Transportation Impact Analysis
Perris Boulevard and Morgan Street Industrial Park Project (DPR20-00013)
City of Perris

Prepared for:

Patriot Development Partners
12126 West Sunset Boulevard
Los Angeles, California 90094
Contact: Kevin Rice

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Dennis Pascua
Transportation Services Manager
Charles Greely, PE, QSD, LEED AP
Principal Engineer

JULY 19, 2021

Printed on 30% post-consumer recycled material.

Table of Contents

APPENDICES

FIGURES

TABLES

1 Introduction

1.1 Purpose and Scope of the TIA

The purpose of this Transportation Impact Analysis (TIA) is to identify transportation-related impacts associated with the proposed Perris Boulevard and Morgan Street Industrial Park (proposed project) in the City of Perris (City). This TIA has been prepared per the Transportation Impact Analysis Guidelines for CEQA, City of Perris (2020) and complies with the City of Perris General Plan Circulation Element requirements. In addition, this TIA references the Recommended Transportation Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (WRCOG 2020) provided in a Staff Report dated February 13, 2020 by Western Riverside Council of Governments (WRCOG) to address the requirements of Senate Bill (SB) 743, and the project was evaluated per the City of Perris VMT Scoping Form for Land Use Projects. WRCOG also administers the Transportation Uniform Mitigation Fees (TUMF) which is a regional fee program that mitigates the impact of new growth in western Riverside County.

The objectives of this TIA are as follows:

- Document existing roadway, pedestrian, bicycle, transit and traffic conditions, including intersection levels of service (LOS) in the study area;
- Estimate trip generation, distribution, and assignment characteristics for the proposed project;
- Provide a Vehicle Miles Traveled (VMT) analysis per SB 743, the updated California Environmental Quality Act (CEQA) Guidelines, and the City of Perris TIA Guidelines;
- Determine LOS for study area intersections under 1) Existing; 2) Existing plus Ambient Growth; 3) Existing plus Ambient Growth plus Project; 4) Existing plus Ambient Growth plus Cumulative Projects; and, 5) Existing plus Ambient Growth plus Cumulative Projects plus Project conditions;
- Identify CEQA-required mitigation measures for significant transportation impacts and/or other improvements needed to meet LOS standards (if any); and,
- Provide findings and recommendations based on the traffic analysis of the proposed project.

Figure 1 shows the project location and study area intersections. As shown in Figure 1, the study area is comprised of the following 4 intersections[1], 4 project driveways, and 3 roadway segments:

Intersections

1. Indian Avenue/Ramona Expressway
2. Indian Avenue/Morgan Street
3. Perris Boulevard/Morgan Street
4. Indian Avenue/Placentia Avenue

Project Driveways

1. Driveway A/Morgan Street

[1] Study intersections were selected where the project would add approximately 50 peak hour trips, with exception of the intersection of Indian Avenue/Placentia Avenue. This intersection was included in the study area due to its use as a primary inbound route from the south, with completion of the Placentia Interchange as part of the Mid County Parkway Placentia Interchange project.

2. Driveway B/Morgan Street
3. Perris Boulevard/Driveway C
4. Perris Boulevard/Driveway D

Roadway Segments

1. Perris Boulevard, Ramona Expressway to Morgan Street
2. Perris Boulevard, Morgan Street to Rider Street
3. Morgan Street, Indiana Avenue to Perris Boulevard

1.2 Project Description and Location

The project site is located on a 14.85-acre (gross) property at the southeast corner of Perris Boulevard and Morgan Street, as shown in Figure 1. The proposed project includes construction of three single industrial/warehouse buildings totaling approximately 286,982 square feet, inclusive of office/mezzanine areas. Figure 2 illustrates the project's site plan, and Table 1 provides a summary of on-site parking. As shown in Table 1, each building provides warehouse and office space, with the required number of spaces as outlined by the City of Perris Municipal Code, Section 19.69.030 (b)(1)(c, d) shown to be 214 parking spaces. However, City staff has requested that the project applicant reduce the project's parking supply to accommodate the circulation of truck traffic within the site. As such, the project would provide 203 parking spaces, which is nine (9) spaces below the code requirement. A Minor Adjustment for Parking Reduction would be processed as part of the project to accommodate this request and remedy any inconsistencies. A separate parking study was prepared (dated May 18, 2021) to supplement the Minor Adjustment for Parking Reduction application.

Regional access to the project site is primarily served by Interstate 215 (I-215), which extends north-south from the City of Murrieta to the City of Riverside. Local access to the project is provided via Morgan Street and Perris Boulevard, and all project access driveways provide right-in/right-out only access. Additionally, the two proposed driveways on Morgan Street are designated as truck access only, with the two proposed driveways on Perris Boulevard designated as auto access and restricted to truck access.

Table 1. Summary of Project Parking

Area	City Municipal Code Parking Requirements[1]	Parking Spaces Required	Parking Spaces Provided[2]
Building 1			
139,705 SF	Warehouse at 1/1,000 (first 20,000 SF)	20	104
	Warehouse at 1/2,000 (>20,000 SF)	60	
5,000 SF	Office at 1/300	17	
144,705 SF	*Total Building 1*	*97*	
Building 2			
58,874 SF	Warehouse at 1/1,000 (first 20,000 SF)	20	39
	Warehouse at 1/2,000 (>20,000 SF)	20	
5,000 SF	Office at 1/300	17	
63,874 SF	*Total Building 2*	*57*	

Table 1. Summary of Project Parking

Area	City Municipal Code Parking Requirements[1]	Parking Spaces Required	Parking Spaces Provided[2]
Building 3			
70,600 SF	Warehouse at 1/1,000 (first 20,000 SF)	20	60
	Warehouse at 1/2,000 (>20,000 SF)	26	
4,000 SF	Office at 1/300	14	
74,600 SF	*Total Building 3*	*60*	
Total			
283,179 SF[3]	**Total**	**214**	**203**

Notes: SF = square feet; 1/X = 1 space required per number of square feet

1 City of Perris Municipal Code Section 19.69.030 (b)(1)(c, d)

2 Conceptual Site Plan, Herdman 2021

3 The initial version of the draft project design included a project with 286,892 of development (an increase of 3,713 square feet over the proposed project). Because the technical modeling analysis in this document had commenced, and because the size of the previous project would provide for a conservative analysis, the previous project's size is used throughout the remainder of this analysis.

1.3 Analysis Methodology

1.3.1 Vehicle Miles Traveled (VMT) Analysis for CEQA

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which creates a process to change the way that transportation impacts are analyzed under California Environmental Quality Act (CEQA). SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, will no longer be considered an environmental impact under CEQA. OPR recommended Vehicle Miles Traveled (VMT) as the most appropriate measure of project transportation impacts for land use projects and land use plans. The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018.

Under the guidelines, VMT has been adopted as the most appropriate measure of transportation impacts under CEQA. The OPR's regulatory text indicates that a public agency may immediately commence implementation of the new transportation impact guidelines, and that the guidelines must be implemented statewide by July 1, 2020. The City of Perris adopted VMT specific TIA guidelines on June 10, 2020. The details of applicable screening and VMT analysis methodology has been provided in Chapter 4 of the TIA.

The Updated CEQA Guidelines state that "*…generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts…*" and define VMT as "*…the amount and distance of automobile travel attributable to a project…*". It should be noted that "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT). Other relevant considerations may include the effects of the project on transit and non-motorized travel.

As mentioned in Chapter 1, the City of Perris TIA Guidelines for CEQA have been utilized in screening the proposed project's VMT analysis.

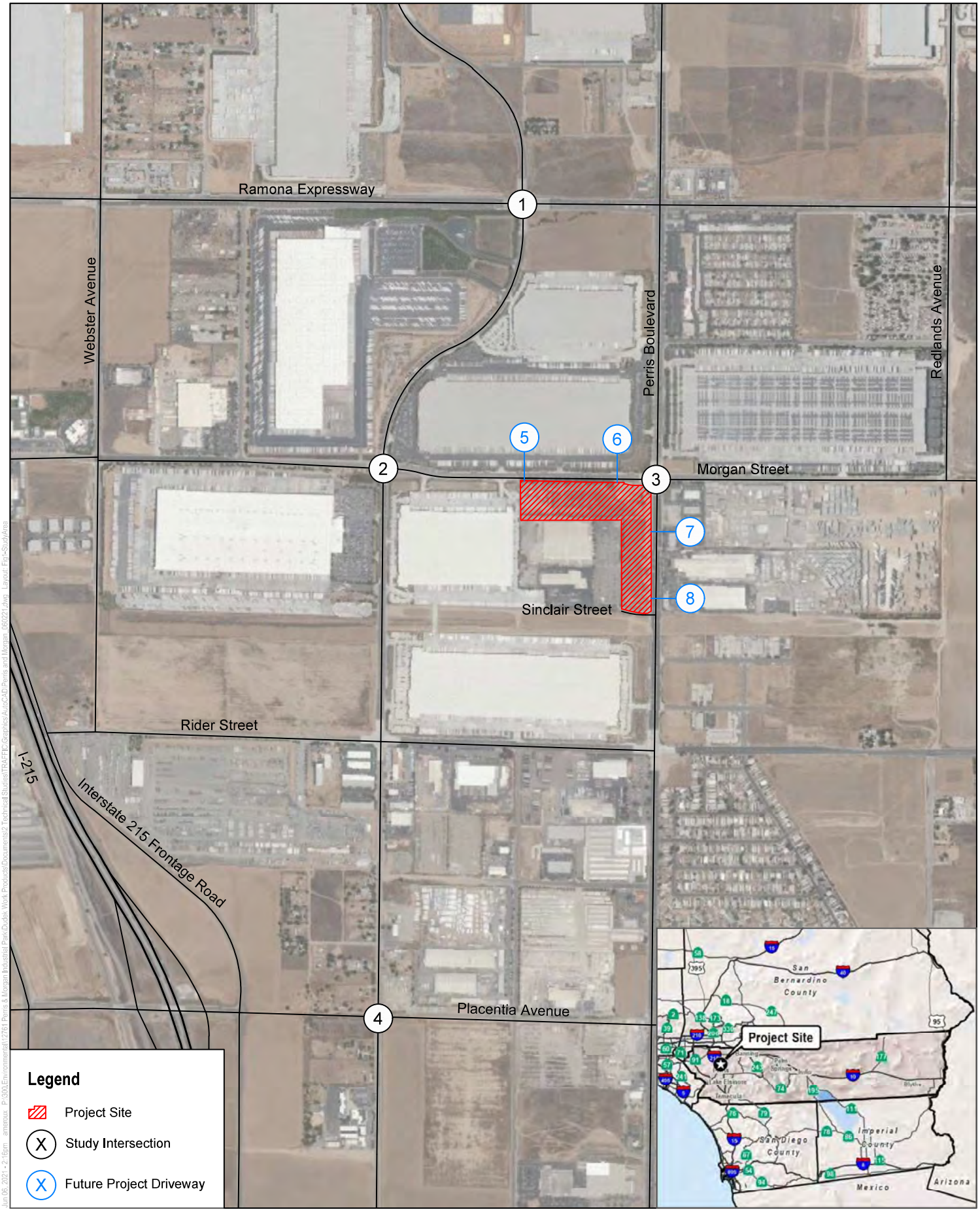
The WRCOG screening tool (available at http://gis.fehrandpeers.com/WRCOGVMT/) and the following steps have been used in the project's VMT assessment, consistent with the City of Perris TIA Guidelines:

A. Identify the Traffic Analysis Zone (TAZ) and jurisdiction associated with the project location.

B. Determine if the project meets screening criteria related to being located within a Transit Priority Area (TPA).

C. Determine if project meets screening criteria related to being located within a low VMT generating TAZ. This test largely applies to residential and work-related land uses. Retail uses are required to have a separate screening related to whether the project is local serving, which is based on size (i.e., less than 50,000 square feet). This step relies on Riverside County Transportation Analysis Model 's (RIVTAM) base year estimate of the TAZ VMT per service population and would compare that value to the proposed threshold measured at the jurisdictional or a reasonable sub-regional area (i.e., WRCOG or TUMF districts).

D. Provide baseline and cumulative estimates of project generated VMT if the project fails to be screened out including VMT estimates for use in other sections of CEQA analysis, such as air quality, greenhouse gases, and energy based on TAZ VMT averages.



SOURCE: Bing 2020

FIGURE 1

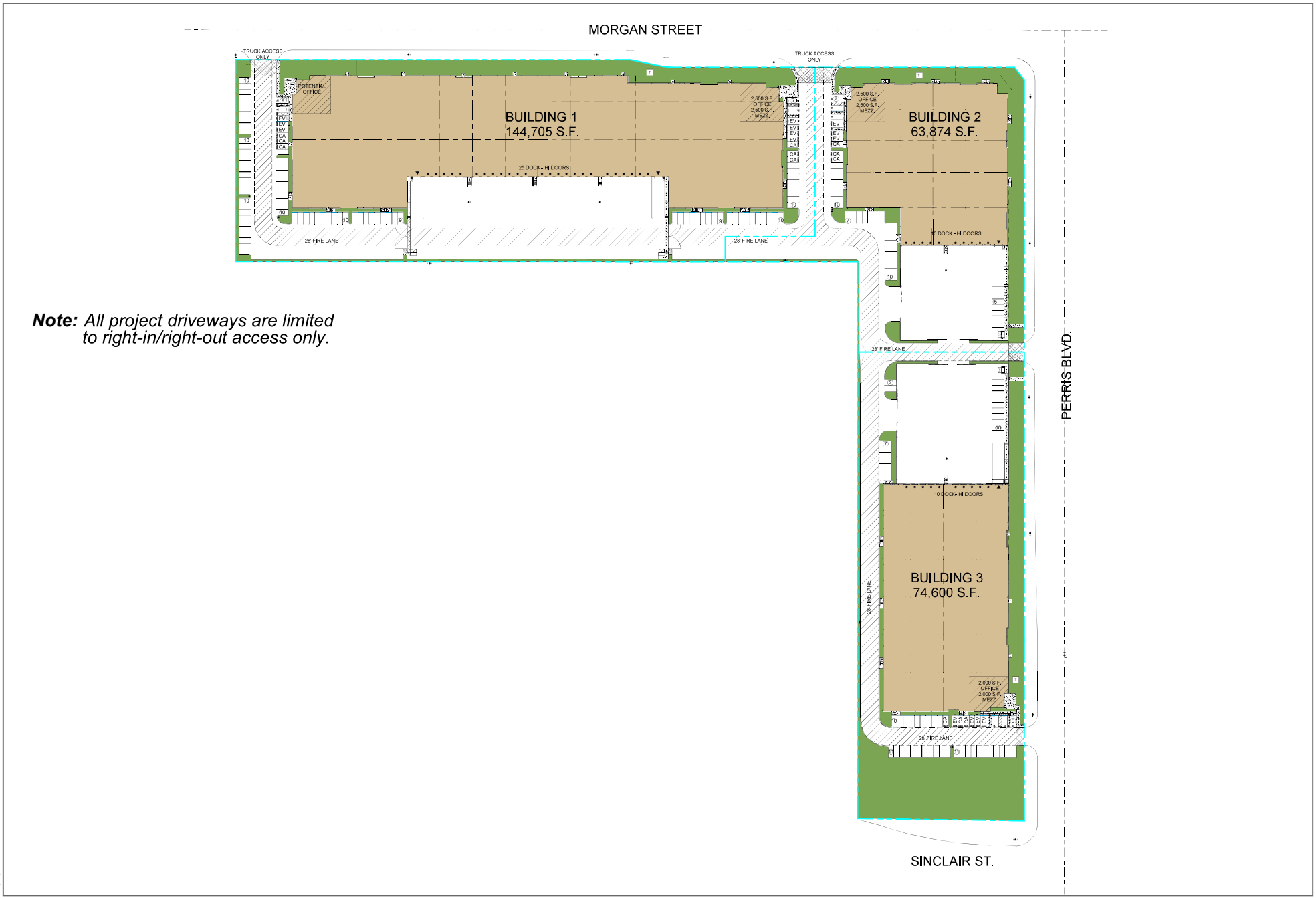
Project Location and Study Area

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

NOT TO SCALE

INTENTIONALLY LEFT BLANK



Note: *All project driveways are limited to right-in/right-out access only.*

SOURCE: Herdman Architecture + Design, 2021

DUDEK

FIGURE 2

Conceptual Site Plan

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

1.3.2 Level of Service (LOS) for General Plan Consistency

Level of service (LOS) is commonly used as a qualitative description of intersection operations and roadway segments and is based on the design capacity of the intersection configuration and roadway facility, compared to the volume of traffic using the facility.

The study area intersections and roadway segments are analyzed in the TIA for the following scenarios:

Existing (2021)

The TIA includes a description of existing traffic conditions in the site vicinity, including existing and traffic operations. The existing condition is representative of the year 2021. It should be noted that the traffic counts were collected in early March 2020 before COVID-19 restrictions were in effect, as well as in May 2019. An ambient annual growth rate of 3.0% was applied to the counts to grow traffic volumes to 2021 existing baseline conditions, and volumes were balanced where applicable.

Existing plus Project (2021)

This condition includes analysis of traffic operations under existing conditions with project-related traffic, assuming full buildout of the project, added to the existing daily roadway and AM and PM peak hour intersection traffic volumes. The traffic impacts specific to the project under this condition were used as the basis for determining the project's direct impacts. All year 2021 conditions assume that buildout of the Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange Project and the City of Placentia Road Widening Project, as discussed in Chapter 7, are not completed. Therefore, no project traffic is routed through the Placentia Interchange under these conditions.

Existing plus Ambient Growth (2022)

This condition includes the time that the proposed project is completed and will be estimated by increasing the existing traffic counts by an ambient growth rate of 3.0%. The 3.0% annual ambient growth rate is consistent with the Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) growth forecasts for the City of Perris. Since the project would be operational in the fall of year 2022, a total ambient growth of 3.0% was applied to existing traffic (2021) to estimate Existing plus Ambient Growth traffic conditions in the year 2022. All year 2022 conditions assume buildout of the Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange Project and the City of Placentia Road Widening Project, as discussed in Chapter 7.

Existing plus Ambient Growth plus Project (2022)

This condition includes analysis of traffic operations where project-related traffic is added to the Existing Plus Ambient Growth (2022) AM and PM peak hour intersection traffic volumes. The traffic impacts specific to the project under this Existing Plus Ambient Growth plus Project condition were used as the basis for determining project's direct impacts in the year 2022.

Existing plus Ambient Growth plus Cumulative Projects (2022)

This condition includes the time that the proposed project is completed and will be estimated by increasing the existing traffic counts by the ambient growth rate of 3.0% noted above under the Existing Plus Ambient Growth (2022) condition, and adding traffic generated by other cumulative projects in the study area, to generate Existing plus Ambient Growth plus Cumulative Projects traffic conditions in the year 2022.

Existing plus Ambient Growth plus Cumulative Projects plus Project (2022)

This condition includes analysis of traffic operations under the Existing Plus Ambient Growth Plus Cumulative Projects (2022) condition (described above) with project-related traffic added to the AM and PM peak hour traffic volumes. The traffic impacts specific to the project under this this Existing plus Ambient Growth plus Cumulative Projects plus Project condition were used as the basis for determining the project's contribution to cumulative impacts in the year 2022.

1.3.2.1 Intersections

The Highway Capacity Manual, 6th Edition (HCM 6) methodology was used to assess level of service for intersections within the study area per requirement of the respective jurisdiction.

The HCM intersection analysis methodology was used to analyze the operation of signalized and unsignalized study intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding control delay experienced per vehicle for unsignalized intersections. The Synchro 10 LOS software was used to determine intersection LOS. Synchro is consistent with the HCM 6 methodology (Transportation Research Board 2016). Table 2 shows the LOS values by delay ranges for unsignalized and signalized intersections under the HCM methodology.

Table 2. Levels of Service for Intersections using HCM Methodology

Level of Service	Unsignalized Intersections Control Delay (in seconds per vehicle)	Signalized Intersections Control Delay (in seconds per vehicle)
A	< 10.0	< 10.0
B	> 10.0 to < 15.0	> 10.0 to < 20.0
C	> 15.0 to < 25.0	> 20.0 to < 35.0
D	> 25.0 to < 35.0	> 35.0 to < 55.0
E	> 35.0 to < 50.0	> 55.0 to < 80.0
F	> 50.0	> 80.0

Source: HCM 6 (Transportation Research Board2016).

1.3.2.2 Roadway Segments

The analysis of roadway segments is to determine whether the daily capacity of a specific roadway segment would have satisfactory daily capacity under its current and/or General Plan roadway classification. All roadway segments were analyzed using the volume-to-capacity (V/C) method based on the average daily traffic (ADT) capacities.

1.3.2.3 General Plan Consistency Requirements

Per WRCOG guidance, consistent with the acceptable LOS in the local agency's General Plan, the local agency may consider the following criteria for application in this traffic study to identify infrastructure improvements required to provide acceptable operations. The study area intersections, with exception of the I-215 freeway ramp intersections with Ramona Expressway, are located within the jurisdiction of the City of Perris, therefore, the following consistency requirements would apply.

City of Perris General Plan Circulation Element

This TIA uses the level of service threshold provided in the City of Perris Circulation Element of the current General Plan for the intersections located within the City of Perris. According to *Policy II.A* of the Circulation Element:

> *Maintain the following target Levels of Service:*
>
> - *LOS "D" along all City maintained roads (including intersections) and LOS "D" along I-215 and SR 74 (including intersections with local streets and roads). An exception to the local road standard is LOS "E", at intersections of any Arterials and Expressways with SR 74, the Ramona-Cajalco Expressway or at I-215 freeway ramps.*
> - *LOS "E" may be allowed within the boundaries of the Downton Specific Plan Area to the extent that it would support transit-oriented development and walkable communities. Increased congestion in this area will facilitate an increase in transit ridership and encourage development of a complementary mix of land uses within a comfortable walking distance from light rail stations.*

The City has not adopted an LOS standard for unsignalized intersections. Performance of unsignalized intersections is evaluated on a case-by-case basis.

For the purposes of this analysis, an intersection or roadway would be found inconsistent with the City's Circulation Element if project traffic causes a roadway to go from an acceptable LOS to a deficient LOS. For intersections and roadway segments already operating at an unacceptable LOS, any increase in average delay for intersections, or volume to capacity (V/C) ratio for roadway segments, would be found inconsistent with the City's Circulation Element.

Table 3 displays the City's roadway segment LOS thresholds for roadway segment operations, as presented in the City's Circulation Element.

Table 3. City of Perris Roadway Segment LOS Thresholds

Roadway Classification	No. of Travel Lanes	Maximum Two-way Average Daily Traffic (ADT)				
		LOS A	*LOS B*	*LOS C*	*LOS D*	*LOS E*
Collector	2	7,800	9,100	10,400	11,700	13,000
Collector	4	15,540	18,130	20,700	23,300	25,900
Arterial	2	10,800	12,600	14,400	16,200	18,000
Arterial	4	21,540	25,130	28,700	32,300	35,900
Arterial	6	32,340	37,730	43,100	48,500	53,900
Expressway	4	24,540	28,630	32,700	36,800	40,900
Expressway	6	36,780	42,910	49,000	55,200	61,300
Expressway	8	49,020	57,190	65,400	73,500	81,700
Freeway	4	45,900	53,550	61,200	68,900	76,500
Freeway	6	70,500	82,250	94,000	105,800	117,500
Freeway	8	96,300	112,350	128,400	144,500	160,500
Freeway	10	120,360	140,420	160,500	180,500	200,600

Source: City of Perris Circulation Element, 2008

Project Access, Safety and Other Analyses

An analysis of Project access, safety and traffic signal warrant analysis for any unsignalized intersections around the project and on adjacent streets is recommended per City of Perris TIA guidelines.

1.4 Improvements for Transportation Impacts

As part of the final acceptance of a TIA, the City will review and approve any required improvements and/or fair share contributions necessary to improve the transportation-related deficiencies caused by the proposed development. These improvements would be included as part of the conditions of approval and should be in addition to any improvements required by any other departments. Any transportation improvements based on a transportation study will be in addition to any other fees related to the existing WRCOG Transportation Uniform Mitigation Fee (TUMF) program, the City of Perris Development Impact Fee (DIF) program, or the North Perris Road and Bridge Benefit District (NPRBBD) program. Fair share contributions identified in the TIA and subsequently listed in the conditions of approval shall be required before a building permit will be issued. Improvements required in the TIA and subsequently listed in the conditions of approval shall be completed prior to occupancy.

1.4.1 Perris Valley Commerce Center Specific Plan EIR Traffic Mitigation Measures

The proposed project is located within the Perris Valley Commerce Center Specific Plan (PVCC). As such, relevant traffic mitigation measures identified in the PVCC FEIR (2011) are identified below and reviewed in this analysis.

MM Trans 1 Future implementing development projects shall construct on-site roadway improvements pursuant to the general alignments and right-of-way sections set forth in the PVCC Circulation Plan, except where said improvements have previously been constructed.

MM Trans 2 Sight distance at the project entrance roadway of each implementing development project shall be reviewed with respect to standard City of Perris sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

MM Trans 3 Each implementing development project shall participate in the phased construction of off-site traffic signals through payment of that project's fair share of traffic signal mitigation fees and the cost of other off-site improvements through payment of fair share mitigation fees which include TUMF (Transportation Uniform Mitigation Fee), DIF (Development Impact Fee), and the NPRBBD (North Perris Road and Bridge Benefit District). The fees shall be collected and utilized as needed by the City of Perris to construct the improvements necessary to maintain the required level of service and build or improve roads to their build-out level.

MM Trans 4 Prior to the approval of individual implementing development projects, the Riverside Transit Agency (RTA) shall be contacted to determine if the RTA has plans for the future provision of bus routing in the project area that would require bus stops at the project access points. If the RTA has future plans for the establishment of a bus route that will serve the project area, road improvements adjacent to the project site shall be designed to accommodate future bus turnouts at locations established through consultation with the RTA. RTA shall be responsible for the construction and maintenance of the bus stop facilities. The area set aside for bus turnouts shall conform to RTA

design standards, including the design of the contact between sidewalk and curb and gutter at bus stops and the use of ADA-compliant paths to the major building entrances in the project.

MM Trans 5 Bike racks shall be installed in all parking lots in compliance with City of Perris standards.

MM Trans 6 Each implementing development project that is located adjacent to the MWD Trail shall coordinate with the City of Perris Parks and Recreation Department to determine the development plan for the trail.

MM Trans 7 Implementing project-level traffic impact studies shall be required for all subsequent implementing development proposals within the boundaries of the PVCC as approved by the City of Perris Engineering Department. These subsequent traffic studies shall identify specific project impacts and needed roadway improvements to be constructed in conjunction with each implementing development project. All intersection spacing for individual tracts or maps shall conform to the minimum City intersection spacing standards. All turn pocket lengths shall conform at least to the minimum City turn pocket length standards. If any of the proposed improvements are found to be infeasible, the implementing development project applicant would be required to provide alternative feasible improvements to achieve levels of service satisfactory to the City.

MM Trans 8 Proposed mitigation measures resulting from project-level traffic impact studies shall be coordinated with the North Perris Road and Bridge Benefit District (NPRBBD) to ensure that they are in conformance with the ultimate improvements planned by the NPRBBD. The applicant shall be eligible to receive proportional credits against the NPRBBD for construction of project level mitigation that is included in the NPRBBD.

INTENTIONALLY LEFT BLANK

2 Existing Conditions

This section describes existing conditions within the study area. Characteristics are provided for the existing roadway, transit, bike and pedestrian facilities, daily roadway segment traffic volumes, peak hour intersection traffic volumes and traffic operations.

2.1 Roadway System

Regional access to the City of Perris is primarily provided via Interstate (I)-215, located west of Perris. State Route (SR)-74 also carries a significant amount of regional traffic and generally traverses the southern half of the City from southwest to northeast. Additionally, Perris Boulevard serves as the primary north-south connection between the southern and northern halves of the City, and Ramona Expressway serves as a primary east-west connector in the northern half of the City, from I-215 to the Cities of Lakeview, San Jacinto, and Hemet to the east. Figure 3 illustrates the Existing Roadway Network included in the City of Perris General Plan Circulation Element (Circulation Element), and Figure 4 illustrates the Circulation Plan included in the Perris Valley Commerce Center Specific Plan (PVCCSP).

Characteristics of the existing street system within the study area are described below.

Ramona Expressway is an east-west, 6-lane divided roadway between Webster Avenue and Evans Road, and 4-lane divided roadway west of Webster Avenue and east of Evans Road. Within the study area, Ramona Expressway extends from I-215 to the west and the City of Hemet to the east. West of I-215, Ramona Expressway becomes Cajalco Road. The posted speed limit within the study area ranges from 50 to 55 miles per hour (MPH). There are paved sidewalks along some sections of either side of the roadway, and parking is generally not permitted along either side of the roadway. Ramona Expressway is currently designated as an Expressway and is a designated City truck route per the Circulation Element as shown in Figure 5, City of Perris Existing Truck Routes. However, Ramona Expressway is not designated as a truck route in the PVCCSP, as shown in Figure 6, Perris Valley Commerce Center Specific Plan Truck Route Plan.[2]

Indian Avenue is a north-south, 4-lane divided roadway within the study area, extending from the I-215 Frontage Road to the south, to Harley Knox Boulevard to the north. The posted speed limit is 40 MPH. There are paved sidewalks along some sections of either side of the roadway, and parking is generally not permitted along either side of the roadway. Indian Avenue is designated as a Secondary Arterial and as a truck route in both the Circulation Element and the PVCCSP.

Redlands Avenue is north-south, 2- to 4-lane undivided roadway south of Ramona Expressway to its existing terminus at Morgan Street, and a 4-lane divided roadway north of Ramona Expressway to its terminus just north of Harley Knox Boulevard. The posted speed limit is 40 MPH. There are paved sidewalks along some sections of either side of the roadway, and parking is generally not permitted along either side of the roadway. Redlands Avenue is designated as a Secondary Arterial and as a truck route in both the Circulation Element and the PVCCSP.

