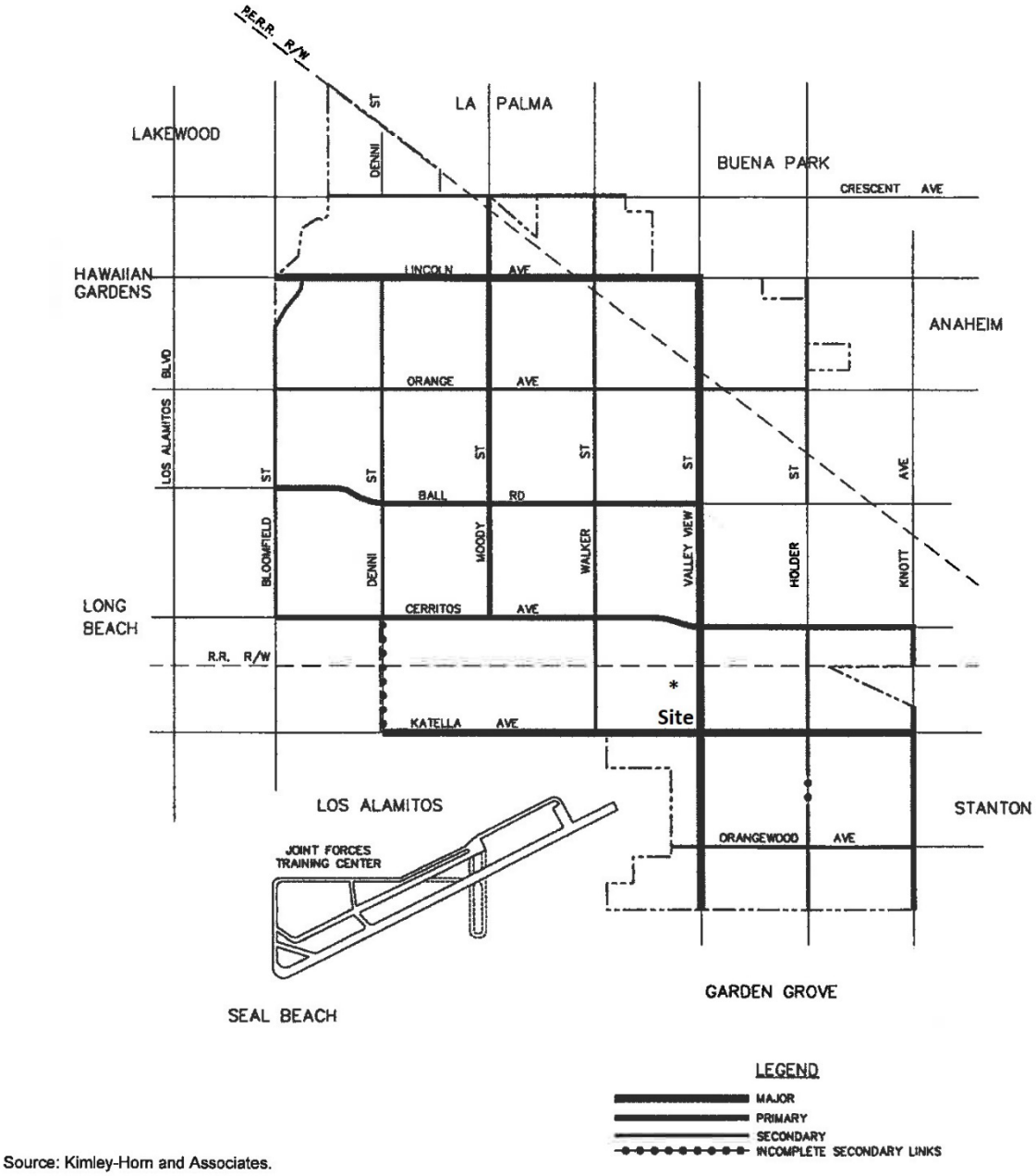


EXHIBIT 3-2: CITY OF CYPRESS GENERAL PLAN CIRCULATION ELEMENT



Source: Kimley-Horn and Associates.

N

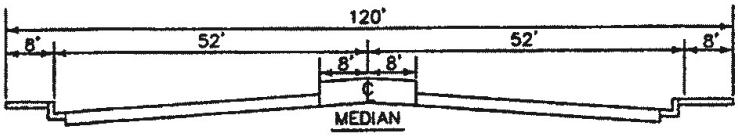
RBF CONSULTING PLANNING ■ DESIGN ■ CONSTRUCTION

CITY OF CYPRESS GENERAL PLAN
General Plan Arterial System

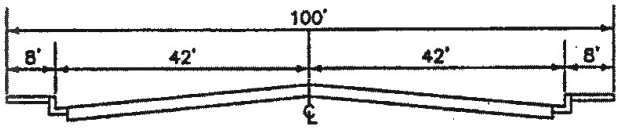
Exhibit CIR-7

EXHIBIT 3-3: CITY OF CYPRESS GENERAL PLAN ROADWAY CROSS-SECTIONS

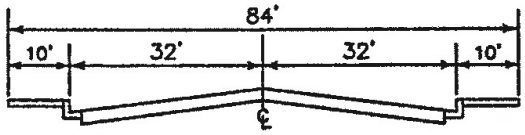
MAJOR STREET



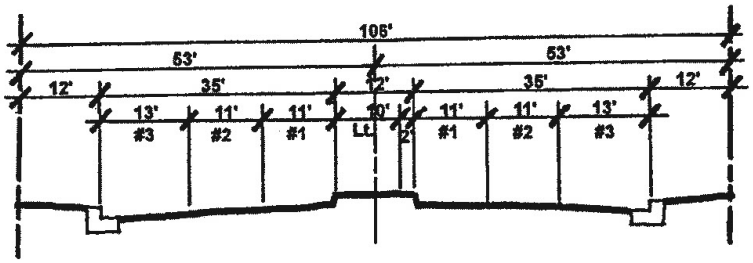
PRIMARY STREET



SECONDARY STREET



LINCOLN AVENUE TYPICAL STREET SECTION



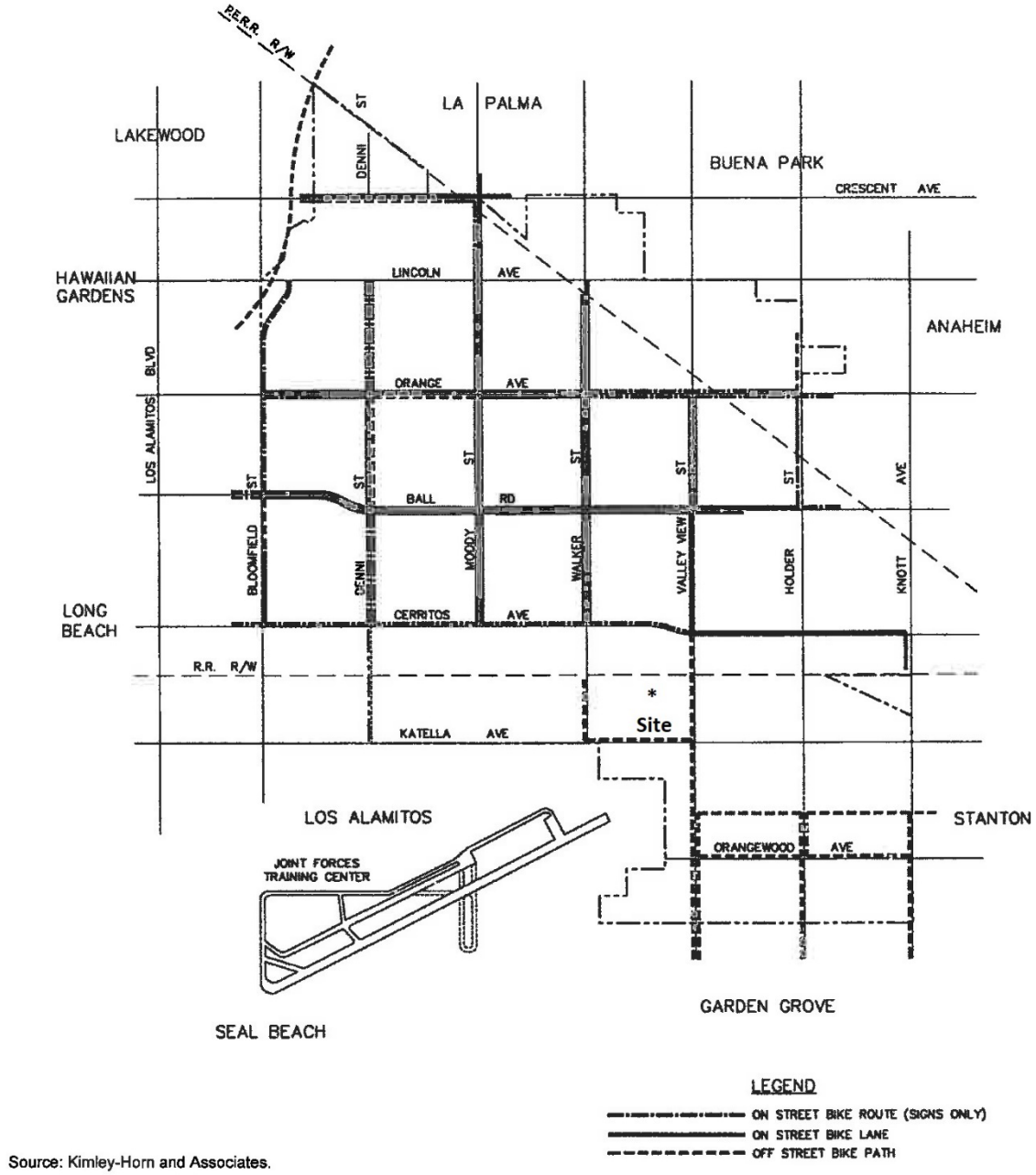
Source: Kimley-Horn and Associates.

CITY OF CYPRESS GENERAL PLAN
Standard Street Sections

RBF PLANNING ■ DESIGN ■ CONSTRUCTION

Exhibit CIR-6

EXHIBIT 3-4: CITY OF CYPRESS GENERAL PLAN BIKE NETWORK



Source: Kimley-Horn and Associates.

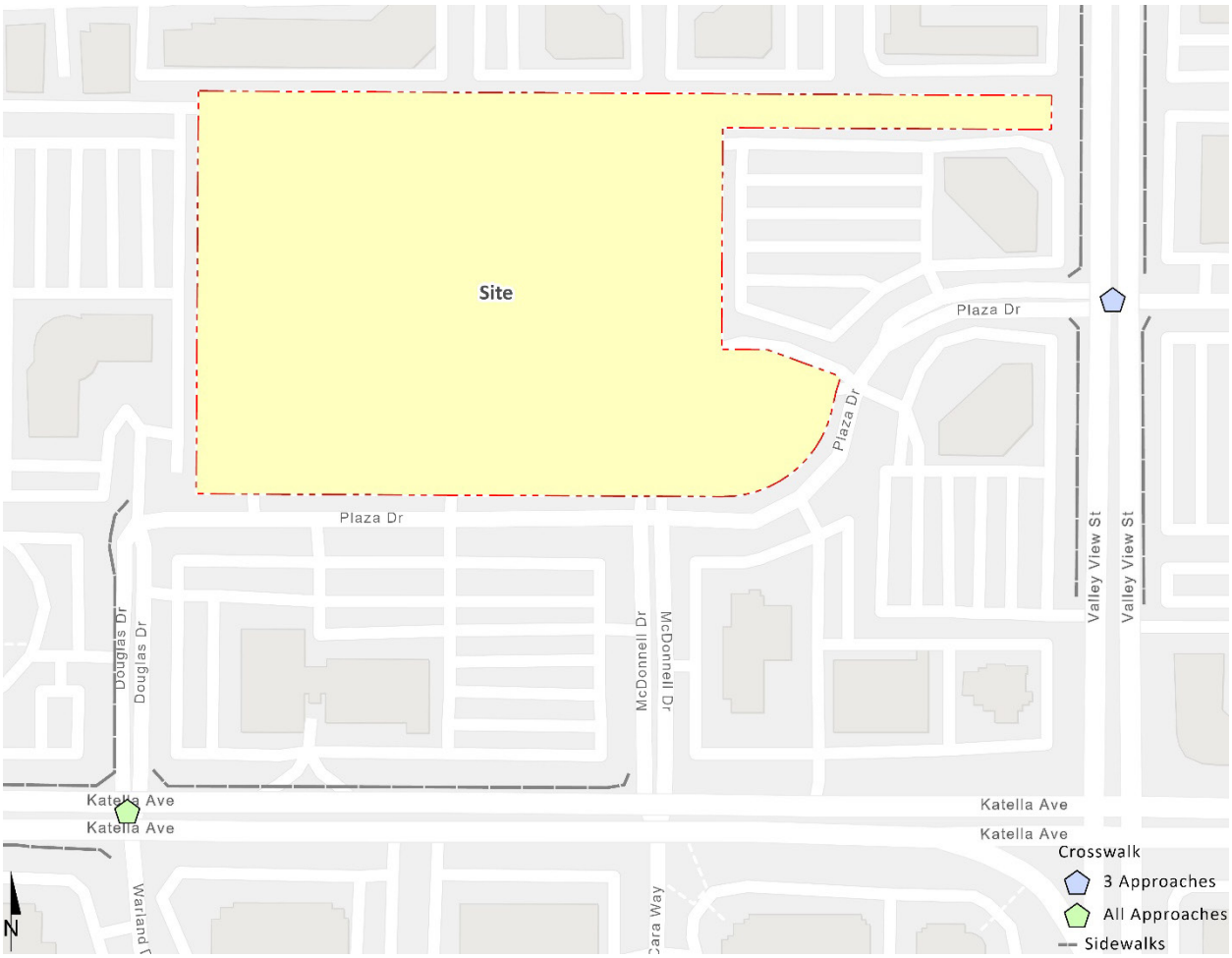
N

RBF CONSULTING PLANNING ■ DESIGN ■ CONSTRUCTION

CITY OF CYPRESS GENERAL PLAN
Existing Bikeways

Exhibit CIR-4

EXHIBIT 3-5: EXISTING PEDESTRIAN FACILITIES



3.4 TRANSIT SERVICE

The study area is currently served by Orange County Transit Authority (OCTA) with bus service along Katella Avenue and Valley View Street. OCTA Route 50 runs along Katella Avenue and currently has existing bus stops just east of Douglas Drive and west of Valley View Street along the north side. OCTA Route 123 runs along Valley View Street and there are existing bus stops north of Plaza Drive. The existing transit stops are in close proximity to the Project site and could serve the site in the future. The transit services are illustrated on Exhibit 3-6. Transit service is reviewed and updated by OCTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.5 TRUCK ROUTES

The City's truck routes are shown on Exhibit 3-7. Both Katella Avenue and Valley View Street adjacent to the Project are identified as truck routes. These truck routes serve both the proposed Project and future cumulative development projects throughout the study area.

3.6 EXISTING (2022) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in August 2022 when local schools were in session and operating on normal bell schedules. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

Existing weekday ADT volumes on arterial highways throughout the study area are shown on Exhibit 3-8. Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 11.3 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.9 percent. As such, the above equation utilizing a factor of 11.3 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.9 percent (i.e., 1/0.089 = 11.3) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. This factor is consistent with that used for other traffic studies within the study area. Existing weekday AM and weekday PM peak hour intersection volumes are shown on Exhibit 3-8.

EXHIBIT 3-6: EXISTING TRANSIT ROUTES

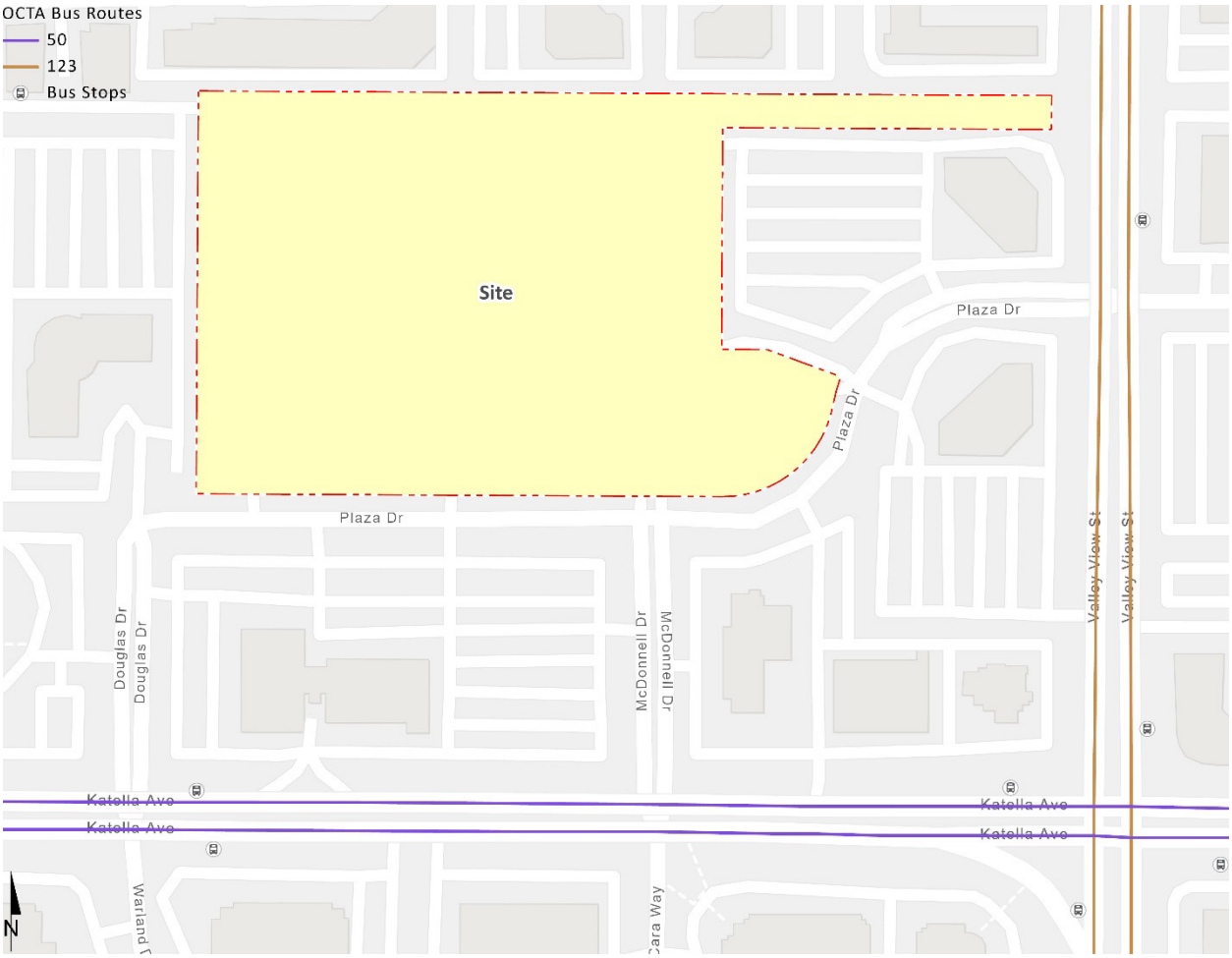
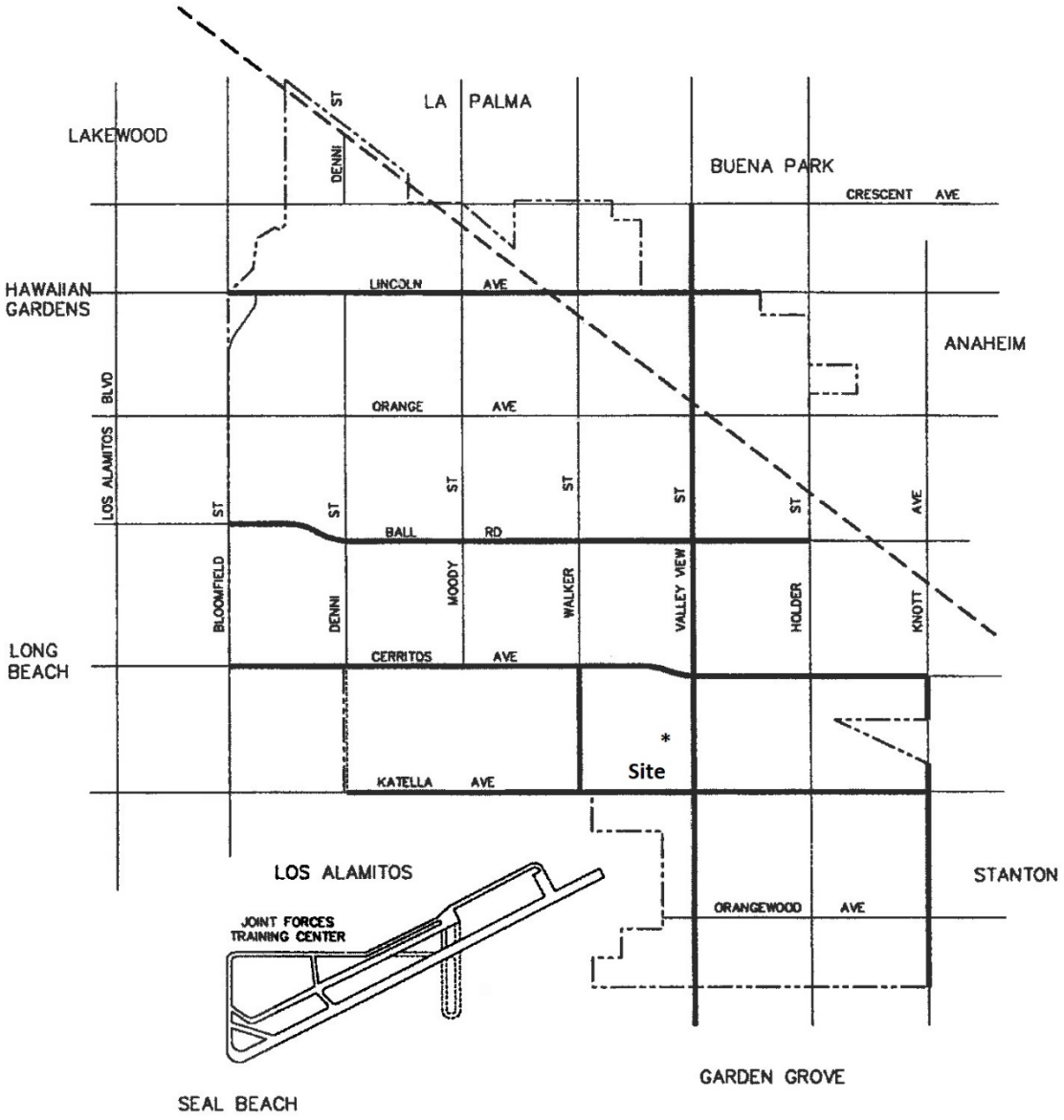


EXHIBIT 3-7: CITY OF CYPRESS TRUCK ROUTES



Source: Kimley-Horn and Associates.

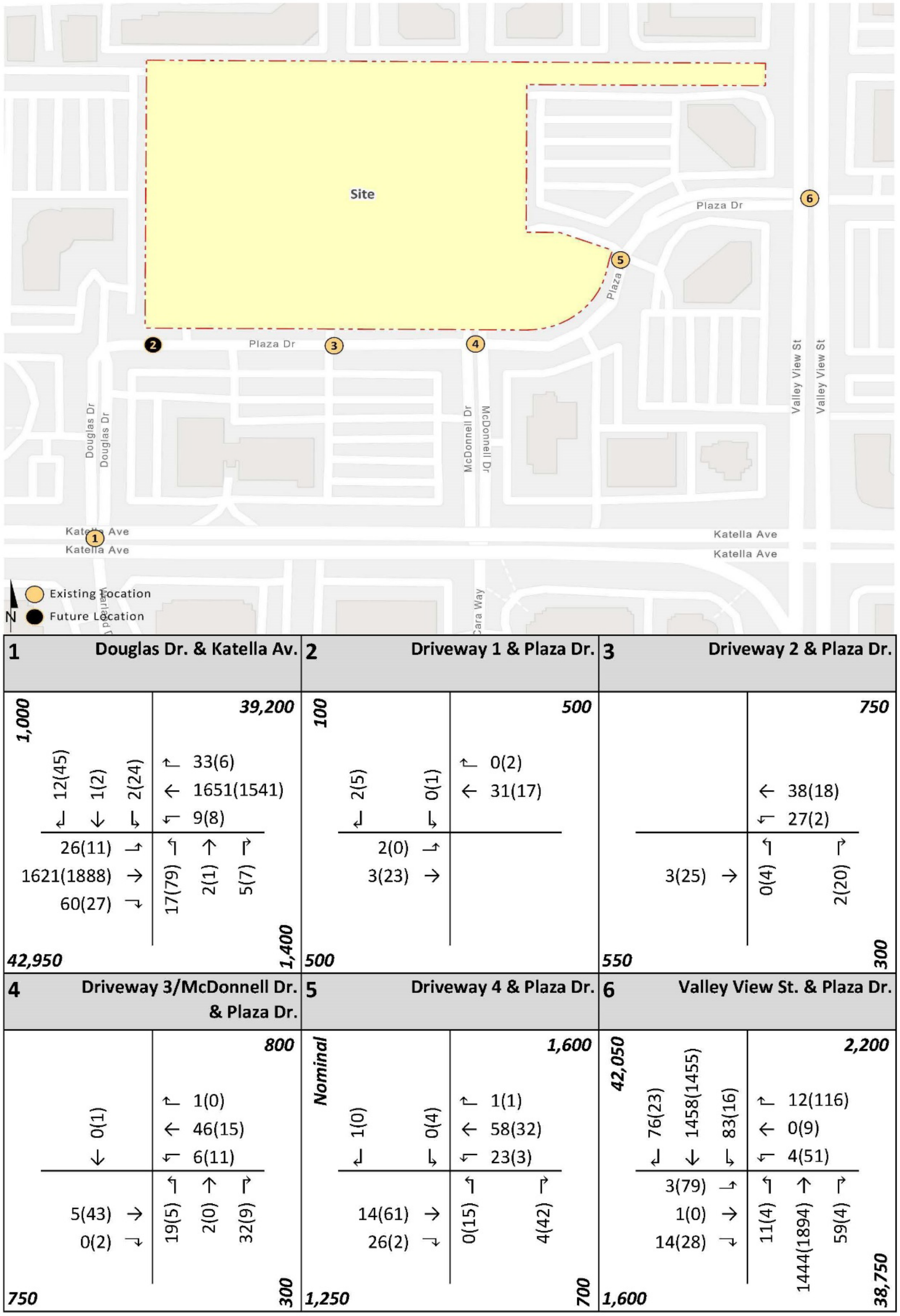
N

CITY OF CYPRESS GENERAL PLAN
Existing Truck Routes and Rail Lines

RBF CONSULTING PLANNING ■ DESIGN ■ CONSTRUCTION

Exhibit CIR-5

EXHIBIT 3-8: EXISTING (2022) TRAFFIC VOLUMES


Site
Plaza Dr
Plaza Dr
Plaza
Douglas Dr
McDonnell Dr
Valley View St
Katella Ave
Cara Way
Existing Location
Future Location
N
1 Douglas Dr. & Katella Av.
1,000
39,200
12(45) 1(2) 2(24)
33(6)
1651(1541)
9(8)
26(11)
1621(1888)
60(27)
17(79) 2(1) 5(7)
42,950
1,400
2 Driveway 1 & Plaza Dr.
100
500
2(5) 0(1)
0(2)
31(17)
2(0)
3(23)
500
3 Driveway 2 & Plaza Dr.
750
38(18)
27(2)
3(25)
0(4) 2(20)
550
300
4 Driveway 3/McDonnell Dr. & Plaza Dr.
800
0(1)
1(0)
46(15)
6(11)
5(43)
0(2)
19(5) 2(0) 32(9)
750
300
5 Driveway 4 & Plaza Dr.
Nominal
1,600
1(0) 0(4)
1(1)
58(32)
23(3)
14(61)
26(2)
0(15) 4(42)
1,250
700
6 Valley View St. & Plaza Dr.
42,050
2,200
76(23) 1458(1455) 83(16)
12(116)
0(9)
4(51)
3(79)
1(0)
14(28)
11(4) 1444(1894) 59(4)
1,600
38,750

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

Volumes reported on the exhibits are expressed in actual vehicles. However, the peak hour intersection operations analysis utilizes passenger car equivalent (PCE) volumes. PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. PCE volumes for all analysis scenarios can be found in Appendix 3.1.

3.7 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 Intersection Capacity Analysis of this report. The intersection operations analysis results are summarized on Table 3-1, which indicates that all existing study area intersections are currently operating at acceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2022) CONDITIONS

#	Intersection	Traffic Control[3]	Delay[1] (secs.)		Level of Service		ICU[2] (V/C)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Douglas Dr. & Katella Av.	TS	6.7	9.3	A	A	0.43	0.51	A	A
2	Driveway 1 & Plaza Dr.	CSS	8.5	8.5	A	A	--	--		
3	Driveway 2 & Plaza Dr.	CSS	8.3	8.8	A	A	--	--		
4	Driveway 3/Cara Wy. & Plaza Dr.	CSS	9.0	10.0	A	B	--	--		
5	Driveway 4 & Plaza Dr.	CSS	8.7	10.1	A	B	--	--		
6	Valley View St. & Plaza Dr.	TS	7.3	9.7	A	A	0.41	0.52	A	A

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 ICU reported as a volume-to-capacity ratio and for signalized intersections only. ICU not applicable to unsignalized inspections.

2 TS = Traffic Signal; CSS = Cross-street Stop

3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. There are no unsignalized study area intersections that currently warrant a traffic signal for Existing traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project includes the development a of two proposed warehouse buildings: Building 1 with 204,909 square feet and Building 2 with 185,359 square feet for a total of 390,268 square feet. The proposed Project will replace an existing building which consists of 248,623 square feet of warehousing use and 88,020 square feet of office use. The anticipated Opening Year for the proposed Project is 2024. Access to the site will be accommodated via four driveways along Plaza Drive located where the existing access points are.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development.

4.1.1 EXISTING USE

The proposed Project will replace an existing building which consists of 248,623 square feet of warehousing use and 88,020 square feet of office use. In an effort to understand the existing traffic associated with the current uses, the trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual (11th Edition, 2021) for the existing warehousing (ITE Land Use Code 150) and general office (ITE Land Use Code 710) uses (see Table 4-1). For purposes of this analysis, the following land use code and vehicle mix has been utilized for the existing warehouse component:

- ITE Land Use Code 150 (Warehousing) has been used to derive site specific trip generation estimates for the existing use (248,623 square feet of warehousing use). A warehouse is primarily devoted to the storage of materials but may also include office and maintenance areas. The vehicle mix has also been obtained from the ITE's latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

TABLE 4-1: EXISTING TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks			0.007	0.006	0.013	0.010	0.009	0.019	0.376
General Office (based on average rates)	TSF	710	1.34	0.18	1.52	0.24	1.20	1.44	10.84
Passenger Car Equivalent (PCE) Trip Generation Rates[6]									
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks (PCE = 1.5)			0.003	0.002	0.005	0.005	0.003	0.008	0.150
3-Axle Trucks (PCE = 2.0)			0.004	0.004	0.008	0.006	0.006	0.012	0.248
4+-Axle Trucks (PCE = 3.0)			0.021	0.017	0.038	0.030	0.026	0.056	1.127

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

General Office (ITE Land Use Code 710) has been used to calculate the trip generation for the existing 88,020 square feet of office use. The trip generation summary illustrating daily, and peak hour trip generation estimates for the existing uses are shown on Table 2 in actual and PCE vehicles. As shown on Table 4-2, the existing use generates a total of 1,658 two-way trips per day with 212 AM peak hour trips and 210 PM peak hour trips (in actual vehicles). In comparison, the existing use generates a total of 1,886 PCE two-way trips per day with 220 PCE AM peak hour trips and 222 PCE PM peak hour trips (see also Table 4-2).

PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with that used for other projects within the City.

TABLE 4-2: EXISTING TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicles:									
Warehousing	248.623	TSF							
Passenger Cars:			30	7	37	9	29	38	276
2-axle Trucks:			0	0	0	1	0	1	26
3-axle Trucks:			0	1	1	1	1	2	32
4+-axle Trucks:			2	1	3	2	2	4	94
Total Truck Trips (Actual Vehicles):			2	2	4	4	3	7	152
Total Trips (Actual Vehicles)[2]			32	9	41	13	32	45	428
General Office	88.020	TSF	118	16	134	22	105	127	954
Passenger Cars			148	23	171	31	134	165	1,230
Trucks			32	9	41	13	32	45	428
Total Trips (Actual Vehicles)[2]			**180**	**32**	**212**	**44**	**166**	**210**	**1,658**
Passenger Car Equivalent (PCE):									
Warehousing	248.623	TSF							
Passenger Cars:			30	7	37	9	29	38	276
2-axle Trucks:			1	0	1	1	1	2	38
3-axle Trucks:			1	1	2	1	2	3	62
4+-axle Trucks:			5	4	9	7	7	14	280
Total Truck Trips (PCE):			7	5	12	9	10	19	380
Total Trips (PCE)[2]			37	12	49	18	39	57	656
General Office	88.020	TSF	118	16	134	22	105	127	954
Passenger Cars			148	23	171	31	134	165	1,230
Trucks (PCE)			37	12	49	18	39	57	656
Total Trips (PCE)[2]			**185**	**35**	**220**	**49**	**173**	**222**	**1,886**

[1] TSF = Thousand Square Feet

[2] Total = Passenger Cars + Trucks

4.1.2 PROPOSED PROJECT

The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual (11th Edition, 2021) for the proposed high-cube transload and short-term storge warehouse use (ITE Land use Code 154) and high-cube cold-storage warehouse use (ITE Land Use Code 157) (see Table 4-3). For purposes of this analysis, the following land use codes and vehicle mixes have been utilized for the various industrial components:

- ITE land use code 154 (High-Cube Transload and Short-Term Storage Warehouse) has been used to derive the trip generation for the proposed Project (50% of the total square footage, or 195,134 square feet). High-cube transload/short-term storage warehouse data regarding the truck percentage and vehicle mix has been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 195,134 square feet of the proposed Project (remaining 50% of the overall square footage). High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

TABLE 4-3: PROJECT TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
High-Cube Transload and Short-Term Storage Warehouse[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.052	0.008	0.060	0.023	0.067	0.090	1.180
2-Axle Trucks			0.002	0.001	0.003	0.001	0.001	0.002	0.037
3-Axle Trucks			0.002	0.002	0.004	0.001	0.001	0.002	0.046
4+-Axle Trucks			0.006	0.007	0.013	0.003	0.003	0.006	0.138
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
Passenger Car Equivalent (PCE) Trip Generation Rates[6]									
High-Cube Transload and Short-Term Storage Warehouse[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.052	0.008	0.060	0.023	0.067	0.090	1.180
2-Axle Trucks (PCE = 1.5)			0.003	0.002	0.005	0.002	0.001	0.003	0.055
3-Axle Trucks (PCE = 2.0)			0.004	0.004	0.008	0.002	0.002	0.004	0.091
4+-Axle Trucks (PCE = 3.0)			0.018	0.020	0.038	0.009	0.010	0.019	0.413
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+-Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	1.222

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

As shown in Table 4-4, the proposed Project is anticipated to generate a total of 692 two-way trips per day with 35 AM peak hour trips and 43 PM peak hour trips (in actual vehicles). In comparison, the proposed Project is anticipated to generate a total of 956 PCE two-way trips per day with 53 PCE AM peak hour trips and 54 PCE PM peak hour trips (see also Table 4-4). The rip generation shown on Table 44 has been utilized for the purposes of the operations analysis.

TABLE 4-4: PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicles:									
High-Cube Transload	195.134	TSF							
Passenger Cars:			10	2	12	4	13	17	230
2-axle Trucks:			0	0	0	0	0	0	8
3-axle Trucks:			0	0	0	0	0	0	10
4+-axle Trucks:			1	1	2	1	1	2	28
Total Truck Trips (Actual Vehicles):			1	1	2	1	1	2	46
Total Trips (Actual Vehicles)[2]			11	3	14	5	14	19	276
High-Cube Cold Storage	195.134	TSF							
Passenger Cars:			15	1	16	4	14	18	268
2-axle Trucks:			1	1	2	1	1	2	52
3-axle Trucks:			0	0	0	0	0	0	16
4+-axle Trucks:			1	2	3	2	2	4	80
Total Truck Trips (Actual Vehicles):			2	3	5	3	3	6	148
Total Trips (Actual Vehicles)[2]			17	4	21	7	17	24	416
Passenger Cars			25	3	28	8	27	35	498
Trucks			3	4	7	4	4	8	194
Total Trips (Actual Vehicles)[2]			**28**	**7**	**35**	**12**	**31**	**43**	**692**
Passenger Car Equivalent (PCE):									
High-Cube Transload	195.134	TSF							
Passenger Cars:			10	2	12	4	13	17	230
2-axle Trucks:			1	0	1	0	0	0	12
3-axle Trucks:			1	1	2	0	0	0	18
4+-axle Trucks:			4	4	8	2	2	4	82
Total Truck Trips (PCE):			6	5	11	2	2	4	112
Total Trips (PCE)[2]			16	7	23	6	15	21	342
High-Cube Cold Storage	195.134	TSF							
Passenger Cars:			15	1	16	4	14	18	268
2-axle Trucks:			1	2	3	1	2	3	76
3-axle Trucks:			0	1	1	1	1	2	32
4+-axle Trucks:			3	7	10	5	5	10	238
Total Truck Trips (PCE):			4	10	14	7	8	15	346
Total Trips (PCE)[2]			19	11	30	11	22	33	614
Passenger Cars			25	3	28	8	27	35	498
Trucks (PCE)			10	15	25	9	10	19	458
Total Trips (PCE)[2]			**35**	**18**	**53**	**17**	**37**	**54**	**956**

[1] TSF = Thousand Square Feet

[2] Total = Passenger Cars + Trucks

4.1.3 TRIP GENERATION COMPARISON

Table 4-5 shows the trip generation comparison between the existing and proposed use. It is our understanding that the existing warehouse/office building is currently vacant and generating only incidental vehicle trips, however, should the existing site be fully occupied, then it is anticipated there would a net reduction in trips. The resulting net new trips are identified at the bottom of Table 4-5. The trip generation comparison is based on PCE as the existing and proposed uses are truck-intensive uses (any intersection operations analysis would use the PCE-based trip generation). As shown on Table 4-5, the Project is anticipated to generate 930 fewer two-way trips per day with a net reduction of 167 AM peak hour trips and net reduction of 168 PM peak hour trips (in PCE).

TABLE 4-5: TRIP GENERATION COMPARISON

	AM Peak Hour			PM Peak Hour			
Land Use	In	Out	Total	In	Out	Total	Daily
Proposed Project							
Passenger Cars:	25	3	28	8	27	35	498
Total Truck Trips (PCE):	10	15	25	9	10	19	458
Total Trips (PCE)	**35**	**18**	**53**	**17**	**37**	**54**	**956**
Fully Occupied Existing Use							
Passenger Cars:	148	23	171	31	134	165	1,230
Total Truck Trips (PCE):	37	12	49	18	39	57	656
Total Trips (PCE)	**185**	**35**	**220**	**49**	**173**	**222**	**1,886**
Variance							
Passenger Cars:	-123	-20	-143	-23	-107	-130	-732
Total Truck Trips (PCE):	-27	3	-24	-9	-29	-38	-198
Total Trips (PCE)	**-150**	**-17**	**-167**	**-32**	**-136**	**-168**	**-930**

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. In addition, truck routes for neighboring agencies have been taken into consideration in the development of the trip distribution patterns for heavy trucks. Exhibits 4-1 and 4-2 show the Project truck and passenger car trip distribution patterns, respectively.

EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION

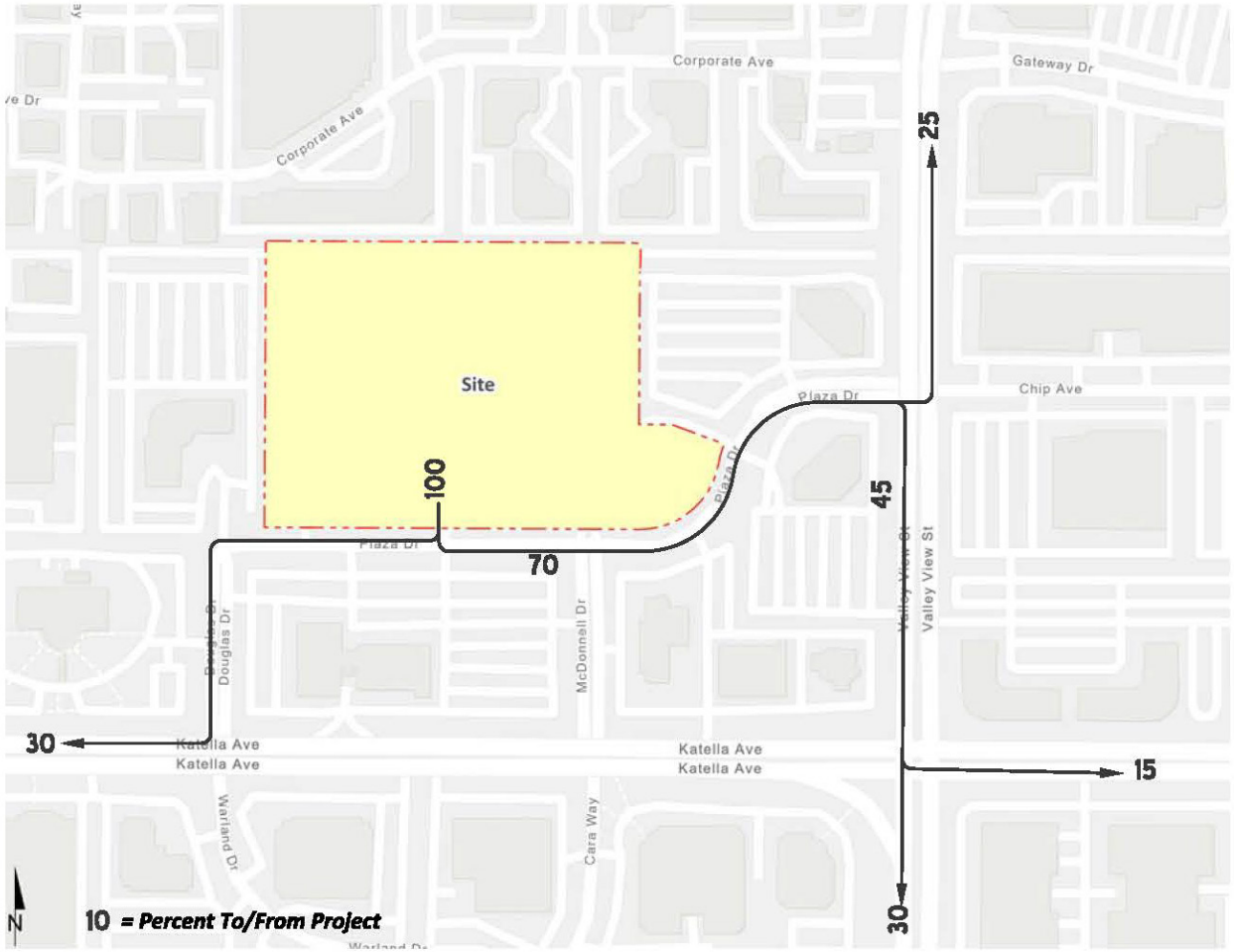
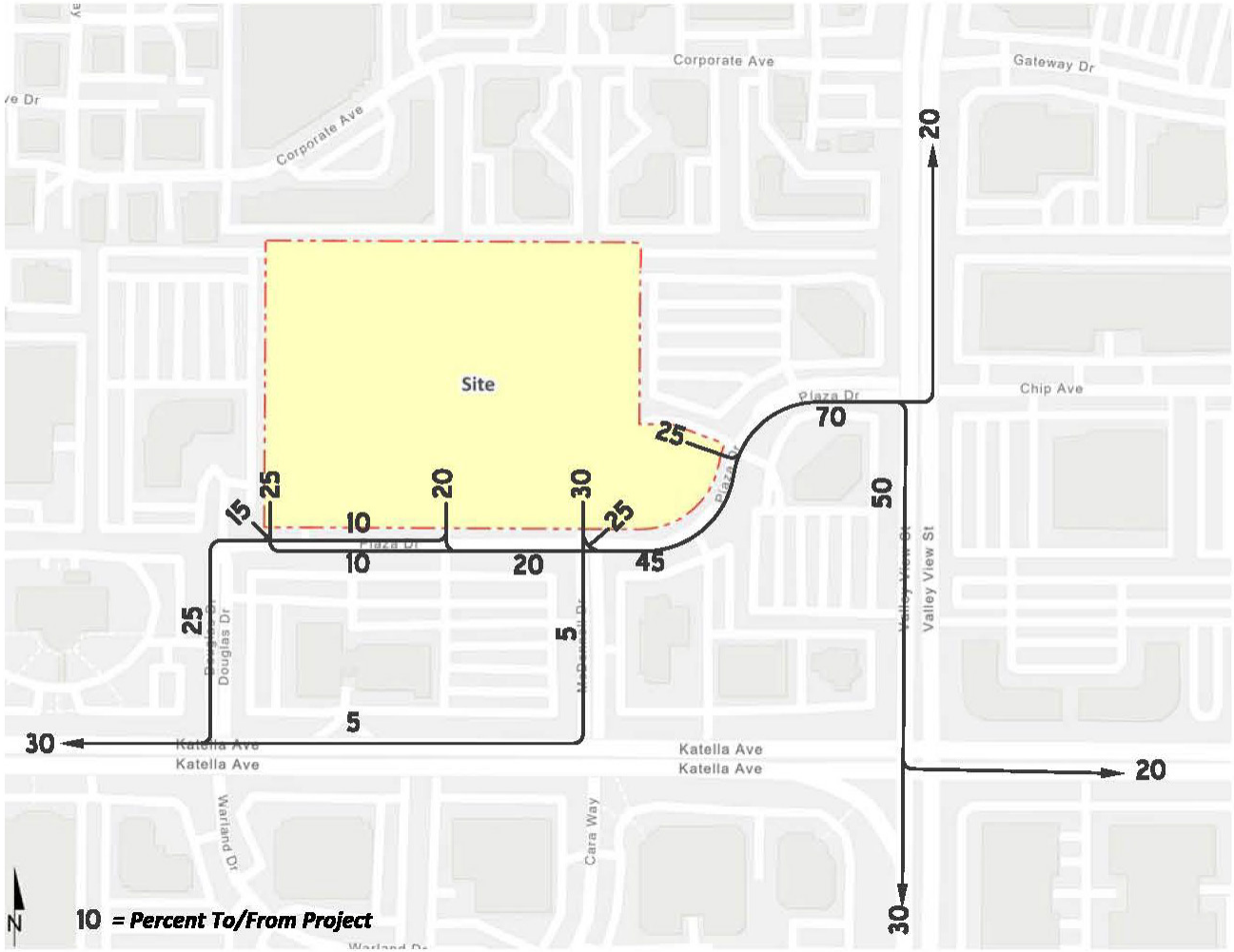


EXHIBIT 4-2: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION



4.3 MODAL SPLIT

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, the Project only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-3.