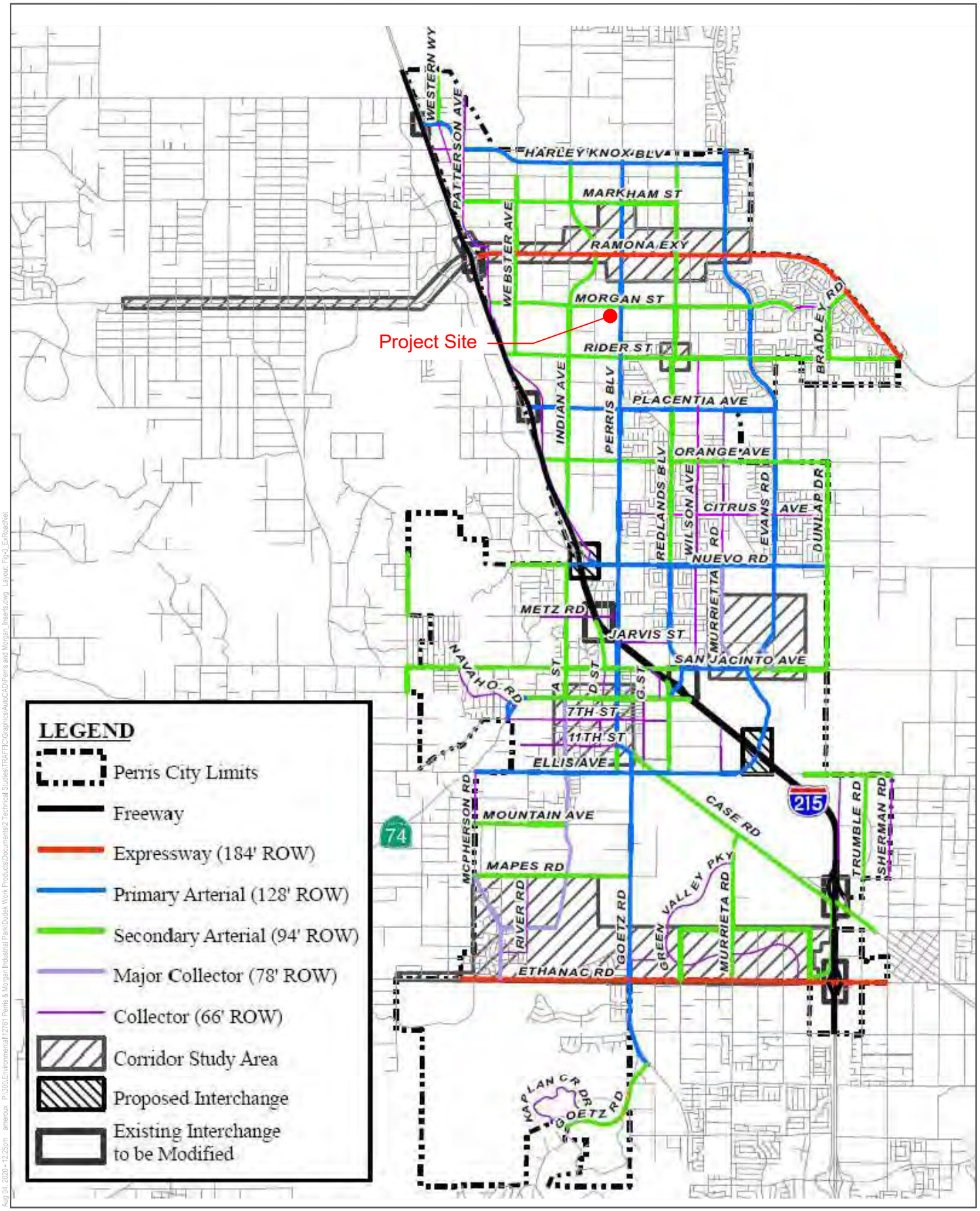
Perris Boulevard is a north-south, 6-lane divided roadway within the study area, located adjacent to the eastern boundary of the project site, extending from the City of Perris downtown area, to Moreno Valley to the north. The

[2] The City of Perris Circulation Element and Perris Valley Commerce Center Specific Plan truck route maps and plans are provided in Figures 5 and 6 for informational purposes only. The City of Perris is currently in the process of updating truck route designations to provide consistency between the Municipal Code, the PVCCSP, and posted signage. City direction was provided to determine project truck trip distributions, and further discussion is detailed in Chapter 3.2.

posted speed limit is 45 MPH. There are paved sidewalks on either sides, and parking is generally not permitted along either side of the roadway. Perris Boulevard is designated as a Primary Arterial and as a truck route in both the Circulation Element and the PVCCSP. However, it must be noted that the City is currently in the process of updating truck route designations and has indicated that as an informal policy, Perris Boulevard is not recognized as a truck route.

Morgan Street is an east-west, 3- to 4-lane divided roadway with a two-way left-turn lane (TWLTL) within the study area, located adjacent to the northern boundary of the project site, extending from Nevada Road to the west, to Redlands Avenue to the east. There is no posted speed limit along Morgan Street; however, a speed limit of 35 MPH is assumed for the purposes of this analysis. There are paved sidewalks on either side for the majority of the roadway, with no sidewalk along the project site boundary. The proposed project includes plans to include a paved sidewalk and landscaping along this segment. Parking is generally not permitted along either side of the roadway. Morgan Street is designated as a Secondary Arterial and as a truck route in both the Circulation Element and the PVCC.

Placentia Avenue is east-west, 2- to 4-lane divided roadway with a TWLTL between Perris Boulevard and Redlands Avenue. Placentia Avenue currently extends from Indian Avenue to Murrieta Road and from the I-215 Frontage Road to Patterson Avenue. Large portions of Placentia Avenue are currently undeveloped, including the connection of the roadway between the I-215 Frontage Road and Indian Avenue. Completion of the Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange Project and the City of Placentia Road Widening Project would connect the existing Placentia Avenue roadway between I-215 and the rest of the City and expand the roadway's capacity to 6 travel lanes (3 lanes in either direction). The posted speed limit is currently 40 MPH. There are paved sidewalks along some sections of either side of the roadway, and parking is permitted along some segments of the roadway. Placentia Avenue is designated as a Primary Arterial and as a truck route in both the Circulation Element and the PVCCSP between Perris Boulevard and to I-215.



SOURCE: City of Perris Circulation Element, 2008

FIGURE 3

City of Perris Existing Roadway Network

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

NOT TO SCALE

INTENTIONALLY LEFT BLANK

SOURCE: Perris Valley Commerce Center Specific Plan, 2018

FIGURE 4

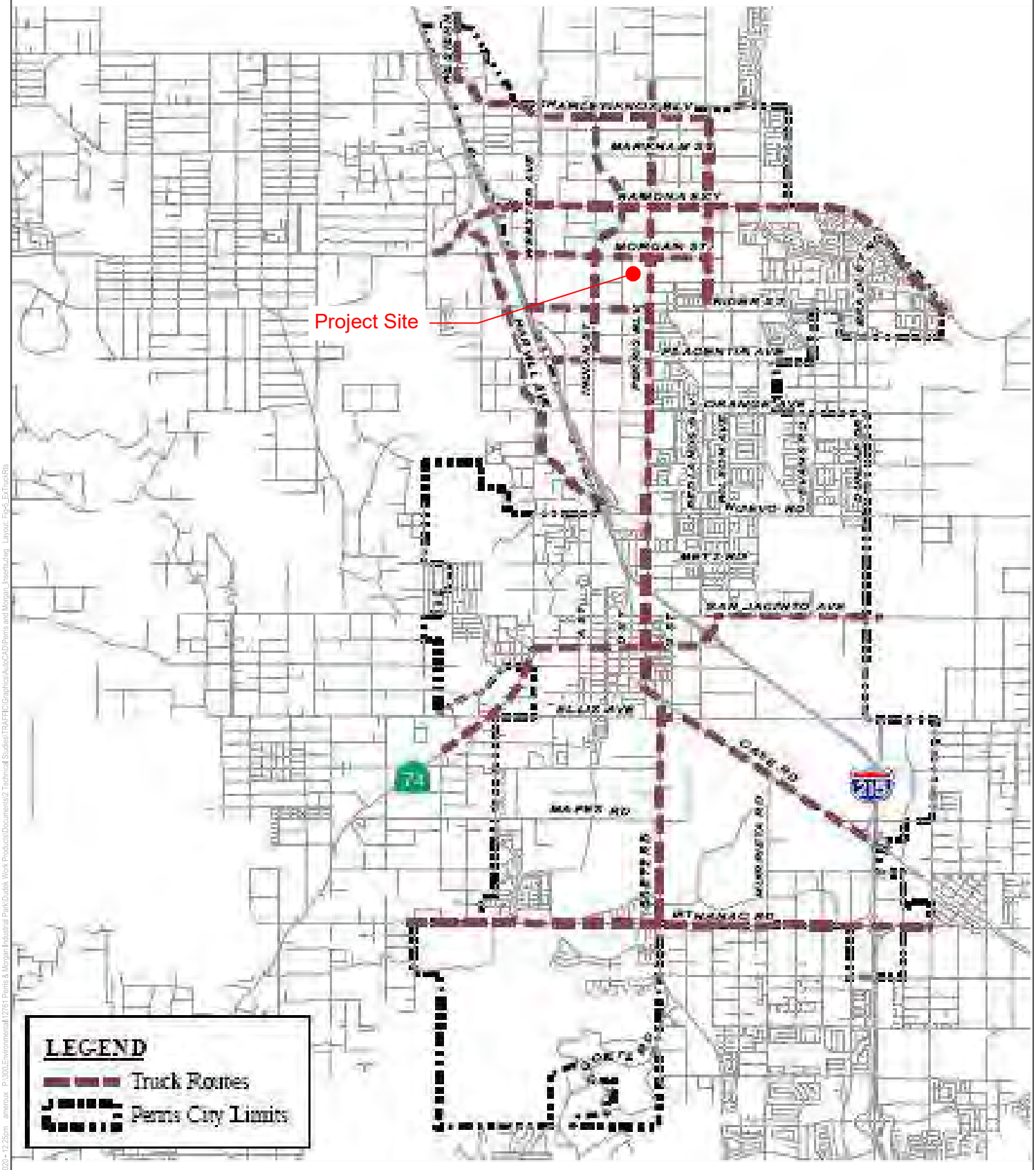
Perris Valley Commerce Center Specific Plan Circulation Plan

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

NOT TO SCALE

INTENTIONALLY LEFT BLANK



SOURCE: City of Perris Circulation Element, 2008

FIGURE 5

City of Perris Existing Truck Routes

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

NOT TO SCALE

INTENTIONALLY LEFT BLANK

SOURCE: Perris Valley Commerce Center Specific Plan, 2018

FIGURE 6

Perris Valley Commerce Center Specific Plan Truck Route Plan

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

NOT TO SCALE

INTENTIONALLY LEFT BLANK

2.2 Transit System

Public transit in the Perris area consists of taxis, paratransit vans, buses, and passenger services through the Metrolink rail system. Figure 7 identifies transit routes throughout the City of Perris.

Currently, Metrolink service in the City of Perris is provided via two stations in the southern half of the City (Perris Station and South Perris Station), with a third station (Ramona Expressway Station) planned to serve the northern Perris area, to be located west of I-215 and north of Cajalco Expressway.

The Riverside Transit Agency (RTA) provides public transportation throughout Riverside County. RTA operates fixed bus routes providing public transit service throughout western Riverside County. The routes that serve the study area are Routes 19/19A and 41.

Route 19/19A operates between the Perris Station Transit Center in Downtown Perris to the Moreno Valley Mall with a peak service frequency of 15-minutes throughout the week. Route 41 operates between the Mead Valley Community Center and Riverside University Medical Center, with commuter service during the morning and afternoon peak hours.[3]

The nearest bus stops (serving both Routes 19 and 41) are located along northbound Perris Boulevard, approximately 140 feet north of the Perris Boulevard/Sinclair Street intersection and along southbound Perris Boulevard, approximately 250 feet south of the Perris Boulevard/Sinclair Street intersection.

2.3 Pedestrian and Bicycle Facilities

The City of Perris General Plan Circulation Element identifies the following bicycle facility classifications:

Class I Bikeway/Regional Trails – Provide bicycles and pedestrians exclusive use of the path through a completely separated right-of-way; functions as a regional connector to link all of the major water bodies in western City of Perris and facilitates the ability for long-distance users to take advantage of this system for long one-way or loop-type trips.

Class I Bikeway (Bike Path) – Provide bicycles and pedestrians exclusive use of the path through a completely separated right-of-way.

Class II bikeway (Bike Lane) – Provides for one-way bike travel on a street or highway in a striped lane.

The Perris Trail Master Plan, adopted February 26, 2013 (Resolution No. 4562), includes an additional bikeway classification, as defined below:

[3] Due to shelter in place orders due to COVID-19 throughout 2020 and early 2021, some transit services have been reduced or removed. The latest RTA Ride Guide, dated May 9, 2021, shows discontinuation of Route 19A, Route 19 continues to provide 15-minute frequency service, and Route 41 continues to provide morning and afternoon commuter service. The proposed project is located within a City of Perris transit priority area and is screened out of a project-level VMT analysis under the assumption that Route 19 continues to run on normal operation (15-minute frequency weekday service).

Class III bikeway (Bike Route) - A preferred travel route for bicyclists, on which a separate lane or path is either not feasible or not desirable. The rightmost lane of a bicycle route is shared by bicyclists and cars. The lane is marked with signs and can also be marked with sharrows.

In the study area, a southbound Class II Bike Lane runs along Perris Boulevard for approximately 710 feet south of Morgan Street adjacent to the project site and becomes a Class III Bike Route past that point. As shown in Figure 8, PVCCSP Trails System, a Class II Bike Lane is planned along Morgan Street and expected to extend along Perris Boulevard north to Ramona Expressway. Additionally, a Class I Bikeway/Regional Trail is planned along Ramona Expressway, and the Metropolitan Water District (MWD) Trail is planned south of Sinclair Street and south of the project site.

With the exception of the project's northern boundary, the study area is generally built with paved sidewalks along Perris Boulevard and Morgan Street. The proposed project would be responsible for making frontage improvements along Morgan Street, including paved sidewalk facilities.

SOURCE: Perris Valley Commerce Center Specific Plan, 2018

FIGURE 7

Perris Valley Commerce Center Specific Plan Mass Transit Routes

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

NOT TO SCALE

INTENTIONALLY LEFT BLANK

SOURCE: Perris Valley Commerce Center Specific Plan, 2018

FIGURE 8

Perris Valley Commerce Center Specific Plan Trails System

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

NOT TO SCALE

INTENTIONALLY LEFT BLANK

3 Project Traffic

This section documents the trip generation, distribution, and assignment of project traffic in the study area.

3.1 Trip Generation

Trip generation estimates for the proposed project are based on daily and AM and PM peak hour trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Handbook, 10th Edition* (2017). The project proposes the construction of three buildings, as shown in Figure 2. For the purposes of this analysis, all buildings were assumed to as warehousing uses (ITE Code 150).

Additionally, passenger car equivalent (PCE) factors were applied to the trip generation estimates to account for truck traffic. The Riverside County Transportation Department Traffic Impact Analysis Preparation Guide (2008) indicates that project with truck intensive uses must convert project trips to PCE. A 1.5 PCE factor was applied to 2-axle trucks, 2.0 PCE for 3-axle trucks, and a 3.0 PCE factor was applied to 4-axle trucks to provide a conservative analysis. Trip generation rates, vehicle splits, and the resulting trip generation estimates for the project are summarized in Table 4.

Table 4. Project Trip Generation for Perris Boulevard and Morgan Street Industrial Park Project

Land Use	ITE Code	Size/Units		Daily	AM Peak Hour			PM Peak Hour		
					In	*Out*	*Total*	*In*	*Out*	*Total*
Trip Rates[1]										
Warehousing	150	TSF		1.74	0.13	0.04	0.17	0.05	0.14	0.19
Trip Generation										
Perris and Morgan Industrial Park Project	551	286.892	TSF	499	38	11	49	15	40	55
Trip Generation (By Vehicle Classification)										
Vehicle Mix[2]		***Percent[2]***								
Passenger Vehicles		72.5%		362	27	8	35	11	29	40
2-Axle Trucks		4.6%		23	2	1	3	1	2	3
3-Axle Trucks		5.7%		28	2	1	3	1	2	3
4+-Axle Trucks		17.2%		86	7	2	9	3	7	10
Total Trip Generation (Non-PCE)				**499**	**38**	**12**	**51**	**16**	**40**	**56**
Vehicle Mix[2]		***PCE Factor***								
Passenger Vehicles		1.0		362	27	8	35	11	29	40
2-Axle Trucks		1.5		34	3	1	4	1	3	4
3-Axle Trucks		2.0		57	4	2	6	2	4	6
4+-Axle Trucks		3.0		258	21	6	27	9	21	30
Total Trip Generation (w/PCE)				**711**	**55**	**17**	**72**	**23**	**57**	**80**

Notes: ITE = Institute of Transportation Engineers; PCE = Passenger Car Equivalent; TSF = Thousand Square Feet

1 Trip rates from ITE 2017.

2 Vehicle Mix and Percent from SCAQMD 2014 (Appendix E)

As shown in Table 4, the proposed project would generate 499 daily trips, 51 AM peak hour trips (38 inbound and 12 outbound), and 56 PM peak hour trips (16 inbound and 40 outbound). Accounting for truck traffic from the

warehousing land use, the proposed project would generation 711 daily PCE trips, 72 AM peak hour PCE trips (55 inbound and 17 outbound), and 80 PM peak hour PCE trips (23 inbound and 57 outbound).

3.2 Trip Distribution and Assignment

Project trip distribution percentages were based on logical travel paths to commute corridors and existing truck routes in the study area. Since the project is an industrial warehousing land use, project traffic would primarily travel to and from I-215.

Project traffic will utilize the two project driveways along Morgan Street and two driveways along Perris Boulevard to access the project site. All truck access will occur at the two Morgan Street driveways; trucks will not be permitted to enter or exit the site at the Perris Boulevard driveways. The following direction was provided by the City's Department of Engineering in their March 17, 2021 comment letter regarding the project application:

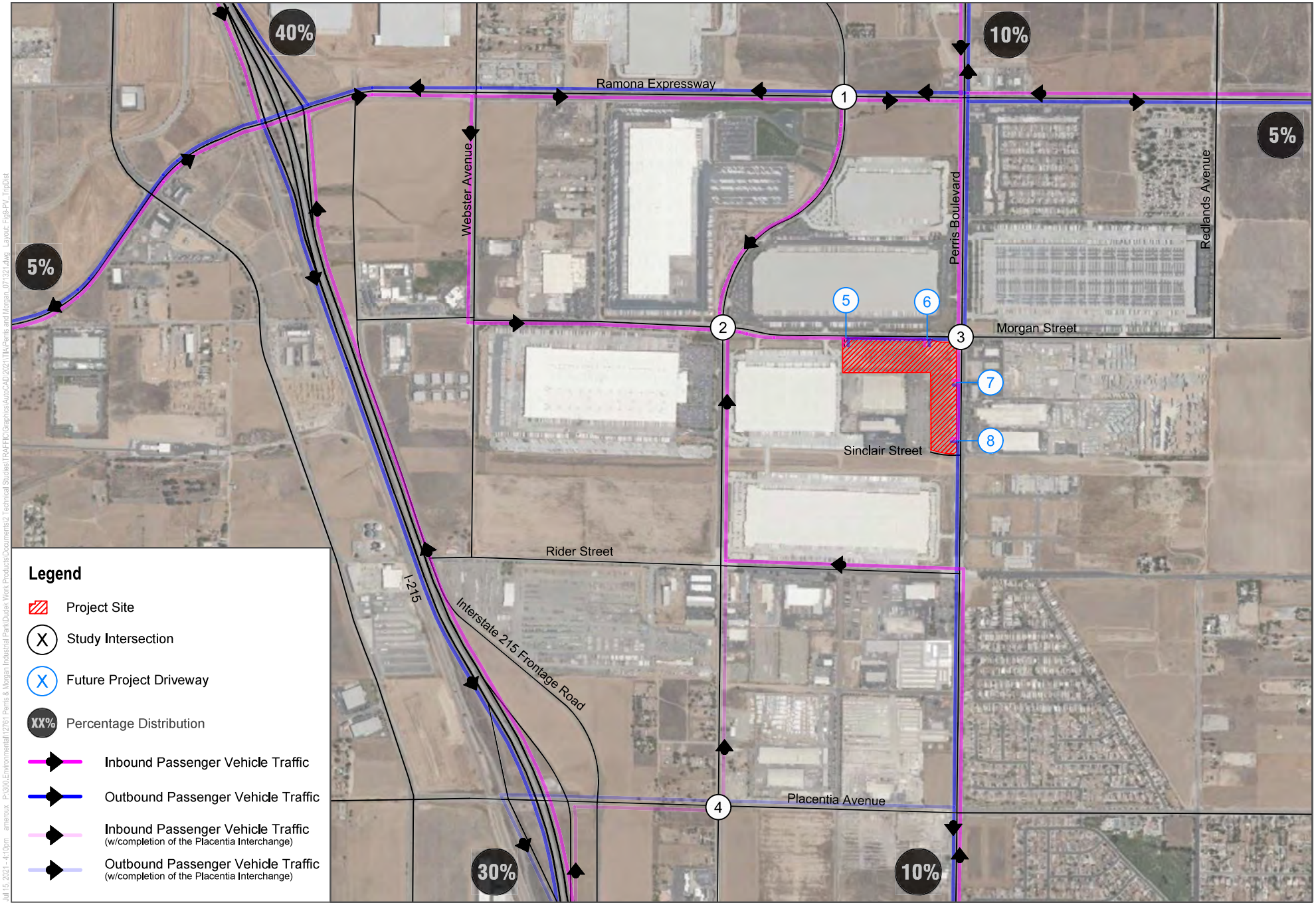
- Entry truck traffic from I-215 shall be from Harley Knox Boulevard to Indian Avenue, to Morgan Street. Exit truck access from Morgan Street shall be to Redlands Avenue to Harley Knox Boulevard, to I-215. Truck traffic shall be restricted on Perris Boulevard. Entry truck traffic from I-215 may also be accommodated from Placentia Avenue, to Indian Avenue, to Morgan Street.[4]
- The two proposed driveways on Morgan Street shall be designated truck access and restricted to right-in/right-out only.
- The two proposed driveways on Perris Boulevard shall be designated auto access and restricted to right-in/right-out only.

Approximately 75% of passenger vehicle traffic is expected to travel along I-215 (45% north and 30% south), and 90% of truck traffic is expected to travel along I-215 (55% north and 35% south). Approximately 5% to 10% of passenger vehicle traffic would travel along Ramona Expressway and Perris Boulevard, and 10% of truck traffic would travel north along Indian Avenue.

Project trips were assigned to the study area intersections by applying the above-referenced project trip generation estimates to the trip distribution percentages at each study area roadway segment and intersection. The project trip distribution percentages are shown in Figure 9 (Project Passenger Vehicle Trip Distribution) and Figure 10 (Project Truck Trip Distribution), and the resulting project trips are shown in Figure 11 (Project Passenger Vehicle Trip Assignment), Figure 12 (Project Truck Trip Assignment), and Figure 13 (Project Total Trip Assignment). These trip assignments are used in the Existing plus Project condition.

All Near Term (2022) conditions assume buildout of the Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange Project and the City of Placentia Road Widening Project, as discussed in Chapter 7. Therefore, project traffic was routed from I-215 through Placentia Avenue, and the resulting project trip assignment for all Near Term (2022) conditions are shown in Figure 14 (Project Passenger Vehicle Trip Assignment w/Placentia Interchange), Figure 15 (Project Truck Trip Assignment w/Placentia Interchange), and Figure 16 (Project Total Trip Assignment w/Placentia Interchange).

[4] Project traffic is routed from I-215 through Placentia Avenue in all Near Term (2022) conditions, when completion of the Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange Project and the City of Placentia Road Widening Project is expected.



SOURCE: Bing 2020

DUDEK

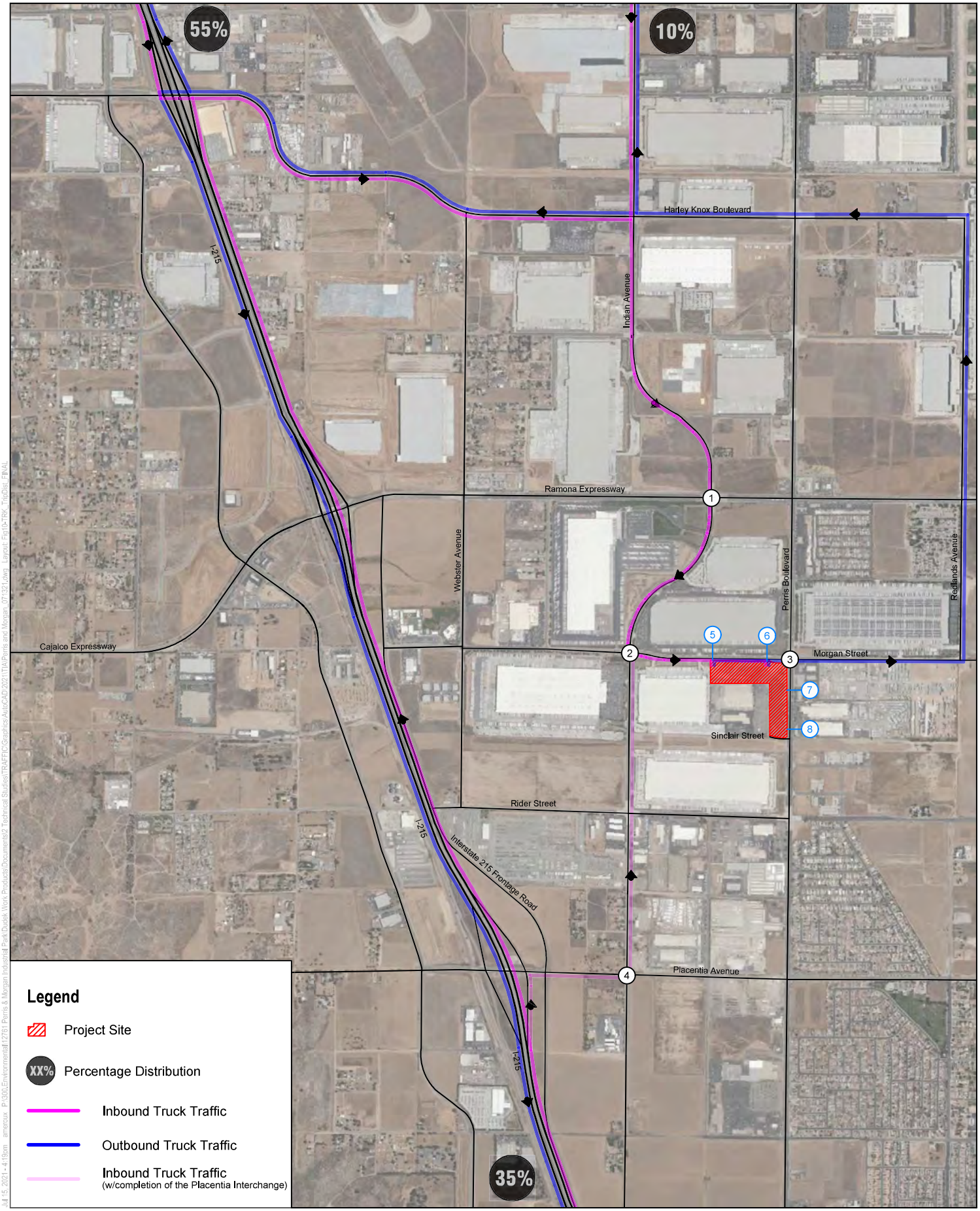
NOT TO SCALE

FIGURE 9

Project Passenger Vehicle Trip Distribution

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK



SOURCE: Bing 2020

DUDEK

NOT TO SCALE

FIGURE 10

Project Truck Trip Distribution

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 11

Project Passenger Vehicle Trip Assignment

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIONALLY LEFT BLANK

1 Indian Avenue
Ramona Expressway
(28)
13

2 Indian Avenue
Morgan Street
(28) 13

3 Perris Boulevard
Morgan Street
(9) 28

4 Indian Avenue
Placentia Avenue
NO PROJECT TRAFFIC

5 Driveway A
Morgan Street
(19) 9
(9) 4
(3) 8

6 Driveway B
Morgan Street
(3) 8
(19) 9
(6) 20

7 Perris Boulevard
Driveway C
TRUCK ACCESS RESTRICTED

8 Perris Boulevard
Driveway D
TRUCK ACCESS RESTRICTED

SOURCE: Bing 2020

DUDEK

NOT TO SCALE

FIGURE 12

Project Truck Trip Assignment (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 13

Project Total Trip Assignment (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 14

Project Passenger Vehicle Trip Assignment - With Placentia Interchange

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 15

Project Truck Trip Assignment (PCE) - With Placentia Interchange

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 16

Project Total Trip Assignment (PCE) - With Placentia Interchange

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIONALLY LEFT BLANK

4 Vehicle Miles Traveled Analysis

4.1 Project Screening

As shown in the screening analysis below, the proposed project would be screened out using one of the five criteria and therefore would not need to provide baseline and cumulative estimates of project generated VMT.

The following screening criteria were applied to screen the project from a project-level assessment per the City of Perris TIA Guidelines for CEQA:

A. **Affordable Housing Screening:** The proposed project is not a housing project and therefore cannot be screened out using this criterion.

B. **Transit Priority Area (TPA)** [5] **Screening:** Figure 17, City of Perris Transit Priority Area, illustrates the project's location and the TPA's within the City of Perris. Riverside Transit Authority (RTA) Bus Route 19 operates with a service frequency of 15-minutes, and travels along Perris Boulevard, from the Perris Station Transit Center in downtown Perris to the neighboring City of Moreno Valley to the north. Although the project is located within a TPA, as shown in Figure 8, the presumption of less than significant does not apply if the project:

- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is consistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization; or
- Replaces affordable residential units with a smaller number of moderate or high-income residential units.

The proposed project does not include more parking than required by the City of Perris, as shown in Table 1 in Chapter 1. Additionally, the proposed project zoning is consistent with the City of Perris General Plan zoning (light industrial), and the project does not involve a residential component. Therefore, the above items would not apply to the proposed project, and the project can be screening out under the TPA screening criteria.

C. **Project Type Screening:** Local serving retail projects less than 50,000 square feet, along with some educational/institutional projects and municipal/public services listed in the City's TIA Guidelines may be presumed to have a less than significant impact absent substantial evidence to the contrary. This is due to the fact that local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel instead of increasing or inducing vehicular travel. The proposed project would not be considered a local serving retail project, nor would it fall under the other categories listed in the City's TIA Guidelines; therefore, the project cannot be screened out using this criterion.

[5] A Transit Priority Area in the City of Perris is defined as a half mile area around an existing major transit stop or an existing stop along a high quality transit quality corridor per definition below:
Pub. Resources Code, § 21064.3 - 'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.
Pub. Resources Code, § 21155 - For purposes of this section, a 'high-quality transit corridor' means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

D. **Low VMT Area Screening**: Based on the total daily VMT per worker estimated in project's TAZ 3,767 (corresponding to APN's 303080007, 303080017, 303080018, and 303080012), the proposed project is not within a low VMT generating TAZ based on VMT per worker.

- Jurisdictional average 2012 daily VMT per worker = 11.62 Project TAZ 2012 daily VMT per worker = 12.02

The project is not screened out using this criterion since the project TAZ has a higher Home-Based Work VMT (12.02) compared to the jurisdictional average (11.62). Although the project TAZ passes screening under Home-Based VMT per capita, based on the project's land use (industrial/ warehousing), the project would not be applicable for screening under VMT per Service Population or Home-Based VMT per capita criteria.

Table 5 summarizes the project TAZ's VMT provided in the WRCOG screening tool. An excerpt showing project screening summary from the tool is included in Appendix A.

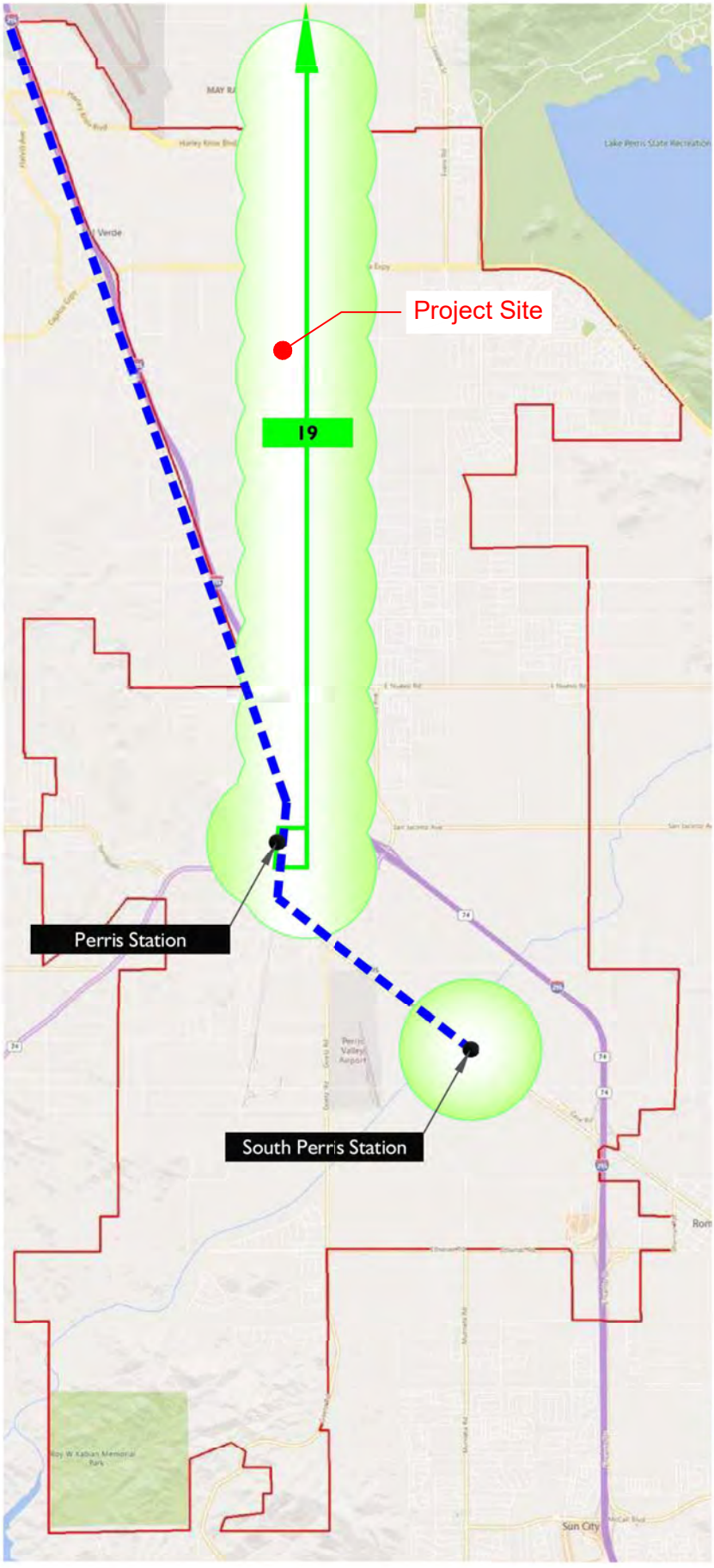
Table 5. Summary of Project TAZ Vehicle Miles Traveled (VMT)

Base Year	VMT	Pass/Fail
VMT per service population		
Jurisdiction	27.59	Fail
Project	57.73	
Home-based VMT per capita		
Jurisdiction	15.05	Pass
Project	6.96	
Home-based VMT per worker		
Jurisdiction	11.62	Fail
Project	12.02	

Source: WRCOG 2020

E. **Net Daily Trips Screening:** Projects that generate less than 500 ADT would not cause a substantial increase in the total citywide or regional VMT and are therefore presumed to have a less than significant impact on VMT per the City of Perris TIA Guidelines. As shown in Table 3 in Chapter 2.1, the proposed project would generate 551 ADT; therefore, the project cannot be screened out using this criterion.

As described in Chapter 1, the proposed project is an 286,982 SF industrial/warehouse located at the southwest corner of the intersection of Perris Boulevard and Morgan Street. As shown in the analysis, the proposed project passes one of the five screening criteria, i.e., Transit Priority Area Screening. Therefore, the proposed project can be presumed to have a less than significant VMT impact under Existing and Near Term (2022) conditions. A project-level detailed VMT analysis would not be required.



SOURCE: City of Perris Transportation Impact Analysis Guidelines for CEQA, 2020

DUDEK

NOT TO SCALE

FIGURE 17

City of Perris Transit Priority Area

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

5 Project Access and Safety Considerations

5.1 Project Access

As shown in the site plan (Figure 2) and as described in Chapter 1, local access to the project is provided via Morgan Street and Perris Boulevard. All project access driveways are unsignalized.

- Morgan Street (2 access driveways) – right turn in/out only (truck traffic allowed)
- Perris Boulevard (2 access driveways) – right turn in/out only (no truck traffic allowed)

The levels of service at the five project access driveways (intersections #5, #6, #7, and #8) is provided in the previous chapters and summarized in Table 6 below for all analysis scenarios.

Table 6. Project Access Level of Service

Scenario	Peak Hour	# 5. Morgan Street Driveway A		#6. Morgan Street Driveway B		#7. Perris Boulevard Driveway C		#8. Perris Boulevard Driveway D	
		Delay[1]	*LOS*[2]	*Delay*[1]	*LOS*[2]	*Delay*[1]	*LOS*[2]	*Delay*[1]	*LOS*[2]
Existing Plus Ambient Growth Plus Project (2022)	AM	9.4	A	9.1	A	10.9	B	0.0	-
	PM	8.8	A	9.0	A	13.8	B	13.8	B
Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022)	AM	9.4	A	9.1	A	11.4	B	0.0	-
	PM	9.4	A	9.4	A	15.2	C	15.1	C

Notes
1 Delay in seconds per vehicle
2 Level of Service (LOS)

The project access driveways were analyzed as stop-controlled intersections. As shown in Table 6, all project access driveways are forecast to operate with satisfactory LOS, at LOS D or better, during both peak hours under all study scenarios. The detailed LOS worksheets for all project access intersections are included in Appendix B.

5.2 Pedestrian and Bicycle Access

There are adequate pedestrian facilities in the vicinity of the proposed project, with exception of the undeveloped frontage along the northern boundary of the project site along Morgan Street. The project would be responsible for constructing frontage improvements including sidewalks along Morgan Street, which would connect to existing sidewalks and improve pedestrian connectivity. Although the proposed project is located near the MWD Trail, the proposed project

is not adjacent to the Trail and would not be required to coordinate with the City of Perris Parks and Recreation Department to determine the development plan for the MWD Trail per MM Trans 6 identified in the PVCCSP.

The project would not conflict with the existing or proposed bicycle facilities in its vicinity. As discussed in Chapter 4.3, a southbound Class II bike lane runs along Perris Boulevard for approximately 710 feet south of Morgan Street adjacent to the project site and becomes a Class I bike route past that point. Although the proposed project is an industrial/warehousing use, the project is located adjacent to RTA Bus Route 19, which operates with a service frequency of 15-minutes during normal operation and provides bus stops near the Perris Boulevard/Sinclair Street intersection. As such, bicycle facilities may be used as first-/last-mile trips by employees commuting to the project site via bus. Additionally, as required by PVCCSP MM Trans 4, the RTA was contacted to discuss plans for future bus stop provisions along Routes 19 and 41 that include Perris Boulevard. During coordination with RTA, the agency expressed interest in the development of a bus stop along the project site's eastern boundary, on Perris Boulevard but does not currently have formal plans for a stop at this location. Coordination with RTA is ongoing. Should RTA request a bus stop at this location, there is sufficient right-of-way and the project would not preclude implementation of a bus stop.

Additionally, planned development of the MWD Trail immediately south of the project site would expand bicycle and pedestrian access to the project site. Per MM Trans 5 identified in the PVCCSP, the proposed project would be required to install bike racks in all parking lots in compliance with City of Perris standards. Pursuant to Section 5.106.5.3.2 of the CalGreen Code, 15 parking spaces would provide equipment for the charging of electric vehicles. Further, 16 bicycle parking locations would be provided around the buildings.

5.3 Truck Access Analysis

As the proposed project is an industrial/warehousing use expected to generate heavy truck traffic, a truck turning template has been overlaid on the site plan to determine whether adequate curb radii are available and whether turning movements into and out of project driveways are possible. The project site will only be accessible to truck traffic via the two Morgan Street driveways, and a WB-67 design vehicle has been utilized to provide a conservative analysis. The WB-67 design vehicle template is provided in Figure 15.

Sufficient curb radii are provided for both ingress to and egress from the project site along Morgan Street, as shown in Figure 19 for Driveway A and Figure 20 for Driveway B. As shown in Figure 19, truck traffic would not be able to enter and exit the site simultaneously a Driveway A (a secondary access driveway). However, since Morgan Street is a low speed, low volume roadway in an industrial area, individual truck turning movements would be adequate at this secondary driveway. Additionally, during site plan review, the internal roadway and driveway widths, curb radii to facilitate passenger car and truck turning and movement would be reviewed, designed, and constructed per City standards and applicable street design requirements.

5.4 Sight Distance Analysis

Per the American Association of State Highway Transportation Officials (AASHTO), "…sight distance is the length of the roadway ahead that is visible to the driver…" and "…available sight distance on a roadway should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path" (AASHTO 2018). Prior to issuance of a building permit, the applicant would be required to meet all standards and guidelines outlined in the PVCC SP, including MM Trans 2, which details adherence to City of Perris sight distance

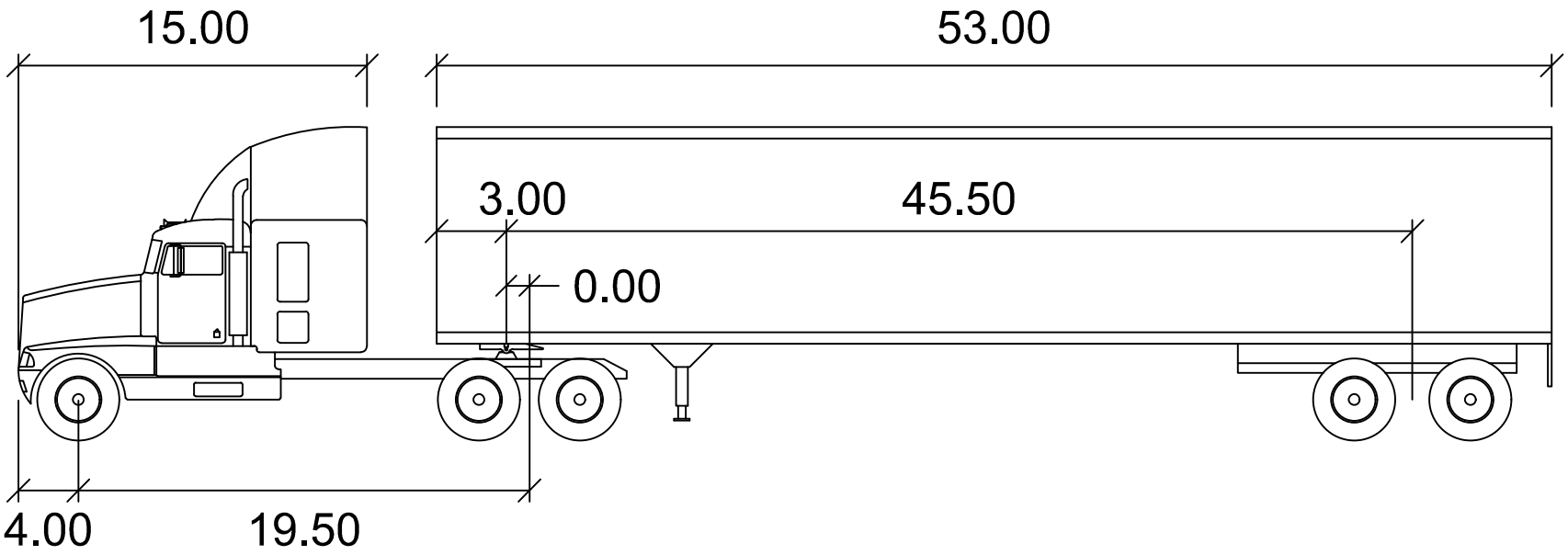
standards. In lieu of available City sight distances standards, the County of Riverside intersection sight distance standards per Standard No. 821 have been used for the purpose of this analysis (County of Riverside 2007).

An intersection sight distance analysis has been conducted for the two truck access driveways located along Morgan Street (Driveways A and B).

Morgan Street Driveways A and B

Morgan Street is a 3-lane, divided Secondary Arterial with a TWLTL, located immediately north of the project site. A design speed of 35 MPH was estimated for the purposes of this sight distance analysis as posted speed limit signage was not observed. Per County of Riverside Standard No. 821, a 385-foot minimum intersection sight distance would be required at project driveways along roadways operating at 35 MPH. As shown in Figure 20, vehicles parked on Morgan Street, along with existing trees bordering the northern boundary of the site, could impede clear sight lines at the project driveways. A limited use area, as specified in Standard No. 821, is also shown in Figure 21. All obstructions over 30 inches high, including vegetation, trees, walls, etc., are not allowed within the limited use area. As existing vegetation is currently located within the limited use areas, both driveways would be required to meet the sight distance requirements of the City, per MM Trans 2 of the PVCC SP, prior to issuance of a building permit.

INTENTIONALLY LEFT BLANK



WB-67

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		

SOURCE: AASHTO 2011

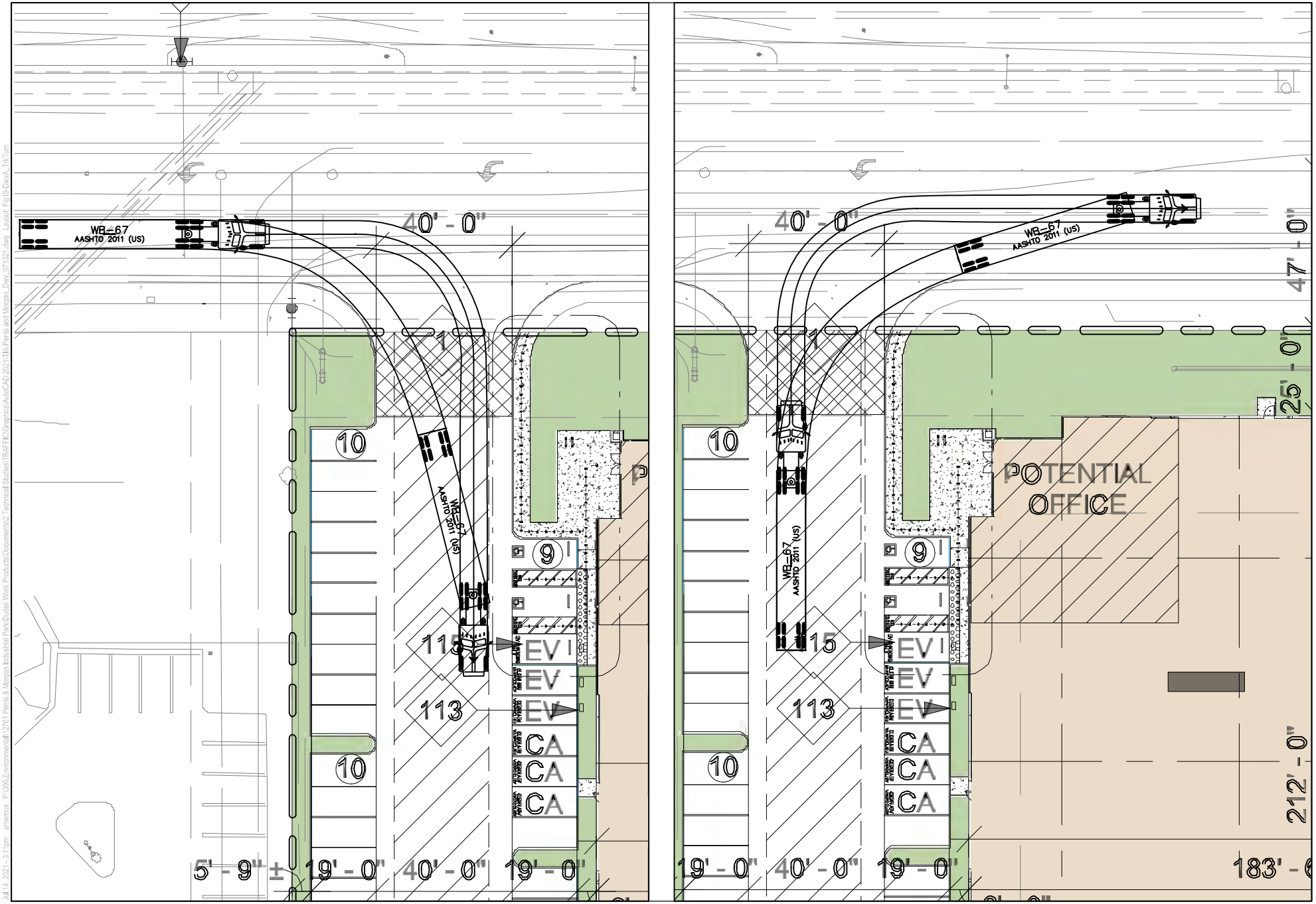
DUDEK NOT TO SCALE

FIGURE 18

WB-67 Design Vehicle

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK



SOURCE: Herdman 2021; AASHTO 2011

DUDEK

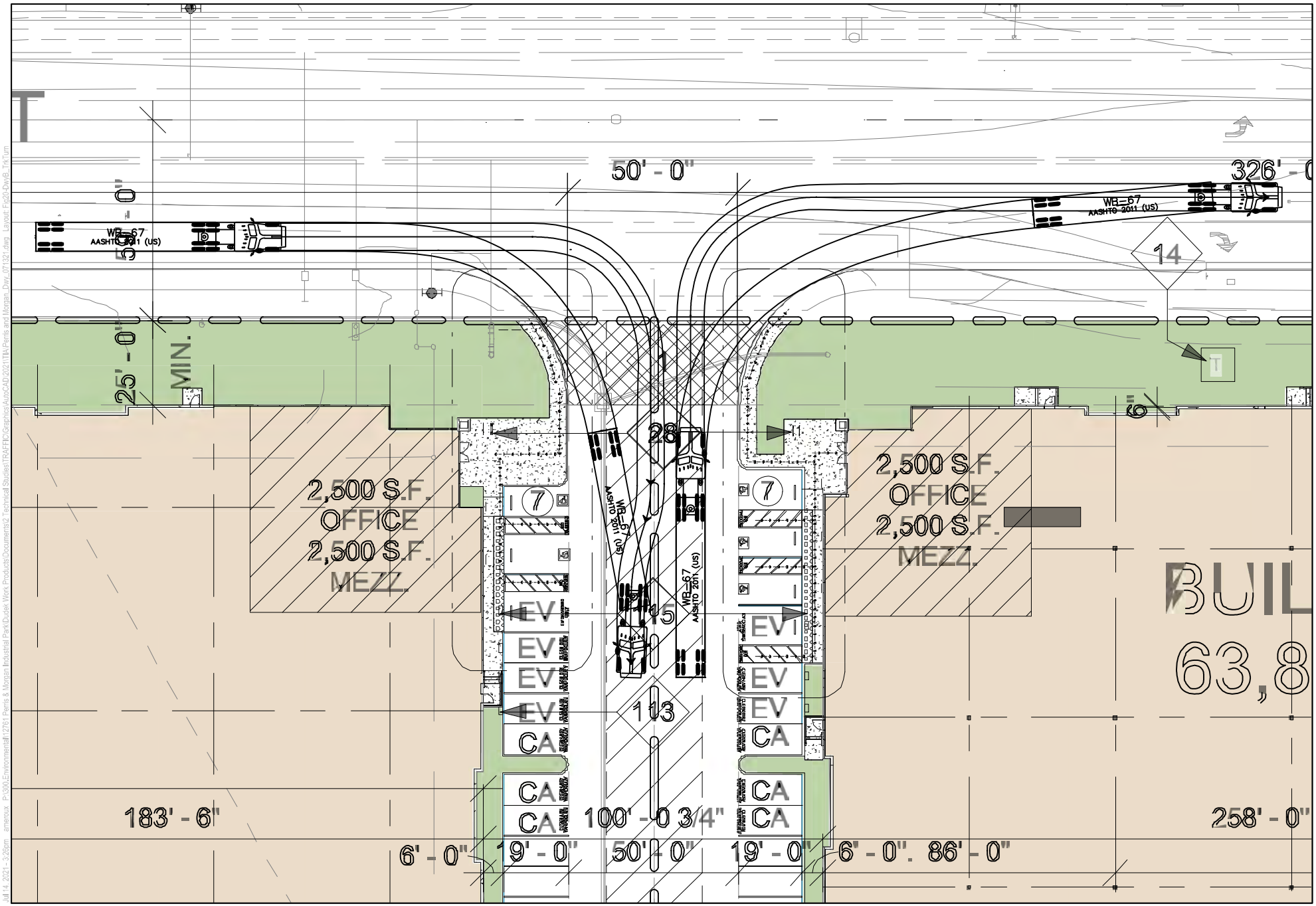
0 20 40 Feet

FIGURE 19

Truck Turn Analysis - Driveway A

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK



SOURCE: Herdman 2021; AASHTO 2011

FIGURE 20

Truck Turn Analysis - Driveway B

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

0 20 40 Feet

INTENTIONALLY LEFT BLANK

SOURCE: Herdman 2021; AASHTO 2011

FIGURE 21

Sight Distance Analysis - Morgan Street (Driveways A & B)

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

0 50 100 Feet

INTENTIONALLY LEFT BLANK

6 Existing Traffic Conditions

The existing traffic controls and geometrics at the study area intersections is shown in Figure 22. This section details the existing traffic volumes and the existing intersection and roadway segments operations within the study area.

6.1 Traffic Volumes

Existing weekday peak hour turning movement counts were collected on March 11, 2020, on a typical non-holiday week while area schools were in-session, prior to COVID-19 shelter in place orders, at the intersections of Perris Boulevard/Morgan Street and Indian Avenue/Ramona Expressway. Additional historical counts were gathered for the intersections of Indian Avenue/Morgan Street and Indian Avenue/Placentia Avenue from May 28, 2019 and adjusted such that traffic counts were balanced with the 2020 counts to maintain flow and consistency. All counts were grown to the existing baseline year 2021, using an annual ambient growth rate of 3.0%, as discussed in Chapter 1.

This analysis focuses on the weekday daily, AM (7:00 a.m. to 9:00 a.m.) and the PM (4:00 p.m. to 6:00 p.m.) peak periods. The peak periods represent the highest volume of traffic for the adjacent street system. An 8% average heavy vehicle factor was observed from the axle classifications collected in the AM peak period, and a 5% average heavy vehicle factor was observed from the axle classifications collected in the PM peak period. Raw traffic count worksheets are provided in Appendix C, and Existing weekday AM and PM peak hour are summarized in Figure 23. For the purpose of this analysis, all traffic volumes figures show PCE-adjusted traffic volumes (except for passenger vehicle volumes presented in Figures 11 and 14), and all HCM analyses utilize unadjusted traffic volumes with heavy vehicle percentages applied to each turning movement.

6.2 Intersection Operations

An intersection LOS analysis was prepared for the existing conditions using HCM 6th Edition methodology via the Synchro LOS software in Chapter 1.3. Table 7 shows the results of the existing conditions analysis. LOS worksheets are provided in Appendix B.

As shown in the table, all the study area intersections are currently operating at satisfactory levels of service (at LOS E or better for intersections with Ramona Expressway; and LOS D or better for all other City intersections) under existing conditions per City of Perris General Plan requirements.

Table 7. Existing Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	Control/ LOS Method	Existing			
				AM Peak		*PM Peak*	
				Delay[1]	*LOS*[2]	*Delay*[1]	*LOS*[2]
1	Indian Avenue/Ramona Expressway	City of Perris	Signal/HCM	26.1	C	29.6	C
2	Indian Avenue/Morgan Street	City of Perris	Signal/HCM	17.7	B	15.2	B
3	Perris Boulevard/Morgan Street	City of Perris	Signal/HCM	10.1	B	11.3	B

Table 7. Existing Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	Control/ LOS Method	Existing			
				AM Peak		*PM Peak*	
				Delay[1]	*LOS*[2]	*Delay*[1]	*LOS*[2]
4	Indian Avenue/Placentia Avenue	City of Perris	AWSC/HCM	10.4	B	9.7	A
5	Driveway A/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist			
6	Driveway B/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist			
7	Perris Boulevard/Driveway C[3]	City of Perris	TWSC/HCM	Does Not Exist			
8	Perris Boulevard/Driveway D[3]	City of Perris	TWSC/HCM	Does Not Exist			

Notes: HCM = Highway Capacity Manual; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled
1 Delay in seconds per vehicle
2 Level of Service (LOS)
3 Future project driveways; analyzed under plus Project conditions only

6.3 Roadway Segment Operations

A roadway segment LOS analysis was prepared for the existing conditions using V/C methodology as discussed in Chapter 1.3. Table 8 shows the results of the existing conditions analysis.

As shown in the table, all the study area roadway segments are currently operating at satisfactory levels of service, at LOS D or better, under existing conditions per City of Perris General Plan requirements.

Table 8. Existing Peak Hour Roadway Segment Level of Service

No.	Roadway Segment	Classification	No. of Lanes	Capacity[1]	Existing		
					Volume[2]	*V/C*	*LOS*
1	Perris Boulevard, Ramona Expressway to Morgan Street	Arterial	6D	53,900	20,678	0.384	A
2	Perris Boulevard, Morgan Street to Rider Street	Arterial	6D	53,900	20,938	0.388	A
3	Morgan Street, Indiana Avenue to Perris Boulevard	Secondary Arterial	4 – 3D (TWLTL)	35,900	1,767	0.049	A

Notes: LOS is based on City of Perris Roadway Segment Classifications and volume-to-capacity (V/C) ratios.
1 Classification and capacity from the City of Perris Circulation Element; capacity noted at LOS E threshold.
2 Average Daily Traffic (ADT) volumes derived from peak hour intersection traffic volumes at the Perris Boulevard/Morgan Street and Perris Boulevard/Ramona Expressway intersection as no historic ADT data was available for all roadway segments; PM peak hour intersection volumes are assumed to be 8.33% of average daily traffic (ADT) volumes.

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 22

Existing Intersection Controls and Geometrics

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIIONALLY LEFT BLANK

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 23

Existing Peak Hour Traffic Volumes (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIONALLY LEFT BLANK

6.4 Existing Plus Project

This section details the Existing Plus Project traffic volumes and the intersection operations within the study area.

6.4.1 Traffic Volumes

The Existing Plus Project analysis is representative of existing conditions with the addition of project traffic. This scenario does not assume buildout of the Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange Project and the City of Placentia Road Widening Project, as discussed in Chapter 7. Therefore, no project traffic is routed through the Placentia Interchange under these conditions. Project traffic volumes shown in Figure 13 were added to the Existing traffic volumes shown in Figure 23 to derive the Existing Plus Project traffic condition. Figure 24 shows the Existing Plus Project traffic volumes.

6.4.2 Intersection Operations

An intersection LOS analysis was prepared for the Existing Plus Project condition using HCM 6th Edition methodology. Table 9 summarizes the results of the Existing Plus Project intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix B.

As shown in Table 9, all of the study area intersections within the City of Perris are forecast to continue to operate with satisfactory LOS, at LOS D/E or better, under Existing Plus Project conditions during both peak hours. Since all study area intersections are forecast to operate at LOS D or better under the Existing Plus Project conditions, the project would not cause a substantial direct or cumulative effect to intersection operations or result in an inconsistency with the City of Perris General Plan LOS standards.

6.4.3 Roadway Segment Operations

A roadway segment LOS analysis was prepared for the Existing Plus Project conditions using V/C methodology per the City of Perris General Plan Circulation Element, as discussed in Chapter 1.3. Table 10 shows the results of the Existing Plus Project conditions analysis.

As shown in the table, all the study area roadway segments are currently operating at satisfactory levels of service, at LOS D or better, under Existing Plus Project conditions per City of Perris General Plan requirements.

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 24

Existing Plus Project Peak Hour Traffic Volumes (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

Table 9. Existing Plus Project Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	Control/ LOS Method	Existing				Existing Plus Project				Change in Delay[1]		Inconsistent with City LOS Standard?	
				AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
				Delay[1]	*LOS[2]*	*Delay[1]*	*LOS[2]*	*Delay[1]*	*LOS[2]*	*Delay[1]*	*LOS[2]*	*AM*	*PM*	*AM*	*PM*
1	Indian Avenue/Ramona Expressway	City of Perris	Signal/HCM	26.1	C	29.6	C	26.0	C	29.7	C	-0.1	0.1	No	No
2	Indian Avenue/Morgan Street	City of Perris	Signal/HCM	17.7	B	15.2	B	20.8	C	15.8	B	3.1	0.6	No	No
3	Perris Boulevard/ Morgan Street	City of Perris	Signal/HCM	10.1	B	11.3	B	10.5	B	12.6	B	0.4	1.3	No	No
4	Indian Avenue/ Placentia Avenue	City of Perris	Signal/HCM	10.4	B	9.7	A	10.4	B	9.7	A	0.0	0.0	No	No
5	Driveway A/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist				9.4	A	9.3	A	–	–	No	No
6	Driveway B/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist				9.1	A	9.4	A	–	–	No	No
7	Perris Boulevard/ Driveway C[3]	City of Perris	TWSC/HCM	Does Not Exist				0.0	A	13.6	B	–	–	No	No
8	Perris Boulevard/ Driveway D[3]	City of Perris	TWSC/HCM	Does Not Exist				0.0	A	0.0	A	–	–	No	No

Notes: HCM = Highway Capacity Manual; TWSC = Two-Way Stop-Controlled

1 Delay in seconds per vehicle

2 Level of Service (LOS)

3 Future project driveways; analyzed under plus Project conditions only.

Table 10. Existing Plus Project Roadway Segment Level of Service

No.	Roadway Segment	Classification	No. of Lanes	Capacity[1]	Existing			Existing Plus Project		
					Volume[2]	*V/C*	*LOS*	*Volume*[2]	*V/C*	*LOS*
1	Perris Boulevard, Ramona Expressway to Morgan Street	Arterial	6D	53,900	20,678	0.384	A	20,916	0.388	A
2	Perris Boulevard, Morgan Street to Rider Street	Arterial	6D	53,900	20,938	0.388	A	21,026	0.390	A
3	Morgan Street, Indiana Avenue to Perris Boulevard	Secondary Arterial	4 – 3D (TWLTL)	35,900	1,767	0.049	A	2,091	0.058	A

Notes: LOS is based on City of Perris Roadway Segment Classifications and volume-to-capacity (V/C) ratios.