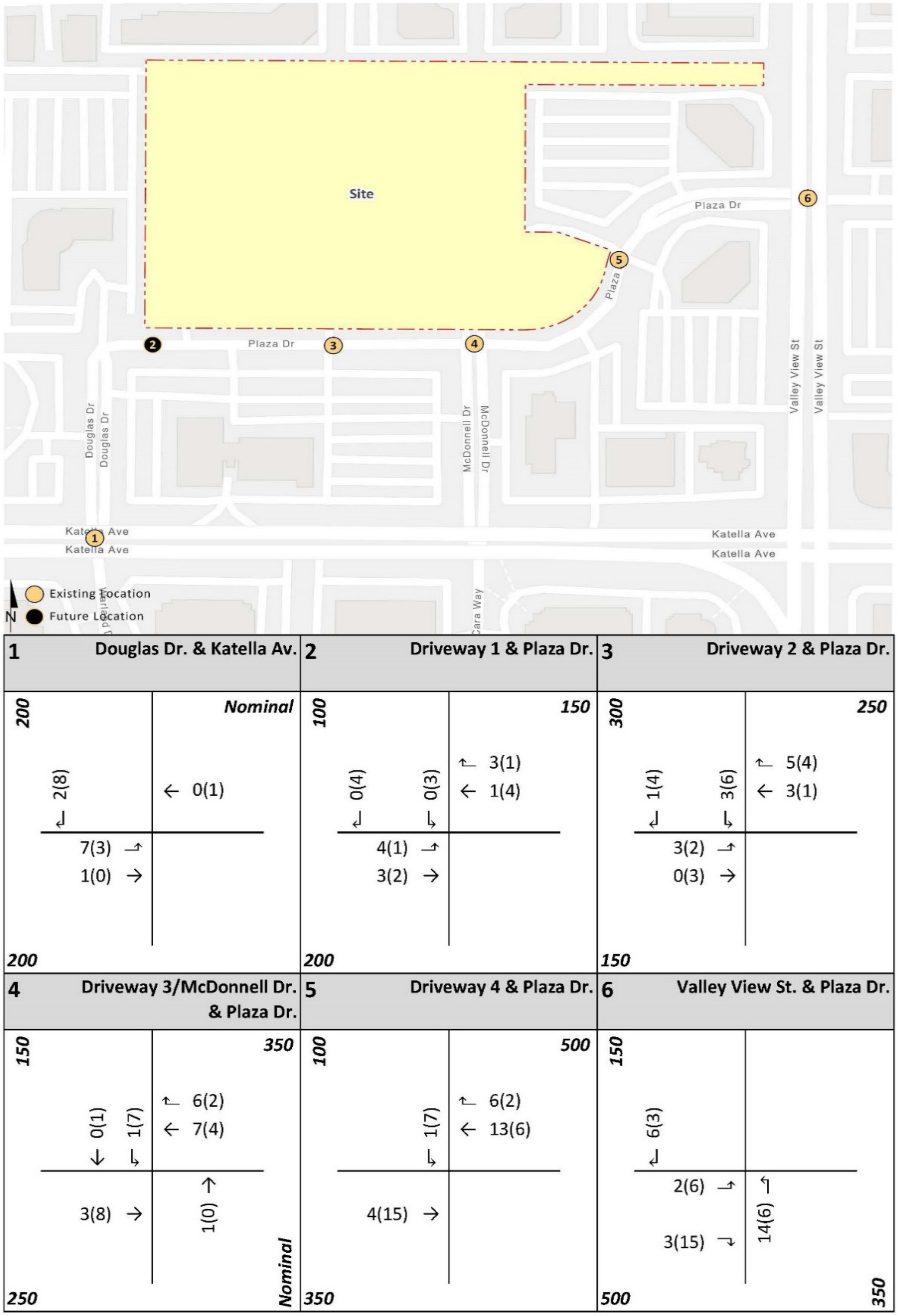
4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2024 conditions. The total ambient growth is 4.04% for 2024 traffic conditions (compounded growth of 2 percent per year over 2 years or $1.02^{2\ years}$). The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City. The cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to the study area intersections. For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-4, listed in Table 4-6, and have been considered for inclusion. Any additional traffic generated by other projects not on the cumulative projects list is likely accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.5 Background Traffic. Cumulative development projects shown in Exhibit 4-4 and listed in Table 4-6. Cumulative Only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-5.

EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES


Site
Plaza Dr
Plaza
Douglas Dr
McDonnell Dr
Valley View St
Katella Ave
Cara Way
Existing Location
Future Location
N
1 Douglas Dr. & Katella Av.
200
Nominal
2(8)
0(1)
7(3)
1(0)
200
2 Driveway 1 & Plaza Dr.
100
150
0(4)
0(3)
3(1)
1(4)
4(1)
3(2)
200
3 Driveway 2 & Plaza Dr.
300
250
1(4)
3(6)
5(4)
3(1)
3(2)
0(3)
150
4 Driveway 3/McDonnell Dr. & Plaza Dr.
150
350
0(1)
1(7)
6(2)
7(4)
3(8)
1(0)
Nominal
250
5 Driveway 4 & Plaza Dr.
100
500
1(7)
6(2)
13(6)
4(15)
350
6 Valley View St. & Plaza Dr.
150
6(3)
2(6)
3(15)
14(6)
500
350

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

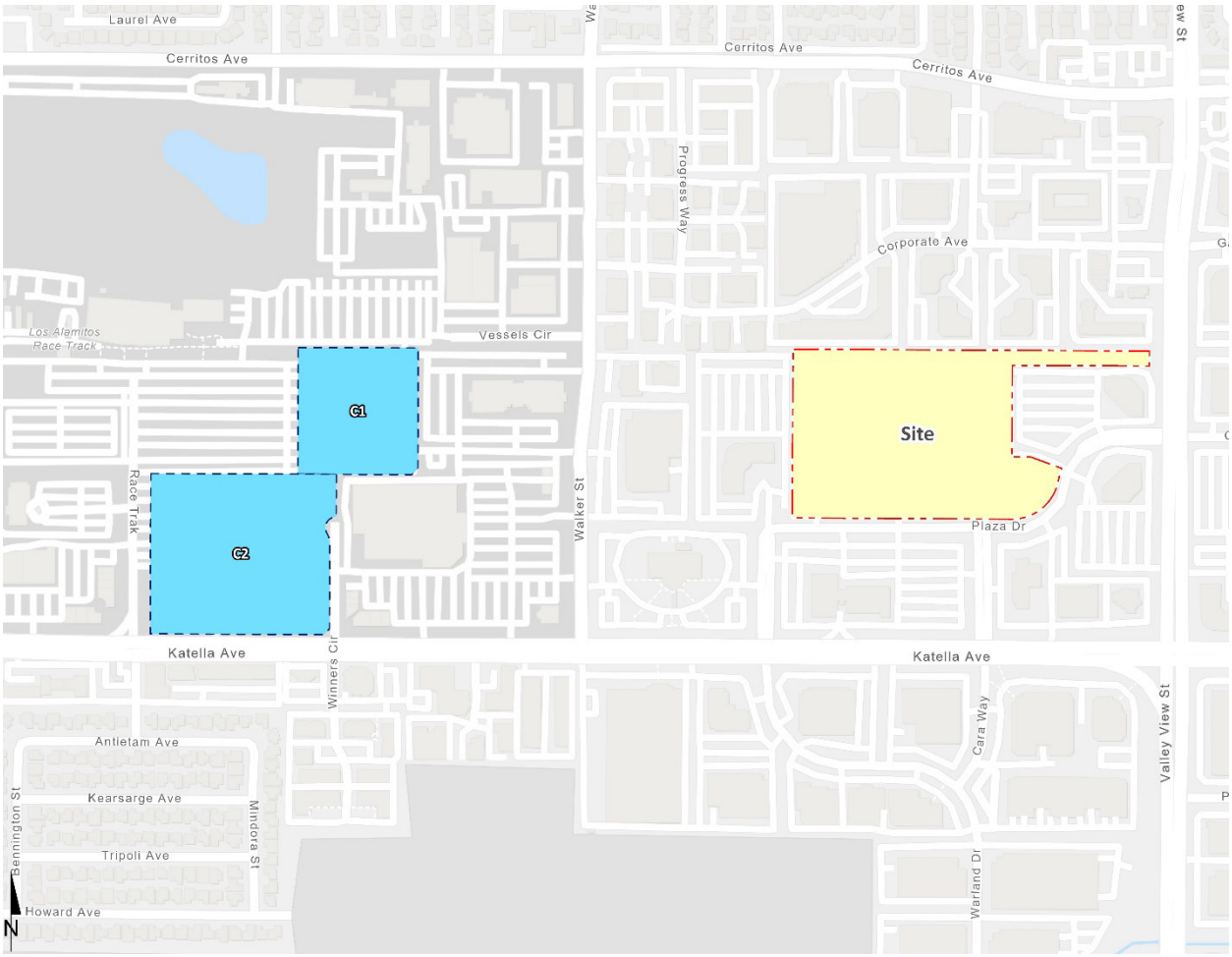
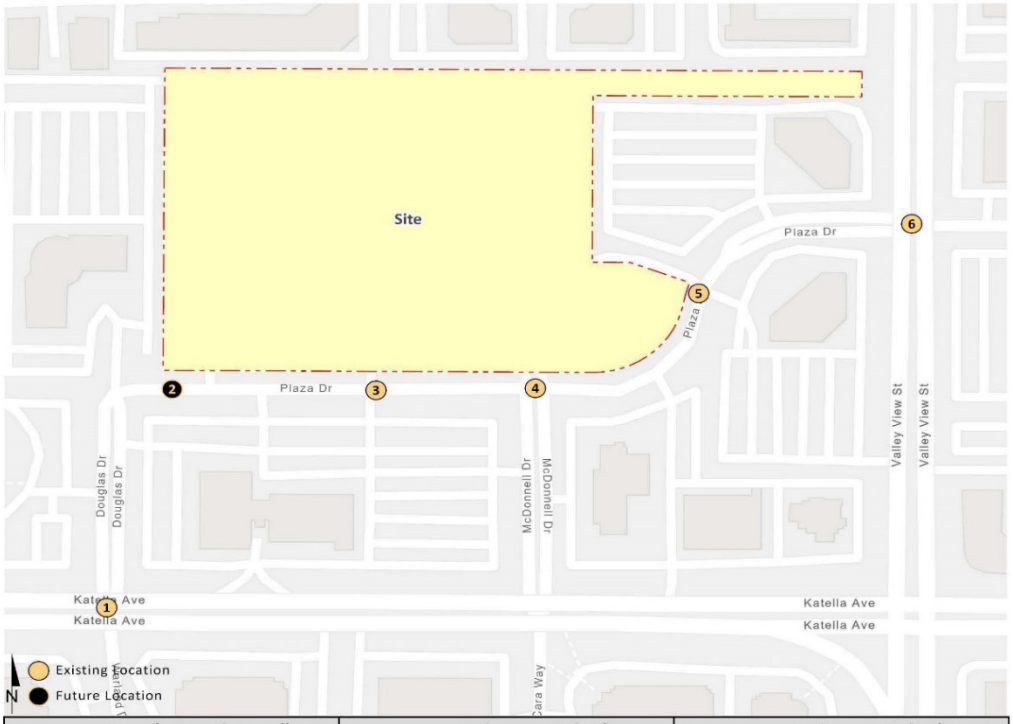


EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES



1 Douglas Dr. & Katella Av.	2 Driveway 1 & Plaza Dr.	3 Driveway 2 & Plaza Dr.
2,150 ← 32(82) 57(62) → *2,150*		
4 Driveway 3/McDonnell Dr. & Plaza Dr.	**5 Driveway 4 & Plaza Dr.**	**6 Valley View St. & Plaza Dr.**
		500 ← 7(18) 10(15) → *500*

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

TABLE 4-6: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

No.	Project Name	Land Use[1]	Quantity	Units[2]
C1	Cypress Town Center 7-AC Residential	Multifamily (Low Rise) Housing	135	DU
C2	Cypress City Center	Shopping Center	20.800	TSF
		Multifamily (Mid-Rise) Housing	251	DU
		Hotel	120	Rooms
		Multiplex Movie Theater	10	Screens

[1] TSF = Thousand Square Feet; DU = Dwelling Units

4.7 NEAR-TERM TRAFFIC CONDITIONS

The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast Opening Year Cumulative (2024) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2024 from the year 2022. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2024 roadway network is similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project. The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Opening Year Cumulative (2024) Without Project
  - Existing 2022 counts
  - Ambient growth traffic (4.04%)
  - Cumulative Development traffic
- Opening Year Cumulative (2024) With Project
  - Existing 2022 counts
  - Ambient growth traffic (4.04%)
  - Cumulative Development traffic
  - Project traffic

5 OPENING YEAR CUMULATIVE (2024) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Opening Year Cumulative (2024) conditions and the resulting intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2024) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative (2024) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative (2024) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

5.2 WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2022) traffic volumes plus an ambient growth factor of 4.04% and traffic from pending and approved cumulative development projects (two major projects to the west on Katella Avenue). The weekday ADT volumes and peak hour volumes which can be expected for Opening Year Cumulative (2024) Without Project traffic conditions are shown on Exhibit 5-1.

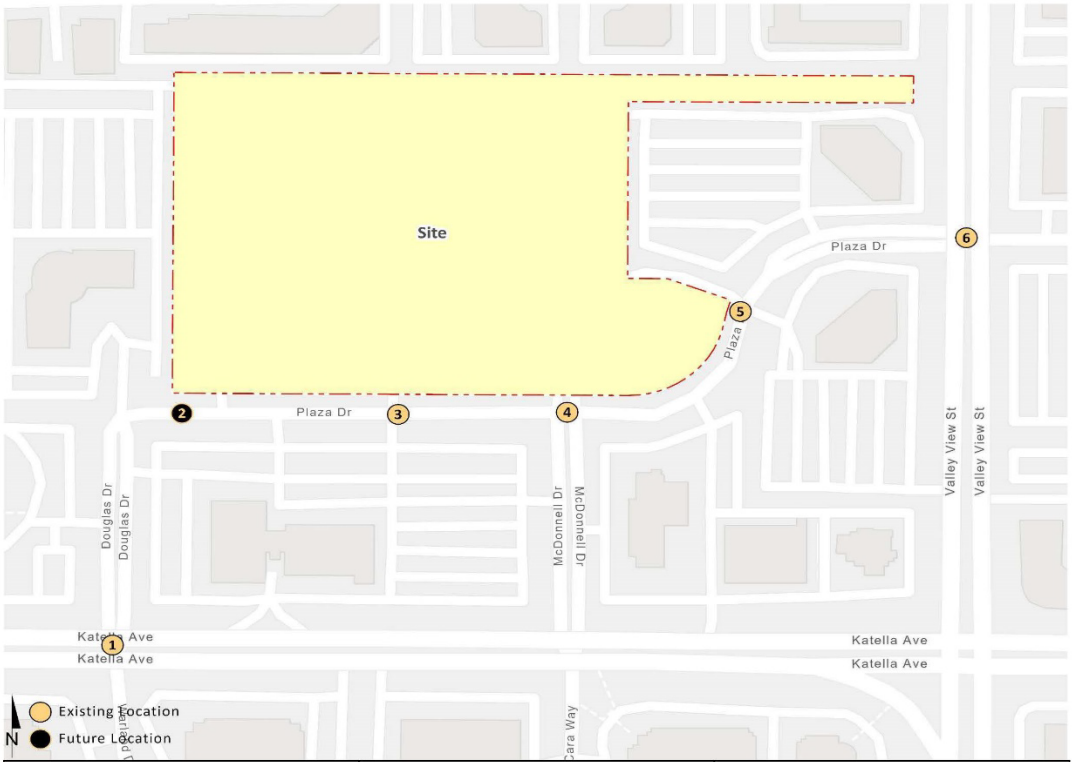
5.3 WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2022) traffic volumes plus an ambient growth factor of 4.04%, traffic from pending and approved cumulative development projects, and the addition of Project traffic. The weekday ADT volumes and peak hour volumes which can be expected for Opening Year Cumulative (2024) With Project traffic conditions are shown on Exhibit 5-2.

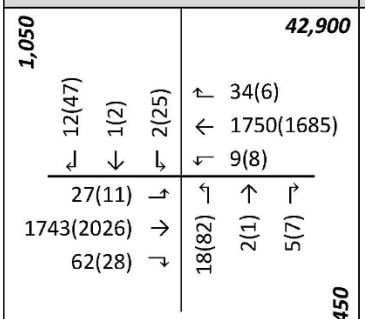
5.4 INTERSECTION OPERATIONS ANALYSIS

Opening Year Cumulative (2024) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 Methodologies of this TA. The intersection analysis results are summarized on Table 5-1 for Opening Year Cumulative traffic conditions, which indicate the study area intersections are anticipated to continue to operate at an acceptable LOS under Opening Year Cumulative (2024) Without and With Project traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2024) Without and With Project traffic conditions are included in Appendix 5.1 and Appendix 5.2 of this TA, respectively.

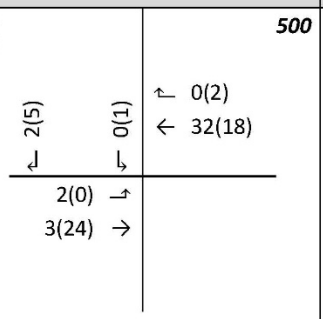
EXHIBIT 5-1: OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT TRAFFIC VOLUMES



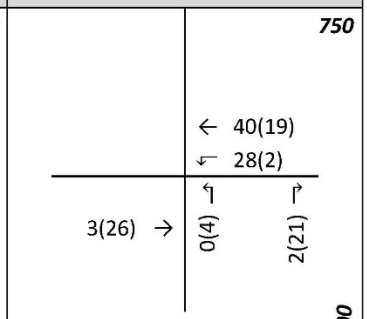
1 Douglas Dr. & Katella Av.



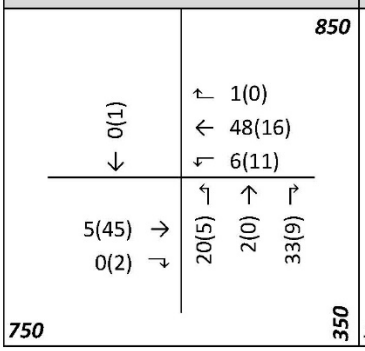
2 Driveway 1 & Plaza Dr.



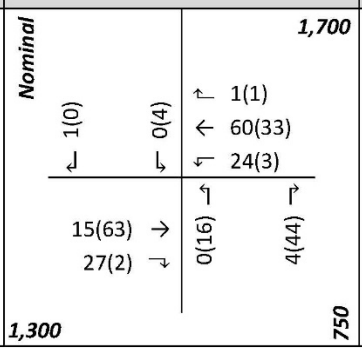
3 Driveway 2 & Plaza Dr.



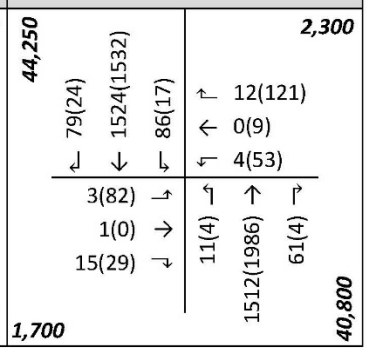
4 Driveway 3/McDonnell Dr. & Plaza Dr.



5 Driveway 4 & Plaza Dr.



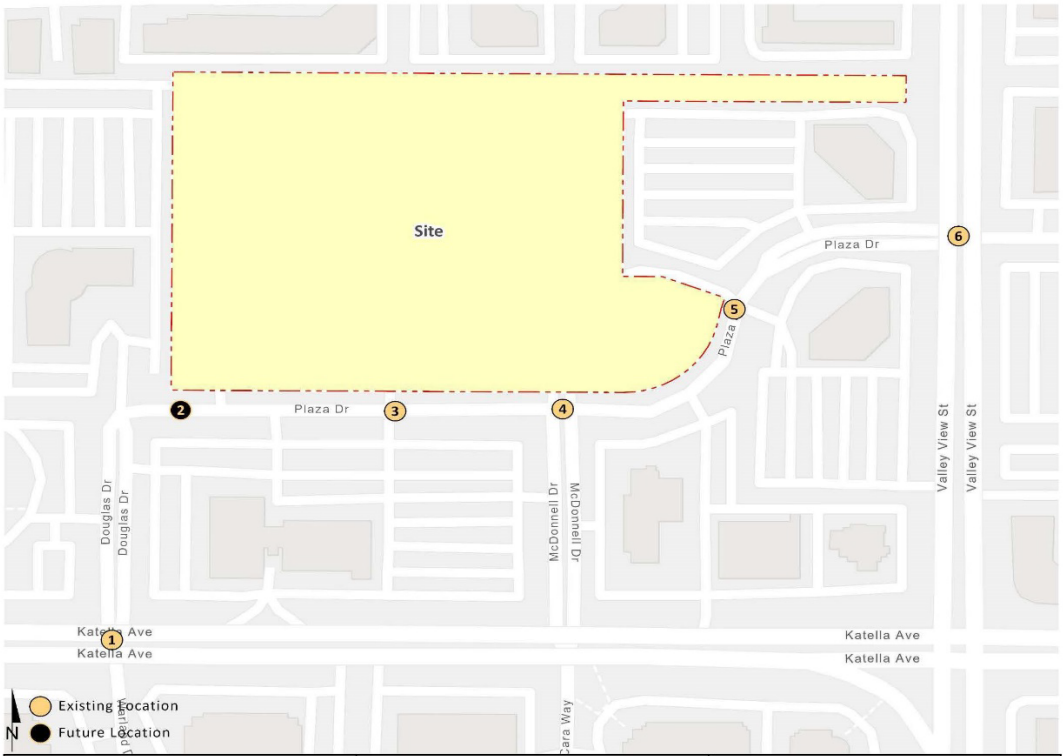
6 Valley View St. & Plaza Dr.



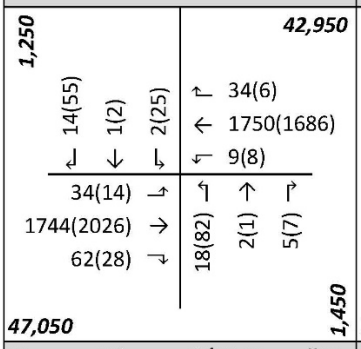
##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

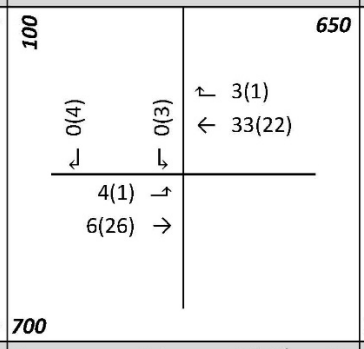
EXHIBIT 5-2: OPENING YEAR CUMULATIVE (2024) WITH PROJECT TRAFFIC VOLUMES



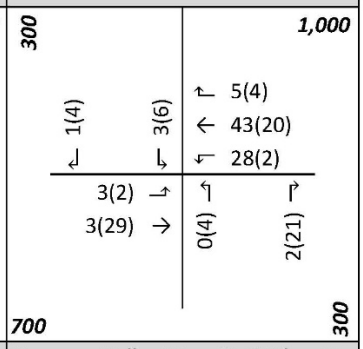
1 Douglas Dr. & Katella Av.



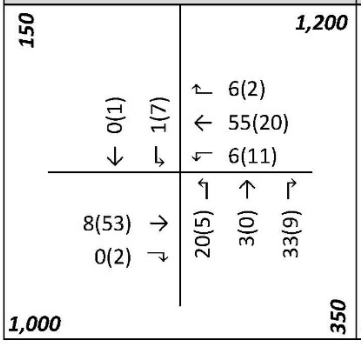
2 Driveway 1 & Plaza Dr.



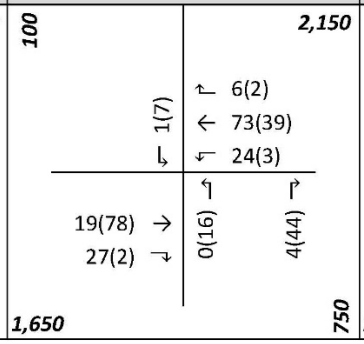
3 Driveway 2 & Plaza Dr.



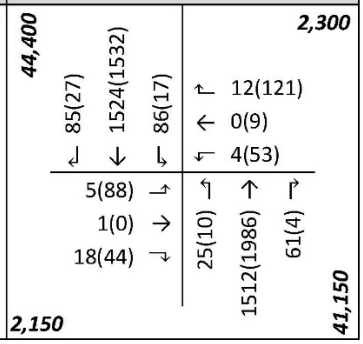
4 Driveway 3/McDonnell Dr. & Plaza Dr.



5 Driveway 4 & Plaza Dr.



6 Valley View St. & Plaza Dr.



##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

TABLE 5-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS

			2024 Without Project								2024 With Project							
			Delay[1] (secs.)		Level of Service		ICU[2] (V/C)		Level of Service		Delay[1] (secs.)		Level of Service		ICU[2] (V/C)		Level of Service	
#	Intersection	Traffic Control[3]	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Douglas Dr. & Katella Av.	TS	6.9	9.9	A	A	0.45	0.54	A	A	7.1	10.1	A	B	0.46	0.54	A	A
2	Driveway 1 & Plaza Dr.	CSS	8.5	8.5	A	A	--	--			7.3	8.8	A	A	--	--		
3	Driveway 2 & Plaza Dr.	CSS	8.3	8.8	A	A	--	--			9.6	9.3	A	A	--	--		
4	Driveway 3/Cara Wy. & Plaza Dr.	CSS	9.0	10.0	A	B	--	--			9.6	9.8	A	A	--	--		
5	Driveway 4 & Plaza Dr.	CSS	8.7	10.1	A	B	--	--			10.0	10.6	B	B	--	--		
6	Valley View St. & Plaza Dr.	TS	7.4	10.0	A	B	0.43	0.58	A	A	8.3	10.3	A	B	0.44	0.59	A	A

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 ICU reported as a volume-to-capacity ratio and for signalized intersections only. ICU not applicable to unsignalized inspections.

3 TS = Traffic Signal; CSS = Cross-street Stop

5.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for Opening Year Cumulative (2024) traffic conditions are based on the peak hour volume-based traffic signal warrants. There are no study area intersections anticipated to meet traffic signal warrants for both Opening Year Cumulative (2024) Without and With Project traffic conditions (see Appendix 5.3 and Appendix 5.4, respectively).

5.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. There are no study area intersections anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2024) traffic conditions. As such, no intersection improvements have been recommended.

6 REFERENCES

1. **Orange County Transportation Authority.** 2021 Orange county Congestion Management Program Report. County of Orange : s.n., November 2021.
2. **Institute of Transportation Engineers.** Trip Generation Manual. 11th Edition. 2021.
3. **Transportation Research Board.** Highway Capacity Manual (HCM). 6th Edition. s.l. : National Academy of Sciences, 2016.
4. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. California Manual on Uniform Traffic Control Devices (CA MUTCD). 2014, Updated March 30, 2021 (Revision 6).

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APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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August 24, 2022

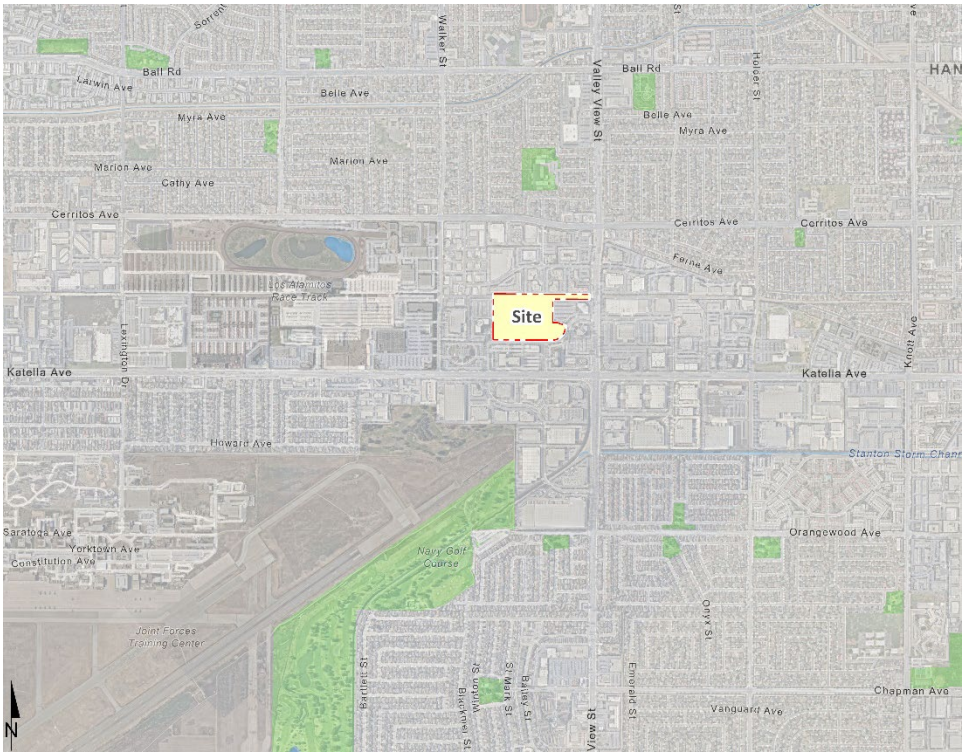
Mr. Dave Roseman
City of Cypress
5275 Orange Avenue
Cypress, CA 90630

GOODMAN COMMERCE CENTER FOCUSED TRAFFIC ANALYSIS SCOPING AGREEMENT

Mr. Dave Roseman,

Urban Crossroads, Inc. is pleased to submit this letter documenting the recommended scoping / assumptions for the proposed Goodman Commerce Center development (**Project**), which is located at 5757 Plaza Drive (APN: 241-101-26) in the City of Cypress (see Exhibit 1). Our goal is to obtain comments from City of Cypress staff, to ensure that the traffic study fully addresses the potential impacts of the proposed Project. The remainder of this letter describes the proposed analysis methodology, Project trip generation, and trip distribution, which have been used to establish the proposed Project study area and analysis locations.

EXHIBIT 1: LOCATION MAP



PROPOSED PROJECT

The Project includes the development a of two proposed warehouse buildings: Building 1 with 204,909 square feet and Building 2 with 185,359 square feet for a total of 390,268 square feet. The proposed Project will replace an existing building which consists of 248,623 square feet of warehousing use and 88,020 square feet of office use. The existing building is shown on Exhibit 3. The anticipated Opening Year for the proposed Project is 2024. Access to the site will be accommodated via four driveways along Plaza Drive located where the existing access points are.

EXHIBIT 2: PRELIMINARY SITE PLAN

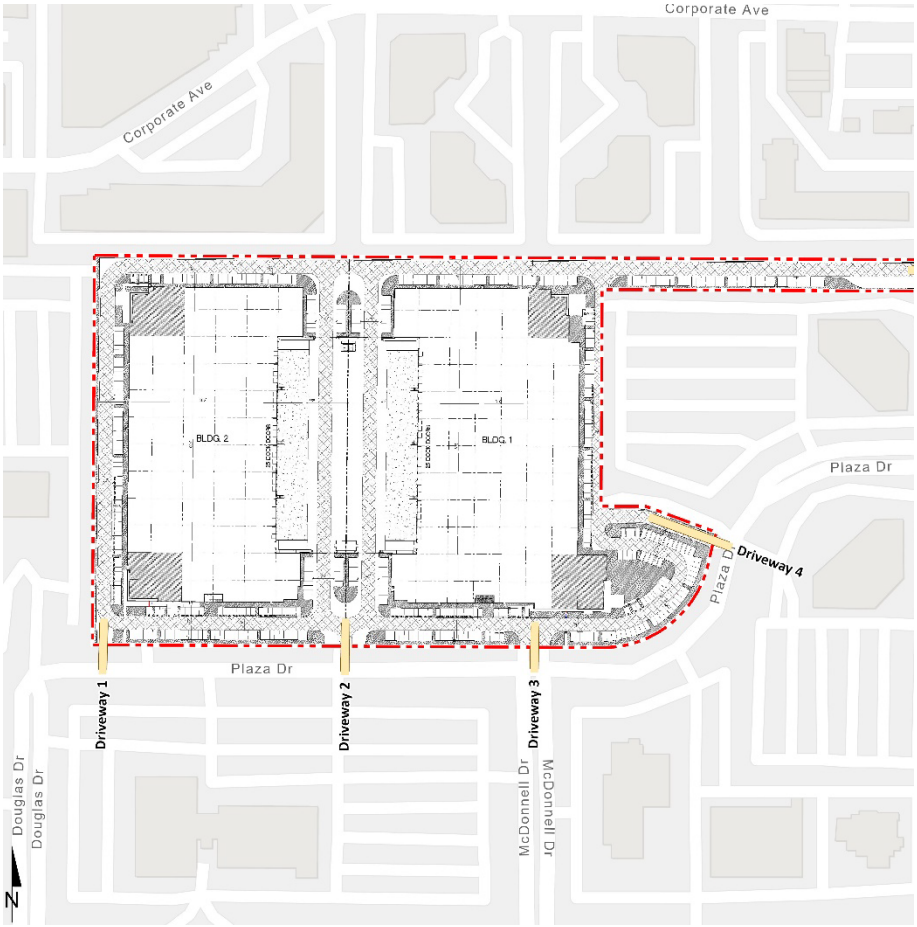
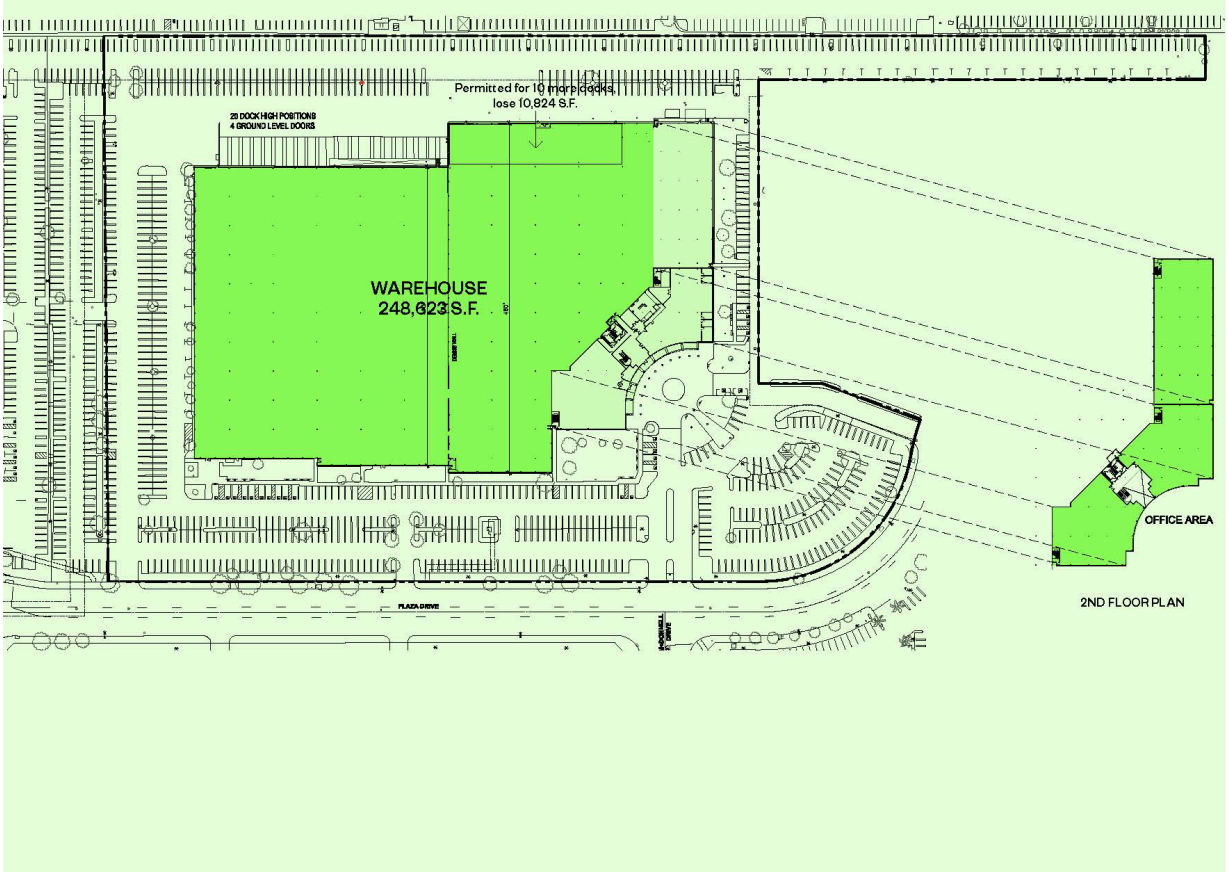


EXHIBIT 3: EXISTING SITE PLAN



ANALYSIS SCENARIOS

Peak hour operations at each of the study area intersections and site access driveways will be assessed based on the HCM 6th Edition methodology for the following analysis scenarios:

- Existing (2022) Conditions
- Opening Year Cumulative (2024) Without Project Conditions: existing traffic, ambient growth, traffic from a fully occupied warehouse/office complex, and traffic associated with the two large development projects currently under construction near the Costco
- Opening Year Cumulative (2024) With Project Conditions: existing traffic, ambient growth, proposed Project traffic, and traffic associated with the two large development projects currently under construction near the Costco

The traffic study will compare the Opening Year Cumulative (2024) conditions results to existing conditions.

TRIP GENERATION

EXISTING TRAFFIC

The proposed Project will replace an existing building which consists of 248,623 square feet of warehousing use and 88,020 square feet of office use. In an effort to understand the existing traffic associated with the current uses, the trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual (11th Edition, 2021) for the existing warehousing (ITE Land Use Code 150) and general office (ITE Land Use Code 710) uses (see Table 1). For purposes of this analysis, the following land use code and vehicle mix has been utilized for the existing warehouse component:

- ITE Land Use Code 150 (Warehousing) has been used to derive site specific trip generation estimates for the existing use (248,623 square feet of warehousing use). A warehouse is primarily devoted to the storage of materials but may also include office and maintenance areas. The vehicle mix has also been obtained from the ITE's latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

TABLE 1: EXISTING TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks			0.007	0.006	0.013	0.010	0.009	0.019	0.376
General Office (based on average rates)	TSF	710	1.34	0.18	1.52	0.24	1.20	1.44	10.84
Passenger Car Equivalent (PCE) Trip Generation Rates[6]									
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks (PCE = 1.5)			0.003	0.002	0.005	0.005	0.003	0.008	0.150
3-Axle Trucks (PCE = 2.0)			0.004	0.004	0.008	0.006	0.006	0.012	0.248
4+-Axle Trucks (PCE = 3.0)			0.021	0.017	0.038	0.030	0.026	0.056	1.127

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

General Office (ITE Land Use Code 710) has been used to calculate the trip generation for the existing 88,020 square feet of office use. The trip generation summary illustrating daily, and peak hour trip generation estimates for the existing uses are shown on Table 2 in actual and passenger car equivalent (PCE) vehicles. As shown on Table 2, the existing use generates a total of 1,658 two-way trips per day with 212 AM peak hour trips and 210 PM peak hour trips (in actual vehicles). In comparison, the existing use generates a total of 1,886 PCE two-way trips per day with 220 PCE AM peak hour trips and 222 PCE PM peak hour trips (see also Table 2).

PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with that used for other projects within the City.

TABLE 2: EXISTING TRIP GENERATION SUMMARY

			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[1]	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:									
Warehousing	248.623	TSF							
Passenger Cars:			30	7	37	9	29	38	276
2-axle Trucks:			0	0	0	1	0	1	26
3-axle Trucks:			0	1	1	1	1	2	32
4+-axle Trucks:			2	1	3	2	2	4	94
Total Truck Trips (Actual Vehicles):			2	2	4	4	3	7	152
Total Trips (Actual Vehicles)[2]			32	9	41	13	32	45	428
General Office	88.020	TSF	118	16	134	22	105	127	954
Passenger Cars			148	23	171	31	134	165	1,230
Trucks			32	9	41	13	32	45	428
Total Trips (Actual Vehicles)[2]			**180**	**32**	**212**	**44**	**166**	**210**	**1,658**
Passenger Car Equivalent (PCE):									
Warehousing	248.623	TSF							
Passenger Cars:			30	7	37	9	29	38	276
2-axle Trucks:			1	0	1	1	1	2	38
3-axle Trucks:			1	1	2	1	2	3	62
4+-axle Trucks:			5	4	9	7	7	14	280
Total Truck Trips (PCE):			7	5	12	9	10	19	380
Total Trips (PCE)[2]			37	12	49	18	39	57	656
General Office	88.020	TSF	118	16	134	22	105	127	954
Passenger Cars			148	23	171	31	134	165	1,230
Trucks (PCE)			37	12	49	18	39	57	656
Total Trips (PCE)[2]			**185**	**35**	**220**	**49**	**173**	**222**	**1,886**

[1] TSF = Thousand Square Feet

[2] Total = Passenger Cars + Trucks

PROPOSED PROJECT

The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual (11th Edition, 2021) for the proposed high-cube transload and short-term storge warehouse use (ITE Land use Code 154) and high-cube cold-storage warehouse use (ITE Land Use Code 157) (see Table 3). For purposes of this analysis, the following land use codes and vehicle mixes have been utilized for the various industrial components:

- ITE land use code 154 (High-Cube Transload and Short-Term Storage Warehouse) has been used to derive the trip generation for the proposed Project (50% of the total square footage, or 195,134 square feet). High-cube transload/short-term storage warehouse data regarding the truck percentage and vehicle mix has been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 195,134 square feet of the proposed Project (remaining 50% of the overall square footage). High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

TABLE 3: PROJECT TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
High-Cube Transload and Short-Term Storage Warehouse[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.052	0.008	0.060	0.023	0.067	0.090	1.180
2-Axle Trucks			0.002	0.001	0.003	0.001	0.001	0.002	0.037
3-Axle Trucks			0.002	0.002	0.004	0.001	0.001	0.002	0.046
4+-Axle Trucks			0.006	0.007	0.013	0.003	0.003	0.006	0.138
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
Passenger Car Equivalent (PCE) Trip Generation Rates[6]									
High-Cube Transload and Short-Term Storage Warehouse[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.052	0.008	0.060	0.023	0.067	0.090	1.180
2-Axle Trucks (PCE = 1.5)			0.003	0.002	0.005	0.002	0.001	0.003	0.055
3-Axle Trucks (PCE = 2.0)			0.004	0.004	0.008	0.002	0.002	0.004	0.091
4+-Axle Trucks (PCE = 3.0)			0.018	0.020	0.038	0.009	0.010	0.019	0.413
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+-Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	1.222

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

As shown in Table 4, the proposed Project is anticipated to generate a total of 692 two-way trips per day with 35 AM peak hour trips and 43 PM peak hour trips (in actual vehicles). In comparison, the proposed Project is anticipated to generate a total of 956 PCE two-way trips per day with 53 PCE AM peak hour trips and 54 PCE PM peak hour trips (see also Table 4).

TABLE 4: PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicles:									
High-Cube Transload	195.134	TSF							
Passenger Cars:			10	2	12	4	13	17	230
2-axle Trucks:			0	0	0	0	0	0	8
3-axle Trucks:			0	0	0	0	0	0	10
4+-axle Trucks:			1	1	2	1	1	2	28
Total Truck Trips (Actual Vehicles):			1	1	2	1	1	2	46
Total Trips (Actual Vehicles)[2]			11	3	14	5	14	19	276
High-Cube Cold Storage	195.134	TSF							
Passenger Cars:			15	1	16	4	14	18	268
2-axle Trucks:			1	1	2	1	1	2	52
3-axle Trucks:			0	0	0	0	0	0	16
4+-axle Trucks:			1	2	3	2	2	4	80
Total Truck Trips (Actual Vehicles):			2	3	5	3	3	6	148
Total Trips (Actual Vehicles)[2]			17	4	21	7	17	24	416
Passenger Cars			25	3	28	8	27	35	498
Trucks			3	4	7	4	4	8	194
Total Trips (Actual Vehicles)[2]			**28**	**7**	**35**	**12**	**31**	**43**	**692**
Passenger Car Equivalent (PCE):									
High-Cube Transload	195.134	TSF							
Passenger Cars:			10	2	12	4	13	17	230
2-axle Trucks:			1	0	1	0	0	0	12
3-axle Trucks:			1	1	2	0	0	0	18
4+-axle Trucks:			4	4	8	2	2	4	82
Total Truck Trips (PCE):			6	5	11	2	2	4	112
Total Trips (PCE)[2]			16	7	23	6	15	21	342
High-Cube Cold Storage	195.134	TSF							
Passenger Cars:			15	1	16	4	14	18	268
2-axle Trucks:			1	2	3	1	2	3	76
3-axle Trucks:			0	1	1	1	1	2	32
4+-axle Trucks:			3	7	10	5	5	10	238
Total Truck Trips (PCE):			4	10	14	7	8	15	346
Total Trips (PCE)[2]			19	11	30	11	22	33	614
Passenger Cars			25	3	28	8	27	35	498
Trucks (PCE)			10	15	25	9	10	19	458
Total Trips (PCE)[2]			**35**	**18**	**53**	**17**	**37**	**54**	**956**

[1] TSF = Thousand Square Feet

[2] Total = Passenger Cars + Trucks

TRIP GENERATION COMPARISON

Table 5 shows the trip generation comparison between the existing and proposed use. It is our understanding that the existing warehouse/office building is currently vacant and generating only incidental vehicle trips, however, should the existing site be fully occupied, then it is anticipated there would a net reduction in trips. The resulting net new trips are identified at the bottom of Table 5. The trip generation comparison is based on PCE as the existing and proposed uses are truck-intensive uses (any intersection operations analysis would use the PCE-based trip generation). As shown on Table 5, the Project is anticipated to generate 930 fewer two-way trips per day with a net reduction of 167 AM peak hour trips and net reduction of 168 PM peak hour trips (in PCE).

TABLE 5: TRIP GENERATION COMPARISON

	AM Peak Hour			PM Peak Hour			
Land Use	In	Out	Total	In	Out	Total	Daily
Proposed Project							
Passenger Cars:	25	3	28	8	27	35	498
Total Truck Trips (PCE):	10	15	25	9	10	19	458
Total Trips (PCE)	**35**	**18**	**53**	**17**	**37**	**54**	**956**
Fully Occupied Existing Use							
Passenger Cars:	148	23	171	31	134	165	1,230
Total Truck Trips (PCE):	37	12	49	18	39	57	656
Total Trips (PCE)	**185**	**35**	**220**	**49**	**173**	**222**	**1,886**
Variance							
Passenger Cars:	-123	-20	-143	-23	-107	-130	-732
Total Truck Trips (PCE):	-27	3	-24	-9	-29	-38	-198
Total Trips (PCE)	**-150**	**-17**	**-167**	**-32**	**-136**	**-168**	**-930**

PROJECT TRIP DISTRIBUTIONS

Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding land uses, and the proximity to the regional freeway system.