1 Classification and capacity from the City of Perris Circulation Element; capacity noted at LOS E threshold.

2 Average Daily Traffic (ADT) volumes derived from peak hour intersection traffic volumes at the Perris Boulevard/Morgan Street and Perris Boulevard/Ramona Expressway intersection as no historic ADT data was available for all roadway segments; PM peak hour intersection volumes are assumed to be 8.33% of average daily traffic (ADT) volumes.

7 Near Term (2022) Conditions

This section includes analysis of traffic operation under Near Term (2022) conditions which represents the short-term horizon period when the proposed project is constructed and fully occupied. Near Term (2022) conditions include the following scenarios:

- Existing plus Ambient Growth (2022)
- Existing plus Ambient Growth plus Project (2022)
- Existing plus Ambient Growth plus Cumulative Projects (2022)
- Existing plus Ambient Growth plus Cumulative Projects plus Project (2022)

Additionally, it must be noted that the addition of a new I-215 interchange at Placentia Avenue is currently under construction as part of a regional transportation improvement project. The Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange project began construction in the fall of 2020, and the project is expected to be completed and open to drivers in fall 2022 (RCTC 2020). This project includes the construction of a new I-215 interchange at Placentia Avenue, and represents "Construction Package #1" of the RCTC future Mid County Parkway Project, which would provide a new 16-mile east-west transportation corridor between San Jacinto and Perris. This project is included in the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) program. WRCOG is responsible for establishing and updating the TUMF program. TUMF is a multi-jurisdictional impact fee program that funds transportation improvements associated with new growth on a regional and sub-regional basis. All new development in each of the participating jurisdictions is subject to TUMF, based on the proposed intensity and type of development. TUMF fees are submitted by the applicant and are passed on to WRCOG as the ultimate program administrator. TUMF funds are distributed on a formula basis to the regional, local, and transit components of the program. The City of Perris participates in the TUMF program.

TUMF identifies a network of backbone and local roadways that are needed to accommodate growth through 2035. This regional program was put into place to ensure that development pays its fair share and that funding is in place for construction of facilities needed to maintain the requisite level of service critical to mobility in the region. TUMF fees and other applicable fair share contributions are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected vehicle trip increases.

The TUMF program is based upon a regional Nexus Study completed in early 2003, which was updated in 2009 and 2016 to address major changes in right of way acquisition and improvement cost factors (WRCOG 2017).

The WRCOG TUMF Program identifies the Mid County Parkway Placentia Interchange project, noted above, as a transportation mitigation project on the Regional System of Highways and Arterials. The RCTC, in cooperation with the Federal Highway Administration (FHWA) and Caltrans, indicate the interchange project, along with buildout of the existing Placentia Avenue overcrossing and addition of lanes to Placentia Avenue between Harvill Avenue and Indian Avenue, to have an expected completion date of fall 2022 (RCTC 2020). This is the same year under which the Near Term (2022) scenarios are analyzed. Additionally, the City of Perris Placentia Avenue Widening Project, which would involve the widening of Placentia Avenue from Indian Avenue to Perris Boulevard from two lanes to six lanes (three in each direction), along with intersection improvements, installation of sidewalk and storm drain facilities, modifications of the existing traffic signals at the intersection of Placentia Avenue and Perris Boulevard and the intersection of Placentia Avenue and Indian Avenue, street lighting, the striping of Class II bikeways, and landscaping (City of Perris 2020c).

As such, the intersection of Indian Avenue/Placentia Avenue is analyzed as a signalized intersection in all Near Term (2022) scenarios as the project is expected to be completed in concurrence with the Mid County Parkway Placentia Interchange project. Additionally, the following intersection geometrics were assumed for the Indian Avenue/Placentia Avenue intersection in this analysis based on a review of the *IDI Rider 2 & 4 High Cube Warehouses and Perris Valley Storm Drain Channel Improvement Project,* dated May 12, 2020, which includes a Focused Traffic Assessment (With I-215 Freeway/Placentia Avenue Interchange); along with the *Placentia Avenue Widening Project Initial Study/Negative Declaration*, dated May 2020; and the *Mid County Parkway Traffic Technical Report*, dated February 3, 2012 (Urban Crossroads 2020; City of Perris 2020d; VRPA Technologies Inc. 2012):

- South Leg
  - 1 Northbound Left-Turn Lane
  - 1 Northbound Through-Right Lane
- North Leg
  - 1 Southbound Left-Turn Lane
  - 1 Southbound Through-Right Lane
- West Leg
  - 1 Eastbound Left-Turn Lane
  - 2 Eastbound Through Lanes
  - 1 Eastbound Right-Turn Lane
- East Leg
  - 1 Westbound Left-Turn Lane
  - 2 Westbound Through Lanes
  - 1 Westbound Right-Turn Lane

7.1 Existing Plus Ambient Growth (2022)

This section details the Existing plus Ambient (2022) traffic volumes and the intersection operations within the study area.

7.1.1 Traffic Volumes

The Existing Plus Ambient Growth (2022) analysis is representative of existing plus ambient growth plus cumulative project conditions. The traffic volumes for this scenario were estimated by increasing the existing traffic counts by an ambient growth rate to existing traffic volumes. Consistent with the 2016-2040 SCAG SCS/RTP and other recent TIA's completed for projects within the City of Perris, a growth rate of 3.0% per year was determined to be appropriate. Since the project would be operational in year 2022, a 3.0% growth rate was applied to existing (2021-adjusted) traffic volumes to estimate the Existing Plus Ambient Growth (2022) conditions. Additionally, traffic volumes from the Existing Plus Ambient Growth (2021) scenario analyzed in the *IDI Rider 2 & 4 High Cube Warehouses and Perris Valley Storm Drain Channel Improvement Project* at the intersection of Indian Avenue/Placentia Avenue were utilized in this analysis. As with existing traffic volumes, a 3.0% growth rate was applied to the study's 2021 forecast traffic volumes to grow them to the 2022 year analyzed in this study. Figure 25 illustrates the Existing Plus Ambient Growth (2022) Peak Hour Traffic Volumes.

7.1.2 Intersection Operations

An intersection LOS analysis was prepared for the Existing Plus Ambient Growth (2022) conditions using HCM 6th Edition methodology via the Synchro LOS software in Chapter 1.3. Table 11 shows the results of the Existing Plus Ambient Growth (2022) analysis. LOS worksheets are provided in Appendix B.

As shown in the table, all the study area intersections would operate at satisfactory levels of service, at LOS D/E or better, under Existing Plus Ambient Growth (2022) conditions during both peak hours per City of Perris General Plan requirements.

Table 11. Existing Plus Ambient Growth (2022) Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	Control/ LOS Method	Existing Plus Ambient Growth (2022)			
				AM Peak		*PM Peak*	
				Delay[1]	*LOS*[2]	*Delay*[1]	*LOS*[2]
1	Indian Avenue/Ramona Expressway	City of Perris	Signal/HCM	27.2	C	32.5	C
2	Indian Avenue/Morgan Street	City of Perris	Signal/HCM	17.8	B	15.3	B
3	Perris Boulevard/Morgan Street	City of Perris	Signal/HCM	10.2	B	11.6	B
4	Indian Avenue/Placentia Avenue	City of Perris	Signal/HCM	13.3	B	20.0	C
5	Driveway A/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist			
6	Driveway B/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist			
7	Perris Boulevard/Driveway C[3]	City of Perris	TWSC/HCM	Does Not Exist			
8	Perris Boulevard/Driveway D[3]	City of Perris	TWSC/HCM	Does Not Exist			

Notes: HCM = Highway Capacity Manual; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled

1 Delay in seconds per vehicle

2 Level of Service (LOS)

3 Future project driveways; analyzed under plus Project conditions only

7.1.3 Roadway Segment Operations

A roadway segment LOS analysis was prepared for the Existing Plus Ambient Growth (2022) conditions using V/C methodology as discussed in Chapter 1.3. Table 12 shows the results of the Existing Plus Ambient Growth (2022) roadway segment analysis.

As shown in the table, all the study area roadway segments are currently operating at satisfactory levels of service, at LOS D or better, under Existing Plus Ambient Growth (2022) conditions per City of Perris General Plan requirements.

Table 12. Existing plus Ambient Growth (2022) Roadway Segment Level of Service

No.	Roadway Segment	Classification	No. of Lanes	Capacity[1]	Existing Plus Ambient Growth (2022)		
					Volume[2]	*V/C*	*LOS*
1	Perris Boulevard, Ramona Expressway to Morgan Street	Arterial	6D	53,900	21,299	0.395	A
2	Perris Boulevard, Morgan Street to Rider Street	Arterial	6D	53,900	21,566	0.400	A
3	Morgan Street, Indiana Avenue to Perris Boulevard	Secondary Arterial	4 – 3D (TWLTL)	35,900	1,821	0.051	A

Notes: LOS is based on City of Perris Roadway Segment Classifications and volume-to-capacity (V/C) ratios.
1 Classification and capacity from the City of Perris Circulation Element; capacity noted at LOS E threshold.
2 Average Daily Traffic (ADT) volumes derived from peak hour intersection traffic volumes at the Perris Boulevard/Morgan Street and Perris Boulevard/Ramona Expressway intersection as no historic ADT data was available for all roadway segments; PM peak hour intersection volumes are assumed to be 8.33% of average daily traffic (ADT) volumes.

7.2 Existing Plus Ambient Growth Plus Project (2022)

This section details the Existing Plus Ambient Growth Plus Project (2022) traffic volumes and the intersection operations within the study area.

7.2.1 Traffic Volumes

The Existing Plus Ambient Growth Plus Project (2022) analysis is representative of existing plus ambient growth conditions. The traffic volumes for this scenario were estimated by increasing the existing traffic counts by the ambient growth rate of 3.0% noted above under the EA (2022) condition. As noted above, this scenario assumes buildout of the Riverside County Transportation Commission (RCTC) Mid County Parkway Placentia Interchange Project and the City of Placentia Road Widening Project. Therefore, project traffic is routed through the Placentia Interchange under these conditions. Project traffic volumes shown in Figure 16 were added to the EA (2022) traffic volumes shown in Figure 25 to derive the Existing Plus Ambient Growth Plus Project (2022) traffic condition. Figure 26 shows the Existing Plus Ambient Growth Plus Project (2022) traffic volumes.

7.2.2 Intersection Operations

An intersection LOS analysis was prepared for the Existing Plus Ambient Growth Plus Project (2022) condition using HCM 6th Edition methodology. Table 13 summarizes the results of the Existing Plus Ambient Growth Plus Project (2022) intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix B.

As shown in Table 13, all of the study area intersections within the City of Perris are forecast to continue to operate with satisfactory LOS, at LOS D/E or better, under Existing Plus Ambient Growth Plus Project (2022) conditions during both peak hours. Since all study area intersections are forecast to operate at LOS D or better under the Existing Plus Ambient Growth Plus Project (2022) conditions, the project would not cause a substantial direct or cumulative effect to intersection operations or result in an inconsistency with the City of Perris General Plan LOS standards.

7.2.3 Roadway Segment Operations

A roadway segment LOS analysis was prepared for the Existing Plus Ambient Growth Plus Project (2022) conditions using V/C methodology per the City of Perris General Plan Circulation Element, as discussed in Chapter 1.3. Table 14 shows the results of the Existing Plus Ambient Growth Plus Project (2022) conditions analysis.

As shown in the table, all the study area roadway segments are currently operating at satisfactory levels of service, at LOS D or better, under Existing Plus Ambient Growth Plus Project (2022) conditions per City of Perris General Plan requirements.

Table 13. Existing Plus Ambient Growth Plus Project (2022) Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	Control/ LOS Method	EA (2022)				Existing Plus Ambient Growth Plus Project (2022)				Change in Delay[1]		Inconsistent with City LOS Standard?	
				AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
				Delay[1]	*LOS[2]*	*Delay[1]*	*LOS[2]*	*Delay[1]*	*LOS[2]*	*Delay[1]*	*LOS[2]*	*AM*	*PM*	*AM*	*PM*
1	Indian Avenue/Ramona Expressway	City of Perris	Signal/HCM	27.2	C	32.5	C	27.4	C	32.7	C	0.2	0.2	No	No
2	Indian Avenue/Morgan Street	City of Perris	Signal/HCM	17.8	B	15.3	B	19.4	B	18.6	B	1.6	3.3	No	No
3	Perris Boulevard/ Morgan Street	City of Perris	Signal/HCM	10.2	B	11.6	B	10.7	B	12.7	B	0.5	1.1	No	No
4	Indian Avenue/ Placentia Avenue	City of Perris	Signal/HCM	13.3	B	20.0	C	13.4	B	19.9	B	0.1	-0.1	No	No
5	Driveway A/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist				9.4	A	8.8	A	–	–	No	No
6	Driveway B/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist				9.1	A	9.0	A	–	–	No	No
7	Perris Boulevard/ Driveway C[3]	City of Perris	TWSC/HCM	Does Not Exist				10.8	B	13.8	B	–	–	No	No
8	Perris Boulevard/ Driveway D[3]	City of Perris	TWSC/HCM	Does Not Exist				0.0	A	13.8	B	–	–	No	No

Notes: HCM = Highway Capacity Manual; TWSC = Two-Way Stop-Controlled

1 Delay in seconds per vehicle

2 Level of Service (LOS)

3 Future project driveways; analyzed under plus Project conditions only.

Table 14. Existing Plus Ambient Growth Plus Project (2022) Roadway Segment Level of Service

No.	Roadway Segment	Classification	No. of Lanes	Capacity[1]	EA (2022)			Existing Plus Ambient Growth Plus Project (2022)		
					Volume[2]	*V/C*	*LOS*	*Volume[2]*	*V/C*	*LOS*
1	Perris Boulevard, Ramona Expressway to Morgan Street	Arterial	6D	53,900	21,299	0.395	A	21,484	0.399	A
2	Perris Boulevard, Morgan Street to Rider Street	Arterial	6D	53,900	21,566	0.400	A	21,652	0.402	A
3	Morgan Street, Indiana Avenue to Perris Boulevard	Secondary Arterial	4 – 3D (TWLTL)	35,900	1,821	0.051	A	2,122	0.059	A

Notes: LOS is based on City of Perris Roadway Segment Classifications and volume-to-capacity (V/C) ratios.

1 Classification and capacity from the City of Perris Circulation Element; capacity noted at LOS E threshold.

2 Average Daily Traffic (ADT) volumes derived from peak hour intersection traffic volumes at the Perris Boulevard/Morgan Street and Perris Boulevard/Ramona Expressway intersection as no historic ADT data was available for all roadway segments; PM peak hour intersection volumes are assumed to be 8.33% of average daily traffic (ADT) volumes.

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 25

Existing Plus Ambient Growth (2022) Peak Hour Traffic Volumes (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

FIGURE 26

DUDEK

NOT TO SCALE

Existing Plus Ambient Growth Plus Project (2022) Peak Hour Traffic Volumes (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

7.3 Existing Plus Ambient Growth Plus Cumulative Projects (2022)

This section details the Existing Plus Ambient Growth Plus Cumulative Projects (2022) traffic volumes and the intersection operations within the study area.

7.3.1 Cumulative Projects

Cumulative projects are projects that are proposed and in the review process, but not yet fully approved; or, projects that have been approved, but not fully constructed or occupied. The Existing Plus Ambient Growth Plus Cumulative Projects (2022) conditions include the addition of cumulative project traffic to the study area. A list of cumulative projects was provided by the City of Perris and is included in Appendix D, along with cumulative project data for the City of Moreno Valley and County of Riverside. Based on review of the cumulative projects and locations, 65 cumulative projects were identified that would potentially add traffic to the study area. Table 15 provides a brief description of these cumulative projects. Figure 27 illustrates the locations of the cumulative project within the City of Perris, City of Moreno Valley, and the County of Riverside within a 3-mile radius of the project site. The 3-mile radius was chosen per discussion with City of Perris Planning Department.

7.3.1.1 Cumulative Projects Trip Generation

Project trip generation estimates for the cumulative projects were taken from traffic studies prepared for the recent development projects and/or derived using ITE *Trip Generation, 10th Edition* (2017) trip rates or from the traffic impact studies or environmental documents available for some of the projects. As shown in Table 15, the cumulative projects are forecast to generate approximately 62,125 daily trips, 3,896 AM peak hour trips, and 5,604 PM peak hour trips. As many of these projects are industrial/warehousing land uses, trip generation estimates were adjusted using PCE factors, resulting in approximately 73,184 daily PCE trips, 4,712 AM peak hour PCE trips, and 6,528 PM peak hour trips.

Table 15. Cumulative Project Trip Generation Summary

ID	Land Use	ITE Code	Size/Unit		Daily	AM Peak Hour			PM Peak Hour		
						In	*Out*	*Total*	*In*	*Out*	*Total*
P1	AAA	712	2.000	TSF	32	3	1	4	2	3	5
P2	Burge Indus 1	110	18.000	TSF	89	11	2	13	1	10	11
Burge Indus 1 (PCE)					*165*	*21*	*3*	*23*	*3*	*18*	*21*
P3	Burge Indus 2	110	19.000	TSF	94	12	2	13	2	10	12
Burge Indus 2 (PCE)					*174*	*22*	*3*	*25*	*3*	*19*	*22*
P4	Circle Industrial III	150	211.000	TSF	367	28	8	36	11	29	40
Circle Industrial III (PCE)					*523*	*39*	*12*	*51*	*15*	*42*	*57*
P5	Duke @ Perris Blvd	154	1,070.000	TSF	1,498	66	20	86	30	77	107
Duke @ Perris Blvd (PCE)					*2,133*	*94*	*28*	*122*	*43*	*110*	*152*

Table 15. Cumulative Project Trip Generation Summary

ID	Land Use	ITE Code	Size/Unit		Daily	AM Peak Hour			PM Peak Hour		
						In	*Out*	*Total*	*In*	*Out*	*Total*
P6	Duke @ Patterson	154	811.000	TSF	1,135	50	15	65	23	58	81
				Duke @ Patterson (PCE)	*1,617*	*71*	*21*	*92*	*32*	*83*	*115*
P7	MI (Markham Industrial)	150	170.000	TSF	296	22	7	29	9	24	32
				MI (Markham Industrial) (PCE)	*421*	*32*	*9*	*41*	*12*	*34*	*46*
P8	Phelan Indus	110	81.000	TSF	402	50	7	57	7	44	51
				Phelan Indus (PCE)	*743*	*92*	*13*	*105*	*12*	*82*	*94*
P9	Pulliam Indus	110	16.000	TSF	79	10	1	11	1	9	10
				Pulliam Indus (PCE)	*147*	*18*	*2*	*21*	*2*	*16*	*19*
P10	Rider 1	154	350.000	TSF	490	22	6	28	10	25	35
				Rider 1 (PCE)	*698*	*31*	*9*	*40*	*14*	*36*	*50*
P11	Rider 3	154	640.000	TSF	896	39	12	51	18	46	64
				Rider 3 (PCE)	*1,276*	*56*	*17*	*73*	*26*	*66*	*91*
P12	Canyon Steel (CS)	110	25.000	TSF	124	15	2	18	2	14	16
				Canyon Steel (CS) (PCE)	*229*	*28*	*4*	*32*	*4*	*25*	*29*
P13	Duke @ Perry	150	144.000	TSF	251	19	6	24	7	20	27
				Duke @ Perry (PCE)	*357*	*27*	*8*	*35*	*11*	*28*	*39*
P14	IDI @ Ramona	154	426.000	TSF	596	26	8	34	12	31	43
				IDI @ Ramona (PCE)	*849*	*37*	*11*	*49*	*17*	*44*	*61*
P15	Western Ind	154	250.000	TSF	350	15	5	20	7	18	25
				Western Ind (PCE)	*498*	*22*	*7*	*28*	*10*	*26*	*36*
P16	WT (Westcoast Textile)	150	180.000	TSF	313	24	7	31	9	25	34
				WT (Westcoast Textile) (PCE)	*446*	*34*	*10*	*44*	*13*	*36*	*49*
P17	Integra - Expansion (IT-E)	154	273.000	TSF	382	17	5	22	8	20	27
				Integra - Expansion (IT-E) (PCE)	*544*	*24*	*7*	*31*	*11*	*28*	*39*
P18	Marijuana Manufacturing (MM)	140	1.000	TSF	4	1	1	2	1	1	2
P19	Rados	154	1,200.000	TSF	1,680	74	22	96	34	86	120
				Rados (PCE)	*2,392*	*105*	*31*	*137*	*48*	*123*	*171*
P20	Rider 2 & 4	154	1.373.000	TSF	1,922	85	25	110	38	99	137
				Rider 2 & 4 (PCE)	*2,737*	*120*	*36*	*156*	*55*	*141*	*196*

Table 15. Cumulative Project Trip Generation Summary

ID	Land Use	ITE Code	Size/Unit		Daily	AM Peak Hour			PM Peak Hour		
						In	*Out*	*Total*	*In*	*Out*	*Total*
P21	Walnut Indu	154	205.000	TSF	287	13	4	16	6	15	21
			Walnut Indu (PCE)		*409*	*18*	*5*	*23*	*8*	*21*	*29*
P22	Truck Terminal	30	9.5	ac	778	28	41	69	27	35	62
			Truck Terminal (PCE)		*1,439*	*52*	*75*	*128*	*49*	*66*	*115*
P23	Expressway Industrial	154	347.000	TSF	486	21	6	28	10	25	35
			Expressway Industrial (PCE)		*692*	*30*	*9*	*40*	*14*	*36*	*49*
P24	First Indus (Goodwin)	154	338.000	TSF	473	21	6	27	9	24	34
			First Indus (Goodwin) (PCE)		*674*	*30*	*9*	*39*	*13*	*35*	*48*
P25	Wilson Ind	154	303.000	TSF	424	19	6	24	8	22	30
			Wilson Ind (PCE)		*604*	*27*	*8*	*35*	*12*	*31*	*43*
P26	Natwar Ind	154	420.000	TSF	588	26	8	34	12	30	42
			Natwar Ind (PCE)		*837*	*37*	*11*	*48*	*17*	*43*	*60*
P27	Perris Plaza - Build-out	820	173,000	TSF	6,531	101	62	163	316	343	659
P28	March Plaza	820	47.253	TSF	1,784	28	17	44	86	94	180
P29	Arco Expansion	945	3.869	TSF	5,571	150	144	294	174	167	342
P30	Cali Express Carwash	948	5.600	TSF	795	20	20	40	40	40	80
P31	Commercial Retail - Spectrum	820	7.400	TSF	279	4	3	7	14	15	28
P32	Pacific Heritage 1	210	82	DU	774	15	46	61	51	30	81
P33	Sunwest Enterprises	210	61	DU	576	11	34	45	38	22	60
P34	Pacific Ave	210	131	DU	1,237	24	73	97	82	48	130
P35	Barrett Apt	221	228	DU	1,240	21	61	82	61	39	100
P36	Sunwest Enterprises	210	57	DU	538	11	32	42	36	21	56
P37	Jason Keller/ John Ford	210	161	DU	1,520	30	89	119	100	59	159
P38	Sunwest Enterprises	210	15	DU	142	3	8	11	9	5	15
P39	Rastogi Family LTD /John Ford	210	75	DU	708	14	42	56	47	27	74
P40	Tristone/David Jeffers	210	22	DU	208	4	12	16	14	8	22
P41	Sterling Villa	221	429	DU	2,334	40	114	154	115	74	189

Table 15. Cumulative Project Trip Generation Summary

ID	Land Use	ITE Code	Size/Unit		Daily	AM Peak Hour			PM Peak Hour		
						In	*Out*	*Total*	*In*	*Out*	*Total*
P42	Stratford Ranch	210	270	DU	2,549	50	150	200	168	99	267
P43	Nova Homes	210	76	DU	717	14	42	56	47	28	75
P44	Citrus Court	210	111	DU	1,048	21	62	82	69	41	110
P45	Villa Verona Apt	221	360	DU	1,958	34	96	130	97	62	158
P46	John Abel Stratford Ranch	210	90	DU	850	17	50	67	56	33	89
P47	Oleander Cultivation	818	12.985	TSF	506	16	16	31	54	54	108
P48	Harley Knox 25K	150	12.985	TSF	23	2	1	2	1	2	2
				Harley Knox 25K (PCE)	*32*	*2*	*1*	*3*	*1*	*3*	*4*
P49	Kwasizur Indu	150	138	TSF	240	18	5	23	7	19	26
				Kwasizur Indu (PCE)	*342*	*26*	*8*	*33*	*10*	*27*	*37*
P50	Natwar Ind Truck Lot	30	5	ac	410	15	21	36	14	19	33
				Natwar Ind Truck Lot (PCE)	*757*	*28*	*40*	*67*	*26*	*35*	*61*
P51	Serrao Ind	154	3.5	TSF	6	0	0	1	0	0	1
				Serrao Ind (PCE)	*9*	*1*	*0*	*1*	*0*	*1*	*1*
P52	Lakecreek East	154	256	TSF	445	34	10	44	13	36	49
				Lakecreek East (PCE)	*634*	*48*	*14*	*62*	*19*	*51*	*69*
P53	Lakecreek West	154	300	TSF	522	39	12	51	15	42	57
				Lakecreek West (PCE)	*743*	*56*	*17*	*73*	*22*	*59*	*81*
P54	Chartwell Ind	154	141	TSF	245	18	6	24	7	20	27
				Chartwell Ind (PCE)	*349*	*26*	*8*	*34*	*10*	*28*	*38*
P55	Duke @ Patterson and Nance	150	580	TSF	1,009	76	23	99	30	80	110
				Duke @ Patterson and Nance (PCE)	*1,437*	*108*	*32*	*140*	*42*	*115*	*157*
P56	Aldi Market Center	820	27	TSF	1,019	16	10	25	49	53	103
P57	Tommy's carwash	948	8.5	TSF	1,207	30	30	60	60	60	121
P58	Mosque	948	12	TSF	83	2	2	4	3	3	6
P59	38071 Straford Ranch	210	197	DU	1,860	36	109	146	123	72	195

Table 15. Cumulative Project Trip Generation Summary

ID	Land Use	ITE Code	Size/Unit		Daily	AM Peak Hour			PM Peak Hour		
						In	*Out*	*Total*	*In*	*Out*	*Total*
				Subtotal City of Perris	*52,973*	*1,629*	*1,630*	*3,259*	*2,301*	*2,515*	*4,816*
				Subtotal City of Perris (PCE)	*60,980*	*2,076*	*1,792*	*3,868*	*2,488*	*3,006*	*5,494*
MV 1	PEN19-0188 PI Properties No. 67 LLC	210	66	DU	623	12	37	49	41	24	65
MV 2	PEN18-0042 Ada Deturcios	210	2	DU	19	0	1	1	1	1	2
MV 3	First Logistics at Nandina Ave	150	221.859	TSF	386	29	9	38	11	31	42
				First Logistics at Nandina Ave (PCE)	*550*	*41*	*12*	*54*	*16*	*44*	*60*
				Subtotal City of Moreno Valley	*1,028*	*42*	*46*	*88*	*54*	*56*	*109*
				Subtotal City of Moreno Valley (PCE)	*1,192*	*54*	*50*	*104*	*59*	*69*	*127*
R1	TTM 33978	210	139	DU	1,312	26	77	103	87	51	138
R2	Nuevo Distribution Center	154	1,586.645	TSF	2,221	98	29	127	44	114	159
				Nuevo Distribution Center (PCE)	*3,163*	*139*	*42*	*181*	*63*	*163*	*226*
R3	Majestic Freeway Business Center SP	150	816.142	TSF	1,420	107	32	139	42	113	155
		154	2,264.920	TSF	3,171	140	42	181	63	163	226
				Majestic Freeway Business Center SP4 (PCE)	*6,538*	*351*	*105*	*456*	*150*	*393*	*543*
				Subtotal County of Riverside	*8,124*	*370*	*180*	*550*	*236*	*441*	*678*
				Subtotal County of Riverside (PCE)	*11,013*	*516*	*224*	*739*	*300*	*607*	*907*
				Total	**62,125**	**2,040**	**1,856**	**3,896**	**2,591**	**3,013**	**5,604**
				Total (PCE)	**73,184**	**2,646**	**2,066**	**4,712**	**2,847**	**3,681**	**6,528**

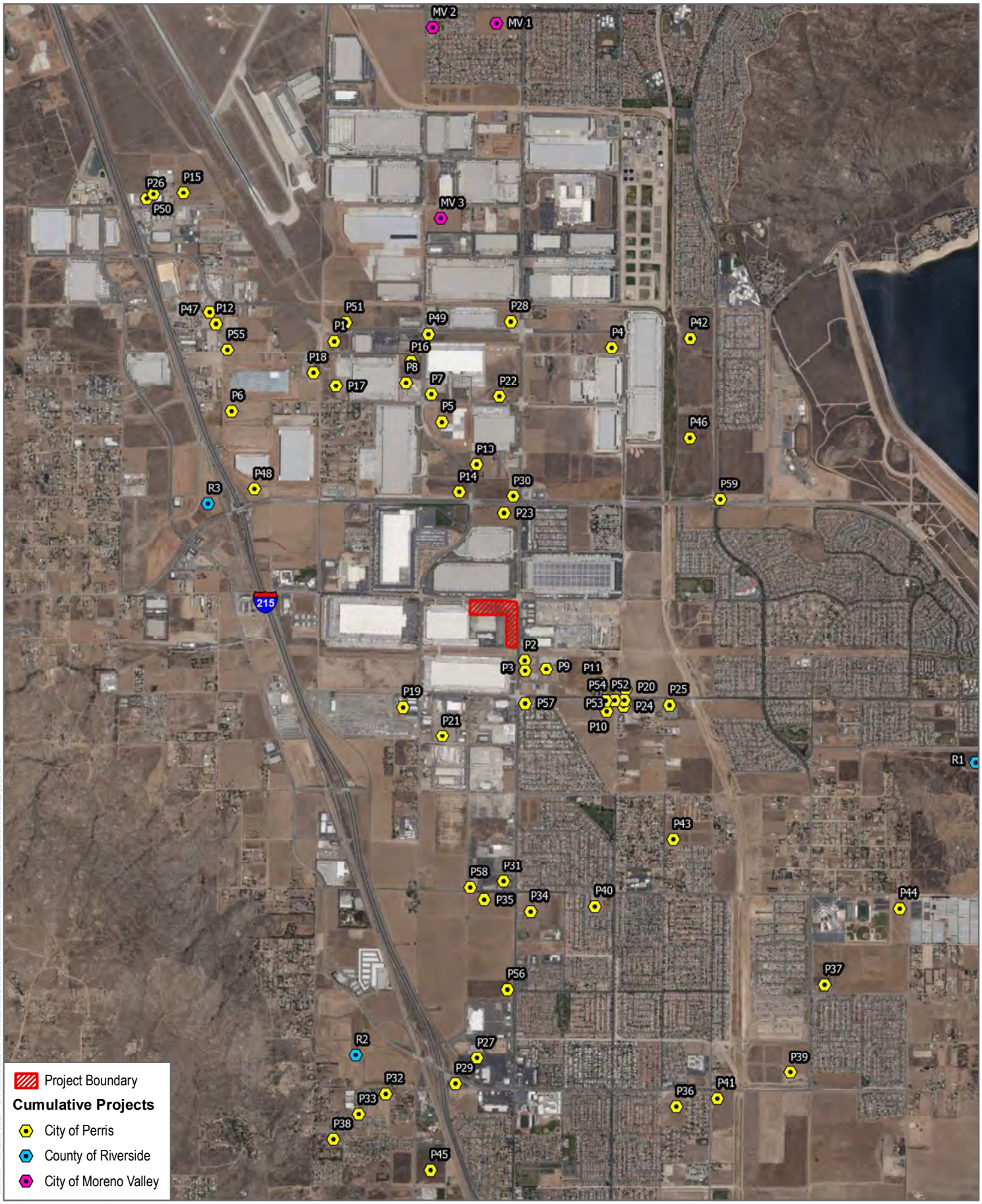
Notes: TSF = Thousand Square Feet; DU = Dwelling Unit; ac = acres; PCE = Passenger Car Equivalent

7.3.1.2 Cumulative Projects Trip Distribution and Assignment

Trip distributions and assignments for the cumulative projects were obtained from traffic studies prepared for recent development projects, and/or assuming logical commute corridors. The trips generated by the cumulative projects were distributed through the study area network. Figure 28 shows the cumulative projects traffic volumes for the peak hour conditions. Worksheets showing the raw cumulative projects data are provided in Appendix D.

As discussed at the beginning of this Chapter, the RCTC Mid County Parkway Placentia Interchange project began construction in the fall of 2020, and the project is expected to be completed and open to drivers in fall 2022 (RCTC 2020). Additionally, the City of Perris Placentia Avenue Widening Project, which would involve the widening of Placentia Avenue from Indian Avenue to Perris Boulevard from two lanes to six lanes (three in each direction), along with intersection improvements and modifications of the existing traffic signals at the intersection of Placentia Avenue and Perris Boulevard and the intersection of Placentia Avenue and Indian Avenue, would be completed in

concurrence with the Mid County Parkway Placentia Interchange Project. As all Near Term (2022) conditions represent the year 2022, use of this new interchange was taken into consideration when distributing and assigning cumulative projects throughout the study area.



SOURCE: Bing Maps; County of Riverside 2020; City of Moreno Valley 2021; City of Perris 2021

DUDEK

0 1,700 3,400 Feet

Figure 27

Cumulative Project Locations

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

DUDEK

NOT TO SCALE

FIGURE 28

Cumulative Project Peak Hour Traffic Volumes (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

7.3.2 Traffic Volumes

The Existing Plus Ambient Growth Plus Cumulative Projects (2022) analysis is representative of existing plus ambient growth plus cumulative project conditions. The traffic volumes for this scenario were estimated by increasing the existing traffic counts by the ambient growth rate of 3.0% noted above under the EA (2022) condition, and adding traffic generated by other cumulative projects in the study area as detailed above. Figure 29 illustrates the Existing Plus Ambient Growth Plus Cumulative Projects (2022) Peak Hour Traffic Volumes.

7.3.3 Intersection Operations

An intersection LOS analysis was prepared for the Existing Plus Ambient Growth Plus Cumulative Projects (2022) conditions using HCM 6th Edition methodology. Table 16 shows the results of the Existing Plus Ambient Growth Plus Cumulative Projects (2022) analysis. LOS worksheets are provided in Appendix B.

As shown in the table, all the study area intersections would operate at satisfactory levels of service, at LOS D/E or better, under Existing Plus Ambient Growth Plus Cumulative Projects (2022) conditions during both peak hours per City of Perris General Plan requirements.

Table 16. Existing Plus Ambient Growth Plus Cumulative Projects (2022) Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	Control/ LOS Method	Existing Plus Ambient Growth Plus Cumulative Projects (2022)			
				AM Peak		*PM Peak*	
				Delay[1]	*LOS[2]*	*Delay[1]*	*LOS[2]*
1	Indian Avenue/Ramona Expressway	City of Perris	Signal/HCM	40.8	D	42.8	D
2	Indian Avenue/Morgan Street	City of Perris	Signal/HCM	16.1	B	15.6	B
3	Perris Boulevard/Morgan Street	City of Perris	Signal/HCM	10.7	B	13.3	B
4	Indian Avenue/Placentia Avenue	City of Perris	Signal/HCM	38.7	D	51.6	D
5	Driveway A/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist			
6	Driveway B/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist			
7	Perris Boulevard/Driveway C[3]	City of Perris	TWSC/HCM	Does Not Exist			
8	Perris Boulevard/Driveway D[3]	City of Perris	TWSC/HCM	Does Not Exist			

Notes: HCM = Highway Capacity Manual; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled

1 Delay in seconds per vehicle

2 Level of Service (LOS)

3 Future project driveways; analyzed under plus Project conditions only

7.3.4 Roadway Segment Operations

A roadway segment LOS analysis was prepared for the Existing Plus Ambient Growth Plus Cumulative Projects (2022) conditions using V/C methodology as discussed in Chapter 1.3. Table 17 shows the results of the Existing Plus Ambient Growth Plus Cumulative Projects (2022) roadway segment analysis.

As shown in the table, all the study area roadway segments are currently operating at satisfactory levels of service, at LOS D or better, under Existing Plus Ambient Growth Plus Cumulative Projects (2022) conditions per City of Perris General Plan requirements.

Table 17. Existing Plus Ambient Growth Plus Cumulative Projects (2022) Roadway Segment Level of Service

No.	Roadway Segment	Classification	No. of Lanes	Capacity[1]	Existing Plus Ambient Growth Plus Cumulative Projects (2022)		
					Volume[2]	*V/C*	*LOS*
1	Perris Boulevard, Ramona Expressway to Morgan Street	Arterial	6D	53,900	25,343	0.470	A
2	Perris Boulevard, Morgan Street to Rider Street	Arterial	6D	53,900	25,610	0.475	A
3	Morgan Street, Indiana Avenue to Perris Boulevard	Secondary Arterial	4 – 3D (TWLTL)	35,900	1,821	0.051	A

Notes: LOS is based on City of Perris Roadway Segment Classifications and volume-to-capacity (V/C) ratios.

1 Classification and capacity from the City of Perris Circulation Element; capacity noted at LOS E threshold.

2 Average Daily Traffic (ADT) volumes derived from peak hour intersection traffic volumes at the Perris Boulevard/Morgan Street and Perris Boulevard/Ramona Expressway intersection as no historic ADT data was available for all roadway segments; PM peak hour intersection volumes are assumed to be 8.33% of average daily traffic (ADT) volumes.

SOURCE: Bing 2020

NOT TO SCALE

FIGURE 29

Existing Plus Ambient Growth Plus Cumulative Projects (2022) Peak Hour Traffic Volumes (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

DUDEK

INTENTIONALLY LEFT BLANK

7.4 Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022)

This section details the Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) traffic volumes and the intersection operations within the study area.

7.4.1 Traffic Volumes

The Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) analysis is representative of existing plus ambient growth plus cumulative project conditions. The traffic volumes for this scenario were estimated by increasing the existing traffic counts by the ambient growth rate of 3.0% noted above under the EA (2022) condition, and adding traffic generated by other cumulative projects in the study area as detailed above. Project traffic volumes shown in Figure 16 were added to the Existing Plus Ambient Growth Plus Cumulative Projects (2022) traffic volumes shown in Figure 29 to derive the Existing Plus Ambient Growth Plus Project (2022) traffic condition. Figure 30 shows the Existing Plus Ambient Growth Plus Project (2022) traffic volumes.

7.4.2 Intersection Operations

An intersection LOS analysis was prepared for the Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) condition using HCM 6th Edition methodology. Table 18 summarizes the results of the Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix B.

As shown in Table 18, all of the study area intersections within the City of Perris are forecast to continue to operate with satisfactory LOS, at LOS D/E or better, under Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) conditions during both peak hours. Since all study area intersections are forecast to operate at LOS D or better under the Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) conditions, the project would not cause a substantial direct or cumulative effect to intersection operations or result in an inconsistency with the City of Perris General Plan LOS standards.

7.4.3 Roadway Segment Operations

A roadway segment LOS analysis was prepared for the Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) conditions using V/C methodology per the City of Perris General Plan Circulation Element, as discussed in Chapter 1.3. Table 19 shows the results of the Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) conditions analysis.

As shown in the table, all the study area roadway segments are currently operating at satisfactory levels of service, at LOS D or better, under Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) conditions per City of Perris General Plan requirements.

Table 18. Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	Control/ LOS Method	Existing Plus Ambient Growth Plus Cumulative Projects (2022)				Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022)				Change in Delay[1]		Inconsistent with City LOS Standard?	
				AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
				Delay[1]	*LOS[2]*	*Delay[1]*	*LOS[2]*	*Delay[1]*	*LOS[2]*	*Delay[1]*	*LOS[2]*	*AM*	*PM*	*AM*	*PM*
1	Indian Avenue/Ramona Expressway	City of Perris	Signal/HCM	40.8	D	42.8	D	41.3	D	43.1	D	0.5	0.3	No	No
2	Indian Avenue/Morgan Street	City of Perris	Signal/HCM	16.1	B	15.6	B	17.5	B	16.1	B	1.4	0.5	No	No
3	Perris Boulevard/ Morgan Street	City of Perris	Signal/HCM	10.7	B	13.3	B	11.2	B	14.8	B	0.5	1.5	No	No
4	Indian Avenue/ Placentia Avenue	City of Perris	Signal/HCM	38.7	D	51.6	D	41.7	D	53.5	D	3.0	1.9	No	No
5	Driveway A/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist				9.4	A	9.4	A	–	–	No	No
6	Driveway B/Morgan Street[3]	City of Perris	TWSC/HCM	Does Not Exist				9.1	A	9.4	A	–	–	No	No
7	Perris Boulevard/ Driveway C[3]	City of Perris	TWSC/HCM	Does Not Exist				11.4	B	15.2	C	–	–	No	No
8	Perris Boulevard/ Driveway D[3]	City of Perris	TWSC/HCM	Does Not Exist				0.0	A	15.1	C	–	–	No	No

Notes: HCM = Highway Capacity Manual; TWSC = Two-Way Stop-Controlled

1 Delay in seconds per vehicle

2 Level of Service (LOS)

3 Future project driveways; analyzed under plus Project conditions only.

Table 19. Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) Roadway Segment Level of Service

No.	Roadway Segment	Classification	No. of Lanes	Capacity[1]	Existing Plus Ambient Growth Plus Cumulative Projects (2022)			Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022)		
					Volume[2]	*V/C*	*LOS*	*Volume[2]*	*V/C*	*LOS*
1	Perris Boulevard, Ramona Expressway to Morgan Street	Arterial	6D	53,900	25,343	0.470	A	25,528	0.474	A
2	Perris Boulevard, Morgan Street to Rider Street	Arterial	6D	53,900	25,610	0.475	A	25,696	0.477	A
3	Morgan Street, Indiana Avenue to Perris Boulevard	Secondary Arterial	4 – 3D (TWLTL)	35,900	1,821	0.051	A	2,122	0.059	A

Notes: LOS is based on City of Perris Roadway Segment Classifications and volume-to-capacity (V/C) ratios.

1 Classification and capacity from the City of Perris Circulation Element; capacity noted at LOS E threshold.

2 Average Daily Traffic (ADT) volumes derived from peak hour intersection traffic volumes at the Perris Boulevard/Morgan Street and Perris Boulevard/Ramona Expressway intersection as no historic ADT data was available for all roadway segments; PM peak hour intersection volumes are assumed to be 8.33% of average daily traffic (ADT) volumes.

INTENTIONALLY LEFT BLANK

SOURCE: Bing 2020

FIGURE 30

DUDEK

NOT TO SCALE

Existing Plus Ambient Growth Plus Cumulative Projects Plus Project (2022) Peak Hour Traffic Volumes (PCE)

Perris Boulevard and Morgan Street Industrial Park Project

INTENTIONALLY LEFT BLANK

8 Project Impacts, Mitigation Measures, and LOS Improvements

8.1 Project Impacts per CEQA

8.1.1 VMT Analysis

As detailed in Chapter 4, the proposed project passes one of the five screening criteria, i.e., TPA Screening. Therefore, the proposed project can be presumed to have a less than significant VMT impact under Existing and Near Term 2022 conditions. A project-level detailed VMT analysis would not be required, and impacts to VMT could be presumed to be less than significant.

8.1.2 Access Analysis

Sight Distance

Sufficient curb radii and intersection sight distance would be provided for truck access to the two proposed driveways along Morgan Street. However, existing vegetation is currently located within the limited use areas along Morgan Street, as described in Chapter 5.5 and shown in Figure 18. Prior to issuance of a building permit, the applicant would be required to meet all standards and guidelines outlined in the PVCC SP, including MM Trans 2, which details adherence to City of Perris sight distance standards.

8.1.3 Mitigation Measures

No mitigation measures would be necessary for the proposed project.

8.2 Level of Service Findings

8.2.1 LOS Results

Under the Existing conditions, all study area intersections included in this analysis operate at LOS D/E or better. Additionally, since all study area intersections are forecast to operate at LOS D or better under all Near Term (2022) conditions, the project would not cause a substantial direct or cumulative effect to intersection operations or result in an inconsistency with the City of Perris General Plan LOS standards.

8.2.2 Improvement Measures

No inconsistencies with applicable plans can be concluded in the study area. Per the City's applicable LOS consistency analysis, no substantial project-specific effect would occur and no improvements are recommended.[6]

[6] As noted in Chapter 7, the intersection of Indian Avenue/Placentia Avenue is analyzed as a signalized intersection with additional lanes in all Near Term (2022) scenarios as the City of Perris Placentia Road Widening Project is expected to be completed in concurrence with the Mid County Parkway Placentia Interchange project and operational with the completion of the proposed project.

INTENTIONALLY LEFT BLANK

9 References

Albert A. Webb Associates. 2011. Perris Valley Commerce Center Specific Plan. Final Environmental Impact Report. Accessed June 2021. https://www.cityofperris.org/Home/ShowDocument?id=2645

American Association of Highway Transportation Officials (AASHTO). 2018. A Policy on Geometric Design of Highways and Streets.

City of Perris. 2008. City of Perris General Plan. Circulation Element. Adopted August 26, 2008. Accessed June 2021. https://www.cityofperris.org/home/showdocument?id=447

City of Perris. 2018. PVCC (Perris Valley Commerce Center) Specific Plan. Accessed June 2021. https://www.cityofperris.org/Home/ShowDocument?id=2647.

City of Perris. 2020a. Draft Transportation Impact Analysis Guidelines for CEQA.

City of Perris. 2020b. Notice of Exemption. Vehicle Miles Traveled Policies. Accessed June 2021. https://www.cityofperris.org/Home/ShowDocument?id=13245.

City of Perris. 2020c. Notice of Exemption. Placentia Avenue Widening Project. Accessed June 2021. https://ceqanet.opr.ca.gov/2020060039/2.

County of Riverside. 2007. Intersection Sight Distance. Standard NO. 821. Accessed June 2021. https://rctlma.org/Portals/7/documents/ord461/ord461std0821.pdf.

Herdman (Herdman Architecture and Design). 2020. *Conceptual Site Plan for Perris and Morgan Industrial Business Park A19-2188*. September 11, 2020.

ITE (Institute of Transportation Engineers). 2017. *Trip Generation Manual*. 10th ed.

OPR (California Governor's Office of Planning and Research). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018. Accessed June 2021. http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

Riverside County Transportation Commission. 2020. Mid County Parkway Placentia Interchange. Fact Sheet. Accessed June 2021. https://www.rctc.org/wp-content/uploads/2020/04/MCP_Placentia-Ave-fact-sheet_042320_2Sided.pdf.

Riverside County Transportation Department. *Transportation Impact Analysis Preparation Guide*. January 2008.

SCAQMD. 2014. *SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results*. June 2014. Accessed September 2020. http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf.

Transportation Research Board. 2016. *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*.

Urban Crossroads. 2020. *IDI Rider 2 & 4 High Cube Warehouses and Perris Valley Storm Drain Channel Improvement Project – Focused Traffic Assessment (With I-215 Freeway/Placentia Avenue Interchange)*. Accessed June 2021. https://www.cityofperris.org/home/showdocument?id=13508.

VRPA Technologies, Inc. 2012. *Mid County Parkway Traffic Technical Report.* Accessed June 2021. https://rctc.org/midcountyparkway/uploads/rdeir-sdeis-rds4fe_technical-report-24.pdf.

Western Riverside Council of Governments (WRCOG). 2020. Recommended Transportation Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment. January 2020

Appendix A

City of Perris VMT Scoping Form and WRCOG VMT Screening Tool

CITY OF PERRIS
VMT SCOPING FORM FOR LAND USE PROJECTS

This Scoping Form acknowledges the City of Perris requirements for the evaluation of transportation impacts under CEQA. The analysis provided in this form should follow the City of Perris TIA Guidelines, dated May 12, 2020.

I. Project Description

Tract/Case No. DPR20-00013

Project Name: Perris Boulevard and Morgan Street Industrial Park Project

Project Location: Southwest corner of Perris Boulevard and Morgan Street

Project Description: Construction of three industrial/warehouse buildings equaling approximately 286,892 square feet, inclusive of office/mezzanine
(Please attach a copy of the project Site Plan)

Current GP Land Use: PVCCSP **Proposed GP Land Use:** PVCCSP

Current Zoning: PVCCSP - Light Industrial **Proposed Zoning:** PVCCSP - Light Industrial

If a project requires a General Plan Amendment or Zone change, then additional information and analysis should be provided to ensure the project is consistent with RHNA and RTP/SCS Strategies.

II. VMT Screening Criteria

A. Is the Project 100% affordable housing?	**YES**		**NO**	**X**	Attachments:	
B. Is the Project within 1/2 mile of qualifying transit?	**YES**	**X**	**NO**		Attachments:	**Yes**
C. Is the Project a local serving land use?	**YES**		**NO**	**X**	Attachments:	
D. Is the Project in a low VMT area?	**YES**		**NO**	**X**	Attachments:	
E. Are the Project's Net Daily Trips less than 500 ADT?	**YES**	**X**	**NO**		Attachments:	**Yes** *(Note PCE > 500 ADT)*

Low VMT Area Evaluation:

Citywide VMT Averages1		
Citywide Home-Based VMT =	15.05	VMT/Capita
Citywide Employment-Based VMT =	11.62	VMT/Employee

Project TAZ	**VMT Rate for Project TAZ1**		**Type of Project**	
3767	**6.96**	VMT/Capita	Residential:	
	12.02	VMT/Employee	Non-Residential:	**X**

1 Base year (2012) projections from RIVTAM.

Trip Generation Evaluation:

Source of Trip Generation: ITE Trip Generation Manual, 10th Edition (2017)

Project Trip Generation: **499** **Average Daily Trips (ADT)**

Internal Trip Credit:	YES		NO	**X**	% Trip Credit:	
Pass-By Trip Credit:	YES		NO	**X**	% Trip Credit:	
Affordable Housing Credit:	YES		NO	**X**	% Trip Credit:	
Existing Land Use Trip Credit:	YES		NO	**X**	Trip Credit:	

Net Project Daily Trips: **- -** **Average Daily Trips (ADT)** Attachments:

Does project trip generation warrant an LOS evaluation outside of CEQA? **YES** **X** **NO** **- -**

III. VMT Screening Summary

A. Is the Project presumed to have a less than significant impact on VMT?

A Project is presumed to have a less than significant impact on VMT if the Project satisfies at least one (1) of the VMT screening criteria.

Yes (TPA Screening per the City of Perris Transit Priority Areas)

B. Is mitigation required?

If the Project does not satisfy at least one (1) of the VMT screening criteria, then mitigation is required to reduce the Project's impact on VMT.

No

C. Is additional VMT modeling required to evaluate Project impacts?

YES	--	NO	X

If the Project requires a zone change and/or General Plan Amendment AND generates 2,500 or more net daily trips, then additional VMT modeling using RIVTAM/RIVCOM is required. If the project generates less than 2,500 net daily trips, the Project TAZ VMT Rate can be used for mitigation purposes.

IV. MITIGATION

A. Citywide Average VMT Rate (Threshold of Significance) for Mitigation Purposes: -- | --

B. Unmitigated Project TAZ VMT Rate: -- | --

C. Percentage Reduction Required to Achieve the Citywide Average VMT: --

D. VMT Reduction Mitigation Measures:

Source of VMT Reduction Estimates:	

Project Location Setting	

	VMT Reduction Mitigation Measure:	Estimated VMT Reduction (%)
1.		0.00%
2.		0.00%
3.		0.00%
4.		0.00%
5.		0.00%
6.		0.00%
7.		0.00%
8.		0.00%
9.		0.00%
10.		0.00%
Total VMT Reduction (%)		**0.00%**

(Attach additional pages, if necessary, and a copy of all mitigation calculations.)

E. Mitigated Project TAZ VMT Rate: -- | --

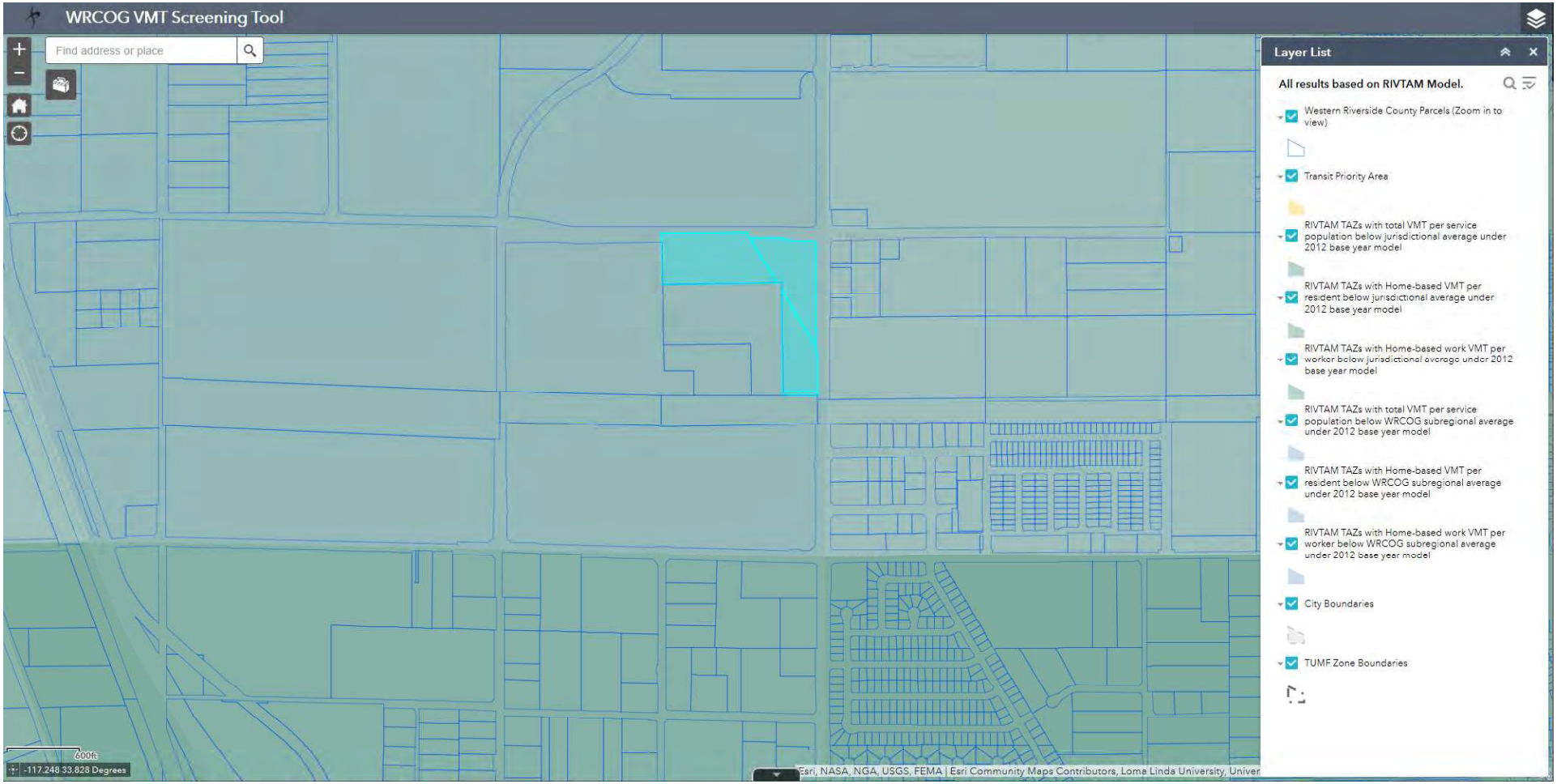
F. Is the project pressumed to have a less than significant impact with mitigation? --

If the mitigated Project VMT rate is below the Citywide Average Rate, then the Project is presumed to have a less than significant impact with mitigation. If the answer is no, then additional VMT modeling may be required and a potentially significant and unavoidable impact may occur. All mitigation measures identified in Section IV.D. are subject to become Conditions of Approval of the project. Development review and processing fees should be submitted with, or prior to the submittal of this Form. The Planning Department staff will not process the Form prior to fees being paid to the City.

Prepared By		Developer/Applicant	
Company:	Dudek	**Company:**	Patriot Development Partners
Contact:	Amanda Meroux	**Contact:**	Kevin Rice
Address:	1102 R Street Sacramento, CA 95811	**Address:**	12126 West Sunset Boulevard
Phone:	916-584-7817	**Phone:**	858-952-4134
Email:	ameroux@dudek.com	**Email:**	kevin@patriotdevelopmentpartners.com
Date:	6/25/2021	**Date:**	6/25/2021

Approved by:

Perris Planning Division	Date	Perris City Engineer	Date


WRCOG VMT Screening Tool
Find address or place
Layer List
All results based on RIVTAM Model.
Western Riverside County Parcels (Zoom in to view)
Transit Priority Area
RIVTAM TAZs with total VMT per service population below jurisdictional average under 2012 base year model
RIVTAM TAZs with Home-based VMT per resident below jurisdictional average under 2012 base year model
RIVTAM TAZs with Home-based work VMT per worker below jurisdictional average under 2012 base year model
RIVTAM TAZs with total VMT per service population below WRCOG subregional average under 2012 base year model
RIVTAM TAZs with Home-based VMT per resident below WRCOG subregional average under 2012 base year model
RIVTAM TAZs with Home-based work VMT per worker below WRCOG subregional average under 2012 base year model
City Boundaries
TUMF Zone Boundaries
600ft
-117.248 33.828 Degrees
Esri, NASA, NGA, USGS, FEMA | Esri Community Maps Contributors, Loma Linda University, Univer

APN:303080007; TAZ:3,767
Within a Transit Priority Area (TPA)?
No (Fail)

Within a low VMT generating TAZ based on Total VMT?
No (Fail)
Jurisdictional average 2012 daily total VMT per service population = 27.59
Project TAZ 2012 daily total VMT per service population = 57.73

Within a low VMT generating TAZ based on Residential Home-Based VMT?
Yes (Pass)
Jurisdictional average 2012 daily residential home-based VMT per capita = 15.05
Project TAZ 2012 daily residential home-based VMT per capita = 6.96

Within a low VMT generating TAZ based on Home-Based Work VMT?
No (Fail)
Jurisdictional average 2012 daily home-based work VMT per worker = 11.62
Project TAZ 2012 daily home-based work VMT per worker = 12.02

Notes:

- TPA designation is based on October 2018 conditions.
- Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.
- If VMT screening is desired for current baseline conditions, contact WRCOG for 2012 and 2040 VMT data. Interpolated VMT results can be obtained using the complete data set.
- VMT results do not account for full length of trips that occur beyond the SCAG region.

APN:303080017; TAZ:3,767
Within a Transit Priority Area (TPA)?
No (Fail)

Within a low VMT generating TAZ based on Total VMT?
No (Fail)
Jurisdictional average 2012 daily total VMT per service population = 27.59
Project TAZ 2012 daily total VMT per service population = 57.73

Within a low VMT generating TAZ based on Residential Home-Based VMT?
Yes (Pass)
Jurisdictional average 2012 daily residential home-based VMT per capita = 15.05
Project TAZ 2012 daily residential home-based VMT per capita = 6.96

Within a low VMT generating TAZ based on Home-Based Work VMT?
No (Fail)
Jurisdictional average 2012 daily home-based work VMT per worker = 11.62
Project TAZ 2012 daily home-based work VMT per worker = 12.02

Notes:

- TPA designation is based on October 2018 conditions.
- Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.

- If VMT screening is desired for current baseline conditions, contact WRCOG for 2012 and 2040 VMT data. Interpolated VMT results can be obtained using the complete data set.
- VMT results do not account for full length of trips that occur beyond the SCAG region.

APN:303080018; TAZ:3,767
Within a Transit Priority Area (TPA)?
No (Fail)

Within a low VMT generating TAZ based on Total VMT?
No (Fail)
Jurisdictional average 2012 daily total VMT per service population = 27.59
Project TAZ 2012 daily total VMT per service population = 57.73

Within a low VMT generating TAZ based on Residential Home-Based VMT?
Yes (Pass)
Jurisdictional average 2012 daily residential home-based VMT per capita = 15.05
Project TAZ 2012 daily residential home-based VMT per capita = 6.96

Within a low VMT generating TAZ based on Home-Based Work VMT?
No (Fail)
Jurisdictional average 2012 daily home-based work VMT per worker = 11.62
Project TAZ 2012 daily home-based work VMT per worker = 12.02

Notes:

- TPA designation is based on October 2018 conditions.
- Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.
- If VMT screening is desired for current baseline conditions, contact WRCOG for 2012 and 2040 VMT data. Interpolated VMT results can be obtained using the complete data set.
- VMT results do not account for full length of trips that occur beyond the SCAG region.

APN:303080012; TAZ:3,767
Within a Transit Priority Area (TPA)?
No (Fail)

Within a low VMT generating TAZ based on Total VMT?
No (Fail)
Jurisdictional average 2012 daily total VMT per service population = 27.59
Project TAZ 2012 daily total VMT per service population = 57.73

Within a low VMT generating TAZ based on Residential Home-Based VMT?
Yes (Pass)
Jurisdictional average 2012 daily residential home-based VMT per capita = 15.05
Project TAZ 2012 daily residential home-based VMT per capita = 6.96

Within a low VMT generating TAZ based on Home-Based Work VMT?
No (Fail)
Jurisdictional average 2012 daily home-based work VMT per worker = 11.62
Project TAZ 2012 daily home-based work VMT per worker = 12.02

Notes:

- TPA designation is based on October 2018 conditions.
- Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.
- If VMT screening is desired for current baseline conditions, contact WRCOG for 2012 and 2040 VMT data. Interpolated VMT results can be obtained using the complete data set.
- VMT results do not account for full length of trips that occur beyond the SCAG region.