The trip distribution pattern for truck traffic is also influenced by the local truck routes. Both Valley View Street and Katella Avenue are truck routes within the City of Cypress. Given the differences between the vehicle types, separate trip distributions were generated for both

passenger cars and truck trips. The Project passenger car and truck trip distribution patterns are graphically depicted on Exhibits 4 and 5, respectively.

EXHIBIT 4: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

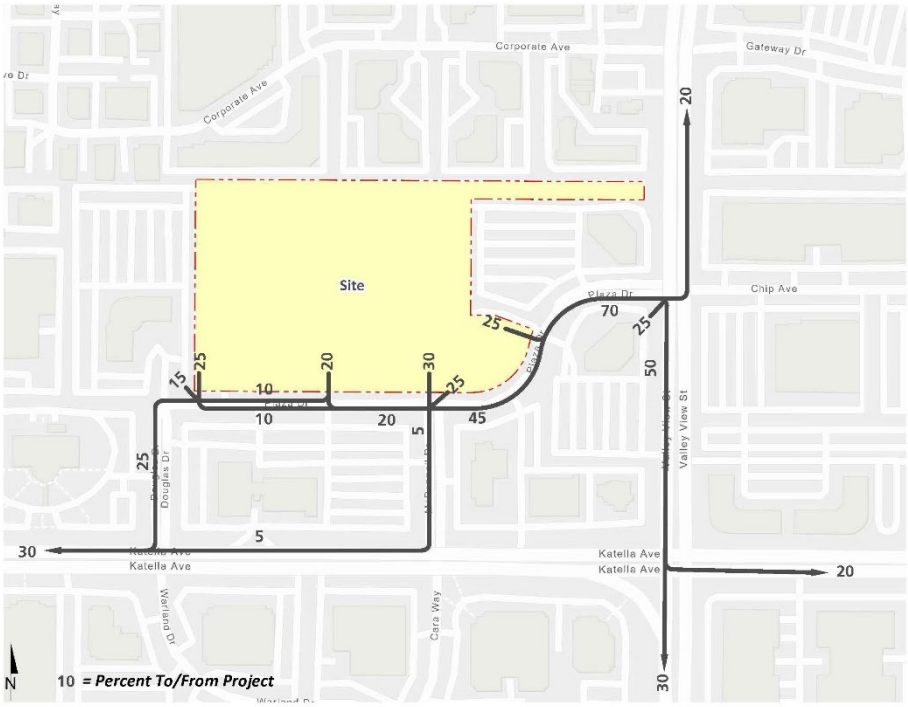
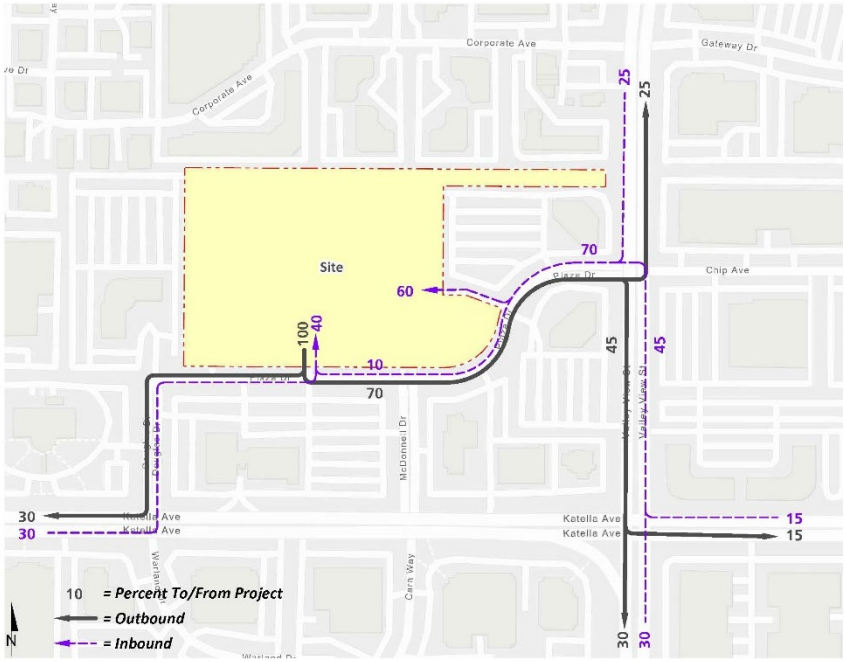


EXHIBIT 5: PROJECT (TRUCK) TRIP DISTRIBUTION



STUDY AREA

Since the proposed Project is anticipated to generate fewer than 50 net new peak hour trips in comparison to existing uses, the proposed study area consists of the site access points and the intersections of Douglas Drive at Katella Avenue and Valley View Street at Plaza Drive. The proposed intersection analysis locations have been identified on Exhibit 6 and listed on Table 6.

EXHIBIT 6: STUDY AREA

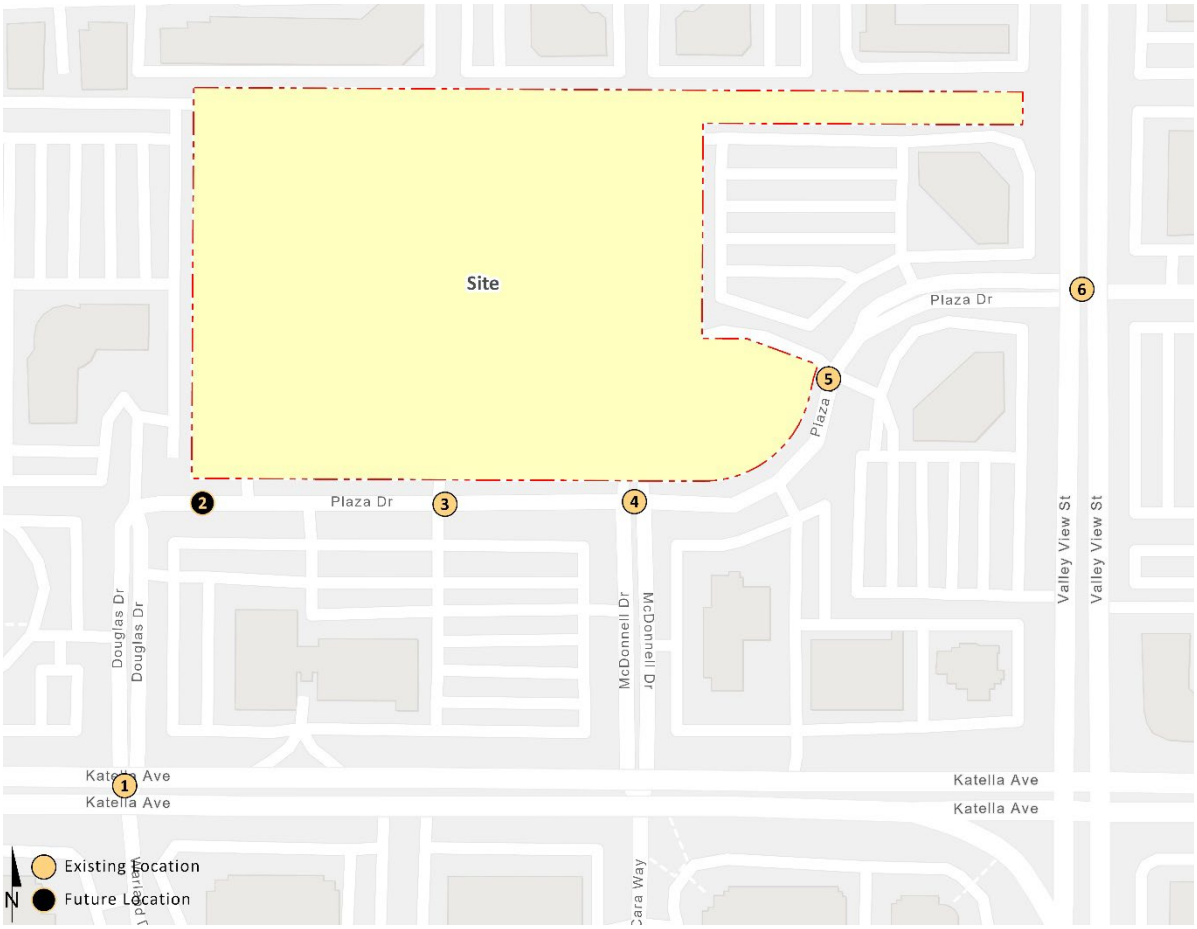


TABLE 6: LIST OF STUDY INTERSECTIONS

#	Intersection
1	Douglas Dr. & Katella Av.
2	Driveway 1 & Plaza Dr.
3	Driveway 2 & Plaza Dr.
4	Driveway 3/Cara Wy. & Plaza Dr.
5	Driveway 4 & Plaza Dr.
6	Valley View St. & Plaza Dr.

LEVEL OF SERVICE (LOS) CRITERIA

The definition of an intersection deficiency has been obtained from the City's General Plan. The City of Cypress has adopted LOS D or better as the desired citywide operating standard for most City streets. However, given the influence of regional traffic on Valley View Street, Lincoln Avenue, and Katella Avenue, which are beyond the control of the City of Cypress, LOS E or better has been adopted as the minimum operating LOS for street segments and intersections on these arterials due to the high volume of traffic carried on these roadways.

EXISTING COUNT DATA

Traffic counts (classified by vehicle type) will be conducted during a typical Tuesday, Wednesday, or Thursday when local schools are in session and operating on a typical bell schedule. Time periods to be counted will be from 7:00-9:00 AM and 4:00-6:00 PM and will include pedestrian and bicycle counts at each analysis location. No adjustments are proposed to the new traffic counts for the baseline traffic condition as traffic counts will be conducted while local schools are in session. Local schools began the 2022-2023 school year on August 11, 2022.

AMBIENT GROWTH RATE

Consistent with other City of Cypress traffic studies performed by Urban Crossroads, an ambient growth rate of 2 percent per year, compounded annually, will be used for this analysis (2% per year over 2 years or 4.04%). The Opening Year Cumulative analysis scenario will also include the traffic associated with the proposed Cypress Town Center and Melia Homes projects, which will be added as cumulative projects.

DEFICIENCY CRITERIA

For the study area intersections that lie within the City of Cypress, to determine whether the addition of project traffic (as defined through the comparison of Existing to EAP traffic conditions) at a study intersection would result in a direct project-specific traffic deficiency, the following conditions must occur:

- Any study intersection operating at an acceptable LOS D or better without project in which the addition of project traffic causes the intersection to degrade to LOS E or F shall identify improvements to improve the operations to LOS D or better.

SPECIAL ISSUES

The following special issues will be addressed as part of the TA:

- A truck turning template will be overlaid on the site plan for Project driveways which are anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turn maneuvers. This will

include truck turning templates on-site from Driveway 1 and Driveway 4 to the rear of the building to access the dock area.

- Evaluate the peak hour queuing at the Project driveways located along the Project frontages and the intersections of Douglas Drive at Katella Avenue and Valley View Street at Plaza Drive based on the Opening Year Cumulative (2024) With Project traffic conditions. Specifically, the intersection of Douglas Drive at Katella Avenue will evaluate the eastbound left-turn pocket to determine if additional storage and/or revised signal timing is needed to accommodate these queues. At the intersection of Valley View Street at Plaza Drive, the northbound left turn and eastbound left turn movements will be evaluated to determine any necessary storage needs/physical improvement needs.

If you have any questions or comments, I can be reached at cso@urbanxroads.com.

Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So

Charlene So, PE
Principal

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APPENDIX 1.2: SITE ADJACENT QUEUES

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Intersection: 1: Douglas Dr. & Katella Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (ft)	139	402	374	292	100	168	413	395	322	82	55	21
Average Queue (ft)	26	215	185	112	15	16	224	190	129	10	18	3
95th Queue (ft)	84	373	346	250	53	81	386	345	271	48	45	15
Link Distance (ft)		785	785	785			922	922	922			367
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250				100	250				130	115	
Storage Blk Time (%)		6		5		0	8		5			
Queuing Penalty (veh)		2		4		0	1		2			

Intersection: 1: Douglas Dr. & Katella Av.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	13	17	26
Average Queue (ft)	1	1	9
95th Queue (ft)	7	9	27
Link Distance (ft)		243	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	90		90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Plaza Dr. & Driveway 1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 3: Driveway 2 & Plaza Dr.

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	8	28	36
Average Queue (ft)	0	2	12
95th Queue (ft)	5	14	36
Link Distance (ft)		42	60
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: McDonnell Dr./Driveway 3 & Plaza Dr.

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	49	22
Average Queue (ft)	28	1
95th Queue (ft)	46	8
Link Distance (ft)	242	58
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Driveway 4 & Plaza Dr.

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	30	21	21
Average Queue (ft)	2	2	1
95th Queue (ft)	14	13	11
Link Distance (ft)		59	116
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Valley View St. & Plaza Dr./Chip Av.

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	34	43	31	37	212	428	383	319	202	363	314	240
Average Queue (ft)	6	13	4	14	29	182	151	105	49	161	130	81
95th Queue (ft)	26	36	20	39	97	318	289	235	121	298	250	183
Link Distance (ft)		469		376		959	959	959		829	829	829
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	110		65		190				160			
Storage Blk Time (%)				0		8				9		
Queuing Penalty (veh)				0		2				8		

Network Summary

Network wide Queuing Penalty: 18

Intersection: 1: Douglas Dr. & Katella Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (ft)	129	498	447	347	95	109	395	344	274	23	92	21
Average Queue (ft)	17	246	215	142	13	12	208	179	117	2	41	4
95th Queue (ft)	74	442	417	309	69	64	342	310	240	14	76	16
Link Distance (ft)		785	785	785			922	922	922			367
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250				100	250				130	115	
Storage Blk Time (%)		9		8			5		3		0	
Queuing Penalty (veh)		2		2			0		0		0	

Intersection: 1: Douglas Dr. & Katella Av.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	43	23	42
Average Queue (ft)	15	1	18
95th Queue (ft)	39	10	36
Link Distance (ft)		243	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	90		90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Plaza Dr. & Driveway 1

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	8	29
Average Queue (ft)	0	5
95th Queue (ft)	5	23
Link Distance (ft)		65
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Driveway 2 & Plaza Dr.

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	36	29
Average Queue (ft)	15	13
95th Queue (ft)	39	37
Link Distance (ft)	42	60
Upstream Blk Time (%)	1	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: McDonnell Dr./Driveway 3 & Plaza Dr.

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	8	42	29
Average Queue (ft)	1	13	5
95th Queue (ft)	7	39	24
Link Distance (ft)		242	58
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Driveway 4 & Plaza Dr.

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	15	51	28
Average Queue (ft)	1	22	5
95th Queue (ft)	8	39	22
Link Distance (ft)		59	116
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Valley View St. & Plaza Dr./Chip Av.

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	106	37	94	106	41	327	308	267	136	359	330	273
Average Queue (ft)	48	21	35	48	10	184	150	97	18	161	127	73
95th Queue (ft)	87	40	71	86	34	299	273	210	70	281	248	174
Link Distance (ft)		469		376		959	959	959		829	829	829
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	110		65		190				160			
Storage Blk Time (%)	0		1	3		7				8		
Queuing Penalty (veh)	0		1	2		1				1		

Network Summary

Network wide Queuing Penalty: 10

APPENDIX 3.1: TRAFFIC COUNTS

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Volume Development
AM Peak Hour

1. Douglas Dr. & Katella Av.

PHF: 0.962 **7:00** Count Date: 8/30/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**26**	**2**	**5**	**2**	**1**	**15**	**26**	**1,669**	**71**	**12**	**1,748**	**33**	**3,609**
2024 NP PCE:	27	2	5	2	1	15	27	1,793	73	12	1,851	34	3,843
2024 WP PCE:	27	2	5	2	1	20	36	1,794	73	12	1,851	34	3,858

2. Driveway 1 & Plaza Dr.

PHF: 0.864 **8:00** Count Date: 8/30/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**3**	**0**	**0**	**31**	**0**	**40**
2024 NP PCE:	0	0	0	0	0	4	2	3	0	0	32	0	42
2024 WP PCE:	0	0	0	0	0	0	4	8	0	0	37	3	52

3. Driveway 2 & Plaza Dr.

PHF: 0.674 **8:00** Count Date: 8/30/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**0**	**27**	**38**	**0**	**71**
2024 NP PCE:	0	0	3	0	0	0	0	3	0	28	40	0	73
2024 WP PCE:	0	0	3	11	0	5	5	3	0	28	43	10	107

4. Driveway 3/McDonnell Dr. & Plaza Dr.

PHF: 0.852 **7:45** Count Date: 8/30/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**19**	**2**	**34**	**0**	**0**	**0**	**0**	**6**	**0**	**8**	**46**	**1**	**116**
2024 NP PCE:	20	2	35	0	0	0	0	6	0	8	48	1	120
2024 WP PCE:	20	3	35	1	0	0	0	17	0	8	60	6	150

5. Driveway 4 & Plaza Dr.

PHF: 0.774 **7:45** Count Date: 8/30/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**16**	**26**	**23**	**60**	**1**	**130**
2024 NP PCE:	0	0	4	0	0	1	0	16	27	24	62	1	135
2024 WP PCE:	0	0	4	1	0	0	0	28	27	24	80	6	170

6. Valley View St. & Plaza Dr.

PHF: 0.988 **7:45** Count Date: 8/30/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**12**	**1,487**	**59**	**83**	**1,521**	**78**	**3**	**2**	**15**	**4**	**0**	**13**	**3,275**
2024 NP PCE:	12	1,557	61	86	1,589	81	3	2	15	4	0	13	3,424
2024 WP PCE:	29	1,557	61	86	1,589	89	7	2	23	4	0	13	3,461

Volume Development
PM Peak Hour

1. Douglas Dr. & Katella Av.

	PHF: 0.894			4:30						Count Date: 8/30/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**81**	**1**	**7**	**26**	**2**	**46**	**11**	**1,925**	**31**	**9**	**1,576**	**6**	**3,720**
2024 NP PCE:	84	1	7	27	2	47	11	2,064	32	9	1,722	6	4,014
2024 WP PCE:	84	1	7	27	2	57	16	2,064	32	9	1,723	6	4,030

2. Driveway 1 & Plaza Dr.

	PHF: 0.750			5:00						Count Date: 8/30/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**23**	**0**	**0**	**18**	**2**	**49**
2024 NP PCE:	0	0	0	1	0	5	0	24	0	0	18	2	50
2024 WP PCE:	0	0	0	3	0	4	1	27	0	0	24	1	60

3. Driveway 2 & Plaza Dr.

	PHF: 0.578			4:15						Count Date: 8/30/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**5**	**0**	**20**	**0**	**0**	**0**	**0**	**26**	**0**	**3**	**18**	**0**	**71**
2024 NP PCE:	5	0	21	0	0	0	0	27	0	3	19	0	73
2024 WP PCE:	5	0	21	10	0	6	3	30	0	3	20	7	103

4. Driveway 3/McDonnell Dr. & Plaza Dr.

	PHF: 0.625			4:45						Count Date: 8/30/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**5**	**0**	**9**	**0**	**1**	**0**	**0**	**44**	**2**	**11**	**16**	**0**	**87**
2024 NP PCE:	5	0	9	0	1	0	0	45	2	11	16	0	91
2024 WP PCE:	5	0	9	7	1	0	0	57	2	11	24	2	119

5. Driveway 4 & Plaza Dr.

	PHF: 0.635			4:45						Count Date: 8/30/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**15**	**0**	**42**	**4**	**0**	**0**	**0**	**62**	**2**	**3**	**33**	**1**	**161**
2024 NP PCE:	16	0	44	4	0	0	0	64	2	3	34	1	168
2024 WP PCE:	16	0	44	7	0	0	0	83	2	3	44	2	200

6. Valley View St. & Plaza Dr.

	PHF: 0.957			4:30						Count Date: 8/30/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2022 PCE:	**4**	**1,929**	**4**	**17**	**1,474**	**23**	**79**	**0**	**29**	**53**	**10**	**116**	**3,737**
2024 NP PCE:	4	2,021	4	18	1,552	24	82	0	30	55	10	121	3,920
2024 WP PCE:	12	2,021	4	18	1,552	28	90	0	48	55	10	121	3,958

URBAN CROSSROADS

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Aug 30, 22

LOCATION: Cypress
NORTH & SOUTH: Douglas
EAST & WEST: Katella

PROJECT #: SC3604
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

Add U-Turns to Left Turns

		NORTHBOUND (Douglas)			SOUTHBOUND (Douglas)			EASTBOUND (Katella)			WESTBOUND (Katella)			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 1	TOTAL
AM	7:00 AM	5	0	1	0	0	3	8	293	15	1	275	1	602
AM	7:15 AM	4	1	0	2	1	3	2	318	20	2	402	3	758
AM	7:30 AM	3	0	0	0	0	1	2	385	8	3	415	5	822
AM	7:45 AM	6	0	2	0	0	2	5	419	15	2	429	5	885
AM	8:00 AM	6	2	2	1	1	2	6	427	27	4	404	12	894
AM	8:15 AM	2	0	1	1	0	7	13	390	10	0	403	11	838
AM	8:30 AM	7	0	0	1	0	2	10	339	10	6	374	9	758
AM	8:45 AM	5	1	0	0	0	2	4	324	16	4	332	5	693
AM	VOLUMES	38	4	6	5	2	22	50	2,895	121	22	3,034	51	6,250
AM	APPROACH %	79%	8%	13%	17%	7%	76%	2%	94%	4%	1%	98%	2%	
AM	APP/DEPART	48	/	101	29	/	142	3,066	/	2,909	3,107	/	3,098	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	17	2	5	2	1	12	26	1,621	60	9	1,651	33	3,439
AM	APPROACH %	71%	8%	21%	13%	7%	80%	2%	95%	4%	1%	98%	2%	
AM	PEAK HR FACTOR		0.600			0.469			0.928			0.971		0.962
AM	APP/DEPART	24	/	59	15	/	69	1,707	/	1,629	1,693	/	1,682	0
PM	4:00 PM	24	0	4	9	0	10	3	451	5	1	333	0	838
PM	4:15 PM	14	1	3	4	0	8	4	476	6	3	305	1	825
PM	4:30 PM	23	1	2	6	0	9	2	449	7	0	375	2	876
PM	4:45 PM	20	0	2	6	0	5	3	432	9	2	378	0	857
PM	5:00 PM	16	0	3	5	1	22	5	522	4	5	433	2	1,018
PM	5:15 PM	20	0	0	7	1	9	1	485	7	1	355	2	888
PM	5:30 PM	8	1	2	4	0	14	3	452	4	3	378	1	870
PM	5:45 PM	9	0	0	5	0	6	3	426	7	0	334	1	791
PM	VOLUMES	134	3	16	46	2	83	24	3,693	47	15	2,891	9	6,963
PM	APPROACH %	88%	2%	10%	35%	2%	63%	1%	98%	1%	1%	99%	0%	
PM	APP/DEPART	153	/	19	131	/	57	3,764	/	3,762	2,915	/	3,125	0
PM	BEGIN PEAK HR		4:30 PM											
PM	VOLUMES	79	1	7	24	2	45	11	1,888	27	8	1,541	6	3,639
PM	APPROACH %	91%	1%	8%	34%	3%	63%	1%	98%	1%	1%	99%	0%	
PM	PEAK HR FACTOR		0.837			0.634			0.907			0.884		0.894
PM	APP/DEPART	87	/	8	71	/	32	1,926	/	1,924	1,555	/	1,675	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	2	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	2	0	2
0	0	0	2	2
0	0	0	0	0
0	0	4	3	7
0	0	2	0	2
0	0	1	0	1
0	0	2	0	2
0	0	3	1	4
0	0	4	4	8
0	0	1	0	1
0	0	2	2	4
0	0	2	0	2
0	0	17	7	24

RTOR

NRR	SRR	ERR	WRR
1	3	0	1
0	3	3	0
0	1	1	1
1	2	3	0
2	1	3	4
0	6	1	0
0	1	0	0
0	2	0	0
4	19	11	6
3	10	8	5
2	4	0	0
3	8	0	0
1	6	1	0
2	5	3	0
1	13	1	0
0	6	0	0
1	12	0	0
0	4	0	1
10	58	5	1
4	30	5	0

Douglas

NORTH SIDE

Katella — WEST SIDE — EAST SIDE — Katella

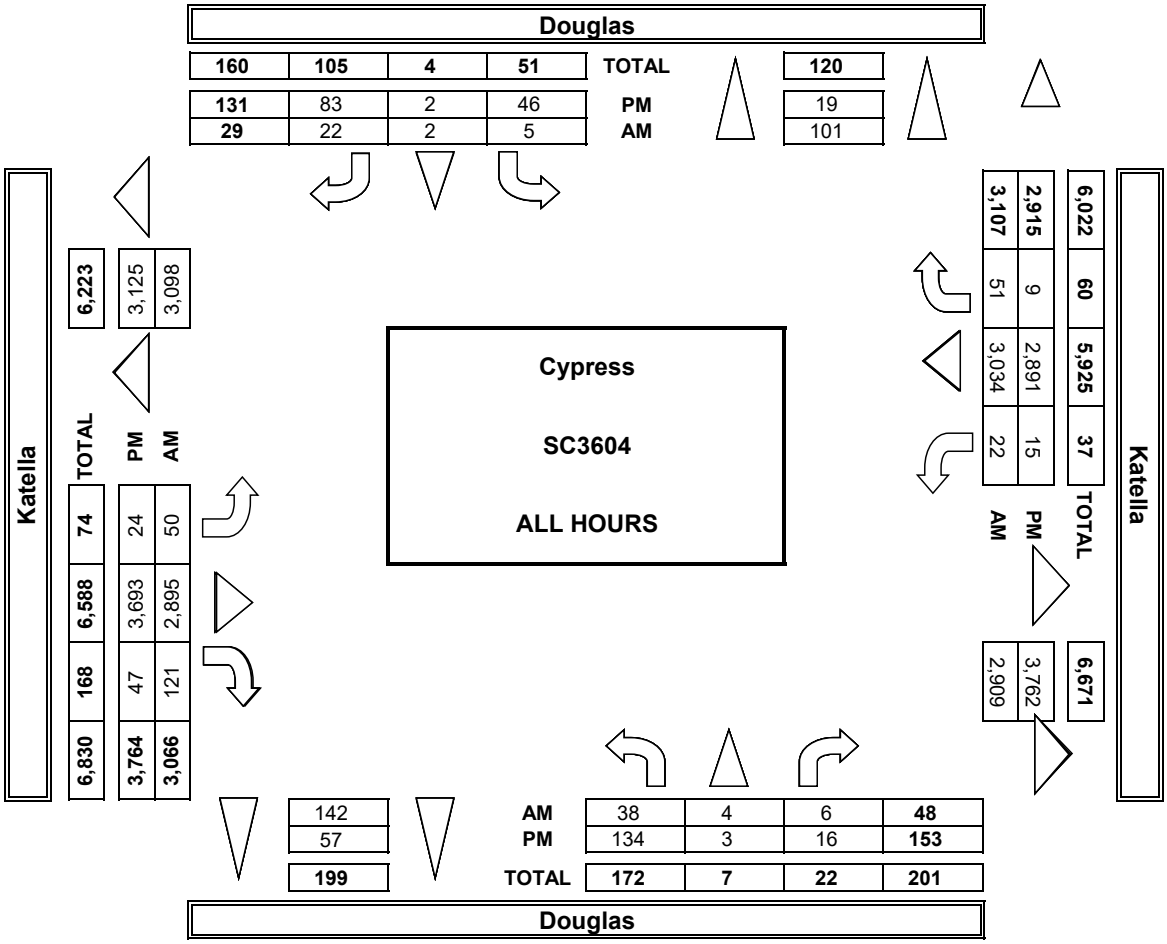
SOUTH SIDE

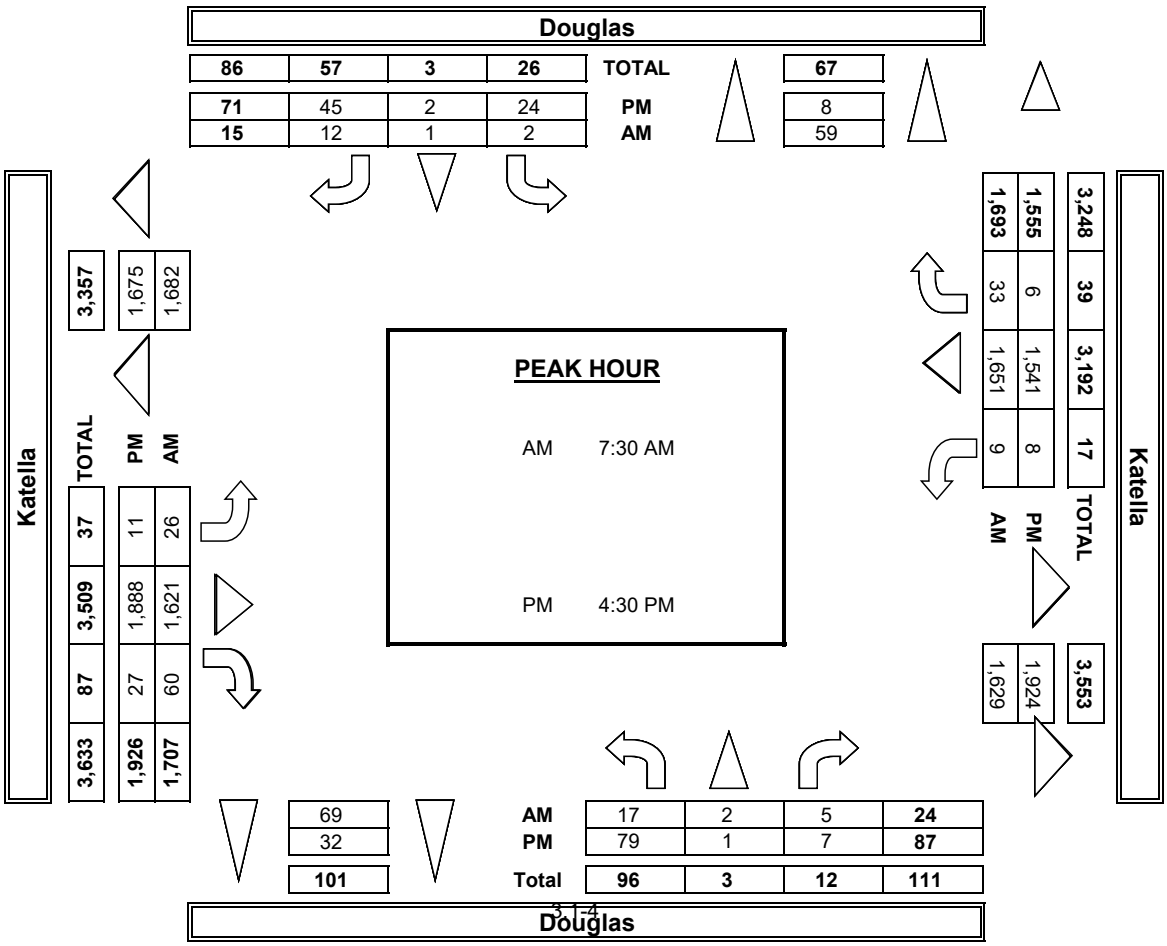
Douglas

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
AM	7:15 AM	1	0	0	1	2	1	0	0	1	2	0	0	0	0	0
AM	7:30 AM	3	1	2	3	9	0	0	0	0	0	3	1	2	3	9
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
AM	8:15 AM	0	0	1	1	2	0	0	0	0	0	0	0	1	1	2
AM	8:30 AM	0	0	3	0	3	0	0	2	0	2	0	0	1	0	1
AM	8:45 AM	0	0	1	1	2	0	0	0	0	0	0	0	1	1	2
AM	TOTAL	4	2	8	6	20	1	1	3	1	6	3	1	5	5	14
PM	4:00 PM	1	0	0	1	2	1	0	0	0	1	0	0	0	1	1
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1
PM	4:45 PM	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	1	0	2	3	0	0	0	1	1	0	1	0	1	2
PM	5:30 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
PM	5:45 PM	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1
	TOTAL	2	1	6	3	12	1	0	2	1	4	1	1	4	2	8

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Douglas	LOCATION #:	1
TUESDAY	EAST & WEST:	Katella	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

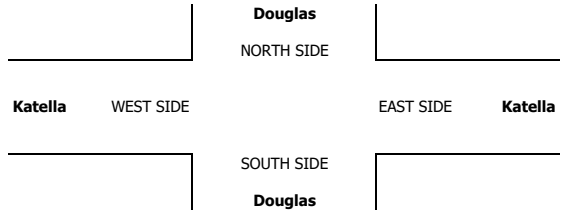
	NORTHBOUND (Douglas)			SOUTHBOUND (Douglas)			EASTBOUND (Katella)			WESTBOUND (Katella)			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 1	TOTAL
7:00 AM	1	0	0	0	0	0	2	17	0	0	12	0	32
7:15 AM	0	0	0	1	0	0	0	11	2	0	20	0	34
7:30 AM	0	0	0	0	0	1	0	14	0	1	31	0	47
7:45 AM	2	0	0	0	0	0	0	14	0	0	13	0	29
8:00 AM	0	0	0	0	0	0	0	19	1	0	18	0	38
8:15 AM	0	0	0	0	0	0	1	15	0	0	14	0	30
8:30 AM	0	0	0	0	0	0	0	16	1	0	21	0	38
8:45 AM	1	0	0	0	0	0	0	16	2	0	19	0	38
AM VOLUMES	4	0	0	1	0	1	3	122	6	1	148	0	286
AM APPROACH %	100%	0%	0%	50%	0%	50%	2%	93%	5%	1%	99%	0%	
AM APP/DEPART	4	/	2	2	/	7	131	/	123	149	/	154	0
BEGIN PEAK HR	7:30 AM												
AM VOLUMES	2	0	0	0	0	1	0	62	1	1	76	0	144
AM APPROACH %	100%	0%	0%	0%	0%	100%	0%	97%	2%	1%	99%	0%	
AM PEAK HR FACTOR	0.250			0.250			0.800			0.602			0.766
AM APP/DEPART	2	/	0	1	/	2	64	/	62	77	/	80	0
4:00 PM	0	0	0	0	0	0	1	17	0	0	9	0	27
4:15 PM	0	0	0	0	0	0	0	13	0	0	9	1	23
4:30 PM	0	0	0	0	0	0	0	9	0	0	12	0	21
4:45 PM	0	0	0	0	0	0	0	7	0	0	4	0	11
5:00 PM	0	0	0	0	0	1	0	16	0	1	10	0	28
5:15 PM	0	0	0	0	0	0	0	17	0	0	8	0	25
5:30 PM	0	0	0	0	0	0	0	9	0	0	2	0	11
5:45 PM	0	0	0	0	0	0	0	6	0	0	5	0	11
PM VOLUMES	0	0	0	0	0	1	1	94	0	1	59	1	157
PM APPROACH %	0%	0%	0%	0%	0%	100%	1%	99%	0%	2%	97%	2%	
PM APP/DEPART	0	/	1	1	/	1	95	/	94	61	/	61	0
BEGIN PEAK HR	4:30 PM												
PM VOLUMES	0	0	0	0	0	1	0	49	0	1	34	0	85
PM APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	3%	97%	0%	
PM PEAK HR FACTOR	0.000			0.250			0.721			0.729			0.759
PM APP/DEPART	0	/	0	1	/	1	49	/	49	35	/	35	0

U-TURNS

	NB	SB	EB	WB	TTL
AM	0	0	0	0	0
AM	0	0	0	0	0
AM	0	0	0	0	0
AM	0	0	0	0	0
AM	0	0	0	0	0
AM	0	0	1	0	1
AM	0	0	0	0	0
AM	0	0	0	0	0
AM TOTAL	0	0	1	0	1
PM	0	0	1	0	1
PM	0	0	0	0	0
PM	0	0	0	0	0
PM	0	0	0	0	0
PM	0	0	0	0	0
PM	0	0	0	0	0
PM	0	0	0	0	0
PM	0	0	0	0	0
PM	0	0	0	0	0
PM TOTAL	0	0	1	0	1

RTOR

	NRR 0	SRR 0	ERR 0	WRR 0
AM	0	0	0	0
AM	0	0	1	0
AM	0	1	0	0
AM	0	0	0	0
AM	0	0	0	0
AM	0	0	0	0
AM	0	0	0	0
AM	0	0	0	0
AM TOTAL	0	1	1	0
AM PEAK HR	0	1	0	0
PM	0	0	0	0
PM	0	0	0	0
PM	0	0	0	0
PM	0	0	0	0
PM	0	0	0	0
PM	0	0	0	0
PM	0	0	0	0
PM	0	0	0	0
PM TOTAL	0	0	0	0
PM PEAK HR	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
8/30/22	LOCATION:	Cypress	PROJECT #:	SC3604
TUESDAY	NORTH & SOUTH:	Douglas	LOCATION #:	1
	EAST & WEST:	Katella	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Douglas			SOUTHBOUND Douglas			EASTBOUND Katella			WESTBOUND Katella			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	3	1	1	3	1	
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
8:00 AM	0	0	0	0	0	0	0	1	2	0	6	0	9
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
8:30 AM	0	0	0	0	0	0	0	1	0	0	3	0	4
8:45 AM	1	0	0	0	0	0	0	11	0	0	2	0	14
VOLUMES	1	0	0	0	0	0	0	15	2	0	21	0	39
APPROACH %	100%	0%	0%	0%	0%	0%	0%	88%	12%	0%	100%	0%	
APP/DEPART	1	/	0	0	/	2	17	/	15	21	/	22	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	0	0	0	0	0	0	0	3	2	0	13	0	18
APPROACH %	0%	0%	0%	0%	0%	0%	0%	60%	40%	0%	100%	0%	
PEAK HR FACTOR		0.000			0.000			0.417			0.542		0.500
APP/DEPART	0	/	0	0	/	2	5	/	3	13	/	13	0
PM 4:00 PM	0	0	0	0	0	0	0	5	0	0	1	0	6
4:15 PM	0	0	0	0	0	0	0	3	0	0	1	0	4
4:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
4:45 PM	0	0	0	0	0	0	0	3	0	0	2	0	5
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	17	0	0	6	0	23
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	17	/	17	6	/	6	0
BEGIN PEAK HR		4:30 PM											
VOLUMES	0	0	0	0	0	0	0	6	0	0	4	0	10
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR		0.000			0.000			0.500			0.500		0.500
APP/DEPART	0	/	0	0	/	0	6	/	6	4	/	4	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES:						0	0	0	0
AM 7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0

Douglas

NORTH SIDE

Katella WEST SIDE

EAST SIDE **Katella**

SOUTH SIDE

Douglas

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Douglas	LOCATION #:	1
TUESDAY	EAST & WEST:	Katella	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Douglas			SOUTHBOUND Douglas			EASTBOUND Katella			WESTBOUND Katella			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	3	1	1	3	1	
AM 7:00 AM	3	0	0	0	0	0	0	2	2	0	5	0	12
7:15 AM	0	0	0	0	0	0	0	2	2	0	2	0	6
7:30 AM	1	0	0	0	0	0	0	2	1	1	5	0	10
7:45 AM	1	0	0	0	0	0	0	2	1	0	5	0	9
8:00 AM	2	0	0	0	0	0	0	1	1	0	9	0	13
8:15 AM	0	0	0	0	0	1	0	2	1	0	4	0	8
8:30 AM	2	0	0	0	0	0	0	6	1	0	7	0	16
8:45 AM	1	0	0	0	0	0	0	6	0	0	5	0	12
VOLUMES	10	0	0	0	0	1	0	23	9	1	42	0	86
APPROACH %	100%	0%	0%	0%	0%	100%	0%	72%	28%	2%	98%	0%	
APP/DEPART	10	/	0	1	/	10	32	/	23	43	/	53	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	4	0	0	0	0	1	0	7	4	1	23	0	40
APPROACH %	100%	0%	0%	0%	0%	100%	0%	64%	36%	4%	96%	0%	
PEAK HR FACTOR		0.500			0.250			0.917			0.667		0.769
APP/DEPART	4	/	0	1	/	5	11	/	7	24	/	28	0
PM 4:00 PM	0	0	0	0	0	0	0	2	0	1	5	0	8
4:15 PM	0	0	0	0	0	0	0	1	0	1	2	0	4
4:30 PM	1	0	0	0	0	0	0	0	0	0	3	0	4
4:45 PM	0	0	0	1	0	0	0	1	2	0	4	0	8
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
VOLUMES	1	0	0	1	0	0	0	8	2	2	16	0	30
APPROACH %	100%	0%	0%	100%	0%	0%	0%	80%	20%	11%	89%	0%	
APP/DEPART	1	/	0	1	/	4	10	/	9	18	/	17	0
BEGIN PEAK HR		4:30 PM											
VOLUMES	1	0	0	1	0	0	0	3	2	0	7	0	14
APPROACH %	100%	0%	0%	100%	0%	0%	0%	60%	40%	0%	100%	0%	
PEAK HR FACTOR		0.250			0.250			0.417			0.438		0.438
APP/DEPART	1	/	0	1	/	2	5	/	4	7	/	8	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Douglas

NORTH SIDE

Katella WEST SIDE

EAST SIDE **Katella**

SOUTH SIDE

Douglas

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
Tue, Aug 30, 22	NORTH & SOUTH:	Driveway 1	LOCATION #:	2
	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N / ◄ W / E ► / S ▼

Add U-Turns to Left Turns

	NORTHBOUND Driveway 1			SOUTHBOUND Driveway 1			EASTBOUND Plaza			WESTBOUND Plaza			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	X	X	0	X	0	0	1	X	X	1	0	
AM 7:00 AM	0	0	0	1	0	0	0	0	0	0	4	1	6
7:15 AM	0	0	0	1	0	0	1	0	0	0	5	0	7
7:30 AM	0	0	0	0	0	1	0	0	0	0	3	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	5
8:00 AM	0	0	0	0	0	0	0	1	0	0	10	0	11
8:15 AM	0	0	0	0	0	2	1	0	0	0	6	0	9
8:30 AM	0	0	0	0	0	0	1	1	0	0	6	0	8
8:45 AM	0	0	0	0	0	0	0	1	0	0	9	0	10
VOLUMES	0	0	0	2	0	3	3	3	0	0	48	1	60
APPROACH %	0%	0%	0%	40%	0%	60%	50%	50%	0%	0%	98%	2%	
APP/DEPART	0	/	4	5	/	0	6	/	5	49	/	51	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	0	0	0	0	0	2	2	3	0	0	31	0	38
APPROACH %	0%	0%	0%	0%	0%	100%	40%	60%	0%	0%	100%	0%	
PEAK HR FACTOR		0.000			0.250			0.625			0.775		0.864
APP/DEPART	0	/	2	2	/	0	5	/	3	31	/	33	0
PM 4:00 PM	0	0	0	0	0	0	0	1	0	0	9	0	10
4:15 PM	0	0	0	0	0	2	0	6	0	0	2	0	10
4:30 PM	0	0	0	0	0	0	0	2	0	0	5	0	7
4:45 PM	0	0	0	0	0	1	0	0	0	0	5	0	6
5:00 PM	0	0	0	0	0	2	0	6	0	0	7	1	16
5:15 PM	0	0	0	0	0	1	0	8	0	0	3	0	12
5:30 PM	0	0	0	0	0	1	0	4	0	0	5	1	11
5:45 PM	0	0	0	1	0	1	0	5	0	0	2	0	9
VOLUMES	0	0	0	1	0	8	0	32	0	0	38	2	81
APPROACH %	0%	0%	0%	11%	0%	89%	0%	100%	0%	0%	95%	5%	
APP/DEPART	0	/	2	9	/	0	32	/	33	40	/	46	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	0	0	0	1	0	5	0	23	0	0	17	2	48
APPROACH %	0%	0%	0%	17%	0%	83%	0%	100%	0%	0%	89%	11%	
PEAK HR FACTOR		0.000			0.750			0.719			0.594		0.750
APP/DEPART	0	/	2	6	/	0	23	/	24	19	/	22	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
0	0	0	0		X	X	X	X
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0

Driveway 1

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

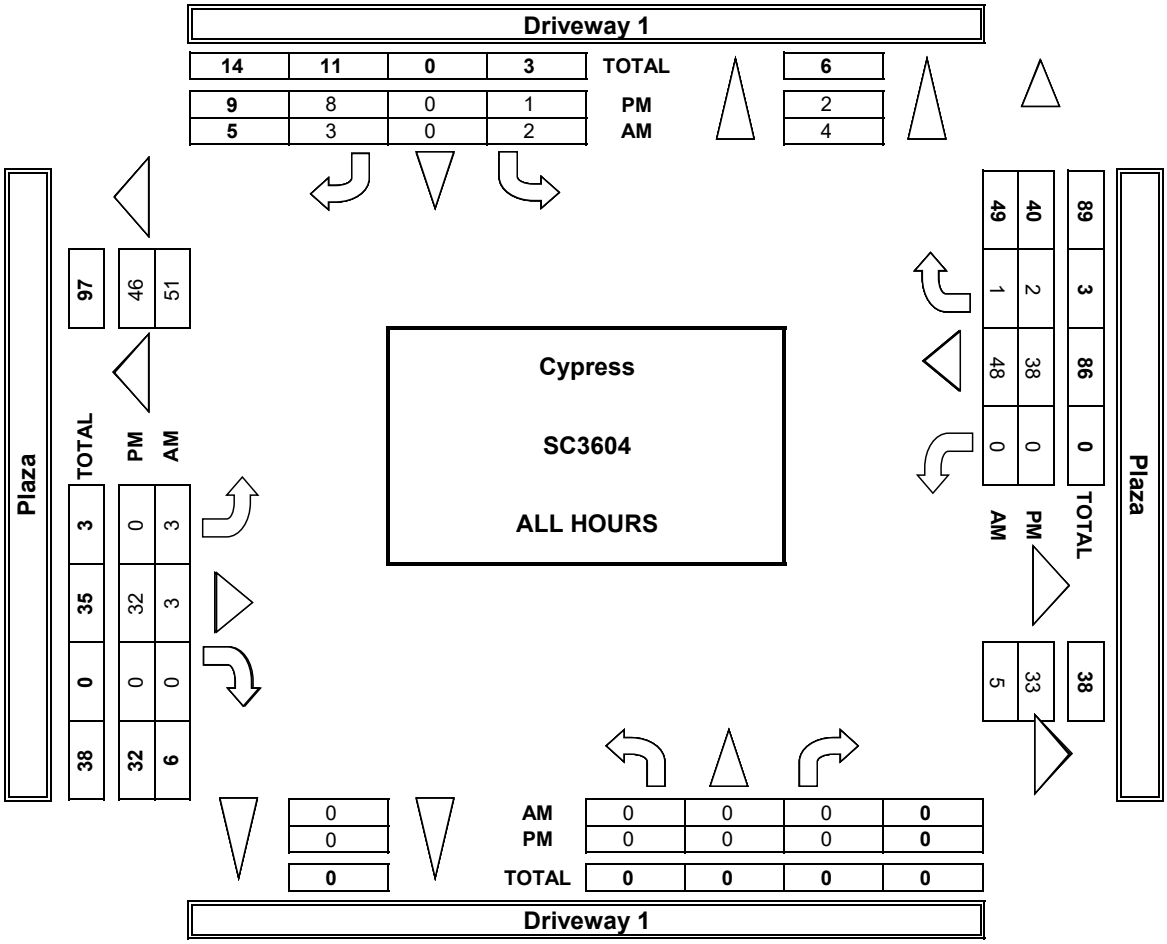
SOUTH SIDE

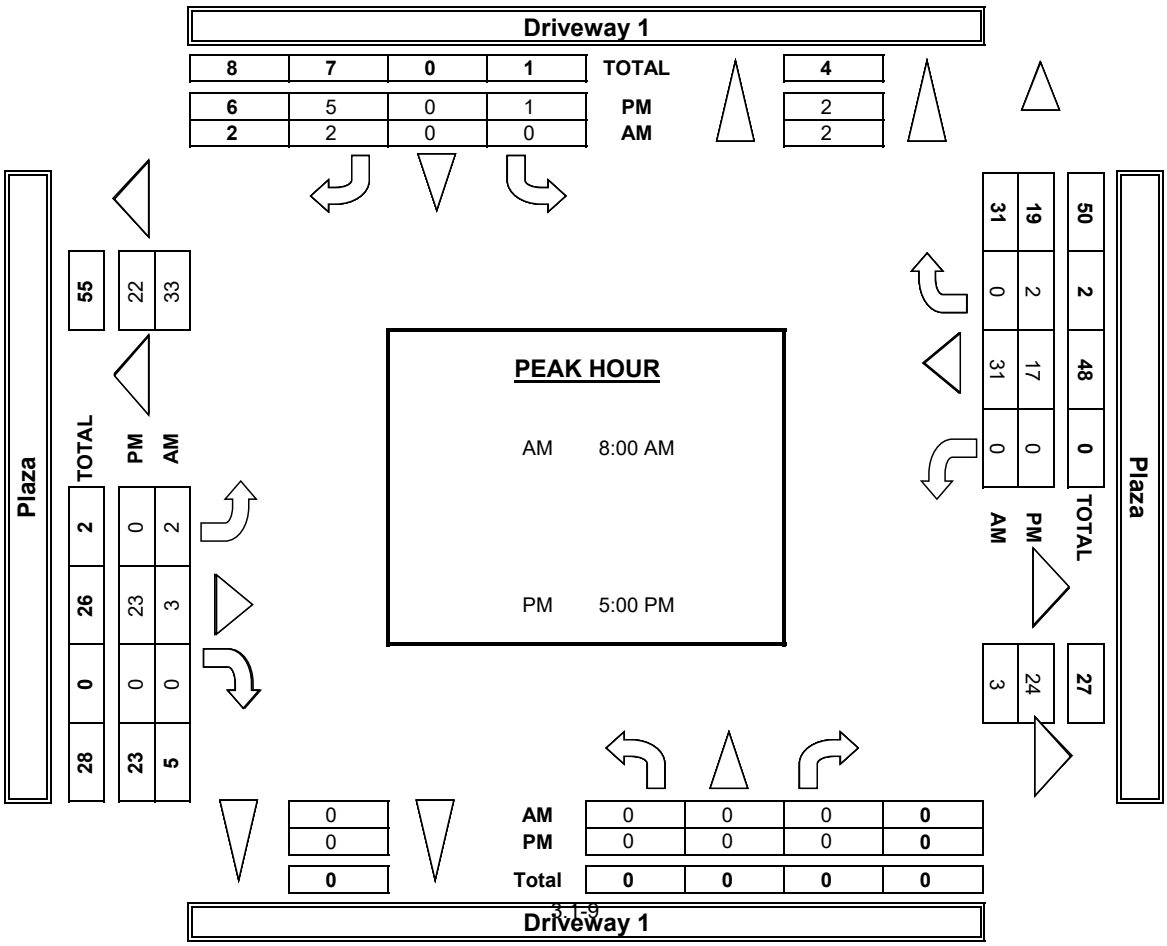
Driveway 1

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 1	LOCATION #:	2
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Driveway 1			SOUTHBOUND Driveway 1			EASTBOUND Plaza			WESTBOUND Plaza			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	X	X	X	0	X	0	0	1	X	X	1	0	
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	1	1	0	0	0	0	0	2
APPROACH %	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	1	1	/	0	1	/	0	0	/	1	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	1	0	0	1	0	2
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.250		0.250
APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES:						X	X	X	X
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
AM PEAK HR VOLUMES						0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PM PEAK HR VOLUMES						0	0	0	0

Driveway 1

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 1	LOCATION #:	2
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Driveway 1			SOUTHBOUND Driveway 1			EASTBOUND Plaza			WESTBOUND Plaza			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	0	X	0	0	1	X	X	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES:	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Driveway 1

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 1	LOCATION #:	2
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Driveway 1			SOUTHBOUND Driveway 1			EASTBOUND Plaza			WESTBOUND Plaza			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	X	X	0	X	0	0	1	X	X	1	0	
AM 7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	1	0	1	0	0	0	0	0	0	2
APPROACH %	0%	0%	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	2	/	0	0	/	1	0	/	1	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	0	0	0	0	0	1	0	0	0	0	0	0	1
APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.250			0.000			0.000		0.250
APP/DEPART	0	/	0	1	/	0	0	/	0	0	/	1	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	1	0	0	0	0	0	0	1
APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	1	/	0	0	/	0	0	/	1	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES:	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Driveway 1

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 1

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Aug 30, 22

LOCATION: Cypress
NORTH & SOUTH: Driveway 2
EAST & WEST: Plaza

PROJECT #: SC3604
LOCATION #: 3
CONTROL: NO CONTROL

NOTES:

AM / PM / MD / OTHER / OTHER

N ▲ S ▼ W ◄ E ►

Add U-Turns to Left Turns

		NORTHBOUND Driveway 2			SOUTHBOUND Driveway 2			EASTBOUND Plaza			WESTBOUND Plaza			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	1	1	0	2	9	0	13
AM	7:15 AM	0	0	0	0	0	0	0	1	0	5	5	0	11
AM	7:30 AM	0	0	1	0	0	0	0	0	0	1	4	0	6
AM	7:45 AM	0	0	0	0	0	0	0	0	0	5	6	0	11
AM	8:00 AM	0	0	0	0	0	0	0	1	0	9	13	0	23
AM	8:15 AM	0	0	0	0	0	0	0	0	0	5	8	0	13
AM	8:30 AM	0	0	2	0	0	0	0	0	0	4	8	0	14
AM	8:45 AM	0	0	0	0	0	0	0	2	0	1	9	0	12
AM	VOLUMES	0	0	3	0	0	0	1	5	0	32	62	0	103
AM	APPROACH %	0%	0%	100%	0%	0%	0%	17%	83%	0%	34%	66%	0%	
AM	APP/DEPART	3	/	0	0	/	32	6	/	8	94	/	63	0
AM	BEGIN PEAK HR		8:00 AM											
AM	VOLUMES	0	0	2	0	0	0	0	3	0	19	38	0	62
AM	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	33%	67%	0%	
AM	PEAK HR FACTOR		0.250			0.000			0.375			0.648		0.674
AM	APP/DEPART	2	/	0	0	/	19	3	/	5	57	/	38	0
PM	4:00 PM	0	0	5	0	0	0	0	5	0	2	6	0	18
PM	4:15 PM	2	0	2	0	0	0	0	8	0	2	1	0	15
PM	4:30 PM	1	0	8	0	0	0	0	2	0	0	1	0	12
PM	4:45 PM	1	0	4	0	0	0	0	0	0	1	5	0	11
PM	5:00 PM	3	0	12	0	0	0	0	10	0	0	4	0	29
PM	5:15 PM	0	0	1	0	0	0	0	7	0	1	4	0	13
PM	5:30 PM	0	0	3	0	0	0	0	6	0	0	5	0	14
PM	5:45 PM	1	0	0	0	0	0	0	6	0	0	0	0	7
PM	VOLUMES	8	0	35	0	0	0	0	44	0	6	26	0	119
PM	APPROACH %	19%	0%	81%	0%	0%	0%	0%	100%	0%	19%	81%	0%	
PM	APP/DEPART	43	/	0	0	/	5	44	/	80	32	/	34	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	4	0	20	0	0	0	0	23	0	2	18	0	67
PM	APPROACH %	17%	0%	83%	0%	0%	0%	0%	100%	0%	10%	90%	0%	
PM	PEAK HR FACTOR		0.400			0.000			0.575			0.833		0.578
PM	APP/DEPART	24	/	0	0	/	2	23	/	43	20	/	22	0

U-TURNS

NB 0	SB 0	EB 0	WB 0	TTL
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Driveway 2
NORTH SIDE

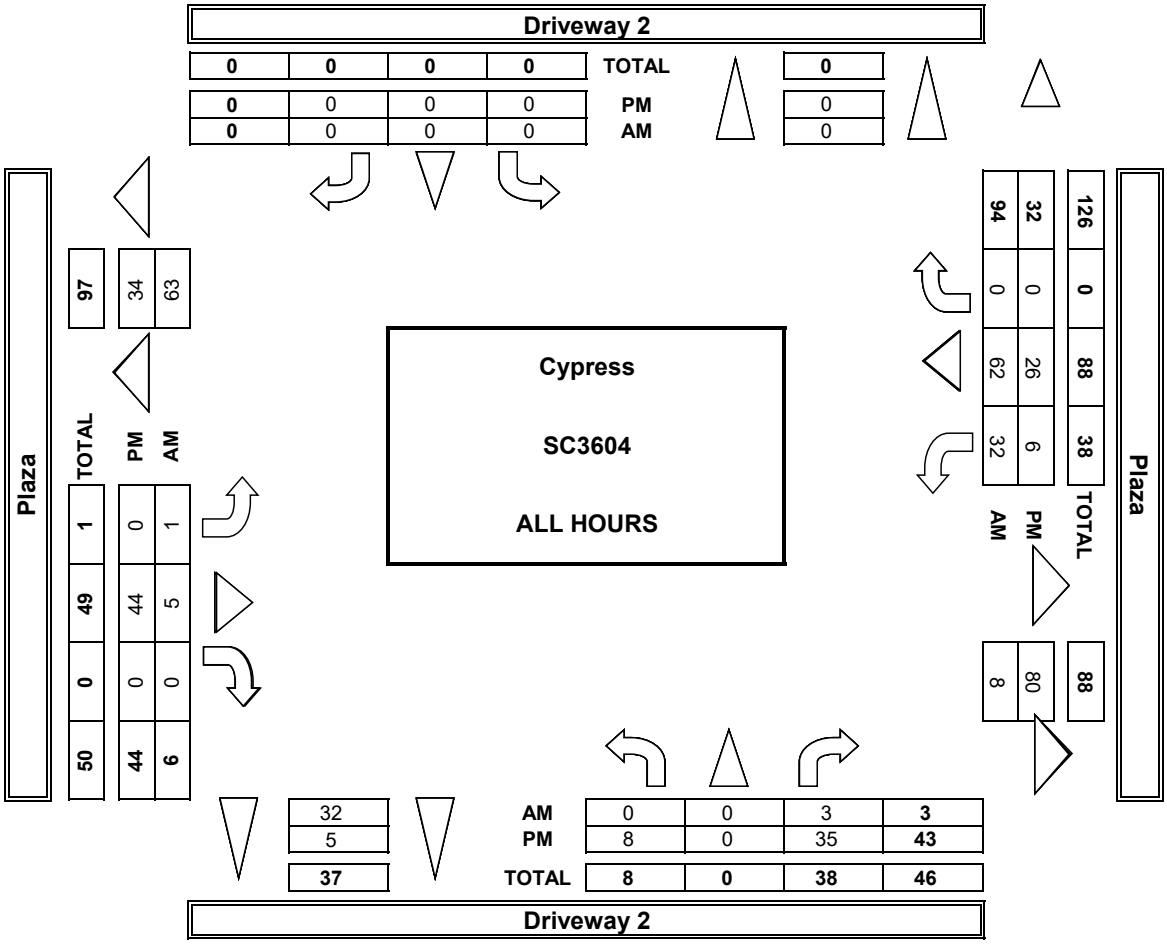
Plaza WEST SIDE — EAST SIDE **Plaza**

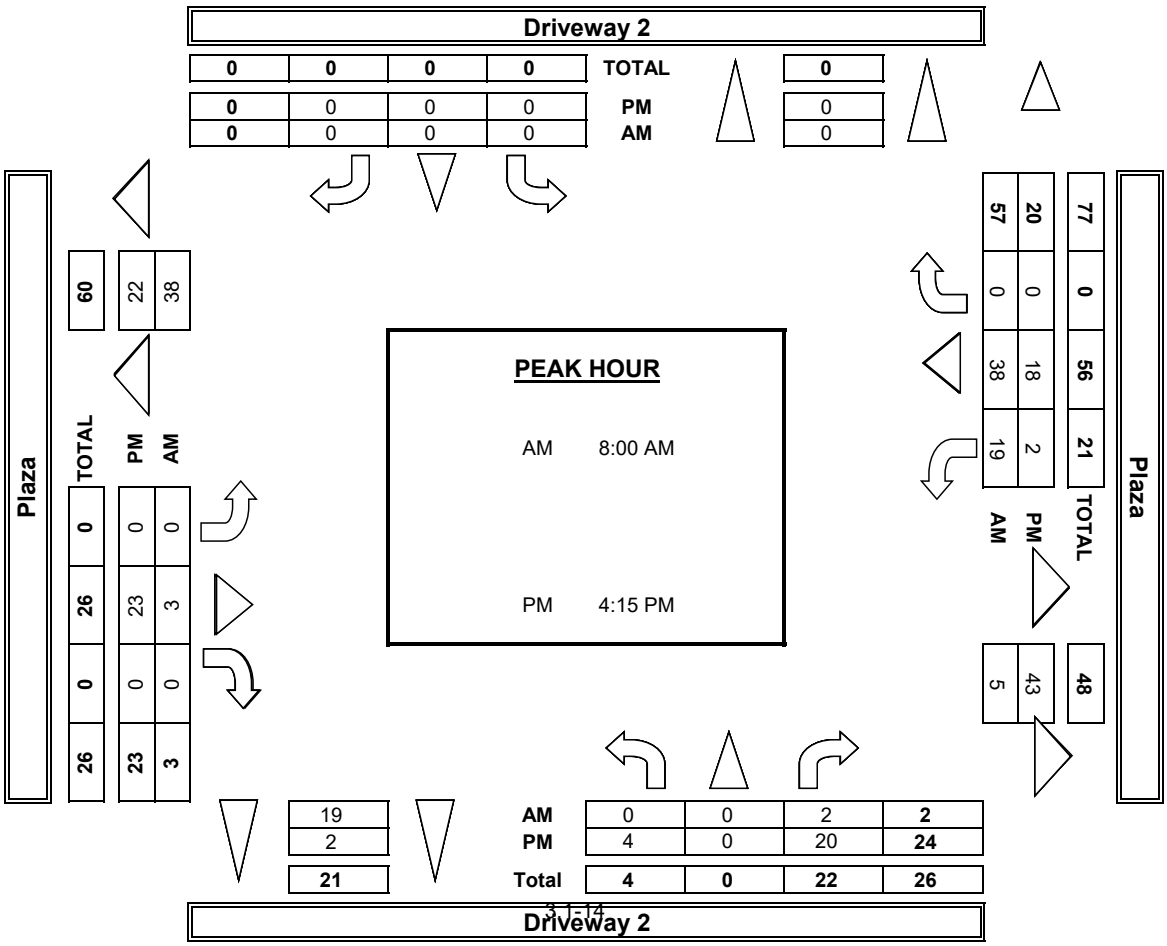
SOUTH SIDE
Driveway 2

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	TOTAL	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 2	LOCATION #:	3
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

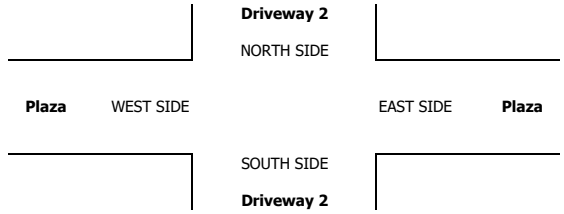
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Driveway 2			SOUTHBOUND Driveway 2			EASTBOUND Plaza			WESTBOUND Plaza			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	1	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	1	/	0	0	/	0	0	/	1	0	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	0	1	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
	APP/DEPART	1	/	0	0	/	0	0	/	1	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
	5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	1	0	0	0	0	0	0	1	0	1	0	0	3
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	
	APP/DEPART	1	/	0	0	/	1	1	/	1	1	/	1	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	1	0	0	0	0	0	0	1	0	1	0	0	3
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	
	PEAK HR FACTOR		0.250			0.000			0.250			0.250		0.750
	APP/DEPART	1	/	0	0	/	1	1	/	1	1	/	1	0

U-TURNS					
	NB	SB	EB	WB	TTL
AM	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
PM	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0

RTOR				
	NRR X	SRR X	ERR X	WRR X
AM	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
PM	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 2	LOCATION #:	3
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 3:	**NOTES:**	AM	▲ N
3-AXLE TRUCKS		PM	◄ W
		MD	E ►
		OTHER	S
		OTHER	▼

	NORTHBOUND Driveway 2			SOUTHBOUND Driveway 2			EASTBOUND Plaza			WESTBOUND Plaza			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		4:15 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Driveway 2

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 2

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 2	LOCATION #:	3
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Driveway 2			SOUTHBOUND Driveway 2			EASTBOUND Plaza			WESTBOUND Plaza			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
AM	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0
AM	BEGIN PEAK HR		8:00 AM											
AM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
AM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
AM PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Driveway 2

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 2

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
Tue, Aug 30, 22	NORTH & SOUTH:	McDonnell	LOCATION #:	4
	EAST & WEST:	Plaza	CONTROL:	STOP N

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND (McDonnell)			SOUTHBOUND (McDonnell)			EASTBOUND (Plaza)			WESTBOUND (Plaza)			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	4	1	5	0	0	0	0	2	0	1	10	0	23
	7:15 AM	7	0	2	0	0	0	0	0	0	1	7	0	17
	7:30 AM	2	0	2	0	0	0	0	1	0	0	5	0	10
	7:45 AM	4	0	10	0	0	0	0	0	0	3	9	1	27
	8:00 AM	8	1	6	0	0	0	0	1	0	2	14	0	32
	8:15 AM	3	0	9	0	0	0	0	0	0	1	15	0	28
	8:30 AM	4	1	7	0	0	0	0	2	0	0	8	0	22
	8:45 AM	1	0	5	0	0	0	0	2	0	0	8	0	16
	VOLUMES	33	3	46	0	0	0	0	8	0	8	76	1	175
	APPROACH %	40%	4%	56%	0%	0%	0%	0%	100%	0%	9%	89%	1%	
	APP/DEPART	82	/	4	0	/	23	8	/	54	85	/	94	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	19	2	32	0	0	0	0	3	0	6	46	1	109
	APPROACH %	36%	4%	60%	0%	0%	0%	0%	100%	0%	11%	87%	2%	
	PEAK HR FACTOR		0.883			0.000			0.375			0.828		0.852
	APP/DEPART	53	/	3	0	/	12	3	/	35	53	/	59	0
PM	4:00 PM	3	0	0	1	0	0	0	9	1	0	6	0	20
	4:15 PM	2	0	1	0	0	0	1	8	2	1	1	0	16
	4:30 PM	0	0	4	0	0	0	0	10	0	1	1	0	16
	4:45 PM	1	0	0	0	0	0	0	4	0	1	5	0	11
	5:00 PM	1	0	0	0	1	0	0	22	1	5	4	0	34
	5:15 PM	1	0	2	0	0	0	0	8	0	1	5	0	17
	5:30 PM	3	0	4	0	0	0	0	8	0	3	5	0	23
	5:45 PM	0	0	3	0	0	0	0	5	1	2	0	0	11
	VOLUMES	11	0	14	1	1	0	1	74	5	14	27	0	148
	APPROACH %	44%	0%	56%	50%	50%	0%	1%	93%	6%	34%	66%	0%	
	APP/DEPART	25	/	1	2	/	26	80	/	89	41	/	32	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	5	0	9	0	1	0	0	43	2	11	14	0	85
	APPROACH %	36%	0%	64%	0%	100%	0%	0%	96%	4%	44%	56%	0%	
	PEAK HR FACTOR		0.500			0.250			0.489			0.694		0.625
	APP/DEPART	14	/	0	1	/	19	45	/	52	25	/	14	0

U-TURNS

NB 0	SB 0	EB 0	WB 0	TTL
3	0	0	0	3
4	0	0	0	4
2	0	0	0	2
1	0	0	0	1
1	0	0	0	1
2	0	0	0	2
2	0	0	0	2
0	0	0	0	0
15	0	0	0	15
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
3	0	0	0	3
0	0	0	0	0
6	0	0	0	6

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

McDonnell

NORTH SIDE

Plaza WEST SIDE EAST SIDE **Plaza**

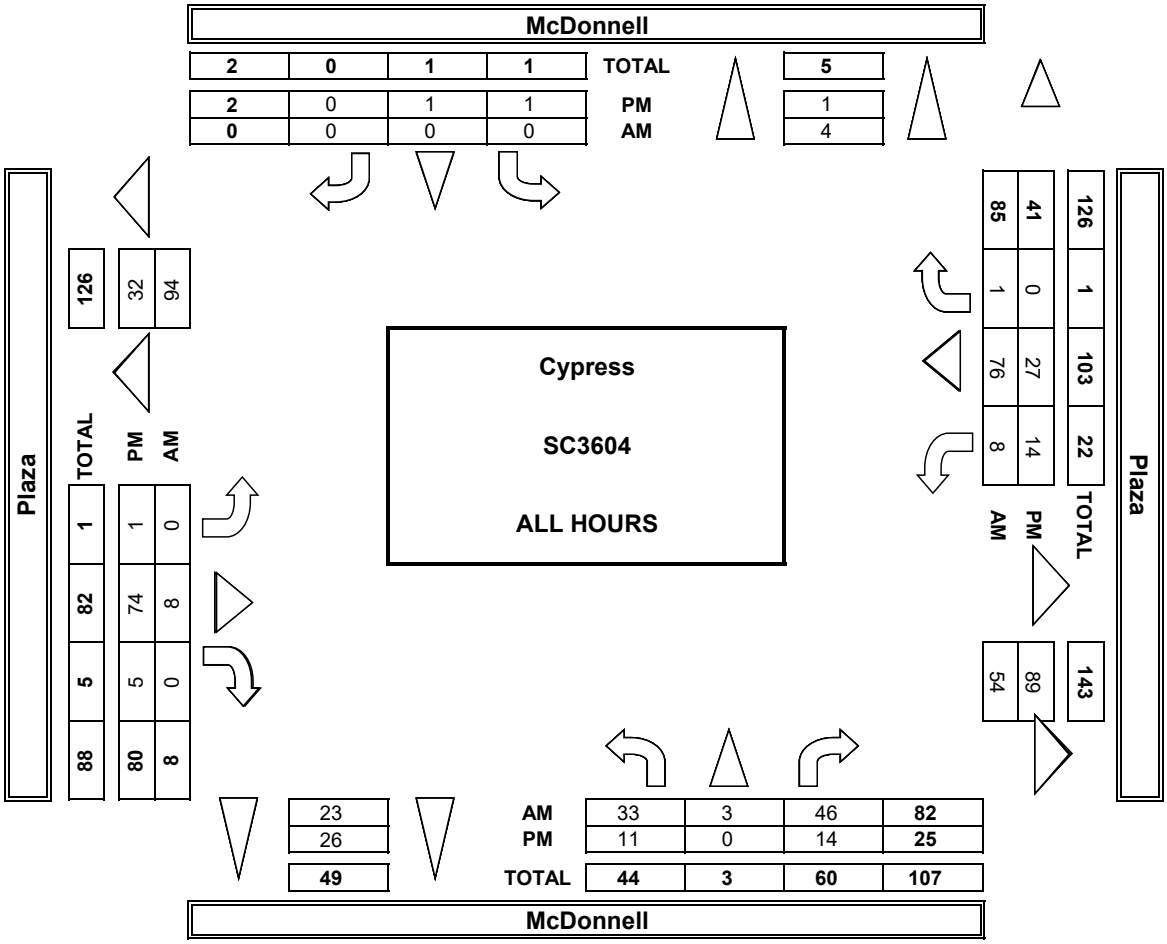
SOUTH SIDE

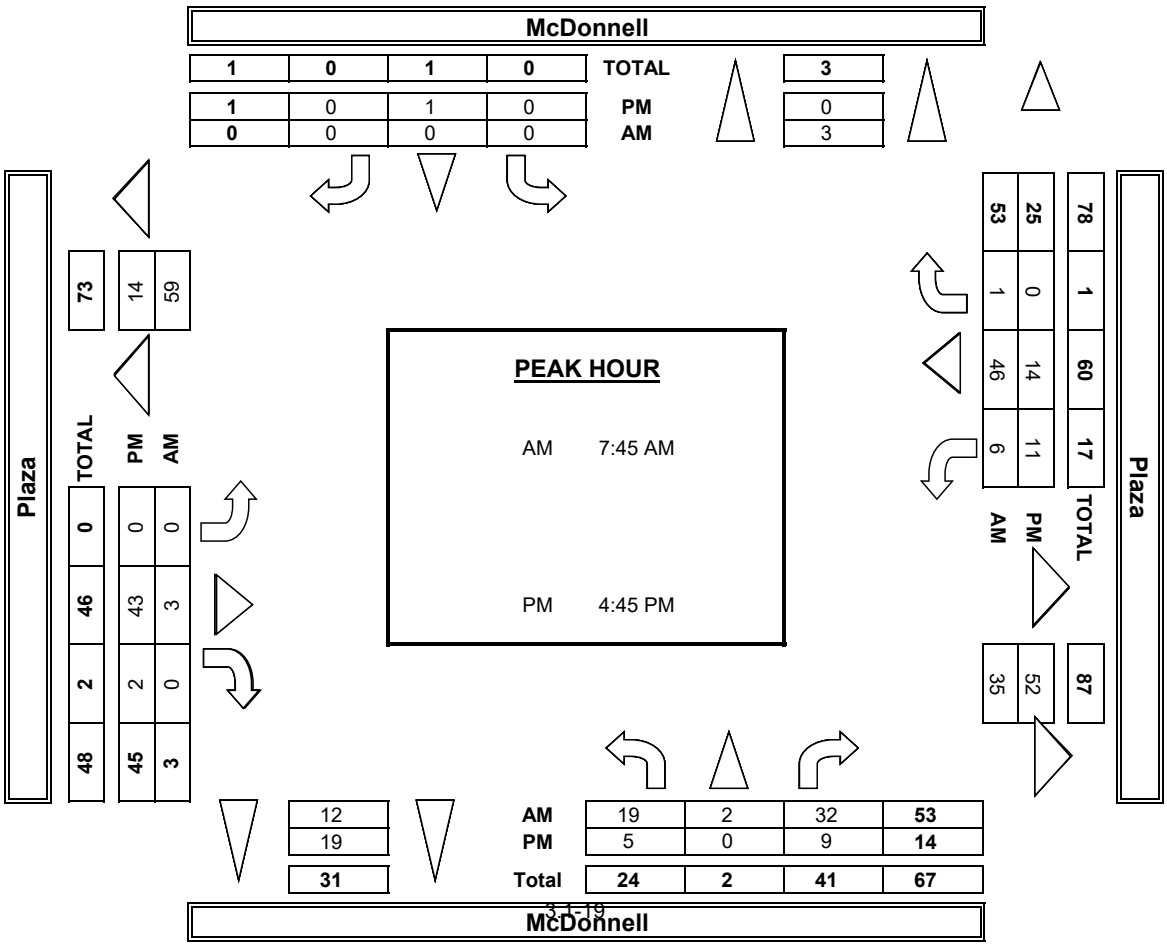
McDonnell

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	0	1	0	2	1	0	0	0	1	0	0	1	0	1

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	McDonnell	LOCATION #:	4
TUESDAY	EAST & WEST:	Plaza	CONTROL:	STOP N

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND McDonnell			SOUTHBOUND McDonnell			EASTBOUND Plaza			WESTBOUND Plaza			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0	0	0	1	0	1	0	0	2
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	
AM	APP/DEPART	0	/	0	0	/	1	1	/	1	1	/	0	0
AM	BEGIN PEAK HR		7:45 AM											
AM	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250
AM	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	1	0	0	0	1	0	2
PM	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	
PM	APP/DEPART	0	/	1	0	/	0	1	/	0	1	/	1	0
PM	BEGIN PEAK HR		4:45 PM											
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
PM	PEAK HR FACTOR		0.000			0.000			0.000			0.250		0.250
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
					X	X	X	X
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0

McDonnell

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

McDonnell

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
8/30/22	LOCATION:	Cypress	PROJECT #:	SC3604
TUESDAY	NORTH & SOUTH:	McDonnell	LOCATION #:	4
	EAST & WEST:	Plaza	CONTROL:	STOP N

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N / ◄ W / E ► / S ▼

	NORTHBOUND McDonnell			SOUTHBOUND McDonnell			EASTBOUND Plaza			WESTBOUND Plaza			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

McDonnell

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

McDonnell

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	McDonnell	LOCATION #:	4
TUESDAY	EAST & WEST:	Plaza	CONTROL:	STOP N

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND McDonnell			SOUTHBOUND McDonnell			EASTBOUND Plaza			WESTBOUND Plaza			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	2
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	1	0	0	0	0	1	0	1	0	0	3
AM	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	100%	0%	0%	
AM	APP/DEPART	1	/	0	0	/	1	1	/	2	1	/	0	0
AM	BEGIN PEAK HR		7:45 AM											
AM	VOLUMES	0	0	1	0	0	0	0	0	0	1	0	0	2
AM	APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
AM	PEAK HR FACTOR		0.250			0.000			0.000			0.250		0.250
AM	APP/DEPART	1	/	0	0	/	1	0	/	1	1	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	BEGIN PEAK HR		4:45 PM											
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES						X	X	X	X
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0

McDonnell

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

McDonnell

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Aug 30, 22

LOCATION: Cypress
NORTH & SOUTH: Driveway 4
EAST & WEST: Plaza

PROJECT #: SC3604
LOCATION #: 5
CONTROL: NO CONTROL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Driveway 4			SOUTHBOUND Driveway 4			EASTBOUND Plaza			WESTBOUND Plaza			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	1	0	0	0	0	0	0	3	3	2	10	1	20
	7:15 AM	0	0	0	0	0	0	0	3	2	6	8	0	19
	7:30 AM	1	0	0	0	0	0	0	4	1	3	6	0	15
	7:45 AM	0	0	1	0	0	1	0	4	7	3	13	0	29
	8:00 AM	0	0	1	0	0	0	0	5	6	1	17	0	30
	8:15 AM	0	0	1	0	0	0	0	2	6	15	17	0	41
	8:30 AM	0	0	1	0	0	0	0	3	7	4	11	1	27
	8:45 AM	0	0	0	0	0	0	0	4	3	3	10	1	21
	VOLUMES	2	0	4	0	0	1	0	28	35	37	92	3	202
	APPROACH %	33%	0%	67%	0%	0%	100%	0%	44%	56%	28%	70%	2%	
	APP/DEPART	6	/	3	1	/	70	63	/	34	132	/	95	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	0	4	0	0	1	0	14	26	23	58	1	127
	APPROACH %	0%	0%	100%	0%	0%	100%	0%	35%	65%	28%	71%	1%	
	PEAK HR FACTOR		1.000			0.250			0.909			0.641		0.774
	APP/DEPART	4	/	1	1	/	49	40	/	18	82	/	59	0
PM	4:00 PM	2	0	9	1	0	1	0	16	0	7	6	1	43
	4:15 PM	0	0	3	2	0	1	0	11	0	1	2	0	20
	4:30 PM	2	0	3	2	0	0	0	16	2	1	4	0	30
	4:45 PM	2	0	2	3	0	0	0	10	0	1	8	1	27
	5:00 PM	5	0	22	1	0	0	0	25	0	2	8	0	63
	5:15 PM	3	0	8	0	0	0	0	12	1	0	7	0	31
	5:30 PM	5	0	10	0	0	0	0	14	1	0	9	0	39
	5:45 PM	2	0	0	0	0	0	0	12	1	0	4	0	19
	VOLUMES	21	0	57	9	0	2	0	116	5	12	48	2	272
	APPROACH %	27%	0%	73%	82%	0%	18%	0%	96%	4%	19%	77%	3%	
	APP/DEPART	78	/	2	11	/	15	121	/	184	62	/	71	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	15	0	42	4	0	0	0	61	2	3	32	1	160
	APPROACH %	26%	0%	74%	100%	0%	0%	0%	97%	3%	8%	89%	3%	
	PEAK HR FACTOR		0.528			0.333			0.630			0.900		0.635
	APP/DEPART	57	/	1	4	/	5	63	/	107	36	/	47	0

U-TURNS

NB 0	SB 0	EB 0	WB 0	TTL
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Driveway 4
NORTH SIDE

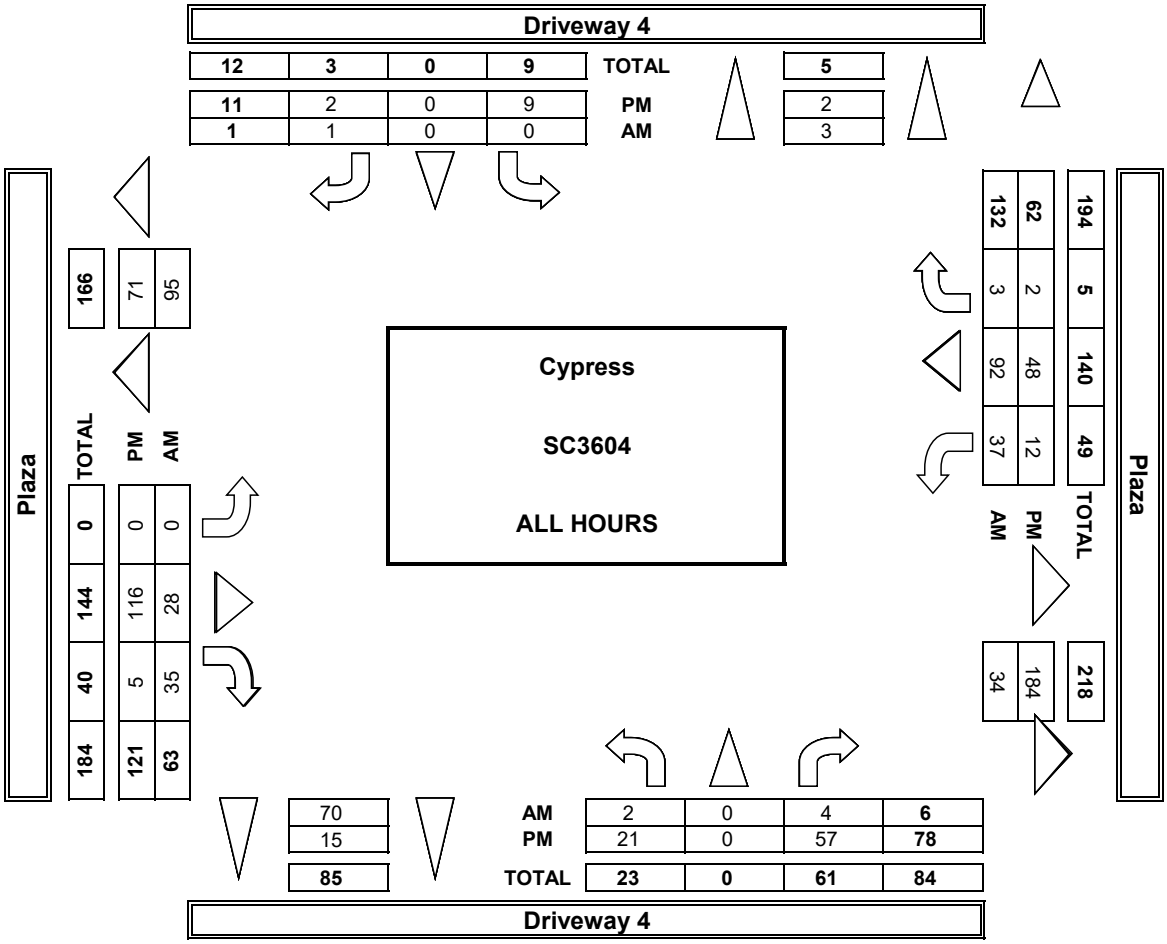
Plaza WEST SIDE — EAST SIDE **Plaza**

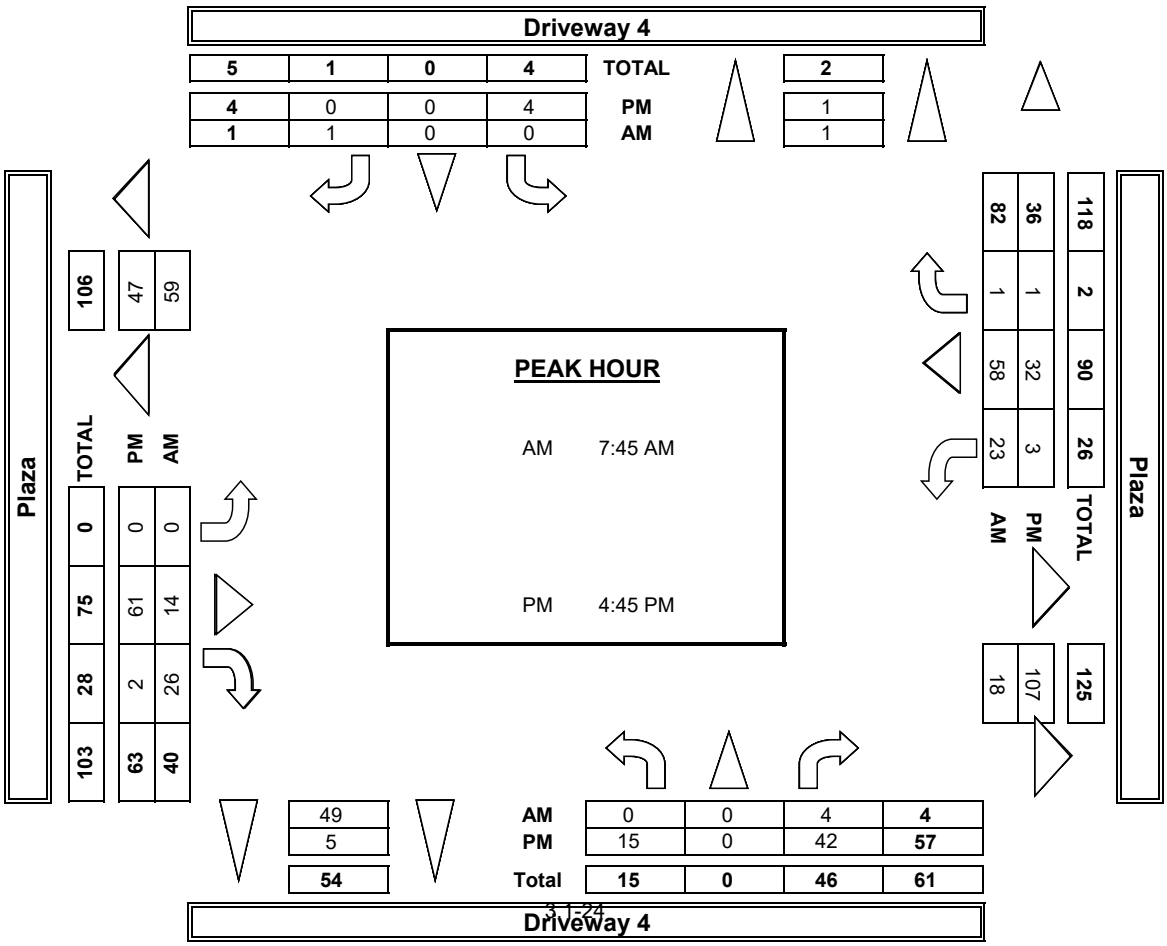
SOUTH SIDE
Driveway 4

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	7:15 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1
PM	4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	1	0	1	2	0	1	0	0	1	0	0	0	1	1
	5:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	1	2	1	4	0	1	0	0	1	0	0	2	1	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:			
8/30/22 TUESDAY	LOCATION: Cypress	PROJECT #:	SC3604
	NORTH & SOUTH: Driveway 4	LOCATION #:	5
	EAST & WEST: Plaza	CONTROL:	NO CONTROL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Driveway 4			SOUTHBOUND Driveway 4			EASTBOUND Plaza			WESTBOUND Plaza				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0							X	X	X	X
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0	0	0	1	0	0	3	0	4	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%										
AM	APP/DEPART	0	/	0	0	/	0	1	/	1	3	/	3	0									
AM	BEGIN PEAK HR		7:45 AM																				
AM	VOLUMES	0	0	0	0	0	0	0	1	0	0	1	0	2						0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%										
AM	PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.250									
AM	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1	0									
PM	4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	1	0	0	0	0	1	0	1	1	0	4	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	50%	50%	0%										
PM	APP/DEPART	1	/	0	0	/	1	1	/	2	2	/	1	0									
PM	BEGIN PEAK HR		4:45 PM																				
PM	VOLUMES	0	0	0	0	0	0	0	1	0	0	1	0	2						0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%										
PM	PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.250									
PM	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1	0									

Driveway 4

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 4

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 4	LOCATION #:	5
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Driveway 4			SOUTHBOUND Driveway 4			EASTBOUND Plaza			WESTBOUND Plaza			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	1	0	0	1	0	2
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	0	0	0	0	0	0	0	1	0	0	1	0	2
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.500
APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1	0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Driveway 4

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 4

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Driveway 4	LOCATION #:	5
TUESDAY	EAST & WEST:	Plaza	CONTROL:	NO CONTROL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Driveway 4			SOUTHBOUND Driveway 4			EASTBOUND Plaza			WESTBOUND Plaza			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
AM	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0
AM	BEGIN PEAK HR		7:45 AM											
AM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
AM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	BEGIN PEAK HR		4:45 PM											
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

		NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0

RTOR

		NRR	SRR	ERR	WRR
		X	X	X	X
AM	7:00 AM	0	0	0	0
AM	7:15 AM	0	0	0	0
AM	7:30 AM	0	0	0	0
AM	7:45 AM	0	0	0	0
AM	8:00 AM	0	0	0	0
AM	8:15 AM	0	0	0	0
AM	8:30 AM	0	0	0	0
AM	8:45 AM	0	0	0	0
AM	VOLUMES	0	0	0	0
AM	PEAK HR VOLUMES	0	0	0	0
PM	4:00 PM	0	0	0	0
PM	4:15 PM	0	0	0	0
PM	4:30 PM	0	0	0	0
PM	4:45 PM	0	0	0	0
PM	5:00 PM	0	0	0	0
PM	5:15 PM	0	0	0	0
PM	5:30 PM	0	0	0	0
PM	5:45 PM	0	0	0	0
PM	VOLUMES	0	0	0	0
PM	PEAK HR VOLUMES	0	0	0	0

Driveway 4

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Driveway 4

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Aug 30, 22

LOCATION: Cypress
NORTH & SOUTH: Valley View
EAST & WEST: Plaza

PROJECT #: SC3604
LOCATION #: 7
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

Add U-Turns to Left Turns

		NORTHBOUND Valley View			SOUTHBOUND Valley View			EASTBOUND Plaza			WESTBOUND Plaza			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:00 AM	4	236	14	19	353	12	2	1	0	0	0	1	642
AM	7:15 AM	1	297	9	23	347	12	3	1	0	0	0	1	694
AM	7:30 AM	3	336	16	26	383	9	2	0	2	0	0	1	778
AM	7:45 AM	2	363	10	25	366	17	2	0	4	0	0	5	794
AM	8:00 AM	3	377	17	30	339	17	0	1	5	3	0	0	792
AM	8:15 AM	5	344	16	16	366	26	0	0	3	0	0	2	778
AM	8:30 AM	1	360	16	12	387	16	1	0	2	1	0	5	801
AM	8:45 AM	1	293	11	21	310	13	2	1	1	2	0	3	658
AM	VOLUMES	20	2,606	109	172	2,851	122	12	4	17	6	0	18	5,937
AM	APPROACH %	1%	95%	4%	5%	91%	4%	36%	12%	52%	25%	0%	75%	
AM	APP/DEPART	2,735	/	2,640	3,145	/	2,879	33	/	281	24	/	137	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	11	1,444	59	83	1,458	76	3	1	14	4	0	12	3,165
	APPROACH %	1%	95%	4%	5%	90%	5%	17%	6%	78%	25%	0%	75%	
	PEAK HR FACTOR		0.953			0.974			0.750			0.667		0.988
	APP/DEPART	1,514	/	1,462	1,617	/	1,479	18	/	140	16	/	84	0
PM	4:00 PM	3	422	1	6	358	10	18	0	6	10	1	17	852
PM	4:15 PM	1	465	5	1	299	2	12	1	6	6	0	22	820
PM	4:30 PM	0	457	2	5	393	5	14	0	7	14	0	32	929
PM	4:45 PM	0	477	0	4	349	8	10	0	6	13	2	16	885
PM	5:00 PM	3	490	2	3	363	4	34	0	12	17	6	27	961
PM	5:15 PM	1	470	0	4	350	6	21	0	3	7	1	41	904
PM	5:30 PM	1	439	0	1	342	8	20	0	4	10	0	48	873
PM	5:45 PM	1	527	0	0	325	4	6	0	6	3	0	20	892
PM	VOLUMES	10	3,747	10	24	2,779	47	135	1	50	80	10	223	7,116
PM	APPROACH %	0%	99%	0%	1%	98%	2%	73%	1%	27%	26%	3%	71%	
PM	APP/DEPART	3,767	/	4,110	2,850	/	2,913	186	/	30	313	/	63	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	4	1,894	4	16	1,455	23	79	0	28	51	9	116	3,679
	APPROACH %	0%	100%	0%	1%	97%	2%	74%	0%	26%	29%	5%	66%	
	PEAK HR FACTOR		0.961			0.927			0.582			0.880		0.957
	APP/DEPART	1,902	/	2,092	1,494	/	1,535	107	/	17	176	/	35	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	
1	0	0	0	1
0	0	0	0	0
1	1	0	0	2
0	0	0	0	0
1	1	0	0	2
2	1	0	0	3
0	1	0	0	1
0	0	0	0	0
5	4	0	0	9
1	2	0	0	3
0	0	0	0	0
0	3	0	0	3
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
4	5	0	0	9