Appendix B

Synchro Worksheets – Intersection Level of Service Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	957	53	52	1476	98	50	145	27	16	50	18
Future Volume (veh/h)	132	957	53	52	1476	98	50	145	27	16	50	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1796	1174	1663	1856	1885	1263	1796	1781	1811	1663	1115
Adj Flow Rate, veh/h	135	977	54	53	1506	100	51	148	28	16	51	18
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	12	7	49	16	3	1	43	7	8	6	16	53
Cap, veh/h	166	1862	103	72	1701	536	54	838	155	33	841	251
Arrive On Green	0.10	0.39	0.39	0.05	0.34	0.34	0.04	0.29	0.29	0.02	0.27	0.27
Sat Flow, veh/h	1640	4756	262	1584	5066	1598	1203	2874	532	1725	3159	942
Grp Volume(v), veh/h	135	671	360	53	1506	100	51	87	89	16	51	18
Grp Sat Flow(s),veh/h/ln	1640	1635	1749	1584	1689	1598	1203	1706	1699	1725	1580	942
Q Serve(g_s), s	5.8	11.2	11.3	2.4	20.1	3.2	3.0	2.7	2.8	0.7	0.9	1.0
Cycle Q Clear(g_c), s	5.8	11.2	11.3	2.4	20.1	3.2	3.0	2.7	2.8	0.7	0.9	1.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	166	1280	685	72	1701	536	54	498	496	33	841	251
V/C Ratio(X)	0.81	0.52	0.53	0.73	0.89	0.19	0.95	0.17	0.18	0.49	0.06	0.07
Avail Cap(c_a), veh/h	195	1280	685	162	1738	548	84	498	496	121	841	251
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	16.6	16.6	33.7	22.4	16.8	34.0	18.9	18.9	34.7	19.6	19.6
Incr Delay (d2), s/veh	19.5	0.4	0.7	13.4	5.8	0.2	63.0	0.8	0.8	10.7	0.1	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	3.0	3.6	3.9	1.1	7.6	1.0	1.8	1.1	1.1	0.4	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	17.0	17.4	47.1	28.2	17.0	97.0	19.6	19.7	45.4	19.7	20.2
LnGrp LOS	D	B	B	D	C	B	F	B	B	D	B	C
Approach Vol, veh/h		1166			1659			227			85	
Approach Delay, s/veh		21.1			28.2			37.0			24.6	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	25.3	7.8	32.5	7.7	23.5	11.7	28.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	7.3	25.7	5.0	19.0	8.5	24.5
Max Q Clear Time (g_c+I1), s	2.7	4.8	4.4	13.3	5.0	3.0	7.8	22.1
Green Ext Time (p_c), s	0.0	0.7	0.0	4.8	0.0	0.2	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	41	51	18	103	6	101	173	11	5	87	43
Future Volume (veh/h)	24	41	51	18	103	6	101	173	11	5	87	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1707	1826	1707	1381	1870	907	1870	1648	1455	1011	1396	1544
Adj Flow Rate, veh/h	26	45	56	20	113	7	111	190	12	5	96	47
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	13	5	13	35	2	67	2	17	30	60	34	24
Cap, veh/h	50	189	169	32	349	21	146	1415	89	6	701	324
Arrive On Green	0.03	0.11	0.11	0.02	0.10	0.10	0.08	0.47	0.47	0.01	0.40	0.40
Sat Flow, veh/h	1626	1735	1547	1316	3401	209	1781	2992	188	963	1763	813
Grp Volume(v), veh/h	26	45	56	20	59	61	111	99	103	5	71	72
Grp Sat Flow(s),veh/h/ln	1626	1735	1547	1316	1777	1833	1781	1566	1614	963	1326	1250
Q Serve(g_s), s	0.7	1.1	1.6	0.7	1.4	1.4	2.8	1.7	1.7	0.2	1.6	1.7
Cycle Q Clear(g_c), s	0.7	1.1	1.6	0.7	1.4	1.4	2.8	1.7	1.7	0.2	1.6	1.7
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.12	1.00		0.65
Lane Grp Cap(c), veh/h	50	189	169	32	183	188	146	740	763	6	528	497
V/C Ratio(X)	0.52	0.24	0.33	0.62	0.32	0.33	0.76	0.13	0.14	0.77	0.13	0.15
Avail Cap(c_a), veh/h	175	671	599	141	688	709	211	740	763	103	528	497
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.0	19.2	22.5	19.4	19.4	20.9	6.9	6.9	23.1	8.9	9.0
Incr Delay (d2), s/veh	8.2	0.6	1.1	17.9	1.0	1.0	9.3	0.4	0.4	102.1	0.5	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	0.4	0.4	0.5	0.4	0.6	0.6	1.4	0.4	0.5	0.2	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	19.6	20.3	40.4	20.4	20.4	30.3	7.3	7.3	125.1	9.4	9.6
LnGrp LOS	C	B	C	D	C	C	C	A	A	F	A	A
Approach Vol, veh/h		127			140			313			148	
Approach Delay, s/veh		22.1			23.2			15.4			13.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	26.5	5.6	9.6	8.3	23.0	5.9	9.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	3.7	2.7	3.6	4.8	3.7	2.7	3.4
Green Ext Time (p_c), s	0.0	0.8	0.0	0.4	0.0	0.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	7	25	18	20	2	39	1094	12	9	444	59
Future Volume (veh/h)	25	7	25	18	20	2	39	1094	12	9	444	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1781	1811	1826	1900	1856	1856	1648	1900	1841	1796
Adj Flow Rate, veh/h	26	7	26	19	21	2	41	1152	13	9	467	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	8	6	5	0	3	3	17	0	4	7
Cap, veh/h	56	275	115	41	125	111	80	2433	27	21	1532	666
Arrive On Green	0.03	0.08	0.08	0.02	0.07	0.07	0.04	0.47	0.47	0.01	0.44	0.44
Sat Flow, veh/h	1810	3610	1510	1725	1826	1610	1767	5164	58	1810	3497	1521
Grp Volume(v), veh/h	26	7	26	19	21	2	41	753	412	9	467	62
Grp Sat Flow(s),veh/h/ln	1810	1805	1510	1725	1826	1610	1767	1689	1845	1810	1749	1521
Q Serve(g_s), s	0.6	0.1	0.7	0.5	0.5	0.0	1.0	6.6	6.6	0.2	3.7	1.0
Cycle Q Clear(g_c), s	0.6	0.1	0.7	0.5	0.5	0.0	1.0	6.6	6.6	0.2	3.7	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	56	275	115	41	125	111	80	1591	869	21	1532	666
V/C Ratio(X)	0.46	0.03	0.23	0.47	0.17	0.02	0.52	0.47	0.47	0.42	0.30	0.09
Avail Cap(c_a), veh/h	210	1506	630	200	762	672	209	1591	869	210	1532	666
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	18.4	18.7	20.8	18.9	18.7	20.1	7.8	7.8	21.2	7.9	7.1
Incr Delay (d2), s/veh	5.8	0.0	1.0	8.1	0.6	0.1	5.1	1.0	1.8	12.5	0.5	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	0.3	0.0	0.2	0.3	0.2	0.0	0.4	1.6	1.9	0.1	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	18.5	19.7	28.9	19.5	18.8	25.2	8.8	9.6	33.7	8.4	7.4
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		59			42			1206			538	
Approach Delay, s/veh		22.5			23.7			9.6			8.7	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	24.8	5.5	7.8	6.4	23.4	5.8	7.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.1	18.9	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	8.6	2.5	2.7	3.0	5.7	2.6	2.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0	0.0	2.5	0.0	0.0

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

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	145	35	150	87	31	127
Future Vol, veh/h	145	35	150	87	31	127
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	0	3	2	0	3	8
Mvmt Flow	191	46	197	114	41	167
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	11.3	9.8	10.3
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	87	145	35	31	127
LT Vol	0	0	145	0	31	0
Through Vol	150	0	0	0	0	127
RT Vol	0	87	0	35	0	0
Lane Flow Rate	197	114	191	46	41	167
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.3	0.151	0.331	0.065	0.069	0.263
Departure Headway (Hd)	5.481	4.74	6.248	5.091	6.091	5.671
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	651	750	570	695	584	628
Service Time	3.256	2.514	4.039	2.882	3.875	3.455
HCM Lane V/C Ratio	0.303	0.152	0.335	0.066	0.07	0.266
HCM Control Delay	10.6	8.4	12.1	8.2	9.3	10.5
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	1.3	0.5	1.4	0.2	0.2	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1507	83	103	1068	30	90	70	29	73	139	24
Future Volume (veh/h)	57	1507	83	103	1068	30	90	70	29	73	139	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1544	1870	1248	1707	1856	1900	1515	1707	1693	1885	1781	1574
Adj Flow Rate, veh/h	58	1538	85	105	1090	31	92	71	30	74	142	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	24	2	44	13	3	0	26	13	14	1	8	22
Cap, veh/h	68	1739	96	130	1950	620	110	632	252	95	866	341
Arrive On Green	0.05	0.35	0.35	0.08	0.38	0.38	0.08	0.28	0.28	0.05	0.26	0.26
Sat Flow, veh/h	1471	4952	274	1626	5066	1610	1443	2262	903	1795	3385	1331
Grp Volume(v), veh/h	58	1057	566	105	1090	31	92	50	51	74	142	24
Grp Sat Flow(s),veh/h/ln	1471	1702	1821	1626	1689	1610	1443	1622	1543	1795	1692	1331
Q Serve(g_s), s	3.0	22.3	22.3	4.8	12.9	0.9	4.8	1.7	1.9	3.1	2.5	1.0
Cycle Q Clear(g_c), s	3.0	22.3	22.3	4.8	12.9	0.9	4.8	1.7	1.9	3.1	2.5	1.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	68	1195	639	130	1950	620	110	453	431	95	866	341
V/C Ratio(X)	0.85	0.88	0.88	0.81	0.56	0.05	0.83	0.11	0.12	0.78	0.16	0.07
Avail Cap(c_a), veh/h	156	1228	657	160	1950	620	142	453	431	144	866	341
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	23.3	23.3	34.5	18.4	14.7	34.7	20.4	20.5	35.6	22.0	21.5
Incr Delay (d2), s/veh	23.7	7.8	13.4	21.2	0.4	0.0	26.8	0.5	0.6	13.8	0.4	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	1.4	8.9	10.5	2.5	4.3	0.3	2.4	0.7	0.7	1.7	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	31.1	36.7	55.7	18.7	14.7	61.5	20.9	21.0	49.4	22.4	21.9
LnGrp LOS	E	C	D	E	B	B	E	C	C	D	C	C
Approach Vol, veh/h		1681			1226			193			240	
Approach Delay, s/veh		34.0			21.8			40.3			30.7	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	25.8	10.6	31.3	10.3	24.0	8.0	33.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.1	20.9	7.5	27.5	7.5	19.5	8.1	26.9
Max Q Clear Time (g_c+I1), s	5.1	3.9	6.8	24.3	6.8	4.5	5.0	14.9
Green Ext Time (p_c), s	0.0	0.4	0.0	2.5	0.0	0.7	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	69	69	10	34	7	67	134	14	6	281	24
Future Volume (veh/h)	17	69	69	10	34	7	67	134	14	6	281	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1826	1737	1900	1470	1856	1648	1441	1411	1737	1263
Adj Flow Rate, veh/h	24	99	99	14	49	10	96	191	20	9	401	34
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	5	11	0	29	3	17	31	33	11	43
Cap, veh/h	52	209	186	29	315	62	135	1332	138	16	1233	104
Arrive On Green	0.03	0.12	0.12	0.02	0.10	0.10	0.08	0.47	0.47	0.01	0.40	0.40
Sat Flow, veh/h	1810	1805	1610	1654	3003	595	1767	2864	297	1344	3080	260
Grp Volume(v), veh/h	24	99	99	14	29	30	96	103	108	9	214	221
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1654	1805	1793	1767	1566	1595	1344	1650	1690
Q Serve(g_s), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	1.7	1.8	0.3	4.1	4.2
Cycle Q Clear(g_c), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	1.7	1.8	0.3	4.1	4.2
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.19	1.00		0.15
Lane Grp Cap(c), veh/h	52	209	186	29	189	188	135	728	742	16	661	677
V/C Ratio(X)	0.46	0.47	0.53	0.48	0.15	0.16	0.71	0.14	0.14	0.57	0.32	0.33
Avail Cap(c_a), veh/h	196	703	627	179	703	698	210	728	742	145	661	677
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	19.1	19.3	22.5	18.8	18.8	20.8	7.1	7.1	22.7	9.5	9.6
Incr Delay (d2), s/veh	6.3	1.7	2.3	11.4	0.4	0.4	6.7	0.4	0.4	28.1	1.3	1.3
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	0.3	1.0	1.0	0.2	0.3	0.3	1.1	0.5	0.5	0.2	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	20.8	21.6	33.9	19.2	19.2	27.5	7.5	7.5	50.8	10.8	10.8
LnGrp LOS	C	C	C	C	B	B	C	A	A	D	B	B
Approach Vol, veh/h		222			73			307			444	
Approach Delay, s/veh		22.0			22.0			13.7			11.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	26.0	5.3	9.8	8.0	23.0	5.8	9.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	3.8	2.4	4.7	4.5	6.2	2.6	2.7
Green Ext Time (p_c), s	0.0	0.9	0.0	0.8	0.0	1.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	22	23	27	7	9	36	717	11	6	931	27
Future Volume (veh/h)	33	22	23	27	7	9	36	717	11	6	931	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1707	1900	1900	1781	1900	1737	1900	1885	1767	1900	1870	1722
Adj Flow Rate, veh/h	35	23	24	28	7	9	38	755	12	6	980	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	0	0	8	0	11	0	1	9	0	2	12
Cap, veh/h	64	299	134	56	145	112	76	2434	39	15	1536	631
Arrive On Green	0.04	0.08	0.08	0.03	0.08	0.08	0.04	0.47	0.47	0.01	0.43	0.43
Sat Flow, veh/h	1626	3610	1610	1697	1900	1472	1810	5218	83	1810	3554	1458
Grp Volume(v), veh/h	35	23	24	28	7	9	38	496	271	6	980	28
Grp Sat Flow(s),veh/h/ln	1626	1805	1610	1697	1900	1472	1810	1716	1870	1810	1777	1458
Q Serve(g_s), s	0.9	0.3	0.6	0.7	0.2	0.2	0.9	4.0	4.0	0.1	9.5	0.5
Cycle Q Clear(g_c), s	0.9	0.3	0.6	0.7	0.2	0.2	0.9	4.0	4.0	0.1	9.5	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	64	299	134	56	145	112	76	1601	872	15	1536	631
V/C Ratio(X)	0.54	0.08	0.18	0.50	0.05	0.08	0.50	0.31	0.31	0.41	0.64	0.04
Avail Cap(c_a), veh/h	185	1479	659	193	778	603	206	1601	872	206	1536	631
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	18.6	18.8	20.9	18.8	18.9	20.6	7.3	7.3	21.7	9.8	7.2
Incr Delay (d2), s/veh	7.0	0.1	0.6	6.8	0.1	0.3	4.9	0.5	0.9	17.6	2.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.2	0.4	0.1	0.1	0.4	1.0	1.2	0.1	2.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	18.7	19.4	27.7	19.0	19.2	25.5	7.8	8.2	39.3	11.8	7.4
LnGrp LOS	C	B	B	C	B	B	C	A	A	D	B	A
Approach Vol, veh/h		82			44			805			1014	
Approach Delay, s/veh		22.7			24.5			8.8			11.9	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	25.0	5.9	8.1	6.4	23.5	6.2	7.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.0	19.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.1	6.0	2.7	2.6	2.9	11.5	2.9	2.2
Green Ext Time (p_c), s	0.0	3.7	0.0	0.1	0.0	3.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	32	68	10	93	207
Future Vol, veh/h	32	32	68	10	93	207
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	0	10	3	0	2	1
Mvmt Flow	44	44	94	14	129	288
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	8.9	8.5	10.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	10	32	32	93	207
LT Vol	0	0	32	0	93	0
Through Vol	68	0	0	0	0	207
RT Vol	0	10	0	32	0	0
Lane Flow Rate	94	14	44	44	129	288
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.136	0.017	0.077	0.064	0.193	0.388
Departure Headway (Hd)	5.187	4.431	6.23	5.195	5.38	4.861
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	807	576	689	668	742
Service Time	2.919	2.164	3.964	2.928	3.104	2.586
HCM Lane V/C Ratio	0.136	0.017	0.076	0.064	0.193	0.388
HCM Control Delay	8.7	7.2	9.5	8.3	9.4	10.6
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0.5	0.1	0.2	0.2	0.7	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	966	60	52	1484	98	50	145	27	16	78	18
Future Volume (veh/h)	132	966	60	52	1484	98	50	145	27	16	78	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1811	1263	1663	1856	1885	1278	1796	1796	1811	1500	1144
Adj Flow Rate, veh/h	135	986	61	53	1514	100	51	148	28	16	80	18
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	11	6	43	16	3	1	42	7	7	6	27	51
Cap, veh/h	167	1864	115	72	1704	537	54	838	155	33	758	257
Arrive On Green	0.10	0.39	0.39	0.05	0.34	0.34	0.04	0.29	0.29	0.02	0.27	0.27
Sat Flow, veh/h	1654	4760	294	1584	5066	1598	1217	2874	532	1725	2850	967
Grp Volume(v), veh/h	135	682	365	53	1514	100	51	87	89	16	80	18
Grp Sat Flow(s),veh/h/ln	1654	1648	1758	1584	1689	1598	1217	1706	1699	1725	1425	967
Q Serve(g_s), s	5.7	11.3	11.4	2.4	20.2	3.2	3.0	2.7	2.8	0.7	1.5	1.0
Cycle Q Clear(g_c), s	5.7	11.3	11.4	2.4	20.2	3.2	3.0	2.7	2.8	0.7	1.5	1.0
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	167	1291	689	72	1704	537	54	498	496	33	758	257
V/C Ratio(X)	0.81	0.53	0.53	0.73	0.89	0.19	0.94	0.17	0.18	0.49	0.11	0.07
Avail Cap(c_a), veh/h	197	1291	689	162	1738	548	85	498	496	121	758	257
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	16.7	16.7	33.6	22.4	16.8	34.0	18.9	18.9	34.7	19.8	19.6
Incr Delay (d2), s/veh	19.0	0.4	0.8	13.4	6.0	0.2	60.0	0.8	0.8	10.7	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	2.9	3.6	4.0	1.1	7.7	1.0	1.7	1.1	1.1	0.4	0.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	17.1	17.4	47.1	28.4	16.9	94.0	19.6	19.7	45.4	20.1	20.1
LnGrp LOS	D	B	B	D	C	B	F	B	B	D	C	C
Approach Vol, veh/h		1182			1667			227			114	
Approach Delay, s/veh		21.0			28.3			36.4			23.6	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	25.3	7.8	32.5	7.7	23.5	11.7	28.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	7.3	25.7	5.0	19.0	8.5	24.5
Max Q Clear Time (g_c+I1), s	2.7	4.8	4.4	13.4	5.0	3.5	7.7	22.2
Green Ext Time (p_c), s	0.0	0.7	0.0	4.9	0.0	0.3	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	46	51	18	103	6	101	173	13	40	87	43
Future Volume (veh/h)	24	46	51	18	103	6	101	173	13	40	87	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1841	1722	1411	1870	966	1870	1663	1396	1011	1426	1559
Adj Flow Rate, veh/h	26	51	56	20	113	7	111	190	14	44	96	47
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	12	4	12	33	2	63	2	16	34	60	32	23
Cap, veh/h	50	191	170	33	350	22	146	1292	94	45	716	330
Arrive On Green	0.03	0.11	0.11	0.02	0.10	0.10	0.08	0.43	0.43	0.05	0.40	0.40
Sat Flow, veh/h	1640	1749	1560	1344	3401	209	1781	2985	218	963	1800	831
Grp Volume(v), veh/h	26	51	56	20	59	61	111	100	104	44	71	72
Grp Sat Flow(s),veh/h/ln	1640	1749	1560	1344	1777	1833	1781	1580	1624	963	1354	1276
Q Serve(g_s), s	0.7	1.2	1.5	0.7	1.4	1.4	2.8	1.8	1.8	2.1	1.5	1.7
Cycle Q Clear(g_c), s	0.7	1.2	1.5	0.7	1.4	1.4	2.8	1.8	1.8	2.1	1.5	1.7
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.13	1.00		0.65
Lane Grp Cap(c), veh/h	50	191	170	33	183	189	146	684	703	45	539	507
V/C Ratio(X)	0.52	0.27	0.33	0.61	0.32	0.33	0.76	0.15	0.15	0.98	0.13	0.14
Avail Cap(c_a), veh/h	176	676	603	144	687	709	211	684	703	103	539	507
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.0	19.1	22.5	19.4	19.4	20.9	8.0	8.0	22.2	8.9	8.9
Incr Delay (d2), s/veh	8.0	0.7	1.1	16.8	1.0	1.0	9.4	0.4	0.4	57.6	0.5	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	0.4	0.5	0.5	0.3	0.6	0.6	1.4	0.5	0.5	1.1	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	19.8	20.3	39.2	20.4	20.4	30.3	8.4	8.4	79.8	9.4	9.5
LnGrp LOS	C	B	C	D	C	C	C	A	A	E	A	A
Approach Vol, veh/h		133			140			315			187	
Approach Delay, s/veh		22.0			23.1			16.1			26.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	24.6	5.6	9.6	8.3	23.0	5.9	9.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.8	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	4.1	3.8	2.7	3.5	4.8	3.7	2.7	3.4
Green Ext Time (p_c), s	0.0	0.8	0.0	0.4	0.0	0.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	16	25	18	20	2	39	1094	12	9	457	59
Future Volume (veh/h)	33	16	25	18	20	2	39	1094	12	9	457	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1366	1781	1811	1826	1900	1856	1856	1663	1900	1841	1796
Adj Flow Rate, veh/h	35	17	26	19	21	2	41	1152	13	9	481	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	36	8	6	5	0	3	3	16	0	4	7
Cap, veh/h	72	233	135	41	134	118	79	2397	27	21	1508	656
Arrive On Green	0.04	0.09	0.09	0.02	0.07	0.07	0.04	0.46	0.46	0.01	0.43	0.43
Sat Flow, veh/h	1810	2596	1510	1725	1826	1610	1767	5164	58	1810	3497	1521
Grp Volume(v), veh/h	35	17	26	19	21	2	41	753	412	9	481	62
Grp Sat Flow(s),veh/h/ln	1810	1298	1510	1725	1826	1610	1767	1689	1845	1810	1749	1521
Q Serve(g_s), s	0.8	0.3	0.7	0.5	0.5	0.1	1.0	6.7	6.7	0.2	4.0	1.1
Cycle Q Clear(g_c), s	0.8	0.3	0.7	0.5	0.5	0.1	1.0	6.7	6.7	0.2	4.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	72	233	135	41	134	118	79	1568	857	21	1508	656
V/C Ratio(X)	0.49	0.07	0.19	0.47	0.16	0.02	0.52	0.48	0.48	0.42	0.32	0.09
Avail Cap(c_a), veh/h	206	1066	620	197	750	661	206	1568	857	206	1508	656
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	18.3	18.5	21.1	19.0	18.8	20.5	8.1	8.1	21.5	8.2	7.4
Incr Delay (d2), s/veh	5.1	0.1	0.7	8.1	0.5	0.1	5.1	1.1	1.9	12.5	0.6	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	0.4	0.1	0.2	0.3	0.2	0.0	0.5	1.7	2.0	0.2	1.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	18.4	19.2	29.3	19.6	18.9	25.6	9.2	10.0	34.0	8.8	7.7
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	A
Approach Vol, veh/h		78			42			1206			552	
Approach Delay, s/veh		21.9			23.9			10.0			9.1	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	24.8	5.5	8.4	6.5	23.4	6.2	7.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.1	18.9	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	8.7	2.5	2.7	3.0	6.0	2.8	2.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.1	0.0	2.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	145	35	150	87	31	127
Future Vol, veh/h	145	35	150	87	31	127
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	0	3	2	0	3	7
Mvmt Flow	191	46	197	114	41	167
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	11.3	9.8	10.3
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	87	145	35	31	127
LT Vol	0	0	145	0	31	0
Through Vol	150	0	0	0	0	127
RT Vol	0	87	0	35	0	0
Lane Flow Rate	197	114	191	46	41	167
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.3	0.151	0.331	0.065	0.069	0.262
Departure Headway (Hd)	5.48	4.74	6.246	5.09	6.091	5.654
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	651	750	570	695	584	630
Service Time	3.255	2.513	4.038	2.881	3.875	3.438
HCM Lane V/C Ratio	0.303	0.152	0.335	0.066	0.07	0.265
HCM Control Delay	10.6	8.4	12.1	8.2	9.3	10.5
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	1.3	0.5	1.4	0.2	0.2	1

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	84	15	0	117	0	5
Future Vol, veh/h	84	15	0	117	0	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	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	40	0	5	0	50
Mvmt Flow	91	16	0	127	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	107	0	163	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.1	-	6.6	6.95
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.775
Pot Cap-1 Maneuver	-	-	1497	-	825	829
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1497	-	825	829
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	829	-	-	1497	-
HCM Lane V/C Ratio	0.007	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	27	0	117	0	12
Future Vol, veh/h	62	27	0	117	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	44	0	5	0	29
Mvmt Flow	67	29	0	127	0	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	96	0	146	82
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.1	-	6.6	6.635
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.5755
Pot Cap-1 Maneuver	-	-	1510	-	844	901
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1510	-	844	901
Mov Cap-2 Maneuver	-	-	-	-	819	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	957	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	901	-	-	1510	-
HCM Lane V/C Ratio	0.014	-	-	-	-
HCM Control Delay (s)	9.1	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1145	489	10
Future Vol, veh/h	0	0	0	1145	489	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	4	0
Mvmt Flow	0	0	0	1245	532	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	272	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	623	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	623	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1145	486	3
Future Vol, veh/h	0	0	0	1145	486	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	5	0
Mvmt Flow	0	0	0	1245	528	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	266	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	629	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	629	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

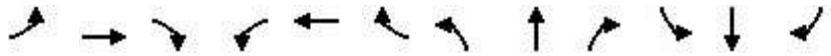
Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1511	86	103	1089	30	90	70	29	73	152	24
Future Volume (veh/h)	57	1511	86	103	1089	30	90	70	29	73	152	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1559	1870	1278	1707	1856	1900	1515	1707	1693	1885	1752	1589
Adj Flow Rate, veh/h	58	1542	88	105	1111	31	92	71	30	74	155	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	23	2	42	13	3	0	26	13	14	1	10	21
Cap, veh/h	69	1737	99	130	1952	620	110	631	252	95	851	343
Arrive On Green	0.05	0.35	0.35	0.08	0.39	0.39	0.08	0.28	0.28	0.05	0.26	0.26
Sat Flow, veh/h	1485	4942	282	1626	5066	1610	1443	2262	903	1795	3328	1343
Grp Volume(v), veh/h	58	1062	568	105	1111	31	92	50	51	74	155	24
Grp Sat Flow(s),veh/h/ln	1485	1702	1820	1626	1689	1610	1443	1622	1543	1795	1664	1343
Q Serve(g_s), s	3.0	22.4	22.4	4.8	13.2	0.9	4.8	1.7	1.9	3.1	2.8	1.0
Cycle Q Clear(g_c), s	3.0	22.4	22.4	4.8	13.2	0.9	4.8	1.7	1.9	3.1	2.8	1.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	69	1197	640	130	1952	620	110	453	431	95	851	343
V/C Ratio(X)	0.84	0.89	0.89	0.81	0.57	0.05	0.83	0.11	0.12	0.78	0.18	0.07
Avail Cap(c_a), veh/h	158	1227	656	160	1952	620	142	453	431	144	851	343
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	23.3	23.3	34.5	18.5	14.7	34.7	20.4	20.5	35.7	22.2	21.5
Incr Delay (d2), s/veh	22.8	8.1	13.8	21.2	0.4	0.0	26.9	0.5	0.6	13.8	0.5	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	1.4	9.0	10.7	2.5	4.4	0.3	2.4	0.7	0.7	1.7	1.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	31.4	37.1	55.7	18.8	14.7	61.6	20.9	21.1	49.5	22.6	21.9
LnGrp LOS	E	C	D	E	B	B	E	C	C	D	C	C
Approach Vol, veh/h		1688			1247			193			253	
Approach Delay, s/veh		34.3			21.9			40.3			30.4	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	25.8	10.6	31.3	10.3	24.0	8.0	33.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.1	20.9	7.5	27.5	7.5	19.5	8.1	26.9
Max Q Clear Time (g_c+I1), s	5.1	3.9	6.8	24.4	6.8	4.8	5.0	15.2
Green Ext Time (p_c), s	0.0	0.4	0.0	2.4	0.0	0.7	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	70	69	10	34	7	67	134	16	22	281	24
Future Volume (veh/h)	17	70	69	10	34	7	67	134	16	22	281	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1752	1900	1500	1856	1663	1396	1248	1752	1292
Adj Flow Rate, veh/h	24	100	99	14	49	10	96	191	23	31	401	34
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	4	10	0	27	3	16	34	44	10	41
Cap, veh/h	52	209	187	30	315	62	135	1255	149	42	1243	105
Arrive On Green	0.03	0.12	0.12	0.02	0.10	0.10	0.08	0.44	0.44	0.04	0.40	0.40
Sat Flow, veh/h	1810	1805	1610	1668	3003	595	1767	2844	338	1188	3107	262
Grp Volume(v), veh/h	24	100	99	14	29	30	96	105	109	31	214	221
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1668	1805	1793	1767	1580	1602	1188	1664	1705
Q Serve(g_s), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	1.8	1.9	1.2	4.1	4.1
Cycle Q Clear(g_c), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	1.8	1.9	1.2	4.1	4.1
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.21	1.00		0.15
Lane Grp Cap(c), veh/h	52	209	187	30	190	188	135	697	707	42	666	682
V/C Ratio(X)	0.46	0.48	0.53	0.47	0.15	0.16	0.71	0.15	0.15	0.73	0.32	0.32
Avail Cap(c_a), veh/h	196	703	627	180	703	698	210	697	707	129	666	682
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	19.1	19.2	22.5	18.8	18.8	20.8	7.7	7.7	22.1	9.5	9.6
Incr Delay (d2), s/veh	6.3	1.7	2.3	11.2	0.4	0.4	6.7	0.5	0.5	21.6	1.3	1.3
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	0.3	1.0	1.0	0.2	0.3	0.3	1.1	0.5	0.5	0.5	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	20.8	21.6	33.6	19.2	19.2	27.5	8.2	8.2	43.6	10.8	10.8
LnGrp LOS	C	C	C	C	B	B	C	A	A	D	B	B
Approach Vol, veh/h		223			73			310			466	
Approach Delay, s/veh		22.0			22.0			14.2			13.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	24.9	5.3	9.9	8.0	23.0	5.8	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.6	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	3.9	2.4	4.7	4.5	6.1	2.6	2.7
Green Ext Time (p_c), s	0.0	0.9	0.0	0.8	0.0	1.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	51	25	27	7	9	36	717	11	6	937	27
Future Volume (veh/h)	58	51	25	27	7	9	36	717	11	6	937	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1411	1900	1796	1900	1737	1900	1885	1767	1900	1870	1737
Adj Flow Rate, veh/h	61	54	26	28	7	9	38	755	12	6	986	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	33	0	7	0	11	0	1	9	0	2	11
Cap, veh/h	100	303	182	56	165	128	76	2353	37	15	1482	613
Arrive On Green	0.06	0.11	0.11	0.03	0.09	0.09	0.04	0.45	0.45	0.01	0.42	0.42
Sat Flow, veh/h	1697	2681	1610	1711	1900	1472	1810	5218	83	1810	3554	1471
Grp Volume(v), veh/h	61	54	26	28	7	9	38	496	271	6	986	28
Grp Sat Flow(s),veh/h/ln	1697	1340	1610	1711	1900	1472	1810	1716	1870	1810	1777	1471
Q Serve(g_s), s	1.6	0.8	0.7	0.7	0.2	0.3	0.9	4.2	4.2	0.2	10.2	0.5
Cycle Q Clear(g_c), s	1.6	0.8	0.7	0.7	0.2	0.3	0.9	4.2	4.2	0.2	10.2	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	100	303	182	56	165	128	76	1547	843	15	1482	613
V/C Ratio(X)	0.61	0.18	0.14	0.50	0.04	0.07	0.50	0.32	0.32	0.41	0.67	0.05
Avail Cap(c_a), veh/h	186	1059	636	188	751	582	199	1547	843	199	1482	613
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	18.3	18.2	21.7	19.1	19.1	21.4	8.0	8.0	22.5	10.7	7.9
Incr Delay (d2), s/veh	5.9	0.3	0.4	6.7	0.1	0.2	5.0	0.5	1.0	17.7	2.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.2	0.2	0.4	0.1	0.1	0.4	1.1	1.3	0.1	3.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	18.6	18.6	28.4	19.2	19.3	26.4	8.6	9.0	40.2	13.1	8.0
LnGrp LOS	C	B	B	C	B	B	C	A	A	D	B	A
Approach Vol, veh/h		141			44			805			1020	
Approach Delay, s/veh		22.1			25.1			9.6			13.1	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	25.0	6.0	9.7	6.4	23.5	7.2	8.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.0	19.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	6.2	2.7	2.8	2.9	12.2	3.6	2.3
Green Ext Time (p_c), s	0.0	3.6	0.0	0.2	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	32	68	10	93	207
Future Vol, veh/h	32	32	68	10	93	207
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	0	9	3	0	2	1
Mvmt Flow	44	44	94	14	129	288
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	8.9	8.5	10.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	10	32	32	93	207
LT Vol	0	0	32	0	93	0
Through Vol	68	0	0	0	0	207
RT Vol	0	10	0	32	0	0
Lane Flow Rate	94	14	44	44	129	288
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.136	0.017	0.077	0.064	0.193	0.388
Departure Headway (Hd)	5.187	4.431	6.23	5.177	5.38	4.861
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	807	576	692	668	742
Service Time	2.919	2.164	3.964	2.911	3.104	2.586
HCM Lane V/C Ratio	0.136	0.017	0.076	0.064	0.193	0.388
HCM Control Delay	8.7	7.2	9.5	8.3	9.4	10.6
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0.5	0.1	0.2	0.2	0.7	1.8