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
3	1	0	0
2	0	0	0
1	0	2	1
0	1	1	2
1	0	2	0
0	1	1	1
1	1	1	3
0	0	1	1
8	4	8	8
2	3	5	6
0	0	4	8
0	0	5	15
0	0	4	18
0	2	4	11
0	0	9	9
0	1	2	19
0	1	3	27
0	0	6	16
0	4	37	123
0	3	19	57

Valley View
NORTH SIDE

Plaza WEST SIDE — EAST SIDE **Plaza**

SOUTH SIDE
Valley View

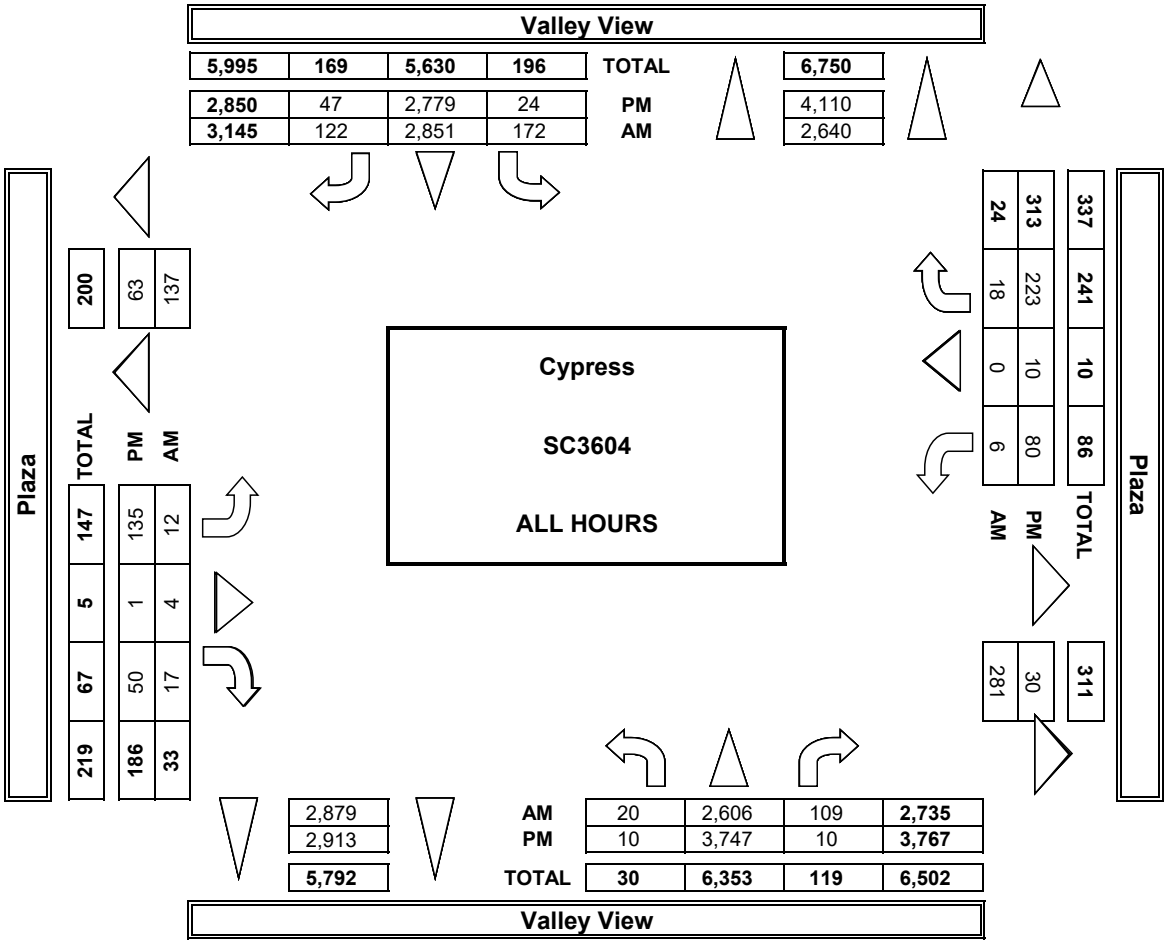
		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	4	1	1	0	6
AM	7:15 AM	1	1	0	0	2
AM	7:30 AM	1	0	0	0	1
AM	7:45 AM	2	2	1	0	5
AM	8:00 AM	0	0	1	0	1
AM	8:15 AM	1	0	0	0	1
AM	8:30 AM	2	0	1	0	3
AM	8:45 AM	2	0	0	0	2
AM	TOTAL	13	4	4	0	21
PM	4:00 PM	0	3	0	0	3
PM	4:15 PM	1	0	0	0	1
PM	4:30 PM	1	0	0	0	1
PM	4:45 PM	0	4	1	0	5
PM	5:00 PM	1	3	0	0	4
PM	5:15 PM	0	1	0	0	1
PM	5:30 PM	1	1	1	0	3
PM	5:45 PM	0	0	0	0	0
	TOTAL	4	12	2	0	18

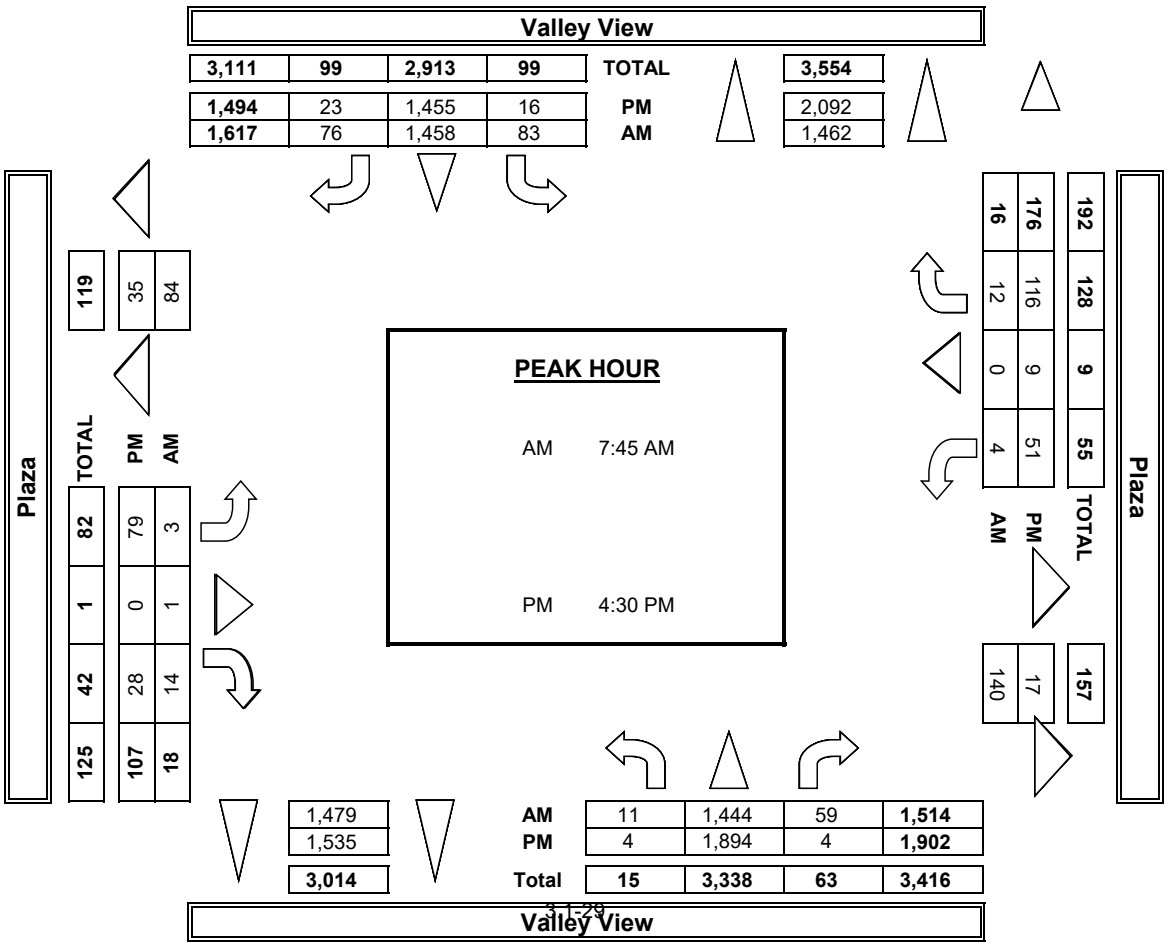
		PEDESTRIAN CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	3	1	1	0	5
AM	7:15 AM	0	1	0	0	1
AM	7:30 AM	1	0	0	0	1
AM	7:45 AM	0	2	1	0	3
AM	8:00 AM	0	0	1	0	1
AM	8:15 AM	1	0	0	0	1
AM	8:30 AM	2	0	1	0	3
AM	8:45 AM	2	0	0	0	2
AM	TOTAL	9	4	4	0	17
PM	4:00 PM	0	0	0	0	0
PM	4:15 PM	1	0	0	0	1
PM	4:30 PM	1	0	0	0	1
PM	4:45 PM	0	2	1	0	3
PM	5:00 PM	0	2	0	0	2
PM	5:15 PM	0	1	0	0	1
PM	5:30 PM	0	1	0	0	1
PM	5:45 PM	0	0	0	0	0
	TOTAL	2	6	1	0	9

		BICYCLE CROSSINGS				
		ES	WS	SS	NS	TOTAL
AM	7:00 AM	1	0	0	0	1
AM	7:15 AM	1	0	0	0	1
AM	7:30 AM	0	0	0	0	0
AM	7:45 AM	2	0	0	0	2
AM	8:00 AM	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0
AM	TOTAL	4	0	0	0	4
PM	4:00 PM	0	3	0	0	3
PM	4:15 PM	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0
PM	4:45 PM	0	2	0	0	2
PM	5:00 PM	1	1	0	0	2
PM	5:15 PM	0	0	0	0	0
PM	5:30 PM	1	0	1	0	2
PM	5:45 PM	0	0	0	0	0
	TOTAL	2	6	1	0	9

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Valley View	LOCATION #:	7
TUESDAY	EAST & WEST:	Plaza	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

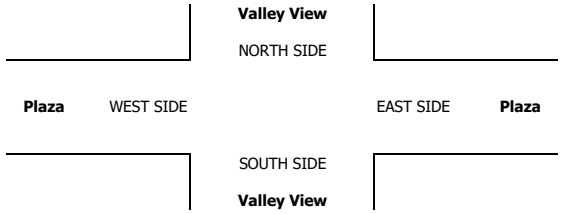
		NORTHBOUND Valley View			SOUTHBOUND Valley View			EASTBOUND Plaza			WESTBOUND Plaza			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:00 AM	0	6	0	0	17	1	0	0	0	0	0	0	24
	7:15 AM	0	11	0	1	17	1	0	0	0	0	0	0	30
	7:30 AM	0	10	0	0	22	0	0	0	0	0	0	0	32
	7:45 AM	0	12	0	0	11	0	0	0	0	0	0	0	23
	8:00 AM	0	12	0	0	18	0	0	0	0	0	0	0	30
	8:15 AM	2	10	0	0	15	0	0	0	1	0	0	1	29
	8:30 AM	0	17	0	0	18	1	0	0	0	0	0	0	36
	8:45 AM	0	9	1	2	16	0	0	0	0	0	0	0	28
	VOLUMES	2	87	1	3	134	3	0	0	1	0	0	1	232
	APPROACH %	2%	97%	1%	2%	96%	2%	0%	0%	100%	0%	0%	100%	
	APP/DEPART	90	/	88	140	/	136	1	/	4	1	/	4	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	1	51	0	0	62	1	0	0	1	0	0	1	118
	APPROACH %	2%	96%	0%	0%	98%	2%	0%	0%	100%	0%	0%	100%	
	PEAK HR FACTOR		0.779			0.829			0.250			0.250		0.819
	APP/DEPART	53	/	52	63	/	64	1	/	0	1	/	2	0
PM	4:00 PM	1	12	0	1	10	1	0	0	0	0	0	0	25
	4:15 PM	0	12	2	0	7	0	0	1	0	0	0	1	23
	4:30 PM	0	11	0	0	7	0	0	0	0	0	0	0	18
	4:45 PM	0	10	0	0	5	0	0	0	1	0	1	0	17
	5:00 PM	0	7	0	0	1	0	0	0	0	0	0	0	8
	5:15 PM	0	5	0	2	5	0	0	0	0	0	0	0	12
	5:30 PM	0	6	0	0	8	0	0	0	0	0	0	0	14
	5:45 PM	0	11	0	0	5	0	0	0	0	0	0	0	16
	VOLUMES	1	74	2	3	48	1	0	1	1	0	1	1	133
	APPROACH %	1%	96%	3%	6%	92%	2%	0%	50%	50%	0%	50%	50%	
	APP/DEPART	77	/	75	52	/	49	2	/	6	2	/	3	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	33	0	2	18	0	0	0	1	0	1	0	55
	APPROACH %	0%	100%	0%	10%	90%	0%	0%	0%	100%	0%	100%	0%	
	PEAK HR FACTOR		0.750			0.714			0.250			0.250		0.764
	APP/DEPART	33	/	33	20	/	19	1	/	2	1	/	1	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR 0	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	1	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	1
0	0	1	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 8/30/22 TUESDAY	LOCATION:	Cypress	PROJECT #:	SC3604
	NORTH & SOUTH:	Valley View	LOCATION #:	7
	EAST & WEST:	Plaza	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Valley View			SOUTHBOUND Valley View			EASTBOUND Plaza			WESTBOUND Plaza				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	3	0	1	3	0	1	1	0	1	1	0							0	0	0	0
AM	7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	2	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	6	0	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	1	0	0	4	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
AM	VOLUMES	0	3	0	0	15	1	0	1	0	0	0	1	21	0	0	0	0	0	0	0	0	1
AM	APPROACH %	0%	100%	0%	0%	94%	6%	0%	100%	0%	0%	0%	100%										
AM	APP/DEPART	3	/	4	16	/	15	1	/	1	1	/	1	0									
AM	BEGIN PEAK HR		7:45 AM																				
AM	VOLUMES	0	1	0	0	14	1	0	1	0	0	0	0	17						0	0	0	0
AM	APPROACH %	0%	100%	0%	0%	93%	7%	0%	100%	0%	0%	0%	0%										
AM	PEAK HR FACTOR		0.250			0.625			0.250			0.000		0.607									
AM	APP/DEPART	1	/	1	15	/	14	1	/	1	0	/	1	0									
PM	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	5	0	0	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	13	0	0	7	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
PM	APP/DEPART	13	/	13	7	/	7	0	/	0	0	/	0	0									
PM	BEGIN PEAK HR		4:30 PM																				
PM	VOLUMES	0	6	0	0	4	0	0	0	0	0	0	0	10						0	0	0	0
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
PM	PEAK HR FACTOR		0.500			0.500			0.000			0.000		0.833									
PM	APP/DEPART	6	/	6	4	/	4	0	/	0	0	/	0	0									

Valley View

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Valley View

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Cypress	PROJECT #:	SC3604
8/30/22	NORTH & SOUTH:	Valley View	LOCATION #:	7
TUESDAY	EAST & WEST:	Plaza	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Valley View)			SOUTHBOUND (Valley View)			EASTBOUND (Plaza)			WESTBOUND (Plaza)			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	3	0	1	3	0	1	1	0	1	1	0	
AM	7:00 AM	0	1	0	0	1	0	1	0	0	0	0	0	3
AM	7:15 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
AM	7:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
AM	7:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
AM	8:30 AM	0	4	0	0	6	0	0	0	0	0	0	0	10
AM	8:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
AM	VOLUMES	0	12	0	0	17	0	1	0	0	0	0	0	30
AM	APPROACH %	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	
AM	APP/DEPART	12	/	13	17	/	17	1	/	0	0	/	0	0
AM	BEGIN PEAK HR		7:45 AM											
AM	VOLUMES	0	8	0	0	9	0	0	0	0	0	0	0	17
AM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.500			0.375			0.000			0.000		0.425
AM	APP/DEPART	8	/	8	9	/	9	0	/	0	0	/	0	0
PM	4:00 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
PM	4:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
PM	4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
PM	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
PM	5:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
PM	5:15 PM	0	1	0	0	1	0	0	0	0	1	0	0	3
PM	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
PM	5:45 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
PM	VOLUMES	0	14	0	0	7	0	0	0	0	1	0	0	22
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	
PM	APP/DEPART	14	/	14	7	/	8	0	/	0	1	/	0	0
PM	BEGIN PEAK HR		4:30 PM											
PM	VOLUMES	0	6	0	0	3	0	0	0	0	1	0	0	10
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	
PM	PEAK HR FACTOR		0.500			0.750			0.000			0.250		0.833
PM	APP/DEPART	6	/	6	3	/	4	0	/	0	1	/	0	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES						0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
AM PEAK HR VOLUMES						0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PM PEAK HR VOLUMES						0	0	0	0

Valley View

NORTH SIDE

Plaza WEST SIDE

EAST SIDE **Plaza**

SOUTH SIDE

Valley View

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 30, 2022
JOB #: SC3604

CITY: Cypress
LOCATION: CLASS2 Plaza east of McDonnell

AM	EASTBOUND														PM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	17	3	1	0	0	0	0	0	0	0	0	0	21	12:00	5	315	43	3	13	1	0	0	2	0	0	0	0	382
0:15	0	17	0	0	0	0	0	0	1	0	0	0	0	18	12:15	2	280	38	0	18	1	0	0	3	0	0	0	0	342
0:30	1	27	4	0	0	0	0	0	1	0	0	0	0	33	12:30	0	296	33	1	9	0	0	0	5	0	0	0	0	344
0:45	0	18	1	0	0	0	0	0	0	0	0	0	0	19	12:45	0	291	51	0	10	4	0	0	4	0	0	0	0	360
1:00	0	7	2	1	0	0	0	0	0	0	0	0	0	10	13:00	0	301	29	1	9	2	0	0	2	0	0	0	0	344
1:15	0	15	3	0	0	0	0	0	1	0	0	0	0	19	13:15	0	289	37	1	11	1	0	1	2	0	0	0	0	342
1:30	0	21	3	0	1	0	0	0	0	0	0	0	0	25	13:30	1	278	46	2	13	0	0	0	2	0	0	0	0	342
1:45	0	8	2	0	0	0	0	0	0	0	0	0	0	10	13:45	1	263	32	1	6	3	0	2	0	0	0	0	0	308
2:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12	14:00	0	310	50	0	12	3	0	1	3	0	0	0	0	379
2:15	0	19	0	0	0	0	0	0	0	0	0	0	0	19	14:15	2	303	46	1	14	3	0	0	2	0	0	0	0	371
2:30	0	7	3	0	0	0	0	0	0	0	0	0	0	10	14:30	0	342	64	1	14	1	0	0	1	0	0	0	0	423
2:45	0	17	3	0	0	0	0	0	1	0	0	0	0	21	14:45	0	332	46	1	12	5	0	1	3	0	0	0	0	400
3:00	0	20	5	0	0	0	0	0	1	0	0	0	0	26	15:00	2	315	62	0	15	6	0	1	1	0	0	0	0	402
3:15	2	21	2	0	0	0	0	0	0	0	0	0	0	25	15:15	1	337	69	2	9	5	0	1	2	0	0	0	0	426
3:30	0	14	2	0	0	0	0	0	0	0	0	0	0	16	15:30	2	399	54	3	11	1	0	0	1	0	0	0	0	471
3:45	0	27	7	0	0	0	0	0	0	0	0	0	0	34	15:45	2	392	68	3	16	2	0	0	3	0	0	0	0	486
4:00	1	20	6	0	0	0	0	0	0	0	0	0	0	27	16:00	3	382	53	0	10	4	0	0	1	0	0	0	0	453
4:15	0	42	6	1	1	0	0	0	1	0	0	0	0	51	16:15	2	415	54	2	8	3	0	0	0	0	0	0	0	484
4:30	0	54	8	0	0	1	0	0	2	0	0	0	0	65	16:30	2	391	53	1	7	1	0	0	0	0	0	0	0	455
4:45	1	72	9	1	3	0	0	0	1	0	0	0	0	87	16:45	1	381	47	1	6	3	0	2	0	0	0	0	0	441
5:00	1	42	8	1	1	0	0	0	2	0	0	0	0	55	17:00	1	484	45	0	6	1	0	0	0	0	0	0	0	537
5:15	0	78	11	1	1	2	0	0	3	2	0	0	0	98	17:15	5	429	49	1	8	1	0	0	0	0	0	0	0	493
5:30	2	103	17	1	3	1	0	0	2	0	0	0	0	129	17:30	4	413	41	1	1	2	0	0	0	0	0	0	0	462
5:45	0	164	29	0	5	0	0	0	6	0	0	0	0	204	17:45	0	382	51	0	4	0	0	0	2	0	0	0	0	439
6:00	1	125	35	1	3	0	0	0	3	0	0	0	0	168	18:00	0	370	52	1	5	0	0	0	0	0	0	0	0	428
6:15	0	147	23	1	5	0	0	0	2	0	0	0	0	178	18:15	5	366	48	0	1	1	0	0	4	0	0	0	0	425
6:30	1	188	46	1	3	2	0	0	1	0	0	0	0	242	18:30	1	284	27	1	5	1	0	0	1	0	0	0	0	320
6:45	0	239	49	0	4	2	0	1	3	1	0	0	0	299	18:45	0	310	32	0	10	0	0	0	0	0	0	0	0	352
7:00	1	263	41	1	9	0	0	0	3	0	0	0	0	318	19:00	0	264	33	1	4	0	0	0	0	0	0	0	0	302
7:15	1	282	46	1	6	2	0	0	1	1	0	0	0	340	19:15	1	265	32	0	3	0	0	0	2	0	0	0	0	303
7:30	3	341	39	2	7	2	0	0	1	1	0	0	0	396	19:30	1	263	25	1	7	0	0	0	0	0	0	0	0	297
7:45	1	385	38	1	9	1	0	0	3	0	0	0	0	438	19:45	0	240	19	0	0	0	0	0	1	0	0	0	0	260
8:00	2	393	46	0	11	2	0	0	2	0	0	0	0	456	20:00	1	246	18	1	2	0	0	0	0	0	0	0	0	268
8:15	1	355	43	1	10	0	0	1	2	0	0	0	0	413	20:15	0	207	15	0	1	0	0	0	1	0	0	0	0	224
8:30	1	306	37	1	9	0	0	0	6	1	0	0	0	361	20:30	0	165	10	0	2	0	0	0	1	0	0	0	0	178
8:45	1	269	49	1	12	6	1	1	4	0	0	0	0	344	20:45	1	158	9	0	2	0	0	0	0	0	0	0	0	170
9:00	1	239	30	0	11	2	4	0	4	0	0	0	0	291	21:00	1	134	8	1	0	1	0	0	0	0	0	0	0	145
9:15	0	240	28	1	6	2	0	1	0	0	0	0	0	278	21:15	0	136	10	0	0	1	0	0	0	0	0	0	0	147
9:30	1	225	26	0	8	1	1	1	4	1	0	0	0	268	21:30	1	121	4	0	1	0	0	0	0	0	0	0	0	127
9:45	3	226	40	1	6	4	2	3	0	0	0	0	0	285	21:45	0	75	6	0	1	0	0	0	1	0	0	0	0	83
10:00	0	215	38	1	10	2	0	1	1	0	0	0	0	268	22:00	0	72	1	1	2	0	0	0	0	0	0	0	0	76
10:15	0	215	44	0	8	2	0	0	3	0	0	0	0	272	22:15	1	70	4	0	0	0	0	0	0	0	0	0	0	75
10:30	0	214	41	0	12	2	0	0	1	0	0	0	0	270	22:30	0	68	6	0	0	0	0	0	1	0	0	0	0	75
10:45	0	243	45	1	10	0	2	0	1	1	0	0	0	303	22:45	1	53	7	1	0	0	0	0	0	0	0	0	0	62
11:00	2	277	43	1	6	3	0	1	2	0	0	0	0	335	23:00	0	55	3	2	0	0	0	0	0	0	0	0	0	60
11:15	1	254	45	0	4	4	1	0	3	0	0	0	0	312	23:15	0	38	6	0	0	0	0	0	0	0	0	0	0	44
11:30	0	280	51	1	9	4	0	0	4	0	0	0	0	349	23:30	1	53	1	0	2	0	0	0	1	0	0	0	0	58
11:45	0	229	47	0	7	2	1	0	3	1	0	0	0	290	23:45	0	31	5	0	1	0	0	0	0	0	0	0	0	37
TOTAL	29	6,991	1,105	24	200	49	12	10	79	9	0	0	0	8,508	TOTAL	51	12,364	1,542	36	291	57	0	9	52	0	0	0	0	14,402

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	1,703

PM PEAK HOUR	4:45 PM
PM PEAK VOLUME	1,933

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	80	19,355	2,647	60	491	106	12	19	131	9	0	0	0	22,910
% OF TOTAL	0.3%	84.5%	11.6%	0.3%	2.1%	0.5%	0.1%	0.1%	0.6%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
TOTAL: ALL	142	36,433	4,785	118	949	197	19	40	267	22	0	0	0	42,972
% OF TOTAL	0.6%	159.0%	20.9%	0.5%	4.1%	0.9%	0.1%	0.2%	1.2%	0.1%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 30, 2022
JOB #: SC3604

CITY: Cypress
LOCATION: CLASS2 Plaza east of McDonnell

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	25	2	1	0	0	0	0	0	0	0	0	0	28
0:15	0	24	1	0	1	0	0	0	0	0	0	0	0	26
0:30	0	22	3	0	0	0	0	0	0	0	0	0	0	25
0:45	0	16	0	0	0	0	0	0	0	0	0	0	0	16
1:00	0	22	0	1	0	0	0	0	0	0	0	0	0	23
1:15	0	11	4	0	2	0	0	0	0	0	0	0	0	17
1:30	1	6	1	0	0	0	0	0	1	0	0	0	0	9
1:45	0	16	0	0	2	0	0	0	0	0	0	0	0	18
2:00	0	18	2	0	0	0	0	0	0	0	0	0	0	20
2:15	0	9	2	0	0	0	0	0	1	0	0	0	0	12
2:30	0	5	1	0	0	0	0	0	2	0	0	0	0	8
2:45	0	13	2	0	0	0	0	0	1	0	0	0	0	16
3:00	0	10	1	0	0	0	0	0	1	0	0	0	0	12
3:15	0	21	2	0	1	0	0	0	0	0	0	0	0	24
3:30	0	28	3	0	1	0	0	0	0	0	0	0	0	32
3:45	0	38	3	0	1	0	0	0	0	0	0	0	0	42
4:00	0	16	1	0	0	1	0	0	1	0	0	0	0	19
4:15	0	32	6	0	3	0	0	0	0	0	0	0	0	41
4:30	0	45	4	1	1	2	0	0	1	0	0	0	0	54
4:45	0	59	8	1	2	1	0	0	0	0	0	0	0	71
5:00	0	63	13	1	2	1	0	0	5	0	0	0	0	85
5:15	0	64	11	0	2	4	0	0	4	1	0	0	0	86
5:30	1	85	12	1	2	4	0	0	1	0	0	0	0	106
5:45	0	107	24	0	7	0	0	0	1	0	0	0	0	139
6:00	1	97	23	1	3	0	0	1	1	0	0	0	0	127
6:15	1	123	38	1	2	2	0	0	3	0	0	0	0	170
6:30	0	173	49	2	10	1	0	0	0	1	0	0	0	236
6:45	1	210	44	1	8	0	0	0	5	0	0	0	0	269
7:00	0	236	35	2	6	4	0	1	3	0	0	0	0	287
7:15	1	340	49	1	7	4	0	0	2	0	0	0	0	404
7:30	2	347	50	0	20	0	1	0	1	1	0	0	0	422
7:45	1	374	46	1	11	4	0	1	2	0	0	0	0	440
8:00	1	336	47	1	7	4	0	1	5	2	0	0	0	404
8:15	1	351	46	1	8	2	0	0	3	0	0	0	0	412
8:30	3	328	37	0	10	3	2	0	6	0	0	0	0	389
8:45	2	283	34	1	11	3	0	1	4	1	0	0	0	340
9:00	1	253	29	1	13	1	0	1	1	0	0	0	0	300
9:15	3	198	30	1	6	0	0	0	4	1	0	0	0	243
9:30	0	226	31	1	7	0	0	0	3	0	0	0	0	268
9:45	0	216	32	0	12	1	0	0	2	0	0	0	0	263
10:00	0	213	28	1	8	2	0	0	7	0	0	0	0	259
10:15	1	240	33	0	15	1	0	1	1	0	0	0	0	292
10:30	0	227	26	1	8	0	2	1	1	1	0	0	0	267
10:45	1	235	32	0	12	1	2	2	1	0	0	0	0	286
11:00	0	199	35	1	9	1	0	0	3	0	0	0	0	248
11:15	0	242	48	0	25	0	0	0	3	1	0	0	0	319
11:30	0	255	35	0	8	1	0	0	2	0	0	0	0	301
11:45	1	256	49	1	9	0	0	1	4	0	0	0	0	321
TOTAL	23	6,713	1,012	25	262	48	7	11	86	9	0	0	0	8,196

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	1,678

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	241	43	0	9	0	0	0	1	0	0	0	0	294
12:15	0	284	36	2	4	1	0	0	2	0	0	0	0	329
12:30	4	272	31	0	6	4	0	0	4	0	0	0	0	321
12:45	1	288	27	1	7	3	0	1	3	1	0	0	0	332
13:00	1	255	42	0	18	0	0	1	0	0	0	0	0	317
13:15	2	247	32	2	11	1	0	0	4	0	0	0	0	299
13:30	1	296	35	1	12	2	0	0	1	1	0	0	0	349
13:45	3	267	37	2	9	3	0	0	4	0	0	0	0	325
14:00	3	235	32	1	18	1	0	0	3	0	0	0	0	293
14:15	0	264	32	0	11	2	0	0	2	0	0	0	0	311
14:30	1	313	39	1	3	3	0	2	1	1	0	0	0	364
14:45	2	333	45	2	8	1	0	1	1	0	0	0	0	393
15:00	1	293	37	1	0	2	0	0	1	0	0	0	0	335
15:15	0	267	36	2	9	1	0	3	0	1	0	0	0	319
15:30	0	288	37	1	10	5	0	1	1	0	0	0	0	343
15:45	0	290	38	2	10	2	0	0	0	0	0	0	0	342
16:00	2	312	38	1	6	3	0	0	3	0	0	0	0	365
16:15	2	291	26	1	3	2	0	0	1	0	0	0	0	326
16:30	1	354	44	0	5	3	0	0	2	0	0	0	0	409
16:45	3	361	35	1	3	2	0	0	1	0	0	0	0	406
17:00	2	431	45	0	6	0	0	0	0	0	0	0	0	484
17:15	0	351	29	1	5	0	0	0	0	0	0	0	0	386
17:30	1	351	41	0	3	0	0	0	1	0	0	0	0	397
17:45	0	324	25	1	2	0	0	0	0	0	0	0	0	352
18:00	0	322	32	1	2	0	0	0	1	0	0	0	0	358
18:15	0	248	21	1	0	0	0	0	0	0	0	0	0	270
18:30	0	283	14	0	1	0	0	0	0	0	0	0	0	298
18:45	0	216	15	1	2	0	0	0	1	0	0	0	0	235
19:00	1	226	14	0	3	1	0	1	1	0	0	0	0	247
19:15	0	210	22	0	0	0	0	0	1	0	0	0	0	233
19:30	0	206	16	1	3	0	0	0	1	0	0	0	0	227
19:45	0	197	15	1	1	0	0	0	2	0	0	0	0	216
20:00	2	169	16	1	0	0	0	0	0	0	0	0	0	188
20:15	1	126	14	0	0	1	0	0	1	0	0	0	0	143
20:30	1	125	10	1	2	0	0	0	1	0	0	0	0	140
20:45	0	107	8	0	0	0	0	0	0	0	0	0	0	115
21:00	0	118	9	1	0	0	0	0	1	0	0	0	0	129
21:15	0	101	9	0	0	0	0	0	0	0	0	0	0	110
21:30	0	72	11	0	0	0	0	0	0	0	0	0	0	83
21:45	1	67	3	0	1	0	0	0	1	0	0	0	0	73
22:00	1	51	8	1	0	0	0	0	2	0	0	0	0	63
22:15	0	54	6	0	0	0	0	0	0	0	0	0	0	60
22:30	0	57	6	0	0	0	0	0	1	0	0	0	0	64
22:45	1	47	5	0	1	0	0	0	0	0	0	0	0	54
23:00	0	38	1	1	2	0	0	0	0	0	0	0	0	42
23:15	0	41	1	0	0	0	0	0	0	0	0	0	0	42
23:30	1	47	4	0	0	0	0	0	0	0	0	0	0	52
23:45	0	29	4	0	0	0	0	0	0	0	0	0	0	33
TOTAL	39	####	1,126	33	196	43	0	10	50	4	0	0	0	11,866

PM PEAK HOUR	4:30 PM
PM PEAK VOLUME	1,685

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	62	####	2,138	58	458	91	7	21	136	13	0	0	0	20,062
% OF TOTAL	0.3%	85.1%	10.7%	0.3%	2.3%	0.5%	0.0%	0.1%	0.7%	0.1%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 30, 2022
JOB #: SC3604

CITY: Cypress
LOCATION: CLASS3 Valley View north of Plaza

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
5:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4
5:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:45	0	0	1	0	1	0	0	0	0	0	0	0	0	2
6:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4
6:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
7:00	0	4	1	0	0	0	0	0	1	0	0	0	0	6
7:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
7:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
7:45	0	10	0	0	0	0	0	0	0	0	0	0	0	10
8:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
8:15	0	8	0	0	0	0	0	0	1	0	0	0	0	9
8:30	0	7	2	0	0	0	0	0	0	0	0	0	0	9
8:45	0	6	2	0	0	0	0	0	0	0	0	0	0	8
9:00	0	6	1	0	0	0	0	0	1	0	0	0	0	8
9:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
9:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
9:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
10:15	0	2	0	0	0	0	0	0	1	0	0	0	0	3
10:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
10:45	0	5	0	0	1	0	0	0	0	0	0	0	0	6
11:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
11:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7
11:30	0	7	1	0	0	0	0	0	0	0	0	0	0	8
11:45	0	7	1	0	0	0	0	0	0	0	0	0	0	8
TOTAL	0	121	16	0	3	0	0	0	5	0	0	0	0	145

AM PEAK HOUR	7:45 AM
AM PEAK VOLUME	35

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
12:15	0	19	2	0	1	0	0	0	1	0	0	0	0	23
12:30	0	8	1	0	0	0	0	1	0	0	0	0	0	10
12:45	0	5	1	0	0	0	0	0	0	0	0	0	0	6
13:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
13:15	0	6	1	0	1	0	0	0	1	0	0	0	0	9
13:30	0	7	1	0	0	0	0	0	1	0	0	0	0	9
13:45	0	3	0	0	0	0	0	0	1	0	0	0	0	4
14:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
14:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
14:30	0	6	1	0	0	0	0	0	0	0	0	0	0	7
14:45	0	2	3	0	0	0	0	0	1	0	0	0	0	6
15:00	0	8	1	0	0	0	0	0	1	0	0	0	0	10
15:15	0	7	1	0	0	0	0	0	2	0	0	0	0	10
15:30	0	7	0	0	0	0	0	0	1	0	0	0	0	8
15:45	0	9	0	0	0	0	0	0	0	0	0	0	0	9
16:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
16:15	0	7	2	0	0	0	0	0	0	0	0	0	0	9
16:30	0	13	1	0	0	0	0	0	0	0	0	0	0	14
16:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
17:00	0	17	4	0	0	0	0	0	0	0	0	0	0	21
17:15	0	10	1	0	0	0	0	0	0	0	0	0	0	11
17:30	0	12	0	0	0	0	0	0	0	0	0	0	0	12
17:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8
18:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
18:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
18:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6
18:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
19:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
19:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
19:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
20:15	0	1	1	0	0	1	0	0	0	0	0	0	0	3
20:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
20:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	3	1	0	0	0	0	0	0	0	0	0	0	4
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	1	1	0	0	1	0	0	0	0	0	0	0	3
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	245	31	0	3	2	0	1	9	0	0	0	0	291

PM PEAK HOUR	5:00 PM
PM PEAK VOLUME	52

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: AM+PM	0	366	47	0	6	2	0	1	14	0	0	0	0	436
% OF TOTAL	0.0%	83.9%	10.8%	0.0%	1.4%	0.5%	0.0%	0.2%	3.2%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	0	673	78	0	17	5	0	3	26	0	0	0	0	802
% OF TOTAL	0.0%	154.4%	17.9%	0.0%	3.9%	1.1%	0.0%	0.7%	6.0%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 30, 2022
JOB #: SC3604

CITY: Cypress
LOCATION: CLASS3 Valley View north of Plaza

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
5:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
5:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
6:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
6:15	0	2	0	0	0	0	0	0	1	0	0	0	0	3
6:30	0	1	0	0	0	1	0	0	1	0	0	0	0	3
6:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5
7:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
7:15	0	6	2	0	0	0	0	0	0	0	0	0	0	8
7:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6
7:45	0	12	0	0	0	0	0	0	0	0	0	0	0	12
8:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
8:15	0	13	2	0	0	0	0	1	0	0	0	0	0	16
8:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9
8:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8
9:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
9:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5
9:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6
9:45	0	2	1	0	0	0	0	0	0	0	0	0	0	3
10:00	0	7	1	0	1	0	0	0	0	0	0	0	0	9
10:15	0	3	2	0	2	0	0	0	0	0	0	0	0	7
10:30	0	4	0	0	1	0	0	0	1	0	0	0	0	6
10:45	0	2	0	0	0	0	0	0	1	0	0	0	0	3
11:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
11:15	0	3	0	0	0	0	0	0	1	0	0	0	0	4
11:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
11:45	0	1	0	0	1	0	0	0	0	0	0	0	0	2
TOTAL	0	152	13	0	6	1	0	1	7	0	0	0	0	180

AM PEAK HOUR	7:45 AM
AM PEAK VOLUME	53

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	5	0	0	1	0	0	1	0	0	0	0	0	7
12:15	0	7	2	0	0	0	0	0	1	0	0	0	0	10
12:30	0	6	2	0	1	0	0	0	0	0	0	0	0	9
12:45	0	9	1	0	1	0	0	0	2	0	0	0	0	13
13:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
13:15	0	8	0	0	0	0	0	0	0	0	0	0	0	8
13:30	0	4	0	0	0	0	0	0	1	0	0	0	0	5
13:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
14:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
14:15	0	1	1	0	0	0	0	0	1	0	0	0	0	3
14:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
14:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7
15:00	0	3	1	0	0	2	0	0	0	0	0	0	0	6
15:15	0	2	3	0	0	0	0	0	0	0	0	0	0	5
15:30	0	3	0	0	1	0	0	0	0	0	0	0	0	4
15:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
16:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
16:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
16:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
16:45	0	4	1	0	1	0	0	0	0	0	0	0	0	6
17:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
17:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7
17:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8
17:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
18:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
18:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
18:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
18:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5
19:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6
19:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
20:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	155	18	0	5	2	0	1	5	0	0	0	0	186

PM PEAK HOUR	12:15 PM
PM PEAK VOLUME	44

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	0	307	31	0	11	3	0	2	12	0	0	0	0	366
% OF TOTAL	0.0%	83.9%	8.5%	0.0%	3.0%	0.8%	0.0%	0.5%	3.3%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 30, 2022
JOB #: SC3604

CITY: Cypress
LOCATION: TMC1 Douglas and Katella

AM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	1	31	2	0	0	0	0	0	0	0	0	0	0	34
0:15	1	18	4	0	0	0	0	0	1	0	0	0	0	24
0:30	0	29	1	0	0	0	0	0	2	0	0	0	0	32
0:45	0	19	1	0	0	0	0	0	0	0	0	0	0	20
1:00	0	29	3	0	0	0	0	0	1	0	0	0	0	33
1:15	0	16	1	0	0	0	0	0	1	0	0	0	0	18
1:30	0	17	2	0	0	0	0	0	0	0	0	0	0	19
1:45	0	4	1	0	1	0	0	0	1	0	0	0	0	7
2:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
2:15	0	13	0	0	0	0	0	0	2	0	0	0	0	15
2:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8
2:45	0	9	0	0	0	0	0	0	1	0	0	0	0	10
3:00	0	13	1	0	0	0	0	0	1	0	0	0	0	15
3:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6
3:30	0	15	2	0	0	0	0	0	0	0	0	0	0	17
3:45	0	11	1	0	0	0	0	0	0	0	0	0	0	12
4:00	0	14	2	0	0	0	0	0	1	0	0	0	0	17
4:15	0	31	1	1	2	0	0	0	0	0	0	0	0	35
4:30	0	26	3	0	0	0	0	0	1	0	0	0	0	30
4:45	0	45	6	0	1	0	0	0	1	0	0	0	0	53
5:00	0	35	7	0	2	0	0	0	1	0	0	0	0	45
5:15	0	44	10	0	1	1	0	1	2	0	0	0	0	59
5:30	0	66	10	0	1	0	0	1	1	0	0	0	0	79
5:45	0	80	13	1	2	0	0	0	2	0	0	0	0	98
6:00	0	78	15	0	3	0	0	0	0	0	0	0	0	96
6:15	1	95	14	0	3	2	0	0	2	0	0	0	0	117
6:30	0	125	26	1	6	1	0	1	3	0	0	0	0	163
6:45	1	177	12	1	4	1	0	0	1	0	0	0	0	197
7:00	0	211	22	0	1	3	0	1	1	0	0	0	0	239
7:15	1	260	37	0	5	0	0	0	1	0	0	0	0	304
7:30	0	313	29	2	5	0	0	0	0	0	0	0	0	349
7:45	0	325	27	2	7	0	0	0	2	0	0	0	0	363
8:00	1	326	45	0	7	0	0	0	0	0	0	0	0	379
8:15	0	299	40	1	4	0	0	0	2	0	0	0	0	346
8:30	0	302	45	0	8	1	0	0	4	0	0	0	0	360
8:45	0	250	40	1	6	1	0	0	2	0	0	0	0	300
9:00	1	212	35	0	12	2	0	0	1	0	0	0	0	263
9:15	0	194	26	0	5	1	0	1	3	0	0	0	0	230
9:30	0	178	30	1	9	0	0	1	1	0	0	0	0	220
9:45	0	207	42	1	10	1	0	1	2	0	0	0	0	264
10:00	1	178	27	0	13	0	0	1	2	0	0	0	0	222
10:15	1	185	31	0	13	0	0	0	3	0	0	0	0	233
10:30	0	200	48	0	12	0	0	0	2	0	0	0	0	262
10:45	0	226	33	1	15	0	0	0	2	0	0	0	0	277
11:00	1	190	48	1	18	0	0	1	1	0	0	0	0	260
11:15	0	228	46	1	9	1	0	0	5	0	0	0	0	290
11:30	1	237	35	0	10	1	0	0	5	0	0	0	0	289
11:45	1	253	38	1	15	3	0	1	1	0	0	0	0	313
TOTAL	12	5,840	864	16	210	19	0	10	65	0	0	0	0	7,036

AM PEAK HOUR	7:45 AM
AM PEAK VOLUME	1,448

PM	NORTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	2	314	46	3	10	0	0	0	1	0	0	0	0	376
12:15	3	313	30	0	11	0	0	0	3	0	0	0	0	360
12:30	0	280	45	1	12	0	0	1	1	0	0	0	0	340
12:45	1	268	42	1	10	0	0	0	1	0	0	0	0	323
13:00	0	244	42	0	10	1	0	0	4	0	0	0	0	301
13:15	1	221	40	0	18	2	0	1	4	0	0	0	0	287
13:30	0	276	39	1	12	1	0	1	2	0	0	0	0	332
13:45	1	276	43	2	13	0	0	0	1	0	0	0	0	336
14:00	1	279	46	2	8	0	0	1	0	0	0	0	0	337
14:15	1	318	37	0	16	0	0	0	1	0	0	0	0	373
14:30	0	338	49	1	11	0	0	0	2	0	0	0	0	401
14:45	0	375	66	1	6	2	0	1	2	0	0	0	0	453
15:00	1	351	55	1	4	0	0	1	3	0	0	0	0	416
15:15	3	347	61	2	9	3	0	1	2	0	0	0	0	428
15:30	0	372	50	4	10	0	0	0	5	0	0	0	0	441
15:45	1	403	59	1	9	0	0	0	2	0	0	0	0	475
16:00	0	376	63	0	8	1	0	0	1	0	0	0	0	449
16:15	2	413	54	1	14	4	0	0	3	0	0	0	0	491
16:30	4	429	61	0	4	1	0	0	1	0	0	0	0	500
16:45	1	440	66	1	4	1	1	0	1	0	0	0	0	515
17:00	1	479	61	1	8	3	0	1	3	0	0	0	0	557
17:15	1	472	51	0	5	1	0	0	1	0	0	0	0	531
17:30	2	457	42	0	6	0	0	2	0	0	0	0	0	509
17:45	2	497	47	1	8	0	0	1	2	0	0	0	0	558
18:00	2	399	43	0	2	0	0	0	0	0	0	0	0	446
18:15	1	437	35	0	3	0	0	0	0	0	0	0	0	476
18:30	2	322	23	0	6	0	0	0	1	0	0	0	0	354
18:45	1	279	31	1	1	0	0	1	2	0	0	0	0	316
19:00	1	255	21	1	4	0	0	1	1	0	0	0	0	284
19:15	1	270	23	0	4	0	0	1	0	0	0	0	0	299
19:30	2	243	20	0	2	0	0	0	0	0	0	0	0	267
19:45	0	211	19	0	3	0	0	1	1	0	0	0	0	235
20:00	1	201	15	1	3	0	0	0	2	0	0	0	0	223
20:15	0	183	12	0	3	3	0	0	1	0	0	0	0	202
20:30	0	172	8	0	0	0	0	0	0	0	0	0	0	180
20:45	0	161	5	0	0	0	0	0	2	0	0	0	0	168
21:00	0	145	2	1	0	0	0	0	0	0	0	0	0	148
21:15	0	142	8	0	2	0	0	0	1	0	0	0	0	153
21:30	0	130	4	0	0	1	0	0	1	0	0	0	0	136
21:45	0	118	8	0	1	0	0	0	1	0	0	0	0	128
22:00	1	110	6	0	0	0	0	0	0	0	0	0	0	117
22:15	0	86	7	0	0	0	0	0	0	0	0	0	0	93
22:30	0	75	11	0	0	1	0	0	2	0	0	0	0	89
22:45	1	76	5	0	0	0	0	0	0	0	0	0	0	82
23:00	0	76	3	0	0	0	0	0	0	0	0	0	0	79
23:15	0	64	4	0	0	0	0	0	0	0	0	0	0	68
23:30	0	61	2	1	0	1	0	0	0	0	0	0	0	65
23:45	0	54	1	0	0	0	0	0	0	0	0	0	0	55
TOTAL	41	12,808	1,511	29	260	26	1	15	61	0	0	0	0	14,752

PM PEAK HOUR	5:00 PM
PM PEAK VOLUME	2,155

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	53	18,648	2,375	45	470	45	1	25	126	0	0	0	0	21,788
% OF TOTAL	0.2%	85.6%	10.9%	0.2%	2.2%	0.2%	0.0%	0.1%	0.6%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
TOTAL: ALL	105	35,765	4,738	91	985	88	4	51	244	0	0	0	0	42,071
% OF TOTAL	0.5%	164.1%	21.7%	0.4%	4.5%	0.4%	0.0%	0.2%	1.1%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 30, 2022
JOB #: SC3604

CITY: Cypress
LOCATION: TMC1 Douglas and Katella

AM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	23	4	0	0	0	0	0	0	0	0	0	0	27
0:15	0	14	3	0	0	0	0	0	0	0	0	0	0	17
0:30	0	20	2	0	0	0	0	0	1	0	0	0	0	23
0:45	0	7	1	0	0	0	0	0	0	0	0	0	0	8
1:00	0	7	3	0	0	0	0	0	1	0	0	0	0	11
1:15	0	13	1	0	0	0	0	0	1	0	0	0	0	15
1:30	0	13	0	0	0	0	0	0	1	0	0	0	0	14
1:45	0	10	3	0	0	0	0	0	0	0	0	0	0	13
2:00	0	11	1	0	1	1	0	0	0	0	0	0	0	14
2:15	0	5	0	0	0	0	0	0	1	0	0	0	0	6
2:30	0	6	2	0	0	0	0	0	1	0	0	0	0	9
2:45	0	15	1	0	0	0	0	0	1	0	0	0	0	17
3:00	0	13	8	0	2	0	0	0	0	0	0	0	0	23
3:15	0	16	1	0	1	0	0	0	1	0	0	0	0	19
3:30	0	14	4	0	1	0	0	0	0	0	0	0	0	19
3:45	0	28	2	0	2	0	0	0	0	0	0	0	0	32
4:00	0	21	3	0	2	0	0	0	2	0	0	0	0	28
4:15	0	28	8	0	4	1	0	1	1	0	0	0	0	43
4:30	0	61	10	0	3	0	0	1	1	0	0	0	0	76
4:45	1	95	9	0	8	0	0	0	0	0	0	0	0	113
5:00	0	80	15	0	6	0	0	1	1	0	0	0	0	103
5:15	1	90	24	0	3	1	0	0	1	0	0	0	0	120
5:30	0	139	31	1	5	1	0	0	2	0	0	0	0	179
5:45	0	141	32	0	8	0	0	0	2	0	0	0	0	183
6:00	0	151	27	0	7	0	0	0	2	0	0	0	0	187
6:15	1	183	46	0	5	0	0	1	3	0	0	0	0	239
6:30	2	204	44	0	11	2	0	1	3	0	0	0	0	267
6:45	2	270	53	1	9	1	0	0	0	0	0	0	0	336
7:00	0	337	31	0	11	3	0	0	1	0	0	0	0	383
7:15	1	327	45	0	7	1	0	0	2	0	0	0	0	383
7:30	3	348	53	0	12	0	0	0	3	0	0	0	0	419
7:45	2	352	43	2	6	3	0	0	1	0	0	0	0	409
8:00	1	335	39	0	11	6	0	0	0	0	0	0	0	392
8:15	0	362	38	0	6	1	0	1	1	0	0	0	0	409
8:30	2	352	32	1	12	4	0	1	5	0	0	0	0	409
8:45	1	277	55	1	5	0	0	2	0	0	0	0	0	341
9:00	1	216	45	3	5	1	0	0	2	0	0	0	0	273
9:15	0	224	37	1	15	1	0	0	1	0	0	0	0	279
9:30	0	271	53	0	17	1	0	0	0	0	0	0	0	342
9:45	0	231	42	1	11	0	0	0	3	0	0	0	0	288
10:00	0	245	44	1	9	1	0	0	2	0	0	0	0	302
10:15	2	192	35	0	15	0	0	0	1	0	0	0	0	245
10:30	1	237	34	1	15	1	0	0	4	0	0	0	0	293
10:45	0	207	44	0	13	1	0	0	4	0	0	0	0	269
11:00	0	225	42	0	15	0	0	0	2	0	0	0	0	284
11:15	0	200	38	1	19	0	0	0	3	0	0	0	0	261
11:30	0	233	43	1	8	1	0	0	5	0	0	0	0	291
11:45	1	231	34	0	8	0	0	0	3	0	0	0	0	277
TOTAL	22	7,080	1,165	15	298	32	0	9	69	0	0	0	0	8,690

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	1,629

PM	SOUTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	265	32	0	9	0	0	1	1	0	0	0	0	308
12:15	2	280	32	1	14	0	0	0	2	0	0	0	0	331
12:30	5	262	33	0	10	0	0	0	3	0	0	0	0	313
12:45	0	258	42	1	12	1	0	0	0	0	0	0	0	314
13:00	0	292	44	1	6	0	0	0	1	0	0	0	0	344
13:15	1	259	29	0	10	0	0	0	4	0	0	0	0	303
13:30	0	257	32	1	12	1	0	1	1	0	0	0	0	305
13:45	0	271	36	1	5	1	0	0	1	0	0	0	0	315
14:00	0	212	38	0	10	0	0	1	1	0	0	0	0	262
14:15	0	269	49	0	7	0	0	1	3	0	0	0	0	329
14:30	0	310	41	2	5	0	0	0	2	0	0	0	0	360
14:45	1	260	33	2	5	2	0	1	0	0	0	0	0	304
15:00	1	329	30	2	6	1	0	0	2	0	0	0	0	371
15:15	0	293	40	1	8	0	0	1	1	0	0	0	0	344
15:30	0	339	43	3	7	1	0	2	1	0	0	0	0	396
15:45	0	282	42	2	8	0	0	2	1	0	0	0	0	337
16:00	1	314	43	3	7	0	0	1	2	0	0	0	0	371
16:15	1	259	32	2	3	1	0	0	0	0	0	0	0	298
16:30	1	344	44	1	6	0	2	0	1	0	0	0	0	399
16:45	2	304	49	1	4	0	1	1	1	0	0	0	0	363
17:00	0	331	36	0	3	0	0	0	0	0	0	0	0	370
17:15	2	312	38	1	5	0	0	0	1	0	0	0	0	359
17:30	1	315	33	0	7	0	0	0	0	0	0	0	0	356
17:45	0	293	34	1	3	0	0	1	2	0	0	0	0	334
18:00	0	280	26	0	6	0	0	0	0	0	0	0	0	312
18:15	0	280	38	0	6	0	0	1	2	0	0	0	0	327
18:30	0	274	26	0	2	1	0	2	2	0	0	0	0	307
18:45	1	225	29	1	2	0	0	0	0	0	0	0	0	258
19:00	2	201	20	0	3	0	0	0	0	0	0	0	0	226
19:15	2	212	13	0	7	0	0	0	1	0	0	0	0	235
19:30	0	184	18	0	2	0	0	1	1	0	0	0	0	206
19:45	0	160	11	1	3	0	0	0	1	0	0	0	0	176
20:00	2	151	17	0	3	1	0	0	1	0	0	0	0	175
20:15	0	130	24	0	2	1	0	0	1	0	0	0	0	158
20:30	2	123	11	0	2	0	0	0	2	0	0	0	0	140
20:45	0	126	13	1	3	0	0	0	0	0	0	0	0	143
21:00	0	101	6	0	0	0	0	0	2	0	0	0	0	109
21:15	0	97	11	0	1	0	0	0	0	0	0	0	0	109
21:30	1	83	4	0	1	0	0	0	3	0	0	0	0	92
21:45	0	80	3	1	0	0	0	0	0	0	0	0	0	84
22:00	2	81	2	0	0	0	0	0	0	0	0	0	0	85
22:15	0	72	6	0	0	0	0	0	0	0	0	0	0	78
22:30	0	65	3	0	0	0	0	0	0	0	0	0	0	68
22:45	0	52	4	0	1	0	0	0	1	0	0	0	0	58
23:00	0	42	3	0	0	0	0	0	0	0	0	0	0	45
23:15	0	39	2	1	0	0	0	0	1	0	0	0	0	43
23:30	0	36	1	0	1	0	0	0	0	0	0	0	0	38
23:45	0	33	2	0	0	0	0	0	0	0	0	0	0	35
TOTAL	30	####	1,198	31	217	11	3	17	49	0	0	0	0	11,593

PM PEAK HOUR	4:30 PM
PM PEAK VOLUME	1,491

TOTAL: AM+PM	52	####	2,363	46	515	43	3	26	118	0	0	0	0	20,283
% OF TOTAL	0.3%	84.4%	11.7%	0.2%	2.5%	0.2%	0.0%	0.1%	0.6%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

APPENDIX 3.2: EXISTING (2022) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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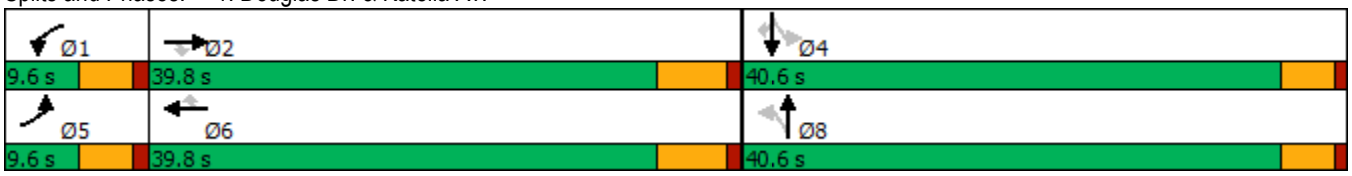
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	26	1669	71	12	1748	33	26	2	2	1	15
Future Volume (vph)	26	1669	71	12	1748	33	26	2	2	1	15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases			2			6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	22.8	22.8	40.6	40.6	40.6	40.6	40.6
Total Split (s)	9.6	39.8	39.8	9.6	39.8	39.8	40.6	40.6	40.6	40.6	40.6
Total Split (%)	10.7%	44.2%	44.2%	10.7%	44.2%	44.2%	45.1%	45.1%	45.1%	45.1%	45.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	6.4	39.5	39.5	6.4	38.1	38.1	15.6	15.6	15.6	15.6	15.6
Actuated g/C Ratio	0.13	0.81	0.81	0.13	0.78	0.78	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.11	0.41	0.06	0.05	0.45	0.03	0.06	0.01	0.00	0.00	0.03
Control Delay	32.9	8.7	3.9	32.9	10.5	0.6	18.1	13.0	18.0	18.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	8.7	3.9	32.9	10.5	0.6	18.1	13.0	18.0	18.0	0.1
LOS	C	A	A	C	B	A	B	B	B	B	A
Approach Delay		8.9			10.5			17.1		2.9	
Approach LOS		A			B			B		A	

Intersection Summary		
Cycle Length: 90		
Actuated Cycle Length: 48.7		
Natural Cycle: 90		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.45		
Intersection Signal Delay: 9.7	Intersection LOS: A	
Intersection Capacity Utilization 63.7%	ICU Level of Service B	
Analysis Period (min) 15		

Splits and Phases: 1: Douglas Dr. & Katella Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	1669	71	12	1748	33	26	2	5	2	1	15
Future Volume (veh/h)	26	1669	71	12	1748	33	26	2	5	2	1	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	1739	66	12	1821	29	27	2	2	2	1	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	57	3029	920	28	2945	893	259	62	62	257	135	113
Arrive On Green	0.03	0.58	0.58	0.02	0.57	0.57	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1810	5187	1575	1810	5187	1574	1425	864	864	1435	1900	1587
Grp Volume(v), veh/h	27	1739	66	12	1821	29	27	0	4	2	1	6
Grp Sat Flow(s),veh/h/ln	1810	1729	1575	1810	1729	1574	1425	0	1729	1435	1900	1587
Q Serve(g_s), s	0.7	9.6	0.8	0.3	10.7	0.4	0.8	0.0	0.1	0.1	0.0	0.2
Cycle Q Clear(g_c), s	0.7	9.6	0.8	0.3	10.7	0.4	0.8	0.0	0.1	0.2	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	57	3029	920	28	2945	893	259	0	123	257	135	113
V/C Ratio(X)	0.47	0.57	0.07	0.43	0.62	0.03	0.10	0.00	0.03	0.01	0.01	0.05
Avail Cap(c_a), veh/h	199	3871	1175	199	3871	1175	1283	0	1366	1289	1502	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	5.9	4.1	22.2	6.6	4.3	20.0	0.0	19.7	19.8	19.7	19.7
Incr Delay (d2), s/veh	2.2	0.2	0.0	3.8	0.2	0.0	0.2	0.0	0.1	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.5	0.1	0.1	1.8	0.1	0.3	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	6.1	4.1	26.0	6.8	4.4	20.2	0.0	19.8	19.8	19.7	19.9
LnGrp LOS	C	A	A	C	A	A	C	A	B	B	B	B
Approach Vol, veh/h		1832			1862			31			9	
Approach Delay, s/veh		6.3			6.9			20.2			19.9	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	32.4		7.8	6.0	31.7		7.8				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	34.0		36.0	5.0	34.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	11.6		2.2	2.7	12.7		2.8				
Green Ext Time (p_c), s	0.0	13.1		0.0	0.0	13.2		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		6.7	
HCM 6th LOS		A	

Existing - AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Douglas & Katella

Cycle (sec):	100	Critical Vol./Cap.(X):	0.432
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	26	2	5	2	1	15	26	1669	71	12	1748	33
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:	26	2	5	2	1	15	26	1669	71	12	1748	33
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:	26	2	5	2	1	15	26	1669	71	12	1748	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	2	5	2	1	15	26	1669	71	12	1748	33
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:	26	2	5	2	1	15	26	1669	71	12	1748	33
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.29	0.71	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1700	486	1214	1700	1700	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.00	0.00	0.00	0.01	0.02	0.33	0.04	0.01	0.34	0.02
Crit Moves:	****					****	****				****	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	3	31	0	0	4
Future Vol, veh/h	2	3	31	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	36	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	36	0	-	0	43	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1588	-	-	-	973	1042
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1588	-	-	-	972	1042
Mov Cap-2 Maneuver	-	-	-	-	900	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1588	-	-	-	1042
HCM Lane V/C Ratio	0.001	-	-	-	0.004
HCM Control Delay (s)	7.3	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	27	38	0	0	0	3	0	0	0
Future Vol, veh/h	0	3	0	27	38	0	0	0	3	0	0	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	4	0	40	57	0	0	0	4	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	57	0	0	5	0	0	142	142	5	143	142	57
Stage 1	-	-	-	-	-	-	5	5	-	137	137	-
Stage 2	-	-	-	-	-	-	137	137	-	6	5	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1560	-	-	1630	-	-	832	753	1084	831	753	1015
Stage 1	-	-	-	-	-	-	1022	896	-	871	787	-
Stage 2	-	-	-	-	-	-	871	787	-	1021	896	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1560	-	-	1628	-	-	815	733	1083	812	733	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-	771	695	-	781	693	-
Stage 1	-	-	-	-	-	-	1021	895	-	871	767	-
Stage 2	-	-	-	-	-	-	850	767	-	1017	895	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3	8.3	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1083	1560	-	-	1628	-	-	-
HCM Lane V/C Ratio	0.004	-	-	-	0.025	-	-	-
HCM Control Delay (s)	8.3	0	-	-	7.3	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	0	8	46	1	19	2	34	0	0	0
Future Vol, veh/h	0	6	0	8	46	1	19	2	34	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	0	9	54	1	22	2	40	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	55	0	0	7	0	0	80	80	7	101	80	55
Stage 1	-	-	-	-	-	-	7	7	-	73	73	-
Stage 2	-	-	-	-	-	-	73	73	-	28	7	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1563	-	-	1627	-	-	913	814	1081	885	814	1018
Stage 1	-	-	-	-	-	-	1020	894	-	942	838	-
Stage 2	-	-	-	-	-	-	942	838	-	994	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1563	-	-	1627	-	-	909	809	1081	847	809	1018
Mov Cap-2 Maneuver	-	-	-	-	-	-	850	756	-	817	755	-
Stage 1	-	-	-	-	-	-	1020	894	-	942	833	-
Stage 2	-	-	-	-	-	-	937	833	-	955	894	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	974	1563	-	-	1627	-	-	-
HCM Lane V/C Ratio	0.066	-	-	-	0.006	-	-	-
HCM Control Delay (s)	9	0	-	-	7.2	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	16	26	23	60	1	0	0	4	0	0	1
Future Vol, veh/h	0	16	26	23	60	1	0	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	21	34	30	78	1	0	0	5	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	55	0	0	177	177	38	180	194	79
Stage 1	-	-	-	-	-	-	38	38	-	139	139	-
Stage 2	-	-	-	-	-	-	139	139	-	41	55	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1532	-	-	1563	-	-	790	720	1040	786	705	987
Stage 1	-	-	-	-	-	-	982	867	-	869	785	-
Stage 2	-	-	-	-	-	-	869	785	-	979	853	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1532	-	-	1563	-	-	777	706	1040	770	692	987
Mov Cap-2 Maneuver	-	-	-	-	-	-	777	706	-	770	692	-
Stage 1	-	-	-	-	-	-	982	867	-	869	770	-
Stage 2	-	-	-	-	-	-	851	770	-	974	853	-

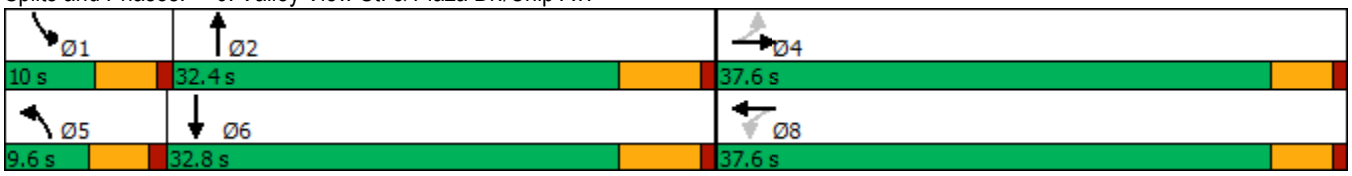
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2	8.5	8.7
HCM LOS			A	A

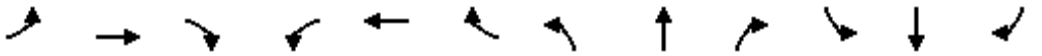
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1040	1532	-	-	1563	-	-	987
HCM Lane V/C Ratio	0.005	-	-	-	0.019	-	-	0.001
HCM Control Delay (s)	8.5	0	-	-	7.3	-	-	8.7
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	2	4	0	12	1487	83	1521
Future Volume (vph)	3	2	4	0	12	1487	83	1521
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	14.6	14.6	9.6	22.8	9.6	22.8
Total Split (s)	37.6	37.6	37.6	37.6	9.6	32.4	10.0	32.8
Total Split (%)	47.0%	47.0%	47.0%	47.0%	12.0%	40.5%	12.5%	41.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.9	14.9	14.9	14.9	6.1	27.7	6.5	37.2
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.13	0.59	0.14	0.80
v/c Ratio	0.01	0.03	0.01	0.02	0.05	0.51	0.34	0.39
Control Delay	15.7	9.0	15.5	0.1	29.3	12.5	32.8	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	9.0	15.5	0.1	29.3	12.5	32.8	9.0
LOS	B	A	B	A	C	B	C	A
Approach Delay		10.0		3.7		12.6		10.2
Approach LOS		A		A		B		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 46.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Valley View St. & Plaza Dr./Chip Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	15	4	0	13	12	1487	59	83	1521	78
Future Volume (veh/h)	3	2	15	4	0	13	12	1487	59	83	1521	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	0.98		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	2	10	4	0	7	12	1502	58	84	1536	76
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	251	14	71	246	0	83	28	2510	97	138	2789	138
Arrive On Green	0.05	0.05	0.05	0.05	0.00	0.05	0.02	0.49	0.49	0.08	0.55	0.55
Sat Flow, veh/h	1431	275	1373	1402	0	1610	1810	5119	198	1810	5062	250
Grp Volume(v), veh/h	3	0	12	4	0	7	12	1015	545	84	1049	563
Grp Sat Flow(s),veh/h/ln	1431	0	1647	1402	0	1610	1810	1729	1859	1810	1729	1854
Q Serve(g_s), s	0.1	0.0	0.3	0.1	0.0	0.2	0.3	8.3	8.3	1.8	7.7	7.7
Cycle Q Clear(g_c), s	0.2	0.0	0.3	0.4	0.0	0.2	0.3	8.3	8.3	1.8	7.7	7.7
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.11	1.00		0.14
Lane Grp Cap(c), veh/h	251	0	85	246	0	83	28	1695	911	138	1905	1022
V/C Ratio(X)	0.01	0.00	0.14	0.02	0.00	0.08	0.42	0.60	0.60	0.61	0.55	0.55
Avail Cap(c_a), veh/h	1379	0	1383	1350	0	1352	230	2340	1258	249	2375	1274
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	17.8	18.0	0.0	17.7	19.2	7.2	7.2	17.6	5.7	5.7
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.0	0.0	0.4	3.7	0.3	0.6	1.6	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.1	1.5	1.7	0.6	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	18.5	18.0	0.0	18.2	22.9	7.6	7.9	19.2	5.9	6.2
LnGrp LOS	B	A	B	B	A	B	C	A	A	B	A	A
Approach Vol, veh/h		15			11			1572			1696	
Approach Delay, s/veh		18.4			18.1			7.8			6.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	25.1		6.6	5.2	27.5		6.6				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.4	26.6		33.0	5.0	27.0		33.0				
Max Q Clear Time (g_c+I1), s	3.8	10.3		2.3	2.3	9.7		2.4				
Green Ext Time (p_c), s	0.0	9.0		0.0	0.0	9.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		7.3	
HCM 6th LOS		A	

Existing - AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Valley View & Plaza

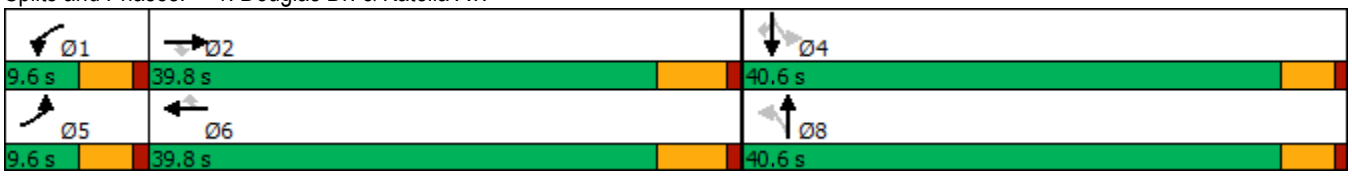
Cycle (sec):	100	Critical Vol./Cap.(X):	0.414
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	12	1487	59	83	1521	78	3	2	15	4	0	13
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:	12	1487	59	83	1521	78	3	2	15	4	0	13
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:	12	1487	59	83	1521	78	3	2	15	4	0	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	1487	59	83	1521	78	3	2	15	4	0	13
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:	12	1487	59	83	1521	78	3	2	15	4	0	13
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.89	0.11	1.00	2.85	0.15	1.00	0.12	0.88	1.00	0.00	1.00
Final Sat.:	1700	4905	195	1700	4851	249	1700	200	1500	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.30	0.30	0.05	0.31	0.31	0.00	0.01	0.01	0.00	0.00	0.01
Crit Moves:		****		****				****		****		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	11	1925	31	9	1576	6	81	1	26	2	46
Future Volume (vph)	11	1925	31	9	1576	6	81	1	26	2	46
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases			2			6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	22.8	22.8	40.6	40.6	40.6	40.6	40.6
Total Split (s)	9.6	39.8	39.8	9.6	39.8	39.8	40.6	40.6	40.6	40.6	40.6
Total Split (%)	10.7%	44.2%	44.2%	10.7%	44.2%	44.2%	45.1%	45.1%	45.1%	45.1%	45.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.4	38.1	38.1	5.4	38.1	38.1	14.1	14.1	14.1	14.1	14.1
Actuated g/C Ratio	0.09	0.65	0.65	0.09	0.65	0.65	0.24	0.24	0.24	0.24	0.24
v/c Ratio	0.07	0.64	0.03	0.06	0.52	0.01	0.26	0.02	0.08	0.00	0.12
Control Delay	32.8	13.4	0.8	32.8	11.5	0.0	20.9	10.8	18.4	17.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	13.4	0.8	32.8	11.5	0.0	20.9	10.8	18.4	17.0	1.8
LOS	C	B	A	C	B	A	C	B	B	B	A
Approach Delay		13.3			11.6			20.0		7.9	
Approach LOS		B			B			B		A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 58.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 12.6	Intersection LOS: B
Intersection Capacity Utilization 59.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Douglas Dr. & Katella Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1925	31	9	1576	6	81	1	7	26	2	46
Future Volume (veh/h)	11	1925	31	9	1576	6	81	1	7	26	2	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	12	2163	29	10	1771	7	91	1	4	29	2	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	28	2948	894	23	2936	892	332	47	188	332	268	224
Arrive On Green	0.02	0.57	0.57	0.01	0.57	0.57	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1810	5187	1573	1810	5187	1576	1414	332	1329	1434	1900	1589
Grp Volume(v), veh/h	12	2163	29	10	1771	7	91	0	5	29	2	18
Grp Sat Flow(s),veh/h/ln	1810	1729	1573	1810	1729	1576	1414	0	1661	1434	1900	1589
Q Serve(g_s), s	0.4	16.7	0.4	0.3	12.2	0.1	3.2	0.0	0.1	1.0	0.0	0.5
Cycle Q Clear(g_c), s	0.4	16.7	0.4	0.3	12.2	0.1	3.2	0.0	0.1	1.1	0.0	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	28	2948	894	23	2936	892	332	0	235	332	268	224
V/C Ratio(X)	0.43	0.73	0.03	0.43	0.60	0.01	0.27	0.00	0.02	0.09	0.01	0.08
Avail Cap(c_a), veh/h	167	3263	990	167	3263	991	1074	0	1106	1084	1266	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	8.6	5.1	26.5	7.7	5.1	21.3	0.0	20.0	20.5	20.0	20.2
Incr Delay (d2), s/veh	4.0	0.8	0.0	4.6	0.3	0.0	0.4	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.8	0.1	0.1	2.7	0.0	1.0	0.0	0.1	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	9.4	5.1	31.0	8.0	5.1	21.8	0.0	20.0	20.6	20.0	20.3
LnGrp LOS	C	A	A	C	A	A	C	A	C	C	B	C
Approach Vol, veh/h		2204			1788			96			49	
Approach Delay, s/veh		9.5			8.1			21.7			20.5	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	36.5		12.2	5.4	36.4		12.2				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	34.0		36.0	5.0	34.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	18.7		3.1	2.4	14.2		5.2				
Green Ext Time (p_c), s	0.0	12.0		0.1	0.0	12.2		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			9.3									
HCM 6th LOS			A									

Existing - PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Douglas & Katella

Cycle (sec):	100	Critical Vol./Cap.(X):	0.507
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	0	1 0	1 0	1	0 1	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	81	1	7	26	2	46	11	1925	31	9	1576	6
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:	81	1	7	26	2	46	11	1925	31	9	1576	6
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:	81	1	7	26	2	46	11	1925	31	9	1576	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	1	7	26	2	46	11	1925	31	9	1576	6
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:	81	1	7	26	2	46	11	1925	31	9	1576	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.12	0.88	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1700	213	1488	1700	1700	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.00	0.02	0.00	0.03	0.01	0.38	0.02	0.01	0.31	0.00
Crit Moves:	****					****		****		****		

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	18	2	1	5
Future Vol, veh/h	0	23	18	2	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	31	24	3	1	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	57	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	31	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1600	-	-	-	955	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	997	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1600	-	-	-	955	1056
Mov Cap-2 Maneuver	-	-	-	-	892	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	997	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1600	-	-	-	1025
HCM Lane V/C Ratio	-	-	-	-	0.008
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	26	0	3	18	0	5	0	20	0	0	0
Future Vol, veh/h	0	26	0	3	18	0	5	0	20	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	58	58	58	58	58	58	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	45	0	5	31	0	9	0	34	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	31	0	0	45	0	0	86	86	45	103	86	31
Stage 1	-	-	-	-	-	-	45	45	-	41	41	-
Stage 2	-	-	-	-	-	-	41	41	-	62	45	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1595	-	-	1576	-	-	905	808	1031	882	808	1049
Stage 1	-	-	-	-	-	-	974	861	-	979	865	-
Stage 2	-	-	-	-	-	-	979	865	-	954	861	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1595	-	-	1576	-	-	903	806	1031	850	806	1049
Mov Cap-2 Maneuver	-	-	-	-	-	-	857	761	-	816	760	-
Stage 1	-	-	-	-	-	-	974	861	-	979	862	-
Stage 2	-	-	-	-	-	-	976	862	-	922	861	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	8.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	991	1595	-	-	1576	-	-	-
HCM Lane V/C Ratio	0.043	-	-	-	0.003	-	-	-
HCM Control Delay (s)	8.8	0	-	-	7.3	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	44	2	11	16	0	5	0	9	0	1	0
Future Vol, veh/h	0	44	2	11	16	0	5	0	9	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	70	3	17	25	0	8	0	14	0	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	25	0	0	73	0	0	132	131	72	138	132	25
Stage 1	-	-	-	-	-	-	72	72	-	59	59	-
Stage 2	-	-	-	-	-	-	60	59	-	79	73	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1603	-	-	1540	-	-	845	763	996	837	762	1057
Stage 1	-	-	-	-	-	-	943	839	-	958	850	-
Stage 2	-	-	-	-	-	-	957	850	-	935	838	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1603	-	-	1540	-	-	837	755	996	818	754	1057
Mov Cap-2 Maneuver	-	-	-	-	-	-	813	728	-	796	723	-
Stage 1	-	-	-	-	-	-	943	839	-	958	841	-
Stage 2	-	-	-	-	-	-	945	841	-	922	838	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3	9	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	922	1603	-	-	1540	-	-	723
HCM Lane V/C Ratio	0.024	-	-	-	0.011	-	-	0.002
HCM Control Delay (s)	9	0	-	-	7.4	-	-	10
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	62	2	3	33	1	15	0	42	4	0	0
Future Vol, veh/h	0	62	2	3	33	1	15	0	42	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	97	3	5	52	2	23	0	66	6	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	100	0	0	163	163	99	195	163	54
Stage 1	-	-	-	-	-	-	99	99	-	63	63	-
Stage 2	-	-	-	-	-	-	64	64	-	132	100	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1564	-	-	1505	-	-	806	733	962	769	733	1019
Stage 1	-	-	-	-	-	-	912	817	-	953	846	-
Stage 2	-	-	-	-	-	-	952	846	-	876	816	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1564	-	-	1505	-	-	804	731	962	714	731	1018
Mov Cap-2 Maneuver	-	-	-	-	-	-	804	731	-	714	731	-
Stage 1	-	-	-	-	-	-	912	817	-	953	843	-
Stage 2	-	-	-	-	-	-	948	843	-	816	816	-

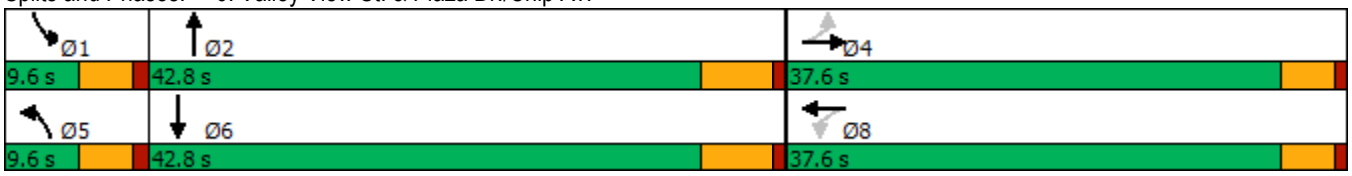
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	9.4	10.1
HCM LOS			A	B

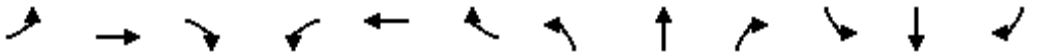
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	915	1564	-	-	1505	-	-	714
HCM Lane V/C Ratio	0.097	-	-	-	0.003	-	-	0.009
HCM Control Delay (s)	9.4	0	-	-	7.4	-	-	10.1
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	79	0	53	10	4	1929	17	1474
Future Volume (vph)	79	0	53	10	4	1929	17	1474
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	14.6	14.6	9.6	22.8	9.6	22.8
Total Split (s)	37.6	37.6	37.6	37.6	9.6	42.8	9.6	42.8
Total Split (%)	41.8%	41.8%	41.8%	41.8%	10.7%	47.6%	10.7%	47.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.7	14.7	14.7	14.7	5.8	38.1	5.8	38.1
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.10	0.66	0.10	0.66
v/c Ratio	0.25	0.06	0.15	0.26	0.02	0.59	0.10	0.46
Control Delay	22.4	0.2	20.8	6.6	33.8	11.8	34.1	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	0.2	20.8	6.6	33.8	11.8	34.1	9.8
LOS	C	A	C	A	C	B	C	A
Approach Delay		16.5		10.8		11.8		10.1
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 57.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 11.2	Intersection LOS: B
Intersection Capacity Utilization 67.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Valley View St. & Plaza Dr./Chip Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	0	29	53	10	116	4	1929	4	17	1474	23
Future Volume (veh/h)	79	0	29	53	10	116	4	1929	4	17	1474	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	82	0	10	55	10	62	4	2009	4	18	1535	21
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	289	0	250	345	36	221	10	2939	6	40	2985	41
Arrive On Green	0.16	0.00	0.16	0.16	0.16	0.16	0.01	0.55	0.55	0.02	0.57	0.57
Sat Flow, veh/h	1349	0	1608	1424	228	1417	1810	5345	11	1810	5271	72
Grp Volume(v), veh/h	82	0	10	55	0	72	4	1300	713	18	1007	549
Grp Sat Flow(s),veh/h/ln	1349	0	1608	1424	0	1645	1810	1729	1898	1810	1729	1885
Q Serve(g_s), s	3.1	0.0	0.3	1.9	0.0	2.1	0.1	14.9	14.9	0.5	9.8	9.8
Cycle Q Clear(g_c), s	5.3	0.0	0.3	2.2	0.0	2.1	0.1	14.9	14.9	0.5	9.8	9.8
Prop In Lane	1.00		1.00	1.00		0.86	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	289	0	250	345	0	256	10	1901	1043	40	1958	1067
V/C Ratio(X)	0.28	0.00	0.04	0.16	0.00	0.28	0.41	0.68	0.68	0.46	0.51	0.51
Avail Cap(c_a), veh/h	888	0	964	978	0	987	164	2326	1276	164	2326	1268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	19.7	20.7	0.0	20.5	27.3	8.9	8.9	26.6	7.3	7.3
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.2	0.0	0.6	9.9	0.6	1.1	3.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.1	0.6	0.0	0.8	0.1	3.6	4.1	0.2	2.2	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	0.0	19.8	20.9	0.0	21.1	37.2	9.6	10.1	29.6	7.5	7.7
LnGrp LOS	C	A	B	C	A	C	D	A	B	C	A	A
Approach Vol, veh/h		92			127			2017			1574	
Approach Delay, s/veh		23.0			21.0			9.8			7.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	36.0		13.2	4.9	37.0		13.2				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	37.0		33.0	5.0	37.0		33.0				
Max Q Clear Time (g_c+I1), s	2.5	16.9		7.3	2.1	11.8		4.2				
Green Ext Time (p_c), s	0.0	13.3		0.3	0.0	11.3		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		9.7	
HCM 6th LOS		A	

Existing - PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Valley View & Plaza

Cycle (sec):	100	Critical Vol./Cap.(X):	0.523
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	4	1929	4	17	1474	23	79	0	29	29	53	10
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:	4	1929	4	17	1474	23	79	0	29	29	53	10
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:	4	1929	4	17	1474	23	79	0	29	29	53	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	1929	4	17	1474	23	79	0	29	29	53	10
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:	4	1929	4	17	1474	23	79	0	29	29	53	10
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.99	0.01	1.00	2.95	0.05	1.00	0.00	1.00	1.00	0.84	0.16
Final Sat.:	1700	5089	11	1700	5022	78	1700	0	1700	1700	1430	270
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.38	0.01	0.29	0.29	0.05	0.00	0.02	0.02	0.04	0.04
Crit Moves:		****			****			****			****	

APPENDIX 3.3: EXISTING (2022) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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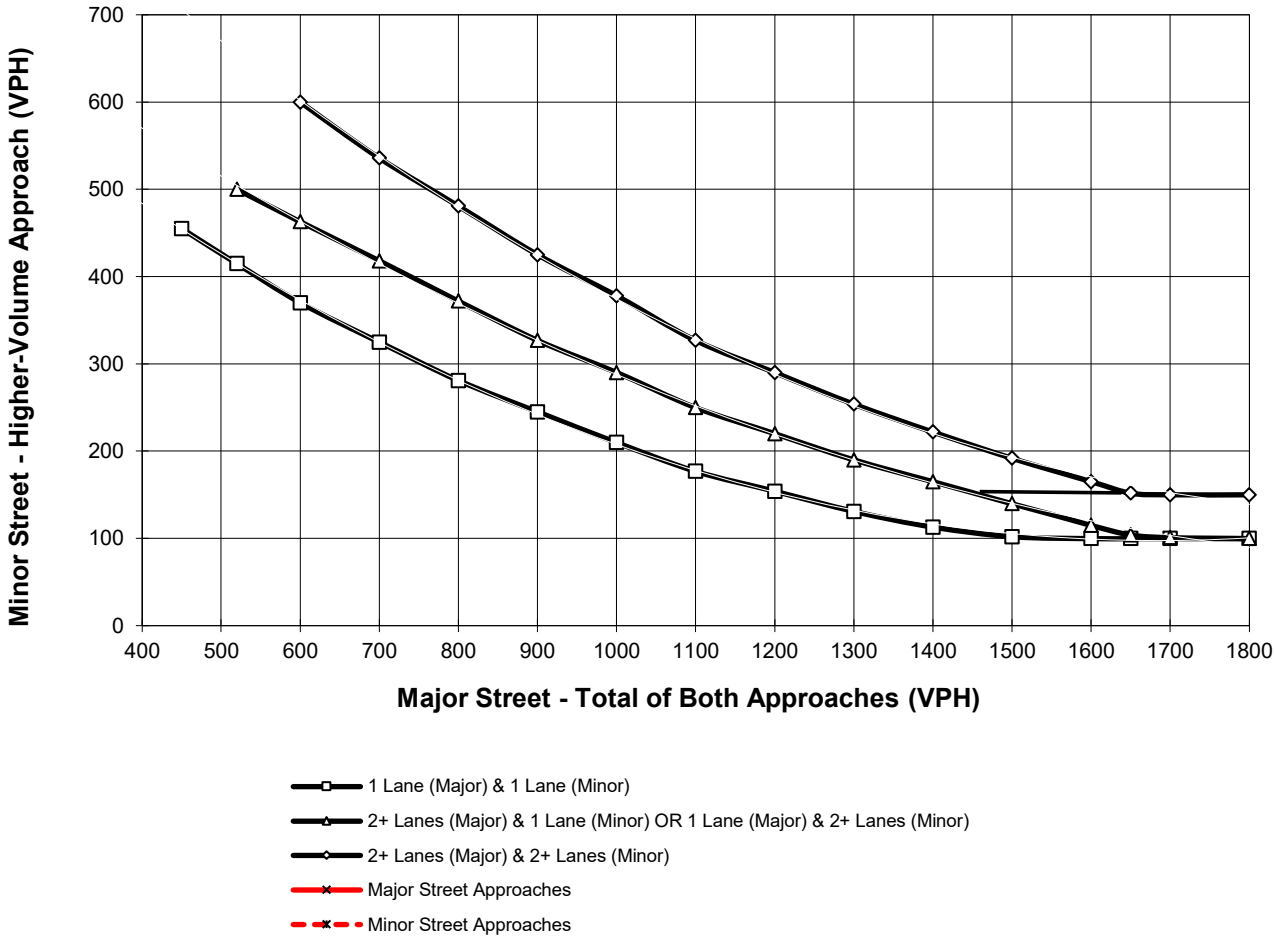
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2022) Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **43**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 1**
High Volume Approach (VPH) = **6**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

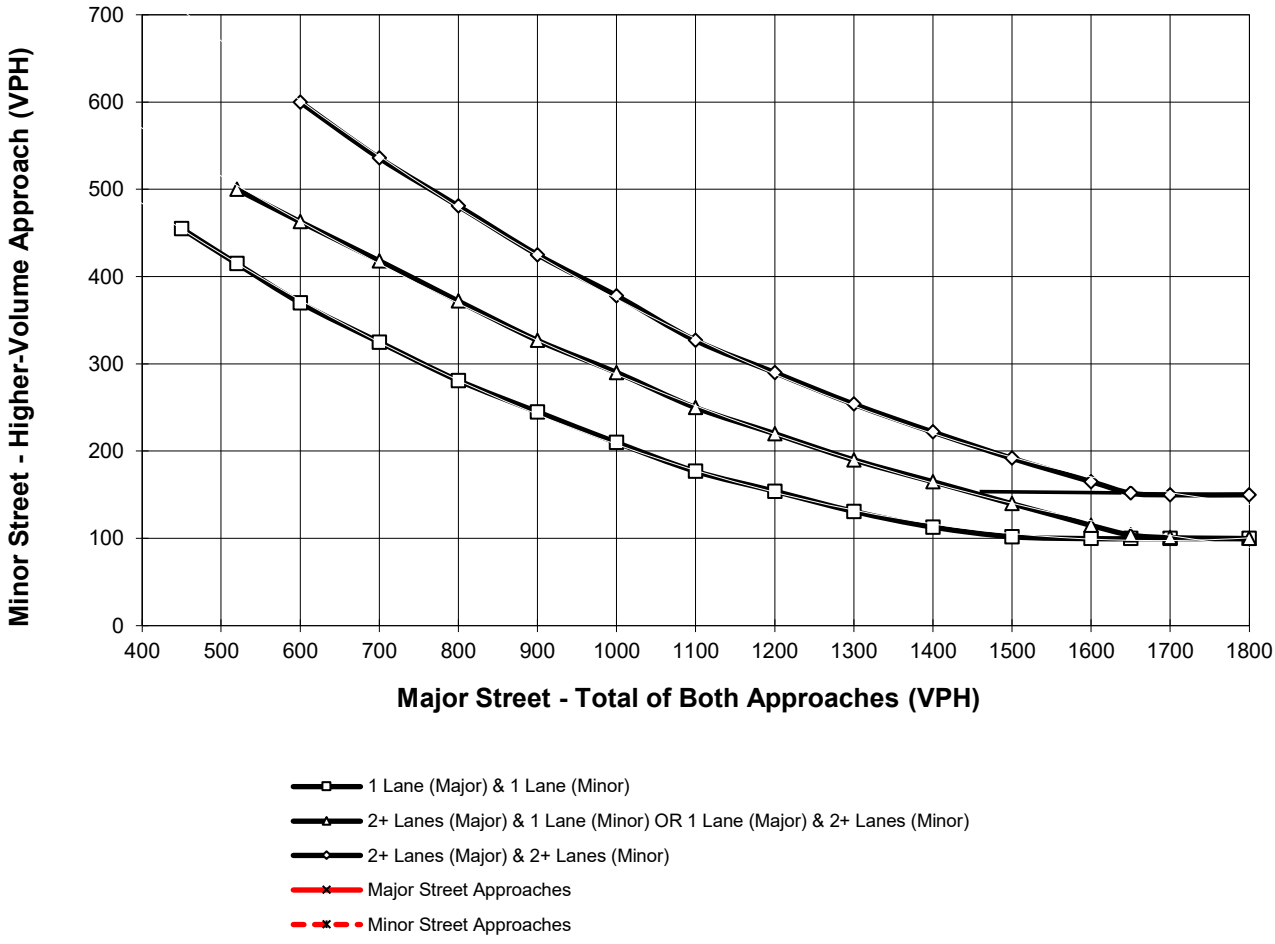
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2022) Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **47**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 2**
High Volume Approach (VPH) = **25**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

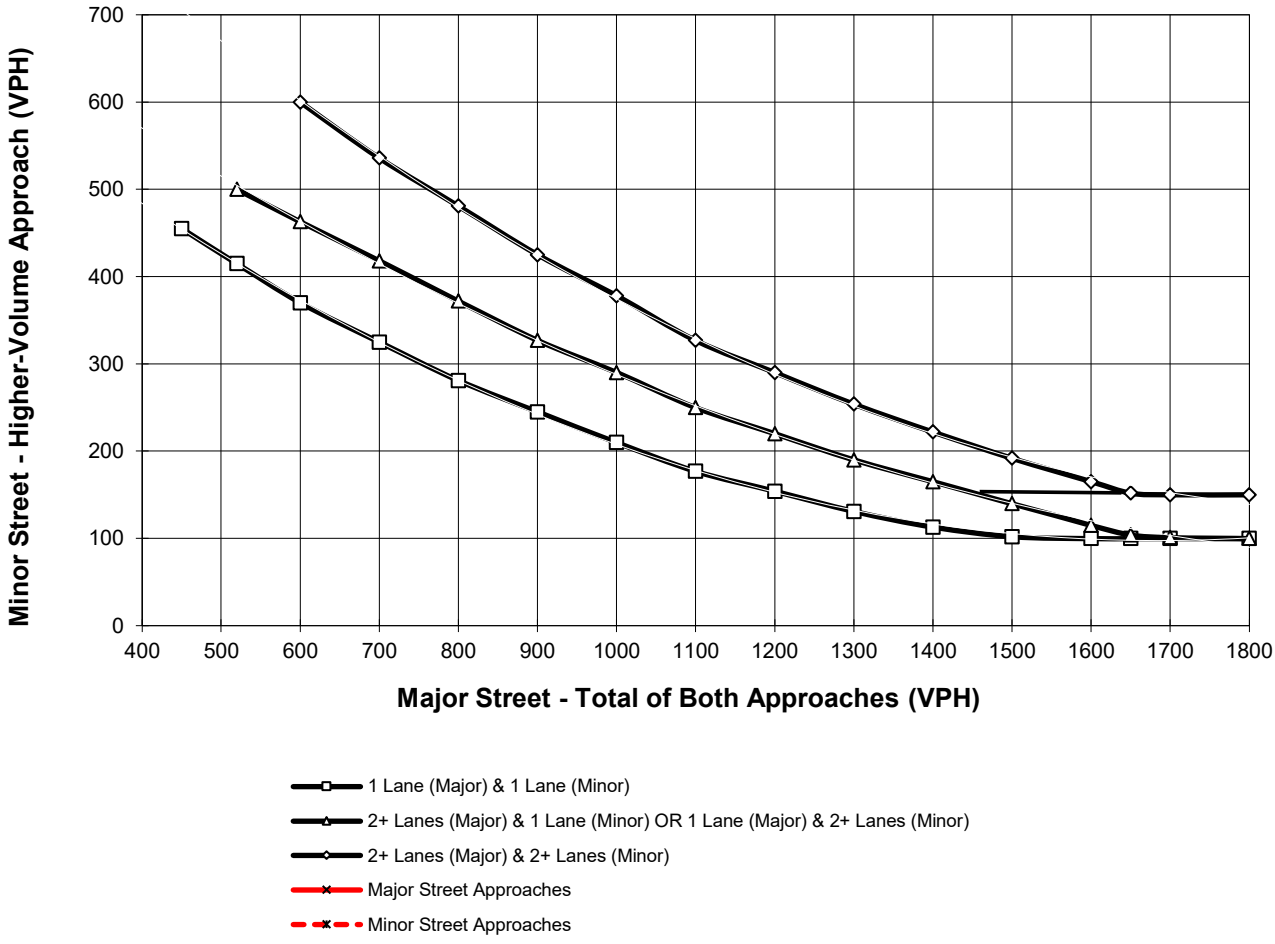
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2022) Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **73**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 3**
High Volume Approach (VPH) = **14**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