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	89	7	0	70	0	12
Future Vol, veh/h	89	7	0	70	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	50	0	4	0	43
Mvmt Flow	97	8	0	76	0	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	139	101
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.1	-	6.6	6.845
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.7085
Pot Cap-1 Maneuver	-	-	1499	-	852	844
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	985	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1499	-	852	844
Mov Cap-2 Maneuver	-	-	-	-	822	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	844	-	-	1499	-
HCM Lane V/C Ratio	0.015	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	89	12	0	70	0	44
Future Vol, veh/h	89	12	0	70	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	43	0	4	0	29
Mvmt Flow	97	13	0	76	0	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	110	0	142	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.1	-	6.6	6.635
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.5755
Pot Cap-1 Maneuver	-	-	1493	-	849	875
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	985	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	849	875
Mov Cap-2 Maneuver	-	-	-	-	819	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	875	-	-	1493	-
HCM Lane V/C Ratio	0.055	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	764	984	5
Future Vol, veh/h	0	1	0	764	984	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	0	1	0	830	1070	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	538	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	422	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	422	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	422	-	-
HCM Lane V/C Ratio	-	0.003	-	-
HCM Control Delay (s)	-	13.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

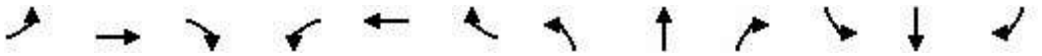
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	764	984	1
Future Vol, veh/h	0	0	0	764	984	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	0	0	0	830	1070	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	536	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	423	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	423	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

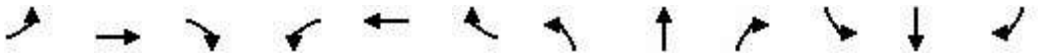
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	986	54	53	1520	101	52	150	28	17	52	18
Future Volume (veh/h)	136	986	54	53	1520	101	52	150	28	17	52	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1811	1189	1663	1856	1885	1278	1796	1796	1811	1663	1144
Adj Flow Rate, veh/h	139	1006	55	54	1551	103	53	153	29	17	53	18
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	11	6	48	16	3	1	42	7	7	6	16	51
Cap, veh/h	171	1891	103	73	1705	538	57	834	155	35	833	255
Arrive On Green	0.10	0.39	0.39	0.05	0.34	0.34	0.05	0.29	0.29	0.02	0.26	0.26
Sat Flow, veh/h	1654	4798	262	1584	5066	1598	1217	2873	533	1725	3159	967
Grp Volume(v), veh/h	139	691	370	54	1551	103	53	90	92	17	53	18
Grp Sat Flow(s),veh/h/ln	1654	1648	1764	1584	1689	1598	1217	1706	1699	1725	1580	967
Q Serve(g_s), s	5.9	11.6	11.6	2.4	21.1	3.3	3.1	2.8	2.9	0.7	0.9	1.0
Cycle Q Clear(g_c), s	5.9	11.6	11.6	2.4	21.1	3.3	3.1	2.8	2.9	0.7	0.9	1.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	171	1299	695	73	1705	538	57	495	493	35	833	255
V/C Ratio(X)	0.81	0.53	0.53	0.74	0.91	0.19	0.94	0.18	0.19	0.49	0.06	0.07
Avail Cap(c_a), veh/h	195	1299	695	160	1723	543	84	495	493	120	833	255
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	16.7	16.7	34.0	22.9	17.0	34.2	19.2	19.2	34.9	19.9	19.9
Incr Delay (d2), s/veh	20.2	0.4	0.8	13.9	7.6	0.2	61.6	0.8	0.8	10.5	0.1	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	3.1	3.7	4.1	1.1	8.3	1.1	1.8	1.1	1.2	0.4	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	17.1	17.5	47.8	30.4	17.1	95.9	20.0	20.0	45.4	20.0	20.4
LnGrp LOS	D	B	B	D	C	B	F	B	C	D	C	C
Approach Vol, veh/h		1200			1708			235			88	
Approach Delay, s/veh		21.3			30.2			37.1			25.0	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	25.4	7.8	32.9	7.9	23.5	12.0	28.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	7.3	25.7	5.0	19.0	8.5	24.5
Max Q Clear Time (g_c+I1), s	2.7	4.9	4.4	13.6	5.1	3.0	7.9	23.1
Green Ext Time (p_c), s	0.0	0.7	0.0	4.9	0.0	0.2	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	43	52	19	106	7	104	178	11	5	90	45
Future Volume (veh/h)	25	43	52	19	106	7	104	178	11	5	90	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1826	1722	1411	1870	966	1870	1663	1485	1055	1426	1559
Adj Flow Rate, veh/h	27	47	57	21	116	8	114	196	12	5	99	49
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	12	5	12	33	2	63	2	16	28	57	32	23
Cap, veh/h	52	189	169	34	347	24	147	1430	87	7	711	332
Arrive On Green	0.03	0.11	0.11	0.03	0.10	0.10	0.08	0.47	0.47	0.01	0.40	0.40
Sat Flow, veh/h	1640	1735	1547	1344	3375	231	1781	3025	184	1005	1793	837
Grp Volume(v), veh/h	27	47	57	21	61	63	114	102	106	5	73	75
Grp Sat Flow(s),veh/h/ln	1640	1735	1547	1344	1777	1829	1781	1580	1630	1005	1354	1275
Q Serve(g_s), s	0.8	1.2	1.6	0.7	1.5	1.5	2.9	1.7	1.7	0.2	1.6	1.8
Cycle Q Clear(g_c), s	0.8	1.2	1.6	0.7	1.5	1.5	2.9	1.7	1.7	0.2	1.6	1.8
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.11	1.00		0.66
Lane Grp Cap(c), veh/h	52	189	169	34	183	188	147	747	770	7	537	506
V/C Ratio(X)	0.52	0.25	0.34	0.61	0.33	0.34	0.77	0.14	0.14	0.74	0.14	0.15
Avail Cap(c_a), veh/h	176	670	597	144	686	706	210	747	770	108	537	506
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.0	19.2	22.5	19.4	19.4	21.0	6.9	6.9	23.1	9.0	9.0
Incr Delay (d2), s/veh	7.8	0.7	1.2	16.3	1.0	1.0	10.7	0.4	0.4	91.8	0.5	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	0.4	0.4	0.6	0.4	0.6	0.6	1.5	0.5	0.5	0.2	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	19.7	20.4	38.8	20.5	20.5	31.6	7.3	7.3	114.9	9.5	9.6
LnGrp LOS	C	B	C	D	C	C	C	A	A	F	A	A
Approach Vol, veh/h		131			145			322			153	
Approach Delay, s/veh		22.1			23.1			15.9			13.0	
Approach LOS		C			C			B			B	

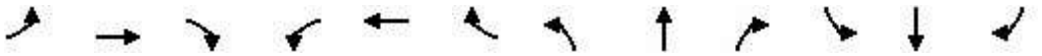
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	26.5	5.7	9.6	8.4	23.0	6.0	9.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	3.7	2.7	3.6	4.9	3.8	2.8	3.5
Green Ext Time (p_c), s	0.0	0.9	0.0	0.4	0.0	0.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	7	25	18	20	2	40	1127	13	10	457	60
Future Volume (veh/h)	25	7	25	18	20	2	40	1127	13	10	457	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1781	1811	1826	1900	1856	1856	1663	1900	1841	1796
Adj Flow Rate, veh/h	26	7	26	19	21	2	42	1186	14	11	481	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	8	6	5	0	3	3	16	0	4	7
Cap, veh/h	56	275	115	41	125	111	81	2421	29	26	1531	666
Arrive On Green	0.03	0.08	0.08	0.02	0.07	0.07	0.05	0.47	0.47	0.01	0.44	0.44
Sat Flow, veh/h	1810	3610	1510	1725	1826	1610	1767	5161	61	1810	3497	1521
Grp Volume(v), veh/h	26	7	26	19	21	2	42	776	424	11	481	63
Grp Sat Flow(s),veh/h/ln	1810	1805	1510	1725	1826	1610	1767	1689	1845	1810	1749	1521
Q Serve(g_s), s	0.6	0.1	0.7	0.5	0.5	0.1	1.0	6.8	6.8	0.3	3.9	1.0
Cycle Q Clear(g_c), s	0.6	0.1	0.7	0.5	0.5	0.1	1.0	6.8	6.8	0.3	3.9	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	56	275	115	41	125	111	81	1584	865	26	1531	666
V/C Ratio(X)	0.46	0.03	0.23	0.47	0.17	0.02	0.52	0.49	0.49	0.42	0.31	0.09
Avail Cap(c_a), veh/h	210	1505	629	200	761	671	209	1584	865	210	1531	666
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	18.5	18.8	20.8	18.9	18.8	20.1	7.9	7.9	21.1	7.9	7.1
Incr Delay (d2), s/veh	5.8	0.0	1.0	8.1	0.6	0.1	5.1	1.1	2.0	10.6	0.5	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	0.3	0.0	0.2	0.3	0.2	0.0	0.5	1.7	2.0	0.2	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	18.5	19.7	28.9	19.6	18.8	25.2	9.0	9.9	31.8	8.5	7.4
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		59			42			1242			555	
Approach Delay, s/veh		22.5			23.8			9.8			8.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	24.8	5.5	7.8	6.5	23.4	5.8	7.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.1	18.9	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	8.8	2.5	2.7	3.0	5.9	2.6	2.5
Green Ext Time (p_c), s	0.0	5.1	0.0	0.0	0.0	2.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	660	150	211	816	19	43	256	134	38	159	25
Future Volume (veh/h)	49	660	150	211	816	19	43	256	134	38	159	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1811	1900	1885	1900	1856	1811	1900
Adj Flow Rate, veh/h	53	717	163	229	887	21	47	278	146	41	173	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	6	0	1	0	3	6	0
Cap, veh/h	343	1858	829	373	1858	790	421	390	205	241	513	80
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	624	3610	1610	641	3610	1535	1201	1164	611	956	1529	239
Grp Volume(v), veh/h	53	717	163	229	887	21	47	0	424	41	0	200
Grp Sat Flow(s),veh/h/ln	624	1805	1610	641	1805	1535	1201	0	1775	956	0	1768
Q Serve(g_s), s	3.6	7.2	3.3	20.2	9.5	0.4	1.8	0.0	12.5	2.3	0.0	5.1
Cycle Q Clear(g_c), s	13.1	7.2	3.3	27.4	9.5	0.4	6.9	0.0	12.5	14.9	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		0.14
Lane Grp Cap(c), veh/h	343	1858	829	373	1858	790	421	0	595	241	0	593
V/C Ratio(X)	0.15	0.39	0.20	0.61	0.48	0.03	0.11	0.00	0.71	0.17	0.00	0.34
Avail Cap(c_a), veh/h	349	1895	845	379	1895	806	421	0	595	241	0	593
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	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.6	8.8	7.9	17.1	9.4	7.2	17.5	0.0	17.4	23.9	0.0	14.9
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.4	0.2	0.0	0.5	0.0	7.1	1.5	0.0	1.5
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	0.5	2.4	1.0	2.8	3.1	0.1	0.5	0.0	5.7	0.6	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	8.9	8.0	19.5	9.5	7.2	18.1	0.0	24.5	25.4	0.0	16.5
LnGrp LOS	B	A	A	B	A	A	B	A	C	C	A	B
Approach Vol, veh/h		933			1137			471			241	
Approach Delay, s/veh		9.1			11.5			23.9			18.0	
Approach LOS		A			B			C			B	

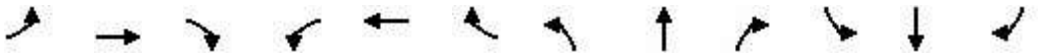
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.6		35.4		24.6		35.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5				
Max Q Clear Time (g_c+I1), s		14.5		15.1		16.9		29.4				
Green Ext Time (p_c), s		1.3		5.6		0.3		1.5				

Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	1552	86	106	1100	31	92	72	30	75	143	24
Future Volume (veh/h)	58	1552	86	106	1100	31	92	72	30	75	143	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1559	1870	1263	1707	1856	1900	1515	1707	1693	1885	1781	1589
Adj Flow Rate, veh/h	59	1584	88	108	1122	32	94	73	31	77	146	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	23	2	43	13	3	0	26	13	14	1	8	21
Cap, veh/h	70	1713	95	134	1930	613	113	620	249	99	851	338
Arrive On Green	0.05	0.35	0.35	0.08	0.38	0.38	0.08	0.27	0.27	0.06	0.25	0.25
Sat Flow, veh/h	1485	4950	275	1626	5066	1610	1443	2258	906	1795	3385	1343
Grp Volume(v), veh/h	59	1089	583	108	1122	32	94	51	53	77	146	24
Grp Sat Flow(s),veh/h/ln	1485	1702	1821	1626	1689	1610	1443	1622	1542	1795	1692	1343
Q Serve(g_s), s	2.9	22.9	22.9	4.9	13.1	0.9	4.8	1.8	1.9	3.1	2.5	1.0
Cycle Q Clear(g_c), s	2.9	22.9	22.9	4.9	13.1	0.9	4.8	1.8	1.9	3.1	2.5	1.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	70	1178	630	134	1930	613	113	445	423	99	851	338
V/C Ratio(X)	0.84	0.92	0.93	0.81	0.58	0.05	0.83	0.12	0.12	0.78	0.17	0.07
Avail Cap(c_a), veh/h	158	1186	634	138	1930	613	118	445	423	130	851	338
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	23.4	23.4	33.5	18.3	14.5	33.8	20.2	20.3	34.7	21.8	21.2
Incr Delay (d2), s/veh	22.1	12.1	19.5	28.1	0.4	0.0	36.6	0.5	0.6	19.1	0.4	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	1.4	9.8	11.8	2.8	4.4	0.3	2.7	0.7	0.7	1.8	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	35.4	42.9	61.7	18.7	14.6	70.4	20.7	20.9	53.8	22.2	21.6
LnGrp LOS	E	D	D	E	B	B	E	C	C	D	C	C
Approach Vol, veh/h		1731			1262			198			247	
Approach Delay, s/veh		38.7			22.3			44.4			32.0	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	24.9	10.6	30.2	10.3	23.2	8.0	32.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.4	19.4	6.3	25.9	6.1	18.7	7.9	24.3
Max Q Clear Time (g_c+I1), s	5.1	3.9	6.9	24.9	6.8	4.5	4.9	15.1
Green Ext Time (p_c), s	0.0	0.4	0.0	0.8	0.0	0.7	0.0	4.6

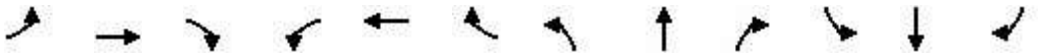
Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	71	71	10	35	8	69	138	14	7	290	25
Future Volume (veh/h)	17	71	71	10	35	8	69	138	14	7	290	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1752	1900	1500	1856	1663	1470	1441	1752	1292
Adj Flow Rate, veh/h	24	101	101	14	50	11	99	197	20	10	414	36
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	4	10	0	27	3	16	29	31	10	41
Cap, veh/h	52	212	189	30	315	67	137	1344	135	18	1237	107
Arrive On Green	0.03	0.12	0.12	0.02	0.11	0.11	0.08	0.46	0.46	0.01	0.40	0.40
Sat Flow, veh/h	1810	1805	1610	1668	2961	631	1767	2899	291	1372	3099	268
Grp Volume(v), veh/h	24	101	101	14	30	31	99	106	111	10	221	229
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1668	1805	1786	1767	1580	1610	1372	1664	1703
Q Serve(g_s), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	1.8	1.8	0.3	4.3	4.3
Cycle Q Clear(g_c), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	1.8	1.8	0.3	4.3	4.3
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.18	1.00		0.16
Lane Grp Cap(c), veh/h	52	212	189	30	192	190	137	732	747	18	664	680
V/C Ratio(X)	0.46	0.48	0.53	0.47	0.16	0.16	0.72	0.15	0.15	0.56	0.33	0.34
Avail Cap(c_a), veh/h	195	701	625	180	701	694	210	732	747	148	664	680
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.1	19.3	22.6	18.8	18.8	20.9	7.2	7.2	22.7	9.7	9.7
Incr Delay (d2), s/veh	6.3	1.7	2.3	11.2	0.4	0.4	6.9	0.4	0.4	24.6	1.4	1.3
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	0.3	1.0	1.0	0.2	0.3	0.3	1.2	0.5	0.5	0.2	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	20.8	21.6	33.7	19.2	19.2	27.8	7.6	7.6	47.3	11.0	11.0
LnGrp LOS	C	C	C	C	B	B	C	A	A	D	B	B
Approach Vol, veh/h		226			75			316			460	
Approach Delay, s/veh		22.0			21.9			13.9			11.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	26.0	5.3	9.9	8.1	23.0	5.8	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	3.8	2.4	4.7	4.5	6.3	2.6	2.7
Green Ext Time (p_c), s	0.0	0.9	0.0	0.8	0.0	2.0	0.0	0.2

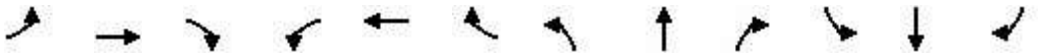
Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	22	23	28	7	10	37	738	12	6	959	28
Future Volume (veh/h)	34	22	23	28	7	10	37	738	12	6	959	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1900	1900	1796	1900	1737	1900	1885	1767	1900	1870	1737
Adj Flow Rate, veh/h	36	23	24	29	7	11	39	777	13	6	1009	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	12	0	0	7	0	11	0	1	9	0	2	11
Cap, veh/h	66	303	135	58	147	114	78	2429	41	15	1531	634
Arrive On Green	0.04	0.08	0.08	0.03	0.08	0.08	0.04	0.47	0.47	0.01	0.43	0.43
Sat Flow, veh/h	1640	3610	1610	1711	1900	1472	1810	5213	87	1810	3554	1471
Grp Volume(v), veh/h	36	23	24	29	7	11	39	511	279	6	1009	29
Grp Sat Flow(s),veh/h/ln	1640	1805	1610	1711	1900	1472	1810	1716	1869	1810	1777	1471
Q Serve(g_s), s	0.9	0.3	0.6	0.7	0.2	0.3	0.9	4.1	4.1	0.1	10.0	0.5
Cycle Q Clear(g_c), s	0.9	0.3	0.6	0.7	0.2	0.3	0.9	4.1	4.1	0.1	10.0	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	66	303	135	58	147	114	78	1598	871	15	1531	634
V/C Ratio(X)	0.54	0.08	0.18	0.50	0.05	0.10	0.50	0.32	0.32	0.41	0.66	0.05
Avail Cap(c_a), veh/h	186	1473	657	194	775	601	205	1598	871	205	1531	634
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	18.6	18.8	20.9	18.8	18.9	20.6	7.4	7.4	21.8	10.0	7.3
Incr Delay (d2), s/veh	6.7	0.1	0.6	6.5	0.1	0.4	4.9	0.5	1.0	17.6	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.2	0.4	0.1	0.1	0.4	1.0	1.2	0.1	2.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	18.7	19.4	27.5	19.0	19.3	25.5	7.9	8.4	39.4	12.2	7.4
LnGrp LOS	C	B	B	C	B	B	C	A	A	D	B	A
Approach Vol, veh/h		83			47			829			1044	
Approach Delay, s/veh		22.7			24.3			8.9			12.2	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	25.0	6.0	8.2	6.4	23.5	6.3	7.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.0	19.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.1	6.1	2.7	2.6	2.9	12.0	2.9	2.3
Green Ext Time (p_c), s	0.0	3.8	0.0	0.1	0.0	3.6	0.0	0.0

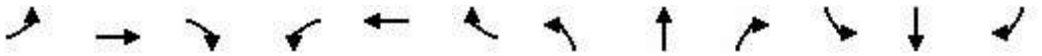
Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	899	101	34	945	57	52	82	22	47	159	124
Future Volume (veh/h)	35	899	101	34	945	57	52	82	22	47	159	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1826	1900	1856	1900	1841	1885	1900
Adj Flow Rate, veh/h	38	977	110	37	1027	62	57	89	24	51	173	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	5	0	3	0	4	1	0
Cap, veh/h	71	1242	554	69	1239	531	406	553	149	563	385	301
Arrive On Green	0.04	0.34	0.34	0.04	0.34	0.34	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1810	3610	1610	1810	3610	1547	1088	1408	380	1259	981	766
Grp Volume(v), veh/h	38	977	110	37	1027	62	57	0	113	51	0	308
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1547	1088	0	1787	1259	0	1747
Q Serve(g_s), s	1.2	14.6	2.9	1.2	15.7	1.6	2.4	0.0	2.5	1.6	0.0	7.8
Cycle Q Clear(g_c), s	1.2	14.6	2.9	1.2	15.7	1.6	10.2	0.0	2.5	4.1	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.44
Lane Grp Cap(c), veh/h	71	1242	554	69	1239	531	406	0	702	563	0	686
V/C Ratio(X)	0.54	0.79	0.20	0.53	0.83	0.12	0.14	0.00	0.16	0.09	0.00	0.45
Avail Cap(c_a), veh/h	151	1354	604	151	1354	580	406	0	702	563	0	686
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	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	17.7	13.9	28.3	18.1	13.5	17.2	0.0	11.8	13.1	0.0	13.4
Incr Delay (d2), s/veh	6.2	2.9	0.2	6.0	4.0	0.1	0.7	0.0	0.5	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.9	1.0	0.6	6.5	0.5	0.6	0.0	1.0	0.5	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	20.6	14.0	34.4	22.1	13.6	17.9	0.0	12.3	13.5	0.0	15.6
LnGrp LOS	C	C	B	C	C	B	B	A	B	B	A	B
Approach Vol, veh/h		1125			1126			170			359	
Approach Delay, s/veh		20.5			22.0			14.2			15.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.1	6.8	25.1		28.1	6.8	25.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	5.0	22.5		19.0	5.0	22.5				
Max Q Clear Time (g_c+I1), s		12.2	3.2	16.6		9.8	3.2	17.7				
Green Ext Time (p_c), s		0.4	0.0	3.4		1.4	0.0	2.9				

Intersection Summary												
HCM 6th Ctrl Delay			20.0									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	993	59	53	1527	101	52	150	28	17	70	18
Future Volume (veh/h)	136	993	59	53	1527	101	52	150	28	17	70	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1811	1248	1663	1856	1885	1278	1796	1796	1811	1500	1144
Adj Flow Rate, veh/h	139	1013	60	54	1558	103	53	153	29	17	71	18
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	11	6	44	16	3	1	42	7	7	6	27	51
Cap, veh/h	171	1883	111	73	1706	538	57	833	155	35	751	255
Arrive On Green	0.10	0.39	0.39	0.05	0.34	0.34	0.05	0.29	0.29	0.02	0.26	0.26
Sat Flow, veh/h	1654	4774	282	1584	5066	1598	1217	2873	533	1725	2850	967
Grp Volume(v), veh/h	139	699	374	54	1558	103	53	90	92	17	71	18
Grp Sat Flow(s),veh/h/ln	1654	1648	1760	1584	1689	1598	1217	1706	1699	1725	1425	967
Q Serve(g_s), s	5.9	11.8	11.8	2.4	21.2	3.3	3.1	2.8	2.9	0.7	1.4	1.0
Cycle Q Clear(g_c), s	5.9	11.8	11.8	2.4	21.2	3.3	3.1	2.8	2.9	0.7	1.4	1.0
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	171	1300	694	73	1706	538	57	495	493	35	751	255
V/C Ratio(X)	0.81	0.54	0.54	0.74	0.91	0.19	0.94	0.18	0.19	0.49	0.09	0.07
Avail Cap(c_a), veh/h	195	1300	694	160	1722	543	84	495	493	120	751	255
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	16.8	16.8	34.0	22.9	16.9	34.3	19.2	19.2	35.0	20.0	19.9
Incr Delay (d2), s/veh	20.2	0.4	0.8	13.9	7.9	0.2	61.7	0.8	0.8	10.5	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	3.1	3.8	4.1	1.1	8.4	1.1	1.8	1.1	1.2	0.4	0.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	17.2	17.6	47.9	30.8	17.1	95.9	20.0	20.1	45.4	20.3	20.5
LnGrp LOS	D	B	B	D	C	B	F	B	C	D	C	C
Approach Vol, veh/h		1212			1715			235			106	
Approach Delay, s/veh		21.3			30.5			37.1			24.4	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	25.4	7.8	32.9	7.9	23.5	12.0	28.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	7.3	25.7	5.0	19.0	8.5	24.5
Max Q Clear Time (g_c+I1), s	2.7	4.9	4.4	13.8	5.1	3.4	7.9	23.2
Green Ext Time (p_c), s	0.0	0.7	0.0	4.9	0.0	0.3	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	48	52	19	106	7	104	178	27	28	90	45
Future Volume (veh/h)	25	48	52	19	106	7	104	178	27	28	90	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1841	1722	1411	1870	966	1870	1663	1396	1011	1426	1559
Adj Flow Rate, veh/h	27	53	57	21	116	8	114	196	30	31	99	49
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	12	4	12	33	2	63	2	16	34	60	32	23
Cap, veh/h	52	191	171	34	348	24	147	1222	184	34	711	332
Arrive On Green	0.03	0.11	0.11	0.03	0.10	0.10	0.08	0.44	0.44	0.04	0.40	0.40
Sat Flow, veh/h	1640	1749	1560	1344	3375	231	1781	2753	415	963	1793	837
Grp Volume(v), veh/h	27	53	57	21	61	63	114	111	115	31	73	75
Grp Sat Flow(s),veh/h/ln	1640	1749	1560	1344	1777	1829	1781	1580	1588	963	1354	1275
Q Serve(g_s), s	0.8	1.3	1.6	0.7	1.5	1.5	2.9	2.0	2.0	1.5	1.6	1.8
Cycle Q Clear(g_c), s	0.8	1.3	1.6	0.7	1.5	1.5	2.9	2.0	2.0	1.5	1.6	1.8
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.26	1.00		0.66
Lane Grp Cap(c), veh/h	52	191	171	34	183	189	147	701	705	34	537	506
V/C Ratio(X)	0.52	0.28	0.33	0.61	0.33	0.34	0.77	0.16	0.16	0.91	0.14	0.15
Avail Cap(c_a), veh/h	176	675	602	144	686	706	210	701	705	103	537	506
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.1	19.2	22.5	19.4	19.4	21.0	7.8	7.8	22.4	9.0	9.0
Incr Delay (d2), s/veh	7.8	0.8	1.1	16.3	1.0	1.0	10.7	0.5	0.5	50.6	0.5	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	0.4	0.5	0.6	0.4	0.6	0.6	1.5	0.6	0.6	0.8	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	19.9	20.3	38.8	20.5	20.5	31.7	8.2	8.3	73.1	9.5	9.6
LnGrp LOS	C	B	C	D	C	C	C	A	A	E	A	A
Approach Vol, veh/h		137			145			340			179	
Approach Delay, s/veh		22.1			23.1			16.1			20.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	25.2	5.7	9.6	8.4	23.0	6.0	9.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.5	4.0	2.7	3.6	4.9	3.8	2.8	3.5
Green Ext Time (p_c), s	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	16	26	18	20	2	40	1127	13	10	468	60
Future Volume (veh/h)	32	16	26	18	20	2	40	1127	13	10	468	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1381	1781	1811	1826	1900	1856	1856	1663	1900	1841	1796
Adj Flow Rate, veh/h	34	17	27	19	21	2	42	1186	14	11	493	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	35	8	6	5	0	3	3	16	0	4	7
Cap, veh/h	70	234	135	41	135	119	81	2387	28	26	1508	656
Arrive On Green	0.04	0.09	0.09	0.02	0.07	0.07	0.05	0.46	0.46	0.01	0.43	0.43
Sat Flow, veh/h	1810	2624	1510	1725	1826	1610	1767	5161	61	1810	3497	1521
Grp Volume(v), veh/h	34	17	27	19	21	2	42	776	424	11	493	63
Grp Sat Flow(s),veh/h/ln	1810	1312	1510	1725	1826	1610	1767	1689	1845	1810	1749	1521
Q Serve(g_s), s	0.8	0.3	0.7	0.5	0.5	0.1	1.0	7.0	7.0	0.3	4.1	1.1
Cycle Q Clear(g_c), s	0.8	0.3	0.7	0.5	0.5	0.1	1.0	7.0	7.0	0.3	4.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	70	234	135	41	135	119	81	1562	853	26	1508	656
V/C Ratio(X)	0.49	0.07	0.20	0.47	0.16	0.02	0.52	0.50	0.50	0.43	0.33	0.10
Avail Cap(c_a), veh/h	206	1077	620	197	750	661	206	1562	853	206	1508	656
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	18.3	18.5	21.1	19.0	18.8	20.5	8.2	8.2	21.4	8.3	7.4
Incr Delay (d2), s/veh	5.1	0.1	0.7	8.1	0.5	0.1	5.1	1.1	2.1	10.7	0.6	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	0.4	0.1	0.2	0.3	0.2	0.0	0.5	1.7	2.1	0.2	1.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	18.4	19.2	29.3	19.5	18.9	25.6	9.4	10.3	32.1	8.8	7.7
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	A
Approach Vol, veh/h		78			42			1242			567	
Approach Delay, s/veh		21.9			23.9			10.2			9.2	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	24.8	5.5	8.4	6.5	23.4	6.2	7.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.6	19.0	5.0	18.0	5.1	18.9	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	9.0	2.5	2.7	3.0	6.1	2.8	2.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.1	0.0	2.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	660	150	211	817	19	43	256	134	38	159	25
Future Volume (veh/h)	63	660	150	211	817	19	43	256	134	38	159	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1900	1900	1900	1900	1811	1900	1885	1900	1856	1811	1900
Adj Flow Rate, veh/h	68	717	163	229	888	21	47	278	146	41	173	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	0	0	0	0	6	0	1	0	3	6	0
Cap, veh/h	328	1858	829	373	1858	790	421	390	205	241	513	80
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	585	3610	1610	641	3610	1535	1201	1164	611	956	1529	239
Grp Volume(v), veh/h	68	717	163	229	888	21	47	0	424	41	0	200
Grp Sat Flow(s),veh/h/ln	585	1805	1610	641	1805	1535	1201	0	1775	956	0	1768
Q Serve(g_s), s	5.1	7.2	3.3	20.2	9.5	0.4	1.8	0.0	12.5	2.3	0.0	5.1
Cycle Q Clear(g_c), s	14.6	7.2	3.3	27.4	9.5	0.4	6.9	0.0	12.5	14.9	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		0.14
Lane Grp Cap(c), veh/h	328	1858	829	373	1858	790	421	0	595	241	0	593
V/C Ratio(X)	0.21	0.39	0.20	0.61	0.48	0.03	0.11	0.00	0.71	0.17	0.00	0.34
Avail Cap(c_a), veh/h	334	1895	845	379	1895	806	421	0	595	241	0	593
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	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.1	8.8	7.9	17.1	9.4	7.2	17.5	0.0	17.4	23.9	0.0	14.9
Incr Delay (d2), s/veh	0.3	0.1	0.1	2.4	0.2	0.0	0.5	0.0	7.1	1.5	0.0	1.5
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	0.6	2.4	1.0	2.8	3.1	0.1	0.5	0.0	5.7	0.6	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	8.9	8.0	19.5	9.5	7.2	18.1	0.0	24.5	25.4	0.0	16.5
LnGrp LOS	B	A	A	B	A	A	B	A	C	C	A	B
Approach Vol, veh/h		948			1138			471			241	
Approach Delay, s/veh		9.2			11.5			23.9			18.0	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.6	35.4	24.6	35.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	31.5	19.5	31.5
Max Q Clear Time (g_c+I1), s	14.5	16.6	16.9	29.4
Green Ext Time (p_c), s	1.3	5.5	0.3	1.5

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	87	15	0	121	0	5
Future Vol, veh/h	87	15	0	121	0	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	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	40	0	5	0	50
Mvmt Flow	95	16	0	132	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	111	0	169	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.1	-	6.6	6.95
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.775
Pot Cap-1 Maneuver	-	-	1492	-	818	825
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1492	-	818	825
Mov Cap-2 Maneuver	-	-	-	-	802	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	825	-	-	1492	-
HCM Lane V/C Ratio	0.007	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	63	29	0	121	0	11
Future Vol, veh/h	63	29	0	121	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	44	0	5	0	29
Mvmt Flow	68	32	0	132	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	150	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.1	-	6.6	6.635
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.5755
Pot Cap-1 Maneuver	-	-	1505	-	840	899
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1505	-	840	899
Mov Cap-2 Maneuver	-	-	-	-	817	-
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	955	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	899	-	-	1505	-
HCM Lane V/C Ratio	0.013	-	-	-	-
HCM Control Delay (s)	9.1	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	1180	504	8
Future Vol, veh/h	0	1	0	1180	504	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	4	0
Mvmt Flow	0	1	0	1283	548	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	279	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	617	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	617	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	617	-	-
HCM Lane V/C Ratio	-	0.002	-	-
HCM Control Delay (s)	-	10.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1180	502	3
Future Vol, veh/h	0	0	0	1180	502	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	5	0
Mvmt Flow	0	0	0	1283	546	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	275	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	621	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	621	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	1555	88	106	1115	31	92	72	30	75	152	24
Future Volume (veh/h)	58	1555	88	106	1115	31	92	72	30	75	152	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1559	1870	1263	1707	1856	1900	1515	1707	1693	1885	1752	1589
Adj Flow Rate, veh/h	59	1587	90	108	1138	32	94	73	31	77	155	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	23	2	43	13	3	0	26	13	14	1	10	21
Cap, veh/h	70	1711	97	134	1931	614	113	620	248	99	837	338
Arrive On Green	0.05	0.35	0.35	0.08	0.38	0.38	0.08	0.27	0.27	0.06	0.25	0.25
Sat Flow, veh/h	1485	4944	280	1626	5066	1610	1443	2258	906	1795	3328	1343
Grp Volume(v), veh/h	59	1093	584	108	1138	32	94	51	53	77	155	24
Grp Sat Flow(s),veh/h/ln	1485	1702	1820	1626	1689	1610	1443	1622	1542	1795	1664	1343
Q Serve(g_s), s	2.9	23.0	23.0	4.9	13.3	0.9	4.8	1.8	1.9	3.1	2.7	1.0
Cycle Q Clear(g_c), s	2.9	23.0	23.0	4.9	13.3	0.9	4.8	1.8	1.9	3.1	2.7	1.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	70	1178	630	134	1931	614	113	445	423	99	837	338
V/C Ratio(X)	0.84	0.93	0.93	0.81	0.59	0.05	0.83	0.12	0.12	0.78	0.19	0.07
Avail Cap(c_a), veh/h	158	1185	634	138	1931	614	118	445	423	130	837	338
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	23.4	23.4	33.5	18.4	14.5	33.8	20.2	20.3	34.7	21.9	21.2
Incr Delay (d2), s/veh	22.1	12.4	19.9	28.1	0.5	0.0	36.6	0.5	0.6	19.1	0.5	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	1.4	9.8	11.9	2.8	4.5	0.3	2.7	0.7	0.7	1.8	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	35.8	43.4	61.7	18.8	14.6	70.4	20.7	20.9	53.8	22.3	21.6
LnGrp LOS	E	D	D	E	B	B	E	C	C	D	C	C
Approach Vol, veh/h		1736			1278			198			256	
Approach Delay, s/veh		39.1			22.4			44.4			31.7	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	24.9	10.6	30.2	10.3	23.2	8.0	32.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.4	19.4	6.3	25.9	6.1	18.7	7.9	24.3
Max Q Clear Time (g_c+I1), s	5.1	3.9	6.9	25.0	6.8	4.7	4.9	15.3
Green Ext Time (p_c), s	0.0	0.4	0.0	0.7	0.0	0.7	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	72	71	10	35	8	69	138	22	18	290	25
Future Volume (veh/h)	17	72	71	10	35	8	69	138	22	18	290	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1752	1900	1500	1856	1663	1263	759	1752	1292
Adj Flow Rate, veh/h	24	103	101	14	50	11	99	197	31	26	414	36
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	4	10	0	27	3	16	43	77	10	41
Cap, veh/h	52	213	189	30	316	67	137	1222	189	22	1236	107
Arrive On Green	0.03	0.12	0.12	0.02	0.11	0.11	0.08	0.45	0.45	0.03	0.40	0.40
Sat Flow, veh/h	1810	1810	1606	1668	2961	631	1767	2741	425	723	3099	268
Grp Volume(v), veh/h	24	103	101	14	30	31	99	112	116	26	221	229
Grp Sat Flow(s),veh/h/ln	1810	1805	1611	1668	1805	1786	1767	1580	1586	723	1664	1703
Q Serve(g_s), s	0.6	2.5	2.7	0.4	0.7	0.7	2.5	2.0	2.0	1.4	4.3	4.3
Cycle Q Clear(g_c), s	0.6	2.5	2.7	0.4	0.7	0.7	2.5	2.0	2.0	1.4	4.3	4.3
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.27	1.00		0.16
Lane Grp Cap(c), veh/h	52	212	190	30	193	191	137	704	707	22	664	679
V/C Ratio(X)	0.46	0.48	0.53	0.47	0.15	0.16	0.72	0.16	0.16	1.17	0.33	0.34
Avail Cap(c_a), veh/h	195	700	625	180	700	693	210	704	707	78	664	679
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.1	19.3	22.6	18.8	18.8	20.9	7.7	7.7	22.5	9.7	9.7
Incr Delay (d2), s/veh	6.3	1.7	2.3	11.2	0.4	0.4	6.9	0.5	0.5	142.5	1.4	1.3
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	0.3	1.0	1.0	0.2	0.3	0.3	1.2	0.6	0.6	1.1	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	20.8	21.6	33.7	19.2	19.2	27.8	8.2	8.2	165.0	11.0	11.0
LnGrp LOS	C	C	C	C	B	B	C	A	A	F	B	B
Approach Vol, veh/h		228			75			327			476	
Approach Delay, s/veh		22.0			21.9			14.1			19.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	25.2	5.3	10.0	8.1	23.0	5.8	9.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.4	4.0	2.4	4.7	4.5	6.3	2.6	2.7
Green Ext Time (p_c), s	0.0	1.0	0.0	0.8	0.0	2.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	51	28	28	7	10	37	738	12	6	964	28
Future Volume (veh/h)	53	51	28	28	7	10	37	738	12	6	964	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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1174	1900	1796	1900	1737	1900	1885	1767	1900	1870	1737
Adj Flow Rate, veh/h	56	54	29	29	7	11	39	777	13	6	1015	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	12	49	0	7	0	11	0	1	9	0	2	11
Cap, veh/h	91	247	178	58	168	130	77	2357	39	15	1483	614
Arrive On Green	0.06	0.11	0.11	0.03	0.09	0.09	0.04	0.45	0.45	0.01	0.42	0.42
Sat Flow, veh/h	1640	2230	1610	1711	1900	1472	1810	5213	87	1810	3554	1471
Grp Volume(v), veh/h	56	54	29	29	7	11	39	511	279	6	1015	29
Grp Sat Flow(s),veh/h/ln	1640	1115	1610	1711	1900	1472	1810	1716	1869	1810	1777	1471
Q Serve(g_s), s	1.5	1.0	0.7	0.8	0.2	0.3	1.0	4.4	4.4	0.2	10.6	0.5
Cycle Q Clear(g_c), s	1.5	1.0	0.7	0.8	0.2	0.3	1.0	4.4	4.4	0.2	10.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	91	247	178	58	168	130	77	1551	845	15	1483	614
V/C Ratio(X)	0.61	0.22	0.16	0.50	0.04	0.08	0.50	0.33	0.33	0.41	0.68	0.05
Avail Cap(c_a), veh/h	180	882	637	188	751	582	199	1551	845	199	1483	614
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	18.4	18.3	21.6	19.0	19.0	21.3	8.0	8.0	22.5	10.8	7.9
Incr Delay (d2), s/veh	6.5	0.4	0.4	6.6	0.1	0.3	5.0	0.6	1.0	17.7	2.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.2	0.3	0.4	0.1	0.1	0.4	1.1	1.3	0.1	3.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	18.9	18.8	28.2	19.1	19.3	26.3	8.6	9.1	40.1	13.4	8.0
LnGrp LOS	C	B	B	C	B	B	C	A	A	D	B	A
Approach Vol, veh/h		139			47			829			1050	
Approach Delay, s/veh		22.3			24.8			9.6			13.4	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	25.1	6.0	9.5	6.4	23.5	7.0	8.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.0	19.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	6.4	2.8	3.0	3.0	12.6	3.5	2.3
Green Ext Time (p_c), s	0.0	3.7	0.0	0.3	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	899	101	34	951	57	52	82	22	47	159	124
Future Volume (veh/h)	41	899	101	34	951	57	52	82	22	47	159	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1900	1900	1826	1900	1856	1900	1841	1885	1900
Adj Flow Rate, veh/h	45	977	110	37	1034	62	57	89	24	51	173	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	0	0	0	0	5	0	3	0	4	1	0
Cap, veh/h	76	1264	564	69	1243	533	398	544	147	555	379	296
Arrive On Green	0.04	0.35	0.35	0.04	0.34	0.34	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1725	3610	1610	1810	3610	1547	1088	1408	380	1259	981	766
Grp Volume(v), veh/h	45	977	110	37	1034	62	57	0	113	51	0	308
Grp Sat Flow(s),veh/h/ln	1725	1805	1610	1810	1805	1547	1088	0	1787	1259	0	1747
Q Serve(g_s), s	1.5	14.5	2.9	1.2	15.8	1.6	2.5	0.0	2.5	1.7	0.0	7.9
Cycle Q Clear(g_c), s	1.5	14.5	2.9	1.2	15.8	1.6	10.3	0.0	2.5	4.1	0.0	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.44
Lane Grp Cap(c), veh/h	76	1264	564	69	1243	533	398	0	691	555	0	675
V/C Ratio(X)	0.59	0.77	0.20	0.53	0.83	0.12	0.14	0.00	0.16	0.09	0.00	0.46
Avail Cap(c_a), veh/h	158	1384	617	151	1354	580	398	0	691	555	0	675
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	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	17.4	13.6	28.3	18.1	13.4	17.6	0.0	12.1	13.4	0.0	13.7
Incr Delay (d2), s/veh	7.2	2.6	0.2	6.0	4.1	0.1	0.8	0.0	0.5	0.3	0.0	2.2
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	0.8	5.8	1.0	0.6	6.5	0.5	0.7	0.0	1.0	0.5	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	19.9	13.8	34.4	22.2	13.5	18.3	0.0	12.6	13.7	0.0	15.9
LnGrp LOS	D	B	B	C	C	B	B	A	B	B	A	B
Approach Vol, veh/h		1132			1133			170			359	
Approach Delay, s/veh		19.9			22.1			14.5			15.6	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	27.7	6.8	25.5	27.7	7.1	25.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	5.0	23.0	18.5	5.5	22.5
Max Q Clear Time (g_c+I1), s	12.3	3.2	16.5	9.9	3.5	17.8
Green Ext Time (p_c), s	0.4	0.0	3.7	1.3	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	7	0	72	0	12
Future Vol, veh/h	94	7	0	72	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	0	0	4	0	0
Mvmt Flow	102	8	0	78	0	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	110	0	145	106
Stage 1	-	-	-	-	106	-
Stage 2	-	-	-	-	39	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1493	-	845	954
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	984	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	845	954
Mov Cap-2 Maneuver	-	-	-	-	817	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	984	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	954	-	-	1493	-
HCM Lane V/C Ratio	0.014	-	-	-	-
HCM Control Delay (s)	8.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	14	0	72	0	41
Future Vol, veh/h	92	14	0	72	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	1	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	0	0	4	0	0
Mvmt Flow	100	15	0	78	0	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	115	0	147	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	39	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1487	-	843	951
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	984	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1487	-	843	951
Mov Cap-2 Maneuver	-	-	-	-	815	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	984	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	951	-	-	1487	-
HCM Lane V/C Ratio	0.047	-	-	-	-
HCM Control Delay (s)	9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	0	787	1016	4
Future Vol, veh/h	0	3	0	787	1016	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	0	3	0	855	1104	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	554	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	412	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	412	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	412	-	-
HCM Lane V/C Ratio	-	0.008	-	-
HCM Control Delay (s)	-	13.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	787	1018	1
Future Vol, veh/h	0	1	0	787	1018	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	0	1	0	855	1107	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	554	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	412	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	412	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

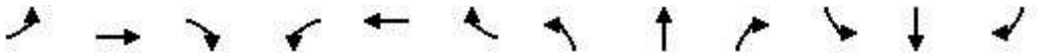
Approach	EB	NB	SB
HCM Control Delay, s	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	412	-	-
HCM Lane V/C Ratio	-	0.003	-	-
HCM Control Delay (s)	-	13.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	1026	54	57	1669	221	52	234	28	89	208	22
Future Volume (veh/h)	151	1026	54	57	1669	221	52	234	28	89	208	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1796	1189	1693	1856	1737	1278	1648	1796	1500	1455	1070
Adj Flow Rate, veh/h	154	1047	55	58	1703	226	53	239	29	91	212	22
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	14	7	48	14	3	11	42	17	7	27	30	56
Cap, veh/h	183	1876	98	75	1655	481	57	713	86	95	755	247
Arrive On Green	0.11	0.39	0.39	0.05	0.33	0.33	0.05	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	1612	4770	250	1612	5066	1472	1217	2814	338	1428	2765	905
Grp Volume(v), veh/h	154	717	385	58	1703	226	53	132	136	91	212	22
Grp Sat Flow(s),veh/h/ln	1612	1635	1751	1612	1689	1472	1217	1566	1586	1428	1383	905
Q Serve(g_s), s	7.0	12.8	12.8	2.7	24.5	9.2	3.3	5.1	5.3	4.8	4.5	1.4
Cycle Q Clear(g_c), s	7.0	12.8	12.8	2.7	24.5	9.2	3.3	5.1	5.3	4.8	4.5	1.4
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	183	1286	689	75	1655	481	57	397	402	95	755	247
V/C Ratio(X)	0.84	0.56	0.56	0.77	1.03	0.47	0.93	0.33	0.34	0.96	0.28	0.09
Avail Cap(c_a), veh/h	183	1286	689	157	1655	481	81	397	402	95	755	247
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	17.7	17.7	35.3	25.3	20.1	35.6	22.8	22.9	34.9	21.5	20.3
Incr Delay (d2), s/veh	28.4	0.5	1.0	15.1	29.9	0.7	63.5	2.2	2.3	77.5	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.2	4.6	1.3	13.0	2.8	1.9	2.0	2.1	3.6	1.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	18.2	18.7	50.4	55.2	20.8	99.1	25.1	25.1	112.4	22.4	21.0
LnGrp LOS	E	B	B	D	F	C	F	C	C	F	C	C
Approach Vol, veh/h		1256			1987			321			325	
Approach Delay, s/veh		23.6			51.1			37.3			47.5	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	23.5	8.0	34.0	8.0	25.0	13.0	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	7.3	25.7	5.0	19.0	8.5	24.5
Max Q Clear Time (g_c+I1), s	6.8	7.3	4.7	14.8	5.3	6.5	9.0	26.5
Green Ext Time (p_c), s	0.0	1.0	0.0	4.8	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	43	52	19	106	7	104	262	11	5	250	45
Future Volume (veh/h)	25	43	52	19	106	7	104	262	11	5	250	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1826	1722	1411	1870	966	1870	1559	1485	1055	1396	1559
Adj Flow Rate, veh/h	27	47	57	21	116	8	114	288	12	5	275	49
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	12	5	12	33	2	63	2	23	28	57	34	23
Cap, veh/h	52	189	169	34	347	24	147	1370	57	7	894	157
Arrive On Green	0.03	0.11	0.11	0.03	0.10	0.10	0.08	0.47	0.47	0.01	0.40	0.40
Sat Flow, veh/h	1640	1735	1547	1344	3375	231	1781	2898	120	1005	2255	396
Grp Volume(v), veh/h	27	47	57	21	61	63	114	147	153	5	160	164
Grp Sat Flow(s),veh/h/ln	1640	1735	1547	1344	1777	1829	1781	1481	1537	1005	1326	1325
Q Serve(g_s), s	0.8	1.2	1.6	0.7	1.5	1.5	2.9	2.7	2.7	0.2	3.9	4.0
Cycle Q Clear(g_c), s	0.8	1.2	1.6	0.7	1.5	1.5	2.9	2.7	2.7	0.2	3.9	4.0
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.08	1.00		0.30
Lane Grp Cap(c), veh/h	52	189	169	34	183	188	147	700	727	7	526	526
V/C Ratio(X)	0.52	0.25	0.34	0.61	0.33	0.34	0.77	0.21	0.21	0.74	0.30	0.31
Avail Cap(c_a), veh/h	176	670	597	144	686	706	210	700	727	108	526	526
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.0	19.2	22.5	19.4	19.4	21.0	7.2	7.2	23.1	9.7	9.7
Incr Delay (d2), s/veh	7.8	0.7	1.2	16.3	1.0	1.0	10.7	0.7	0.7	91.8	1.5	1.5
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	0.4	0.4	0.6	0.4	0.6	0.6	1.5	0.7	0.7	0.2	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	19.7	20.4	38.8	20.5	20.5	31.6	7.9	7.9	114.9	11.1	11.2
LnGrp LOS	C	B	C	D	C	C	C	A	A	F	B	B
Approach Vol, veh/h		131			145			414			329	
Approach Delay, s/veh		22.1			23.1			14.4			12.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	26.5	5.7	9.6	8.4	23.0	6.0	9.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	4.7	2.7	3.6	4.9	6.0	2.8	3.5
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.0	1.4	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	7	25	18	20	2	40	1259	13	10	564	60
Future Volume (veh/h)	25	7	25	18	20	2	40	1259	13	10	564	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1781	1811	1826	1900	1856	1826	1663	1900	1811	1796
Adj Flow Rate, veh/h	26	7	26	19	21	2	42	1325	14	11	594	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	8	6	5	0	3	5	16	0	6	7
Cap, veh/h	56	275	115	41	125	111	81	2386	25	26	1506	666
Arrive On Green	0.03	0.08	0.08	0.02	0.07	0.07	0.05	0.47	0.47	0.01	0.44	0.44
Sat Flow, veh/h	1810	3610	1510	1725	1826	1610	1767	5086	54	1810	3441	1521
Grp Volume(v), veh/h	26	7	26	19	21	2	42	866	473	11	594	63
Grp Sat Flow(s),veh/h/ln	1810	1805	1510	1725	1826	1610	1767	1662	1816	1810	1721	1521
Q Serve(g_s), s	0.6	0.1	0.7	0.5	0.5	0.1	1.0	8.1	8.1	0.3	5.1	1.0
Cycle Q Clear(g_c), s	0.6	0.1	0.7	0.5	0.5	0.1	1.0	8.1	8.1	0.3	5.1	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	56	275	115	41	125	111	81	1559	852	26	1506	666
V/C Ratio(X)	0.46	0.03	0.23	0.47	0.17	0.02	0.52	0.56	0.56	0.42	0.39	0.09
Avail Cap(c_a), veh/h	210	1505	629	200	761	671	209	1559	852	210	1506	666
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	18.5	18.8	20.8	18.9	18.8	20.1	8.2	8.2	21.1	8.3	7.1
Incr Delay (d2), s/veh	5.8	0.0	1.0	8.1	0.6	0.1	5.1	1.4	2.6	10.6	0.8	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	0.3	0.0	0.2	0.3	0.2	0.0	0.5	2.0	2.4	0.2	1.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	18.5	19.7	28.9	19.6	18.8	25.2	9.7	10.8	31.8	9.0	7.4
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	A
Approach Vol, veh/h		59			42			1381			668	
Approach Delay, s/veh		22.5			23.8			10.5			9.3	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	24.8	5.5	7.8	6.5	23.4	5.8	7.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.1	18.9	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	10.1	2.5	2.7	3.0	7.1	2.6	2.5
Green Ext Time (p_c), s	0.0	5.1	0.0	0.0	0.0	3.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	660	225	211	965	19	43	280	134	38	171	101
Future Volume (veh/h)	253	660	225	211	965	19	43	280	134	38	171	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1426	1900	1900	1900	1900	1811	1900	1841	1900	1856	1811	1574
Adj Flow Rate, veh/h	275	717	245	229	1049	21	47	304	146	41	186	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	32	0	0	0	0	6	0	4	0	3	6	22
Cap, veh/h	238	1197	534	259	1083	460	287	352	169	172	320	189
Arrive On Green	0.17	0.33	0.33	0.14	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1358	3610	1610	1810	3610	1535	1100	1175	564	933	1067	631
Grp Volume(v), veh/h	275	717	245	229	1049	21	47	0	450	41	0	296
Grp Sat Flow(s),veh/h/ln	1358	1805	1610	1810	1805	1535	1100	0	1739	933	0	1698
Q Serve(g_s), s	10.5	9.9	7.2	7.4	17.2	0.6	2.3	0.0	14.7	2.6	0.0	8.9
Cycle Q Clear(g_c), s	10.5	9.9	7.2	7.4	17.2	0.6	11.1	0.0	14.7	17.3	0.0	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.37
Lane Grp Cap(c), veh/h	238	1197	534	259	1083	460	287	0	522	172	0	509
V/C Ratio(X)	1.16	0.60	0.46	0.88	0.97	0.05	0.16	0.00	0.86	0.24	0.00	0.58
Avail Cap(c_a), veh/h	238	1197	534	259	1083	460	287	0	522	172	0	509
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	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	16.7	15.8	25.2	20.7	14.9	22.5	0.0	19.8	28.0	0.0	17.8
Incr Delay (d2), s/veh	107.5	0.8	0.6	24.1	17.7	0.0	1.2	0.0	17.0	3.2	0.0	4.8
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	10.2	3.8	2.5	4.7	9.2	0.2	0.6	0.0	7.8	0.7	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.2	17.5	16.4	49.3	38.5	14.9	23.7	0.0	36.8	31.2	0.0	22.6
LnGrp LOS	F	B	B	D	D	B	C	A	D	C	A	C
Approach Vol, veh/h		1237			1299			497			337	
Approach Delay, s/veh		42.8			40.0			35.6			23.6	
Approach LOS		D			D			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	13.1	24.4		22.5	15.0	22.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	8.6	19.9		18.0	10.5	18.0				
Max Q Clear Time (g_c+I1), s		16.7	9.4	11.9		19.3	12.5	19.2				
Green Ext Time (p_c), s		0.4	0.0	3.5		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			38.7									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	1659	86	120	1196	138	92	238	30	222	317	40
Future Volume (veh/h)	63	1659	86	120	1196	138	92	238	30	222	317	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1559	1856	1263	1737	1856	1693	1515	1455	1693	1693	1515	1470
Adj Flow Rate, veh/h	64	1693	88	122	1220	141	94	243	31	227	323	41
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	23	3	43	11	3	14	26	30	14	14	26	29
Cap, veh/h	77	1726	90	138	1932	547	114	532	67	244	828	358
Arrive On Green	0.05	0.35	0.35	0.08	0.38	0.38	0.08	0.22	0.22	0.15	0.29	0.29
Sat Flow, veh/h	1485	4930	256	1654	5066	1434	1443	2469	311	1612	2878	1243
Grp Volume(v), veh/h	64	1159	622	122	1220	141	94	135	139	227	323	41
Grp Sat Flow(s),veh/h/ln	1485	1689	1809	1654	1689	1434	1443	1383	1398	1612	1439	1243
Q Serve(g_s), s	3.8	30.6	30.6	6.6	17.7	6.1	5.8	7.6	7.8	12.5	8.1	2.2
Cycle Q Clear(g_c), s	3.8	30.6	30.6	6.6	17.7	6.1	5.8	7.6	7.8	12.5	8.1	2.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	77	1182	633	138	1932	547	114	298	301	244	828	358
V/C Ratio(X)	0.83	0.98	0.98	0.88	0.63	0.26	0.83	0.45	0.46	0.93	0.39	0.11
Avail Cap(c_a), veh/h	144	1182	633	138	1932	547	202	298	301	244	828	358
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	28.9	29.0	40.8	22.7	19.1	40.8	30.7	30.8	37.7	25.7	23.6
Incr Delay (d2), s/veh	19.4	21.6	31.1	44.3	0.7	0.2	13.8	4.9	5.0	39.5	1.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	14.5	17.3	4.2	6.4	1.9	2.4	2.8	2.9	7.4	2.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	50.5	60.1	85.2	23.4	19.4	54.6	35.6	35.8	77.2	27.1	24.3
LnGrp LOS	E	D	E	F	C	B	D	D	D	E	C	C
Approach Vol, veh/h		1845			1483			368			591	
Approach Delay, s/veh		54.1			28.1			40.5			46.2	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	23.9	12.0	36.0	11.6	30.4	9.2	38.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.6	19.4	7.5	31.5	12.6	20.4	8.7	30.3
Max Q Clear Time (g_c+I1), s	14.5	9.8	8.6	32.6	7.8	10.1	5.8	19.7
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.1	1.5	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	71	71	10	35	8	69	304	14	7	478	25
Future Volume (veh/h)	17	71	71	10	35	8	69	304	14	7	478	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1752	1900	1500	1856	1500	1470	1441	1604	1292
Adj Flow Rate, veh/h	24	101	101	14	50	11	99	434	20	10	683	36
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	4	10	0	27	3	27	29	31	20	41
Cap, veh/h	52	212	189	30	315	67	137	1286	59	18	1175	62
Arrive On Green	0.03	0.12	0.12	0.02	0.11	0.11	0.08	0.46	0.46	0.01	0.40	0.40
Sat Flow, veh/h	1810	1805	1610	1668	2961	631	1767	2774	128	1372	2944	155
Grp Volume(v), veh/h	24	101	101	14	30	31	99	222	232	10	353	366
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1668	1805	1786	1767	1425	1477	1372	1523	1576
Q Serve(g_s), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	4.6	4.6	0.3	8.4	8.4
Cycle Q Clear(g_c), s	0.6	2.4	2.7	0.4	0.7	0.7	2.5	4.6	4.6	0.3	8.4	8.4
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.09	1.00		0.10
Lane Grp Cap(c), veh/h	52	212	189	30	192	190	137	661	685	18	608	629
V/C Ratio(X)	0.46	0.48	0.53	0.47	0.16	0.16	0.72	0.34	0.34	0.56	0.58	0.58
Avail Cap(c_a), veh/h	195	701	625	180	701	694	210	661	685	148	608	629
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.1	19.3	22.6	18.8	18.8	20.9	7.9	7.9	22.7	10.9	10.9
Incr Delay (d2), s/veh	6.3	1.7	2.3	11.2	0.4	0.4	6.9	1.4	1.3	24.6	4.0	3.9
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	1.0	1.0	0.2	0.3	0.3	1.2	1.2	1.2	0.2	2.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	20.8	21.6	33.7	19.2	19.2	27.8	9.3	9.2	47.3	14.9	14.8
LnGrp LOS	C	C	C	C	B	B	C	A	A	D	B	B
Approach Vol, veh/h		226			75			553			729	
Approach Delay, s/veh		22.0			21.9			12.6			15.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	26.0	5.3	9.9	8.1	23.0	5.8	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	6.6	2.4	4.7	4.5	10.4	2.6	2.7
Green Ext Time (p_c), s	0.0	2.0	0.0	0.8	0.0	2.7	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B