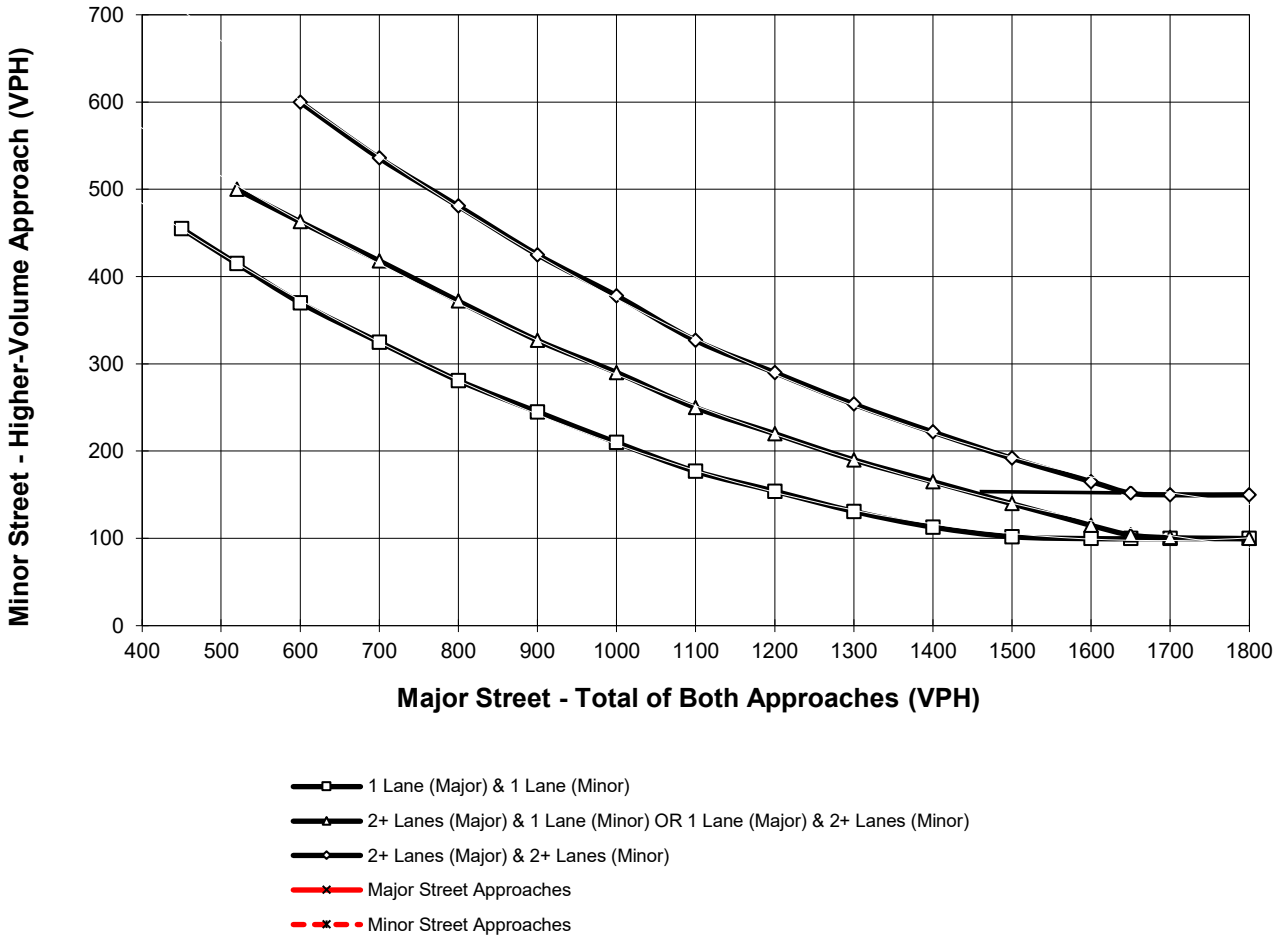
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2022) Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **101**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 4**
High Volume Approach (VPH) = **57**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 5.1: OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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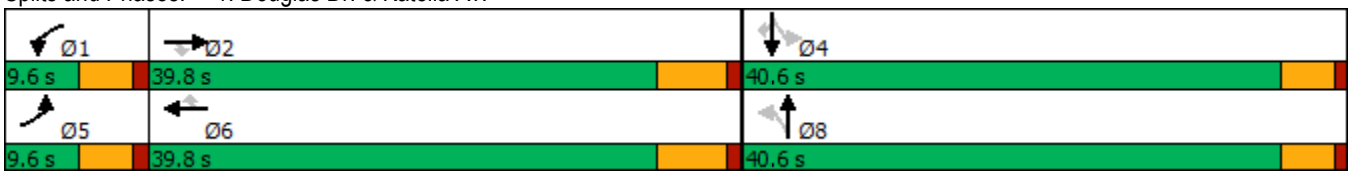
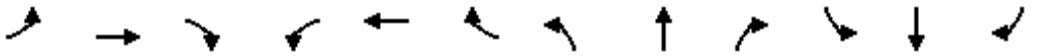
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	27	1793	73	12	1851	34	27	2	2	1	15
Future Volume (vph)	27	1793	73	12	1851	34	27	2	2	1	15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases			2			6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	22.8	22.8	40.6	40.6	40.6	40.6	40.6
Total Split (s)	9.6	39.8	39.8	9.6	39.8	39.8	40.6	40.6	40.6	40.6	40.6
Total Split (%)	10.7%	44.2%	44.2%	10.7%	44.2%	44.2%	45.1%	45.1%	45.1%	45.1%	45.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.9	41.8	41.8	5.9	40.3	40.3	14.8	14.8	14.8	14.8	14.8
Actuated g/C Ratio	0.11	0.81	0.81	0.11	0.78	0.78	0.29	0.29	0.29	0.29	0.29
v/c Ratio	0.14	0.44	0.06	0.06	0.48	0.03	0.07	0.01	0.00	0.00	0.03
Control Delay	33.3	9.2	4.0	33.2	10.9	0.8	18.3	13.0	18.0	18.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	9.2	4.0	33.2	10.9	0.8	18.3	13.0	18.0	18.0	0.1
LOS	C	A	A	C	B	A	B	B	B	B	A
Approach Delay		9.4			10.9			17.3		3.0	
Approach LOS		A			B			B		A	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 51.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Douglas Dr. & Katella Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1793	73	12	1851	34	27	2	5	2	1	15
Future Volume (veh/h)	27	1793	73	12	1851	34	27	2	5	2	1	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	1868	68	12	1928	30	28	2	2	2	1	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	59	3084	937	28	2996	909	255	63	63	253	138	115
Arrive On Green	0.03	0.59	0.59	0.02	0.58	0.58	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1810	5187	1575	1810	5187	1574	1425	864	864	1435	1900	1587
Grp Volume(v), veh/h	28	1868	68	12	1928	30	28	0	4	2	1	6
Grp Sat Flow(s),veh/h/ln	1810	1729	1575	1810	1729	1574	1425	0	1729	1435	1900	1587
Q Serve(g_s), s	0.7	10.8	0.9	0.3	11.8	0.4	0.9	0.0	0.1	0.1	0.0	0.2
Cycle Q Clear(g_c), s	0.7	10.8	0.9	0.3	11.8	0.4	0.9	0.0	0.1	0.2	0.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	59	3084	937	28	2996	909	255	0	125	253	138	115
V/C Ratio(X)	0.48	0.61	0.07	0.43	0.64	0.03	0.11	0.00	0.03	0.01	0.01	0.05
Avail Cap(c_a), veh/h	191	3731	1133	191	3731	1132	1237	0	1317	1242	1447	1209
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	6.1	4.1	23.1	6.7	4.3	20.8	0.0	20.4	20.4	20.3	20.4
Incr Delay (d2), s/veh	2.2	0.2	0.0	3.8	0.3	0.0	0.2	0.0	0.1	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.8	0.1	0.1	2.1	0.1	0.3	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	6.3	4.1	26.9	7.0	4.3	20.9	0.0	20.5	20.5	20.4	20.6
LnGrp LOS	C	A	A	C	A	A	C	A	C	C	C	C
Approach Vol, veh/h		1964			1970			32			9	
Approach Delay, s/veh		6.5			7.1			20.9			20.5	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	33.9		8.0	6.1	33.1		8.0				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	34.0		36.0	5.0	34.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	12.8		2.2	2.7	13.8		2.9				
Green Ext Time (p_c), s	0.0	13.6		0.0	0.0	13.5		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			6.9									
HCM 6th LOS			A									

2024 Without Project - AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Douglas & Katella

Cycle (sec):	100	Critical Vol./Cap.(X):	0.454
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	22	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	0 1	0	1 0	1	0 1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	27	2	5	2	1	15	27	1793	73	12	1851	34
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:	27	2	5	2	1	15	27	1793	73	12	1851	34
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:	27	2	5	2	1	15	27	1793	73	12	1851	34
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:	27	2	5	2	1	15	27	1793	73	12	1851	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	2	5	2	1	15	27	1793	73	12	1851	34
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:	27	2	5	2	1	15	27	1793	73	12	1851	34
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.29	0.71	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1700	486	1214	1700	1700	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.00	0.00	0.00	0.01	0.02	0.35	0.04	0.01	0.36	0.02
Crit Moves:	****					****	****				****	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	3	32	0	0	4
Future Vol, veh/h	2	3	32	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	37	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	37	0	-	0	44	37
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1587	-	-	-	972	1041
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1587	-	-	-	971	1041
Mov Cap-2 Maneuver	-	-	-	-	899	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1587	-	-	-	1041
HCM Lane V/C Ratio	0.001	-	-	-	0.004
HCM Control Delay (s)	7.3	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	28	40	0	0	0	3	0	0	0
Future Vol, veh/h	0	3	0	28	40	0	0	0	3	0	0	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	4	0	42	60	0	0	0	4	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	5	0	0	149	149	5	150	149	60
Stage 1	-	-	-	-	-	-	5	5	-	144	144	-
Stage 2	-	-	-	-	-	-	144	144	-	6	5	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1556	-	-	1630	-	-	824	746	1084	822	746	1011
Stage 1	-	-	-	-	-	-	1022	896	-	864	782	-
Stage 2	-	-	-	-	-	-	864	782	-	1021	896	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1556	-	-	1628	-	-	807	726	1083	802	726	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	764	690	-	774	688	-
Stage 1	-	-	-	-	-	-	1021	895	-	864	762	-
Stage 2	-	-	-	-	-	-	842	762	-	1017	895	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3	8.3	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1083	1556	-	-	1628	-	-	-
HCM Lane V/C Ratio	0.004	-	-	-	0.026	-	-	-
HCM Control Delay (s)	8.3	0	-	-	7.3	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	0	8	48	1	20	2	35	0	0	0
Future Vol, veh/h	0	6	0	8	48	1	20	2	35	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	0	9	56	1	24	2	41	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	57	0	0	7	0	0	82	82	7	104	82	57
Stage 1	-	-	-	-	-	-	7	7	-	75	75	-
Stage 2	-	-	-	-	-	-	75	75	-	29	7	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1560	-	-	1627	-	-	910	812	1081	881	812	1015
Stage 1	-	-	-	-	-	-	1020	894	-	939	836	-
Stage 2	-	-	-	-	-	-	939	836	-	993	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1560	-	-	1627	-	-	906	807	1081	842	807	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-	848	754	-	814	753	-
Stage 1	-	-	-	-	-	-	1020	894	-	939	831	-
Stage 2	-	-	-	-	-	-	934	831	-	953	894	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	972	1560	-	-	1627	-	-	-
HCM Lane V/C Ratio	0.069	-	-	-	0.006	-	-	-
HCM Control Delay (s)	9	0	-	-	7.2	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	16	27	24	62	1	0	0	4	0	0	1
Future Vol, veh/h	0	16	27	24	62	1	0	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	21	35	31	81	1	0	0	5	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	56	0	0	183	183	39	185	200	82
Stage 1	-	-	-	-	-	-	39	39	-	144	144	-
Stage 2	-	-	-	-	-	-	144	144	-	41	56	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1528	-	-	1562	-	-	783	715	1038	780	699	983
Stage 1	-	-	-	-	-	-	981	866	-	864	782	-
Stage 2	-	-	-	-	-	-	864	782	-	979	852	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1528	-	-	1562	-	-	770	701	1038	764	685	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	770	701	-	764	685	-
Stage 1	-	-	-	-	-	-	981	866	-	864	766	-
Stage 2	-	-	-	-	-	-	846	766	-	974	852	-

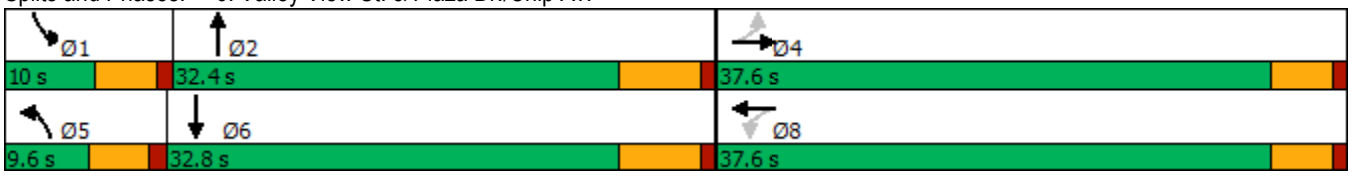
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2	8.5	8.7
HCM LOS			A	A

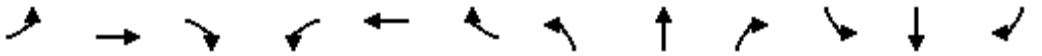
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1038	1528	-	-	1562	-	-	983
HCM Lane V/C Ratio	0.005	-	-	-	0.02	-	-	0.001
HCM Control Delay (s)	8.5	0	-	-	7.4	-	-	8.7
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	2	4	0	12	1557	86	1589
Future Volume (vph)	3	2	4	0	12	1557	86	1589
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	14.6	14.6	9.6	22.8	9.6	22.8
Total Split (s)	37.6	37.6	37.6	37.6	9.6	32.4	10.0	32.8
Total Split (%)	47.0%	47.0%	47.0%	47.0%	12.0%	40.5%	12.5%	41.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.5	14.5	14.5	14.5	5.9	29.3	6.3	38.6
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.12	0.60	0.13	0.80
v/c Ratio	0.01	0.03	0.01	0.02	0.06	0.52	0.38	0.41
Control Delay	15.7	9.1	15.8	0.1	29.7	12.8	34.3	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	9.1	15.8	0.1	29.7	12.8	34.3	9.3
LOS	B	A	B	A	C	B	C	A
Approach Delay		10.1		3.8		12.9		10.5
Approach LOS		B		A		B		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 48.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 11.6	Intersection LOS: B
Intersection Capacity Utilization 59.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Valley View St. & Plaza Dr./Chip Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	15	4	0	13	12	1557	61	86	1589	81
Future Volume (veh/h)	3	2	15	4	0	13	12	1557	61	86	1589	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	0.98		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	2	10	4	0	7	12	1573	60	87	1605	79
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	247	14	71	241	0	83	28	2555	97	140	2838	140
Arrive On Green	0.05	0.05	0.05	0.05	0.00	0.05	0.02	0.50	0.50	0.08	0.56	0.56
Sat Flow, veh/h	1431	275	1373	1402	0	1610	1810	5122	195	1810	5063	249
Grp Volume(v), veh/h	3	0	12	4	0	7	12	1062	571	87	1096	588
Grp Sat Flow(s),veh/h/ln	1431	0	1647	1402	0	1610	1810	1729	1859	1810	1729	1855
Q Serve(g_s), s	0.1	0.0	0.3	0.1	0.0	0.2	0.3	8.9	9.0	1.9	8.2	8.2
Cycle Q Clear(g_c), s	0.2	0.0	0.3	0.4	0.0	0.2	0.3	8.9	9.0	1.9	8.2	8.2
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.11	1.00		0.13
Lane Grp Cap(c), veh/h	247	0	85	241	0	83	28	1725	927	140	1938	1039
V/C Ratio(X)	0.01	0.00	0.14	0.02	0.00	0.08	0.43	0.62	0.62	0.62	0.57	0.57
Avail Cap(c_a), veh/h	1345	0	1349	1317	0	1319	225	2283	1227	243	2317	1243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	18.3	18.4	0.0	18.2	19.7	7.3	7.3	18.0	5.7	5.7
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.4	3.7	0.4	0.7	1.7	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.1	1.6	1.9	0.7	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	19.0	18.5	0.0	18.6	23.4	7.7	8.0	19.7	6.0	6.2
LnGrp LOS	B	A	B	B	A	B	C	A	A	B	A	A
Approach Vol, veh/h		15			11			1645			1771	
Approach Delay, s/veh		18.9			18.6			7.9			6.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	25.9		6.7	5.2	28.4		6.7				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.4	26.6		33.0	5.0	27.0		33.0				
Max Q Clear Time (g_c+I1), s	3.9	11.0		2.3	2.3	10.2		2.4				
Green Ext Time (p_c), s	0.0	9.1		0.0	0.0	9.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		7.4	
HCM 6th LOS		A	

2024 Without Project - AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Valley View & Plaza

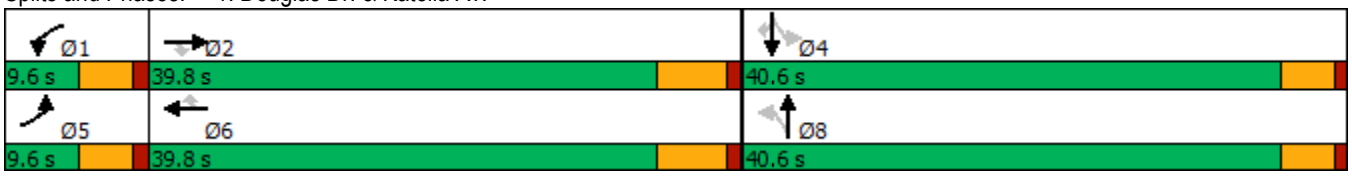
Cycle (sec):	100	Critical Vol./Cap.(X):	0.430
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

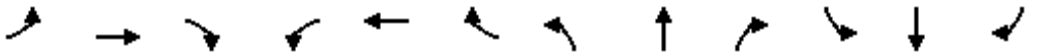
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	12	1557	61	86	1589	81	3	2	15	4	0	13
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:	12	1557	61	86	1589	81	3	2	15	4	0	13
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:	12	1557	61	86	1589	81	3	2	15	4	0	13
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:	12	1557	61	86	1589	81	3	2	15	4	0	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	1557	61	86	1589	81	3	2	15	4	0	13
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:	12	1557	61	86	1589	81	3	2	15	4	0	13
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.89	0.11	1.00	2.85	0.15	1.00	0.12	0.88	1.00	0.00	1.00
Final Sat.:	1700	4908	192	1700	4853	247	1700	200	1500	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.32	0.32	0.05	0.33	0.33	0.00	0.01	0.01	0.00	0.00	0.01
Crit Moves:		****			****			****			****	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	11	2064	32	9	1722	6	84	1	27	2	47
Future Volume (vph)	11	2064	32	9	1722	6	84	1	27	2	47
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases			2			6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	22.8	22.8	40.6	40.6	40.6	40.6	40.6
Total Split (s)	9.6	39.8	39.8	9.6	39.8	39.8	40.6	40.6	40.6	40.6	40.6
Total Split (%)	10.7%	44.2%	44.2%	10.7%	44.2%	44.2%	45.1%	45.1%	45.1%	45.1%	45.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.4	38.1	38.1	5.4	38.1	38.1	14.1	14.1	14.1	14.1	14.1
Actuated g/C Ratio	0.09	0.65	0.65	0.09	0.65	0.65	0.24	0.24	0.24	0.24	0.24
v/c Ratio	0.07	0.69	0.03	0.06	0.57	0.01	0.27	0.02	0.09	0.00	0.12
Control Delay	32.8	14.2	1.0	32.8	12.3	0.0	21.0	10.8	18.4	17.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	14.2	1.0	32.8	12.3	0.0	21.0	10.8	18.4	17.0	1.9
LOS	C	B	A	C	B	A	C	B	B	B	A
Approach Delay		14.1			12.4			20.1		8.1	
Approach LOS		B			B			C		A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 58.6	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Douglas Dr. & Katella Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	2064	32	9	1722	6	84	1	7	27	2	47
Future Volume (veh/h)	11	2064	32	9	1722	6	84	1	7	27	2	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	12	2319	30	10	1935	7	94	1	4	30	2	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	28	2987	906	23	2975	904	328	47	187	328	268	224
Arrive On Green	0.02	0.58	0.58	0.01	0.57	0.57	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1810	5187	1573	1810	5187	1576	1413	332	1329	1434	1900	1589
Grp Volume(v), veh/h	12	2319	30	10	1935	7	94	0	5	30	2	19
Grp Sat Flow(s),veh/h/ln	1810	1729	1573	1810	1729	1576	1413	0	1661	1434	1900	1589
Q Serve(g_s), s	0.4	19.0	0.5	0.3	14.1	0.1	3.4	0.0	0.1	1.0	0.1	0.6
Cycle Q Clear(g_c), s	0.4	19.0	0.5	0.3	14.1	0.1	3.5	0.0	0.1	1.2	0.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	28	2987	906	23	2975	904	328	0	234	328	268	224
V/C Ratio(X)	0.44	0.78	0.03	0.43	0.65	0.01	0.29	0.00	0.02	0.09	0.01	0.08
Avail Cap(c_a), veh/h	163	3177	964	163	3177	965	1045	0	1077	1056	1232	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	9.0	5.1	27.2	8.1	5.1	22.0	0.0	20.5	21.0	20.5	20.7
Incr Delay (d2), s/veh	4.0	1.2	0.0	4.6	0.4	0.0	0.5	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.5	0.1	0.1	3.2	0.0	1.1	0.0	0.1	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	10.2	5.1	31.8	8.5	5.1	22.5	0.0	20.6	21.2	20.5	20.9
LnGrp LOS	C	B	A	C	A	A	C	A	C	C	C	C
Approach Vol, veh/h		2361			1952			99			51	
Approach Delay, s/veh		10.3			8.6			22.4			21.0	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	37.8		12.4	5.4	37.6		12.4				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	34.0		36.0	5.0	34.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	21.0		3.2	2.4	16.1		5.5				
Green Ext Time (p_c), s	0.0	10.9		0.1	0.0	12.4		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									

2024 Without Project - PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Douglas & Katella

Cycle (sec):	100	Critical Vol./Cap.(X):	0.537
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	0 1	0	1 0	1	0 1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	84	1	7	27	2	47	11	2064	32	9	1722	6
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:	84	1	7	27	2	47	11	2064	32	9	1722	6
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:	84	1	7	27	2	47	11	2064	32	9	1722	6
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:	84	1	7	27	2	47	11	2064	32	9	1722	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	1	7	27	2	47	11	2064	32	9	1722	6
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:	84	1	7	27	2	47	11	2064	32	9	1722	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.12	0.88	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1700	213	1488	1700	1700	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.00	0.02	0.00	0.03	0.01	0.40	0.02	0.01	0.34	0.00
Crit Moves:	****					****		****		****		

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	24	18	2	1	5
Future Vol, veh/h	0	24	18	2	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	32	24	3	1	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	58	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	32	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1600	-	-	-	954	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	996	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1600	-	-	-	954	1056
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	996	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1600	-	-	-	1024
HCM Lane V/C Ratio	-	-	-	-	0.008
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	27	0	3	19	0	5	0	21	0	0	0
Future Vol, veh/h	0	27	0	3	19	0	5	0	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	58	58	58	58	58	58	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	47	0	5	33	0	9	0	36	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	47	0	0	90	90	47	108	90	33
Stage 1	-	-	-	-	-	-	47	47	-	43	43	-
Stage 2	-	-	-	-	-	-	43	43	-	65	47	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1592	-	-	1573	-	-	900	804	1028	876	804	1046
Stage 1	-	-	-	-	-	-	972	860	-	976	863	-
Stage 2	-	-	-	-	-	-	976	863	-	951	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1573	-	-	898	802	1028	843	802	1046
Mov Cap-2 Maneuver	-	-	-	-	-	-	854	759	-	811	757	-
Stage 1	-	-	-	-	-	-	972	860	-	976	860	-
Stage 2	-	-	-	-	-	-	973	860	-	918	860	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	8.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	989	1592	-	-	1573	-	-	-
HCM Lane V/C Ratio	0.045	-	-	-	0.003	-	-	-
HCM Control Delay (s)	8.8	0	-	-	7.3	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	45	2	11	16	0	5	0	9	0	1	0
Future Vol, veh/h	0	45	2	11	16	0	5	0	9	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	71	3	17	25	0	8	0	14	0	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	25	0	0	74	0	0	133	132	73	139	133	25
Stage 1	-	-	-	-	-	-	73	73	-	59	59	-
Stage 2	-	-	-	-	-	-	60	59	-	80	74	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1603	-	-	1538	-	-	844	762	995	836	761	1057
Stage 1	-	-	-	-	-	-	942	838	-	958	850	-
Stage 2	-	-	-	-	-	-	957	850	-	934	837	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1603	-	-	1538	-	-	836	754	995	817	753	1057
Mov Cap-2 Maneuver	-	-	-	-	-	-	812	727	-	795	722	-
Stage 1	-	-	-	-	-	-	942	838	-	958	841	-
Stage 2	-	-	-	-	-	-	945	841	-	921	837	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3	9	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	921	1603	-	-	1538	-	-	722
HCM Lane V/C Ratio	0.024	-	-	-	0.011	-	-	0.002
HCM Control Delay (s)	9	0	-	-	7.4	-	-	10
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	64	2	3	34	1	16	0	44	4	0	0
Future Vol, veh/h	0	64	2	3	34	1	16	0	44	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	100	3	5	53	2	25	0	69	6	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	55	0	0	103	0	0	167	167	102	200	167	55
Stage 1	-	-	-	-	-	-	102	102	-	64	64	-
Stage 2	-	-	-	-	-	-	65	65	-	136	103	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1563	-	-	1502	-	-	802	729	959	763	729	1018
Stage 1	-	-	-	-	-	-	909	815	-	952	846	-
Stage 2	-	-	-	-	-	-	951	845	-	872	814	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1563	-	-	1502	-	-	800	727	959	707	727	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	800	727	-	707	727	-
Stage 1	-	-	-	-	-	-	909	815	-	952	843	-
Stage 2	-	-	-	-	-	-	947	842	-	809	814	-

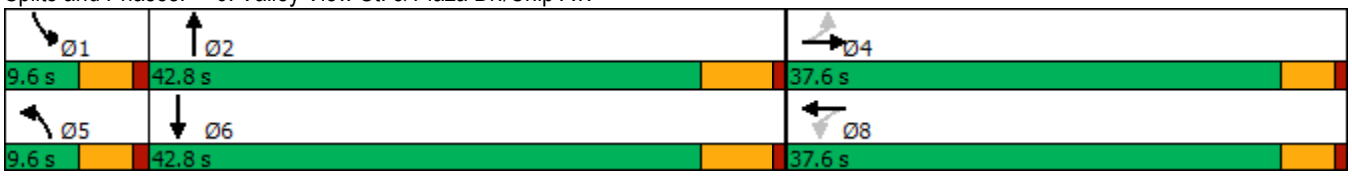
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	9.4	10.1
HCM LOS			A	B

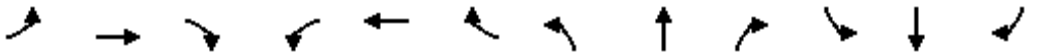
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	911	1563	-	-	1502	-	-	707
HCM Lane V/C Ratio	0.103	-	-	-	0.003	-	-	0.009
HCM Control Delay (s)	9.4	0	-	-	7.4	-	-	10.1
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	82	0	55	10	4	2021	18	1552
Future Volume (vph)	82	0	55	10	4	2021	18	1552
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	14.6	14.6	9.6	22.8	9.6	22.8
Total Split (s)	37.6	37.6	37.6	37.6	9.6	42.8	9.6	42.8
Total Split (%)	41.8%	41.8%	41.8%	41.8%	10.7%	47.6%	10.7%	47.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.3	14.3	14.3	14.3	5.5	39.7	5.5	39.7
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.09	0.67	0.09	0.67
v/c Ratio	0.28	0.06	0.17	0.28	0.02	0.61	0.11	0.48
Control Delay	23.1	0.3	21.1	6.7	33.8	12.2	34.2	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	0.3	21.1	6.7	33.8	12.2	34.2	10.0
LOS	C	A	C	A	C	B	C	B
Approach Delay		17.0		11.0		12.2		10.3
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 59.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 11.5	Intersection LOS: B
Intersection Capacity Utilization 68.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Valley View St. & Plaza Dr./Chip Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	0	30	55	10	121	4	2021	4	18	1552	24
Future Volume (veh/h)	82	0	30	55	10	121	4	2021	4	18	1552	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	85	0	11	57	10	67	4	2105	4	19	1617	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	280	0	249	340	33	222	10	2978	6	41	3029	41
Arrive On Green	0.16	0.00	0.16	0.16	0.16	0.16	0.01	0.56	0.56	0.02	0.57	0.57
Sat Flow, veh/h	1343	0	1607	1423	213	1429	1810	5346	10	1810	5271	72
Grp Volume(v), veh/h	85	0	11	57	0	77	4	1362	747	19	1061	578
Grp Sat Flow(s),veh/h/ln	1343	0	1607	1423	0	1643	1810	1729	1898	1810	1729	1885
Q Serve(g_s), s	3.4	0.0	0.3	2.0	0.0	2.4	0.1	16.3	16.3	0.6	10.7	10.7
Cycle Q Clear(g_c), s	5.7	0.0	0.3	2.3	0.0	2.4	0.1	16.3	16.3	0.6	10.7	10.7
Prop In Lane	1.00		1.00	1.00		0.87	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	280	0	249	340	0	255	10	1927	1057	41	1987	1083
V/C Ratio(X)	0.30	0.00	0.04	0.17	0.00	0.30	0.41	0.71	0.71	0.46	0.53	0.53
Avail Cap(c_a), veh/h	854	0	937	948	0	957	160	2260	1240	160	2260	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	20.3	21.3	0.0	21.2	28.1	9.2	9.2	27.3	7.4	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.1	0.2	0.0	0.7	10.0	0.8	1.5	2.9	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.1	0.7	0.0	0.9	0.1	4.0	4.6	0.3	2.4	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	0.0	20.4	21.6	0.0	21.9	38.0	10.0	10.7	30.3	7.6	7.8
LnGrp LOS	C	A	C	C	A	C	D	B	B	C	A	A
Approach Vol, veh/h		96			134			2113			1658	
Approach Delay, s/veh		23.9			21.7			10.3			7.9	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	37.3		13.4	4.9	38.3		13.4				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	37.0		33.0	5.0	37.0		33.0				
Max Q Clear Time (g_c+I1), s	2.6	18.3		7.7	2.1	12.7		4.4				
Green Ext Time (p_c), s	0.0	13.3		0.3	0.0	11.9		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		10.0	
HCM 6th LOS		B	

2024 Without Project - PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Valley View & Plaza

Cycle (sec):	100	Critical Vol./Cap.(X):	0.583
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	4	2021	4	18	1552	24	82	0	30	55	10	121
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:	4	2021	4	18	1552	24	82	0	30	55	10	121
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:	4	2021	4	18	1552	24	82	0	30	55	10	121
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:	4	2021	4	18	1552	24	82	0	30	55	10	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	2021	4	18	1552	24	82	0	30	55	10	121
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:	4	2021	4	18	1552	24	82	0	30	55	10	121
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.99	0.01	1.00	2.95	0.05	1.00	0.00	1.00	1.00	0.08	0.92
Final Sat.:	1700	5090	10	1700	5022	78	1700	0	1700	1700	130	1570
Capacity Analysis Module:												
Vol/Sat:	0.00	0.40	0.40	0.01	0.31	0.31	0.05	0.00	0.02	0.03	0.08	0.08
Crit Moves:		****			****			****			****	

APPENDIX 5.2: OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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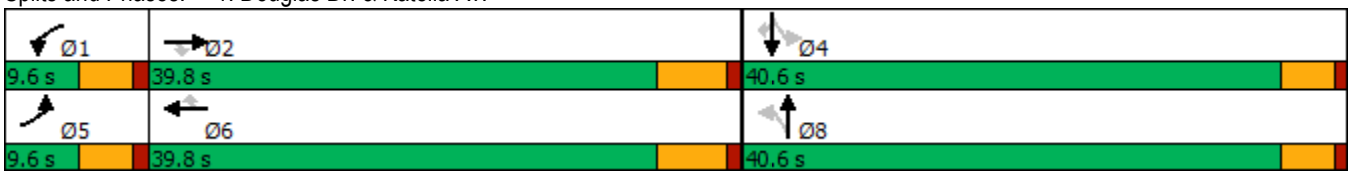
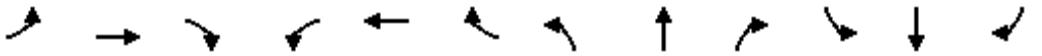
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	36	1794	73	12	1851	34	27	2	2	1	20
Future Volume (vph)	36	1794	73	12	1851	34	27	2	2	1	20
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases			2			6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	22.8	22.8	40.6	40.6	40.6	40.6	40.6
Total Split (s)	9.6	39.8	39.8	9.6	39.8	39.8	40.6	40.6	40.6	40.6	40.6
Total Split (%)	10.7%	44.2%	44.2%	10.7%	44.2%	44.2%	45.1%	45.1%	45.1%	45.1%	45.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.9	40.1	40.1	5.9	38.5	38.5	14.9	14.9	14.9	14.9	14.9
Actuated g/C Ratio	0.11	0.74	0.74	0.11	0.71	0.71	0.27	0.27	0.27	0.27	0.27
v/c Ratio	0.19	0.49	0.06	0.07	0.53	0.03	0.07	0.02	0.01	0.00	0.04
Control Delay	35.1	10.6	4.0	34.3	12.3	0.8	19.7	13.3	19.0	19.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	10.6	4.0	34.3	12.3	0.8	19.7	13.3	19.0	19.0	0.1
LOS	D	B	A	C	B	A	B	B	B	B	A
Approach Delay		10.8			12.3			18.4		2.5	
Approach LOS		B			B			B		A	

Intersection Summary		
Cycle Length: 90		
Actuated Cycle Length: 54.4		
Natural Cycle: 90		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.53		
Intersection Signal Delay: 11.5	Intersection LOS: B	
Intersection Capacity Utilization 65.6%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 1: Douglas Dr. & Katella Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	1794	73	12	1851	34	27	2	5	2	1	20
Future Volume (veh/h)	36	1794	73	12	1851	34	27	2	5	2	1	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	38	1869	68	12	1928	30	28	2	2	2	1	11
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	3107	943	28	2972	902	252	63	63	251	138	115
Arrive On Green	0.04	0.60	0.60	0.02	0.57	0.57	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1810	5187	1575	1810	5187	1574	1419	864	864	1435	1900	1587
Grp Volume(v), veh/h	38	1869	68	12	1928	30	28	0	4	2	1	11
Grp Sat Flow(s),veh/h/ln	1810	1729	1575	1810	1729	1574	1419	0	1729	1435	1900	1587
Q Serve(g_s), s	1.0	10.8	0.9	0.3	12.1	0.4	0.9	0.0	0.1	0.1	0.0	0.3
Cycle Q Clear(g_c), s	1.0	10.8	0.9	0.3	12.1	0.4	0.9	0.0	0.1	0.2	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	75	3107	943	28	2972	902	252	0	125	251	138	115
V/C Ratio(X)	0.51	0.60	0.07	0.43	0.65	0.03	0.11	0.00	0.03	0.01	0.01	0.10
Avail Cap(c_a), veh/h	189	3682	1118	189	3682	1117	1216	0	1299	1226	1428	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	6.0	4.0	23.4	6.9	4.5	21.0	0.0	20.7	20.7	20.6	20.8
Incr Delay (d2), s/veh	2.0	0.2	0.0	3.9	0.3	0.0	0.2	0.0	0.1	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	0.1	0.1	2.3	0.1	0.3	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	6.2	4.1	27.2	7.2	4.5	21.2	0.0	20.8	20.7	20.6	21.1
LnGrp LOS	C	A	A	C	A	A	C	A	C	C	C	C
Approach Vol, veh/h		1975			1970			32			14	
Approach Delay, s/veh		6.5			7.3			21.2			21.0	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	34.5		8.1	6.6	33.2		8.1				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	34.0		36.0	5.0	34.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	12.8		2.3	3.0	14.1		2.9				
Green Ext Time (p_c), s	0.0	13.6		0.0	0.0	13.3		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		7.1	
HCM 6th LOS		A	

2024 With Project - AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Douglas & Katella

Cycle (sec):	100	Critical Vol./Cap.(X):	0.462
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	22	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	0 1	0	1 0	1	0 1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	27	2	5	2	1	15	27	1793	73	12	1851	34
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:	27	2	5	2	1	15	27	1793	73	12	1851	34
Added Vol:	0	0	0	0	0	5	9	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	27	2	5	2	1	20	36	1794	73	12	1851	34
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:	27	2	5	2	1	20	36	1794	73	12	1851	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	2	5	2	1	20	36	1794	73	12	1851	34
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:	27	2	5	2	1	20	36	1794	73	12	1851	34
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.29	0.71	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1700	486	1214	1700	1700	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.00	0.00	0.00	0.01	0.02	0.35	0.04	0.01	0.36	0.02
Crit Moves:	****					****	****				****	

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	8	37	3	0	0
Future Vol, veh/h	4	8	37	3	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	9	43	3	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	46	0	-	0	64	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	19	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1575	-	-	-	947	1031
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1575	-	-	-	944	1031
Mov Cap-2 Maneuver	-	-	-	-	883	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1575	-	-	-	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	7.3	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	0	28	43	10	0	0	3	11	0	5
Future Vol, veh/h	5	3	0	28	43	10	0	0	3	11	0	5
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	4	0	42	64	15	0	0	4	16	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	5	0	0	178	182	5	176	175	72
Stage 1	-	-	-	-	-	-	19	19	-	156	156	-
Stage 2	-	-	-	-	-	-	159	163	-	20	19	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1532	-	-	1630	-	-	789	716	1084	791	722	996
Stage 1	-	-	-	-	-	-	1005	884	-	851	772	-
Stage 2	-	-	-	-	-	-	848	767	-	1004	884	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1532	-	-	1628	-	-	765	693	1083	770	699	996
Mov Cap-2 Maneuver	-	-	-	-	-	-	735	667	-	752	673	-
Stage 1	-	-	-	-	-	-	999	879	-	847	752	-
Stage 2	-	-	-	-	-	-	820	747	-	995	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.6	2.5	8.3	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1083	1532	-	-	1628	-	-	814
HCM Lane V/C Ratio	0.004	0.005	-	-	0.026	-	-	0.029
HCM Control Delay (s)	8.3	7.4	-	-	7.3	-	-	9.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	17	0	8	60	6	20	3	35	1	0	0
Future Vol, veh/h	0	17	0	8	60	6	20	3	35	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	20	0	9	71	7	24	4	41	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	78	0	0	20	0	0	113	116	20	136	113	75
Stage 1	-	-	-	-	-	-	20	20	-	93	93	-
Stage 2	-	-	-	-	-	-	93	96	-	43	20	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1533	-	-	1609	-	-	869	778	1064	840	781	992
Stage 1	-	-	-	-	-	-	1004	883	-	919	822	-
Stage 2	-	-	-	-	-	-	919	819	-	976	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1533	-	-	1609	-	-	866	773	1064	801	776	992
Mov Cap-2 Maneuver	-	-	-	-	-	-	823	733	-	786	735	-
Stage 1	-	-	-	-	-	-	1004	883	-	919	817	-
Stage 2	-	-	-	-	-	-	914	814	-	934	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	9.1	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	946	1533	-	-	1609	-	-	786
HCM Lane V/C Ratio	0.072	-	-	-	0.006	-	-	0.001
HCM Control Delay (s)	9.1	0	-	-	7.3	-	-	9.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	27	24	80	6	0	0	4	1	0	0
Future Vol, veh/h	0	28	27	24	80	6	0	0	4	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	36	35	31	104	8	0	0	5	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	112	0	0	71	0	0	224	228	54	226	241	108
Stage 1	-	-	-	-	-	-	54	54	-	170	170	-
Stage 2	-	-	-	-	-	-	170	174	-	56	71	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1490	-	-	1542	-	-	736	675	1019	734	664	951
Stage 1	-	-	-	-	-	-	963	854	-	837	762	-
Stage 2	-	-	-	-	-	-	837	759	-	961	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1490	-	-	1542	-	-	725	662	1019	719	651	951
Mov Cap-2 Maneuver	-	-	-	-	-	-	725	662	-	719	651	-
Stage 1	-	-	-	-	-	-	963	854	-	837	747	-
Stage 2	-	-	-	-	-	-	820	744	-	956	840	-

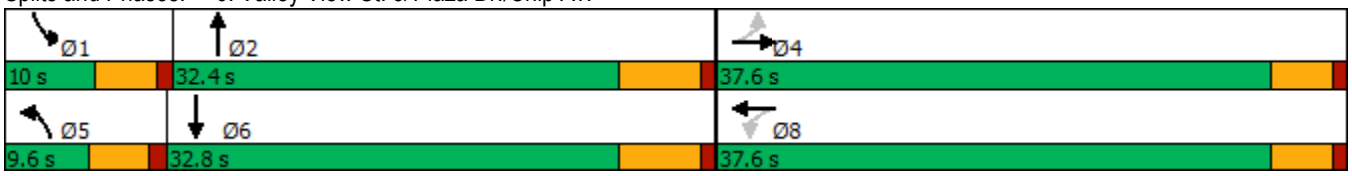
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	8.6	10
HCM LOS			A	B

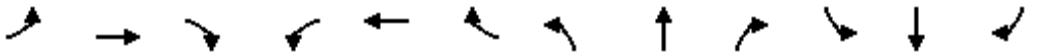
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1019	1490	-	-	1542	-	-	719
HCM Lane V/C Ratio	0.005	-	-	-	0.02	-	-	0.002
HCM Control Delay (s)	8.6	0	-	-	7.4	-	-	10
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	7	2	4	0	29	1557	86	1589
Future Volume (vph)	7	2	4	0	29	1557	86	1589
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	14.6	14.6	9.6	22.8	9.6	22.8
Total Split (s)	37.6	37.6	37.6	37.6	9.6	32.4	10.0	32.8
Total Split (%)	47.0%	47.0%	47.0%	47.0%	12.0%	40.5%	12.5%	41.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.5	14.5	14.5	14.5	5.8	29.4	6.2	37.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.12	0.60	0.13	0.76
v/c Ratio	0.02	0.05	0.01	0.02	0.13	0.52	0.38	0.43
Control Delay	15.7	8.2	15.8	0.1	30.0	12.8	34.3	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	8.2	15.8	0.1	30.0	12.8	34.3	10.9
LOS	B	A	B	A	C	B	C	B
Approach Delay		9.8		3.8		13.1		12.0
Approach LOS		A		A		B		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 48.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 12.5	Intersection LOS: B
Intersection Capacity Utilization 59.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Valley View St. & Plaza Dr./Chip Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	2	23	4	0	13	29	1557	61	86	1589	89
Future Volume (veh/h)	7	2	23	4	0	13	29	1557	61	86	1589	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	0.99		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	7	2	18	4	0	7	29	1573	60	87	1605	87
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	277	13	113	264	0	124	62	2501	95	138	2669	145
Arrive On Green	0.08	0.08	0.08	0.08	0.00	0.08	0.03	0.49	0.49	0.08	0.53	0.53
Sat Flow, veh/h	1431	163	1467	1399	0	1610	1810	5122	195	1810	5035	273
Grp Volume(v), veh/h	7	0	20	4	0	7	29	1062	571	87	1102	590
Grp Sat Flow(s),veh/h/ln	1431	0	1629	1399	0	1610	1810	1729	1859	1810	1729	1850
Q Serve(g_s), s	0.2	0.0	0.5	0.1	0.0	0.2	0.7	9.5	9.5	2.0	9.2	9.2
Cycle Q Clear(g_c), s	0.4	0.0	0.5	0.6	0.0	0.2	0.7	9.5	9.5	2.0	9.2	9.2
Prop In Lane	1.00		0.90	1.00		1.00	1.00		0.11	1.00		0.15
Lane Grp Cap(c), veh/h	277	0	126	264	0	124	62	1688	908	138	1833	981
V/C Ratio(X)	0.03	0.00	0.16	0.02	0.00	0.06	0.47	0.63	0.63	0.63	0.60	0.60
Avail Cap(c_a), veh/h	1295	0	1285	1260	0	1270	216	2199	1182	234	2232	1194
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	18.0	18.3	0.0	17.9	19.8	7.9	7.9	18.8	6.8	6.8
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.0	0.0	0.2	2.0	0.4	0.7	1.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1	0.3	1.9	2.1	0.7	1.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	0.0	18.6	18.3	0.0	18.1	21.9	8.3	8.6	20.5	7.1	7.4
LnGrp LOS	B	A	B	B	A	B	C	A	A	C	A	A
Approach Vol, veh/h		27			11			1662			1779	
Approach Delay, s/veh		18.5			18.2			8.6			7.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	26.2		7.8	6.0	28.0		7.8				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.4	26.6		33.0	5.0	27.0		33.0				
Max Q Clear Time (g_c+I1), s	4.0	11.5		2.5	2.7	11.2		2.6				
Green Ext Time (p_c), s	0.0	8.9		0.1	0.0	9.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		8.3	
HCM 6th LOS		A	

2024 With Project - AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Valley View & Plaza

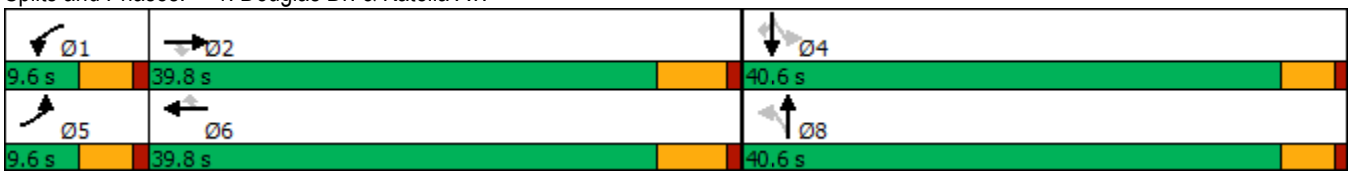
Cycle (sec):	100	Critical Vol./Cap.(X):	0.435
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

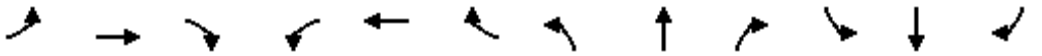
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	12	1557	61	86	1589	81	3	2	15	4	0	13
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:	12	1557	61	86	1589	81	3	2	15	4	0	13
Added Vol:	17	0	0	0	0	8	4	0	8	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	1557	61	86	1589	89	7	2	23	4	0	13
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:	29	1557	61	86	1589	89	7	2	23	4	0	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	1557	61	86	1589	89	7	2	23	4	0	13
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:	29	1557	61	86	1589	89	7	2	23	4	0	13
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.89	0.11	1.00	2.84	0.16	1.00	0.08	0.92	1.00	0.00	1.00
Final Sat.:	1700	4908	192	1700	4829	271	1700	136	1564	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.32	0.32	0.05	0.33	0.33	0.00	0.01	0.01	0.00	0.00	0.01
Crit Moves:		****		****				****		****		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	16	2064	32	9	1723	6	84	1	27	2	57
Future Volume (vph)	16	2064	32	9	1723	6	84	1	27	2	57
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases			2			6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	22.8	22.8	40.6	40.6	40.6	40.6	40.6
Total Split (s)	9.6	39.8	39.8	9.6	39.8	39.8	40.6	40.6	40.6	40.6	40.6
Total Split (%)	10.7%	44.2%	44.2%	10.7%	44.2%	44.2%	45.1%	45.1%	45.1%	45.1%	45.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.4	38.1	38.1	5.4	38.1	38.1	14.3	14.3	14.3	14.3	14.3
Actuated g/C Ratio	0.09	0.65	0.65	0.09	0.65	0.65	0.24	0.24	0.24	0.24	0.24
v/c Ratio	0.11	0.69	0.03	0.06	0.58	0.01	0.27	0.02	0.09	0.00	0.14
Control Delay	33.4	14.3	1.0	33.0	12.4	0.0	20.9	10.8	18.3	17.0	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	14.3	1.0	33.0	12.4	0.0	20.9	10.8	18.3	17.0	3.1
LOS	C	B	A	C	B	A	C	B	B	B	A
Approach Delay		14.2			12.5			20.0		8.2	
Approach LOS		B			B			C		A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 58.8	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 13.5	Intersection LOS: B
Intersection Capacity Utilization 62.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Douglas Dr. & Katella Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2064	32	9	1723	6	84	1	7	27	2	57
Future Volume (veh/h)	16	2064	32	9	1723	6	84	1	7	27	2	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	18	2319	30	10	1936	7	94	1	4	30	2	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	40	2987	906	23	2941	893	326	47	187	328	268	224
Arrive On Green	0.02	0.58	0.58	0.01	0.57	0.57	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1810	5187	1573	1810	5187	1576	1399	332	1329	1434	1900	1589
Grp Volume(v), veh/h	18	2319	30	10	1936	7	94	0	5	30	2	30
Grp Sat Flow(s),veh/h/ln	1810	1729	1573	1810	1729	1576	1399	0	1661	1434	1900	1589
Q Serve(g_s), s	0.5	19.0	0.5	0.3	14.3	0.1	3.4	0.0	0.1	1.0	0.1	0.9
Cycle Q Clear(g_c), s	0.5	19.0	0.5	0.3	14.3	0.1	3.5	0.0	0.1	1.2	0.1	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	40	2987	906	23	2941	893	326	0	234	328	268	224
V/C Ratio(X)	0.46	0.78	0.03	0.43	0.66	0.01	0.29	0.00	0.02	0.09	0.01	0.13
Avail Cap(c_a), veh/h	163	3177	964	163	3177	965	1036	0	1077	1056	1232	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	9.0	5.1	27.2	8.3	5.2	22.0	0.0	20.5	21.0	20.5	20.9
Incr Delay (d2), s/veh	3.0	1.2	0.0	4.6	0.5	0.0	0.5	0.0	0.0	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.5	0.1	0.1	3.3	0.0	1.1	0.0	0.1	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	10.2	5.1	31.8	8.8	5.2	22.5	0.0	20.6	21.2	20.5	21.1
LnGrp LOS	C	B	A	C	A	A	C	A	C	C	C	C
Approach Vol, veh/h		2367			1953			99			62	
Approach Delay, s/veh		10.3			8.9			22.4			21.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	37.8		12.4	5.8	37.3		12.4				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	34.0		36.0	5.0	34.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	21.0		3.2	2.5	16.3		5.5				
Green Ext Time (p_c), s	0.0	10.9		0.2	0.0	12.2		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		10.1	
HCM 6th LOS		B	

2024 With Project - PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Douglas & Katella

Cycle (sec):	100	Critical Vol./Cap.(X):	0.543
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
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
Lanes:	1 0	0 1	0	1 0	1	0 1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	84	1	7	27	2	47	11	2064	32	9	1722	6
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:	84	1	7	27	2	47	11	2064	32	9	1722	6
Added Vol:	0	0	0	0	0	10	5	0	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	1	7	27	2	57	16	2064	32	9	1723	6
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:	84	1	7	27	2	57	16	2064	32	9	1723	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	1	7	27	2	57	16	2064	32	9	1723	6
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:	84	1	7	27	2	57	16	2064	32	9	1723	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.12	0.88	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1700	213	1488	1700	1700	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.00	0.02	0.00	0.03	0.01	0.40	0.02	0.01	0.34	0.00
Crit Moves:	****					****		****		****		

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	27	24	1	3	4
Future Vol, veh/h	1	27	24	1	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	36	32	1	4	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	33	0	-	0	71	33
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1592	-	-	-	938	1046
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	990	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1592	-	-	-	937	1046
Mov Cap-2 Maneuver	-	-	-	-	880	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	968
HCM Lane V/C Ratio	0.001	-	-	-	0.01
HCM Control Delay (s)	7.3	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	30	0	3	20	7	5	0	21	10	0	6
Future Vol, veh/h	3	30	0	3	20	7	5	0	21	10	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	58	58	58	58	58	58	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	52	0	5	34	12	9	0	36	17	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	46	0	0	52	0	0	117	118	52	130	112	40
Stage 1	-	-	-	-	-	-	62	62	-	50	50	-
Stage 2	-	-	-	-	-	-	55	56	-	80	62	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1575	-	-	1567	-	-	864	776	1021	847	782	1037
Stage 1	-	-	-	-	-	-	954	847	-	968	857	-
Stage 2	-	-	-	-	-	-	962	852	-	934	847	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1575	-	-	1567	-	-	851	771	1021	813	777	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	821	737	-	790	741	-
Stage 1	-	-	-	-	-	-	951	844	-	965	854	-
Stage 2	-	-	-	-	-	-	949	849	-	898	844	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.7	8.9	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	975	1575	-	-	1567	-	-	867
HCM Lane V/C Ratio	0.046	0.003	-	-	0.003	-	-	0.032
HCM Control Delay (s)	8.9	7.3	-	-	7.3	-	-	9.3
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	57	2	11	24	2	5	0	9	7	1	0
Future Vol, veh/h	0	57	2	11	24	2	5	0	9	7	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	90	3	17	38	3	8	0	14	11	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	41	0	0	93	0	0	167	167	92	173	167	40
Stage 1	-	-	-	-	-	-	92	92	-	74	74	-
Stage 2	-	-	-	-	-	-	75	75	-	99	93	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1581	-	-	1514	-	-	802	729	971	794	729	1037
Stage 1	-	-	-	-	-	-	920	823	-	940	837	-
Stage 2	-	-	-	-	-	-	939	836	-	912	822	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1581	-	-	1514	-	-	794	721	971	776	721	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	784	706	-	767	701	-
Stage 1	-	-	-	-	-	-	920	823	-	940	828	-
Stage 2	-	-	-	-	-	-	927	827	-	899	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.2	9.1	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	895	1581	-	-	1514	-	-	758
HCM Lane V/C Ratio	0.025	-	-	-	0.012	-	-	0.017
HCM Control Delay (s)	9.1	0	-	-	7.4	-	-	9.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	83	2	3	44	2	16	0	44	7	0	0
Future Vol, veh/h	0	83	2	3	44	2	16	0	44	7	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	130	3	5	69	3	25	0	69	11	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	72	0	0	133	0	0	214	214	132	247	214	72
Stage 1	-	-	-	-	-	-	132	132	-	81	81	-
Stage 2	-	-	-	-	-	-	82	82	-	166	133	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1541	-	-	1464	-	-	747	687	923	711	687	996
Stage 1	-	-	-	-	-	-	876	791	-	932	832	-
Stage 2	-	-	-	-	-	-	931	831	-	841	790	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1541	-	-	1464	-	-	744	685	923	656	685	995
Mov Cap-2 Maneuver	-	-	-	-	-	-	744	685	-	656	685	-
Stage 1	-	-	-	-	-	-	876	791	-	932	830	-
Stage 2	-	-	-	-	-	-	927	829	-	778	790	-

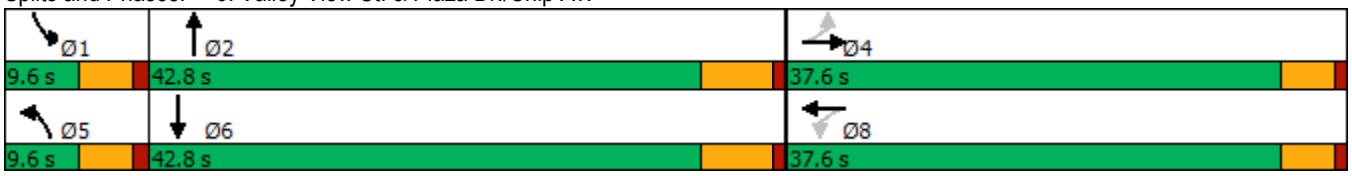
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	9.7	10.6
HCM LOS			A	B

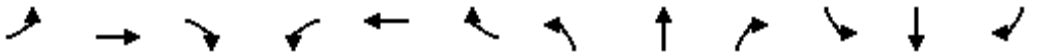
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	867	1541	-	-	1464	-	-	656
HCM Lane V/C Ratio	0.108	-	-	-	0.003	-	-	0.017
HCM Control Delay (s)	9.7	0	-	-	7.5	-	-	10.6
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.1

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	90	0	55	10	12	2021	18	1552
Future Volume (vph)	90	0	55	10	12	2021	18	1552
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	14.6	14.6	9.6	22.8	9.6	22.8
Total Split (s)	37.6	37.6	37.6	37.6	9.6	42.8	9.6	42.8
Total Split (%)	41.8%	41.8%	41.8%	41.8%	10.7%	47.6%	10.7%	47.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.4	14.4	14.4	14.4	5.5	39.7	5.5	39.7
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.09	0.66	0.09	0.66
v/c Ratio	0.31	0.10	0.17	0.28	0.08	0.61	0.11	0.48
Control Delay	23.5	0.4	21.1	6.7	34.0	12.3	34.3	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	0.4	21.1	6.7	34.0	12.3	34.3	10.1
LOS	C	A	C	A	C	B	C	B
Approach Delay		15.5		10.9		12.4		10.4
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 59.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 11.6	Intersection LOS: B
Intersection Capacity Utilization 68.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Valley View St. & Plaza Dr./Chip Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	0	48	55	10	121	12	2021	4	18	1552	28
Future Volume (veh/h)	90	0	48	55	10	121	12	2021	4	18	1552	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	94	0	30	57	10	67	12	2105	4	19	1617	26
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	280	0	249	322	33	222	27	2978	6	41	2968	48
Arrive On Green	0.16	0.00	0.16	0.16	0.16	0.16	0.02	0.56	0.56	0.02	0.56	0.56
Sat Flow, veh/h	1343	0	1607	1399	213	1429	1810	5346	10	1810	5256	84
Grp Volume(v), veh/h	94	0	30	57	0	77	12	1362	747	19	1064	579
Grp Sat Flow(s),veh/h/ln	1343	0	1607	1399	0	1643	1810	1729	1898	1810	1729	1882
Q Serve(g_s), s	3.8	0.0	0.9	2.1	0.0	2.4	0.4	16.3	16.3	0.6	11.0	11.0
Cycle Q Clear(g_c), s	6.1	0.0	0.9	3.0	0.0	2.4	0.4	16.3	16.3	0.6	11.0	11.0
Prop In Lane	1.00		1.00	1.00		0.87	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	280	0	249	322	0	255	27	1927	1057	41	1953	1063
V/C Ratio(X)	0.34	0.00	0.12	0.18	0.00	0.30	0.44	0.71	0.71	0.46	0.54	0.54
Avail Cap(c_a), veh/h	854	0	937	920	0	957	160	2260	1240	160	2260	1230
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	20.6	21.9	0.0	21.2	27.6	9.2	9.2	27.3	7.7	7.7
Incr Delay (d2), s/veh	0.7	0.0	0.2	0.3	0.0	0.7	4.0	0.8	1.5	2.9	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.3	0.7	0.0	0.9	0.2	4.0	4.6	0.3	2.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	20.8	22.1	0.0	21.9	31.7	10.0	10.7	30.3	8.0	8.2
LnGrp LOS	C	A	C	C	A	C	C	B	B	C	A	A
Approach Vol, veh/h		124			134			2121			1662	
Approach Delay, s/veh		23.7			22.0			10.4			8.3	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	37.3		13.4	5.5	37.8		13.4				
Change Period (Y+Rc), s	4.6	5.8		4.6	4.6	5.8		4.6				
Max Green Setting (Gmax), s	5.0	37.0		33.0	5.0	37.0		33.0				
Max Q Clear Time (g_c+I1), s	2.6	18.3		8.1	2.4	13.0		5.0				
Green Ext Time (p_c), s	0.0	13.3		0.4	0.0	11.8		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		10.3	
HCM 6th LOS		B	

2024 With Project - PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Valley View & Plaza

Cycle (sec):	100	Critical Vol./Cap.(X):	0.588
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
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		
Lanes:	1	0	2	1	0	1	0	2	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																				
Base Vol:	4	2021		4		18	1552		24		82		0		30	55		10		121
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:	4	2021		4		18	1552		24		82		0		30	55		10		121
Added Vol:	8	0		0		0	0		4		8		0		18	0		0		0
PasserByVol:	0	0		0		0	0		0		0		0		0	0		0		0
Initial Fut:	12	2021		4		18	1552		28		90		0		48	55		10		121
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:	12	2021		4		18	1552		28		90		0		48	55		10		121
Reduct Vol:	0	0		0		0	0		0		0		0		0	0		0		0
Reduced Vol:	12	2021		4		18	1552		28		90		0		48	55		10		121
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:	12	2021		4		18	1552		28		90		0		48	55		10		121
Saturation Flow Module:																				
Sat/Lane:	1700	1700		1700		1700	1700		1700		1700		1700		1700	1700		1700		1700
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00	1.00		1.00		1.00
Lanes:	1.00	2.99		0.01		1.00	2.95		0.05		1.00		0.00		1.00	1.00		0.08		0.92
Final Sat.:	1700	5090		10		1700	5010		90		1700		0		1700	1700		130		1570
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.40		0.40		0.01	0.31		0.31		0.05		0.00		0.03	0.03		0.08		0.08
Crit Moves:		****					****					****							****	

APPENDIX 5.3: OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2025 Without Project Conditions - Weekday PM Peak Hour**

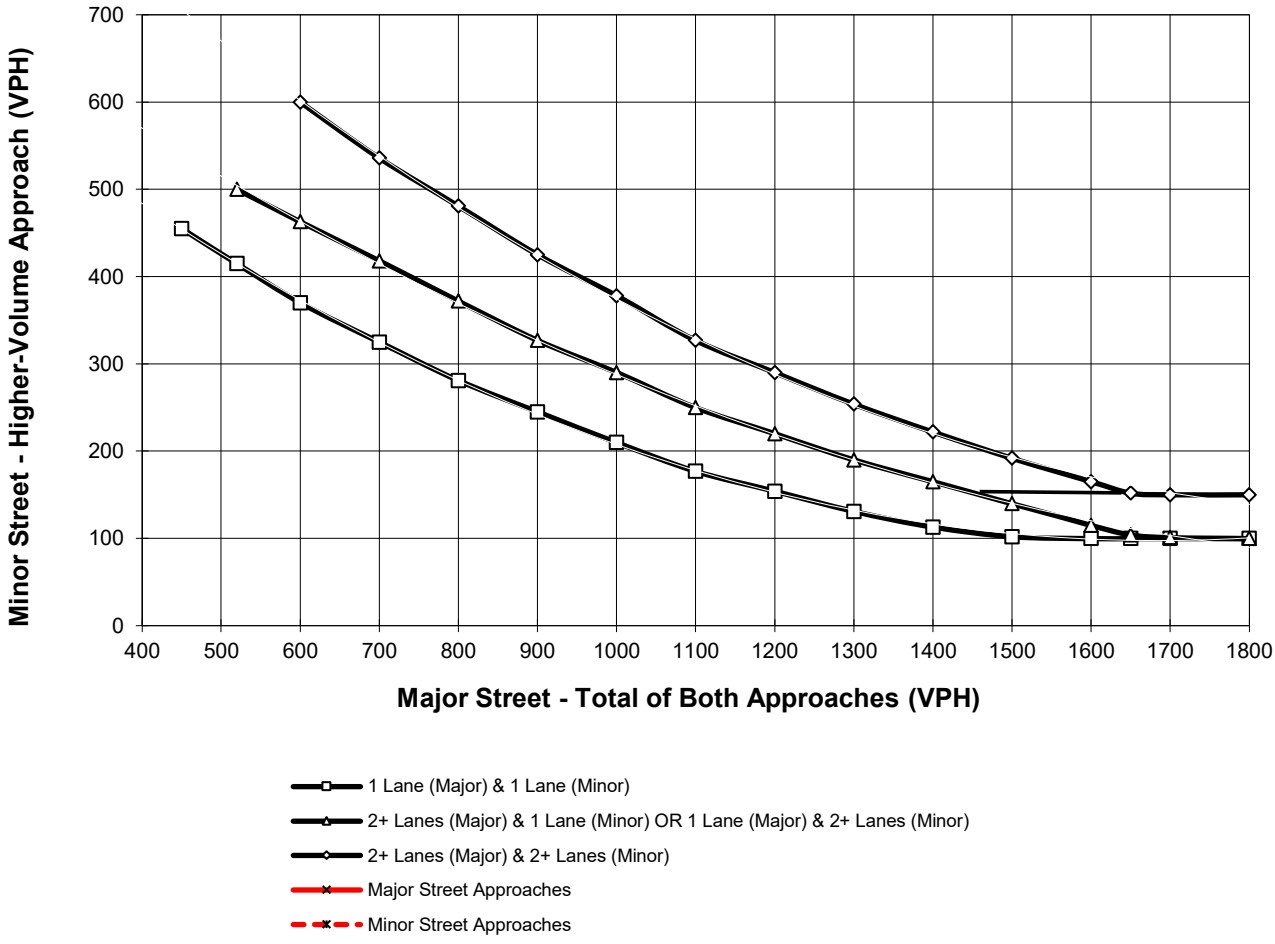
Major Street Name = **Plaza Dr.**

Total of Both Approaches (VPH) = **44**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 1**

High Volume Approach (VPH) = **6**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2025 Without Project Conditions - Weekday PM Peak Hour**

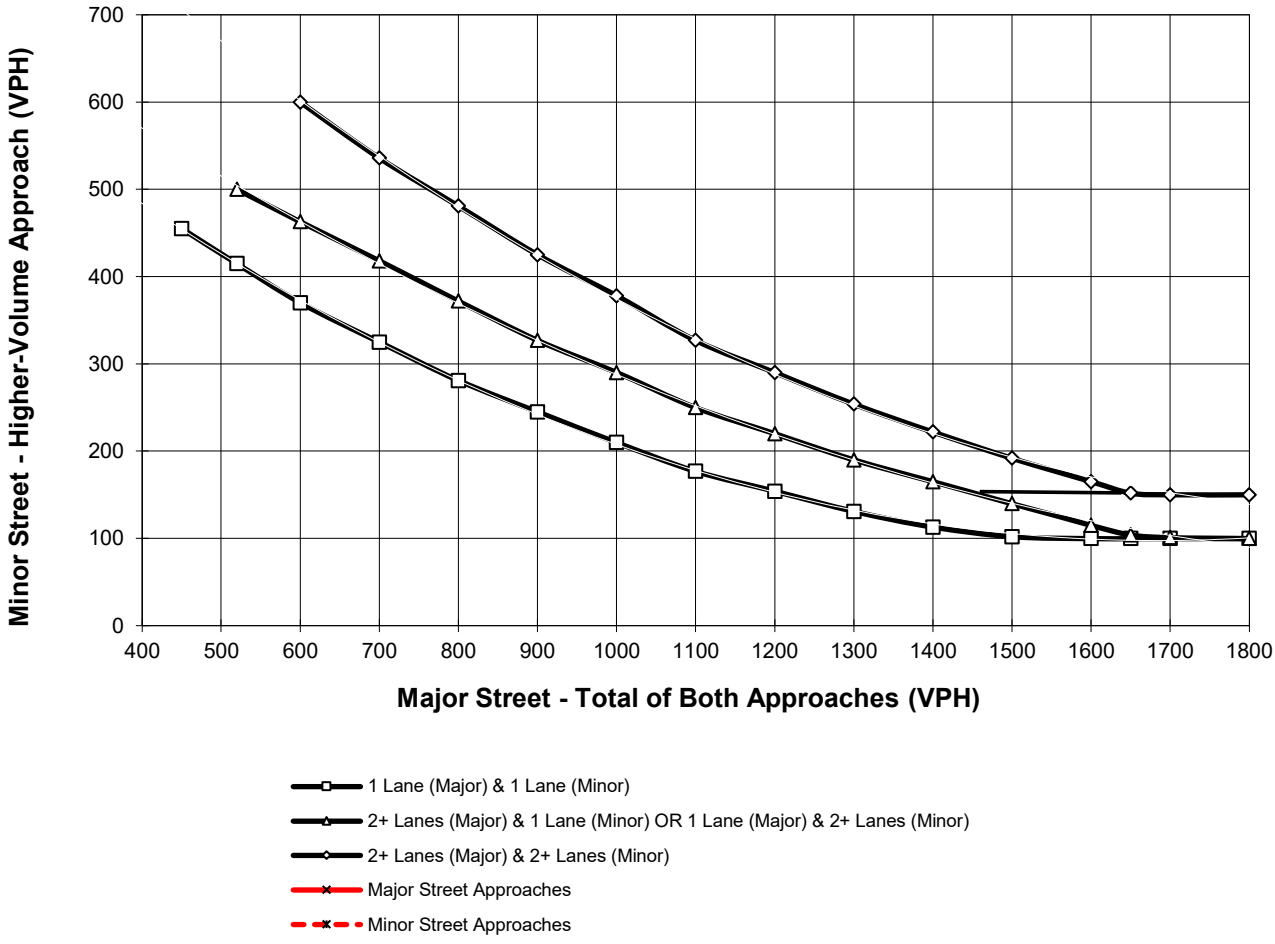
Major Street Name = **Plaza Dr.**

Total of Both Approaches (VPH) = **49**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 2**

High Volume Approach (VPH) = **26**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

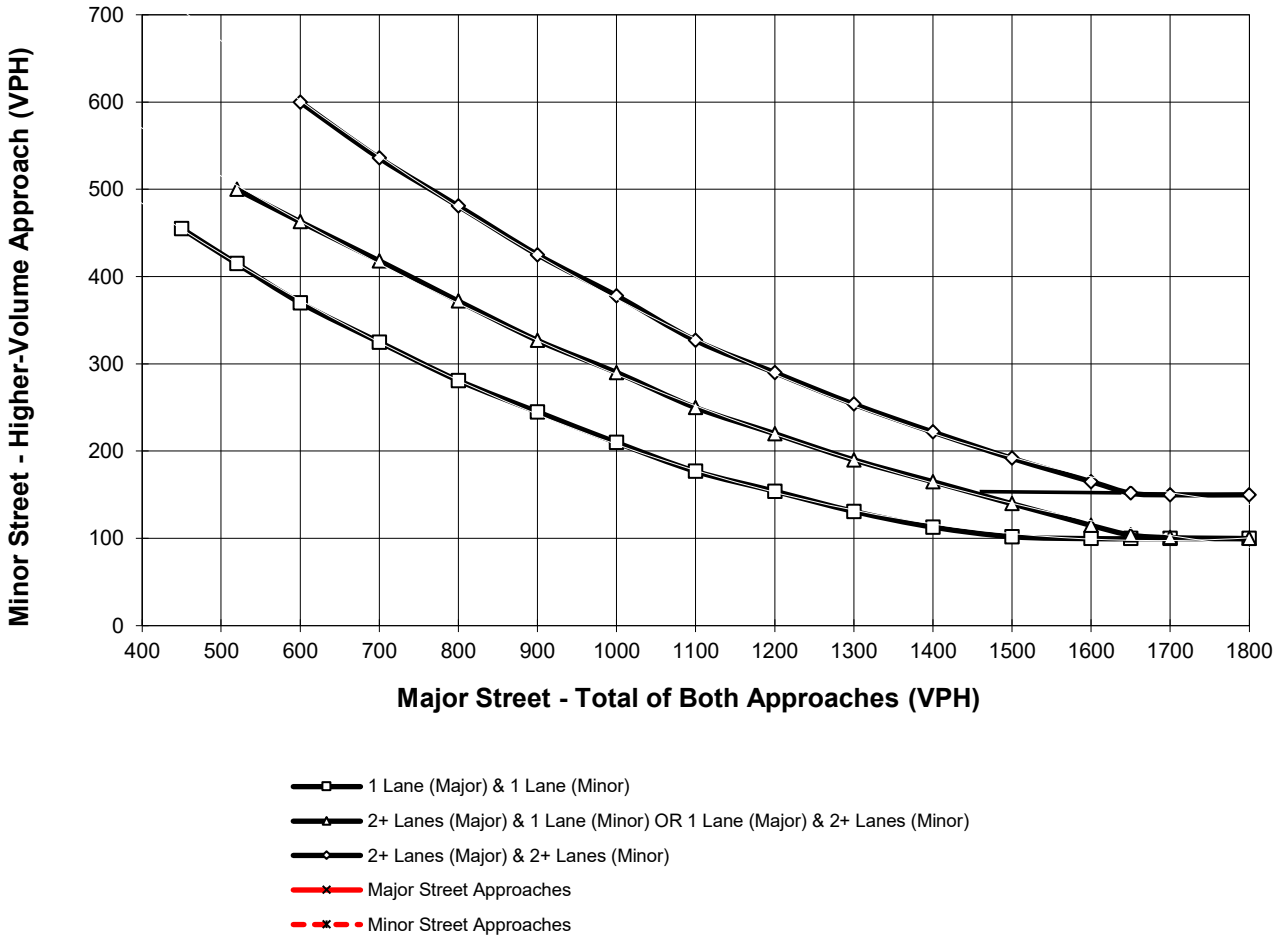
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2025 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **74**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 3**
High Volume Approach (VPH) = **14**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

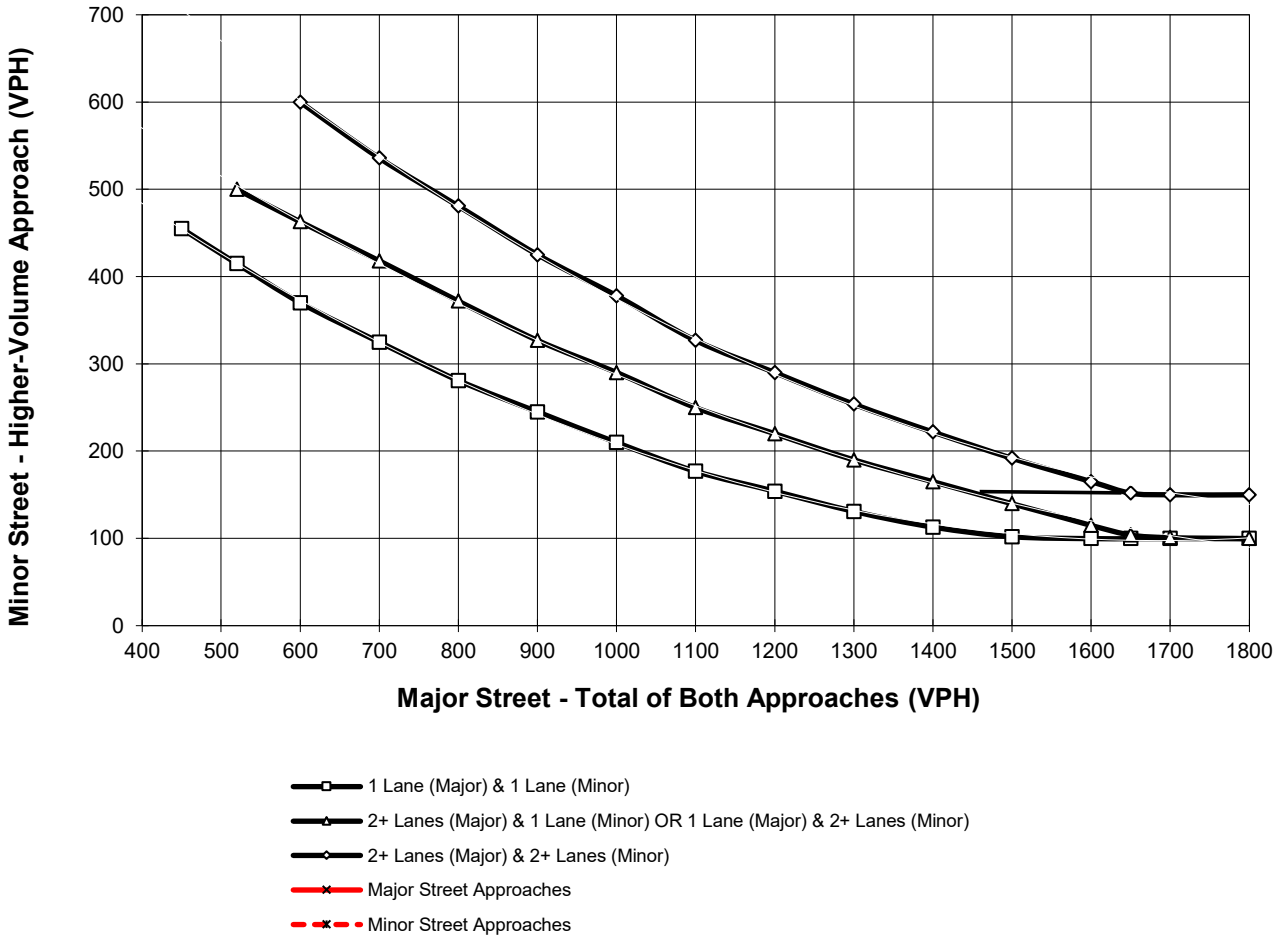
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2025 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **104**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 4**
High Volume Approach (VPH) = **60**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 5.4: OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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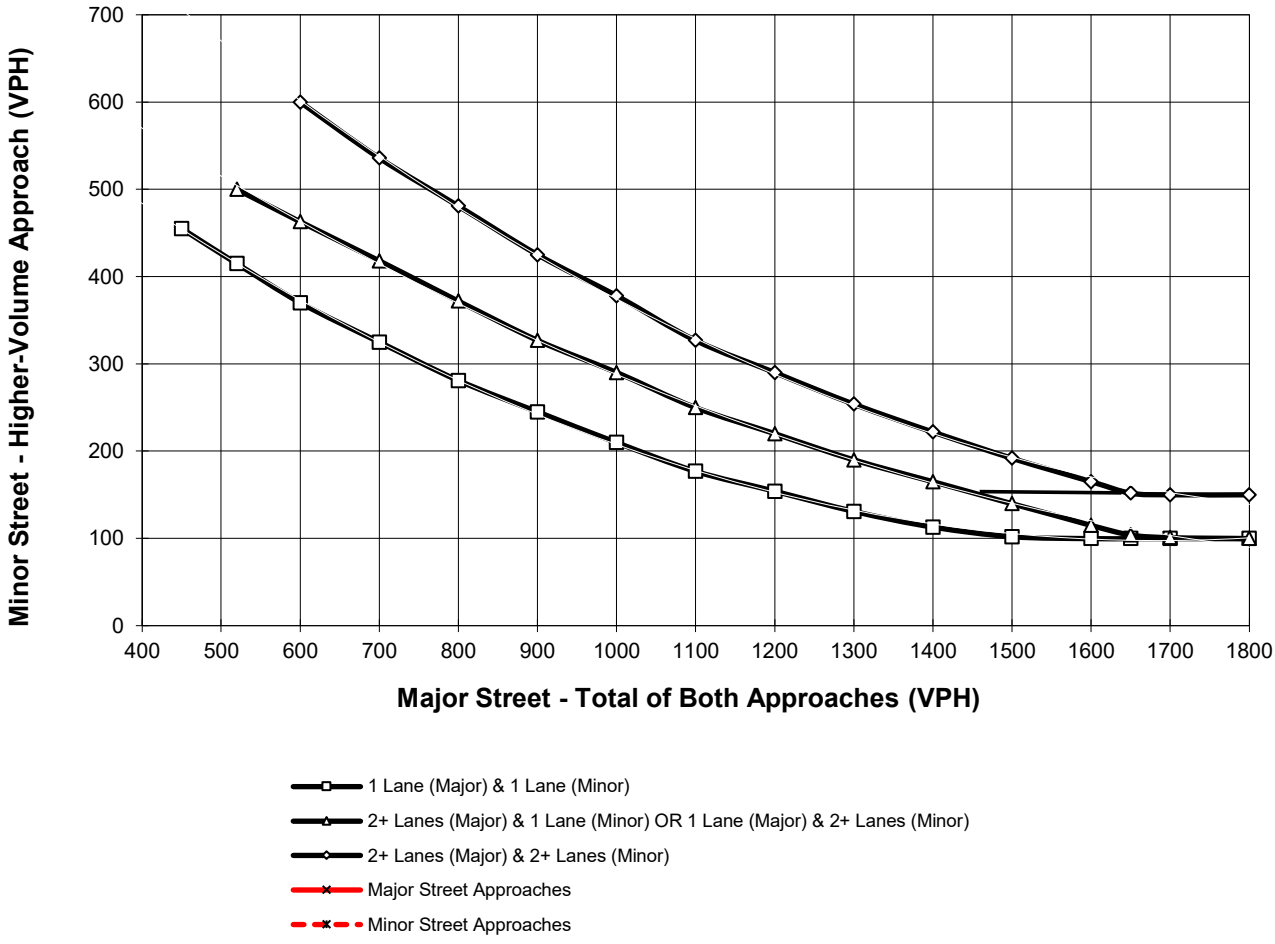
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2024 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **53**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 1**
High Volume Approach (VPH) = **7**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

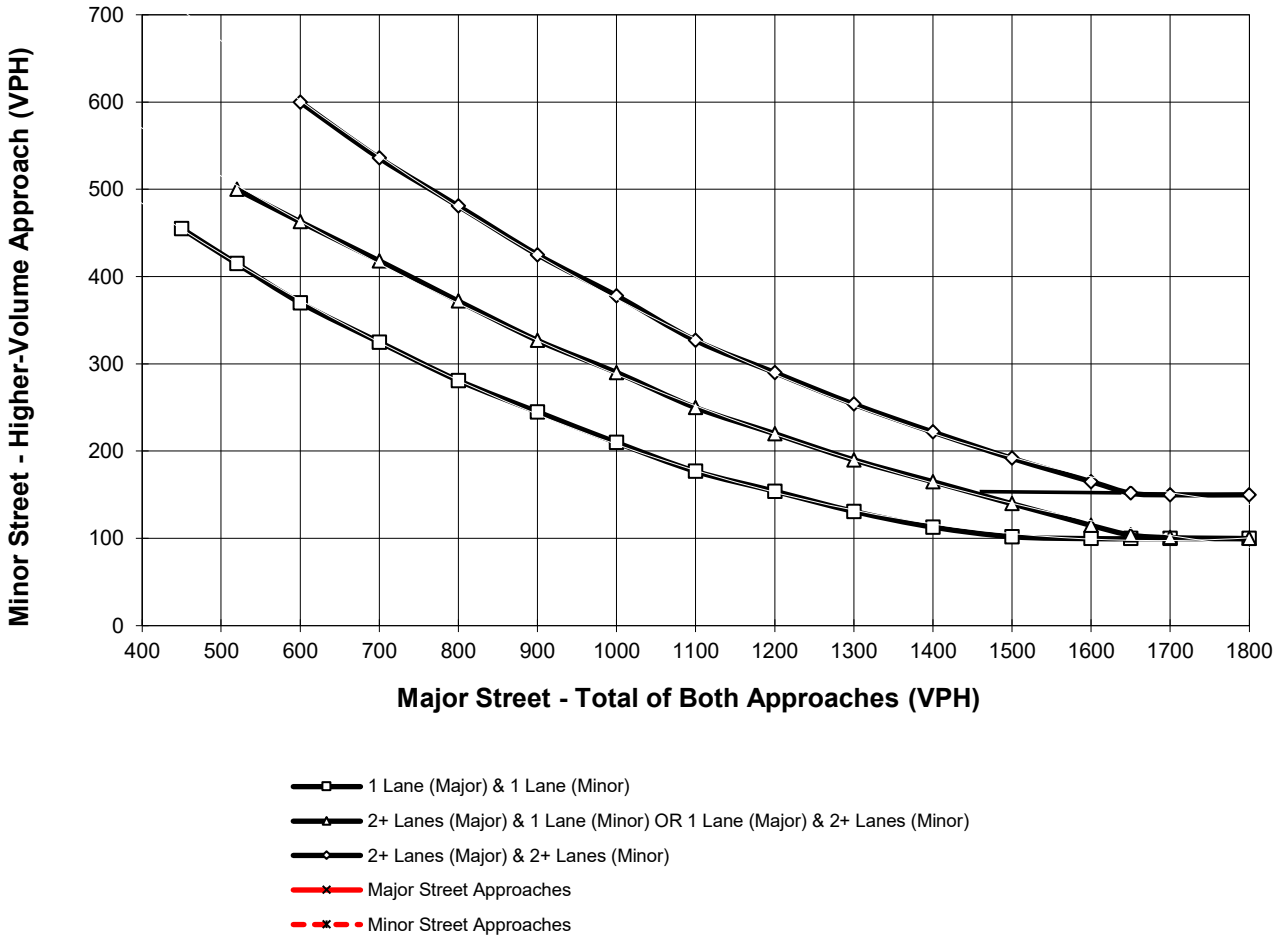
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2024 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **63**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 2**
High Volume Approach (VPH) = **26**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

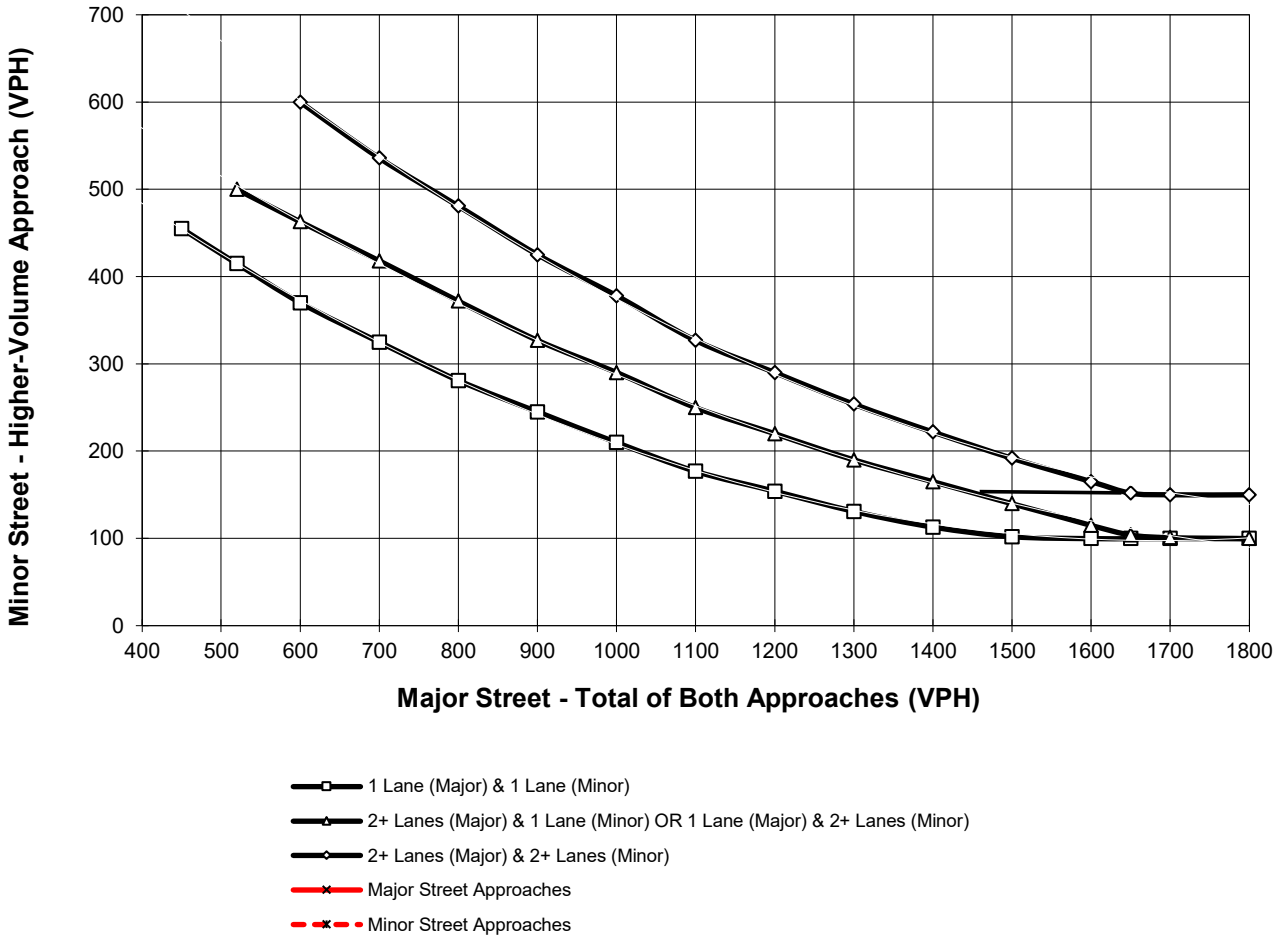
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2024 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **96**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 3**
High Volume Approach (VPH) = **14**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

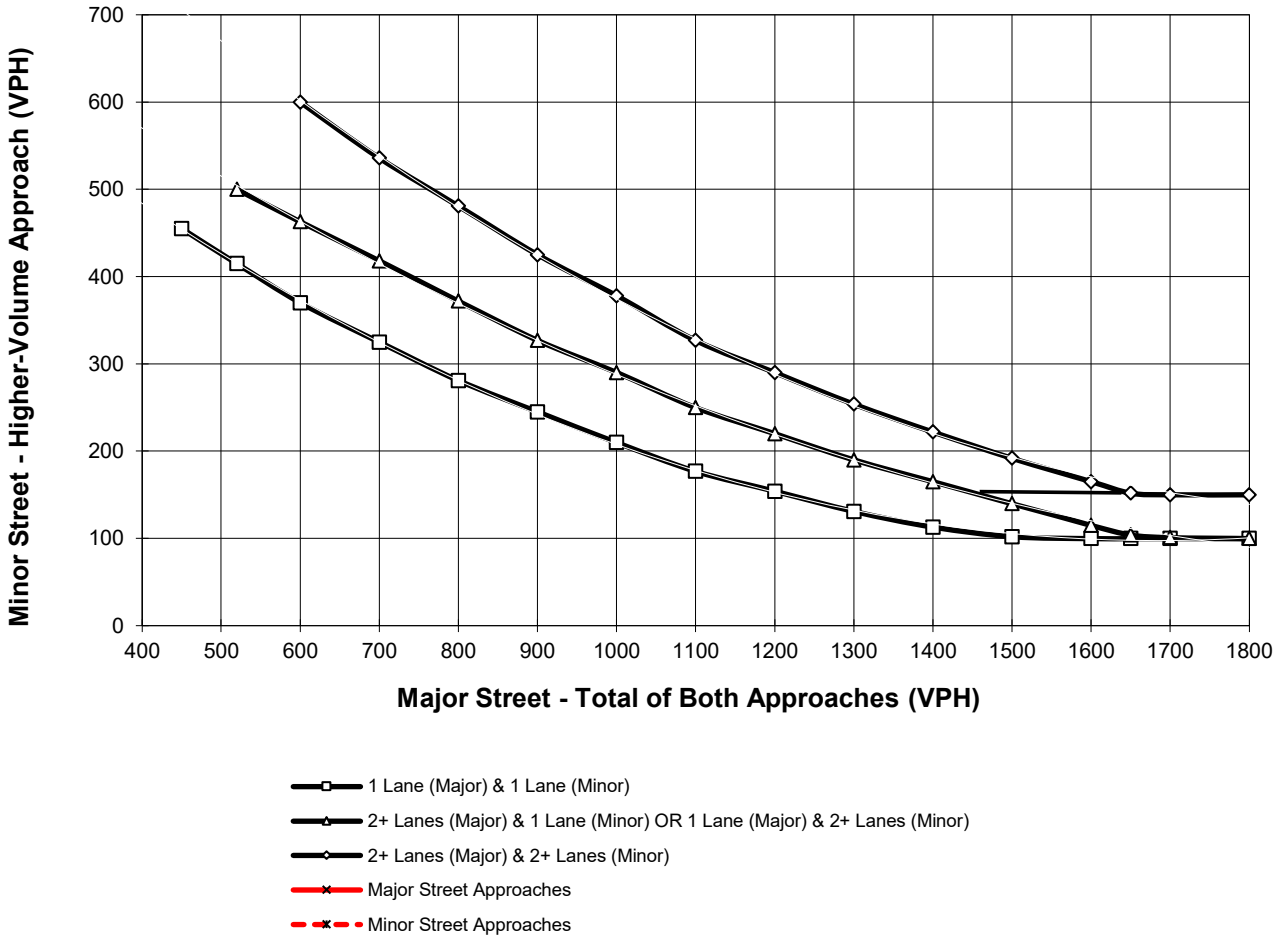
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2024 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Plaza Dr.**
Total of Both Approaches (VPH) = **134**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Driveway 4**
High Volume Approach (VPH) = **60**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane