Exhibit J

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KITTELSON & ASSOCIATES

TRANSPORTATION IMPACT STUDY

26500 Val Verde Drive

December 2025

PREPARED FOR
City Ventures
1185 Mason Street
San Francisco, CA 94123

PREPARED BY
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Oakland, CA 94612

26500 Val Verde Drive Transportation Impact Assessment

Carmel, CA

Prepared for:
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Project Number 31384

December 11, 2025

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EXECUTIVE SUMMARY

This report presents the findings of the local transportation analysis for the proposed development of the 26500 Val Verde Drive in Carmel, California. The report adheres to the guidelines outlined in the Monterey County Guide for the Preparation of Traffic Impact Studies (2014). Monterey County has also adopted Vehicle Miles Traveled (VMT) as the primary metric for assessing transportation impacts under the California Environmental Quality Act (CEQA). This means that when evaluating new development projects, the county now focuses on how much travel by car a project is expected to generate, rather than traditional measures like Level of Service (LOS). However, operations analysis is still required by the County to evaluate potential roadway improvements associated with maintaining mobility throughout the network.

City Ventures proposes to develop 59 single family homes and 15 townhomes for a total of 74 for-sale, solar, all-electric dwelling units at 26500 Val Verde Drive in Carmel, CA (the "Project"). The project is located on five parcels located that currently has one single family home and farm land. Access to the project will be provided from Rio Road to Val Verde Drive. Rio Road connects to State Route 1 (SR 1) about a half-mile to the west of Val Verde Drive.

With 59 single family homes and 15 townhomes, the project is estimated to generate 685 daily trips, with 48 occurring during the AM peak hour and 66 occurring during the PM peak hour. No adjustments were made to account for walking and biking trips, which are anticipated to occur due to the project's close proximity to retail options.

The analysis of intersection and roadway operations considered various scenarios during peak periods in the morning (7-9 am) and afternoon (4-6 pm) to assess the potential transportation-related effects of the project. The scenarios included existing, existing plus project, background, and background plus project conditions. The assumed project opening year is 2027.

Based on the LOS analysis results, the following intersections do not meet target thresholds currently and would continue to not meet target thresholds with the project:

- Carmel Valley Road/ Carmel Rancho Boulevard
  - Existing Conditions Plus Project: during the AM (LOS E) and PM (LOS E) peak hours
  - Background Conditions Plus Project: during the AM (LOS F) and PM (LOS F) peak hours

Converting the existing northbound left-through to a northbound through-right at Carmel Valley Road/Carmel Rancho Boulevard will improve the LOS targets to meet the target thresholds. The project would pay its required fees into the Traffic Improvement Project for Carmel Valley Road Fee Program which would support this change and/or other changes along Carmel Valley Road consistent with the Carmel Valley Master Plan.

Based on the LOS analysis results, the following roadways do not meet target thresholds currently and would continue to not meet target thresholds with the project:

- F/G/H/I. SR 1, Carpenter Street to Ribera
  - Roadway segments along this portion of SR1 is under Caltrans jurisdiction and operates at an unacceptable LOS E in the southbound direction under AM and PM peak hours. There are no known planned improvements on these road segments. The project would increase the existing volumes by 1% or less. The project would pay its required fees for the TAMC Regional Development Impact Fee program which would include regional improvements such as any related to improving these portions of SR1.

- J. Rio Road, SR 1 to Crossroads Boulevard
    - This roadway segment operates at an unacceptable LOS F and E in the westbound direction under AM and PM peak hours, respectively. Based on the Carmel Valley Master Plan criteria, the Project would not have an adverse effect on this road segment because it would not worsen the LOS by one letter grade.

- N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway
    - This roadway segment operates at an unacceptable LOS F in the westbound direction under AM and PM peak hours. Based on the Carmel Valley Master Plan criteria, the Project would not have an adverse effect on this road segment because it would not worsen the LOS by one letter grade.
- O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road
    - This roadway segment operates at an unacceptable LOS F in the westbound direction under AM and PM peak hours. Based on the Carmel Valley Master Plan criteria, the Project would not have an adverse effect on this road segment because it would not worsen the LOS by one letter grade.

When reviewing the proposed site access and on-site circulation, the following details were noted:

- Sight Distance. Shrubbery and landscaping near the proposed site accesses should be maintained to ensure adequate sight distance is maintained.
- Adequacy of Pedestrian Facilities. The project proposes to build sidewalks along Val Verde Drive between the site and Rio Road to improve pedestrian connectivity and comfort.
- Bicycle Accessibility. There are no bicycle facilities that provide direct access to the study site. The Circulation Element for the City of Carmel does not propose any new bike lanes, and they are not anticipated to be needed on Val Verde Drive due to the low volumes and speeds of the roadway. The development will install bicycle parking and amenities in order to encourage bicycling by residents.
- Accessibility from Adjacent Transit Stops. The nearest bus stop to the project is approximately 2,000 feet from the site access, on foot. It is located approximately 200 feet north of the intersection of Carmel Rancho Boulevard and Rio Road, on the west side of Carmel Rancho Boulevard. There will be a connection for most but not all of the route connecting riders between the bus stop and the project site.

INTRODUCTION

City Ventures proposes to develop 59 single family homes and 15 townhomes for a total of 74 for-sale, solar, all-electric dwelling units (Project)at 26500 Val Verde Drive in Monterey County, CA. The project is located on five parcels located that currently has one single family home and farm land. Access to the project will be provided from Rio Road to Val Verde Drive. Rio Road connects to State Route 1 (SR 1) about a half-mile to the west of Val Verde Drive.

Kittelson and Associates, Inc (Kittelson) prepared this traffic analysis report for City Ventures to determine the expected transportation-related effects of the project. The scope of the study was developed in coordination with City Ventures and the County of Monterey Department of Housing and Community Development.

The transportation analyses documented in this report were performed to assess transportation effects and consistency with the Monterey County Guide for the Preparation of Traffic Impact Studies (2014)[1].

PROJECT CONTEXT

The existing conditions of nearby roadways and intersections were evaluated to gain an understanding of the project site area. The existing conditions review involved mapping, reviewing, and documenting existing land use, multi-modal transportation infrastructure, and roadway characteristics. The findings from the existing conditions review are summarized below.

PROJECT LOCATION

The project is located on five vacant parcels located at 26500 Val Verde Drive, as shown in Figure 1. Val Verde Drive serves as the central roadway and will include improvements as part of the development, including new sidewalk between the project site and Rio Road. Access to the project will be provided from Rio Road to Val Verde Drive which extends through to Carmel Valley Road. Stemming off Val Verde Drive are two looped private drives that provide access to the neighborhood.

To the northeast is the Carmel Middle School, which has almost 500 students in grades 6-8. Farther north is the Carmel High School, which has almost 800 students in grades 9-12. Directly to the north are the Carmel Rancho Shopping Center and an Assisted Living Facility. To the west is a commercial area, in which various businesses are located along the Carmel Rancho Boulevard, Rio Road, and Via Nona Marie, as well as within the Barnyard Shopping Village. The south generally consists of residential, with the exception of the Crossroads Carmel Shopping Center located at SR-1 and Rio Road intersection. Directly to the east is agricultural land.

[1] Guide for the Preparation of Traffic Impact Studies. (2014). Monterey County Public Works.

Figure 1: Site Location

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

ROADWAY FACILITIES

The project site is located along Val Verde Drive. Access to Val Verde Drive is through Rio Road, which connects with SR-1, Carmel Valley Road, and Carmel Rancho Boulevard. A detailed explanation of each roadway is provided below:

- Val Verde Drive is classified as a local roadway. Val Verde drive is one lane, shared by both directions. There is no posted speed limit. The roadway provides access to private property. The study area intersections along this roadway are project driveways.
- Rio Road is classified as a major collector roadway. Rio Road is typically three to four lanes (one to two in each direction) with one additional turn lane at intersections. The posted speed limit is 25 mph. Three of the study area intersections along this roadway in the study area are signalized (where Rio Road intersects SR-1, Crossroads Boulevard, and Carmel Center Place), two of the intersections are regulated by a two-way stop (where Rio Road intersects Via Nona Marie and Carmel Rancho Boulevard), and one intersection is unregulated (where Rio Road intersects Val Verde Drive).
- Carmel Valley Road is classified as a major collector roadway. Carmel Valley Road is typically four lanes (two lanes in each direction) with additional one to two turning lanes added at intersections. The posted speed limit is 45 mph. The study area intersections along this roadway are signalized.
- Carmel Rancho Boulevard is classified as a major collector roadway. Carmel Rancho Boulevard is typically four lanes (two lanes in each direction) with one additional turn lane added at intersections. The posted speed limit is 35 mph. The study area intersections along this roadway are signalized.
- State Route 1 (SR-1) is classified as a minor arterial highway. SR-1 is typically three to four lanes (one to two in each direction) with additional one to two turning lanes added at intersections. The posted speed limit is 45 miles per hour (mph). The study area intersections along this highway are signalized.

PEDESTRIAN FACILITIES

While sidewalks are not available on Val Verde Drive and Carmel Valley Road, there exists a sidewalk network on Rio Road and Carmel Rancho Boulevard, providing access to the commercial area. There are standard crosswalks that are located almost on all legs of most of the major signalized intersections within the project vicinity. The following crosswalk details are particularly noteworthy:

- There are no crosswalks at the intersection of Val Verde Drive and Rio Road.
- There are no crosswalks at the intersection of Carmel Rancho Boulevard and Rio Road.
- There is a high visibility crosswalk at the east leg of Via Nona Marie and Rio Road intersection.
- Apart from the crosswalk at the south leg of Carmel Center Place and Rio Road intersection, there are no crosswalks.
- There is a crosswalk at the south leg of the N Doris Watson Place and SR-1 intersection.
- There are no crosswalks at the Carmel Valley Road and SR-1 intersection.

The project would add sidewalks along the west side of Val Verde Drive from the project site until Rio Road, creating a walkable connection between the project site and nearby commercial areas. The project does not include any sidewalk extensions along Rio Road, but would provide sidewalk up to the intersection where pedestrians can cross to connect with the existing sidewalk on the south side.

BICYCLE FACILITIES

There is a Class III bicycle path along Rio Road from the west that terminates at the intersection of Rio Road and Crossroads Boulevard, providing bicyclists access to the Crossroads Carmel Shopping Center.[2] Similarly, there is a Class III bicycle path along Carmel Valley Road, which begins at the intersection of Carmel Valley Road and Carmel Rancho Boulevard and continues east, providing bicyclists access to the commercial area.

Val Verde Drive has low volumes and speeds and is considered to be a lower stress roadway for bicyclists to ride in the roadway with shared space with vehicles and other users. No dedicated bicycle lanes are being provided or envisioned to be needed for bicyclists from the project to get to Rio Road.

TRANSIT FACILITIES

Monterey-Salinas Transit (MST) is the primary transit operator in Monterey County (including City of Carmel). Within the vicinity of the project area, MST operates three routes. Route 5 (Monterey – Carmel Rancho) operates along Rio Road, Carmel Rancho Boulevard, and Carmel Valley Road. Route 24 (Crossroads Carmel – Carmel Valley) operates along Carmel Valley Road, Carmel Rancho Boulevard, and Rio Road, with a designated stop at the Crossroads Shopping Center. Route 91 (Monterey – Pacific Meadows) operates along Rio Road, Carmel Rancho Boulevard, and Carmel Valley Road, with designated stops at the Crossroads Shopping Center, the Crossroads Safeway, and the Carmel Rancho Shopping Center.

Route 5 travels between Monterey and Carmel Rancho seven days a week. In the direction of Carmel Rancho, on a weekday, Route 5 travels from 6:15 AM to 9:40 PM, on a weekend, from 7:15 AM to 7:40 PM, and on holidays, from 7:15 AM to 5:41 PM. During the weekdays, buses on Route 5 are scheduled to arrive every thirty minutes between 7:15 AM and 6:40 PM, and every hour between 6:15 AM and 7:15 AM and between 7:15 PM and 9:40 PM. During the weekends and holidays, buses on Route 5 are scheduled to arrive every hour. In the direction of Monterey, on a weekday, Route 5 travels from 5:44 AM to 10:10 PM, on a weekend, from 7:45 AM to 8:11 PM, and on holidays, from 7:45 AM to 6:12 PM. During the weekdays, buses on Route 5 are scheduled to arrive every thirty minutes between 7:14 AM and 5:40 PM, and every hour between 5:44 AM and 7:10 AM and between 5:44 PM and 10:10 PM. During the weekends and holidays, buses on Route 5 are scheduled to arrive every hour.[3]

Route 24 travels between Carmel Valley and Crossroads Carmel seven days a week. In the direction of Carmel Valley, on a weekday, Route 24 travels from 7:45 AM to 6:10 PM, and on a weekend, from 8:45 AM to 6:10 PM. In the direction of Crossroads Carmel, on a weekday, Route 24 travels from 7:10 AM to 6:34 PM, and on a weekend, from 9:10 AM to 6:34 PM.[4] Buses on route 24 are scheduled to arrive every hour.

Route 91 travels between Monterey and Pacific Meadows seven days a week. In the direction of Monterey, Route 91 travels from 8:03 AM to 5:05 PM. In the direction of Pacific Meadows, Route 91 travels from 9:15 AM to 6:18 PM.[5] Buses on route 91 are scheduled to arrive every two hours.

The nearest bus stops to the project are approximately 2,000 feet away from the project site, along Rio Road and Carmel Rancho Boulevard.

[2] City of Carmel, Circulation Element (January 2010). https://ci.carmel.ca.us/sites/main/files/file-attachments/circulation_cc_and_ccc_adopted_1-10.pdf?1510257787
[3] Monterey-Salinas Transit, Route 5. https://mst.org/routes/route-5/
[4] Monterey-Salinas Transit, Route 24. https://mst.org/routes/route-24/
[5] Monterey-Salinas Transit, Route 91. https://mst.org/routes/route-91/

PROPOSED PROJECT

City Ventures proposes to develop 59 single family homes and 15 townhomes for a total of 74 for-sale, solar, all-electric dwelling units at 26500 Val Verde Drive in Carmel, CA (the "Project"). The project is located on five parcels located that currently has one single family home and farm land. Access to the project will be provided from Rio Road to Val Verde Drive. Rio Road connects to State Route 1 (SR 1) about a half-mile to the west of Val Verde Drive. The proposed site plan is provided in Appendix A.

PROJECT TRAFFIC GENERATION

Project-related trip estimates were calculated to assess the project's traffic effect on local roads. The information presented in this section was included in the Scoping Memorandum (provided in Appendix B) and approved on May 27, 2025.

TRIP GENERATION

Project-related trip estimates were calculated to assess the project's traffic effects on local roads. Trip generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual 11th Edition* were used to estimate trips based on the proposed facilities use and size. With 59 single family homes and 15 townhomes for a total of 74 for-sale units, the project is estimated to generate 685 daily trips, with 48 occurring during the AM peak hour and 66 occurring during the PM peak hour.

Table 1 presents the resulting trip generation estimates. No adjustments were made to account for walking and biking trips, which are anticipated to occur due to the project's close proximity to retail options.

Table 1: Trip Generation

Land Use	Unit	AM Peak Hour			PM Peak Hour			Daily		
		In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE: 210)	59 dwelling units	12	34	46	38	23	61	311	310	621
Single-Family Attached Housing (ITE: 215)	15 dwelling units	1	1	2	3	2	5	32	32	64
Total		13	35	48	41	25	66	343	342	685

SOURCE: INSTITUTE OF TRAFFIC ENGINEERS TRIP GENERATION MANUAL, 11TH EDITION

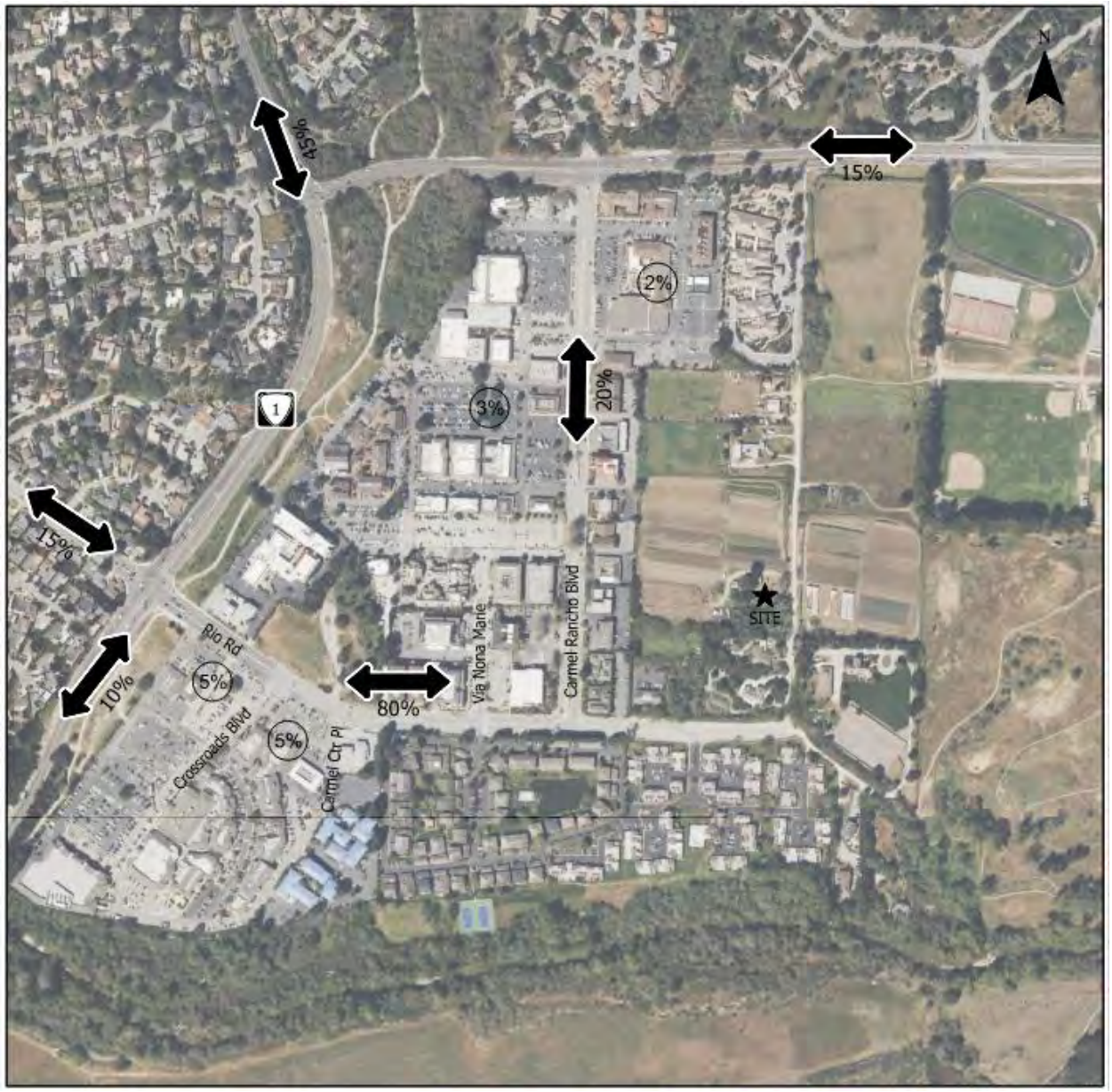
TRIP DISTRIBUTION

The project's trip distribution was developed based on a review of the adjacent roadway network and surrounding land uses to determine anticipated origins and paths of travel. Inbound and outbound trip patterns generally consist of the following distribution shown in Figure 2.

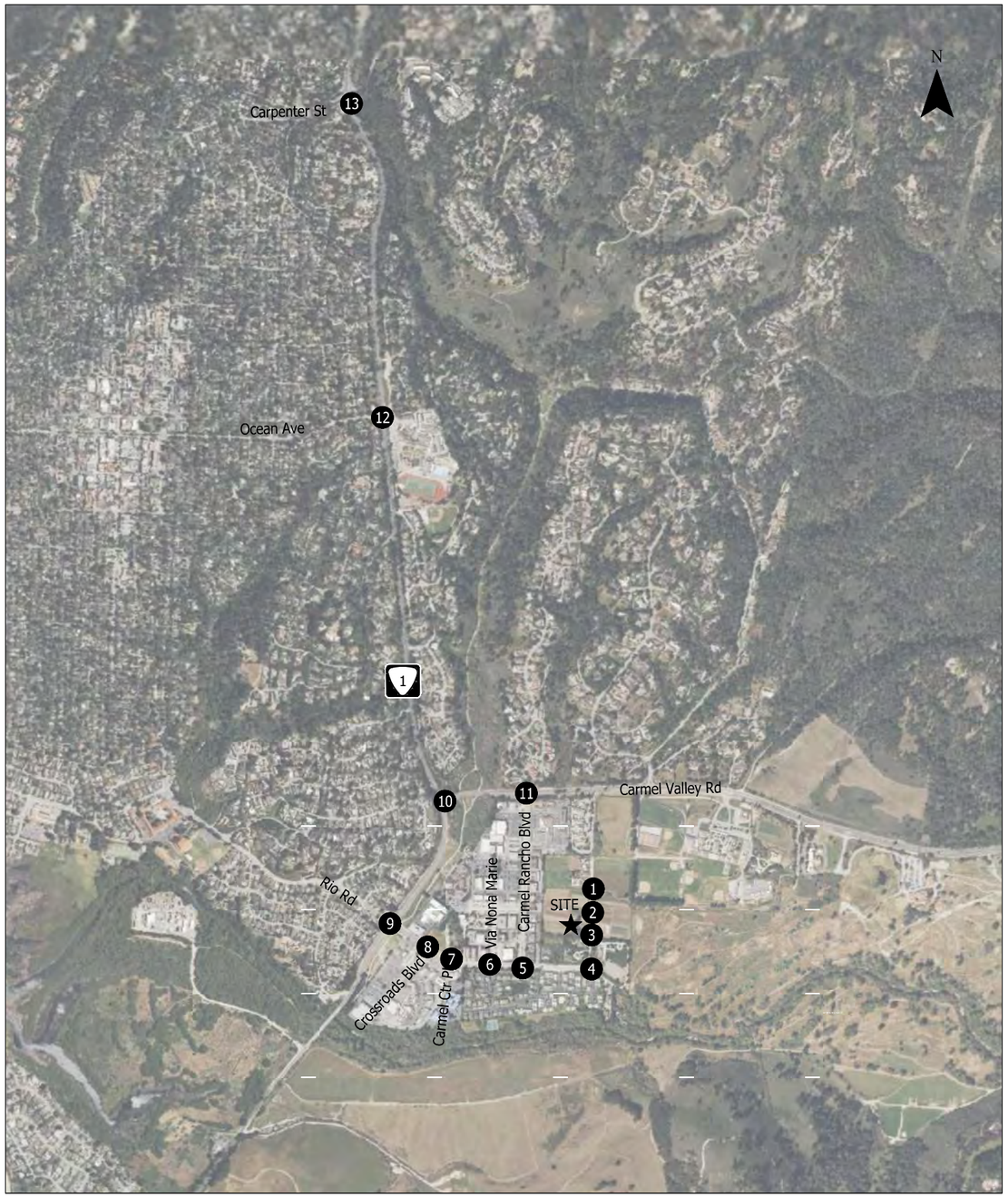
TRIP ASSIGNMENT

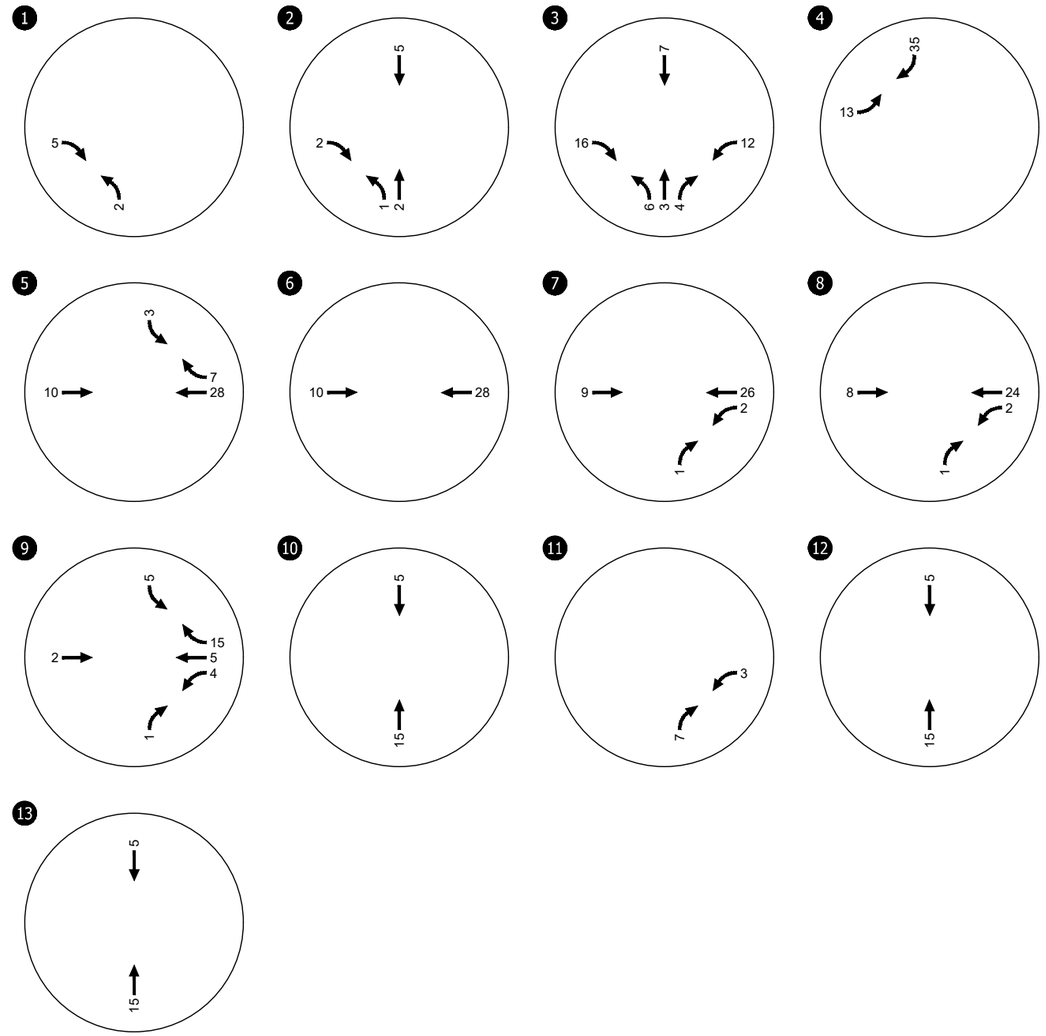
Using the trip generation and distribution, trips were assigned to the study area. The project-related trips at the study intersections are shown in Figure 3 and Figure 4.

Figure 2: Trip Distribution



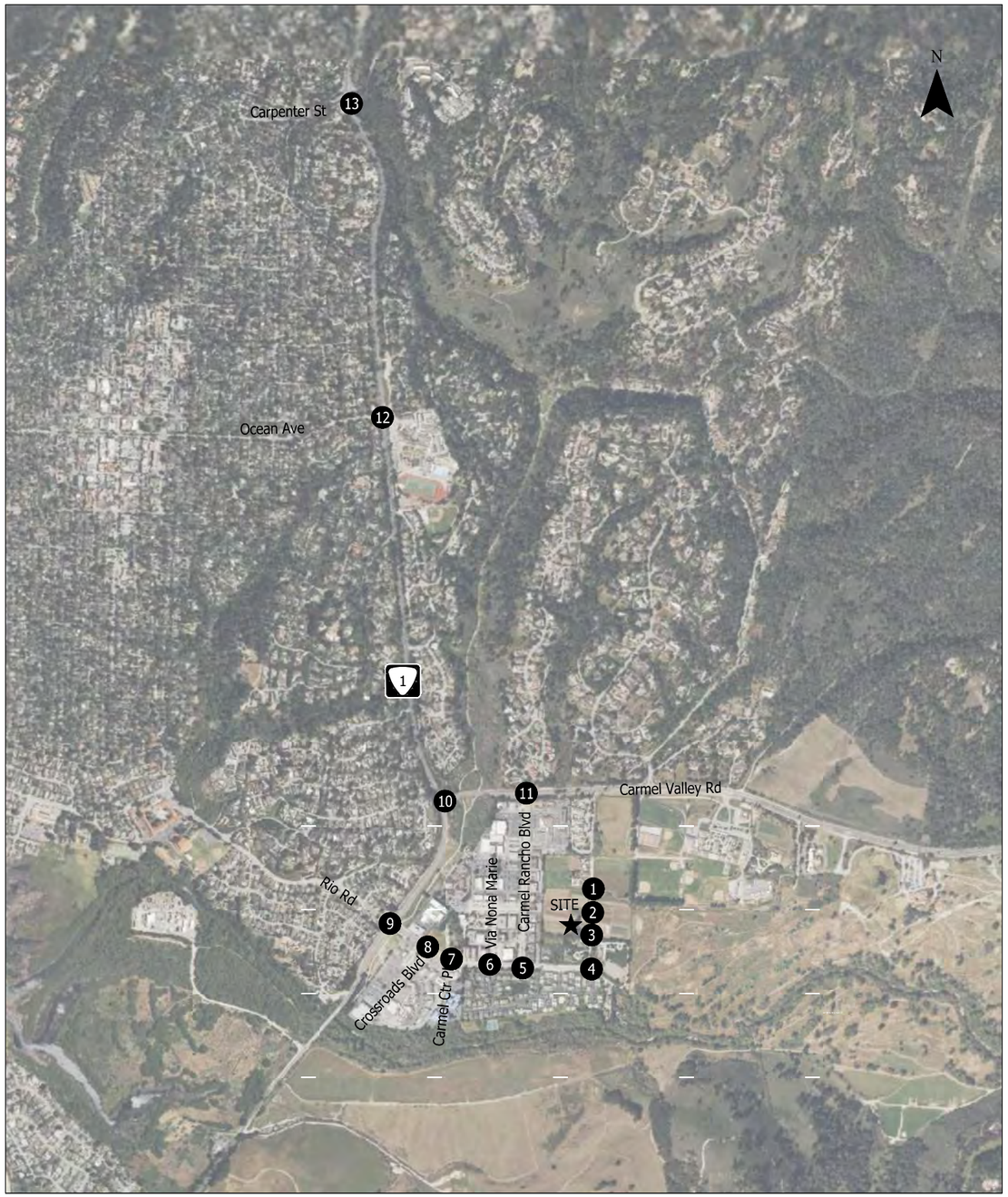
SOURCE: KITTELSON & ASSOCIATES, INC (2025)

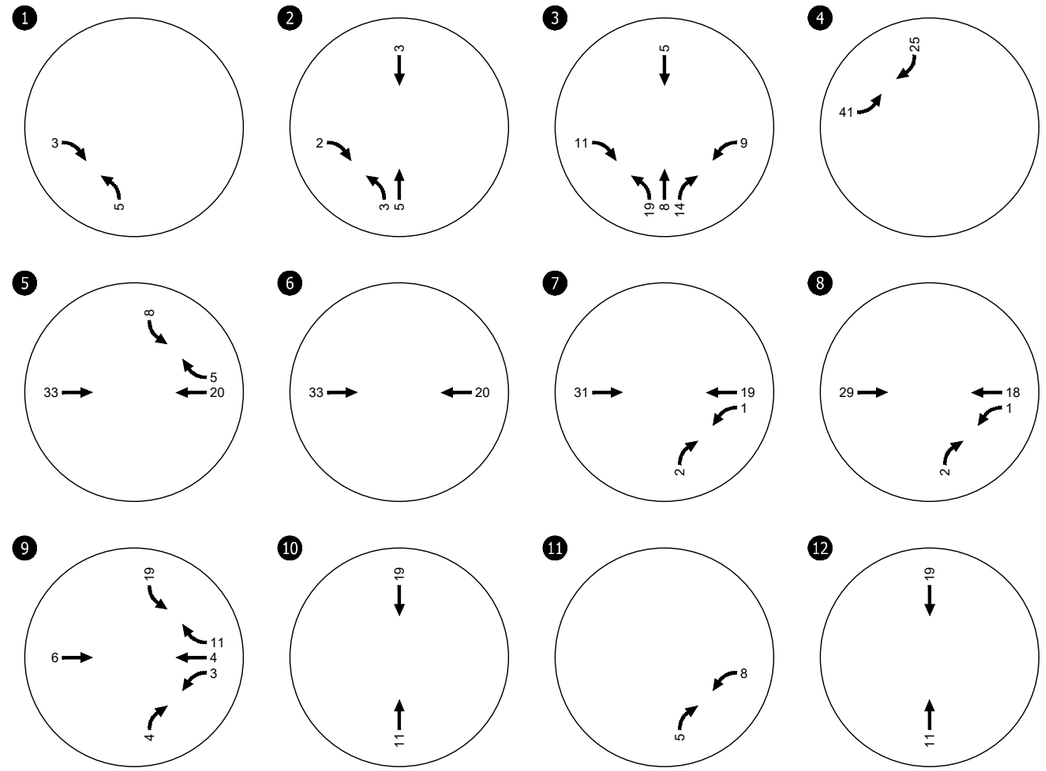




Net New Project Trips
AM Peak Hour
Carmel-By-The-Sea, CA

Figure
3





Net New Project Trips
PM Peak Hour
Carmel-By-The-Sea, CA

Figure
4

KITTELSON & ASSOCIATES

OPERATIONS ANALYSIS

This study conducts a level-of-service (LOS) analysis and a site performance analysis. The Monterey County Guide for the Preparation of Traffic Impact Studies requires an LOS analysis to determine if there are transportation-related project effects to intersection and roadway level of service that require improvements. The site performance analysis reviews site access and safety operational needs to determine if the project requires additional improvements to operate functionally.

LEVEL-OF-SERVICE (LOS) ANALYSIS

INTERSECTION ANALYSIS METHODOLOGY

LOS describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions and delay, freedom to maneuver, driving comfort, and convenience. LOS A through LOS F covers the entire range of traffic operations that might occur. Motorists using a facility that operates at a LOS A experience very little delay, while those using a facility that operates at a LOS F will experience long delays. Intersection analyses for the four study intersections were conducted using the operational methodologies outlined in the 7th Edition of the Highway Capacity Manual (HCM) methodology (Transportation Research Board, Washington, D.C., 2016), calculated with Synchro software. Intersections 5 (Rio Road / Carmel Rancho Boulevard) and 10 (Carmel Valley Road/SR 1) were calculated using HCM 2000 methodology due to their unique configurations. The HCM 2000 methodology is slightly less prescriptive on required inputs and allows a wider range of configurations to be calculated. The results between the methodologies are usually similar.

Using the HCM procedure, the level of service designation for a signalized intersection is determined by calculating a weighted average control delay in seconds per vehicle, based on signal timings obtained from the County of Monterey. For unsignalized intersections, the HCM methodology is also used to calculate the weighted average control delay for each controlled intersection leg and for the intersection as a whole. In the case of two-way stop-controlled intersections, the LOS for the worst approach is used as the performance measure for the level of service.

Table 2 presents the relationship of average delay to level of service for both signalized and unsignalized intersections.

Table 2: Level of Service Definition for Intersections

Level of Service	Delay Per Vehicle (Seconds)	
	Signalized Intersection	Unsignalized Intersection
A	< 10.0	< 10.0
B	> 10.0 to 20.0	> 10.0 to 15.0
C	> 20.0 to 35.0	> 15.0 to 25.0
D	> 35.0 to 55.0	> 25.0 to 35.0
E	> 55.0 to 80.0	> 35.0 to 50.0
F	> 80.0	> 50.0

SOURCE: HIGHWAY CAPACITY MANUAL

ROADWAY ANALYSIS METHODOLOGY

Road segment traffic operations were evaluated based on the Level of Service (LOS) concept, and the LOS standard adopted by the jurisdiction within which the segment is located. Road segment operations for study segments were evaluated using the Synchro software arterial analysis module which is based on HCM 7th Edition methodologies.

REGULATORY STANDARDS

Monterey County Level of Service Standards

For Signalized Intersections: A significant impact would occur if an intersection operating at LOS A, B, or C, degrades to D, E, F. For intersections already operating at unacceptable levels D and E, a significant impact would occur if a project adds 0.01 during peak hour or more to the critical movement's volume-to-capacity ratio. If the intersection is already operating at LOS F any increase (one vehicle) in the critical movement's volume-to-capacity ratio is considered significant.

For Unsignalized Intersections: A significant impact would occur if any traffic movement has LOS F or any traffic signal warrant is met.

For Roadway Segments: A significant impact would occur if a roadway segment degrades to a lower level of service of D, E, or F. If a segment is already operating at LOS F, any increase during peak hour (one vehicle) is considered significant.

Carmel Valley Master Plan Level of Service Standards

With the exception of some road segments along Carmel Valley Road, LOS C has been established as the minimum acceptable level of service for roadways and intersections within Carmel Valley. Per CVMP Policy 2.18, LOS D has been established as the minimum acceptable level of service for several segments along Carmel Valley Road.

Caltrans Level of Service Standards

Caltrans updated its guidance in 2020 to include metrics to evaluate transportation impacts based on vehicle miles traveled (VMT) and no longer sets a minimum acceptable LOS for its facilities.

Caltrans prepared the Transportation Analysis Framework (TAF) and Transportation Analysis under CEQA (TAC) documents to guide implementation of Senate Bill (SB) 743. The TAF and TAC establish Caltrans guidance on how to analyze induced travel associated with transportation projects and how to determine impact significance under CEQA, respectively. These documents guide transportation impact analyses for projects on the State Highway System (SHS). For land use projects and plans affecting the SHS, Caltrans' Caltrans *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* provides guidance to assess the potential for impacts related to land development projects. Caltrans transitioned away from LOS performance standards and instead focused on VMT to identify significant impacts.

> *"For land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA (SB 743, 2013). Caltrans review of land use projects and plans is focused on a VMT metric, consistent with changes to the CEQA Guidelines (California Code of Regulations Section 15064.3(b)(1)). This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis."*

DATA COLLECTION

Weekday intersection vehicle turning movement counts were collected at the following study intersections during the AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak periods on Tuesday, May 20, 2025:

1. Project Driveway A / Val Verde Drive
2. Project Driveway B / Val Verde Drive
3. Project Driveway C / Val Verde Drive
4. Rio Road / Val Verde Drive
5. Rio Road / Carmel Rancho Boulevard
6. Rio Road / Via Nona Marie
7. Rio Road / Carmel Center Place
8. Rio Road / Crossroads Driveway
9. Rio Road / SR 1
10. Carmel Valley Road / SR 1
11. Carmel Valley Road / Carmel Rancho Boulevard
12. Ocean Avenue / SR 1
13. Carpenter Street / SR 1

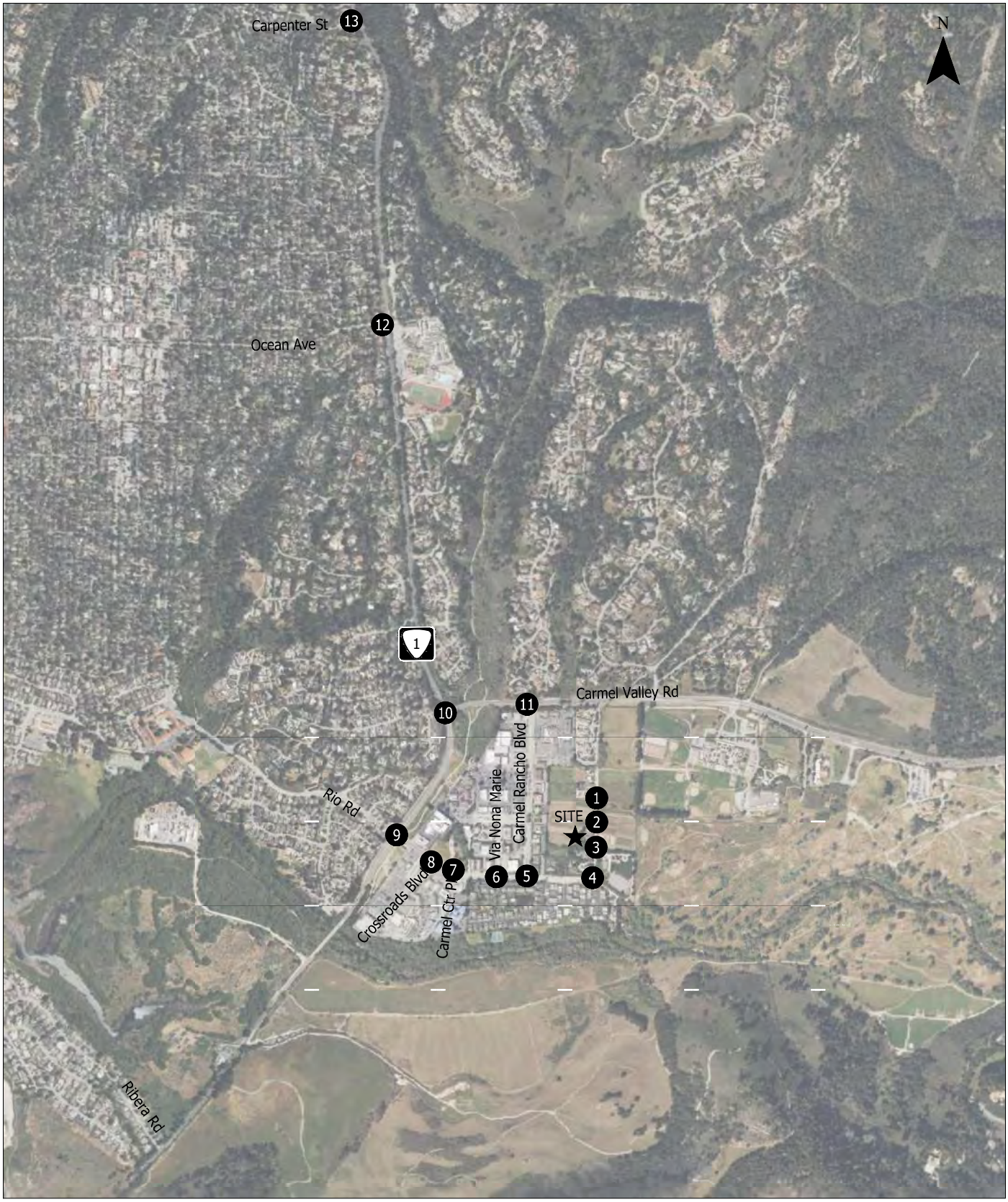
The study intersections can be visualized in Figure 5.

The following roadway segments were analyzed as part of this project. Daily roadway volume counts were obtained from the County or Caltrans where available.

A. Carmel Valley Road, Laureles Grade to Robinson Canyon Road
B. Carmel Valley Road, Robinson Canyon Road to Schulte Road
C. Carmel Valley Road, Schulte Road to Rancho San Carlos Road
D. Carmel Valley Road, Rancho San Carlos Road to Carmel Rancho Boulevard
E. Carmel Valley Road, Carmel Rancho Boulevard to SR 1
F. SR 1, Carpenter Street to Ocean Avenue
G. SR 1, Ocean Avenue to Carmel Valley Road
H. SR 1, Carmel Valley Road to Rio Road
I. SR 1, Rio Road to Ribera Road
J. Rio Road, SR 1 to Crossroads Boulevard
K. Rio Road, Crossroads Boulevard to Carmel Center Place
L. Rio Road, Carmel Center Place to Carmel Rancho Boulevard
M. Rio Road, Carmel Rancho Boulevard to Val Verde Drive
N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway
O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road

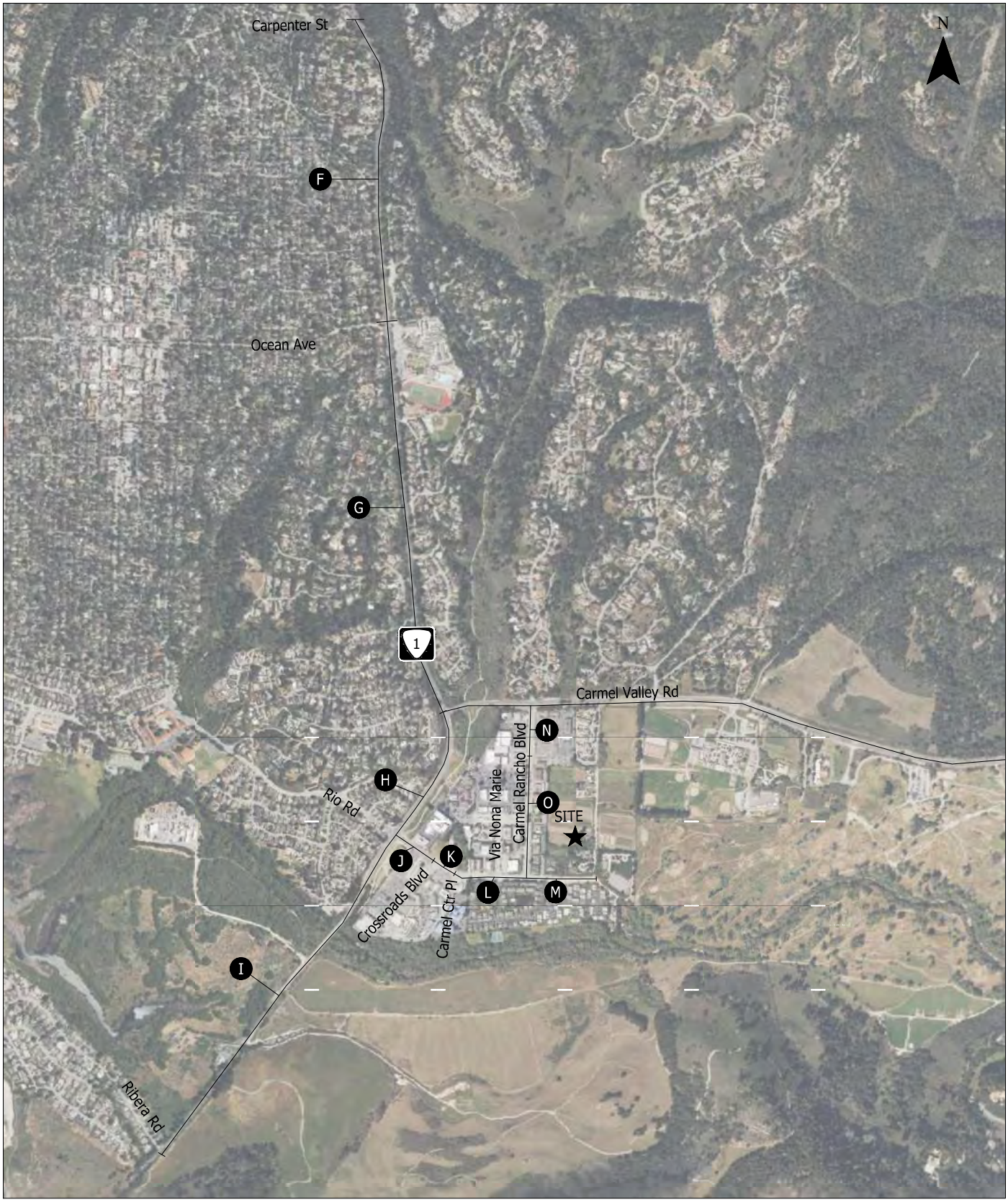
The roadway segments can be visualized in Figure 6 and Figure 7.

Original traffic count information is provided in Appendix C.



Study Intersections
Carmel-By-The-Sea, CA

Figure
5



Roadway Segments
Carmel-By-The-Sea, CA

Figure
6

Roadway Segments - Carmel Valley Road
Carmel-By-The-Sea, CA

Figure
7

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RESULTS

The intersection operations were analyzed for the following scenarios during morning (7 - 9 am), and afternoon (4 -6 pm) peak periods to determine potential project effects:

- Existing Conditions
- Existing Conditions Plus Project
- Background Conditions
- Background Conditions Plus Project

The project buildout year is assumed to be 2027. Detailed Synchro reports for all scenarios are available for reference in Appendix D.

Intersection Analysis

Existing Conditions

Figure 8 and Figure 9 illustrates AM and PM peak hour volumes, respectively, analyzed at each study intersection under existing conditions. For this scenario, the volumes are based off of the weekday intersection vehicle turning movement counts. Table 3 summarizes the delay and LOS analysis results for each study intersection under existing conditions.

As shown in the table, the following intersections do not meet the target LOS:

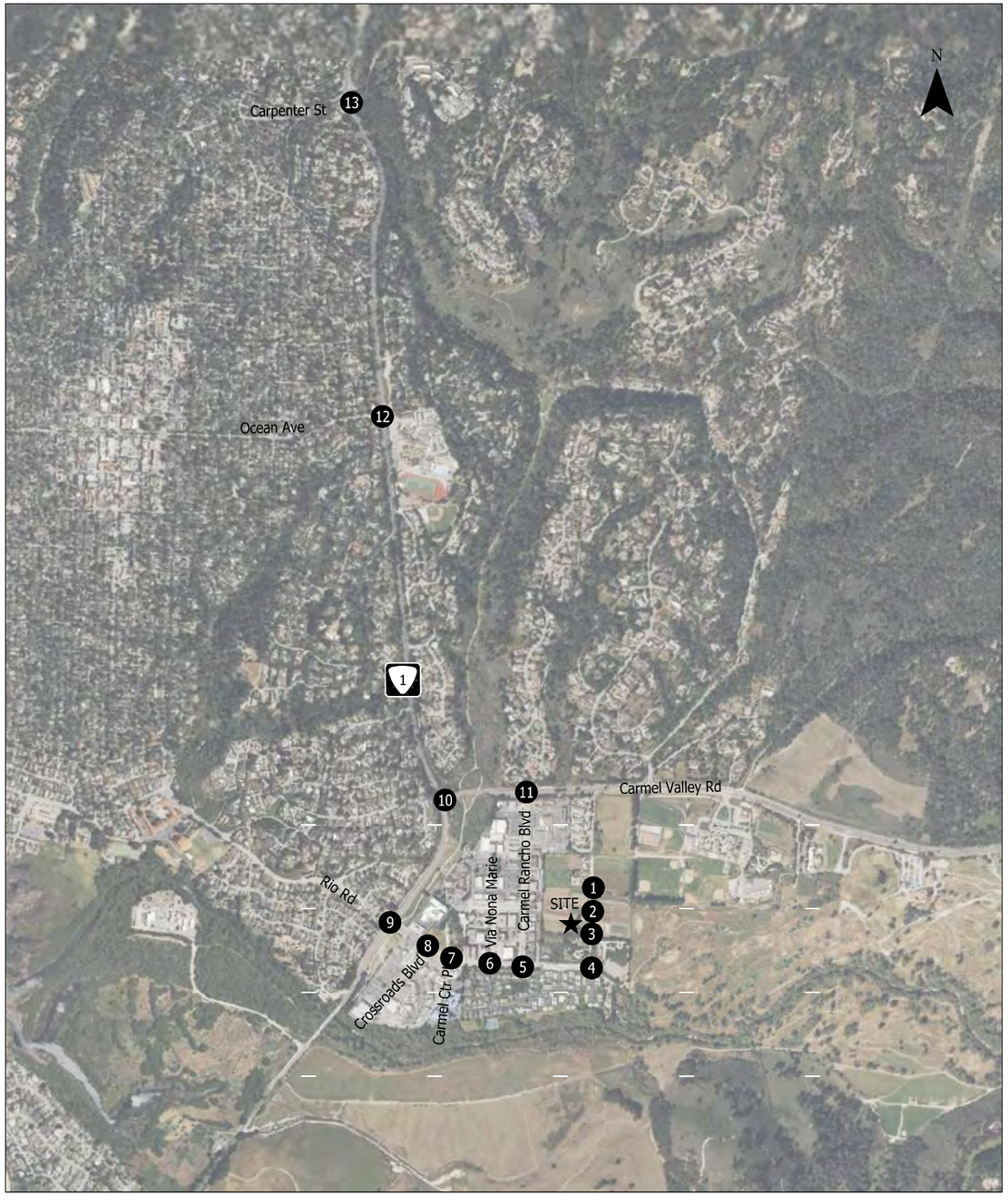
- Carmel Valley Road/ Carmel Rancho Boulevard during the AM (LOS E) and PM (LOS E) peak hours
- Carpenter Street/ SR 1 during the PM peak hour (LOS E)

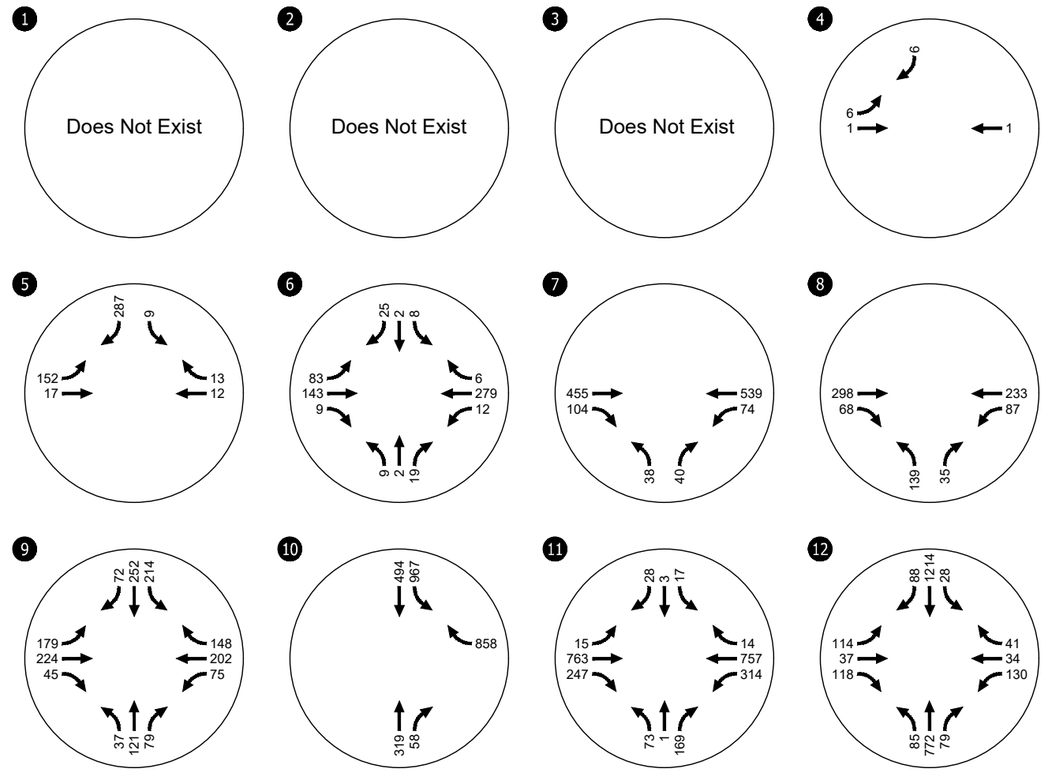
Table 3: Existing Conditions Level-of-Service Analyses Results

#	Study Intersection	Control Type	Intersection AM/PM	
			Delay	LOS
1	Project Driveway A / Val Verde Drive	*DNE*		
2	Project Driveway B / Val Verde Drive	*DNE*		
3	Project Driveway C / Val Verde Drive	*DNE*		
4	Rio Road / Val Verde Drive	TWSC	8.4 / 8.4	A / A
5	Rio Road / Carmel Rancho Boulevard*	TWSC	9.1 / 9.7	A / A
6	Rio Road / Via Nona Marie	TWSC	11.5 / 16.2	B / C
7	Rio Road / Carmel Center Place	Signal	6.0 / 8.6	A / A
8	Rio Road / Crossroads Driveway	Signal	8.8 / 9.4	A / A
9	Rio Road / SR 1	Signal	20.6 / 22.6	C / C
10	Carmel Valley Road / SR 1*	Signal	10.0 / 13.9	B / B
11	Carmel Valley Road / Carmel Rancho Boulevard	Signal	64.2 / 72.1	E / E
12	Ocean Avenue / SR 1	Signal	28.8 / 23.5	C / C
13	Carpenter Street / SR 1	Signal	22.3 / 77.1	C / E

Note: Bold text corresponds to operations that do not meet LOS standards. *DNE = Does Not Exist; TWSC = Two-Way Stop Control; * = Intersection was run with HCM 2000 due to non-typical lane geometry and/or configuration.*

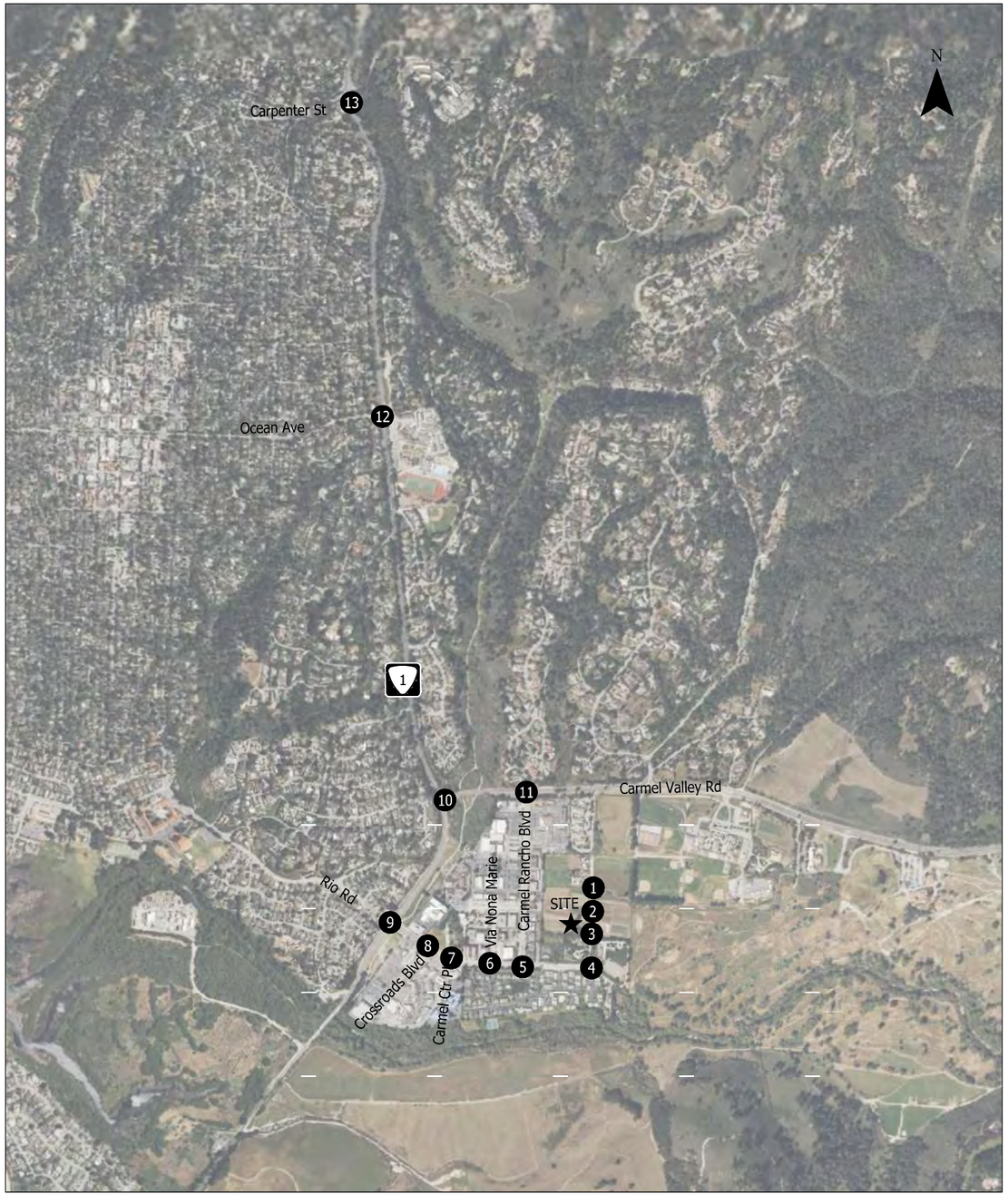
SOURCE: KITTELSON & ASSOCIATES, INC (2025)

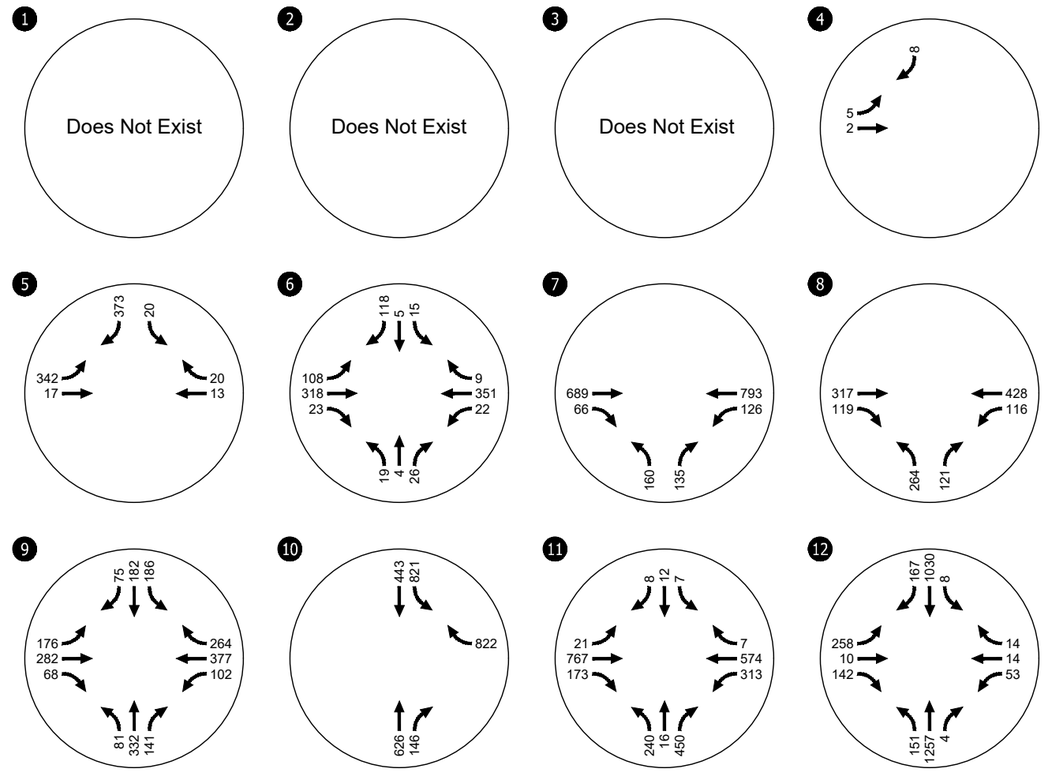




Existing Conditions
AM Peak Hour
Carmel-By-The-Sea, CA

Figure
8





Existing Conditions
PM Peak Hour
Carmel-By-The-Sea, CA

Figure
9

Existing Conditions Plus Project

Figure 10 and Figure 11 illustrates AM and PM peak hour volumes, respectively, analyzed at each study intersection under existing conditions plus project. Table 4 summarizes the delay and LOS analysis results for each study intersection under existing plus project conditions.

As shown in the table, the following intersections do not meet the target LOS:

- Carmel Valley Road/ Carmel Rancho Boulevard during the AM (LOS E) and PM (LOS E) peak hours
- Carpenter Street/ SR 1 during the PM peak hour (LOS E)

For intersections already operating at LOS D and E in the non-project scenario, an adverse effect would occur if a project adds 0.01 during peak hour or more to the critical movement's volume-to-capacity ratio. As shown in Table 4, Carpenter Street/ SR 1's v/c ratio at its critical movement (eastbound left) remains consistent between Existing Conditions and Existing Conditions Plus Project.

Therefore, adverse effects only occur at:

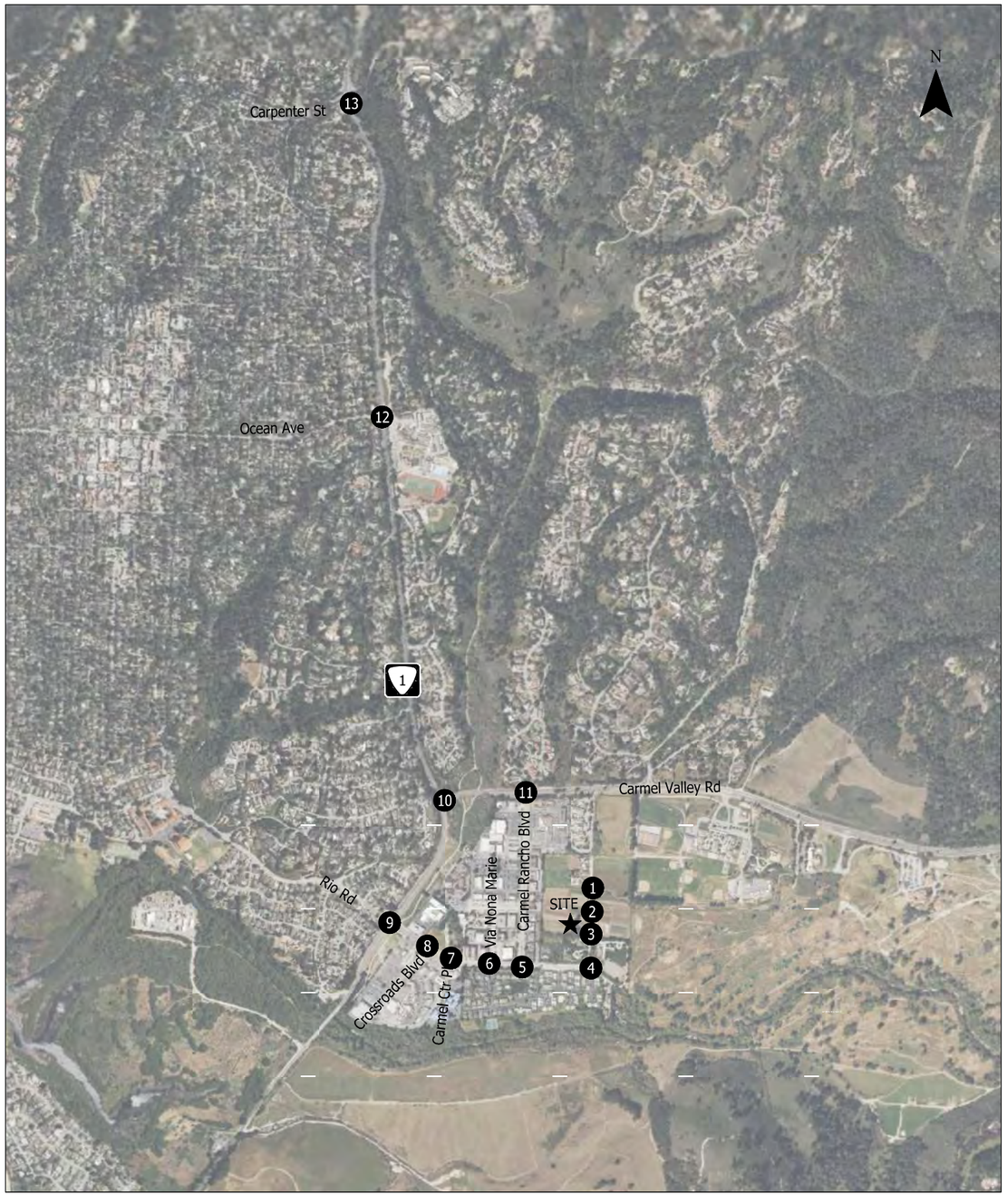
- Carmel Valley Road/ Carmel Rancho Boulevard during the AM (LOS E) and PM (LOS E) peak hours

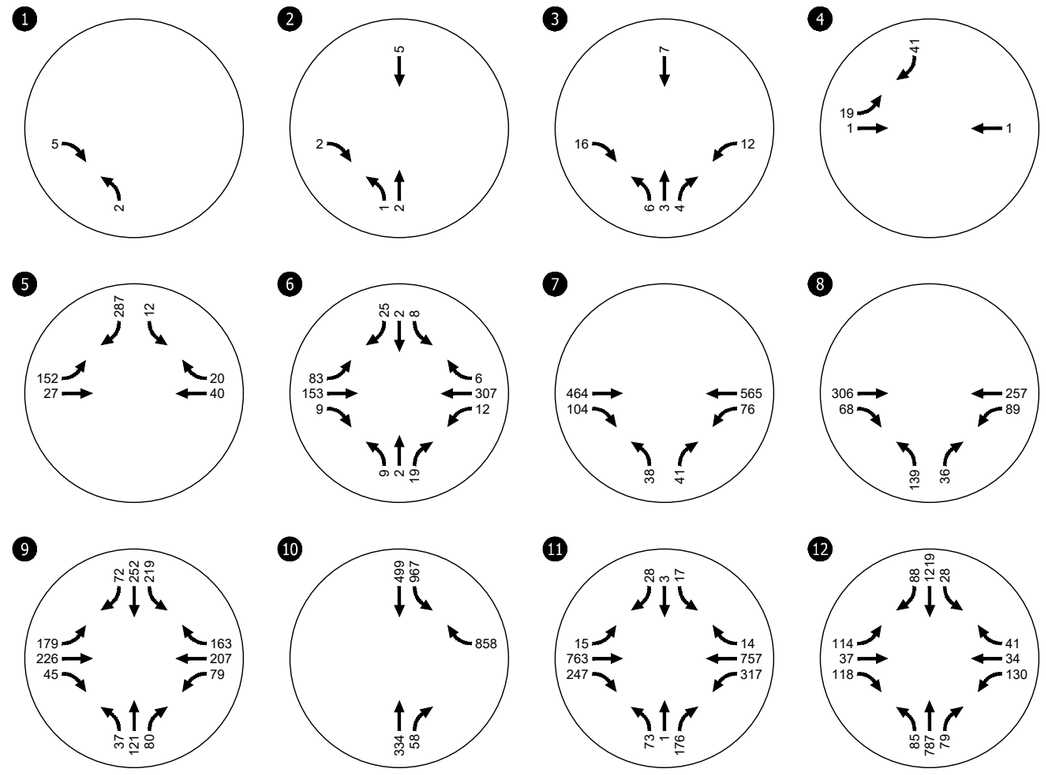
Table 4: Existing Conditions Plus Project Level-of-Service Analyses Results

#	Intersection	Control Type	Intersection AM/PM		Critical Movement	Peak Hour	Existing Conditions			Existing Conditions + Project			Change in V/C
			Delay	LOS			V/C	Delay	LOS	V/C	Delay	LOS	
1	Project Driveway A / Val Verde Drive	TWSC	8.4 / 8.3	A / A					N/A				
2	Project Driveway B / Val Verde Drive	TWSC	8.4 / 8.3	A / A					N/A				
3	Project Driveway C / Val Verde Drive	TWSC	8.4 / 8.4	A / A					N/A				
4	Rio Road / Val Verde Drive	TWSC	8.5 / 8.4	A / A					N/A				
5	Rio Road / Carmel Rancho Boulevard*	TWSC	9.5 / 10.1	A / A					N/A				
6	Rio Road / Via Nona Marie	TWSC	11.8 / 17.1	B / C					N/A				
7	Rio Road / Carmel Center Place	Signal	6.0 / 8.7	A / A					N/A				
8	Rio Road / Crossroads Driveway	Signal	8.8 / 9.5	A / A					N/A				
9	Rio Road / SR 1	Signal	20.8 / 22.8	C / C					N/A				
10	Carmel Valley Road / SR 1*	Signal	10.2 / 14.2	B / B					N/A				
11	Carmel Valley Road / Carmel Rancho Boulevard	Signal	**66.4 / 76.6**	**E / E**	WBL	AM	1.73	374	F	1.76	387.7	F	0.03
						PM	1.79	409.8	F	1.85	436.5	F	0.06
12	Ocean Avenue / SR 1	Signal	28.9 / 23.7	C / C					N/A				
13	Carpenter Street / SR 1	Signal	**22.4 / 77.8**	**C / E**	EBL	PM	1.19	154.0	F	1.19	154.0	F	0.00

Note: Bold text corresponds to operations that do not meet LOS standards. Red text indicates adverse effect criteria met; green text indicates adverse effect criteria not met. *DNE = Does Not Exist; TWSC = Two-Way Stop Control; * = Intersection was run with HCM 2000 due to non-typical lane geometry and/or configuration.*

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

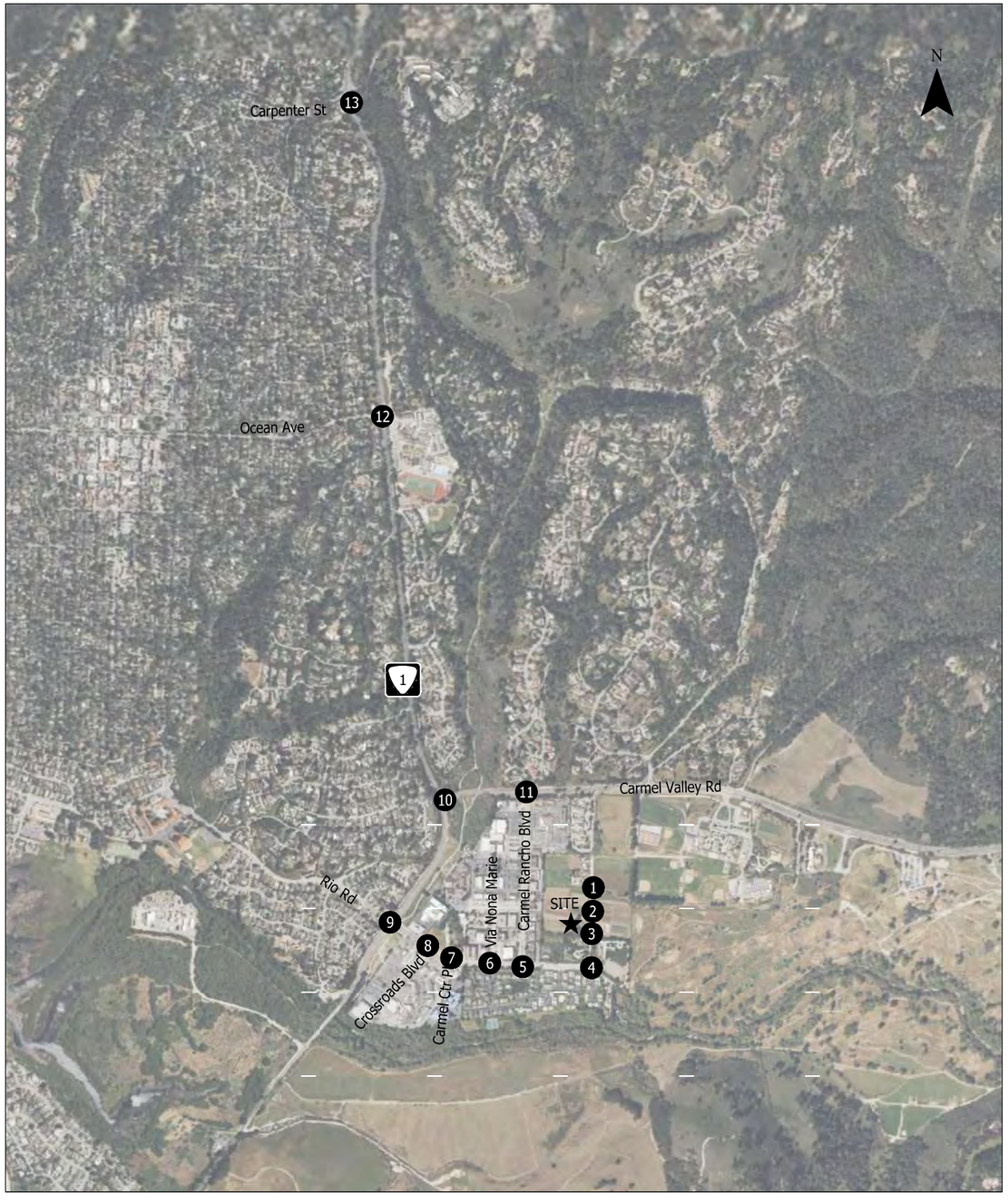


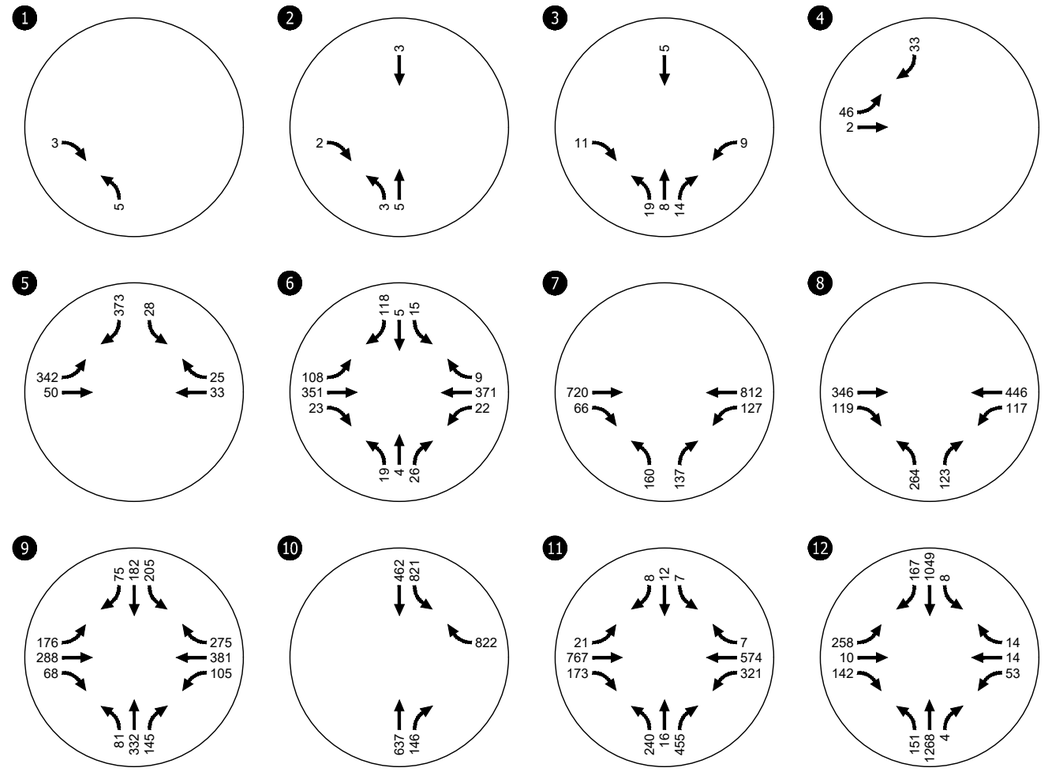


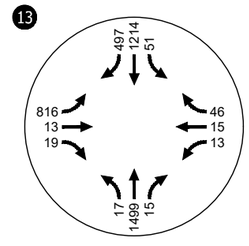
Existing Conditions Plus Project
AM Peak Hour
Carmel-By-The-Sea, CA

Figure
10

KITTELSON & ASSOCIATES







Existing Conditions Plus Project
PM Peak Hour
Carmel-By-The-Sea, CA

Figure
11

KITTELSON & ASSOCIATES

Background Conditions

Figure 12 and Figure 13 illustrates AM and PM peak hour volumes, respectively, analyzed at each study intersection under background conditions. For this scenario, an ambient growth rate of 2% per year was used to grow existing traffic volumes, trips generated from projects within 1.5 miles of the study area were included, and the net new project trips were added. The estimated buildout year is 2027, so two years of annual growth were applied.

Table 5 summarizes the delay and LOS analysis results for each study intersection under background conditions.

The following projects were identified and included in this scenario:

- PLN180431 | Point Lobos State Natural Reserve – construction of a shuttle parking lot
- PLN040061-AMD1 | Rancho Canada Village Project – 130 residential units
- PLN240322-DEP | Carmel Rio Multi-Family Project – 34 residential units

The volumes for the three projects identified above for AM and PM peak hours are included in Appendix E.

As shown in the table, the following intersections do not meet the target LOS:

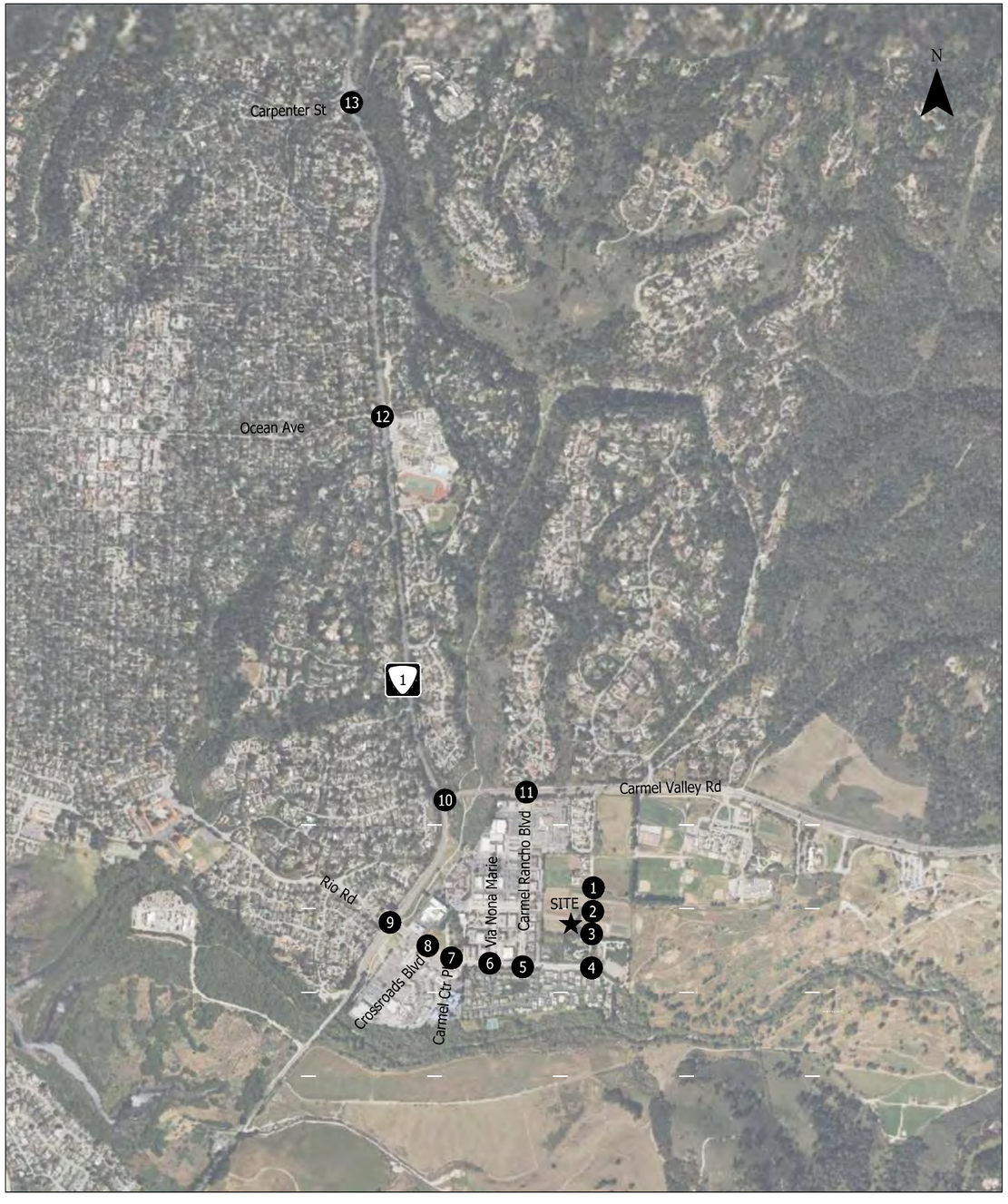
- Carmel Valley Road/ Carmel Rancho Boulevard during the AM (LOS E) and PM (LOS F) peak hours
- Carpenter Street/ SR 1 during the PM peak hour (LOS F)

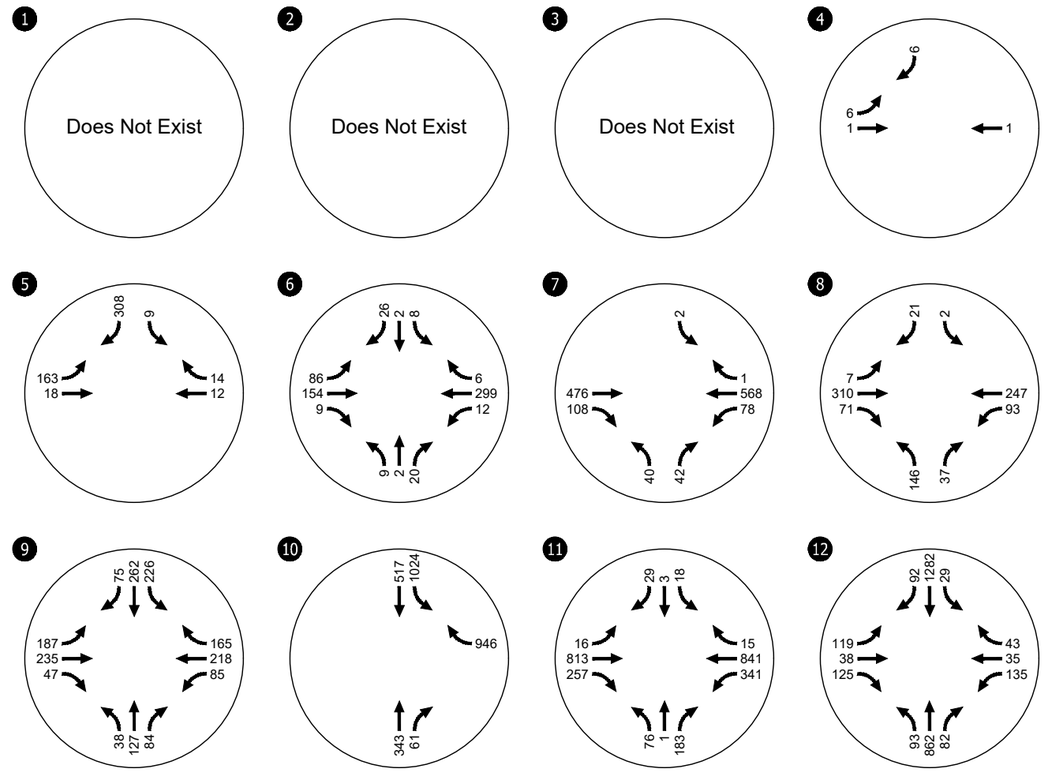
Table 5: Background Conditions Level-of-Service Analyses Results

#	Study Intersection	Control Type	Intersection AM/PM	
			Delay	LOS
1	Project Driveway A / Val Verde Drive	*DNE*		
2	Project Driveway B / Val Verde Drive	*DNE*		
3	Project Driveway C / Val Verde Drive	*DNE*		
4	Rio Road / Val Verde Drive	TWSC	8.4 / 8.4	A / A
5	Rio Road / Carmel Rancho Boulevard*	TWSC	9.3 / 9.9	A / A
6	Rio Road / Via Nona Marie	TWSC	11.8 / 17.2	B / C
7	Rio Road / Carmel Center Place	Signal	6.1 / 8.9	A / A
8	Rio Road / Crossroads Driveway	Signal	8.9 / 9.7	A / A
9	Rio Road / SR 1	Signal	21.2 / 23.8	C / C
10	Carmel Valley Road / SR 1	Signal	11.2 / 16.5	B / B
11	Carmel Valley Road / Carmel Rancho Boulevard	Signal	**79.2 / 91.9**	**E / F**
12	Ocean Avenue / SR 1	Signal	33.3 /26.8	C / C
13	Carpenter Street / SR 1	Signal	**24.2 / 91.8**	**C / F**

Note: Bold text corresponds to operations that do not meet LOS standards. *DNE = Does Not Exist; TWSC = Two-Way Stop Control; * = Intersection was run with HCM 2000 due to non-typical lane geometry and/or configuration.*

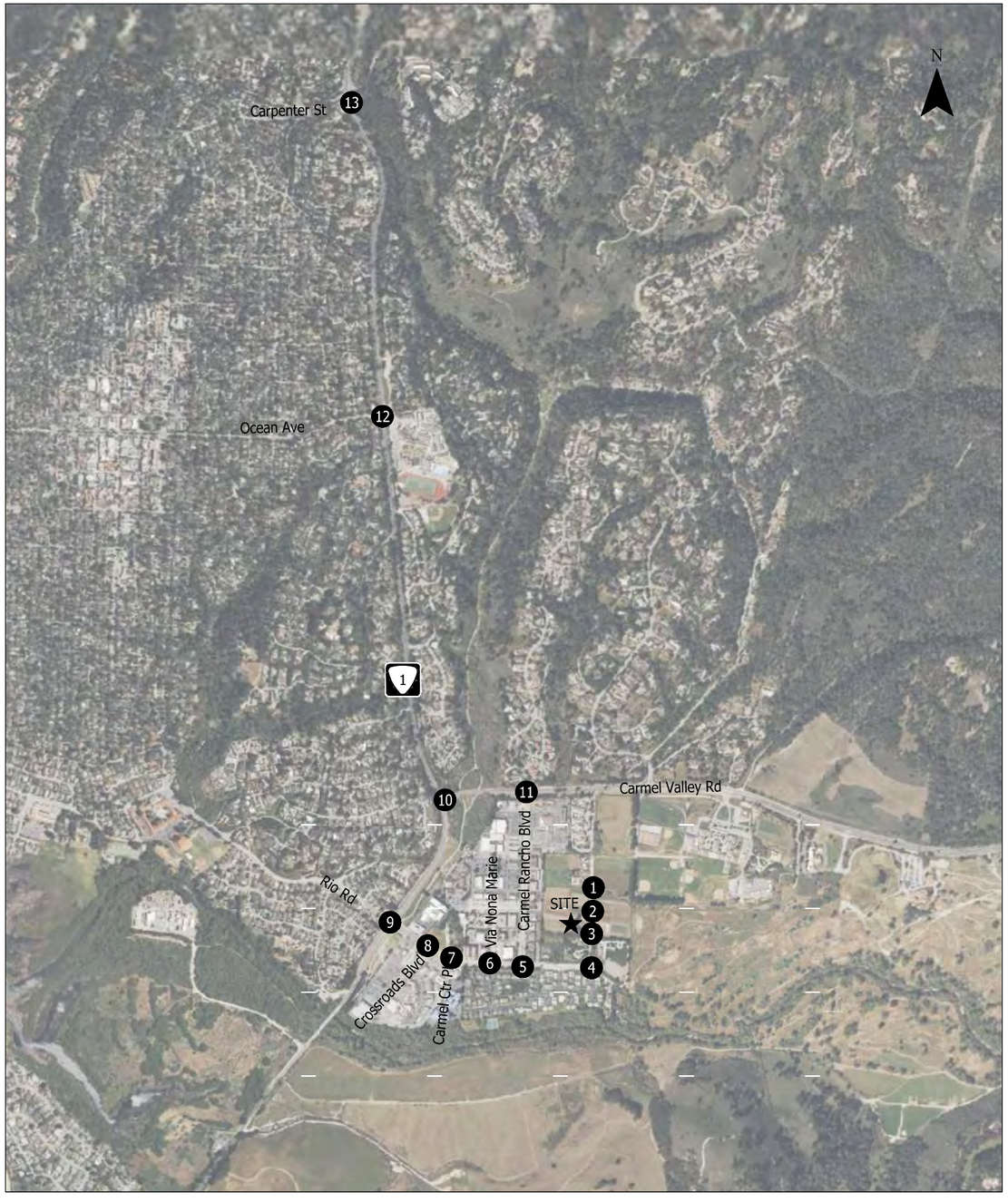
SOURCE: KITTELSON & ASSOCIATES, INC (2025)

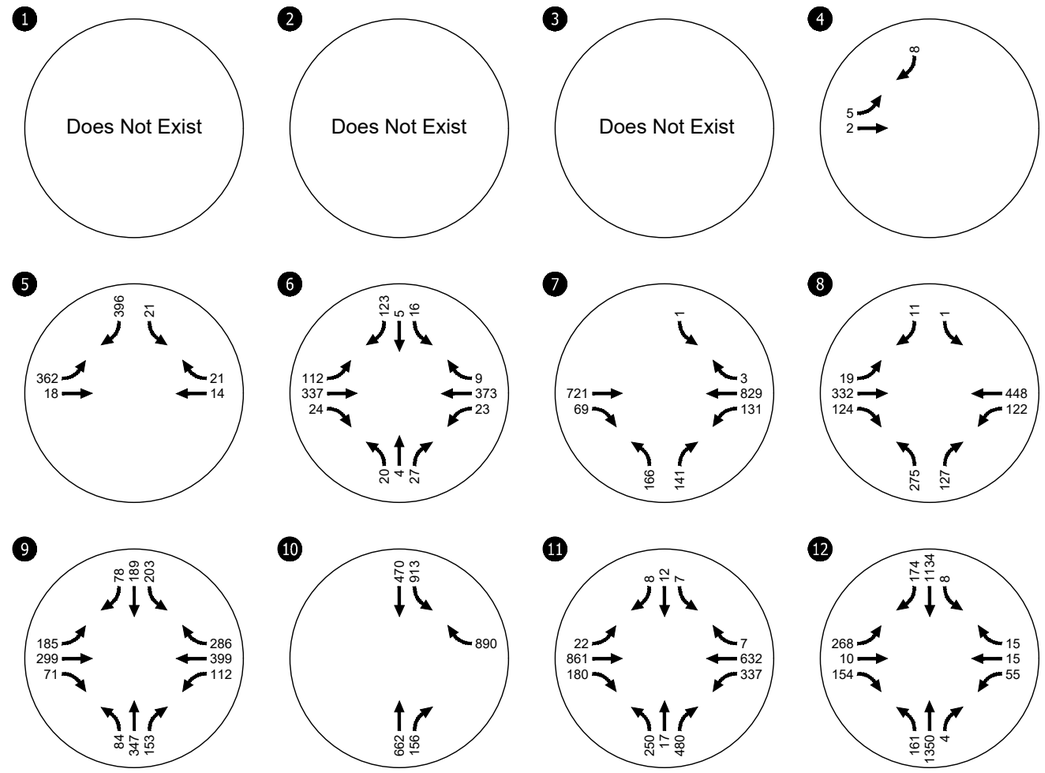




Background Conditions
AM Peak Hour
Carmel-By-The-Sea, CA

Figure
12





Background Conditions
PM Peak Hour
Carmel-By-The-Sea, CA

Figure
13

Background Conditions Plus Project

Figure 14 and Figure 15 illustrates AM and PM peak hour volumes, respectively, analyzed at each study intersection under background conditions plus proposed project. For this scenario, project traffic was added to the background conditions volumes.

Table 6 summarizes the delay and LOS analysis results for each study intersection under background plus project conditions. As shown in the table, the following intersections do not meet the target LOS:

- Carmel Valley Road/ Carmel Rancho Boulevard during the AM (LOS F) and PM (LOS F) peak hours
- Carpenter Street/ SR 1 during the PM peak hour (LOS E)

For intersections already operating at LOS D and E in the non-project scenario, an adverse effect would occur if a project adds 0.01 during peak hour or more to the critical movement's volume-to-capacity ratio. As shown in Table 6, Carpenter Street/ SR 1's v/c ratio remains consistent between Background Conditions and Background Conditions Plus Project. If the intersection is already operating at LOS F, any increase (one vehicle) in the critical movement's volume-to-capacity ratio is considered significant.

Therefore, adverse effects only occur at:

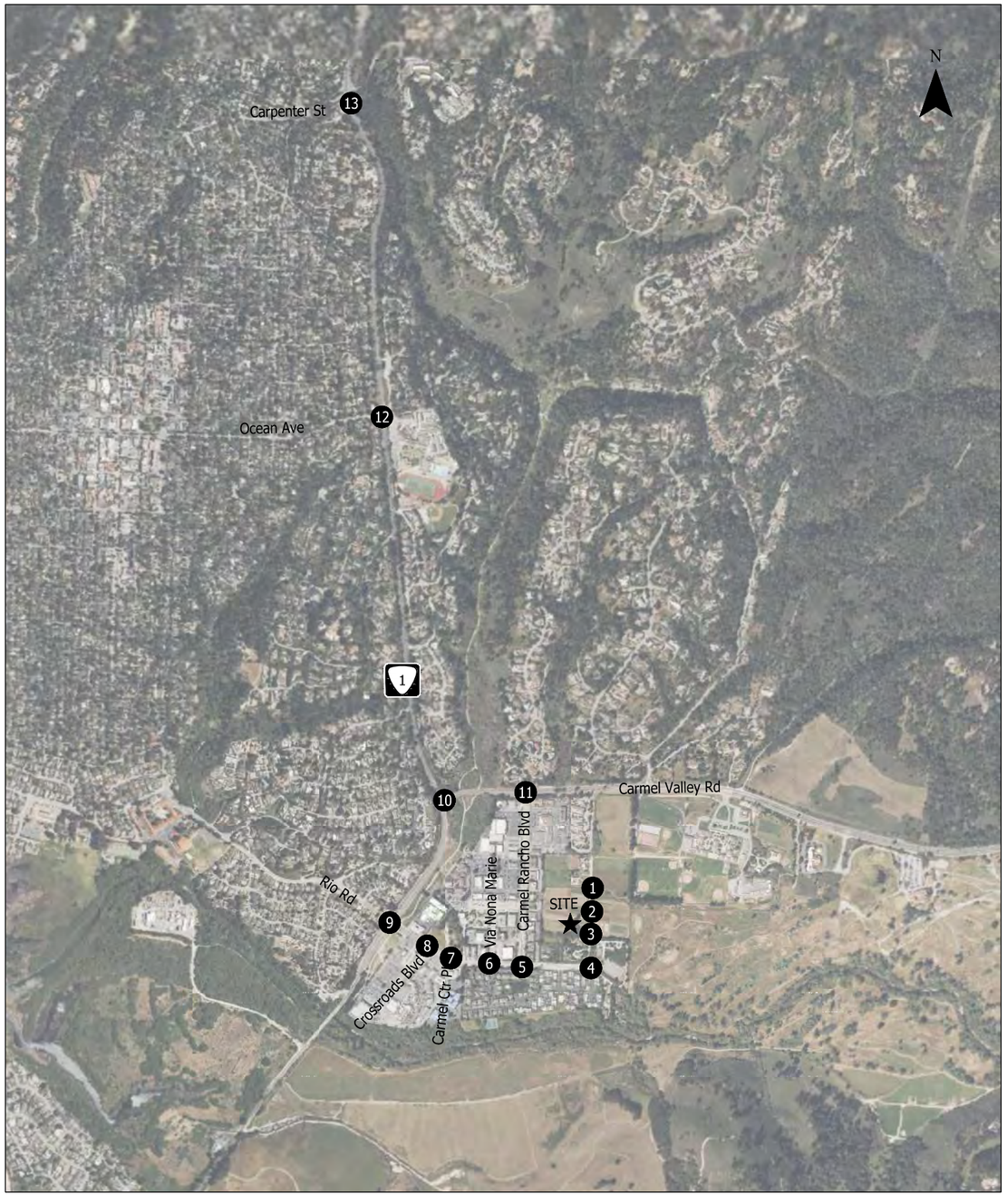
- Carmel Valley Road/ Carmel Rancho Boulevard during the AM (LOS F) and PM (LOS F) peak hours

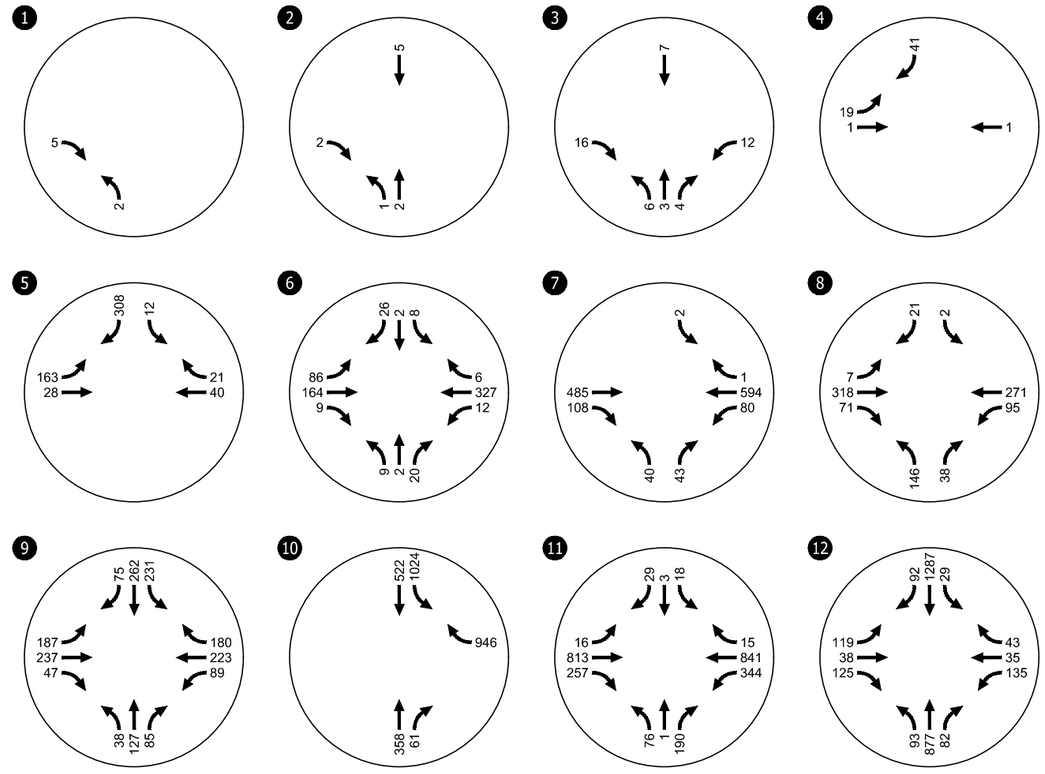
Table 6: Background Conditions Plus Project Level-of-Service Analyses Results

#	Intersection	Control Type	Intersection AM/PM		Critical Movement	Peak Hour	Background Conditions			Background Conditions + Project			Change in V/C
			Delay	LOS			V/C	Delay	LOS	V/C	Delay	LOS	
1	Project Driveway A / Val Verde Drive	TWSC	8.4 / 8.3	A / A					N/A				
2	Project Driveway B / Val Verde Drive	TWSC	8.4 / 8.3	A / A					N/A				
3	Project Driveway C / Val Verde Drive	TWSC	8.4 / 8.4	A / A					N/A				
4	Rio Road / Val Verde Drive	TWSC	8.5/ 8.4	A / A					N/A				
5	Rio Road / Carmel Rancho Boulevard*	TWSC	9.2 / 10.4	A / A					N/A				
6	Rio Road / Via Nona Marie	TWSC	12.1 / 18.2	D / C					N/A				
7	Rio Road / Carmel Center Place	Signal	6.1 / 9.0	A / A					N/A				
8	Rio Road / Crossroads Driveway	Signal	8.9 / 9.8	A / A					N/A				
9	Rio Road / SR 1	Signal	21.4 / 24.1	C / C					N/A				
10	Carmel Valley Road / SR 1*	Signal	11.5 / 16.8	B / B					N/A				
11	Carmel Valley Road / Carmel Rancho Boulevard	Signal	82.1 / 96.8	F / F	WBL	AM	1.96	478.2	F	2.00	495.4	F	0.04
						PM	2.09	550.9	F	2.16	578.8	F	0.07
12	Ocean Avenue / SR 1	Signal	33.5 / 27.4	C / C					N/A				
13	Carpenter Street / SR 1	Signal	24.5 / 92.7	C / F	EBL	PM	1.23	174.8	F	1.23	174.8	F	0.00

Note: Bold text corresponds to operations that do not meet LOS standards. Red text indicates adverse effect criteria met; green text indicates adverse effect criteria not met. *DNE = Does Not Exist; TWSC = Two-Way Stop Control; * = Intersection was run with HCM 2000 due to non-typical lane geometry and/or configuration.*

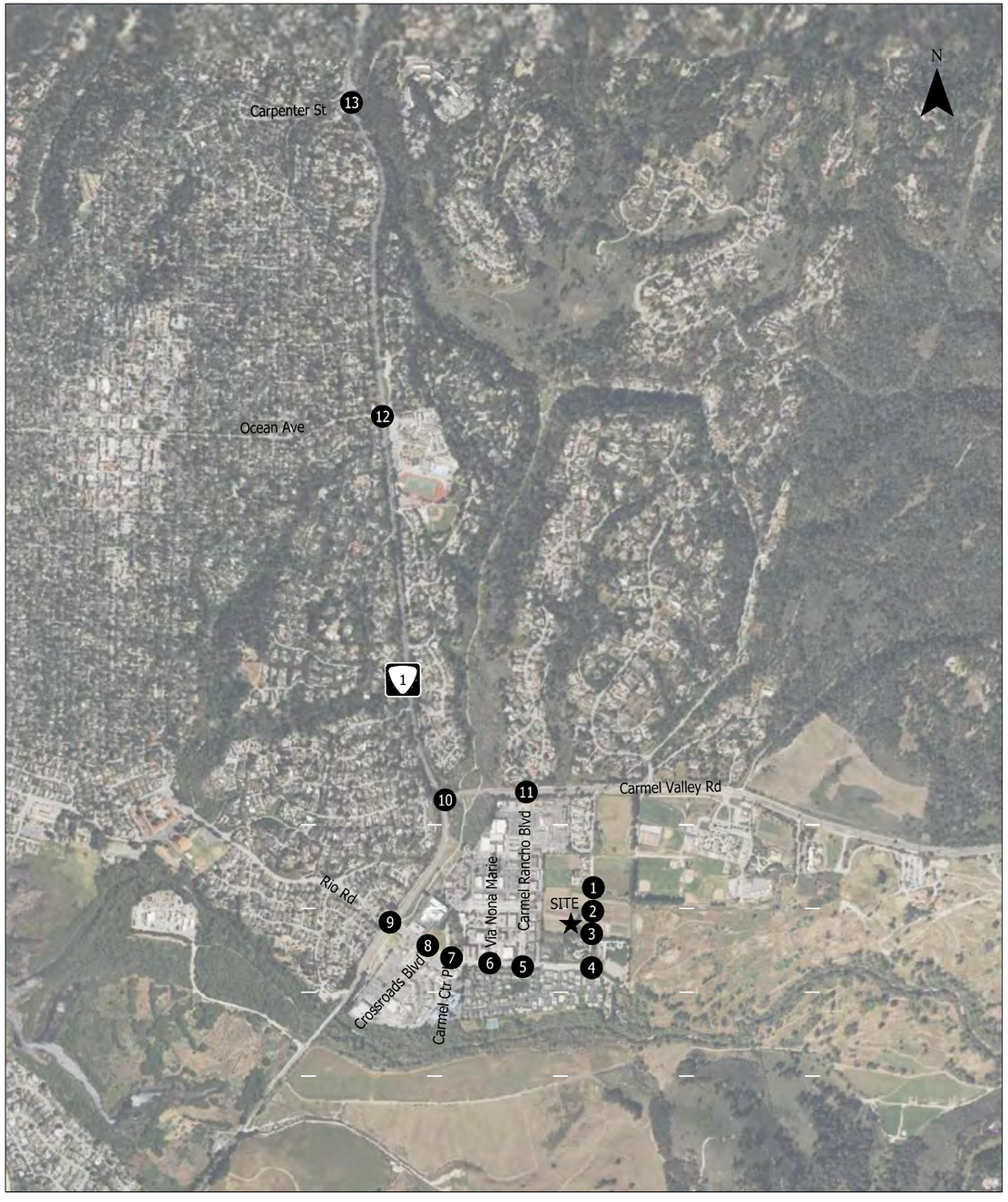
SOURCE: KITTELSON & ASSOCIATES, INC (2025)

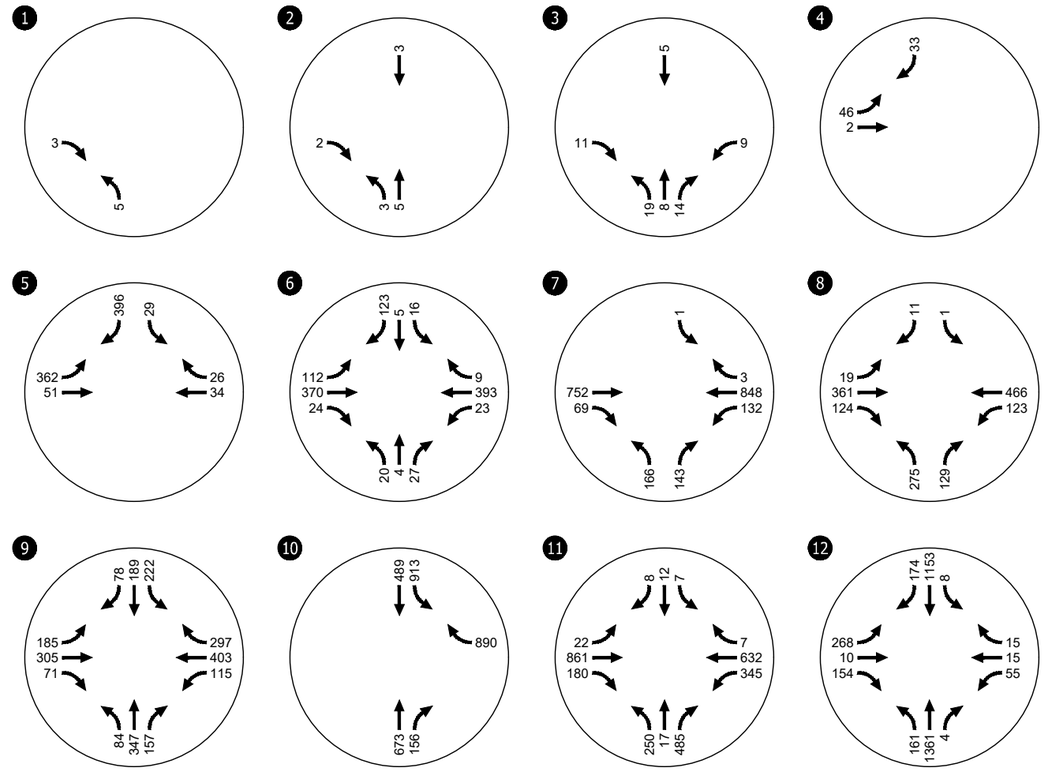


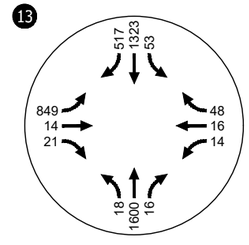


Background Conditions Plus Project
AM Peak Hour
Carmel-By-The-Sea, CA

Figure
14







Background Conditions Plus Project
PM Peak Hour
Carmel-By-The-Sea, CA

Figure
15

KITTELSON & ASSOCIATES

Roadway Analysis

Table 7 presents the distribution of project trips across roadway segments. As shown in the table, Carmel Valley Road is expected to add less than 0.40% of existing trips. Given this nominal volume, Carmel Valley Road is not included in the detailed analysis.

Table 7: Project Trips by Roadway Segment

ID	Roadway Segment	Trips	AM Trips	PM Trips	% of Existing ADT
A	Carmel Valley Road, Laureles Grade to Robinson Canyon Road	40	2	6	0.39%
B	Carmel Valley Road, Robinson Canyon Road to Schulte Road	40	2	6	0.32%
C	Carmel Valley Road, Schulte Road to Rancho San Carlos Road	40	2	6	0.26%
D	Carmel Valley Road, Rancho San Carlos Road to Carmel Rancho Boulevard	40	2	6	0.22%
E	Carmel Valley Road, Carmel Rancho Boulevard to SR 1	40	2	6	0.18%
F	SR 1, Carpenter Street to Ocean Avenue	250	20	30	0.66%
G	SR 1, Ocean Avenue to Carmel Valley Road	250	20	30	0.61%
H	SR 1, Carmel Valley Road to Rio Road	250	20	30	1.24%
I	SR 1, Rio Road to Ribera Road	60	5	7	0.55%
J	Rio Road, SR 1 to Crossroads Boulevard	395	32	47	3.73%
K	Rio Road, Crossroads Boulevard to Carmel Center Place	425	35	50	4.02%
L	Rio Road, Carmel Center Place to Carmel Rancho Boulevard	455	38	53	4.30%
M	Rio Road, Carmel Rancho Boulevard to Val Verde Drive	455	38	53	71.43%
N	Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway	115	10	13	1.29%
O	Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road	115	10	13	1.29%

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Existing Conditions

Table 8 summarizes the analysis results for each roadway segment under existing conditions.

As shown in the table, the following roadway segments do not meet the target LOS:

- F. SR 1, Carpenter Street to Ocean Avenue
- G. SR 1, Ocean Avenue to Carmel Valley Road
- H. SR 1, Carmel Valley Road to Rio Road
- I. SR 1, Rio Road to Ribera Road
- J. Rio Road, SR 1 to Crossroads Boulevard
- N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway
- O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road

Table 8: Existing Conditions Roadways | Level-of-Service Analyses Results

ID	Roadway Segment	AM		PM	
		LOS (NB or EB)	LOS (SB or WB)	LOS (NB or EB)	LOS (SB or WB)
F	SR 1, Carpenter Street to Ocean Avenue	B	E	C	E
G	SR 1, Ocean Avenue to Carmel Valley Road	B	E	C	E
H	SR 1, Carmel Valley Road to Rio Road	B	E	C	E
I	SR 1, Rio Road to Ribera Road	B	E	C	E
J	Rio Road, SR 1 to Crossroads Boulevard	D	F	D	E
K	Rio Road, Crossroads Boulevard to Carmel Center Place	C	D	C	D
L	Rio Road, Carmel Center Place to Carmel Rancho	D	C	E	C
M	Rio Road, Carmel Rancho Boulevard to Val Verde Drive	D	C	E	C
N	Carmel Rancho Boulevard, Carmel Valley Road to	C	F	C	F
O	Carmel Rancho Boulevard, Shopping Center Driveway to	C	F	C	F

Note: Bold text corresponds to operations that do not meet LOS standards

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Detailed Synchro reports for the roadway segment analysis are available for reference in Appendix F.

Existing Conditions Plus Project

Table 9 summarizes the analysis results for each roadway segment under existing conditions.

As shown in the table, the following roadway segments do not meet the target LOS:

- F. SR 1, Carpenter Street to Ocean Avenue
- G. SR 1, Ocean Avenue to Carmel Valley Road
- H. SR 1, Carmel Valley Road to Rio Road
- I. SR 1, Rio Road to Ribera Road
- J. Rio Road, SR 1 to Crossroads Boulevard
- N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway
- O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road

Table 9: Existing Conditions Plus Project Roadways | Level-of-Service Analyses Results

ID	Roadway Segment	AM		PM	
		LOS (NB or EB)	LOS (SB or WB)	LOS (NB or EB)	LOS (SB or WB)
F	SR 1, Carpenter Street to Ocean Avenue	B	E	C	E
G	SR 1, Ocean Avenue to Carmel Valley Road	B	E	C	E
H	SR 1, Carmel Valley Road to Rio Road	B	E	C	E
I	SR 1, Rio Road to Ribera Road	B	E	C	E
J	Rio Road, SR 1 to Crossroads Boulevard	D	F	D	E
K	Rio Road, Crossroads Boulevard to Carmel Center Place	C	D	C	D
L	Rio Road, Carmel Center Place to Carmel Rancho	D	C	E	C
M	Rio Road, Carmel Rancho Boulevard to Val Verde Drive	D	C	E	C
N	Carmel Rancho Boulevard, Carmel Valley Road to	C	F	C	F
O	Carmel Rancho Boulevard, Shopping Center Driveway to	C	F	C	F

Note: Bold text corresponds to operations that do not meet LOS standards

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Detailed Synchro reports for the roadway segment analysis are available for reference in Appendix F.

F. SR 1, Carpenter Street to Ocean Avenue

This roadway segment is under Caltrans jurisdiction and operates at an unacceptable LOS E in the southbound direction under AM and PM peak hours. Under Existing Conditions, the roadway segment already operates at a deficient LOS E during the AM and PM peak hours. The project would add less than 1% of project trips to the segment.

G. SR 1, Ocean Avenue to Carmel Valley Road

This roadway segment is under Caltrans jurisdiction and operates at an unacceptable LOS E in the southbound direction under AM and PM peak hours. Under Existing Conditions, the roadway segment already operates at a deficient LOS E during the AM and PM peak hours. The project would add less than 1% of the existing volume of trips to the segment.

H. SR 1, Carmel Valley Road to Rio Road

This roadway segment is under Caltrans jurisdiction and operates at an unacceptable LOS E in the southbound direction under AM and PM peak hours. Under Existing Conditions, the roadway segment already operates at a deficient LOS E during the AM and PM peak hours. The project would add less than 2% of the existing volume of trips to the segment.

I. SR 1, Rio Road to Ribera Road

This roadway segment is under Caltrans jurisdiction and operates at an unacceptable LOS E in the southbound direction under AM and PM peak hours. Under Existing Conditions, the roadway segment already operates at a deficient LOS E during the AM and PM peak hours. The project would add less than 1% of the existing volume of trips to the segment.

J. Rio Road, SR 1 to Crossroads Boulevard

This roadway segment is under Carmel Valley Master Plan's jurisdiction and operates at an unacceptable LOS F and E in the westbound direction under AM and PM peak hours, respectively. Under Existing Conditions, the roadway segment already operates at a deficient LOS F and E during the AM and PM peak hours, respectively. The project would add less than 4% of the existing volume of trips to the segment. Based on the Carmel Valley Master Plan criteria, the Project would not have an adverse effect on this road segment because it would not worsen the LOS by one letter grade.

N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway

This roadway segment is under Carmel Valley Master Plan's jurisdiction and operates at an unacceptable LOS F in the westbound direction under AM and PM peak hours. Under Existing Conditions, the roadway segment already operates at a deficient LOS F during the AM and PM peak hours. The project would add less than 2% of the existing volume of trips to the segment. Based on the Carmel Valley Master Plan criteria, the Project would not have an adverse effect on this road segment because it would not worsen the LOS by one letter grade.

O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road

This roadway segment is under Carmel Valley Master Plan's jurisdiction and operates at an unacceptable LOS F in the westbound direction under AM and PM peak hours. Under Existing Conditions, the roadway segment already operates at a deficient LOS F during the AM and PM peak hours. The project would add less than 2% of the existing volume of trips to the segment. Based on the Carmel Valley Master Plan criteria, the Project would not have an adverse effect on this road segment because it would not worsen the LOS by one letter grade.

Background Conditions

Figure 10 summarizes the analysis results for each roadway segment under background conditions.

As shown in the table, the following roadway segments do not meet the target LOS:

- F. SR 1, Carpenter Street to Ocean Avenue
- G. SR 1, Ocean Avenue to Carmel Valley Road
- H. SR 1, Carmel Valley Road to Rio Road
- I. SR 1, Rio Road to Ribera Road
- J. Rio Road, SR 1 to Crossroads Boulevard
- N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway
- O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road

Table 10: Background Conditions Roadways | Level-of-Service Analyses Results

ID	Roadway Segment	AM		PM	
		LOS (NB or EB)	LOS (SB or WB)	LOS (NB or EB)	LOS (SB or WB)
F	SR 1, Carpenter Street to Ocean Avenue	B	E	C	E
G	SR 1, Ocean Avenue to Carmel Valley Road	B	E	C	E
H	SR 1, Carmel Valley Road to Rio Road	B	E	C	E
I	SR 1, Rio Road to Ribera Road	B	E	C	E
J	Rio Road, SR 1 to Crossroads Boulevard	D	F	D	E
K	Rio Road, Crossroads Boulevard to Carmel Center Place	C	D	C	D
L	Rio Road, Carmel Center Place to Carmel Rancho	E	C	E	C
M	Rio Road, Carmel Rancho Boulevard to Val Verde Drive	E	C	E	C
N	Carmel Rancho Boulevard, Carmel Valley Road to	C	F	C	F
O	Carmel Rancho Boulevard, Shopping Center Driveway to	C	F	C	F

Note: Bold text corresponds to operations that do not meet LOS standards

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Detailed Synchro reports for the roadway segment analysis are available for reference in Appendix F.

Background Conditions Plus Project

Table 11 summarizes the analysis results for each roadway segment under background conditions.

As shown in the table, the following roadway segments do not meet the target LOS:

- F. SR 1, Carpenter Street to Ocean Avenue
- G. SR 1, Ocean Avenue to Carmel Valley Road
- H. SR 1, Carmel Valley Road to Rio Road
- I. SR 1, Rio Road to Ribera Road
- J. Rio Road, SR 1 to Crossroads Boulevard
- N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway
- O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road

Table 11: Background Conditions Plus Project Roadways | Level-of-Service Analyses Results

ID	Roadway Segment	AM		PM	
		LOS (NB or EB)	LOS (SB or WB)	LOS (NB or EB)	LOS (SB or WB)
F	SR 1, Carpenter Street to Ocean Avenue	B	E	C	E
G	SR 1, Ocean Avenue to Carmel Valley Road	B	E	C	E
H	SR 1, Carmel Valley Road to Rio Road	B	E	C	E
I	SR 1, Rio Road to Ribera Road	B	E	C	E
J	Rio Road, SR 1 to Crossroads Boulevard	D	F	D	E
K	Rio Road, Crossroads Boulevard to Carmel Center Place	C	D	C	D
L	Rio Road, Carmel Center Place to Carmel Rancho	E	C	E	C
M	Rio Road, Carmel Rancho Boulevard to Val Verde Drive	E	C	E	C
N	Carmel Rancho Boulevard, Carmel Valley Road to	C	F	C	F
O	Carmel Rancho Boulevard, Shopping Center Driveway to	C	F	C	F

Note: Bold text corresponds to operations that do not meet LOS standards

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Detailed Synchro reports for the roadway segment analysis are available for reference in Appendix F.

Similar to existing conditions findings, the SR1 roadway segments under Caltrans jurisdiction already operates at a deficient LOS E during the AM and PM peak hours. The roadway segments on Rio Road and Carmel Rancho Boulevard already operate at a deficient LOS F and E and the project would not have an adverse effect because it would not worsen the LOS by one letter grade. The project would pay its required fees for the Transportation Agency for Monterey County (TAMC) Regional Development Impact Fee program which would include regional improvements such as any related to improving the portions of SR1 operating at LOS E.

SITE PERFORMANCE ANALYSES

The existing roadway conditions and proposed site plan were assessed to determine if on-site safety or operational improvements were necessary due to an increase in traffic from the project.

SITE ACCESS

When reviewing the proposed site access and on-site circulation, the following details were noted:

- Sight Distance. Shrubbery and landscaping near the proposed site accesses should be maintained to ensure adequate sight distance is maintained.
- Adequacy of Pedestrian Facilities. The project proposes to build sidewalks along Val Verde Drive between the site and Rio Road to improve pedestrian connectivity and comfort.
- Bicycle Accessibility. There are no bicycle facilities that provide direct access to the study site. The Circulation Element for the City of Carmel does not propose any new bike lanes, and they are not anticipated to be needed on Val Verde Drive due to the low volumes and speeds of the roadway. The development will install bicycle parking and amenities in order to encourage bicycling by residents.
- Accessibility from Adjacent Transit Stops. The nearest bus stop to the project is approximately 2,000 feet from the site access, on foot. It is located approximately 200 feet north of the intersection of Carmel Rancho Boulevard and Rio Road, on the west side of Carmel Rancho Boulevard. There will be a connection for most but not all of the route connecting riders between the bus stop and the project site.

IMPROVEMENT STRATEGIES

INTERSECTION OPERATIONS

Based on the LOS analysis results, the following intersections do not meet target thresholds:

- Carmel Valley Road/ Carmel Rancho Boulevard
  - Existing Conditions Plus Project: during the AM (LOS E) and PM (LOS E) peak hours
  - Background Conditions Plus Project: during the AM (LOS F) and PM (LOS F) peak hours

Converting the existing northbound left-through to a northbound through-right will improve the LOS targets to meet the target thresholds, as shown in Table 12. The project is paying its required fees into the Traffic Improvement Project for Carmel Valley Road Fee Program which would support this change and/or other changes along Carmel Valley Road consistent with the Carmel Valley Master Plan (CVMP). Therefore, with their fee payment and the proposed modification identified to improve LOS at this location, the project does not create adverse effects on intersection operations.

Table 12: Improvements at Carmel Valley Road/ Carmel Rancho Boulevard | Level-of-Service Analyses Results

Scenario	Period	Original LOS	Original Delay	Improved LOS	Improved Delay	Change
Existing Conditions Plus Project	AM	E	66.4	C	31.8	34.6
	PM	E	76.6	C	29.6	47.0
Background Conditions Plus Project	AM	F	82.1	B	19.7	62.4
	PM	F	96.8	D	37.9	58.9

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Detailed Synchro reports for the improvements are available for reference in Appendix G.

SUMMARY

Based on the findings of the analyses performed in this study consistent with the Monterey County Guide for the Preparation of Traffic Impact Studies, the proposed residential development at 26500 Val Verde Drive in Carmel, California would have potentially adverse effects to the intersection of Carmel Valley Road/Carmel Rancho Boulevard and roadways along SR1.

Converting the existing northbound left-through to a northbound through-right at Carmel Valley Road/Carmel Rancho Boulevard will improve the LOS targets to meet the target thresholds. The project would pay its required fees into the Traffic Improvement Project for Carmel Valley Road Fee Program which would support this change and/or other changes along Carmel Valley Road consistent with the Carmel Valley Master Plan.

The project would pay its required fees for the TAMC Regional Development Impact Fee program which would include regional improvements such as any related to improving these portions of SR1 operating below the target LOS.

Appendix A

Proposed Site Plan

City Ventures

26500 VAL VERDE DRIVE

CARMEL, CALIFORNIA

1ST SUBMITTAL DATE: 11.08.2024

LOCATION MAP

SITE LOCATION

APPLICANT:
CITY VENTURES
444 SPEAR STREET, SUITE 200
SAN FRANCISCO, CA 94105
CONTACT: PAMELA NIETING
Vice President of Development
PHONE: 650.465.3628
E-MAIL: pnieting@cityventures.com
www.cityventures.com

ARCHITECT:
HUNT HALE JONES ARCHITECTS
444 SPEAR STREET, SUITE 105
SAN FRANCISCO, CA 94105
CONTACT: DAN HALE
Architect
PHONE: 415.568.3833
E-MAIL: dhale@hhja.com
http://www.hhja.com

CIVIL ENGINEER:
CBG
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CA 94583
CONTACT: JASON NERI
Principal
PHONE: 925.866.0322
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www.dgates.com

City Ventures

CARMEL

CITY VENTURES

26500 VAL VERDE DRIVE

CARMEL, CA. 93923

cbg

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE
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COVER SHEET

CS

SCALE: N.T.S.
DATE:11.08.24 DR
PROJECT: 317093

z:\317093_carmel_1\Dwgs\DR-SD\Dwgs\Cover\317093_Carmel_CS.dwg, 11/7/2024 8:25:55 AM, yanni

PROJECT DATA

	EXISTING	PROPOSED
GENERAL PLAN	GPLU	GPLU
PLANNING AREA	CVMD	* SEE BELOW
ZONING	LDR/I-D-S-RAZ	
SITE AREA	±12.5 AC (EXLUDING VAL VERDE DRIVE)	
DENSITY		74 : 12.5 = 5.92 DUA
TOTAL DWELLING UNITS		74
OCCUPANCY		
RESIDENTIAL		R3/U SFD - R2/U TH
CONSTRUCTION TYPE		V-B
ACCESSIBLE UNITS (10% x 74)		8 LOCATIONS - TBD

SINGLE FAMILY DETACHED		
	REQUIRED	PROPOSED
MIN. LOT AREA		5,000 SQ. FT.
SETBACKS		
FRONT		6'-0"
SIDE, INTERIOR		5'-0"
REAR, INTERIOR		15'-0"
MIN. DRIVEWAY LENGTH		18'-0"
BUILDING HEIGHT		
MAX. HEIGHT		35 FT.
MAX. NO. OF STORIES		2 STORIES
PARKING		
GARAGES		2/UNIT = 118
GUEST PARKING		34
DRIVEWAYS		2/UNIT = 118

TOWNHOME UNITS		
	REQUIRED	PROPOSED
MIN. LOT AREA		NA
SETBACKS		
FRONT		7'-0"
SIDE		12'-0"
REAR		10'-0"
BUILDING HEIGHT		
MAX. HEIGHT		32 FT.
MAX. NO. OF STORIES		2 STORIES
PARKING		
GARAGES		2/UNIT - 30 TOTAL
GUEST PARKING		7

FIRE PROTECTION		
FIRE SPRINKLER		NFPA 13D - SFD NFPA 13R - TOWNHOME

* 65589.5 (f) (1)

UNIT SUMMARY - SFD

PLAN NO.	PLAN INFO	TOT. UNITS	LIVING SF.	LIV. W/ BONUS RM. SF	GARAGE SF.	CARMEL RM. SF.	STD. PARKING	TOTAL PARKING	TOTAL LIV. SF	TOTAL LIV. W/ BONUS	TOTAL GARAGE	TOTAL CARMEL RM.	TOTAL CONDITIONED AND NON CONDITIONED SQ. FT.	
													STD	W/ BONUS RM.
PLAN 1	4 BD + DEN 2 1/2 BATH OPT. BONUS	18	2790	3490	453	273	2	36	50220	62820	8154	4914	63288	75888
PLAN 2	5 BD/3 BATH	12	3424	NA	472	300	2	24	41088	NA	5664	3600	50352	50352
PLAN 3	5 BD/3 BATH	12	3560	NA	461	342	2	24	42720	NA	5532	4104	52356	52356
PLAN 4	5 BD/3 BATH	17	3930	NA	472	280	2	34	66810	NA	8024	4760	79594	79594
TOTALS		59										GRAND TOTAL	245590	258190

UNIT SUMMARY - TOWNHOMES

PLAN NO.	PLAN INFO	TOT. UNITS	LIVING SF.	GARAGE SF.	STD PARKING	TOTAL PARKING	TOTAL LIVING SF	TOTAL GARAGE SF	TOTAL CONDITIONED AND NON CONDITIONED SQ. FT.
PLAN 1	2 BD/1 BATH	15	1026	439	2	30	15390	6585	21975
TOTALS		15						GRAND TOTAL	21975

GRAND TOTAL OF SINGLE FAMILY DETACHED AND TOWNHOMES =
267,565 SQ. FT (WO/ BONUS RM AT PLAN 1), 280,165 SQ. FT (W/ BONUS RM. AT PLAN 1)

LOT COVERAGE CALCULATION

SINGLE FAMILY DETACHED

PLAN NO.	PLAN INFO	TOT. UNITS	MAIN LIVING SF.	FRONT PORCH	GARAGE SF.	CARMEL RM. SF.	TOTAL MAIN LIVING	TOTAL FRONT PORCH	TOTAL GARAGE	TOTAL CARMEL RM.	TOTAL MAIN FLOOR SQ. FT.	
											STD	
PLAN 1	4 BD + DEN 2 1/2 BATH OPT. BONUS	18	1865	44	453	273	33570	792	8154	4914	47430	
PLAN 2	5 BD/3 BATH	12	1605	152	472	300	19260	1824	5664	3600	30348	
PLAN 3	5 BD/3 BATH	12	1660	201	461	342	19920	2412	5532	4104	31968	
PLAN 4	5 BD/3 BATH	17	1955	62	472	280	33235	1054	8024	4760	47073	
TOTALS		59								TOTAL GROUND	156819	
					TOWNHOMES							
PLAN 1	2 BD/1 BATH	15	401	87	439	NA	6015	1305	6585	NA	13905	
										TOTAL GROUND	13905	
									GRAND TOTAL GROUND SFD + TH		170724	

LOT COVERAGE:
170724 : 544500 (12.5 ACRES) = 31%

City Ventures

CARMEL

CITY VENTURES

26500 VAL VERDE DRIVE

CARMEL, CA. 93923

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PROJECT INFORMATION

PI 1.2

SCALE: NTS
DATE:11.08.24 DR
PROJECT: 317093

City Ventures

CARMEL

CITY VENTURES

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CARMEL, CA. 93923

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CONCEPTUAL SITE PLAN

SP

SCALE: NTS
DATE:11.08.24 DR
PROJECT: 317093

Appendix B

Scoping Agreement

KITTELSON & ASSOCIATES
3601 5th Avenue
San Diego, CA 92103
P 714.468.1180

TECHNICAL MEMORANDUM

May 22, 2025 Project# 31384

To: Bora Akkaya
County of Monterey | Housing and Community Development Department
1441 Schilling Place
Salinas, CA 93901

From: Kittelson & Associates, Inc

RE: 26500 Val Verde Drive – Scoping Memorandum

City Ventures proposes to develop 59 single family homes and 15 townhomes for a total of 74 for-sale, solar, all-electric dwelling units at 26500 Val Verde Drive in Carmel, CA (the "Project"). The project is located on five parcels located that currently has one single family home and farm land. Access to the project will be provided from Rio Road to Val Verde Drive. Rio Road connects to State Route 1 (SR 1) about a half-mile to the west of Val Verde Drive.

A prior traffic study was prepared for a similar version of the project in 2016. A new traffic study needs to be prepared to represent the current Project's unit number and types and to be consistent with more current guidance on traffic analyses – particularly after implementation of Senate Bill 743 (SB743) which changed the environmental documentation requirements for transportation.

This technical memorandum outlines our proposed scope of work for the traffic study report that will use the latest version of the Monterey County Guide for the Preparation of Traffic Impact Studies to be submitted to the County. The findings from this memorandum will inform the next steps for the traffic study analysis.

This memorandum covers the following topics:

- Trip Generation Methods and Estimates
- Trip Distribution
- Study Area
- Analysis Assumptions/Methodology
- VMT Screening and Assessment
- Next Steps in Analysis

PROJECT TRIP GENERATION

Project-related trip estimates were calculated to assess the project's traffic impact on local roads. Trip generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual 11th Edition* were used to estimate trips based on the proposed facilities use and size. With 59 single family homes and 15 townhomes for a total of 74 for-sale units, the proposed project is estimated to generate 685 daily trips, with 48 occurring during the AM peak hour and 66 occurring during the PM peak hour.

Table 1 presents the resulting trip generation estimates.

Table 1: Trip Generation

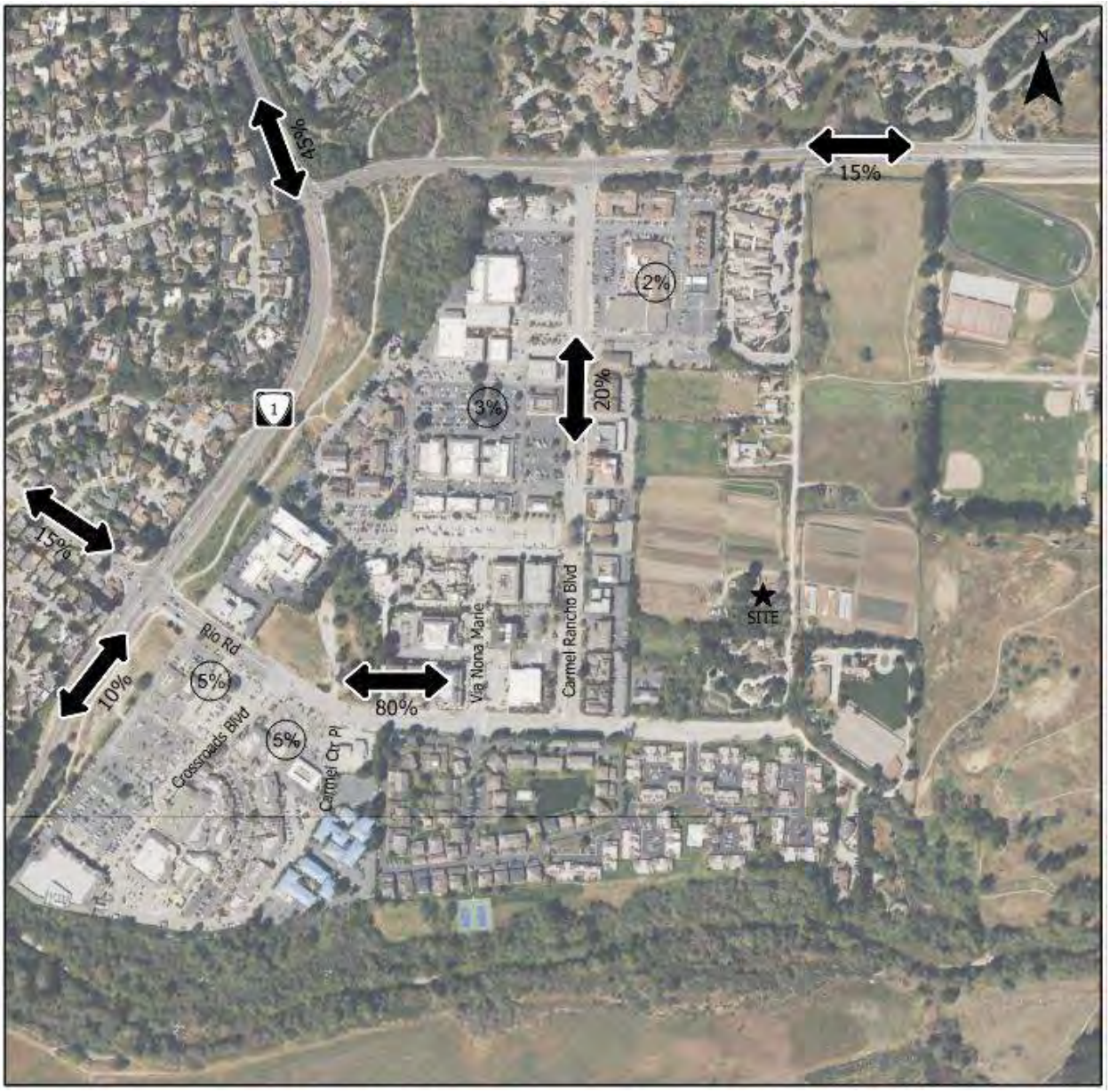
Land Use	Unit	AM Peak Hour			PM Peak Hour			Daily		
		In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE: 210)	59 dwelling units	12	34	46	38	23	61	311	310	621
Single-Family Attached Housing (ITE: 215)	15 dwelling units	1	1	2	3	2	5	32	32	64
Total		**13**	**35**	**48**	**41**	**25**	**66**	**343**	**342**	**685**

SOURCE: INSTITUTE OF TRAFFIC ENGINEERS TRIP GENERATION MANUAL, 11TH EDITION

TRIP DISTRIBUTION

The proposed project's trip distribution was developed based on a review of the adjacent roadway network and surrounding land uses to determine anticipated origins and paths of travel. Inbound and outbound trip patterns generally consist of the following distribution shown in **Figure 1.**

Figure 1: Trip Distribution



SOURCE: KITTELSON & ASSOCIATES, INC (2025)

STUDY AREA

The following intersections and roadway segments were identified to be within the study area based on the trip generation and distribution. The locations include site access driveways and intersections that project traffic would potentially affect. The study intersections are shown in **Figure 2**. Roadway segments are shown in **Figure 3** and **Figure 4**.

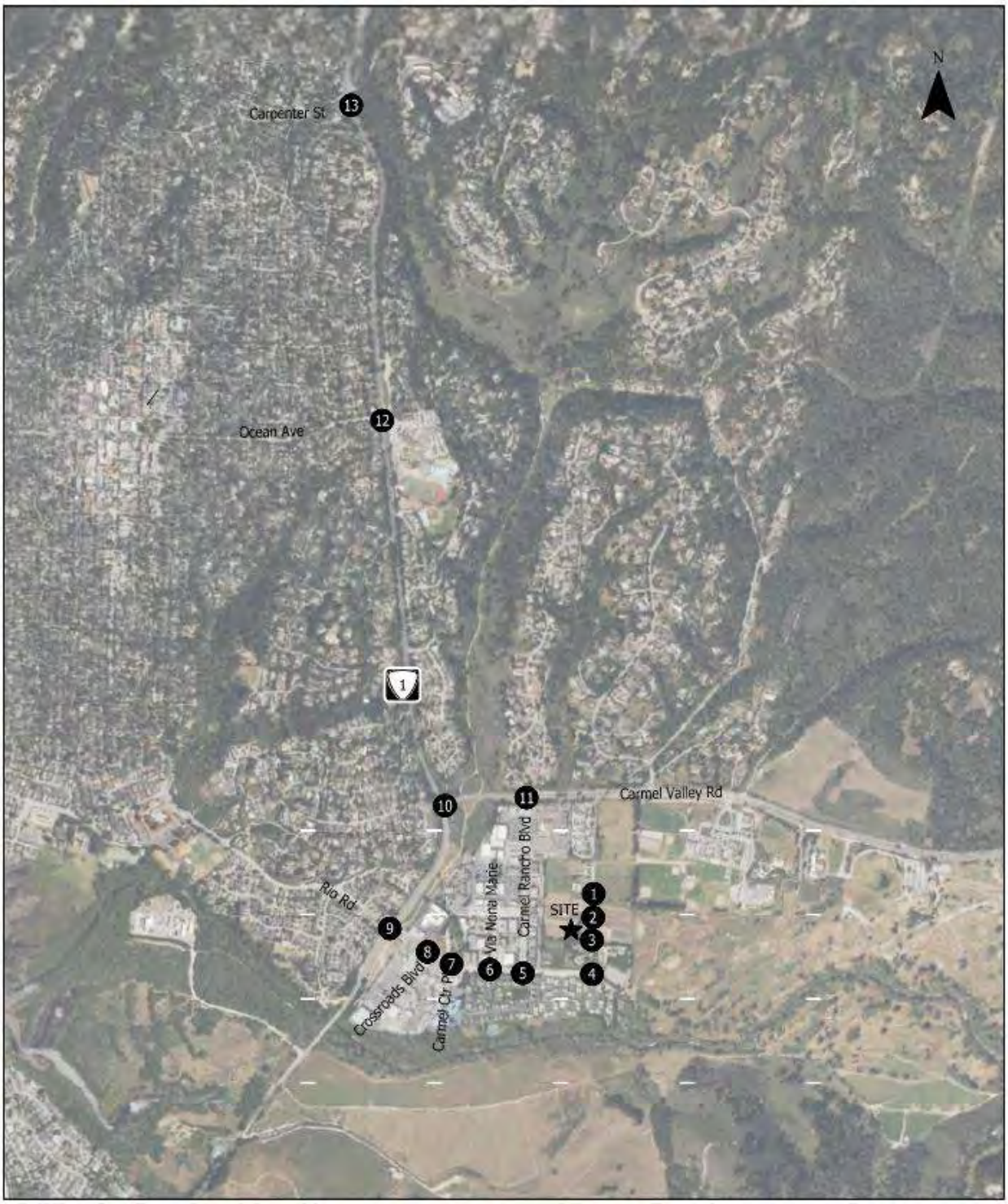
Intersections

1. Project Driveway A / Val Verde Drive
2. Project Driveway B / Val Verde Drive
3. Project Driveway C / Val Verde Drive
4. Rio Road / Val Verde Drive
5. Rio Road / Carmel Rancho Boulevard
6. Rio Road / Via Nona Marie
7. Rio Road / Carmel Center Place
8. Rio Road / Crossroads Driveway
9. Rio Road / SR 1
10. Carmel Valley Road / SR 1
11. Carmel Valley Road / Carmel Rancho Boulevard
12. Ocean Avenue / SR 1
13. Carpenter Street / SR 1

Roadways

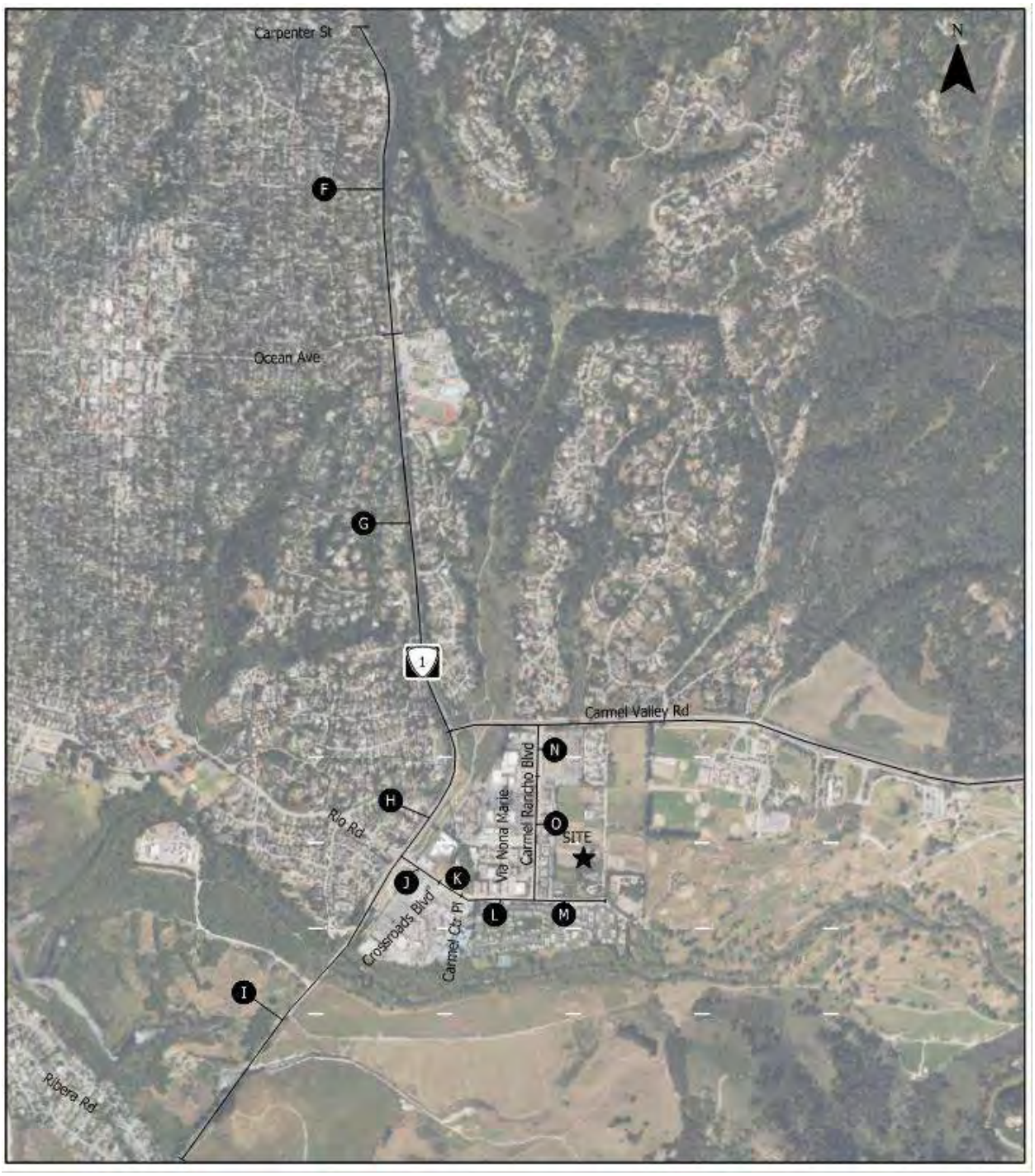
A. Carmel Valley Road, Laureles Grade to Robinson Canyon Road
B. Carmel Valley Road, Robinson Canyon Road to Schulte Road
C. Carmel Valley Road, Schulte Road to Rancho San Carlos Road
D. Carmel Valley Road, Rancho San Carlos Road to Carmel Rancho Boulevard
E. Carmel Valley Road, Carmel Rancho Boulevard to SR 1
F. SR 1, Carpenter Street to Ocean Avenue
G. SR 1, Ocean Avenue to Carmel Valley Road
H. SR 1, Carmel Valley Road to Rio Road
I. SR 1, Rio Road to Ribera Road
J. Rio Road, SR 1 to Crossroads Boulevard
K. Rio Road, Crossroads Boulevard to Carmel Center Place
L. Rio Road, Carmel Center Place to Carmel Rancho Boulevard
M. Rio Road, Carmel Rancho Boulevard to Val Verde Drive
N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway
O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road

Figure 2: Study Intersections



SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Figure 3: Roadway Segments (except Carmel Valley Road)



SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Figure 4: Roadway Segments on Carmel Valley Road

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

LEVEL OF SERVICE (LOS) ANALYSIS METHODOLOGY

Data Collection

Weekday intersection vehicle turning movement counts will be collected during the morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) peak periods at the study intersections. Daily roadway volume counts will be obtained from the County or Caltrans where available. Missing data points for roadway segments will be collected for a 24-hour period. All counts will be collected on a Tuesday, Wednesday, or Thursday while local schools are in session.

Intersection Analysis Methodology

LOS describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions and delay, freedom to maneuver, driving comfort, and convenience. LOS A through LOS F covers the entire range of traffic operations that might occur. Motorists using a facility that operates at a LOS A experience very little delay, while those using a facility that operates at a LOS F will experience long delays. Intersection analyses for the four study intersections were conducted using the operational methodologies outlined in the Highway Capacity Manual (HCM) methodology (Transportation Research Board, Washington, D.C., 2016), calculated with Synchro or Vistro software.

Using the HCM procedure, the level of service designation for a signalized intersection is determined by calculating a weighted average control delay in seconds per vehicle, based on signal timings obtained from the jurisdiction that operates the signal. For unsignalized intersections, the HCM methodology is also used to calculate the weighted average control delay for each controlled intersection leg and for the intersection as a whole. In the case of two-way stop-controlled intersections, the LOS for the worst approach is used as the performance measure for the level of service.

Table 2 presents the relationship of average delay to level of service for both signalized and unsignalized intersections.

Table 2: Level of Service Definition for Intersections

Level of Service	Delay Per Vehicle (Seconds)	
	Signalized Intersection	Unsignalized Intersection
A	< 10.0	< 10.0
B	> 10.0 to 20.0	> 10.0 to 15.0
C	> 20.0 to 35.0	> 15.0 to 25.0
D	> 35.0 to 55.0	> 25.0 to 35.0
E	> 55.0 to 80.0	> 35.0 to 50.0
F	> 80.0	> 50.0

SOURCE: HIGHWAY CAPACITY MANUAL

Roadway Analysis Methodology

For roadway segments evaluation, the average daily traffic (ADT) volumes for individual roadway segments are compared with the capacity defined based on number of lanes and prevailing speed limits. ADT capacities represent the general level of daily traffic that each roadway type can carry and is used as a general design guideline only. The roadway capacity is a function of the number of lanes, street type, traffic characteristics such as peak and directional factors and speeds. The evaluation of roadway segments incorporates the LOS methodologies as recommended in the latest version of the National Cooperative Highway Research Program (NCHRP) Report 825: Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual.

REGULATORY STANDARDS

LOS Standards

Monterey County Level of Service Standards

For Signalized Intersections: A significant impact would occur if an intersection operating at LOS A, B, or C, degrades to D, E, F. For intersections already operating at unacceptable levels D and E, a significant impact would occur if a project adds 0.01 during peak hour or more to the critical movement's volume-to-capacity ratio. If the intersection is already operating at LOS F any increase (one vehicle) in the critical movement's volume-to-capacity ratio is considered significant.

For Unsignalized Intersections: A significant impact would occur if any traffic movement has LOS F or any traffic signal warrant is met.

For Roadway Segments: A significant impact would occur if a roadway segment operating at A through E degrades to a lower level of service of D, E, or F. If a segment is already operating at LOS F, any increase during peak hour (one vehicle) is considered significant.

Carmel Valley Master Plan Level of Service Standards

With the exception of some road segments along Carmel Valley Road, LOS C has been established as the minimum acceptable level of service for roadways and intersections within Carmel Valley. Per CVMP Policy 2.18, LOS D has been established as the minimum acceptable level of service for several segments along Carmel Valley Road.

Caltrans Level of Service Standards

Caltrans updated its guidance in 2020 to include metrics to evaluate transportation impacts based on vehicle miles traveled (VMT) and no longer sets a minimum acceptable LOS for its facilities.

Caltrans prepared the Transportation Analysis Framework (TAF) and Transportation Analysis under CEQA (TAC) documents to guide implementation of Senate Bill (SB) 743. The TAF and TAC establish Caltrans guidance on how to analyze induced travel associated with transportation projects and how to determine impact significance under CEQA, respectively. These documents guide transportation impact analyses for projects on the State Highway System (SHS). For land use projects and plans affecting the SHS, Caltrans' Caltrans *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* provides guidance to assess the potential for impacts related to land development projects. Caltrans transitioned away from LOS performance standards and instead focused on VMT to identify significant impacts.

> *"For land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA (SB 743, 2013). Caltrans review of land use projects and plans is focused on a VMT metric, consistent with changes to the CEQA Guidelines (California Code of Regulations Section 15064.3(b)(1)). This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis."*

Project Study Area

Table 3 and **Table 4** provides a summary of the performance standards for the study intersections and roadway segments in the study area, respectively.

Table 3: Study Intersections Performance Standards

Study Intersection	Jurisdiction	Intersection Control	Performance Standard
1. Project Driveway A / Val Verde Drive	Carmel Valley Master Plan	*Does Not Currently Exist*	LOS C
2. Project Driveway B / Val Verde Drive	Carmel Valley Master Plan	*Does Not Currently Exist*	LOS C
3. Project Driveway C / Val Verde Drive	Carmel Valley Master Plan	*Does Not Currently Exist*	LOS C
4. Rio Road / Val Verde Drive	Carmel Valley Master Plan	Two-Way Stop Controlled (TWSC)	LOS C
5. Rio Road / Carmel Rancho Boulevard	Carmel Valley Master Plan	Two-Way Stop Controlled (TWSC)	LOS C
6. Rio Road / Via Nona Marie	Carmel Valley Master Plan	Two-Way Stop Controlled (TWSC)	LOS C
7. Rio Road / Carmel Center Place	Carmel Valley Master Plan	Signalized	LOS C
8. Rio Road / Crossroads Driveway	Carmel Valley Master Plan	Signalized	LOS C
9. Rio Road / SR 1	Caltrans	Signalized	LOS D[1]
10. Carmel Valley Road / SR 1	Caltrans	Signalized	LOS D[1]
11. Carmel Valley Road / Carmel Rancho Boulevard	Carmel Valley Master Plan	Signalized	LOS C
12. Ocean Avenue / SR 1	Caltrans	Signalized	LOS D[1]
13. Carpenter Street / SR 1	Caltrans	Signalized	LOS D[1]

[1] Caltrans no longer uses a LOS standard to evaluate impacts for its facilities under CEQA. The County of Monterey standard of LOS D is applied at Caltrans intersections.

Table 4: Segment Performance Standards

Study Segment	Jurisdiction	Roadway Functional Classification	Performance Standard
A. Carmel Valley Road, Laureles Grade to Robinson Canyon Road	Carmel Valley Master Plan	Major Collector	LOS C
B. Carmel Valley Road, Robinson Canyon Road to Schulte Road	Carmel Valley Master Plan	Major Collector	LOS C
C. Carmel Valley Road, Schulte Road to Rancho San Carlos Road	Carmel Valley Master Plan	Major Collector	LOS C
D. Carmel Valley Road, Rancho San Carlos Road to Carmel Rancho Boulevard	Carmel Valley Master Plan	Major Collector	LOS C
E. Carmel Valley Road, Carmel Rancho Boulevard to SR 1	Carmel Valley Master Plan	Major Collector	LOS C
F. SR 1, Carpenter Street to Ocean Avenue	Caltrans	Minor Arterial	LOS D[1]
G. SR 1, Ocean Avenue to Carmel Valley Road	Caltrans	Minor Arterial	LOS D[1]
H. SR 1, Carmel Valley Road to Rio Road	Caltrans	Minor Arterial	LOS D[1]
I. SR 1, Rio Road to Ribera Road	Caltrans	Minor Arterial	LOS D[1]
J. Rio Road, SR 1 to Crossroads Boulevard	Carmel Valley Master Plan	Major Collector	LOS C
K. Rio Road, Crossroads Boulevard to Carmel Center Place	Carmel Valley Master Plan	Major Collector	LOS C
L. Rio Road, Carmel Center Place to Carmel Rancho Boulevard	Carmel Valley Master Plan	Major Collector	LOS C
M. Rio Road, Carmel Rancho Boulevard to Val Verde Drive	Carmel Valley Master Plan	Major Collector	LOS C
N. Carmel Rancho Boulevard, Carmel Valley Road to Shopping Center Driveway	Carmel Valley Master Plan	Major Collector	LOS C
O. Carmel Rancho Boulevard, Shopping Center Driveway to Rio Road	Carmel Valley Master Plan	Major Collector	LOS C

[1] Caltrans no longer uses a LOS standard to evaluate impacts for its facilities under CEQA. The County of Monterey standard of LOS D is applied at Caltrans intersections.

[2] Roadway classifications were taken from the Caltrans California Road System GIS map.

STUDY SCENARIOS

The following scenarios will be included in the transportation study:

- Existing Conditions
- Existing Conditions Plus Proposed Project
- Background Conditions
- Background Conditions Plus Proposed Project

BACKGROUND CONDITIONS VOLUME DEVELOPMENT

For this scenario, a 2% ambient growth rate will be used to grow existing traffic volumes to a planned 2027 opening year. Additionally, anticipated traffic from cumulative projects within 1.5 miles of the project site that would add traffic to the study area will be incorporated. This list of cumulative projects will be obtained from the County of Monterey Housing and Community Development Department.

VEHICLE-MILES TRAVELLED (VMT) ASSESSMENT

The transportation analysis documented in this report was performed to comply with CEQA transportation VMT analysis. At this time, the County has not adopted its own thresholds for VMT. Therefore, VMT guidelines from the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) were referenced and utilized as guidance.

Screening Criteria

CEQA analysis requires an evaluation of project impacts related to VMT. However, a detailed CEQA assessment is not required for land use elements of a project that meet certain screening criteria. To be screened out of a detailed VMT analysis, a project or project component would need to satisfy at least one of the VMT screening criteria. A summary of the OPR's screening criteria and determinations are listed below:

- **Net Daily Trips Less than 110 Average Daily Traffic (ADT):** Projects generating less than 110 trips per day may be considered to have an insignificant impact on VMT.
- **Within a ½ Mile of Major Transit Stop:** Projects, including residential, retail, and office projects, as well as mixed-use projects within a ½ mile of an existing major transit stop or along a high-quality transit corridor, are generally presumed to have a minor impact on VMT. This presumption is not valid if project-specific or location-specific information indicates significant VMT levels. An existing major transit stop is defined as a site with a rail transit station, a ferry terminal served by bus or rail transit, or the intersection of multiple major bus routes with frequent service during peak commute periods.
- **Affordable Housing:** The County provides special considerations for affordable housing. Projects that consist of 100% affordable housing in infill locations are presumed to have a minor impact on VMT. Infill locations generally offer better access to transit and more opportunities for walking and cycling. The definition of infill locations is determined based on local conditions.

- **Local Retail (<50,000 square feet):** Projects categorized as local-serving retail are presumed to have an insignificant impact on VMT.

Screening Determination

The project does not meet any of the VMT screening criteria. A detailed VMT analysis will be conducted in accordance with CEQA requirements and the Office of the Planning & Research (OPR) guidelines and will utilize the VMT Calculator and VMT maps provided by the County. **Table 5** summarizes the VMT screening results.

Table 5: VMT Screening Summary

VMT Screening Criteria	Criterion Met?	Reasoning
Less than 110 Trips per Day	No	Based on the estimated trip generation in Table 1, the proposed project would generate up to 685 net new daily primary vehicle trips and therefore would not screen out under this criterion.
Within a ½ mile of a Major Transit Stop	No	The proposed project is not located within a ½ mile of a major transit stop and does not screen out under this criterion.
Affordable Housing	No	The project is not screened out under this criterion.
Local Retail (<50,000 square feet)	No	The proposed project does not contain retail land use and does not screen out under this criterion.

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

NEXT STEPS

This memorandum was prepared to gain feedback from the County on the methodology for preparing the transportation study for the Project. After this scoping memorandum is approved by the County, Kittelson will coordinate collection of traffic counts at the study intersections and roadways and proceed with the operations analysis at the study area, a VMT assessment, and a qualitative assessment of site access and circulation. In particular for site access, the proposed project is within walking distance of many businesses so evaluation on how the project would address pedestrian/bicycle connectivity to those amenities will be included.

Appendix C

Traffic Count Data

INTERSECTION TURNING MOVEMENT COUNTS

T102424

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

DATE: Tue, May 20, 25

LOCATION: Carmel
NORTH & SOUTH: SR-1
EAST & WEST: Carpenter St

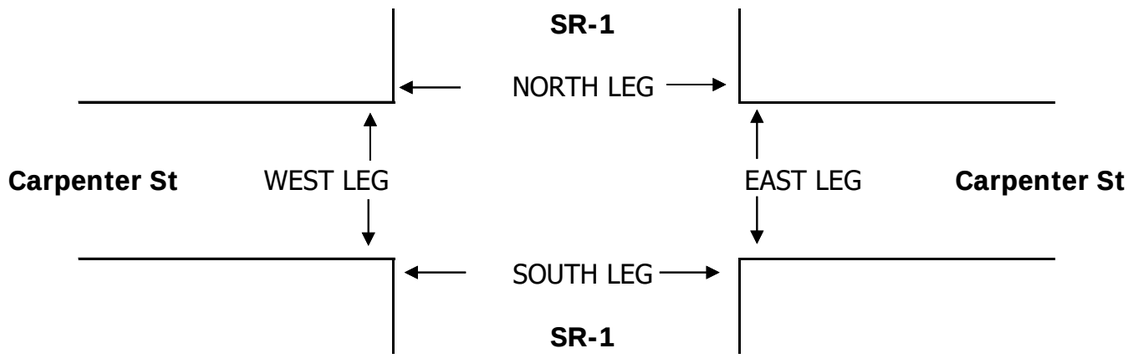
PROJECT #: SC5419
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

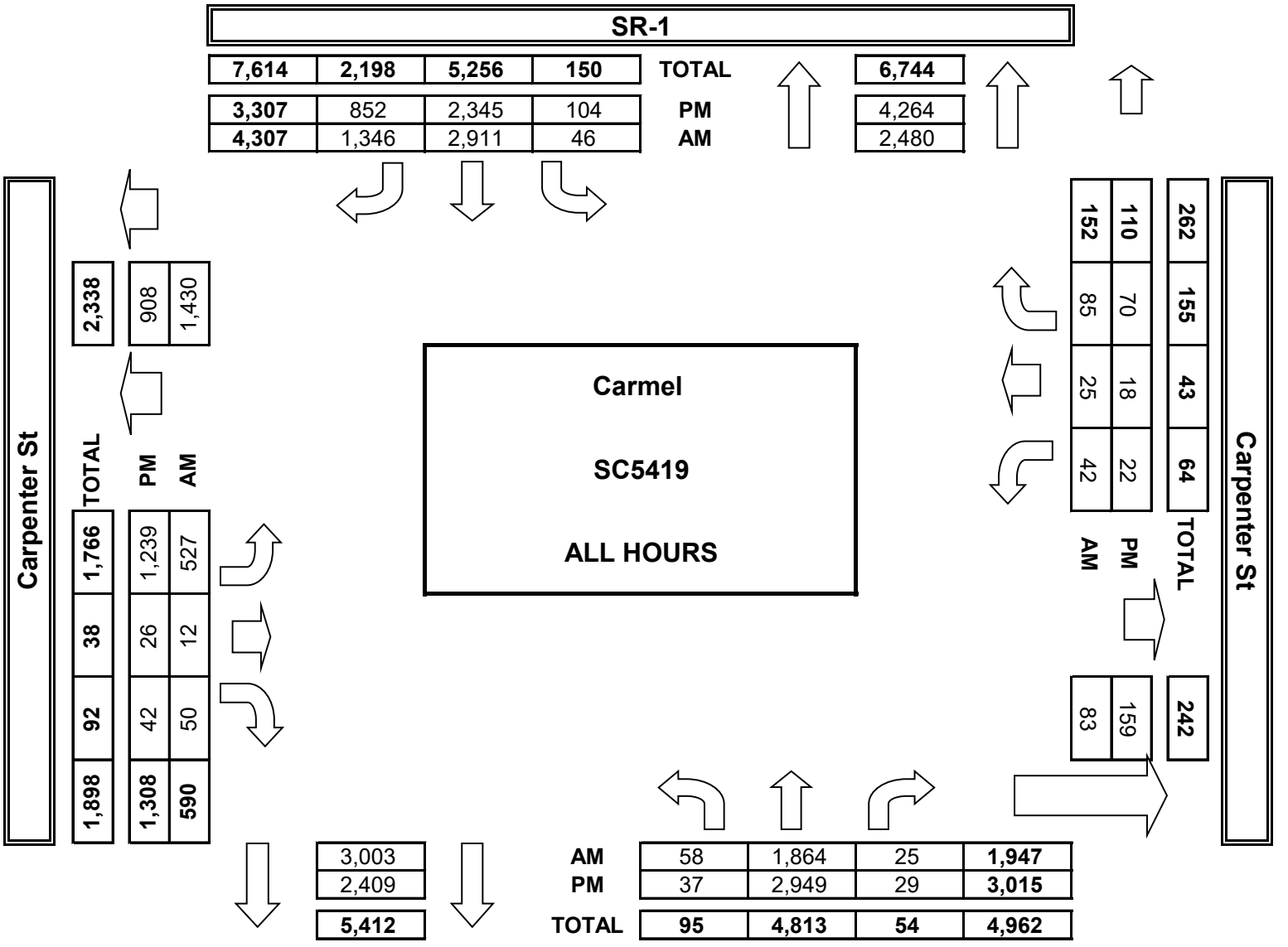
▲ N
◄ W
E ►
S ▼

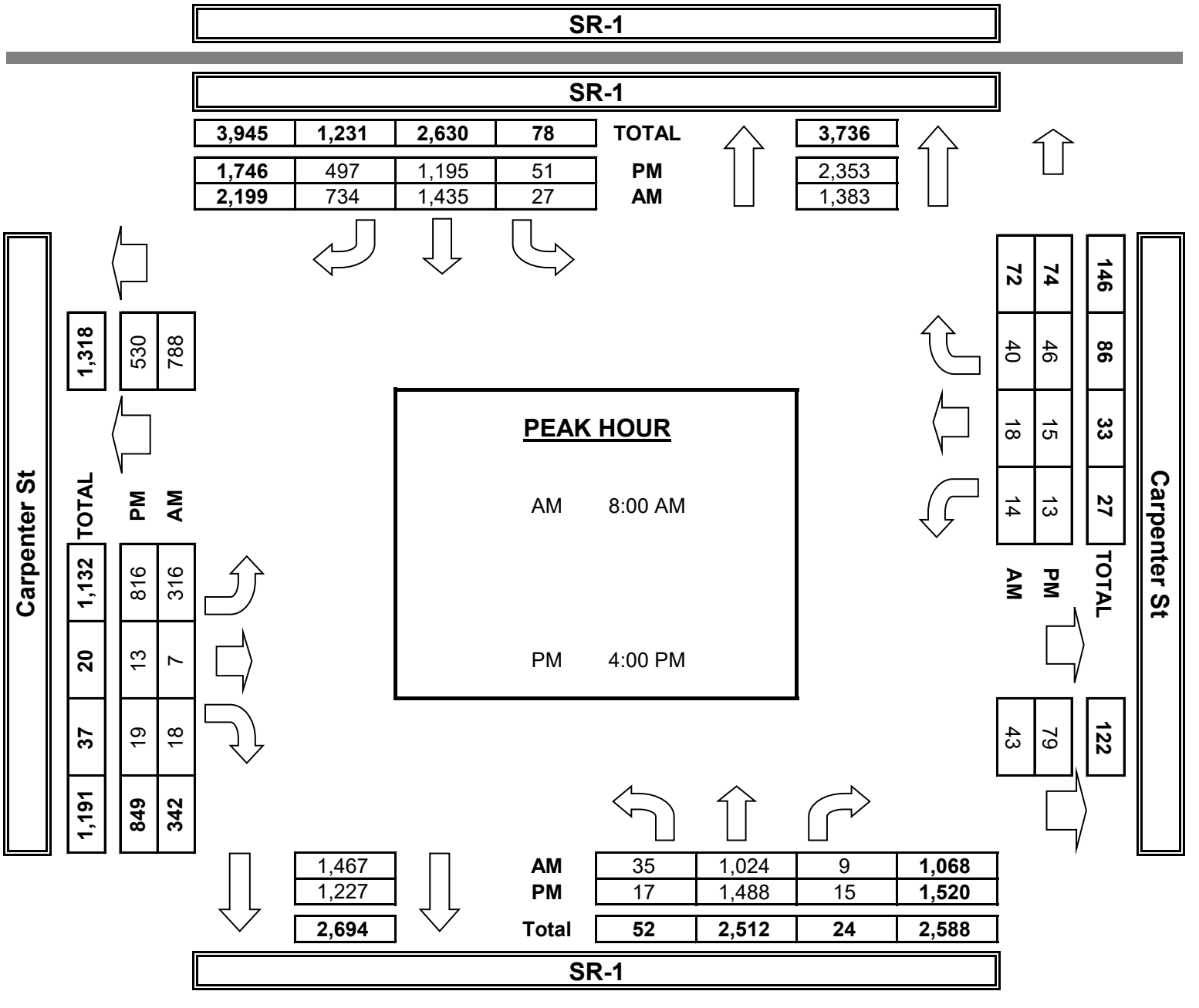
		NORTHBOUND SR-1			SOUTHBOUND SR-1			EASTBOUND Carpenter St			WESTBOUND Carpenter St				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 2	ET 1	ER 1	WL 1.5	WT 0.5	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	2	146	2	5	364	99	39	1	4	5	2	6	675	0	0	0	0	0
	7:15 AM	4	177	1	3	401	141	47	0	7	12	1	11	805	0	1	0	0	1
	7:30 AM	8	255	7	4	409	201	54	1	16	11	1	11	978	0	0	0	0	0
	7:45 AM	9	262	6	7	302	171	71	3	5	0	3	17	856	0	0	0	0	0
	8:00 AM	8	238	2	6	340	181	50	1	3	6	2	14	851	0	2	0	0	2
	8:15 AM	12	216	2	7	375	168	71	2	3	3	7	7	873	0	0	0	0	0
	8:30 AM	7	275	1	8	386	179	88	2	8	4	4	10	972	0	0	0	0	0
	8:45 AM	8	295	4	6	334	206	107	2	4	1	5	9	981	0	1	1	0	2
	VOLUMES	58	1,864	25	46	2,911	1,346	527	12	50	42	25	85	6,996	0	4	1	0	5
	APPROACH %	3%	96%	1%	1%	68%	31%	89%	2%	8%	28%	16%	56%						
	APP/DEPART	1,947	/	2,480	4,307	/	3,003	590	/	83	152	/	1,430	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	35	1,024	9	27	1,435	734	316	7	18	14	18	40	3,681	0	3	1	0	
	APPROACH %	3%	96%	1%	1%	65%	33%	92%	2%	5%	19%	25%	56%						
	PEAK HR FACTOR		0.870			0.959			0.750			0.818		0.936					
	APP/DEPART	1,068	/	1,383	2,199	/	1,467	342	/	43	72	/	788	0					
PM	4:00 PM	2	303	3	16	255	124	264	3	0	4	5	14	993	0	0	0	0	0
	4:15 PM	1	394	3	13	317	133	218	3	3	3	5	5	1,098	0	1	1	0	2
	4:30 PM	4	404	2	7	321	127	197	5	8	3	5	19	1,102	0	1	0	0	1
	4:45 PM	10	387	7	15	302	113	137	2	8	3	0	8	992	0	1	0	0	1
	5:00 PM	3	368	4	14	300	96	132	5	6	4	1	3	936	0	0	0	0	0
	5:15 PM	6	411	5	16	296	91	106	2	8	3	1	10	955	0	2	0	0	2
	5:30 PM	6	363	3	12	298	90	104	4	6	1	0	6	893	0	0	0	0	0
	5:45 PM	5	319	2	11	256	78	81	2	3	1	1	5	764	0	1	0	0	1
	VOLUMES	37	2,949	29	104	2,345	852	1,239	26	42	22	18	70	7,740	0	6	1	0	7
	APPROACH %	1%	98%	1%	3%	71%	26%	95%	2%	3%	20%	16%	64%						
	APP/DEPART	3,015	/	4,264	3,307	/	2,409	1,308	/	159	110	/	908	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	17	1,488	15	51	1,195	497	816	13	19	13	15	46	4,189	0	3	1	0	
	APPROACH %	1%	98%	1%	3%	68%	28%	96%	2%	2%	18%	20%	62%						
	PEAK HR FACTOR		0.927			0.941			0.795			0.685		0.949					
	APP/DEPART	1,520	/	2,353	1,746	/	1,227	849	/	79	74	/	530	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T112224

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

DATE:				
Tue, May 20, 25	LOCATION:	Carmel	PROJECT #:	SC5419
	NORTH & SOUTH:	SR-1	LOCATION #:	2
	EAST & WEST:	Ocean Ave	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND SR-1			SOUTHBOUND SR-1			EASTBOUND Ocean Ave			WESTBOUND Doris Watson Pl			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 1.3	ET 0.3	ER 0.3	WL 1.3	WT 0.3	WR 0.3	TOTAL
AM 7:00 AM	5	108	5	1	307	44	27	6	6	2	2	2	515
7:15 AM	16	155	34	4	311	33	15	17	20	22	9	3	639
7:30 AM	20	204	40	24	260	17	23	15	35	71	14	29	752
7:45 AM	29	213	3	0	315	20	40	2	36	28	9	8	703
8:00 AM	20	200	2	0	328	18	36	3	27	9	2	1	646
8:15 AM	18	201	1	0	297	29	40	4	31	7	1	1	630
8:30 AM	17	249	3	0	333	37	37	4	29	12	2	6	729
8:45 AM	22	251	1	0	304	25	48	2	34	11	3	1	702
VOLUMES	147	1,581	89	29	2,455	223	266	53	218	162	42	51	5,316
APPROACH %	8%	87%	5%	1%	91%	8%	50%	10%	41%	64%	16%	20%	
APP/DEPART	1,817	/	1,898	2,707	/	2,835	537	/	171	255	/	412	0
BEGIN PEAK HR		7:15 AM											
VOLUMES	85	772	79	28	1,214	88	114	37	118	130	34	41	2,740
APPROACH %	9%	82%	8%	2%	91%	7%	42%	14%	44%	63%	17%	20%	
PEAK HR FACTOR		0.886			0.955			0.862			0.450		0.911
APP/DEPART	936	/	927	1,330	/	1,462	269	/	144	205	/	207	0
PM 4:00 PM	33	321	0	1	280	37	50	0	31	10	1	2	766
4:15 PM	42	291	1	2	252	41	67	0	30	12	3	1	742
4:30 PM	31	308	1	2	254	34	63	4	37	13	2	4	753
4:45 PM	54	305	2	2	262	51	50	2	32	21	7	8	796
5:00 PM	30	312	0	0	263	40	82	2	40	12	3	2	786
5:15 PM	36	332	1	4	251	42	63	2	33	7	2	0	773
5:30 PM	33	294	3	1	237	41	80	2	31	15	4	1	742
5:45 PM	30	242	7	2	208	56	72	3	29	11	3	0	663
VOLUMES	289	2,405	15	14	2,007	342	527	15	263	101	25	18	6,021
APPROACH %	11%	89%	1%	1%	85%	14%	65%	2%	33%	70%	17%	13%	
APP/DEPART	2,709	/	2,950	2,363	/	2,371	805	/	44	144	/	656	0
BEGIN PEAK HR		4:30 PM											
VOLUMES	151	1,257	4	8	1,030	167	258	10	142	53	14	14	3,108
APPROACH %	11%	89%	0%	1%	85%	14%	63%	2%	35%	65%	17%	17%	
PEAK HR FACTOR		0.957			0.956			0.827			0.563		0.976
APP/DEPART	1,412	/	1,529	1,205	/	1,225	410	/	22	81	/	332	0

U-TURNS

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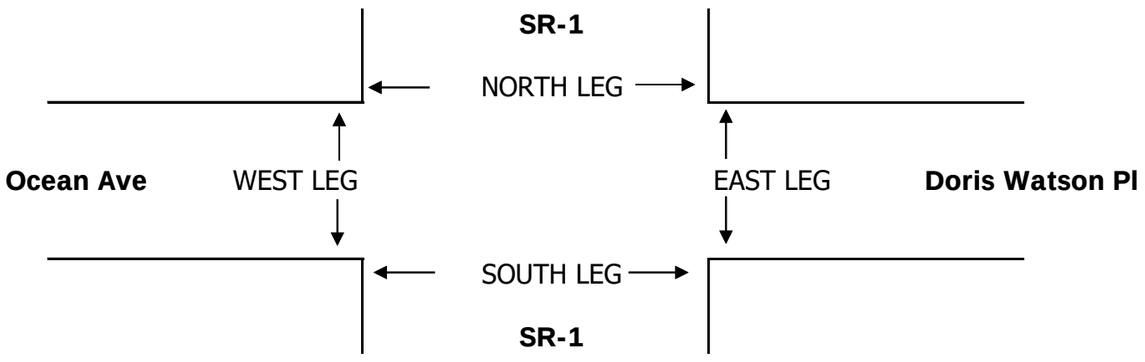
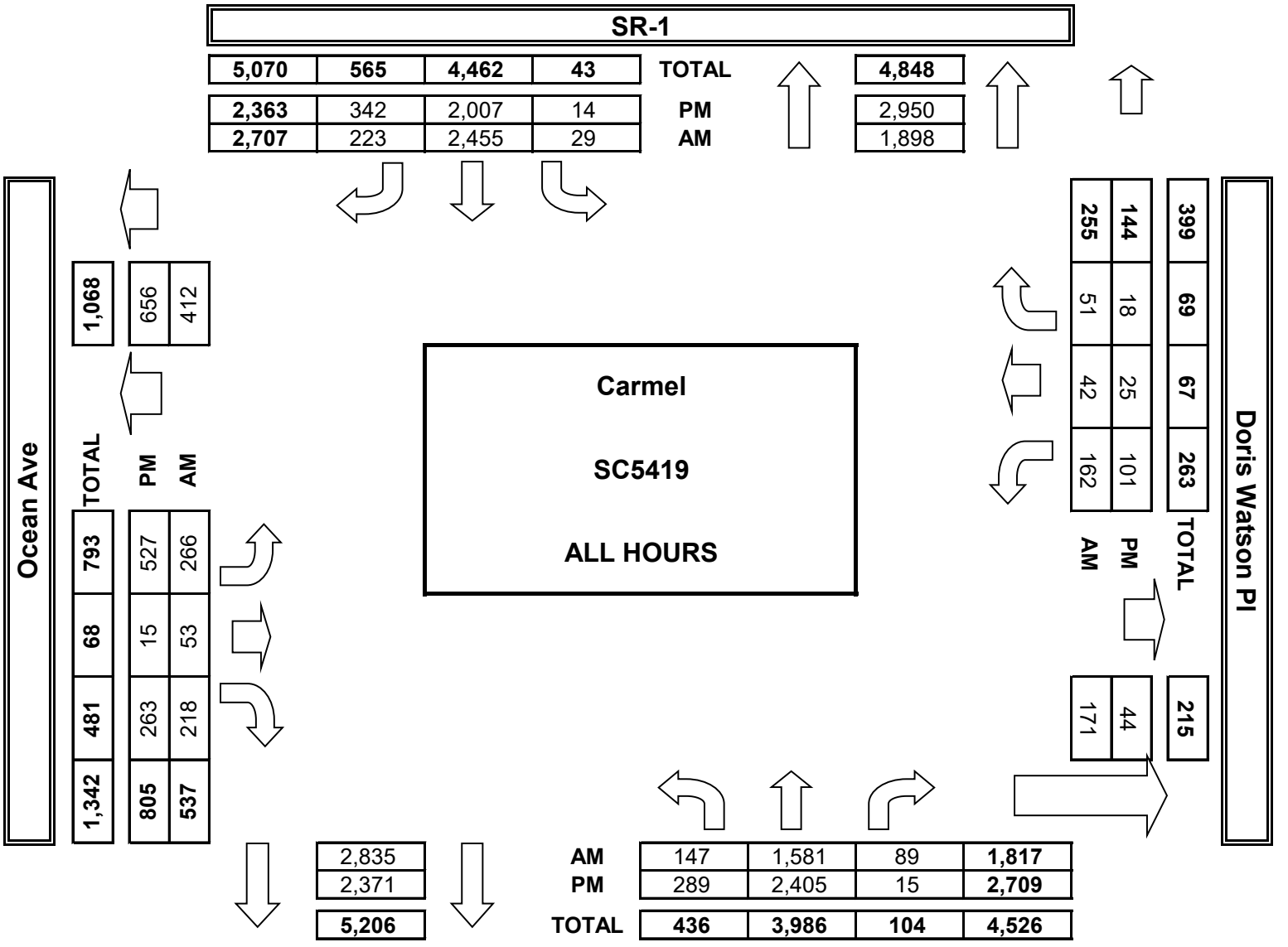
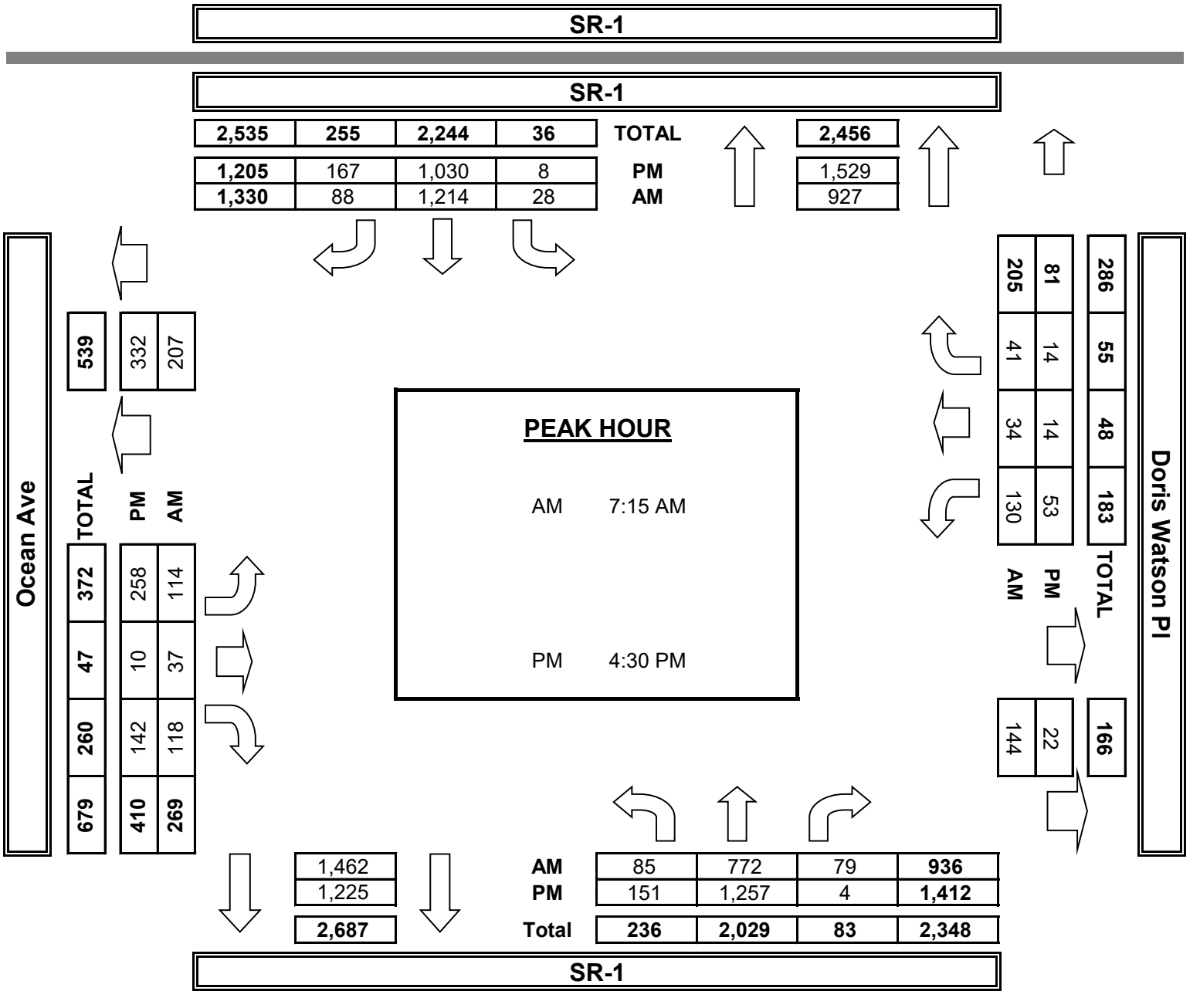


AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T102424

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

DATE: Tue, May 20, 25

LOCATION: Carmel
NORTH & SOUTH: SR-1
EAST & WEST: Rio Rd

PROJECT #: SC5419
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

N ▲ S ▼ W ◄ E ►

		NORTHBOUND SR-1			SOUTHBOUND SR-1			EASTBOUND Rio Rd			WESTBOUND Rio Rd			
	LANES:	NL 1	NT 2	NR 1	SL 2	ST 2	SR 0	EL 1	ET 1.5	ER 0.5	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	2	13	10	51	52	19	19	22	4	23	24	22	261
	7:15 AM	5	24	19	43	55	20	37	25	7	17	21	28	301
	7:30 AM	2	35	15	38	46	20	44	38	3	37	45	34	357
	7:45 AM	8	19	17	58	54	11	24	41	9	28	41	25	335
	8:00 AM	1	34	9	61	68	20	31	32	3	19	33	42	353
	8:15 AM	16	21	16	35	57	23	52	49	10	20	64	36	399
	8:30 AM	15	35	21	45	71	14	60	80	21	13	58	39	472
	8:45 AM	5	31	33	73	56	15	36	63	11	23	47	31	424
	VOLUMES	54	212	140	404	459	142	303	350	68	180	333	257	2,908
	APPROACH %	13%	52%	34%	40%	46%	14%	42%	49%	9%	23%	43%	33%	
	APP/DEPART	406	/	772	1,005	/	707	721	/	900	776	/	529	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	37	121	79	214	252	72	179	224	45	75	202	148	1,653
	APPROACH %	16%	51%	33%	40%	47%	13%	40%	50%	10%	17%	47%	34%	
	PEAK HR FACTOR		0.835			0.903			0.696			0.888		0.872
	APP/DEPART	237	/	448	538	/	372	448	/	522	430	/	311	0
PM	4:00 PM	23	94	45	46	48	13	52	68	24	26	83	51	573
	4:15 PM	15	78	28	48	41	19	45	74	13	26	102	68	557
	4:30 PM	21	95	30	45	48	18	37	67	19	29	84	81	574
	4:45 PM	22	65	38	47	45	25	42	73	12	21	108	64	562
	5:00 PM	16	79	28	35	49	13	27	53	13	27	82	76	498
	5:15 PM	12	97	22	36	57	23	38	55	11	25	56	72	504
	5:30 PM	15	66	21	37	33	13	44	56	9	28	51	73	446
	5:45 PM	10	64	16	44	44	15	41	55	12	23	49	58	431
	VOLUMES	134	638	228	338	365	139	326	501	113	205	615	543	4,147
	APPROACH %	13%	64%	23%	40%	43%	17%	35%	53%	12%	15%	45%	40%	
	APP/DEPART	1,000	/	1,507	842	/	683	940	/	1,069	1,365	/	888	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	81	332	141	186	182	75	176	282	68	102	377	264	2,266
	APPROACH %	15%	60%	25%	42%	41%	17%	33%	54%	13%	14%	51%	36%	
	PEAK HR FACTOR		0.855			0.947			0.913			0.948		0.987
	APP/DEPART	554	/	772	443	/	352	526	/	609	743	/	533	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	2	2
0	0	0	1	1
0	0	0	6	6
0	0	0	5	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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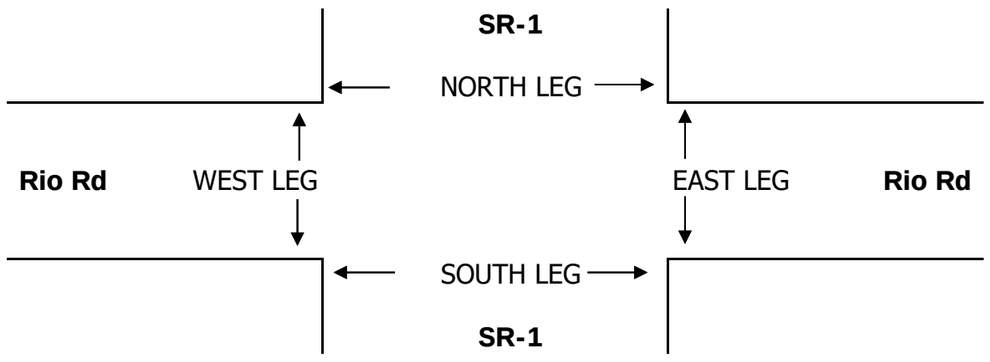
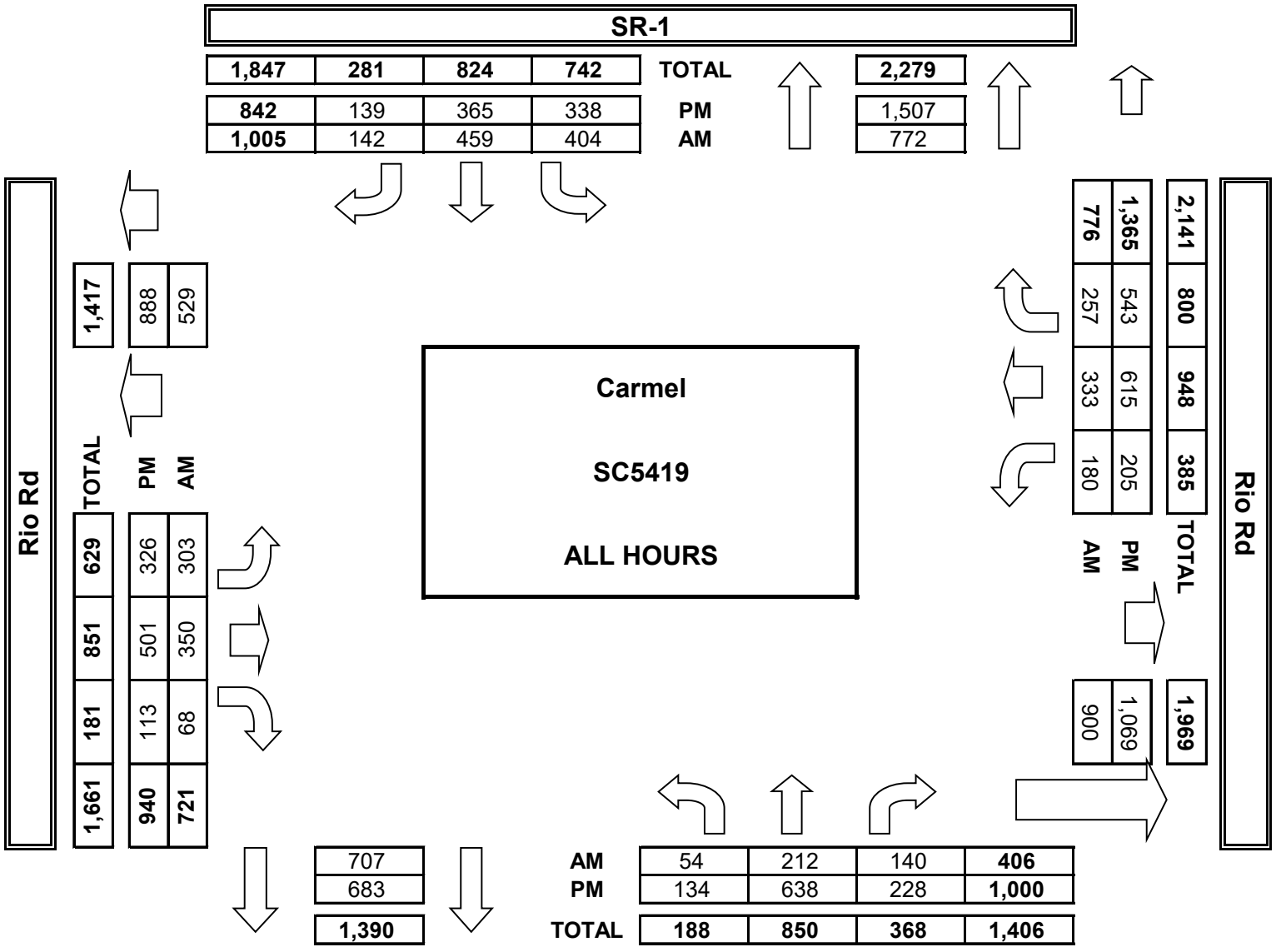
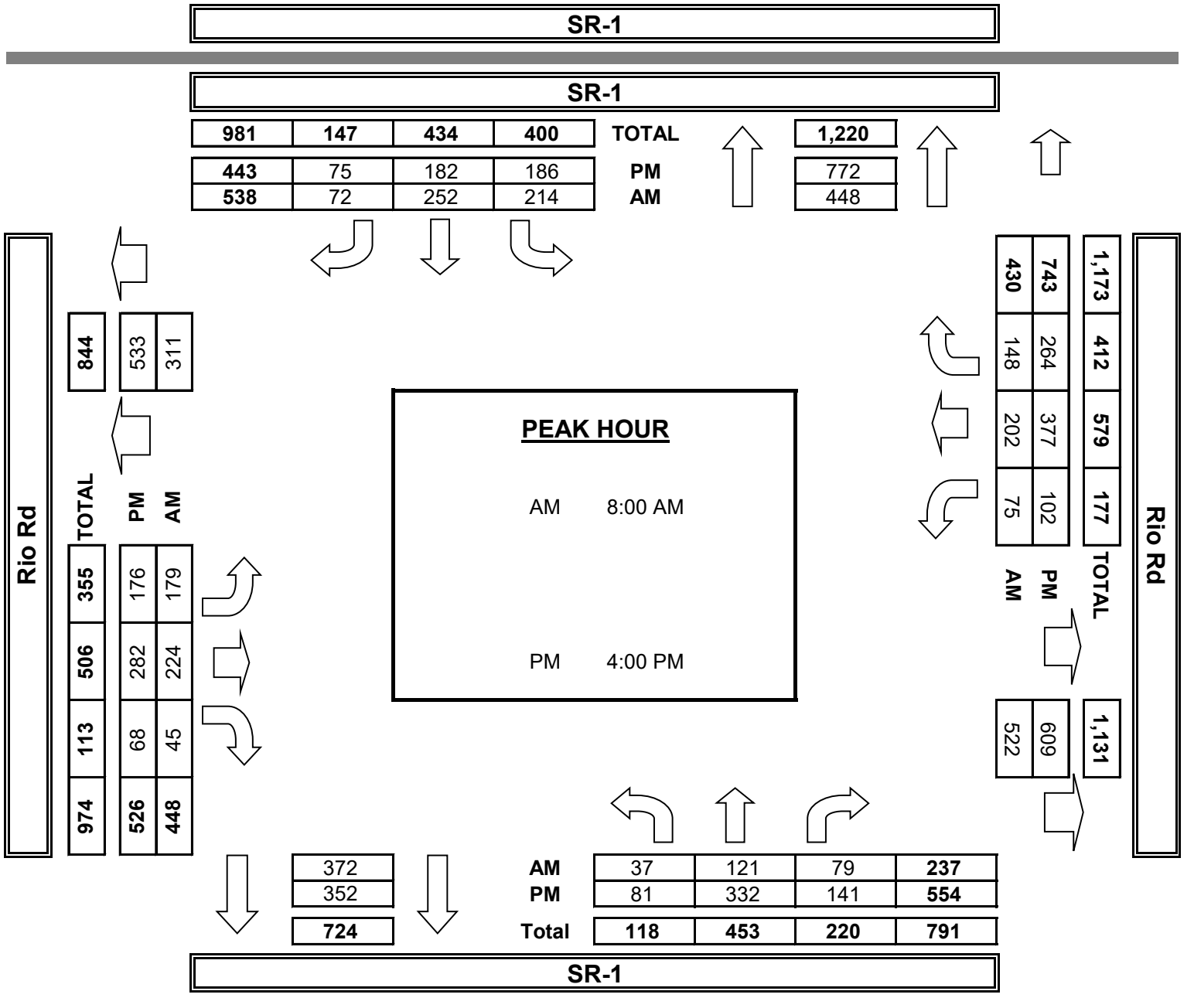
0	0	0	1	1
0	0	0	2	2
0	0	0	0	



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T112224

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

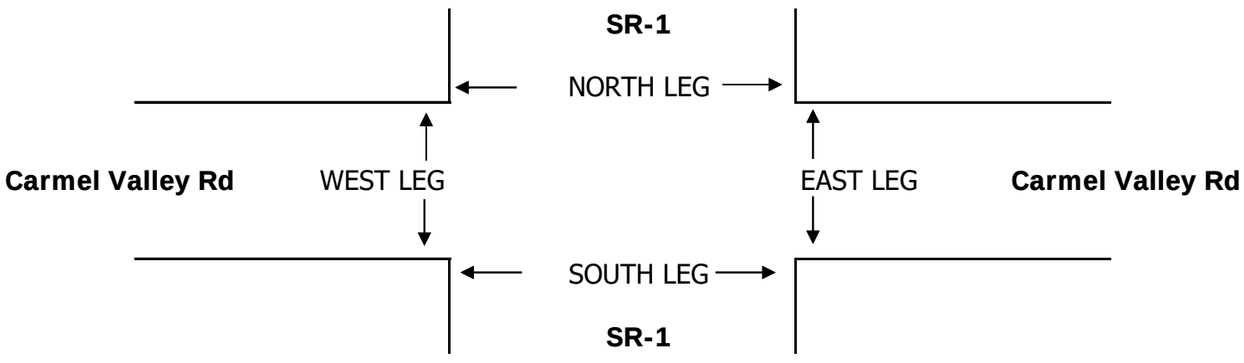
DATE:				
Tue, May 20, 25	LOCATION:	Carmel	PROJECT #:	SC5419
	NORTH & SOUTH:	SR-1	LOCATION #:	4
	EAST & WEST:	Carmel Valley Rd	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

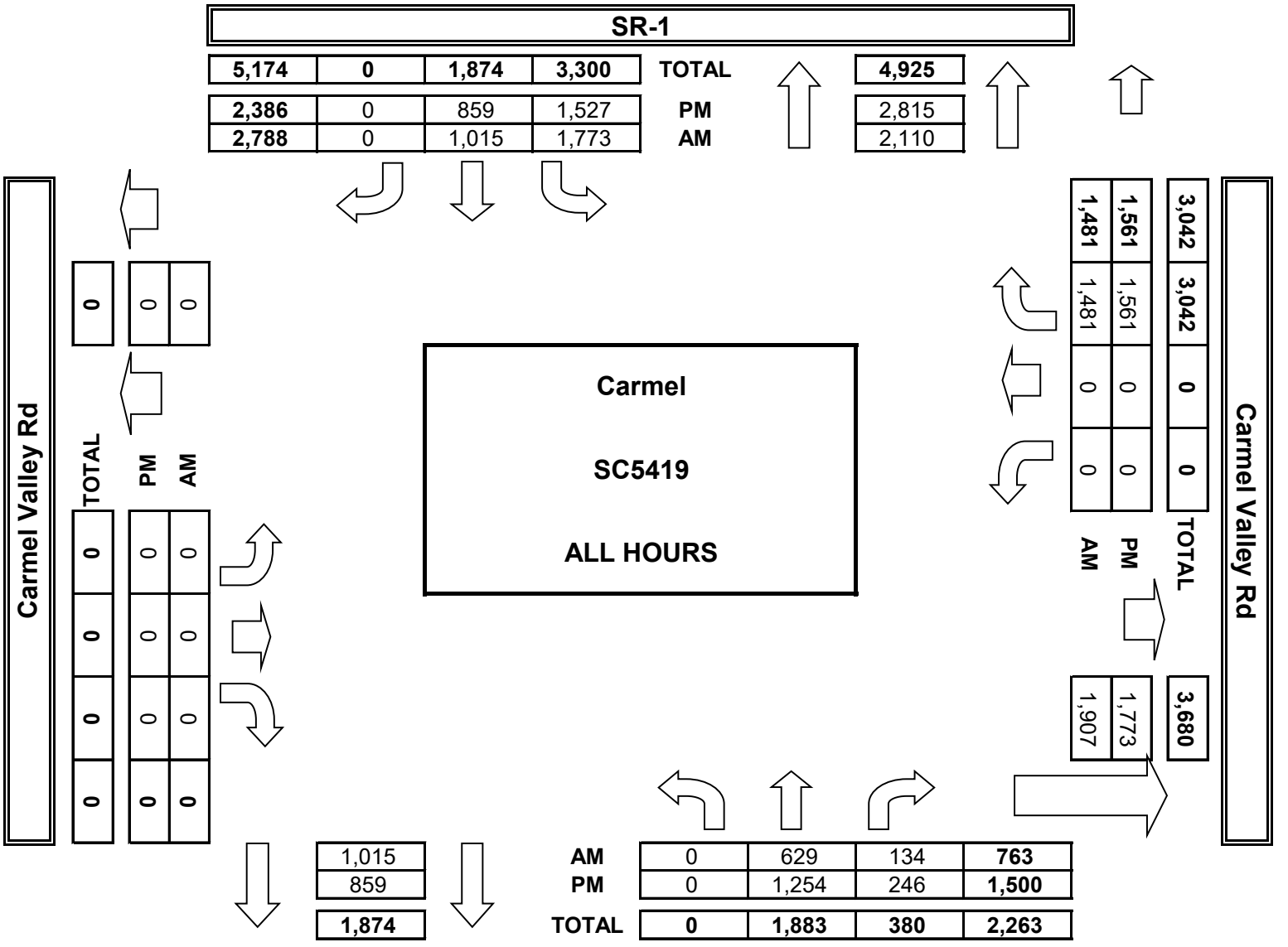
▲ N ◄ W E ► S ▼

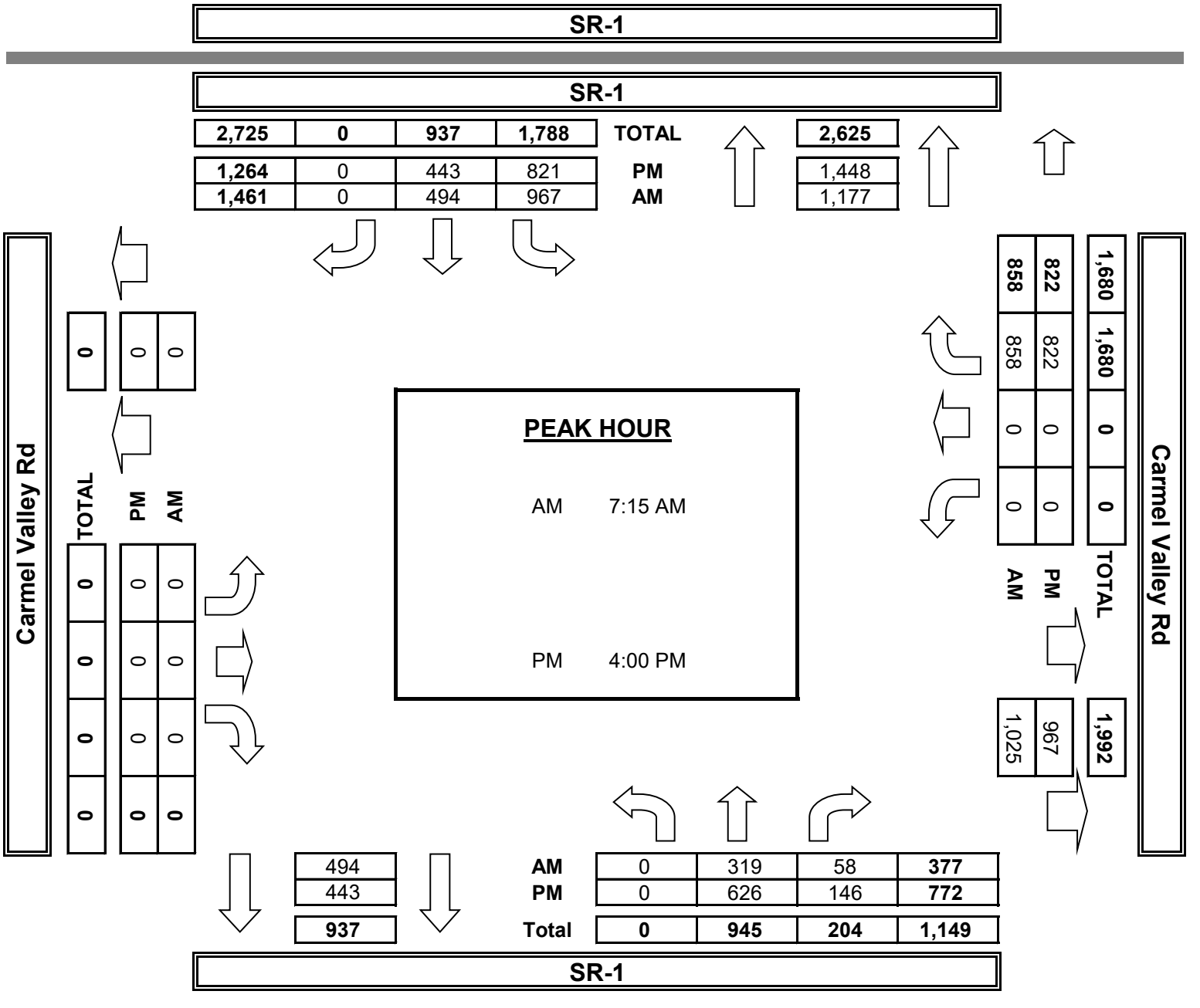
	NORTHBOUND SR-1			SOUTHBOUND SR-1			EASTBOUND Carmel Valley Rd			WESTBOUND Carmel Valley Rd				U-TURNS				
LANES:	NL X	NT 2	NR 0	SL 2	ST 1	SR X	EL X	ET X	ER X	WL X	WT X	WR 2	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM 7:00 AM	0	49	5	166	122	0	0	0	0	0	0	94	436	0	0	0	0	0
7:15 AM	0	78	11	222	118	0	0	0	0	0	0	210	639	0	0	0	0	0
7:30 AM	0	97	16	258	104	0	0	0	0	0	0	321	796	0	0	0	0	0
7:45 AM	0	55	13	263	123	0	0	0	0	0	0	186	640	0	0	0	0	0
8:00 AM	0	89	18	224	149	0	0	0	0	0	0	141	621	0	0	0	0	0
8:15 AM	0	84	25	207	125	0	0	0	0	0	0	148	589	0	0	0	0	0
8:30 AM	0	100	25	221	130	0	0	0	0	0	0	184	660	0	0	0	0	0
8:45 AM	0	77	21	212	144	0	0	0	0	0	0	197	651	0	0	0	0	0
VOLUMES	0	629	134	1,773	1,015	0	0	0	0	0	0	1,481	5,032	0	0	0	0	0
APPROACH %	0%	82%	18%	64%	36%	0%	0%	0%	0%	0%	0%	100%						
APP/DEPART	763	/	2,110	2,788	/	1,015	0	/	1,907	1,481	/	0	0					
BEGIN PEAK HR		7:15 AM																
VOLUMES	0	319	58	967	494	0	0	0	0	0	0	858	2,696	0	0	0	0	
APPROACH %	0%	85%	15%	66%	34%	0%	0%	0%	0%	0%	0%	100%						
PEAK HR FACTOR		0.834			0.946			0.000			0.668		0.847					
APP/DEPART	377	/	1,177	1,461	/	494	0	/	1,025	858	/	0	0					
PM 4:00 PM	0	153	44	200	107	0	0	0	0	0	0	236	740	0	0	0	0	0
4:15 PM	0	153	38	208	108	0	0	0	0	0	0	185	692	0	0	0	0	0
4:30 PM	0	183	30	179	111	0	0	0	0	0	0	205	708	0	0	0	0	0
4:45 PM	0	137	34	234	117	0	0	0	0	0	0	196	718	0	0	0	0	0
5:00 PM	0	160	22	202	114	0	0	0	0	0	0	210	708	0	0	0	0	0
5:15 PM	0	182	25	171	116	0	0	0	0	0	0	189	683	0	0	0	0	0
5:30 PM	0	156	27	176	83	0	0	0	0	0	0	164	606	0	0	0	0	0
5:45 PM	0	130	26	157	103	0	0	0	0	0	0	176	592	0	0	0	0	0
VOLUMES	0	1,254	246	1,527	859	0	0	0	0	0	0	1,561	5,447	0	0	0	0	0
APPROACH %	0%	84%	16%	64%	36%	0%	0%	0%	0%	0%	0%	100%						
APP/DEPART	1,500	/	2,815	2,386	/	859	0	/	1,773	1,561	/	0	0					
BEGIN PEAK HR		4:00 PM																
VOLUMES	0	626	146	821	443	0	0	0	0	0	0	822	2,858	0	0	0	0	
APPROACH %	0%	81%	19%	65%	35%	0%	0%	0%	0%	0%	0%	100%						
PEAK HR FACTOR		0.906			0.900			0.000			0.871		0.966					
APP/DEPART	772	/	1,448	1,264	/	443	0	/	967	822	/	0	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T102424

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

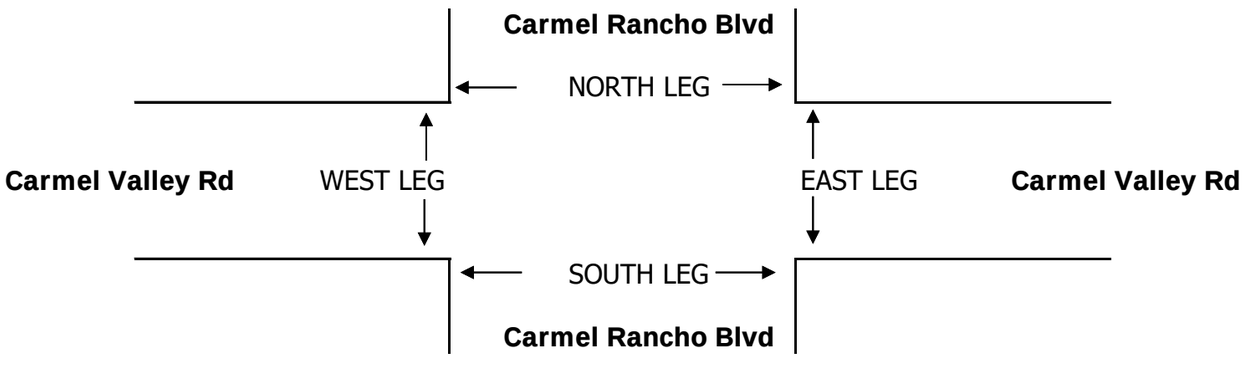
DATE:				
Tue, May 20, 25	LOCATION:	Carmel	PROJECT #:	SC5419
	NORTH & SOUTH:	Carmel Rancho Blvd	LOCATION #:	5
	EAST & WEST:	Carmel Valley Rd	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

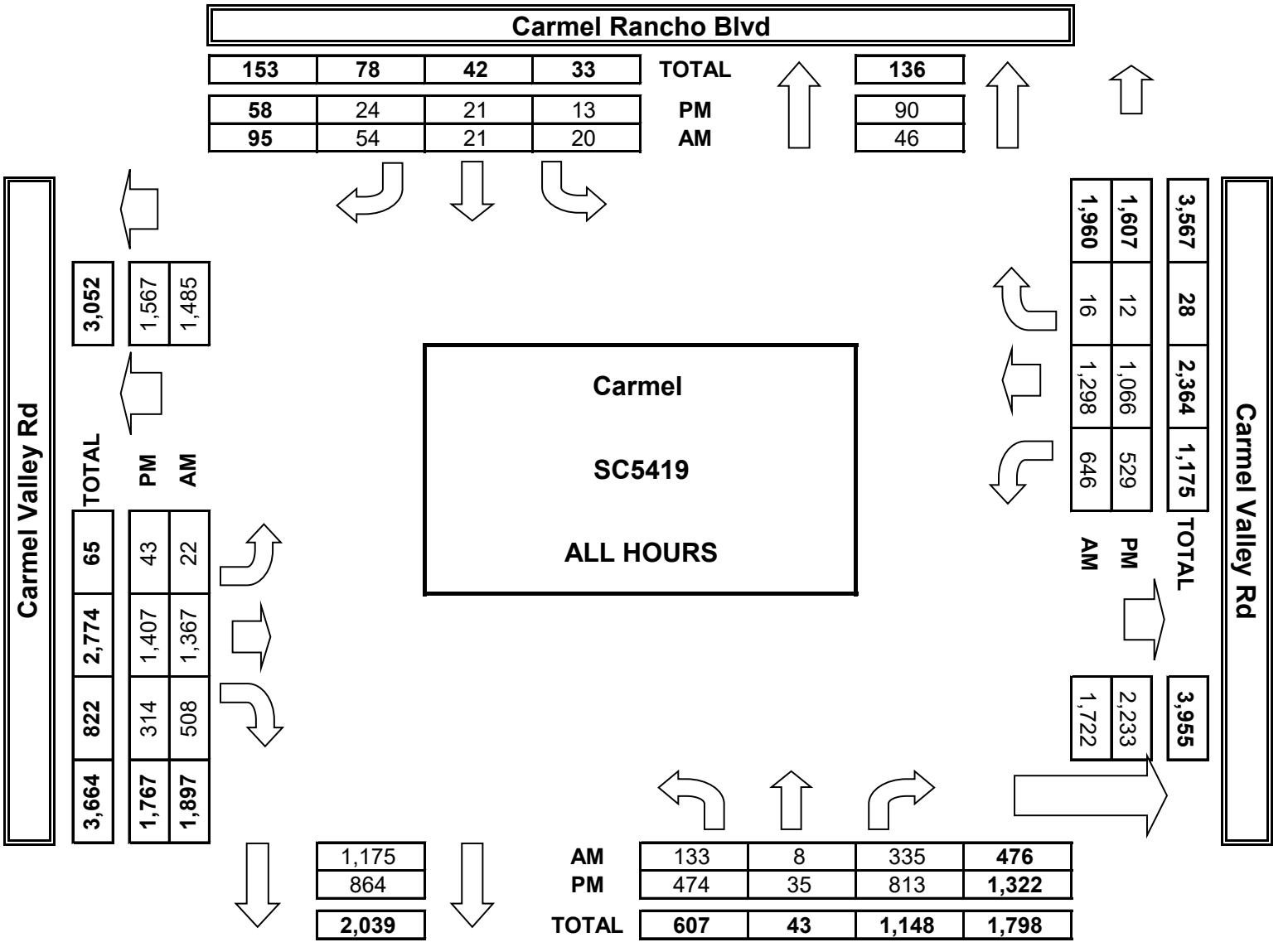
▲ N ◄ W E ► S ▼

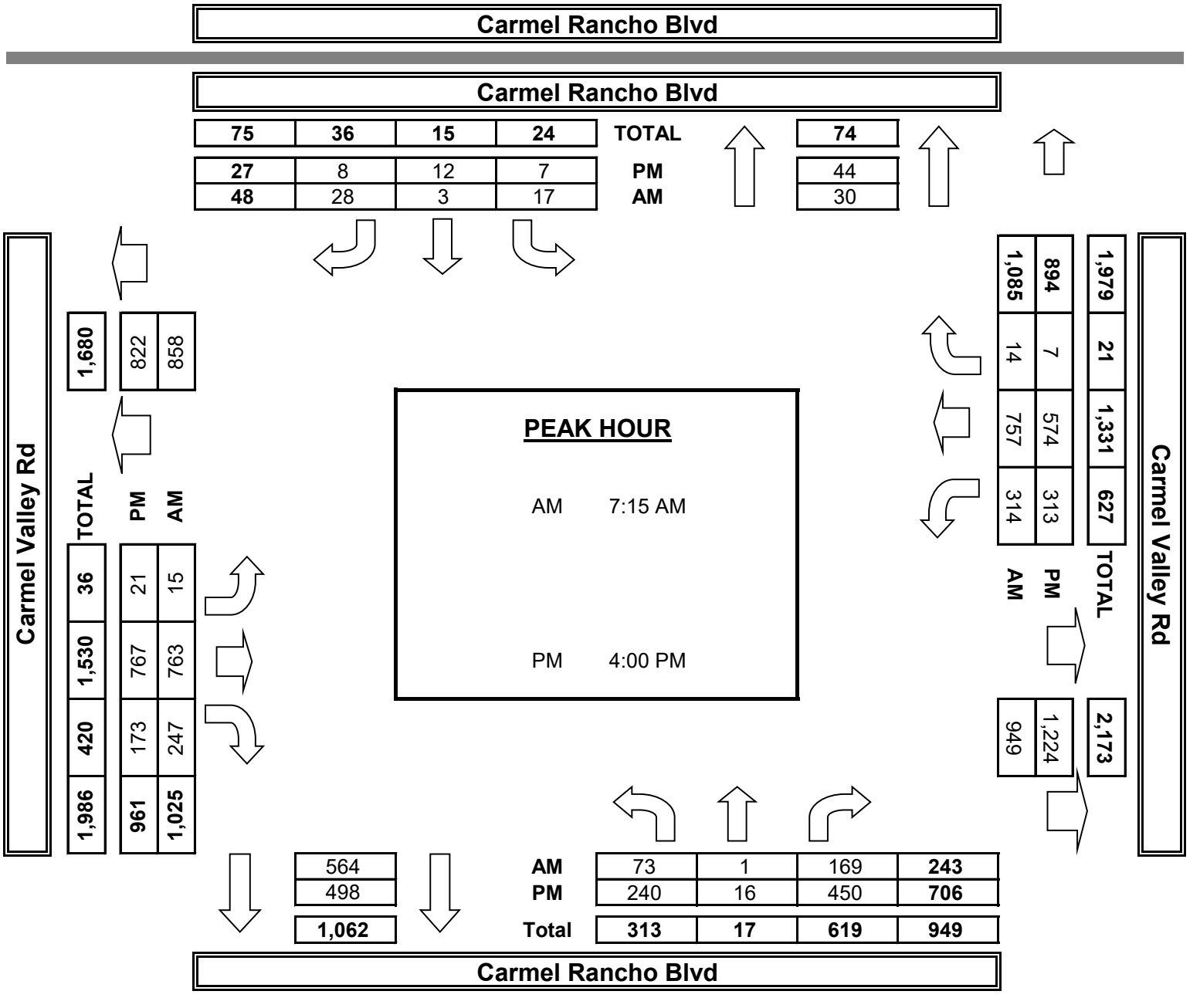
		NORTHBOUND Carmel Rancho Blvd			SOUTHBOUND Carmel Rancho Blvd			EASTBOUND Carmel Valley Rd			WESTBOUND Carmel Valley Rd				U-TURNS				
	LANES:	NL 1.5	NT 0.5	NR 1	SL 0.5	ST 0.5	SR 1	EL 1	ET 2	ER 1	WL 2	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	7	0	27	1	3	5	0	118	43	42	82	0	328	0	0	0	0	0
	7:15 AM	18	1	41	4	1	5	2	175	56	59	187	3	552	0	0	0	0	0
	7:30 AM	19	0	61	7	0	14	8	213	53	102	288	6	771	0	0	0	0	0
	7:45 AM	20	0	36	4	1	4	2	206	68	81	162	1	585	0	0	0	0	0
	8:00 AM	16	0	31	2	1	5	3	169	70	72	120	4	493	0	0	0	0	0
	8:15 AM	17	2	48	0	6	9	2	157	73	93	122	1	530	0	0	0	0	0
	8:30 AM	16	2	42	0	5	8	1	170	75	70	160	0	549	0	0	0	0	0
	8:45 AM	20	3	49	2	4	4	4	159	70	127	177	1	620	0	0	0	0	0
	VOLUMES	133	8	335	20	21	54	22	1,367	508	646	1,298	16	4,428	0	0	0	0	0
	APPROACH %	28%	2%	70%	21%	22%	57%	1%	72%	27%	33%	66%	1%						
	APP/DEPART	476	/	46	95	/	1,175	1,897	/	1,722	1,960	/	1,485	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	73	1	169	17	3	28	15	763	247	314	757	14	2,401	0	0	0	0	
	APPROACH %	30%	0%	70%	35%	6%	58%	1%	74%	24%	29%	70%	1%						
	PEAK HR FACTOR		0.759			0.571			0.928			0.685		0.779					
	APP/DEPART	243	/	30	48	/	564	1,025	/	949	1,085	/	858	0					
PM	4:00 PM	76	8	109	2	2	1	5	184	55	75	159	2	678	0	0	0	0	0
	4:15 PM	50	0	108	0	4	1	4	194	48	79	134	1	623	0	0	0	0	0
	4:30 PM	54	5	111	0	4	5	5	165	33	96	146	1	625	0	0	0	0	0
	4:45 PM	60	3	122	5	2	1	7	224	37	63	135	3	662	0	0	0	0	0
	5:00 PM	94	6	104	2	1	4	7	176	41	92	118	1	646	0	0	0	0	0
	5:15 PM	57	4	98	2	3	3	4	157	35	38	129	1	531	0	0	0	0	0
	5:30 PM	49	5	104	1	4	4	5	161	36	48	110	1	528	0	0	1	0	1
	5:45 PM	34	4	57	1	1	5	6	146	29	38	135	2	458	0	0	2	0	2
	VOLUMES	474	35	813	13	21	24	43	1,407	314	529	1,066	12	4,754	0	0	3	0	3
	APPROACH %	36%	3%	61%	22%	36%	41%	2%	80%	18%	33%	66%	1%						
	APP/DEPART	1,322	/	90	58	/	864	1,767	/	2,233	1,607	/	1,567	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	240	16	450	7	12	8	21	767	173	313	574	7	2,588	0	0	0	0	
	APPROACH %	34%	2%	64%	26%	44%	30%	2%	80%	18%	35%	64%	1%						
	PEAK HR FACTOR		0.915			0.750			0.896			0.920		0.954					
	APP/DEPART	706	/	44	27	/	498	961	/	1,224	894	/	822	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T112224

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

DATE: Tue, May 20, 25

LOCATION: Carmel
NORTH & SOUTH: Carmel Rancho Blvd
EAST & WEST: Rio Rd

PROJECT #: SC5419
LOCATION #: 6
CONTROL: STOP ALL

NOTES:

AM PM MD OTHER OTHER

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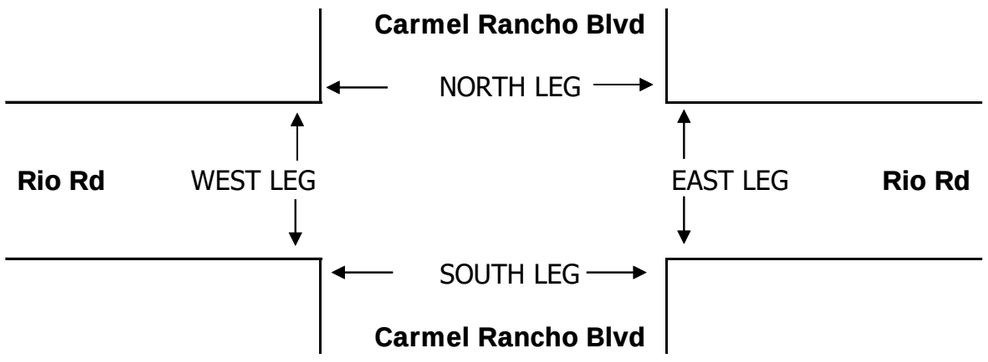
S ▼

		NORTHBOUND Carmel Rancho Blvd			SOUTHBOUND Carmel Rancho Blvd			EASTBOUND Rio Rd			WESTBOUND Rio Rd			
	LANES:	NL X	NT X	NR X	SL 1	ST X	SR 1	EL 2	ET 1	ER X	WL X	WT 1	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	36	25	1	0	0	1	3	66
	7:15 AM	0	0	0	0	0	44	38	4	0	0	3	0	89
	7:30 AM	0	0	0	3	0	90	44	5	0	0	6	6	154
	7:45 AM	0	0	0	9	0	59	36	5	0	0	0	2	111
	8:00 AM	0	0	0	3	0	51	30	6	0	0	0	4	94
	8:15 AM	0	0	0	3	0	84	32	4	0	0	8	2	133
	8:30 AM	0	0	0	2	0	57	43	6	0	0	3	4	115
	8:45 AM	0	0	0	1	0	95	47	1	0	0	1	3	148
	VOLUMES	0	0	0	21	0	516	295	32	0	0	22	24	914
	APPROACH %	0%	0%	0%	4%	0%	96%	90%	10%	0%	0%	47%	51%	
	APP/DEPART	0	/	321	539	/	0	328	/	54	47	/	539	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	0	0	9	0	287	152	17	0	0	12	13	494
	APPROACH %	0%	0%	0%	3%	0%	96%	89%	10%	0%	0%	46%	50%	
	PEAK HR FACTOR		0.000			0.768			0.867			0.542		0.802
	APP/DEPART	0	/	167	298	/	0	170	/	27	26	/	300	0
PM	4:00 PM	0	0	0	5	0	94	90	6	0	0	5	5	205
	4:15 PM	0	0	0	8	0	98	71	5	0	0	4	3	189
	4:30 PM	0	0	0	3	0	92	96	2	0	0	1	7	201
	4:45 PM	0	0	0	4	0	89	85	4	0	0	3	5	190
	5:00 PM	0	0	0	3	0	90	72	2	0	0	6	5	178
	5:15 PM	0	0	0	3	0	45	86	4	0	0	5	5	148
	5:30 PM	0	0	0	6	0	45	54	1	0	0	4	4	114
	5:45 PM	0	0	0	1	0	57	59	3	0	0	5	6	131
	VOLUMES	0	0	0	33	0	610	613	27	0	0	33	40	1,361
	APPROACH %	0%	0%	0%	5%	0%	94%	96%	4%	0%	0%	45%	55%	
	APP/DEPART	0	/	658	648	/	0	640	/	60	73	/	643	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	20	0	373	342	17	0	0	13	20	785
	APPROACH %	0%	0%	0%	5%	0%	95%	95%	5%	0%	0%	39%	61%	
	PEAK HR FACTOR		0.000			0.927			0.916			0.825		0.957
	APP/DEPART	0	/	362	393	/	0	359	/	37	33	/	386	0

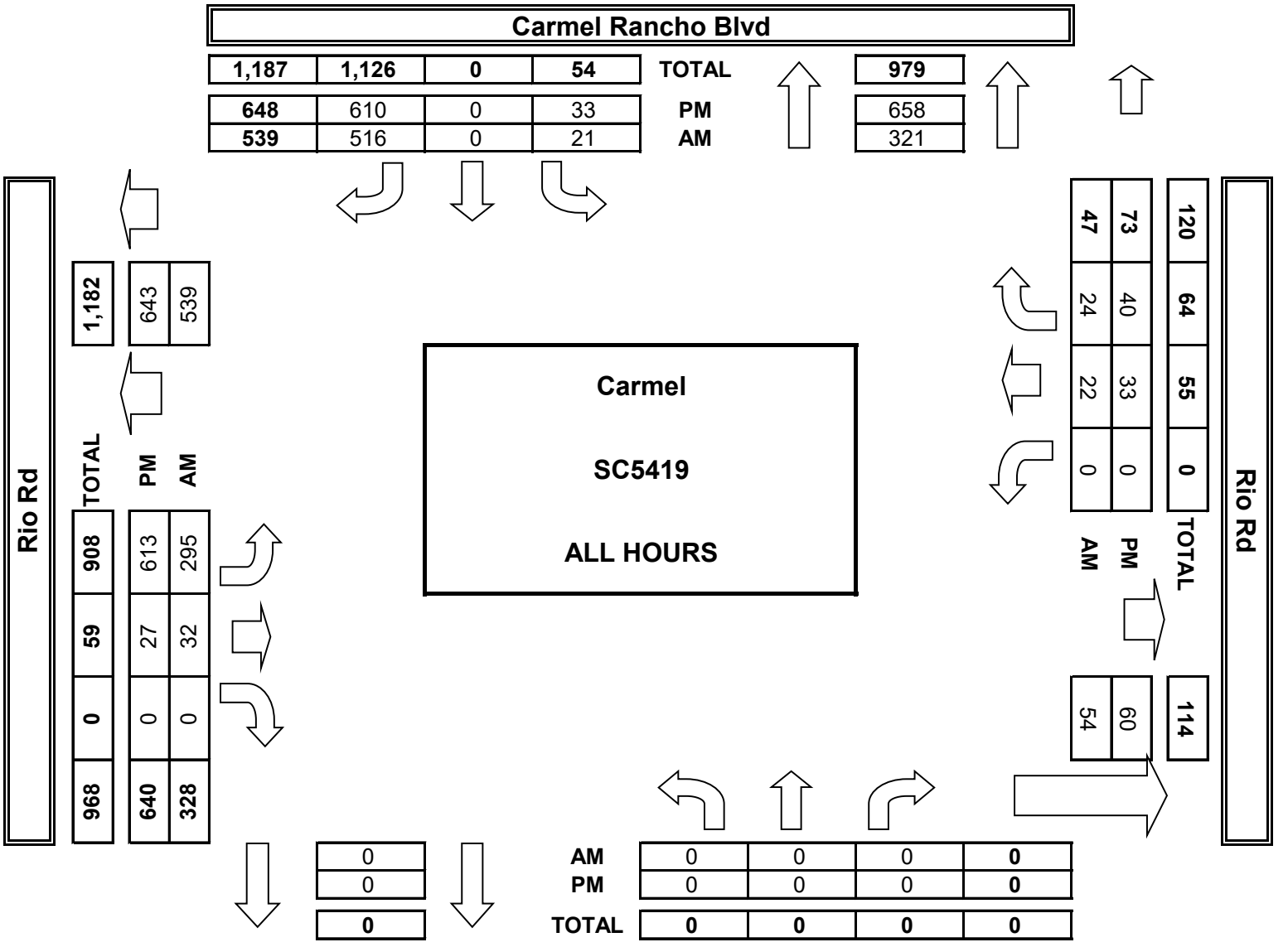
U-TURNS

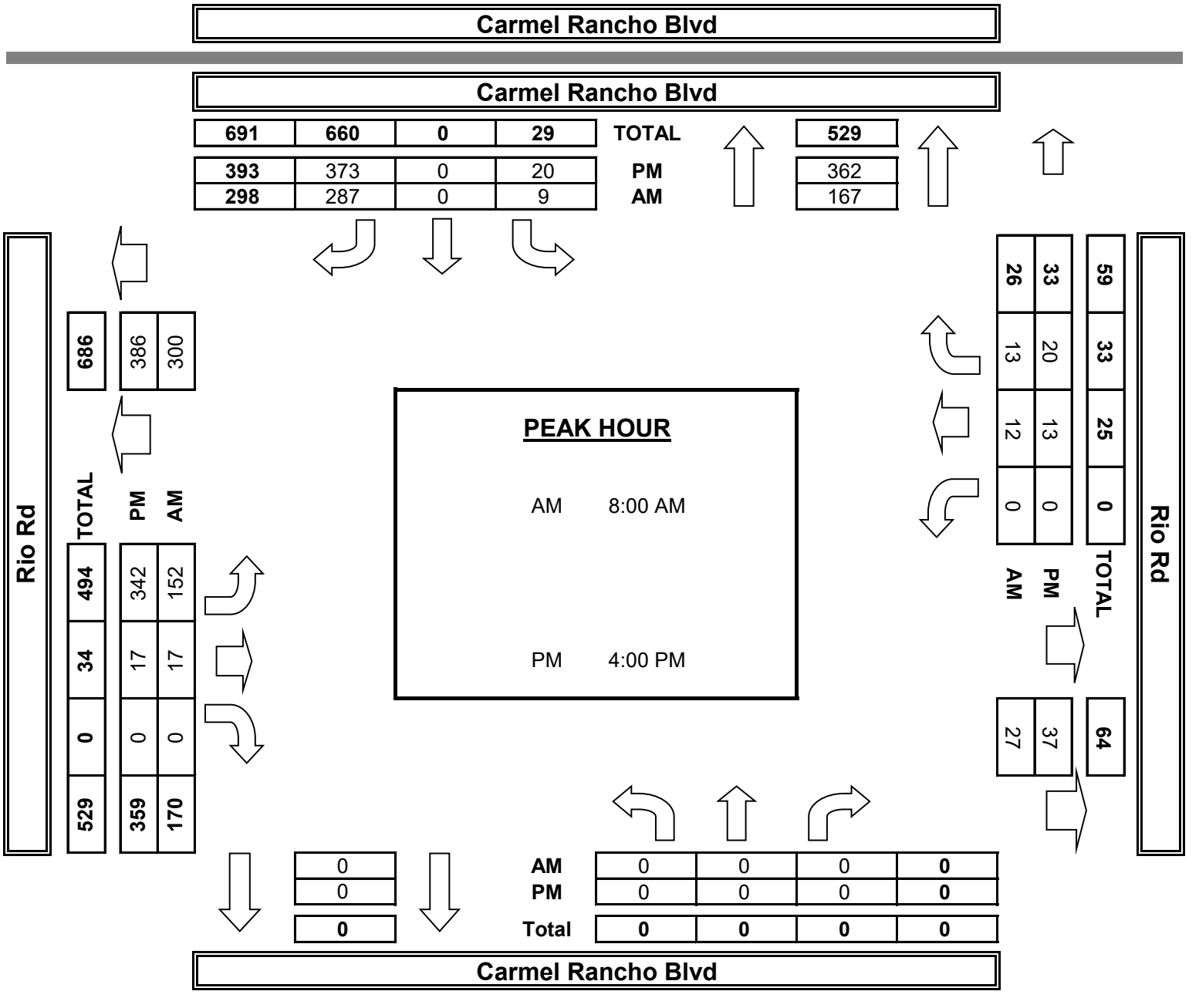
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	1	1
0	1	0	0	1
0	1	0	0	1
0	2	1	1	4
0	2	1	1	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2
0	5	0	0	5
0	0	0	0	



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T102424

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

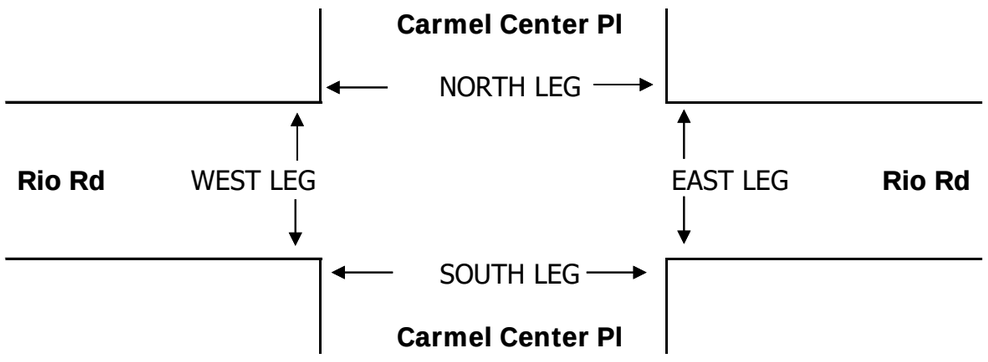
DATE:				
Tue, May 20, 25	LOCATION:	Carmel	PROJECT #:	SC5419
	NORTH & SOUTH:	Carmel Center Pl	LOCATION #:	7
	EAST & WEST:	Rio Rd	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

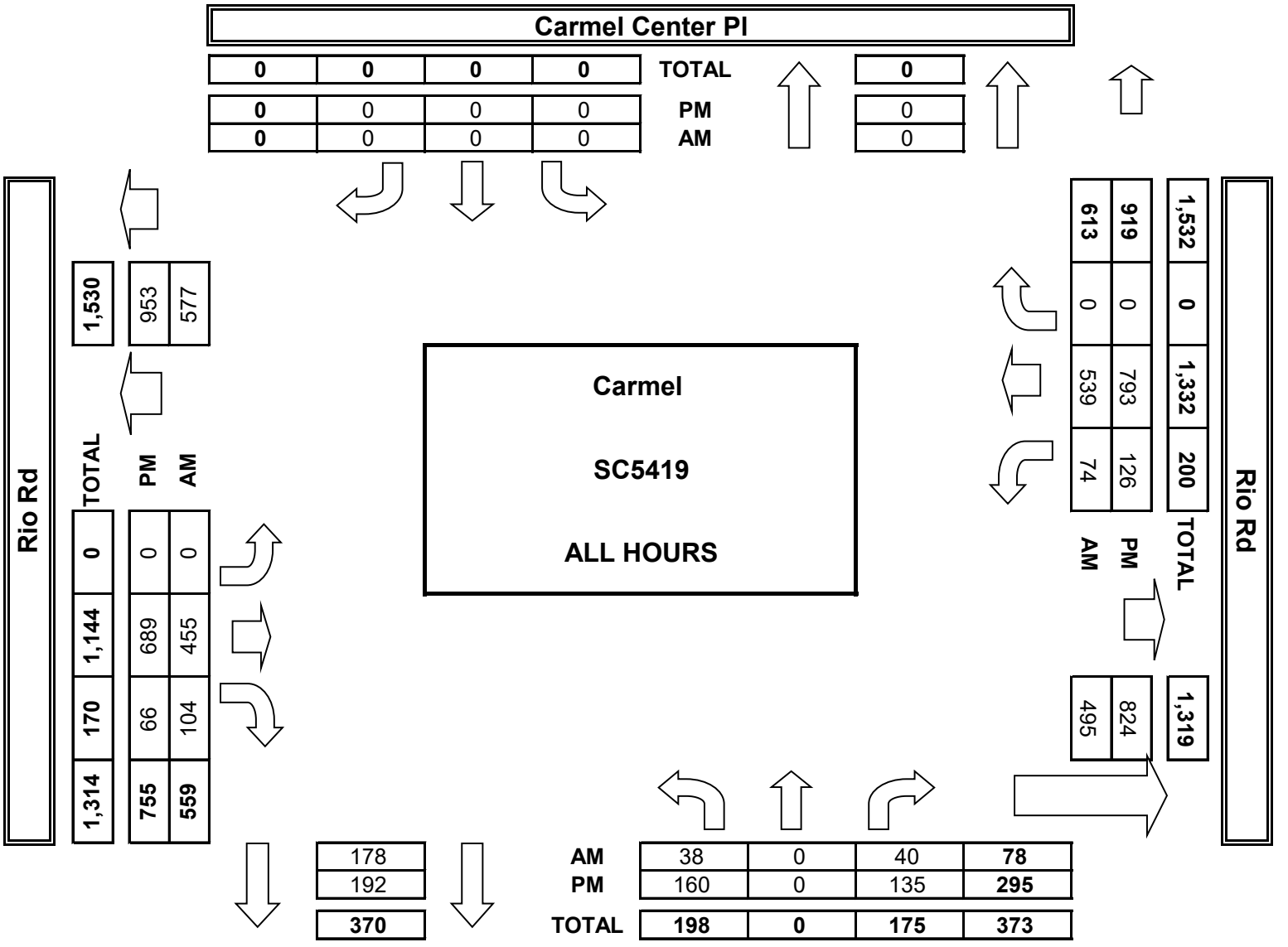
▲ N
◄ W E ►
S ▼

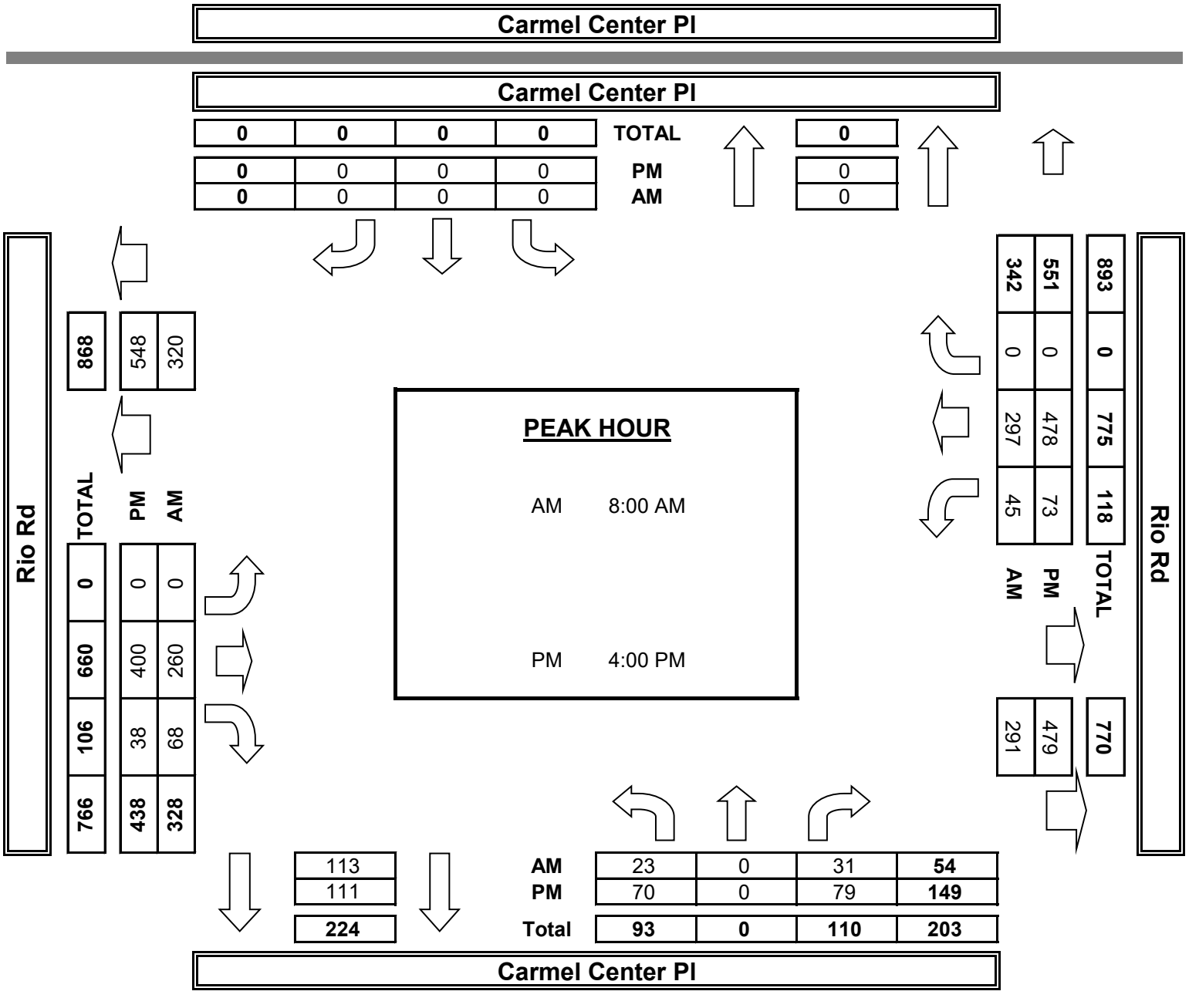
	NORTHBOUND Carmel Center Pl			SOUTHBOUND Carmel Center Pl			EASTBOUND Rio Rd			WESTBOUND Rio Rd				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1	X	1	X	X	X	X	2	0	1	2	X		0	0	0	0	
AM 7:00 AM	5	0	1	0	0	0	0	35	10	5	35	0	91	0	0	0	0	0
7:15 AM	3	0	2	0	0	0	0	50	8	3	45	0	111	0	0	0	0	0
7:30 AM	4	0	1	0	0	0	0	50	3	14	97	0	169	0	0	0	0	0
7:45 AM	3	0	5	0	0	0	0	60	15	7	65	0	155	0	0	0	0	0
8:00 AM	11	0	11	0	0	0	0	39	17	11	47	0	136	0	0	0	0	0
8:15 AM	6	0	7	0	0	0	0	51	5	6	102	0	177	0	0	0	0	0
8:30 AM	3	0	7	0	0	0	0	77	21	6	67	0	181	0	0	0	0	0
8:45 AM	3	0	6	0	0	0	0	93	25	22	81	0	230	0	0	0	0	0
VOLUMES	38	0	40	0	0	0	0	455	104	74	539	0	1,250	0	0	0	0	0
APPROACH %	49%	0%	51%	0%	0%	0%	0%	81%	19%	12%	88%	0%						
APP/DEPART	78	/	0	0	/	178	559	/	495	613	/	577	0					
BEGIN PEAK HR		8:00 AM																
VOLUMES	23	0	31	0	0	0	0	260	68	45	297	0	724	0	0	0	0	
APPROACH %	43%	0%	57%	0%	0%	0%	0%	79%	21%	13%	87%	0%						
PEAK HR FACTOR		0.614			0.000			0.695			0.792		0.787					
APP/DEPART	54	/	0	0	/	113	328	/	291	342	/	320	0					
PM 4:00 PM	18	0	22	0	0	0	0	101	8	22	119	0	290	0	0	0	0	0
4:15 PM	22	0	14	0	0	0	0	92	14	18	126	0	286	0	0	0	0	0
4:30 PM	16	0	26	0	0	0	0	102	9	21	120	0	294	0	0	0	0	0
4:45 PM	14	0	17	0	0	0	0	105	7	12	113	0	268	0	0	0	0	0
5:00 PM	29	0	18	0	0	0	0	72	8	14	115	0	256	0	0	0	0	0
5:15 PM	21	0	18	0	0	0	0	83	9	12	66	0	209	0	0	0	0	0
5:30 PM	19	0	8	0	0	0	0	62	6	13	68	0	176	0	0	0	0	0
5:45 PM	21	0	12	0	0	0	0	72	5	14	66	0	190	0	0	0	0	0
VOLUMES	160	0	135	0	0	0	0	689	66	126	793	0	1,969	0	0	0	0	0
APPROACH %	54%	0%	46%	0%	0%	0%	0%	91%	9%	14%	86%	0%						
APP/DEPART	295	/	0	0	/	192	755	/	824	919	/	953	0					
BEGIN PEAK HR		4:00 PM																
VOLUMES	70	0	79	0	0	0	0	400	38	73	478	0	1,138	0	0	0	0	
APPROACH %	47%	0%	53%	0%	0%	0%	0%	91%	9%	13%	87%	0%						
PEAK HR FACTOR		0.887			0.000			0.978			0.957		0.968					
APP/DEPART	149	/	0	0	/	111	438	/	479	551	/	548	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T102424

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

DATE: Tue, May 20, 25

LOCATION: Carmel
NORTH & SOUTH: Crossroads Driveway
EAST & WEST: Rio Rd

PROJECT #: SC5419
LOCATION #: 8
CONTROL: SIGNAL

NOTES:

AM PM MD OTHER OTHER

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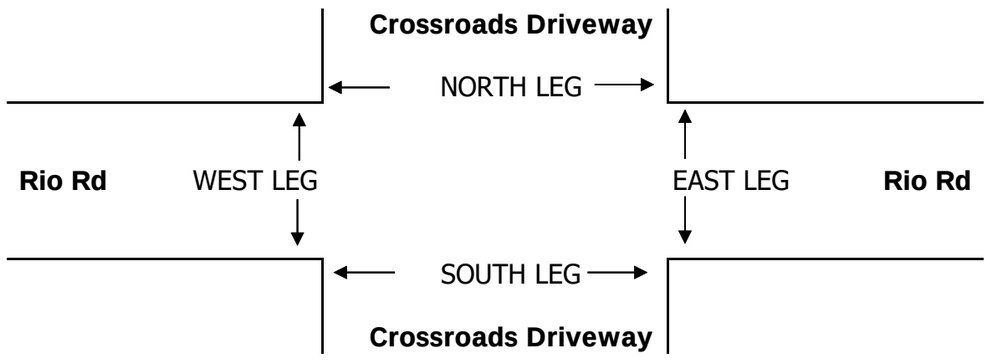
		NORTHBOUND Crossroads Driveway			SOUTHBOUND Crossroads Driveway			EASTBOUND Rio Rd			WESTBOUND Rio Rd				U-TURNS				
	LANES:	NL 2	NT X	NR 1	SL X	ST X	SR X	EL X	ET 3	ER 0	WL 1	WT 2	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	22	0	7	0	0	0	0	38	9	6	34	0	116	0	0	16	0	16
	7:15 AM	21	0	9	0	0	0	0	49	6	16	32	0	133	0	0	12	0	12
	7:30 AM	28	0	10	0	0	0	0	43	18	19	80	0	198	0	0	12	0	12
	7:45 AM	29	0	11	0	0	0	0	64	16	21	47	0	188	0	0	15	0	15
	8:00 AM	37	0	6	0	0	0	0	55	8	11	47	0	164	0	0	20	0	20
	8:15 AM	27	0	6	0	0	0	0	50	20	26	82	0	211	0	0	9	0	9
	8:30 AM	38	0	4	0	0	0	0	94	16	22	48	0	222	0	0	15	0	15
	8:45 AM	37	0	19	0	0	0	0	99	24	28	56	0	263	0	0	17	0	17
	VOLUMES	239	0	72	0	0	0	0	492	117	149	426	0	1,611	0	0	116	0	116
	APPROACH %	77%	0%	23%	0%	0%	0%	0%	68%	16%	26%	74%	0%						
	APP/DEPART	311	/	0	0	/	266	725	/	564	575	/	781	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	139	0	35	0	0	0	0	298	68	87	233	0	921	0	0	61	0	
	APPROACH %	80%	0%	20%	0%	0%	0%	0%	70%	16%	27%	73%	0%						
	PEAK HR FACTOR		0.777			0.000			0.763			0.741		0.822					
	APP/DEPART	174	/	0	0	/	155	427	/	333	320	/	433	0					
PM	4:00 PM	51	0	32	0	0	0	0	77	38	33	100	0	331	0	0	17	0	17
	4:15 PM	72	0	22	0	0	0	0	84	27	30	118	0	353	0	0	10	0	10
	4:30 PM	73	0	34	0	0	0	0	77	25	29	107	0	345	0	0	9	0	9
	4:45 PM	68	0	33	0	0	0	0	79	29	24	103	0	336	0	0	17	0	17
	5:00 PM	61	0	30	0	0	0	0	53	21	27	117	0	309	0	0	23	0	23
	5:15 PM	65	0	38	0	0	0	0	54	20	18	69	0	264	0	0	11	0	11
	5:30 PM	69	0	23	0	0	0	0	45	26	13	74	0	250	0	0	13	0	13
	5:45 PM	46	0	26	0	0	0	0	51	23	14	73	0	233	0	0	12	0	12
	VOLUMES	505	0	238	0	0	0	0	520	209	188	761	0	2,533	0	0	112	0	112
	APPROACH %	68%	0%	32%	0%	0%	0%	0%	62%	25%	20%	80%	0%						
	APP/DEPART	743	/	0	0	/	397	841	/	758	949	/	1,378	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	264	0	121	0	0	0	0	317	119	116	428	0	1,418	0	0	53	0	
	APPROACH %	69%	0%	31%	0%	0%	0%	0%	65%	24%	21%	79%	0%						
	PEAK HR FACTOR		0.900			0.000			0.926			0.919		0.977					
	APP/DEPART	385	/	0	0	/	235	489	/	438	544	/	745	0					



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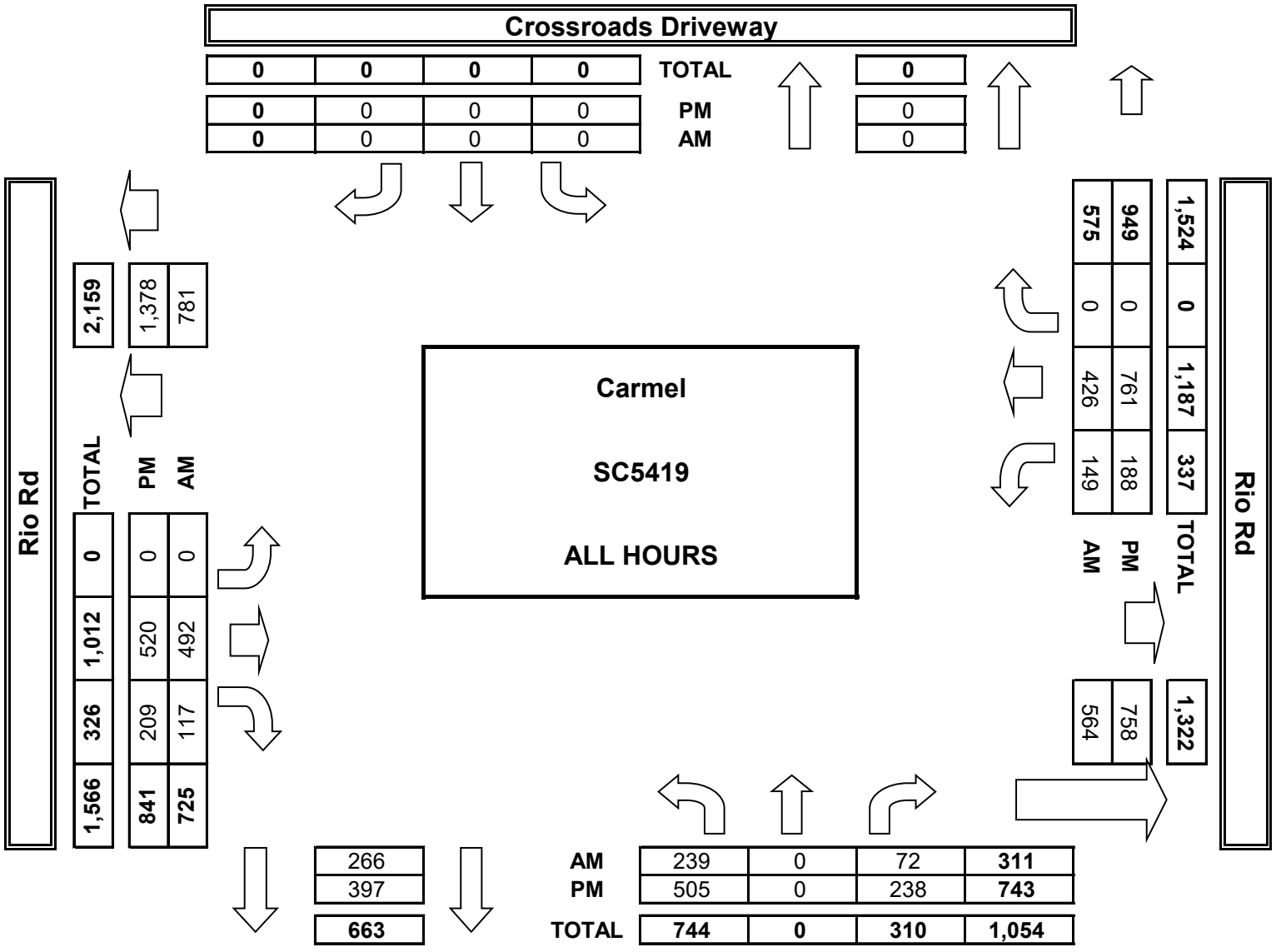
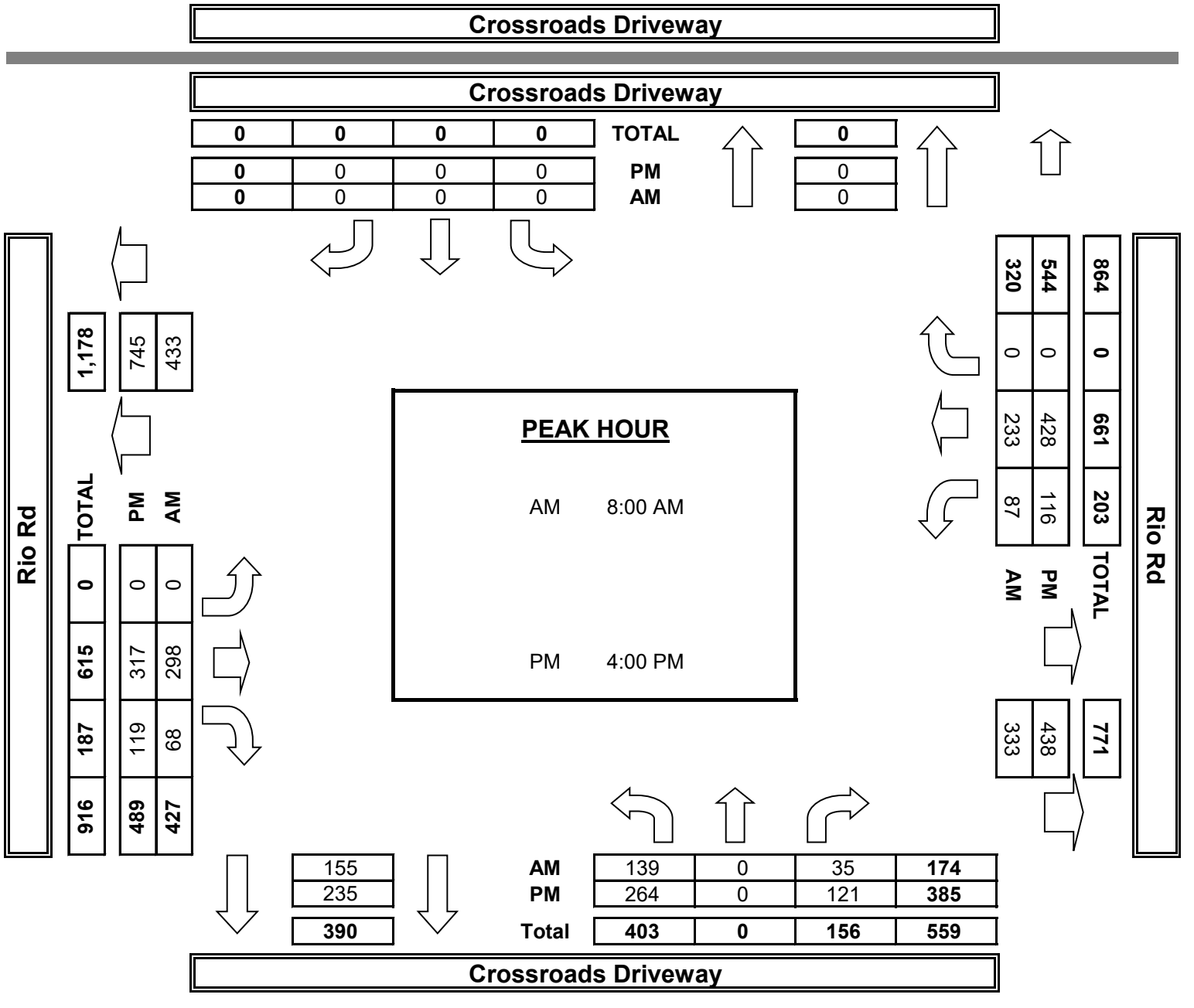
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T112224

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

DATE: Tue, May 20, 25

LOCATION: Carmel
NORTH & SOUTH: Via Nona Marie
EAST & WEST: Rio Rd

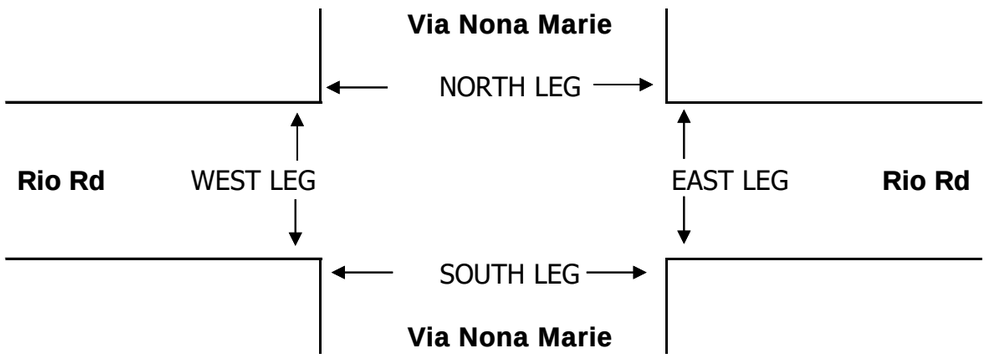
PROJECT #: SC5419
LOCATION #: 9
CONTROL: STOP N/S

NOTES:

AM PM MD OTHER OTHER

N ▲ | W ◄ | E ► | S ▼

		NORTHBOUND Via Nona Marie			SOUTHBOUND Via Nona Marie			EASTBOUND Rio Rd			WESTBOUND Rio Rd				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	3	0	2	2	0	7	7	22	0	3	33	1	80	0	0	0	0	0
	7:15 AM	4	1	1	1	1	8	11	45	1	2	45	0	120	0	0	0	0	0
	7:30 AM	8	0	2	3	1	4	10	44	3	4	90	2	171	0	0	0	0	0
	7:45 AM	1	0	5	1	0	8	13	35	7	4	54	1	129	0	0	0	0	0
	8:00 AM	1	1	6	3	0	2	25	28	5	3	46	3	123	0	0	0	0	0
	8:15 AM	4	1	6	2	2	9	24	28	1	3	86	0	166	0	0	0	0	0
	8:30 AM	4	0	4	2	0	6	20	43	2	2	56	2	141	0	0	0	0	0
	8:45 AM	0	0	3	1	0	8	14	44	1	4	91	1	167	0	0	0	0	0
	VOLUMES	25	3	29	15	4	52	124	289	20	25	501	10	1,097	0	0	0	0	0
	APPROACH %	44%	5%	51%	21%	6%	73%	29%	67%	5%	5%	93%	2%						
	APP/DEPART	57	/	137	71	/	49	433	/	333	536	/	578	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	9	2	19	8	2	25	83	143	9	12	279	6	597	0	0	0	0	
	APPROACH %	30%	7%	63%	23%	6%	71%	35%	61%	4%	4%	94%	2%						
	PEAK HR FACTOR		0.682			0.673			0.904			0.773		0.894					
	APP/DEPART	30	/	91	35	/	23	235	/	170	297	/	313	0					
PM	4:00 PM	3	0	7	2	1	34	28	87	7	4	90	1	264	0	0	0	0	0
	4:15 PM	4	1	6	6	1	28	24	64	8	8	92	2	244	0	0	0	0	0
	4:30 PM	6	2	9	3	1	26	29	86	3	6	84	3	258	0	0	0	0	0
	4:45 PM	6	1	4	4	2	30	27	81	5	4	85	3	252	0	0	0	0	0
	5:00 PM	3	0	8	5	0	22	22	66	3	6	86	4	225	0	0	0	0	0
	5:15 PM	2	1	9	1	1	25	18	80	3	7	41	2	190	0	0	0	0	0
	5:30 PM	4	1	5	1	0	29	15	49	4	3	44	2	157	0	0	0	0	0
	5:45 PM	6	0	3	2	2	23	16	57	3	2	59	1	174	0	0	0	0	0
	VOLUMES	34	6	51	24	8	217	179	570	36	40	581	18	1,764	0	0	0	0	0
	APPROACH %	37%	7%	56%	10%	3%	87%	23%	73%	5%	6%	91%	3%						
	APP/DEPART	91	/	203	249	/	84	785	/	645	639	/	832	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	19	4	26	15	5	118	108	318	23	22	351	9	1,018	0	0	0	0	
	APPROACH %	39%	8%	53%	11%	4%	86%	24%	71%	5%	6%	92%	2%						
	PEAK HR FACTOR		0.721			0.932			0.920			0.936		0.964					
	APP/DEPART	49	/	121	138	/	50	449	/	359	382	/	488	0					



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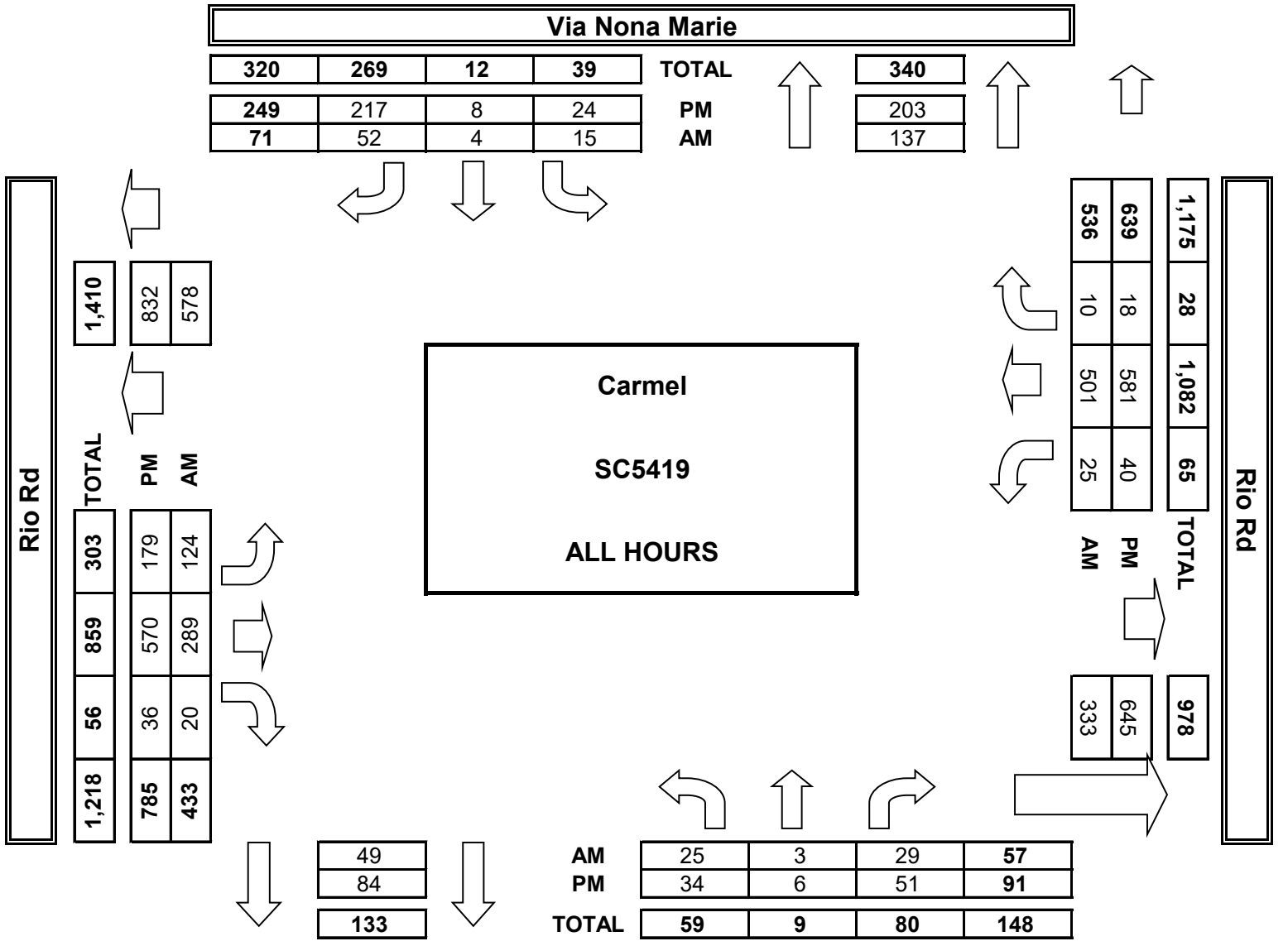
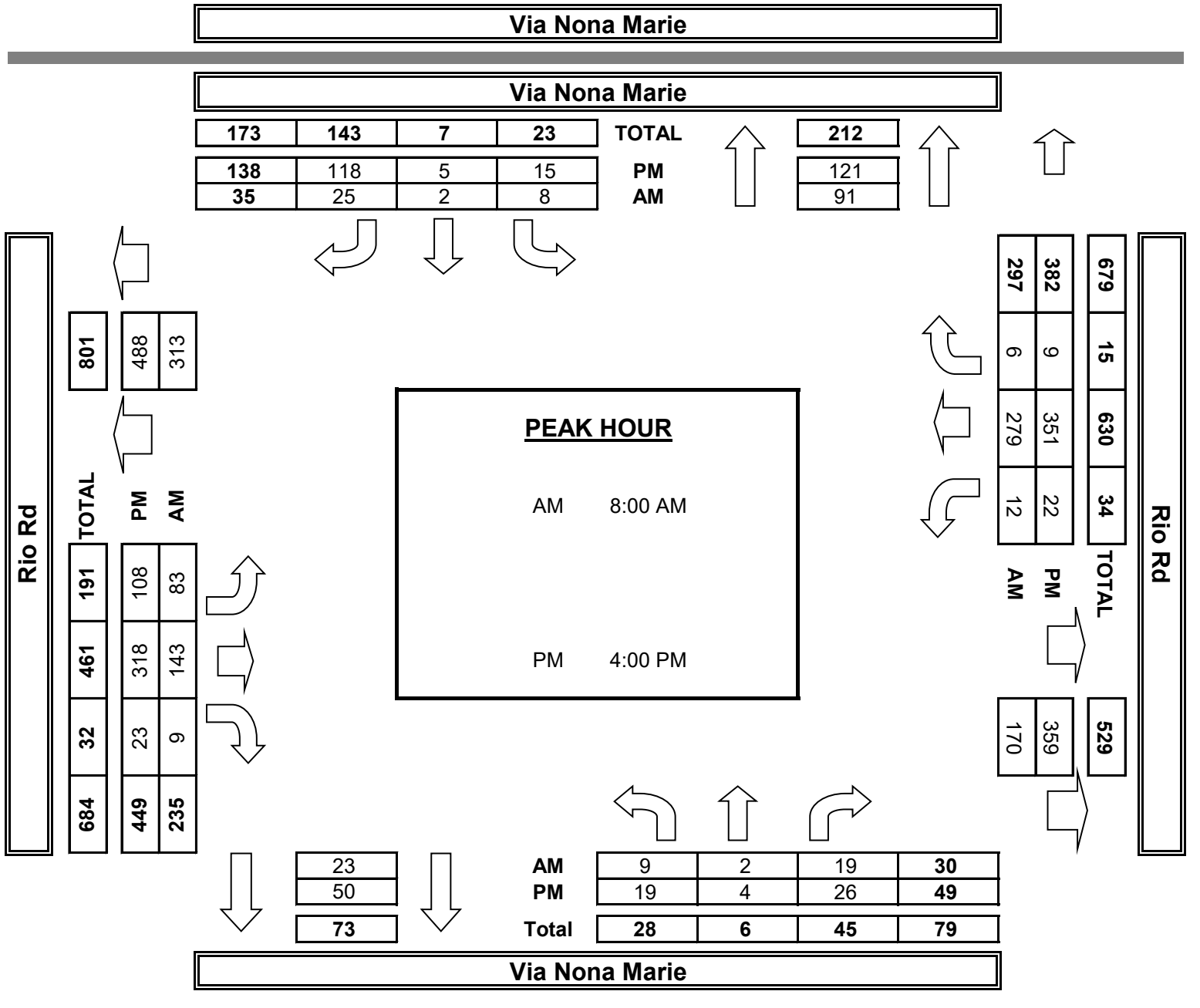
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T112224

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

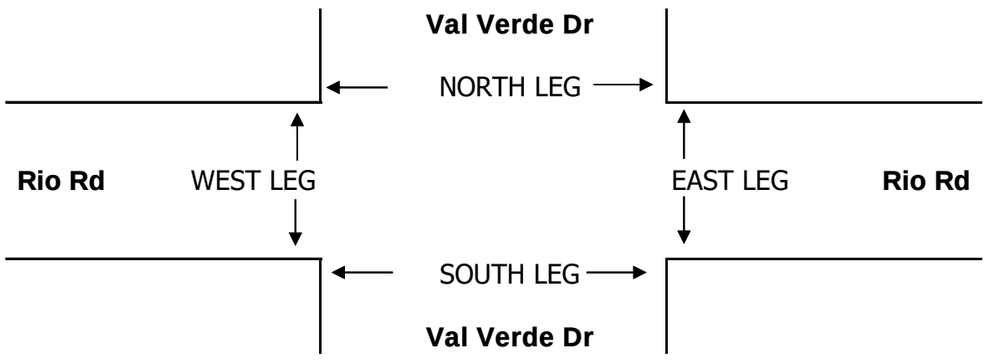
DATE:				
Tue, May 20, 25	LOCATION:	Carmel	PROJECT #:	SC5419
	NORTH & SOUTH:	Val Verde Dr	LOCATION #:	10
	EAST & WEST:	Rio Rd	CONTROL:	NO CONTROL

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Val Verde Dr			SOUTHBOUND Val Verde Dr			EASTBOUND Rio Rd			WESTBOUND Rio Rd				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	2	1	0	0	0	0	0	3	0	0	0	0	0
	7:45 AM	0	0	0	0	0	1	2	0	0	0	0	0	3	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	3	1	0	0	1	0	5	0	0	0	0	0
	8:15 AM	0	0	0	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0
	8:30 AM	0	0	0	0	0	2	1	0	0	0	0	0	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	0	0	0	0	9	8	1	0	0	1	0	19	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	89%	11%	0%	0%	100%	0%						
	APP/DEPART	0	/	8	9	/	0	9	/	1	1	/	10	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	0	0	0	0	6	6	1	0	0	1	0	14	0	0	0	0	
	APPROACH %	0%	0%	0%	0%	0%	100%	86%	14%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.500			0.438			0.250		0.700					
	APP/DEPART	0	/	6	6	/	0	7	/	1	1	/	7	0					
PM	4:00 PM	0	0	0	0	0	0	0	2	0	0	1	0	3	0	0	0	0	0
	4:15 PM	0	0	0	0	0	3	1	1	0	0	0	0	5	0	0	0	0	0
	4:30 PM	0	0	0	0	0	1	2	1	0	0	0	0	4	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	2	0	2
	5:00 PM	0	0	0	0	0	3	1	0	0	0	0	0	4	0	0	1	0	1
	5:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	4	0	0	0	0	0
	5:30 PM	0	0	0	0	0	1	2	0	0	0	0	0	3	0	0	0	0	0
	5:45 PM	0	0	0	0	0	2	1	0	0	0	2	0	5	0	0	0	0	0
	VOLUMES	0	0	0	0	0	13	8	6	0	0	3	0	33	0	0	3	0	3
	APPROACH %	0%	0%	0%	0%	0%	100%	47%	35%	0%	0%	100%	0%						
	APP/DEPART	0	/	8	13	/	0	17	/	6	3	/	19	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	8	5	2	0	0	0	0	18	0	0	3	0	
	APPROACH %	0%	0%	0%	0%	0%	100%	50%	20%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.667			0.833			0.000		0.900					
	APP/DEPART	0	/	5	8	/	0	10	/	2	0	/	11	0					



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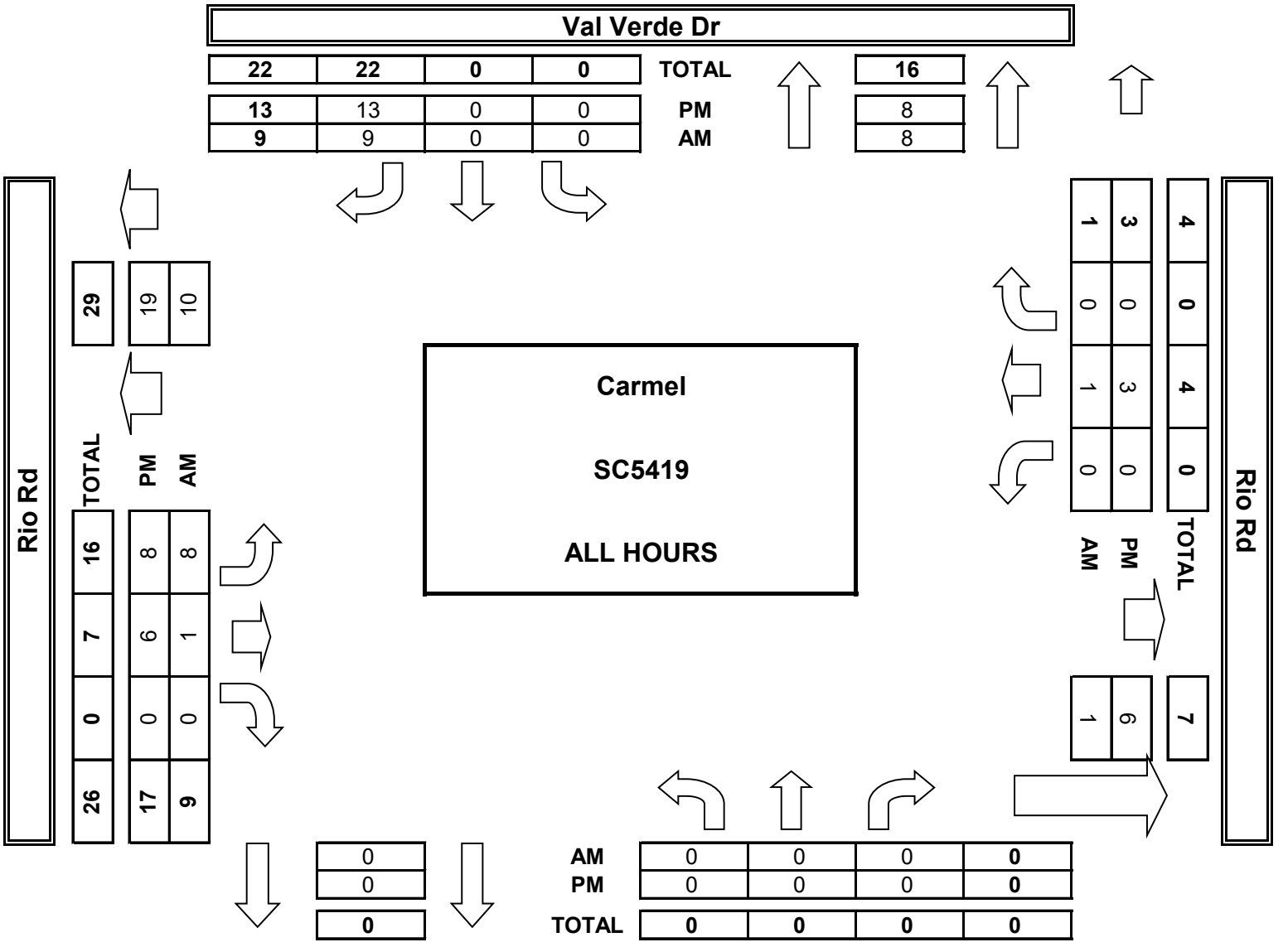
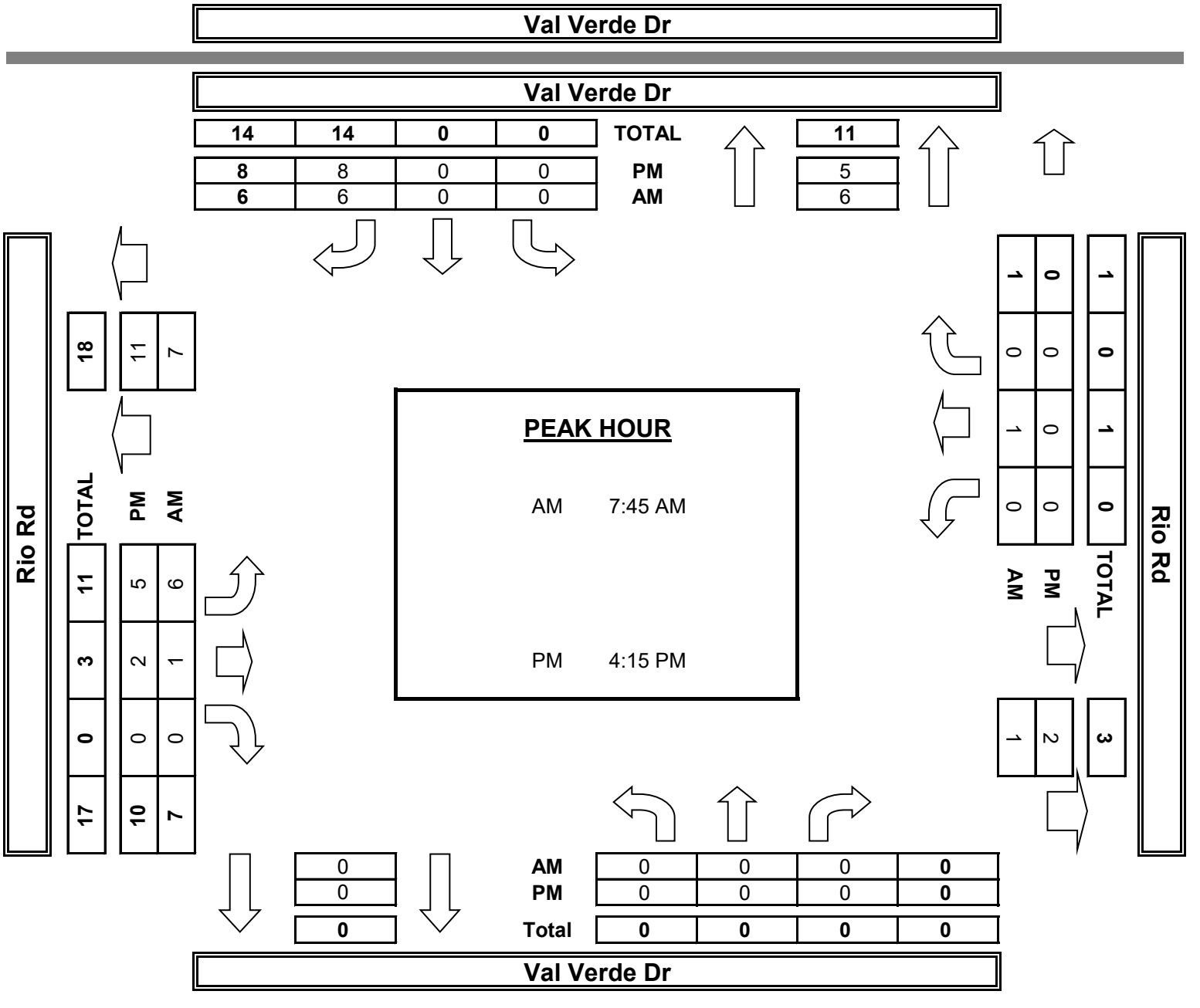
TURNING MOVEMENT COUNTS





Tuesday, May 20, 2025 | CITY: Carmel | PROJECT: SC5419

ADT1 Rio Rd between Carmel Rancho Blvd and Val Verde Dr.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB			PM Period	EB		WB		
0:00	0		0			12:00	5		14		
0:15	0		0			12:15	6		4		
0:30	0		0			12:30	5		7		
0:45	0	0	0	0		12:45	11	27	5	30	57
1:00	0		0			13:00	7		4		
1:15	0		0			13:15	8		9		
1:30	0		0			13:30	9		7		
1:45	0	0	0	0		13:45	8	32	7	27	59
2:00	0		0			14:00	9		11		
2:15	0		0			14:15	19		12		
2:30	2		0			14:30	6		10		
2:45	0	2	1	1	3	14:45	11	45	8	41	86
3:00	0		0			15:00	8		11		
3:15	0		0			15:15	14		8		
3:30	0		0			15:30	11		11		
3:45	0	0	0	0		15:45	9	42	8	38	80
4:00	0		0			16:00	11		10		
4:15	0		0			16:15	13		7		
4:30	0		1			16:30	5		8		
4:45	0	0	0	1	1	16:45	8	37	8	33	70
5:00	0		1			17:00	5		11		
5:15	0		2			17:15	7		10		
5:30	1		0			17:30	7		8		
5:45	0	1	0	3	4	17:45	4	23	11	40	63
6:00	2		1			18:00	2		4		
6:15	1		4			18:15	9		6		
6:30	3		2			18:30	5		4		
6:45	4	10	2	9	19	18:45	2	18	5	19	37
7:00	1		4			19:00	5		5		
7:15	4		3			19:15	4		4		
7:30	8		12			19:30	9		6		
7:45	14	27	2	21	48	19:45	2	20	2	17	37
8:00	9		4			20:00	3		4		
8:15	8		11			20:15	2		2		
8:30	8		7			20:30	4		1		
8:45	2	27	4	26	53	20:45	1	10	1	8	18
9:00	7		8			21:00	1		0		
9:15	6		9			21:15	1		2		
9:30	6		3			21:30	1		2		
9:45	9	28	6	26	54	21:45	0	3	0	4	7
10:00	8		6			22:00	0		1		
10:15	6		10			22:15	0		0		
10:30	6		7			22:30	0		0		
10:45	9	29	6	29	58	22:45	1	1	0	1	2
11:00	14		8			23:00	0		0		
11:15	8		12			23:15	0		0		
11:30	4		6			23:30	1		0		
11:45	12	38	9	35	73	23:45	0	1	0	0	1
Total Vol.		162		151	**313**			259		258	**517**

Daily Totals

EB	WB	Combined
421	409	**830**

	AM			PM		
Split %	51.8%	48.2%	**37.7%**	50.1%	49.9%	**62.3%**
Peak Hour	7:30	11:15	**11:00**	13:30	14:00	**14:00**
Volume	39	41	**73**	45	41	**86**
P.H.F.	0.70	0.73	**0.83**	0.59	0.85	**0.69**

cs@aimtd.com Tell. 714 253 7888

Appendix D

Synchro Analysis Reports

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1083	1621	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1083	1621	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1083	1621	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	1	1	0	0	6
Future Vol, veh/h	6	1	1	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	1	1	0	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	20	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	19	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1621	-	-	-	997	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1004	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1621	-	-	-	992	1083
Mov Cap-2 Maneuver	-	-	-	-	992	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1004	-

Approach	EB	WB	SB
HCM Control Delay, s/v	6.2	0	8.35
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1543	-	-	-	1083
HCM Lane V/C Ratio	0.005	-	-	-	0.008
HCM Control Delay (s/veh)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	17	12	13	9	287
Future Volume (Veh/h)	152	17	12	13	9	287
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	190	21	15	16	11	359
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		386	380	401	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		386	380	401	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	88		96	97	98	67
cM capacity (veh/h)	1623		343	488	475	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	95	95	21	15	16	11	359
Volume Left	95	95	0	15	0	0	0
Volume Right	0	0	21	0	0	0	359
cSH	1623	1623	1700	343	488	475	1085
Volume to Capacity	0.12	0.12	0.01	0.04	0.03	0.02	0.33
Queue Length 95th (ft)	10	10	0	3	3	2	37
Control Delay (s/veh)	7.5	7.5	0.0	16.0	12.6	12.8	9.9
Lane LOS	A	A		C	B	B	A
Approach Delay (s/veh)	6.8			14.3		10.0	
Approach LOS				B		B	

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

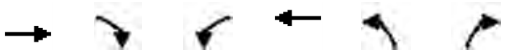
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	143	9	12	279	6	9	2	19	8	2	25
Future Vol, veh/h	83	143	9	12	279	6	9	2	19	8	2	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	161	10	13	313	7	10	2	21	9	2	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	320	0	0	171	0	0	532	694	80	612	701	160
Stage 1	-	-	-	-	-	-	347	347	-	344	344	-
Stage 2	-	-	-	-	-	-	185	347	-	268	357	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1236	-	-	1404	-	-	430	365	964	377	361	857
Stage 1	-	-	-	-	-	-	642	633	-	645	635	-
Stage 2	-	-	-	-	-	-	799	633	-	714	627	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1236	-	-	1404	-	-	379	334	964	336	331	857
Mov Cap-2 Maneuver	-	-	-	-	-	-	379	334	-	336	331	-
Stage 1	-	-	-	-	-	-	593	585	-	639	629	-
Stage 2	-	-	-	-	-	-	763	627	-	643	579	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.88	0.31	11.11	11.51
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	379	817	1236	-	-	1404	-	-	593
HCM Lane V/C Ratio	0.027	0.029	0.075	-	-	0.01	-	-	0.066
HCM Control Delay (s/veh)	14.8	9.5	8.1	-	-	7.6	-	-	11.5
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	0.2	-	-	0	-	-	0.2



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	455	104	74	539	38	40
Future Volume (veh/h)	455	104	74	539	38	40
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	576	132	94	682	48	51
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1131	259	134	2204	139	124
Arrive On Green	0.39	0.39	0.08	0.62	0.08	0.08
Sat Flow, veh/h	2966	656	1781	3647	1781	1585
Grp Volume(v), veh/h	356	352	94	682	48	51
Grp Sat Flow(s),veh/h/ln	1777	1752	1781	1777	1781	1585
Q Serve(g_s), s	4.0	4.0	1.4	2.4	0.7	0.8
Cycle Q Clear(g_c), s	4.0	4.0	1.4	2.4	0.7	0.8
Prop In Lane		0.37	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	700	690	134	2204	139	124
V/C Ratio(X)	0.51	0.51	0.70	0.31	0.35	0.41
Avail Cap(c_a), veh/h	1542	1520	269	4156	403	359
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	6.1	6.1	12.0	2.4	11.6	11.6
Incr Delay (d2), s/veh	0.6	0.6	6.5	0.1	1.5	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.9	0.7	0.1	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.7	6.7	18.4	2.4	13.0	13.8
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	708			776	99	
Approach Delay, s/veh	6.7			4.4	13.4	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	6.1	6.0	14.4		20.4
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s	2.8	3.4	6.0		4.4
Green Ext Time (p_c), s	0.1	0.0	4.4		5.4

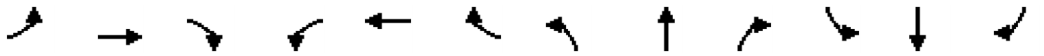
Intersection Summary	
HCM 7th Control Delay, s/veh	6.0
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	298	68	87	233	139	35
Future Volume (veh/h)	0	298	68	87	233	139	35
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		363	83	106	284	170	43
Peak Hour Factor		0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		793	179	144	1855	508	233
Arrive On Green		0.28	0.28	0.08	0.52	0.15	0.15
Sat Flow, veh/h		2973	651	1781	3647	3456	1585
Grp Volume(v), veh/h		222	224	106	284	170	43
Grp Sat Flow(s),veh/h/ln		1777	1753	1781	1777	1728	1585
Q Serve(g_s), s		2.8	2.9	1.6	1.1	1.2	0.6
Cycle Q Clear(g_c), s		2.8	2.9	1.6	1.1	1.2	0.6
Prop In Lane			0.37	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		490	483	144	1855	508	233
V/C Ratio(X)		0.45	0.46	0.73	0.15	0.33	0.18
Avail Cap(c_a), veh/h		1699	1676	262	3397	4002	1836
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		8.2	8.2	12.2	3.4	10.4	10.2
Incr Delay (d2), s/veh		0.7	0.7	7.0	0.0	0.4	0.4
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.8	0.8	0.7	0.1	0.3	0.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		8.8	8.9	19.2	3.4	10.8	10.5
LnGrp LOS		A	A	B	A	B	B
Approach Vol, veh/h		446			390	213	
Approach Delay, s/veh		8.8			7.7	10.7	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4			8
Phs Duration (G+Y+Rc), s	8.5	6.7	12.0			18.7
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0			26.0
Max Q Clear Time (g_c+I1), s	3.2	3.6	4.9			3.1
Green Ext Time (p_c), s	0.7	0.0	2.6			1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	8.8
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	224	45	75	202	148	37	121	79	214	252	72
Future Volume (veh/h)	179	224	45	75	202	148	37	121	79	214	252	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	256	320	64	84	227	166	44	144	94	238	280	80
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	662	131	190	295	250	144	532	237	565	638	179
Arrive On Green	0.17	0.22	0.22	0.11	0.16	0.16	0.08	0.15	0.15	0.16	0.23	0.23
Sat Flow, veh/h	1781	2958	584	1781	1870	1585	1781	3554	1585	3456	2741	768
Grp Volume(v), veh/h	256	191	193	84	227	166	44	144	94	238	180	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1870	1585	1781	1777	1585	1728	1777	1732
Q Serve(g_s), s	7.4	5.0	5.1	2.4	6.2	5.3	1.2	1.9	2.9	3.3	4.6	4.8
Cycle Q Clear(g_c), s	7.4	5.0	5.1	2.4	6.2	5.3	1.2	1.9	2.9	3.3	4.6	4.8
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	308	398	395	190	295	250	144	532	237	565	413	403
V/C Ratio(X)	0.83	0.48	0.49	0.44	0.77	0.66	0.31	0.27	0.40	0.42	0.43	0.45
Avail Cap(c_a), veh/h	534	932	926	400	911	772	500	2329	1039	1165	1165	1135
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	21.3	18.0	18.1	22.4	21.6	21.2	23.1	20.1	20.5	20.1	17.5	17.5
Incr Delay (d2), s/veh	2.2	0.3	0.3	0.6	1.6	1.1	0.4	0.1	0.4	0.2	0.3	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	3.1	1.9	2.0	1.0	2.7	1.9	0.5	0.7	1.0	1.1	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.5	18.3	18.4	23.0	23.2	22.3	23.6	20.2	20.9	20.2	17.8	17.8
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		640			477			282			598	
Approach Delay, s/veh		20.4			22.8			21.0			18.8	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	13.7	10.3	16.6	8.4	18.1	13.8	13.0
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	28.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.3	4.9	4.4	7.1	3.2	6.8	9.4	8.2
Green Ext Time (p_c), s	0.0	0.1	0.0	0.5	0.0	0.3	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	20.6
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	858	319	58	967	494
Future Volume (vph)	0	858	319	58	967	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.98		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3371		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3371		3519	1909
Peak-hour factor, PHF	0.67	0.67	0.83	0.83	0.95	0.95
Adj. Flow (vph)	0	1281	384	70	1018	520
RTOR Reduction (vph)	0	333	15	0	0	0
Lane Group Flow (vph)	0	948	439	0	1018	520
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		25.5	16.1		25.5	52.2
Effective Green, g (s)		25.5	16.1		25.5	47.3
Actuated g/C Ratio		0.49	0.31		0.49	0.91
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1299	1039		1719	1729
v/s Ratio Prot		c0.36	c0.13		0.29	0.27
v/s Ratio Perm						
v/c Ratio		0.73	0.42		0.59	0.30
Uniform Delay, d1		10.6	14.4		9.6	0.3
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.8	0.1		0.4	0.0
Delay (s)		12.4	14.5		10.0	0.4
Level of Service		B	B		A	A
Approach Delay (s/veh)	12.4		14.5			6.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	10.6
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	763	247	314	757	14	73	1	169	17	3	28
Future Volume (veh/h)	15	763	247	314	757	14	73	1	169	17	3	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	19	978	317	403	971	18	95	0	217	22	4	36
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	1312	585	233	1487	663	633	0	281	117	21	118
Arrive On Green	0.02	0.37	0.37	0.07	0.42	0.42	0.19	0.00	0.19	0.07	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	1742	317	1745
Grp Volume(v), veh/h	19	978	317	403	971	18	95	0	217	26	0	36
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2058	0	1745
Q Serve(g_s), s	0.6	14.2	9.4	4.0	13.0	0.4	1.4	0.0	8.4	0.7	0.0	1.2
Cycle Q Clear(g_c), s	0.6	14.2	9.4	4.0	13.0	0.4	1.4	0.0	8.4	0.7	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	32	1312	585	233	1487	663	633	0	281	139	0	118
V/C Ratio(X)	0.59	0.75	0.54	1.73	0.65	0.03	0.15	0.00	0.77	0.19	0.00	0.31
Avail Cap(c_a), veh/h	120	1676	748	233	1676	748	1990	0	885	139	0	118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	16.3	14.8	27.7	13.8	10.2	19.9	0.0	22.7	26.2	0.0	26.4
Incr Delay (d2), s/veh	15.9	1.4	0.8	346.3	0.8	0.0	0.1	0.0	4.5	0.6	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	0.4	4.9	2.8	12.7	4.2	0.1	0.5	0.0	2.8	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.8	17.7	15.5	374.0	14.6	10.2	20.0	0.0	27.2	26.8	0.0	27.8
LnGrp LOS	D	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1314			1392			312			62	
Approach Delay, s/veh		17.5			118.6			25.0			27.4	
Approach LOS		B			F			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.9	8.5	26.4		8.5	5.6	29.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		36.0	4.0	28.0		4.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		10.4	6.0	16.2		3.2	2.6	15.0				
Green Ext Time (p_c), s		1.1	0.0	5.7		0.0	0.0	5.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	64.2
HCM 7th LOS	E

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	37	118	130	34	41	85	772	79	28	1214	88
Future Volume (veh/h)	114	37	118	130	34	41	85	772	79	28	1214	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	133	43	137	228	161	91	96	867	89	29	1265	0
Peak Hour Factor	0.86	0.86	0.86	0.45	0.45	0.45	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	52	166	301	190	107	128	1476	151	66	1357	
Arrive On Green	0.14	0.14	0.14	0.17	0.17	0.17	0.07	0.45	0.45	0.04	0.41	0.00
Sat Flow, veh/h	1692	373	1189	1781	1122	634	1781	3253	334	1641	3274	1460
Grp Volume(v), veh/h	133	0	180	228	0	252	96	474	482	29	1265	0
Grp Sat Flow(s),veh/h/ln	1692	0	1562	1781	0	1756	1781	1777	1810	1641	1637	1460
Q Serve(g_s), s	6.5	0.0	9.9	10.8	0.0	12.3	4.7	17.6	17.6	1.5	32.6	0.0
Cycle Q Clear(g_c), s	6.5	0.0	9.9	10.8	0.0	12.3	4.7	17.6	17.6	1.5	32.6	0.0
Prop In Lane	1.00		0.76	1.00		0.36	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	236	0	218	301	0	297	128	806	821	66	1357	
V/C Ratio(X)	0.56	0.00	0.83	0.76	0.00	0.85	0.75	0.59	0.59	0.44	0.93	
Avail Cap(c_a), veh/h	516	0	476	845	0	833	503	1305	1329	278	2034	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.6	0.0	37.1	35.1	0.0	35.7	40.3	18.0	18.0	41.5	24.7	0.0
Incr Delay (d2), s/veh	0.8	0.0	3.0	1.5	0.0	2.6	3.3	0.3	0.2	1.7	4.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	3.9	4.8	0.0	5.4	2.1	6.4	6.5	0.6	12.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.4	0.0	40.1	36.5	0.0	38.3	43.7	18.3	18.3	43.2	29.5	0.0
LnGrp LOS	D		D	D		D	D	B	B	D	C	
Approach Vol, veh/h		313			480			1052			1294	
Approach Delay, s/veh		38.5			37.5			20.6			29.8	
Approach LOS		D			D			C			C	

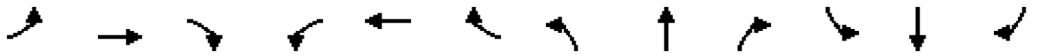
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	45.1		16.5	11.2	41.6		19.2				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	3.5	19.6		11.9	6.7	34.6		14.3				
Green Ext Time (p_c), s	0.0	1.7		0.4	0.0	2.0		0.6				

Intersection Summary		
HCM 7th Control Delay, s/veh	28.8	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	7	18	14	18	40	35	1024	9	27	1435	734
Future Volume (veh/h)	316	7	18	14	18	40	35	1024	9	27	1435	734
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	421	9	0	17	22	0	40	1177	10	28	1495	0
Peak Hour Factor	0.75	0.75	0.75	0.82	0.82	0.82	0.87	0.87	0.87	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	621	336		122	128		90	1352	579	90	1683	
Arrive On Green	0.20	0.20	0.00	0.06	0.06	0.00	0.06	0.45	0.45	0.05	0.44	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	421	9	0	17	22	0	40	1177	10	28	1495	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	9.8	0.3	0.0	0.6	0.7	0.0	2.0	27.4	0.3	1.1	27.6	0.0
Cycle Q Clear(g_c), s	9.8	0.3	0.0	0.6	0.7	0.0	2.0	27.4	0.3	1.1	27.6	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	621	336		122	128		90	1352	579	90	1683	
V/C Ratio(X)	0.68	0.03		0.14	0.17		0.45	0.87	0.02	0.31	0.89	
Avail Cap(c_a), veh/h	1823	987		700	735		468	2721	1165	599	3487	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.5	24.7	0.0	34.5	34.6	0.0	35.1	19.2	11.8	35.6	20.0	0.0
Incr Delay (d2), s/veh	2.8	0.1	0.0	0.4	0.5	0.0	1.3	0.7	0.0	0.7	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.1	0.0	0.3	0.4	0.0	0.7	8.1	0.1	0.5	10.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.2	24.8	0.0	34.9	35.1	0.0	36.4	19.9	11.8	36.4	20.7	0.0
LnGrp LOS	C	C		C	D		D	B	B	D	C	
Approach Vol, veh/h		430			39			1227			1523	
Approach Delay, s/veh		31.1			35.0			20.4			21.0	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	39.7		20.3	9.2	38.7		9.1				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	70.0		46.0	24.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	3.1	29.4		11.8	4.0	29.6		2.7				
Green Ext Time (p_c), s	0.0	3.0		3.9	0.0	4.2		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	22.3	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1083	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1083	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1083	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	0	0	0	8
Future Vol, veh/h	5	2	0	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	2	0	0	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	14	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1004	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1622	-	-	-	1001	1083
Mov Cap-2 Maneuver	-	-	-	-	1001	-
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	SB
HCM Control Delay, s/v	5.16	0	8.35
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1286	-	-	-	1083
HCM Lane V/C Ratio	0.003	-	-	-	0.008
HCM Control Delay (s/veh)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	342	17	13	20	20	373
Future Volume (Veh/h)	342	17	13	20	20	373
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	356	18	14	21	21	389
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		723	712	730	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		723	712	730	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	78		92	92	92	64
cM capacity (veh/h)	1623		172	279	273	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	178	178	18	14	21	21	389
Volume Left	178	178	0	14	0	0	0
Volume Right	0	0	18	0	0	0	389
cSH	1623	1623	1700	172	279	273	1085
Volume to Capacity	0.22	0.22	0.01	0.08	0.08	0.08	0.36
Queue Length 95th (ft)	21	21	0	7	6	6	41
Control Delay (s/veh)	7.8	7.8	0.0	27.8	18.9	19.3	10.2
Lane LOS	A	A		D	C	C	B
Approach Delay (s/veh)	7.5			22.5		10.6	
Approach LOS				C		B	

Intersection Summary			
Average Delay	9.7		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

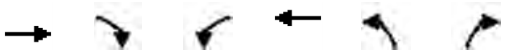
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	108	318	23	22	351	9	19	4	26	15	5	118
Future Vol, veh/h	108	318	23	22	351	9	19	4	26	15	5	118
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	331	24	23	366	9	20	4	27	16	5	123

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	375	0	0	355	0	0	788	977	166	809	996	188
Stage 1	-	-	-	-	-	-	556	556	-	416	416	-
Stage 2	-	-	-	-	-	-	231	421	-	393	580	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1180	-	-	1200	-	-	282	249	850	272	243	823
Stage 1	-	-	-	-	-	-	483	511	-	585	590	-
Stage 2	-	-	-	-	-	-	751	587	-	603	498	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1180	-	-	1200	-	-	208	221	850	230	216	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	208	221	-	230	216	-
Stage 1	-	-	-	-	-	-	437	462	-	573	579	-
Stage 2	-	-	-	-	-	-	621	576	-	524	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.01	0.46	16.18	12.97
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	208	616	1180	-	-	1200	-	-	595
HCM Lane V/C Ratio	0.095	0.051	0.095	-	-	0.019	-	-	0.242
HCM Control Delay (s/veh)	24.1	11.2	8.4	-	-	8.1	-	-	13
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.2	0.3	-	-	0.1	-	-	0.9



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	689	66	126	793	160	135
Future Volume (veh/h)	689	66	126	793	160	135
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	710	68	130	818	165	139
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1254	120	163	2138	257	229
Arrive On Green	0.38	0.38	0.09	0.60	0.14	0.14
Sat Flow, veh/h	3371	314	1781	3647	1781	1585
Grp Volume(v), veh/h	385	393	130	818	165	139
Grp Sat Flow(s),veh/h/ln	1777	1814	1781	1777	1781	1585
Q Serve(g_s), s	5.4	5.4	2.3	3.8	2.8	2.6
Cycle Q Clear(g_c), s	5.4	5.4	2.3	3.8	2.8	2.6
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	680	694	163	2138	257	229
V/C Ratio(X)	0.57	0.57	0.80	0.38	0.64	0.61
Avail Cap(c_a), veh/h	1298	1325	226	3499	339	302
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	7.7	7.7	14.0	3.2	12.7	12.6
Incr Delay (d2), s/veh	0.7	0.7	12.6	0.1	2.7	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.3	0.5	1.1	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.4	8.4	26.6	3.4	15.4	15.2
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	778			948	304	
Approach Delay, s/veh	8.4			6.5	15.3	
Approach LOS	A			A	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		8.5	6.9	16.1		22.9
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s		4.8	4.3	7.4		5.8
Green Ext Time (p_c), s		0.1	0.0	4.7		6.6

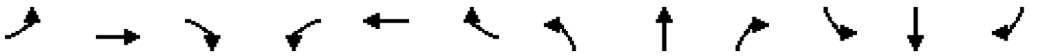
Intersection Summary	
HCM 7th Control Delay, s/veh	8.6
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	317	119	116	428	264	121
Future Volume (veh/h)	0	317	119	116	428	264	121
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		323	121	118	437	269	123
Peak Hour Factor		0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		682	251	150	1801	638	292
Arrive On Green		0.27	0.27	0.08	0.51	0.18	0.18
Sat Flow, veh/h		2637	935	1781	3647	3456	1585
Grp Volume(v), veh/h		224	220	118	437	269	123
Grp Sat Flow(s),veh/h/ln		1777	1702	1781	1777	1728	1585
Q Serve(g_s), s		3.1	3.2	1.9	2.0	2.0	2.0
Cycle Q Clear(g_c), s		3.1	3.2	1.9	2.0	2.0	2.0
Prop In Lane			0.55	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		476	456	150	1801	638	292
V/C Ratio(X)		0.47	0.48	0.78	0.24	0.42	0.42
Avail Cap(c_a), veh/h		1585	1518	244	3169	3734	1713
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		8.9	9.0	13.1	4.0	10.5	10.5
Incr Delay (d2), s/veh		0.7	0.8	8.6	0.1	0.4	1.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.9	0.9	0.9	0.3	0.6	0.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		9.7	9.8	21.7	4.1	11.0	11.5
LnGrp LOS		A	A	C	A	B	B
Approach Vol, veh/h		444			555	392	
Approach Delay, s/veh		9.7			7.9	11.1	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4				8
Phs Duration (G+Y+Rc), s	9.9	7.0	12.3				19.3
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0				26.0
Max Q Clear Time (g_c+I1), s	4.0	3.9	5.2				4.0
Green Ext Time (p_c), s	1.4	0.0	2.6				2.9

Intersection Summary	
HCM 7th Control Delay, s/veh	9.4
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	282	68	102	377	264	81	332	141	186	182	75
Future Volume (veh/h)	176	282	68	102	377	264	81	332	141	186	182	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	310	75	107	397	278	94	386	164	196	192	79
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	756	180	202	458	388	216	514	229	514	428	170
Arrive On Green	0.13	0.27	0.27	0.11	0.24	0.24	0.12	0.14	0.14	0.15	0.17	0.17
Sat Flow, veh/h	1781	2847	678	1781	1870	1585	1781	3554	1585	3456	2484	986
Grp Volume(v), veh/h	193	192	193	107	397	278	94	386	164	196	135	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1870	1585	1781	1777	1585	1728	1777	1693
Q Serve(g_s), s	6.1	5.1	5.3	3.3	11.8	9.3	2.8	6.0	5.7	3.0	4.0	4.2
Cycle Q Clear(g_c), s	6.1	5.1	5.3	3.3	11.8	9.3	2.8	6.0	5.7	3.0	4.0	4.2
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	239	472	464	202	458	388	216	514	229	514	306	291
V/C Ratio(X)	0.81	0.41	0.42	0.53	0.87	0.72	0.44	0.75	0.72	0.38	0.44	0.47
Avail Cap(c_a), veh/h	492	644	633	369	839	711	461	2146	957	1073	1073	1022
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	24.4	17.5	17.6	24.2	21.0	20.0	23.6	23.8	23.7	22.3	21.5	21.6
Incr Delay (d2), s/veh	2.5	0.2	0.2	0.8	2.0	0.9	0.5	0.8	1.6	0.2	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	2.6	2.0	2.0	1.4	5.0	3.3	1.1	2.3	2.1	1.1	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.9	17.7	17.8	25.0	22.9	21.0	24.2	24.6	25.2	22.4	21.9	22.0
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		578			782			644			467	
Approach Delay, s/veh		20.8			22.5			24.7			22.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	14.1	11.2	20.0	11.1	15.7	12.4	18.8
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	21.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.0	8.0	5.3	7.3	4.8	6.2	8.1	13.8
Green Ext Time (p_c), s	0.0	0.3	0.0	0.4	0.0	0.2	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	822	626	146	821	443
Future Volume (vph)	0	822	626	146	821	443
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.97		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3353		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3353		3519	1909
Peak-hour factor, PHF	0.87	0.87	0.91	0.91	0.90	0.90
Adj. Flow (vph)	0	945	688	160	912	492
RTOR Reduction (vph)	0	185	14	0	0	0
Lane Group Flow (vph)	0	760	834	0	912	492
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		27.2	28.8		27.2	66.6
Effective Green, g (s)		27.2	28.8		27.2	61.7
Actuated g/C Ratio		0.41	0.43		0.41	0.93
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1086	1449		1437	1768
v/s Ratio Prot		c0.29	c0.25		0.26	0.26
v/s Ratio Perm						
v/c Ratio		0.70	0.58		0.63	0.28
Uniform Delay, d1		16.3	14.3		15.7	0.2
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.6	0.3		0.7	0.0
Delay (s)		17.9	14.6		16.4	0.3
Level of Service		B	B		B	A
Approach Delay (s/veh)	17.9		14.6			10.8
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	66.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

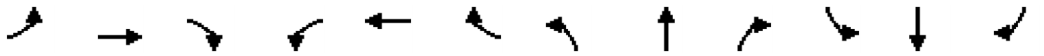
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	767	173	313	574	7	240	16	450	7	12	8
Future Volume (veh/h)	21	767	173	313	574	7	240	16	450	7	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	22	807	182	329	604	7	265	0	474	7	13	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1031	460	184	1151	513	1192	0	530	39	73	93
Arrive On Green	0.02	0.29	0.29	0.05	0.32	0.32	0.36	0.00	0.36	0.05	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	738	1370	1745
Grp Volume(v), veh/h	22	807	182	329	604	7	265	0	474	20	0	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2108	0	1745
Q Serve(g_s), s	0.9	15.6	6.9	4.0	10.4	0.2	4.2	0.0	23.0	0.7	0.0	0.3
Cycle Q Clear(g_c), s	0.9	15.6	6.9	4.0	10.4	0.2	4.2	0.0	23.0	0.7	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	35	1031	460	184	1151	513	1192	0	530	112	0	93
V/C Ratio(X)	0.63	0.78	0.40	1.79	0.52	0.01	0.22	0.00	0.89	0.18	0.00	0.09
Avail Cap(c_a), veh/h	95	1327	592	184	1327	592	1575	0	701	112	0	93
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	24.4	21.3	35.5	20.7	17.2	16.5	0.0	22.5	33.9	0.0	33.8
Incr Delay (d2), s/veh	17.2	2.4	0.6	374.3	0.4	0.0	0.1	0.0	11.4	0.7	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.2	2.4	11.2	3.9	0.1	1.5	0.0	8.5	0.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.7	26.8	21.9	409.8	21.0	17.2	16.6	0.0	33.9	34.7	0.0	34.2
LnGrp LOS	D	C	C	F	C	B	B		C	C		C
Approach Vol, veh/h		1011			940			739			28	
Approach Delay, s/veh		26.5			157.1			27.7			34.5	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	31.7	8.5	26.3	8.5	6.0	28.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	36.0	4.0	28.0	4.0	4.0	28.0
Max Q Clear Time (g_c+I1), s	25.0	6.0	17.6	2.7	2.9	12.4
Green Ext Time (p_c), s	2.3	0.0	4.1	0.0	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	72.1
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	10	142	53	14	14	151	1257	4	8	1030	167
Future Volume (veh/h)	258	10	142	53	14	14	151	1257	4	8	1030	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	247	102	171	73	57	25	157	1309	4	8	1073	0
Peak Hour Factor	0.83	0.83	0.83	0.56	0.56	0.56	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	119	200	159	110	48	194	1688	5	24	1180	
Arrive On Green	0.20	0.20	0.20	0.09	0.09	0.09	0.11	0.46	0.46	0.01	0.36	0.00
Sat Flow, veh/h	1692	596	1000	1781	1232	541	1781	3634	11	1641	3274	1460
Grp Volume(v), veh/h	247	0	273	73	0	82	157	640	673	8	1073	0
Grp Sat Flow(s),veh/h/ln	1692	0	1596	1781	0	1773	1781	1777	1868	1641	1637	1460
Q Serve(g_s), s	10.3	0.0	12.5	2.9	0.0	3.3	6.5	22.8	22.8	0.4	23.5	0.0
Cycle Q Clear(g_c), s	10.3	0.0	12.5	2.9	0.0	3.3	6.5	22.8	22.8	0.4	23.5	0.0
Prop In Lane	1.00		0.63	1.00		0.30	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	339	0	320	159	0	158	194	825	868	24	1180	
V/C Ratio(X)	0.73	0.00	0.85	0.46	0.00	0.52	0.81	0.78	0.78	0.34	0.91	
Avail Cap(c_a), veh/h	605	0	571	991	0	987	590	1530	1609	326	2386	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.3	0.0	29.1	32.6	0.0	32.8	32.9	16.9	16.9	36.8	23.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	2.5	0.8	0.0	1.0	3.0	0.6	0.6	3.1	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	4.9	1.3	0.0	1.5	2.8	7.8	8.2	0.2	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.4	0.0	31.7	33.4	0.0	33.8	35.9	17.5	17.5	40.0	24.1	0.0
LnGrp LOS	C		C	C		C	D	B	B	D	C	
Approach Vol, veh/h		520			155			1470			1081	
Approach Delay, s/veh		30.6			33.6			19.5			24.3	
Approach LOS		C			C			B			C	

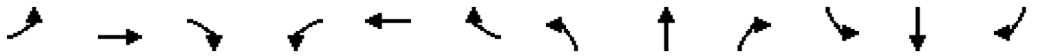
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	40.0		19.3	13.1	32.1		10.9				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	2.4	24.8		14.5	8.5	25.5		5.3				
Green Ext Time (p_c), s	0.0	2.5		0.7	0.0	1.7		0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	23.5
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	816	13	19	13	15	46	17	1488	15	51	1195	497
Future Volume (veh/h)	816	13	19	13	15	46	17	1488	15	51	1195	497
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	1020	16	0	19	22	0	18	1600	16	54	1271	0
Peak Hour Factor	0.80	0.80	0.80	0.68	0.68	0.68	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	861	466		86	90		41	1560	668	86	2066	
Arrive On Green	0.28	0.28	0.00	0.04	0.04	0.00	0.03	0.52	0.52	0.04	0.54	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	1020	16	0	19	22	0	18	1600	16	54	1271	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	46.0	1.1	0.0	1.4	1.6	0.0	1.9	85.0	1.0	4.5	37.4	0.0
Cycle Q Clear(g_c), s	46.0	1.1	0.0	1.4	1.6	0.0	1.9	85.0	1.0	4.5	37.4	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	861	466		86	90		41	1560	668	86	2066	
V/C Ratio(X)	1.19	0.03		0.22	0.24		0.44	1.03	0.02	0.63	0.62	
Avail Cap(c_a), veh/h	861	466		330	347		460	1560	668	283	2066	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.9	42.8	0.0	76.0	76.0	0.0	78.4	39.4	19.2	76.9	26.3	0.0
Incr Delay (d2), s/veh	95.1	0.1	0.0	1.0	1.0	0.0	2.7	29.6	0.0	2.8	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.2	0.5	0.0	0.8	0.9	0.0	0.8	36.1	0.3	2.3	16.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	154.0	42.8	0.0	76.9	77.1	0.0	81.1	69.0	19.2	79.6	26.7	0.0
LnGrp LOS	F	D		E	E		F	F	B	E	C	
Approach Vol, veh/h		1036			41			1634			1325	
Approach Delay, s/veh		152.3			77.0			68.6			28.8	
Approach LOS		F			E			E			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	89.9		50.6	9.1	92.7		11.4				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	85.0		46.0	50.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	6.5	87.0		48.0	3.9	39.4		3.6				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	3.3		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	77.1
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	2	0	0	0
Future Vol, veh/h	0	5	2	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	3	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1014	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1012	1083	1621	-	-	-
Mov Cap-2 Maneuver	1012	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.35	7.22	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	1083	-	-
HCM Lane V/C Ratio	0.002	-	0.007	-	-
HCM Control Delay (s/veh)	7.2	0	8.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	2	5	0
Future Vol, veh/h	0	2	1	2	5	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	1	3	7	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	7	7	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1006	1075	1613	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1006	1075	1613	-	-	-
Mov Cap-2 Maneuver	1006	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.36	2.41	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	600	-	1075	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s/veh)	7.2	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	6	3	7	0
Future Vol, veh/h	0	16	6	3	7	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	9	4	10	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	31	10	10	0	-	0
Stage 1	10	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	982	1071	1610	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	977	1071	1610	-	-	-
Mov Cap-2 Maneuver	977	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.43	4.83	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1200	-	1071	-	-
HCM Lane V/C Ratio	0.005	-	0.021	-	-
HCM Control Delay (s/veh)	7.2	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	1	1	0	0	41
Future Vol, veh/h	19	1	1	0	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	1	1	0	0	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	57	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	56	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1621	-	-	-	950	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1621	-	-	-	934	1083
Mov Cap-2 Maneuver	-	-	-	-	934	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	SB
HCM Control Delay, s/v	6.9	0	8.51
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1620	-	-	-	1083
HCM Lane V/C Ratio	0.017	-	-	-	0.054
HCM Control Delay (s/veh)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	27	40	20	12	287
Future Volume (Veh/h)	152	27	40	20	12	287
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	190	34	50	25	15	359
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		388	380	414	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		388	380	414	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	88		85	95	97	67
cM capacity (veh/h)	1623		340	488	467	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	95	95	34	50	25	15	359
Volume Left	95	95	0	50	0	0	0
Volume Right	0	0	34	0	0	0	359
cSH	1623	1623	1700	340	488	467	1085
Volume to Capacity	0.12	0.12	0.02	0.15	0.05	0.03	0.33
Queue Length 95th (ft)	10	10	0	13	4	2	37
Control Delay (s/veh)	7.5	7.5	0.0	17.4	12.8	13.0	9.9
Lane LOS	A	A		C	B	B	A
Approach Delay (s/veh)	6.4			15.9		10.1	
Approach LOS				C		B	

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

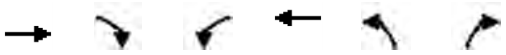
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	153	9	12	307	6	9	2	19	8	2	25
Future Vol, veh/h	83	153	9	12	307	6	9	2	19	8	2	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	172	10	13	345	7	10	2	21	9	2	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	352	0	0	182	0	0	559	737	86	649	744	176
Stage 1	-	-	-	-	-	-	358	358	-	375	375	-
Stage 2	-	-	-	-	-	-	201	379	-	274	369	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1204	-	-	1391	-	-	412	344	956	355	341	837
Stage 1	-	-	-	-	-	-	632	626	-	618	615	-
Stage 2	-	-	-	-	-	-	782	613	-	709	620	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1204	-	-	1391	-	-	361	315	956	315	312	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	361	315	-	315	312	-
Stage 1	-	-	-	-	-	-	583	577	-	612	609	-
Stage 2	-	-	-	-	-	-	746	607	-	637	572	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.79	0.28	11.32	11.82
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	361	800	1204	-	-	1391	-	-	567
HCM Lane V/C Ratio	0.028	0.029	0.077	-	-	0.01	-	-	0.069
HCM Control Delay (s/veh)	15.3	9.6	8.2	-	-	7.6	-	-	11.8
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	0.3	-	-	0	-	-	0.2



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	464	104	76	565	38	41
Future Volume (veh/h)	464	104	76	565	38	41
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	587	132	96	715	48	52
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1143	256	136	2212	140	124
Arrive On Green	0.40	0.40	0.08	0.62	0.08	0.08
Sat Flow, veh/h	2977	647	1781	3647	1781	1585
Grp Volume(v), veh/h	361	358	96	715	48	52
Grp Sat Flow(s),veh/h/ln	1777	1754	1781	1777	1781	1585
Q Serve(g_s), s	4.1	4.1	1.4	2.5	0.7	0.8
Cycle Q Clear(g_c), s	4.1	4.1	1.4	2.5	0.7	0.8
Prop In Lane		0.37	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	705	695	136	2212	140	124
V/C Ratio(X)	0.51	0.51	0.71	0.32	0.34	0.42
Avail Cap(c_a), veh/h	1528	1509	266	4120	400	356
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	6.1	6.1	12.1	2.4	11.7	11.7
Incr Delay (d2), s/veh	0.6	0.6	6.6	0.1	1.5	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.9	0.7	0.1	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.7	6.7	18.6	2.5	13.1	14.0
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	719			811	100	
Approach Delay, s/veh	6.7			4.4	13.6	
Approach LOS	A			A	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		6.1	6.0	14.6		20.6
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s		2.8	3.4	6.1		4.5
Green Ext Time (p_c), s		0.1	0.0	4.5		5.7

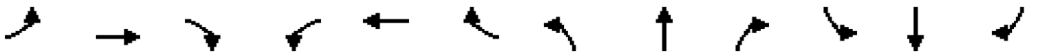
Intersection Summary	
HCM 7th Control Delay, s/veh	6.0
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	306	68	89	257	139	36
Future Volume (veh/h)	0	306	68	89	257	139	36
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		373	83	109	313	170	44
Peak Hour Factor		0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		808	178	147	1867	505	231
Arrive On Green		0.28	0.28	0.08	0.53	0.15	0.15
Sat Flow, veh/h		2989	637	1781	3647	3456	1585
Grp Volume(v), veh/h		227	229	109	313	170	44
Grp Sat Flow(s),veh/h/ln		1777	1756	1781	1777	1728	1585
Q Serve(g_s), s		2.9	3.0	1.6	1.3	1.2	0.7
Cycle Q Clear(g_c), s		2.9	3.0	1.6	1.3	1.2	0.7
Prop In Lane			0.36	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		496	490	147	1867	505	231
V/C Ratio(X)		0.46	0.47	0.74	0.17	0.34	0.19
Avail Cap(c_a), veh/h		1686	1666	260	3372	3973	1822
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		8.2	8.2	12.3	3.4	10.5	10.3
Incr Delay (d2), s/veh		0.7	0.7	7.2	0.0	0.4	0.4
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.8	0.8	0.8	0.1	0.3	0.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		8.8	8.9	19.5	3.4	10.9	10.7
LnGrp LOS		A	A	B	A	B	B
Approach Vol, veh/h		456			422	214	
Approach Delay, s/veh		8.9			7.6	10.9	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4				8
Phs Duration (G+Y+Rc), s	8.5	6.8	12.1				18.9
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0				26.0
Max Q Clear Time (g_c+I1), s	3.2	3.6	5.0				3.3
Green Ext Time (p_c), s	0.7	0.0	2.7				2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	8.8
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	226	45	79	207	163	37	121	80	219	252	72
Future Volume (veh/h)	179	226	45	79	207	163	37	121	80	219	252	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	256	323	64	89	233	183	44	144	95	243	280	80
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	664	130	195	301	255	144	530	236	564	635	178
Arrive On Green	0.17	0.22	0.22	0.11	0.16	0.16	0.08	0.15	0.15	0.16	0.23	0.23
Sat Flow, veh/h	1781	2963	580	1781	1870	1585	1781	3554	1585	3456	2741	768
Grp Volume(v), veh/h	256	192	195	89	233	183	44	144	95	243	180	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	1781	1870	1585	1781	1777	1585	1728	1777	1732
Q Serve(g_s), s	7.4	5.0	5.2	2.5	6.4	5.9	1.2	1.9	2.9	3.4	4.6	4.8
Cycle Q Clear(g_c), s	7.4	5.0	5.2	2.5	6.4	5.9	1.2	1.9	2.9	3.4	4.6	4.8
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	308	398	396	195	301	255	144	530	236	564	412	401
V/C Ratio(X)	0.83	0.48	0.49	0.46	0.77	0.72	0.31	0.27	0.40	0.43	0.44	0.45
Avail Cap(c_a), veh/h	531	695	691	398	906	768	498	2317	1034	1159	1159	1130
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	21.4	18.1	18.2	22.4	21.6	21.4	23.3	20.3	20.7	20.2	17.6	17.7
Incr Delay (d2), s/veh	2.2	0.3	0.4	0.6	1.6	1.4	0.4	0.1	0.4	0.2	0.3	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	3.1	2.0	2.0	1.0	2.8	2.1	0.5	0.7	1.0	1.2	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.7	18.4	18.5	23.0	23.2	22.8	23.7	20.4	21.1	20.4	17.9	18.0
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		643			505			283			603	
Approach Delay, s/veh		20.5			23.0			21.1			18.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	13.7	10.5	16.6	8.4	18.1	13.9	13.2
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	21.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.4	4.9	4.5	7.2	3.2	6.8	9.4	8.4
Green Ext Time (p_c), s	0.0	0.1	0.0	0.4	0.0	0.3	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	20.8
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	858	334	58	967	499
Future Volume (vph)	0	858	334	58	967	499
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.98		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3374		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3374		3519	1909
Peak-hour factor, PHF	0.67	0.67	0.83	0.83	0.95	0.95
Adj. Flow (vph)	0	1281	402	70	1018	525
RTOR Reduction (vph)	0	314	14	0	0	0
Lane Group Flow (vph)	0	967	458	0	1018	525
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		26.4	16.6		26.4	53.6
Effective Green, g (s)		26.4	16.6		26.4	48.7
Actuated g/C Ratio		0.49	0.31		0.49	0.91
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1310	1044		1733	1734
v/s Ratio Prot		c0.36	c0.14		0.29	0.27
v/s Ratio Perm						
v/c Ratio		0.74	0.44		0.59	0.30
Uniform Delay, d1		10.8	14.8		9.7	0.3
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.9	0.1		0.3	0.0
Delay (s)		12.7	14.9		10.0	0.3
Level of Service		B	B		B	A
Approach Delay (s/veh)	12.7		14.9			6.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

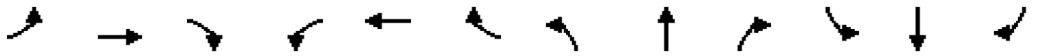
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	763	247	317	757	14	73	1	176	17	3	28
Future Volume (veh/h)	15	763	247	317	757	14	73	1	176	17	3	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	19	978	317	406	971	18	95	0	226	22	4	36
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	1307	583	231	1480	660	652	0	290	116	21	116
Arrive On Green	0.02	0.37	0.37	0.07	0.42	0.42	0.20	0.00	0.20	0.07	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	1742	317	1745
Grp Volume(v), veh/h	19	978	317	406	971	18	95	0	226	26	0	36
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2058	0	1745
Q Serve(g_s), s	0.6	14.4	9.5	4.0	13.2	0.4	1.4	0.0	8.8	0.7	0.0	1.2
Cycle Q Clear(g_c), s	0.6	14.4	9.5	4.0	13.2	0.4	1.4	0.0	8.8	0.7	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	32	1307	583	231	1480	660	652	0	290	137	0	116
V/C Ratio(X)	0.59	0.75	0.54	1.76	0.66	0.03	0.15	0.00	0.78	0.19	0.00	0.31
Avail Cap(c_a), veh/h	119	1660	740	231	1660	740	1971	0	877	137	0	116
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.2	16.5	15.0	28.0	14.1	10.3	19.8	0.0	22.8	26.4	0.0	26.7
Incr Delay (d2), s/veh	15.9	1.4	0.8	359.7	0.8	0.0	0.1	0.0	4.5	0.7	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	0.4	5.0	2.9	13.0	4.3	0.1	0.5	0.0	3.0	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.2	18.0	15.8	387.7	14.9	10.3	19.9	0.0	27.3	27.1	0.0	28.2
LnGrp LOS	D	B	B	F	B	B	B		C	C		C
Approach Vol, veh/h		1314			1395			321			62	
Approach Delay, s/veh		17.8			123.3			25.1			27.7	
Approach LOS		B			F			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.4	8.5	26.5		8.5	5.6	29.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		36.0	4.0	28.0		4.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		10.8	6.0	16.4		3.2	2.6	15.2				
Green Ext Time (p_c), s		1.1	0.0	5.7		0.0	0.0	5.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	66.4
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	37	118	130	34	41	85	787	79	28	1219	88
Future Volume (veh/h)	114	37	118	130	34	41	85	787	79	28	1219	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	133	43	137	228	161	91	96	884	89	29	1270	0
Peak Hour Factor	0.86	0.86	0.86	0.45	0.45	0.45	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	52	166	301	189	107	127	1483	149	66	1361	
Arrive On Green	0.14	0.14	0.14	0.17	0.17	0.17	0.07	0.45	0.45	0.04	0.42	0.00
Sat Flow, veh/h	1692	373	1189	1781	1122	634	1781	3260	328	1641	3274	1460
Grp Volume(v), veh/h	133	0	180	228	0	252	96	482	491	29	1270	0
Grp Sat Flow(s),veh/h/ln	1692	0	1562	1781	0	1756	1781	1777	1811	1641	1637	1460
Q Serve(g_s), s	6.5	0.0	10.0	10.8	0.0	12.4	4.7	18.0	18.0	1.5	32.9	0.0
Cycle Q Clear(g_c), s	6.5	0.0	10.0	10.8	0.0	12.4	4.7	18.0	18.0	1.5	32.9	0.0
Prop In Lane	1.00		0.76	1.00		0.36	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	236	0	218	301	0	297	127	808	824	66	1361	
V/C Ratio(X)	0.56	0.00	0.83	0.76	0.00	0.85	0.76	0.60	0.60	0.44	0.93	
Avail Cap(c_a), veh/h	514	0	474	841	0	830	501	1299	1324	277	2025	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.7	0.0	37.2	35.2	0.0	35.9	40.5	18.1	18.1	41.7	24.8	0.0
Incr Delay (d2), s/veh	0.8	0.0	3.1	1.5	0.0	2.6	3.4	0.3	0.3	1.7	5.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	4.0	4.8	0.0	5.5	2.1	6.6	6.7	0.6	12.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.5	0.0	40.3	36.7	0.0	38.5	43.9	18.4	18.4	43.4	29.7	0.0
LnGrp LOS	D		D	D		D	D	B	B	D	C	
Approach Vol, veh/h		313			480			1069			1299	
Approach Delay, s/veh		38.7			37.6			20.7			30.0	
Approach LOS		D			D			C			C	

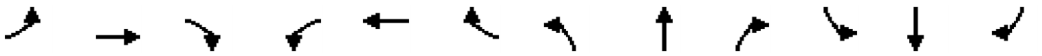
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	45.3		16.6	11.2	41.9		19.2				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	3.5	20.0		12.0	6.7	34.9		14.4				
Green Ext Time (p_c), s	0.0	1.7		0.4	0.0	2.1		0.6				

Intersection Summary		
HCM 7th Control Delay, s/veh	28.9	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	7	18	14	18	40	35	1039	9	27	1440	734
Future Volume (veh/h)	316	7	18	14	18	40	35	1039	9	27	1440	734
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	421	9	0	17	22	0	40	1194	10	28	1500	0
Peak Hour Factor	0.75	0.75	0.75	0.82	0.82	0.82	0.87	0.87	0.87	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	621	336		122	128		90	1356	580	90	1688	
Arrive On Green	0.20	0.20	0.00	0.06	0.06	0.00	0.06	0.45	0.45	0.05	0.44	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	421	9	0	17	22	0	40	1194	10	28	1500	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	9.9	0.3	0.0	0.6	0.7	0.0	2.0	28.1	0.3	1.1	27.8	0.0
Cycle Q Clear(g_c), s	9.9	0.3	0.0	0.6	0.7	0.0	2.0	28.1	0.3	1.1	27.8	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	621	336		122	128		90	1356	580	90	1688	
V/C Ratio(X)	0.68	0.03		0.14	0.17		0.45	0.88	0.02	0.31	0.89	
Avail Cap(c_a), veh/h	1817	983		697	732		466	2711	1161	597	3475	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.6	24.8	0.0	34.7	34.7	0.0	35.2	19.4	11.8	35.8	20.1	0.0
Incr Delay (d2), s/veh	2.8	0.1	0.0	0.4	0.5	0.0	1.3	0.8	0.0	0.7	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.1	0.0	0.3	0.4	0.0	0.7	8.3	0.1	0.5	10.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.4	24.9	0.0	35.0	35.2	0.0	36.5	20.2	11.8	36.5	20.7	0.0
LnGrp LOS	C	C		D	D		D	C	B	D	C	
Approach Vol, veh/h		430			39			1244			1528	
Approach Delay, s/veh		31.2			35.1			20.6			21.0	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	39.9		20.3	9.2	38.9		9.1				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	70.0		46.0	24.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	3.1	30.1		11.9	4.0	29.8		2.7				
Green Ext Time (p_c), s	0.0	3.0		3.9	0.0	4.2		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	22.4	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	5	0	0	0
Future Vol, veh/h	0	3	5	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	6	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	12	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1007	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1004	1083	1622	-	-	-
Mov Cap-2 Maneuver	1004	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.33	7.23	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1083	-	-
HCM Lane V/C Ratio	0.003	-	0.003	-	-
HCM Control Delay (s/veh)	7.2	0	8.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	3	5	3	0
Future Vol, veh/h	0	2	3	5	3	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	3	6	3	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	16	3	3	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1003	1080	1619	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1080	1619	-	-	-
Mov Cap-2 Maneuver	1001	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	1011	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.34	2.71	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	675	-	1080	-	-
HCM Lane V/C Ratio	0.002	-	0.002	-	-
HCM Control Delay (s/veh)	7.2	0	8.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	19	8	5	0
Future Vol, veh/h	0	11	19	8	5	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	21	9	6	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	57	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	951	1077	1616	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	938	1077	1616	-	-	-
Mov Cap-2 Maneuver	938	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.38	5.11	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1267	-	1077	-	-
HCM Lane V/C Ratio	0.013	-	0.011	-	-
HCM Control Delay (s/veh)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	2	0	0	0	33
Future Vol, veh/h	46	2	0	0	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	2	0	0	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	106	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	104	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	892	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	864	1083
Mov Cap-2 Maneuver	-	-	-	-	864	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	SB
HCM Control Delay, s/v	6.99	0	8.44
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1620	-	-	-	1083
HCM Lane V/C Ratio	0.032	-	-	-	0.034
HCM Control Delay (s/veh)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	342	50	33	25	28	373
Future Volume (Veh/h)	342	50	33	25	28	373
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	356	52	34	26	29	389
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		727	712	764	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		727	712	764	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	78		80	91	89	64
cM capacity (veh/h)	1623		166	279	261	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	178	178	52	34	26	29	389
Volume Left	178	178	0	34	0	0	0
Volume Right	0	0	52	0	0	0	389
cSH	1623	1623	1700	166	279	261	1085
Volume to Capacity	0.22	0.22	0.03	0.20	0.09	0.11	0.36
Queue Length 95th (ft)	21	21	0	18	8	9	41
Control Delay (s/veh)	7.8	7.8	0.0	32.1	19.2	20.5	10.2
Lane LOS	A	A		D	C	C	B
Approach Delay (s/veh)	6.8			26.5		10.9	
Approach LOS				D		B	

Intersection Summary			
Average Delay	10.1		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

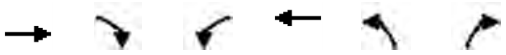
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	108	351	23	22	371	9	19	4	26	15	5	118
Future Vol, veh/h	108	351	23	22	371	9	19	4	26	15	5	118
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	366	24	23	386	9	20	4	27	16	5	123

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	396	0	0	390	0	0	832	1032	183	847	1052	198
Stage 1	-	-	-	-	-	-	591	591	-	437	437	-
Stage 2	-	-	-	-	-	-	242	442	-	410	615	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1159	-	-	1165	-	-	262	231	828	255	225	810
Stage 1	-	-	-	-	-	-	460	493	-	568	578	-
Stage 2	-	-	-	-	-	-	740	575	-	590	481	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1159	-	-	1165	-	-	192	205	828	215	199	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	192	205	-	215	199	-
Stage 1	-	-	-	-	-	-	416	445	-	557	566	-
Stage 2	-	-	-	-	-	-	610	564	-	510	434	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.89	0.45	17.06	13.37
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	192	589	1159	-	-	1165	-	-	573
HCM Lane V/C Ratio	0.103	0.053	0.097	-	-	0.02	-	-	0.251
HCM Control Delay (s/veh)	25.9	11.5	8.4	-	-	8.2	-	-	13.4
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.2	0.3	-	-	0.1	-	-	1



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	720	66	127	812	160	137
Future Volume (veh/h)	720	66	127	812	160	137
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	742	68	131	837	165	141
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1285	118	165	2159	256	228
Arrive On Green	0.39	0.39	0.09	0.61	0.14	0.14
Sat Flow, veh/h	3385	302	1781	3647	1781	1585
Grp Volume(v), veh/h	400	410	131	837	165	141
Grp Sat Flow(s),veh/h/ln	1777	1816	1781	1777	1781	1585
Q Serve(g_s), s	5.7	5.7	2.3	3.9	2.8	2.7
Cycle Q Clear(g_c), s	5.7	5.7	2.3	3.9	2.8	2.7
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	694	709	165	2159	256	228
V/C Ratio(X)	0.58	0.58	0.79	0.39	0.64	0.62
Avail Cap(c_a), veh/h	1271	1299	222	3427	332	296
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	7.7	7.7	14.3	3.2	13.0	12.9
Incr Delay (d2), s/veh	0.8	0.7	13.2	0.1	2.7	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.6	1.4	0.5	1.1	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.5	8.5	27.5	3.4	15.7	15.7
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	810			968	306	
Approach Delay, s/veh	8.5			6.6	15.7	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	8.6	7.0	16.5		23.5
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s	4.8	4.3	7.7		5.9
Green Ext Time (p_c), s	0.1	0.0	4.8		6.8

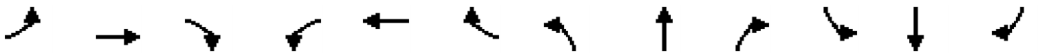
Intersection Summary	
HCM 7th Control Delay, s/veh	8.7
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	346	119	117	446	264	123
Future Volume (veh/h)	0	346	119	117	446	264	123
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		353	121	119	455	269	126
Peak Hour Factor		0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		724	244	150	1824	636	292
Arrive On Green		0.28	0.28	0.08	0.51	0.18	0.18
Sat Flow, veh/h		2702	880	1781	3647	3456	1585
Grp Volume(v), veh/h		239	235	119	455	269	126
Grp Sat Flow(s),veh/h/ln		1777	1712	1781	1777	1728	1585
Q Serve(g_s), s		3.3	3.4	1.9	2.1	2.0	2.1
Cycle Q Clear(g_c), s		3.3	3.4	1.9	2.1	2.0	2.1
Prop In Lane			0.51	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		493	475	150	1824	636	292
V/C Ratio(X)		0.48	0.49	0.79	0.25	0.42	0.43
Avail Cap(c_a), veh/h		1554	1497	240	3107	3661	1679
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		9.0	9.0	13.4	4.0	10.7	10.8
Incr Delay (d2), s/veh		0.7	0.8	9.1	0.1	0.4	1.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.9	0.9	1.0	0.3	0.6	0.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		9.7	9.8	22.4	4.1	11.2	11.8
LnGrp LOS		A	A	C	A	B	B
Approach Vol, veh/h		474			574	395	
Approach Delay, s/veh		9.7			7.9	11.4	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4				8
Phs Duration (G+Y+Rc), s	10.0	7.0	12.8				19.8
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0				26.0
Max Q Clear Time (g_c+I1), s	4.1	3.9	5.4				4.1
Green Ext Time (p_c), s	1.4	0.0	2.8				3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	9.5
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	288	68	105	381	275	81	332	145	205	182	75
Future Volume (veh/h)	176	288	68	105	381	275	81	332	145	205	182	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	316	75	111	401	289	94	386	169	216	192	79
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	761	178	204	462	391	215	513	229	517	430	171
Arrive On Green	0.13	0.27	0.27	0.11	0.25	0.25	0.12	0.14	0.14	0.15	0.17	0.17
Sat Flow, veh/h	1781	2858	669	1781	1870	1585	1781	3554	1585	3456	2484	986
Grp Volume(v), veh/h	193	195	196	111	401	289	94	386	169	216	135	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1870	1585	1781	1777	1585	1728	1777	1693
Q Serve(g_s), s	6.1	5.3	5.4	3.4	12.0	9.8	2.9	6.1	6.0	3.3	4.0	4.2
Cycle Q Clear(g_c), s	6.1	5.3	5.4	3.4	12.0	9.8	2.9	6.1	6.0	3.3	4.0	4.2
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	239	473	466	204	462	391	215	513	229	517	308	293
V/C Ratio(X)	0.81	0.41	0.42	0.54	0.87	0.74	0.44	0.75	0.74	0.42	0.44	0.46
Avail Cap(c_a), veh/h	488	639	629	366	833	706	458	2130	950	1065	1065	1015
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	24.6	17.6	17.7	24.4	21.1	20.3	23.8	24.0	23.9	22.5	21.6	21.7
Incr Delay (d2), s/veh	2.5	0.2	0.2	0.8	2.0	1.0	0.5	0.8	1.8	0.2	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	2.6	2.0	2.1	1.4	5.1	3.5	1.1	2.3	0.1	1.2	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.0	17.9	17.9	25.3	23.1	21.3	24.4	24.8	25.7	22.7	22.0	22.1
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		584			801			649			487	
Approach Delay, s/veh		20.9			22.7			25.0			22.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	14.1	11.3	20.2	11.1	15.8	12.4	19.0
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	21.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.3	8.1	5.4	7.4	4.9	6.2	8.1	14.0
Green Ext Time (p_c), s	0.0	0.3	0.0	0.4	0.0	0.2	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	22.8
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	822	637	146	821	462
Future Volume (vph)	0	822	637	146	821	462
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.97		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3354		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3354		3519	1909
Peak-hour factor, PHF	0.87	0.87	0.91	0.91	0.90	0.90
Adj. Flow (vph)	0	945	700	160	912	513
RTOR Reduction (vph)	0	179	14	0	0	0
Lane Group Flow (vph)	0	766	846	0	912	513
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		28.0	29.9		28.0	68.5
Effective Green, g (s)		28.0	29.9		28.0	63.6
Actuated g/C Ratio		0.41	0.44		0.41	0.93
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1087	1464		1438	1772
v/s Ratio Prot		c0.29	c0.25		0.26	0.27
v/s Ratio Perm						
v/c Ratio		0.70	0.58		0.63	0.29
Uniform Delay, d1		16.8	14.5		16.2	0.2
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.7	0.3		0.7	0.0
Delay (s)		18.5	14.9		16.8	0.3
Level of Service		B	B		B	A
Approach Delay (s/veh)	18.5		14.9			10.9
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	10.6
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

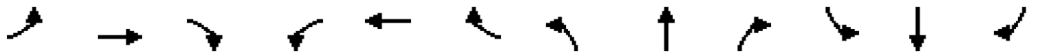
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	767	173	321	574	7	240	16	455	7	12	8
Future Volume (veh/h)	21	767	173	321	574	7	240	16	455	7	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	22	807	182	338	604	7	265	0	479	7	13	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1029	459	183	1148	512	1201	0	534	39	73	93
Arrive On Green	0.02	0.29	0.29	0.05	0.32	0.32	0.37	0.00	0.37	0.05	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	738	1370	1745
Grp Volume(v), veh/h	22	807	182	338	604	7	265	0	479	20	0	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2108	0	1745
Q Serve(g_s), s	0.9	15.8	7.0	4.0	10.5	0.2	4.2	0.0	23.4	0.7	0.0	0.3
Cycle Q Clear(g_c), s	0.9	15.8	7.0	4.0	10.5	0.2	4.2	0.0	23.4	0.7	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	35	1029	459	183	1148	512	1201	0	534	112	0	93
V/C Ratio(X)	0.63	0.78	0.40	1.85	0.53	0.01	0.22	0.00	0.90	0.18	0.00	0.09
Avail Cap(c_a), veh/h	94	1318	588	183	1318	588	1566	0	697	112	0	93
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.7	24.6	21.5	35.7	20.8	17.4	16.5	0.0	22.6	34.2	0.0	34.0
Incr Delay (d2), s/veh	17.2	2.4	0.6	400.8	0.4	0.0	0.1	0.0	11.9	0.8	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.3	2.4	11.8	3.9	0.1	1.5	0.0	8.7	0.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.0	27.1	22.1	436.5	21.2	17.4	16.6	0.0	34.4	34.9	0.0	34.4
LnGrp LOS	D	C	C	F	C	B	B		C	C		C
Approach Vol, veh/h		1011			949			744			28	
Approach Delay, s/veh		26.8			169.1			28.1			34.8	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	32.1	8.5	26.4	8.5	6.0	28.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	36.0	4.0	28.0	4.0	4.0	28.0
Max Q Clear Time (g_c+I1), s	25.4	6.0	17.8	2.7	2.9	12.5
Green Ext Time (p_c), s	2.3	0.0	4.1	0.0	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	76.6
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	10	142	53	14	14	151	1268	4	8	1049	167
Future Volume (veh/h)	258	10	142	53	14	14	151	1268	4	8	1049	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	247	102	171	73	57	25	157	1321	4	8	1093	0
Peak Hour Factor	0.83	0.83	0.83	0.56	0.56	0.56	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	119	200	157	108	48	194	1707	5	23	1199	
Arrive On Green	0.20	0.20	0.20	0.09	0.09	0.09	0.11	0.47	0.47	0.01	0.37	0.00
Sat Flow, veh/h	1692	596	1000	1781	1232	541	1781	3634	11	1641	3274	1460
Grp Volume(v), veh/h	247	0	273	73	0	82	157	646	679	8	1093	0
Grp Sat Flow(s),veh/h/ln	1692	0	1596	1781	0	1773	1781	1777	1868	1641	1637	1460
Q Serve(g_s), s	10.5	0.0	12.7	3.0	0.0	3.4	6.6	23.2	23.2	0.4	24.4	0.0
Cycle Q Clear(g_c), s	10.5	0.0	12.7	3.0	0.0	3.4	6.6	23.2	23.2	0.4	24.4	0.0
Prop In Lane	1.00		0.63	1.00		0.30	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	338	0	319	157	0	156	194	835	878	23	1199	
V/C Ratio(X)	0.73	0.00	0.86	0.47	0.00	0.53	0.81	0.77	0.77	0.34	0.91	
Avail Cap(c_a), veh/h	596	0	562	976	0	971	581	1506	1584	321	2349	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.7	0.0	29.6	33.3	0.0	33.4	33.4	16.9	16.9	37.4	23.1	0.0
Incr Delay (d2), s/veh	1.1	0.0	2.6	0.8	0.0	1.0	3.1	0.6	0.6	3.1	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	5.0	1.3	0.0	1.5	2.8	8.0	8.4	0.2	8.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.9	0.0	32.2	34.1	0.0	34.5	36.4	17.5	17.5	40.6	24.3	0.0
LnGrp LOS	C		C	C		C	D	B	B	D	C	
Approach Vol, veh/h		520			155			1482			1101	
Approach Delay, s/veh		31.1			34.3			19.5			24.4	
Approach LOS		C			C			B			C	

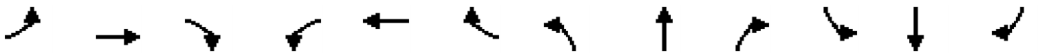
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	40.9		19.5	13.2	33.0		10.9				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	2.4	25.2		14.7	8.6	26.4		5.4				
Green Ext Time (p_c), s	0.0	2.6		0.7	0.0	1.7		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.7	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	816	13	19	13	15	46	17	1499	15	51	1214	497
Future Volume (veh/h)	816	13	19	13	15	46	17	1499	15	51	1214	497
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	1020	16	0	19	22	0	18	1612	16	54	1291	0
Peak Hour Factor	0.80	0.80	0.80	0.68	0.68	0.68	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	861	466		86	90		41	1560	668	86	2066	
Arrive On Green	0.28	0.28	0.00	0.04	0.04	0.00	0.03	0.52	0.52	0.04	0.54	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	1020	16	0	19	22	0	18	1612	16	54	1291	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	46.0	1.1	0.0	1.4	1.6	0.0	1.9	85.0	1.0	4.5	38.3	0.0
Cycle Q Clear(g_c), s	46.0	1.1	0.0	1.4	1.6	0.0	1.9	85.0	1.0	4.5	38.3	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	861	466		86	90		41	1560	668	86	2066	
V/C Ratio(X)	1.19	0.03		0.22	0.24		0.44	1.03	0.02	0.63	0.62	
Avail Cap(c_a), veh/h	861	466		330	347		460	1560	668	283	2066	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.9	42.8	0.0	76.0	76.0	0.0	78.4	39.4	19.2	76.9	26.5	0.0
Incr Delay (d2), s/veh	95.1	0.1	0.0	1.0	1.0	0.0	2.7	31.9	0.0	2.8	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.2	0.5	0.0	0.8	0.9	0.0	0.8	36.6	0.3	2.3	17.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	154.0	42.8	0.0	76.9	77.1	0.0	81.1	71.3	19.2	79.6	26.9	0.0
LnGrp LOS	F	D		E	E		F	F	B	E	C	
Approach Vol, veh/h		1036			41			1646			1345	
Approach Delay, s/veh		152.3			77.0			70.9			29.0	
Approach LOS		F			E			E			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	89.9		50.6	9.1	92.7		11.4				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	85.0		46.0	50.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	6.5	87.0		48.0	3.9	40.3		3.6				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	3.3		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh		77.8
HCM 7th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1083	1621	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1083	1621	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1083	1621	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	1	1	0	0	6
Future Vol, veh/h	6	1	1	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	1	1	0	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	20	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	19	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1621	-	-	-	997	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1004	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1621	-	-	-	992	1083
Mov Cap-2 Maneuver	-	-	-	-	992	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1004	-

Approach	EB	WB	SB
HCM Control Delay, s/v	6.2	0	8.35
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1543	-	-	-	1083
HCM Lane V/C Ratio	0.005	-	-	-	0.008
HCM Control Delay (s/veh)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	163	18	12	14	9	308
Future Volume (Veh/h)	163	18	12	14	9	308
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	204	22	15	18	11	385
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		414	408	430	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		414	408	430	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	87		95	96	98	65
cM capacity (veh/h)	1623		314	466	453	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	102	102	22	15	18	11	385
Volume Left	102	102	0	15	0	0	0
Volume Right	0	0	22	0	0	0	385
cSH	1623	1623	1700	314	466	453	1085
Volume to Capacity	0.13	0.13	0.01	0.05	0.04	0.02	0.35
Queue Length 95th (ft)	11	11	0	4	3	2	41
Control Delay (s/veh)	7.5	7.5	0.0	17.0	13.0	13.2	10.1
Lane LOS	A	A		C	B	B	B
Approach Delay (s/veh)	6.8			14.9		10.2	
Approach LOS				B		B	

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	154	9	12	299	6	9	2	20	8	2	26
Future Vol, veh/h	86	154	9	12	299	6	9	2	20	8	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	173	10	13	336	7	10	2	22	9	2	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	343	0	0	183	0	0	562	736	87	647	743	171
Stage 1	-	-	-	-	-	-	366	366	-	366	366	-
Stage 2	-	-	-	-	-	-	196	370	-	281	376	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1213	-	-	1389	-	-	409	345	955	356	342	842
Stage 1	-	-	-	-	-	-	625	621	-	625	621	-
Stage 2	-	-	-	-	-	-	787	619	-	702	615	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1213	-	-	1389	-	-	358	314	955	315	312	842
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	314	-	315	312	-
Stage 1	-	-	-	-	-	-	576	572	-	619	615	-
Stage 2	-	-	-	-	-	-	750	613	-	629	566	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.84	0.29	11.28	11.75
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	358	806	1213	-	-	1389	-	-	574
HCM Lane V/C Ratio	0.028	0.031	0.08	-	-	0.01	-	-	0.07
HCM Control Delay (s/veh)	15.4	9.6	8.2	-	-	7.6	-	-	11.7
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	0.3	-	-	0	-	-	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	476	108	78	568	40	42
Future Volume (veh/h)	476	108	78	568	40	42
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	603	137	99	719	51	53
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1155	262	138	2224	143	127
Arrive On Green	0.40	0.40	0.08	0.63	0.08	0.08
Sat Flow, veh/h	2971	652	1781	3647	1781	1585
Grp Volume(v), veh/h	372	368	99	719	51	53
Grp Sat Flow(s),veh/h/ln	1777	1753	1781	1777	1781	1585
Q Serve(g_s), s	4.3	4.3	1.5	2.6	0.7	0.9
Cycle Q Clear(g_c), s	4.3	4.3	1.5	2.6	0.7	0.9
Prop In Lane		0.37	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	713	704	138	2224	143	127
V/C Ratio(X)	0.52	0.52	0.72	0.32	0.36	0.42
Avail Cap(c_a), veh/h	1502	1482	262	4049	393	350
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	6.2	6.2	12.3	2.4	11.9	11.9
Incr Delay (d2), s/veh	0.6	0.6	6.8	0.1	1.5	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	0.7	0.1	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.8	6.8	19.1	2.5	13.4	14.1
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	740			818	104	
Approach Delay, s/veh	6.8			4.5	13.7	
Approach LOS	A			A	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		6.2	6.1	14.9		21.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s		2.9	3.5	6.3		4.6
Green Ext Time (p_c), s		0.1	0.0	4.6		5.7

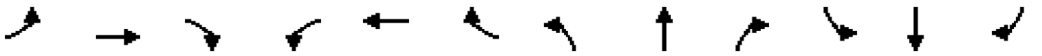
Intersection Summary	
HCM 7th Control Delay, s/veh	6.1
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	310	71	93	247	146	37
Future Volume (veh/h)	0	310	71	93	247	146	37
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		378	87	113	301	178	45
Peak Hour Factor		0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		810	184	150	1878	504	231
Arrive On Green		0.28	0.28	0.08	0.53	0.15	0.15
Sat Flow, veh/h		2968	655	1781	3647	3456	1585
Grp Volume(v), veh/h		232	233	113	301	178	45
Grp Sat Flow(s),veh/h/ln		1777	1753	1781	1777	1728	1585
Q Serve(g_s), s		3.0	3.0	1.7	1.2	1.3	0.7
Cycle Q Clear(g_c), s		3.0	3.0	1.7	1.2	1.3	0.7
Prop In Lane			0.37	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		501	494	150	1878	504	231
V/C Ratio(X)		0.46	0.47	0.76	0.16	0.35	0.19
Avail Cap(c_a), veh/h		1672	1649	258	3343	3939	1807
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		8.2	8.2	12.4	3.4	10.6	10.4
Incr Delay (d2), s/veh		0.7	0.7	7.5	0.0	0.4	0.4
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.8	0.8	0.8	0.1	0.4	0.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		8.9	8.9	19.9	3.4	11.1	10.8
LnGrp LOS		A	A	B	A	B	B
Approach Vol, veh/h		465			414	223	
Approach Delay, s/veh		8.9			7.9	11.0	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4				8
Phs Duration (G+Y+Rc), s	8.5	6.8	12.3				19.1
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0				26.0
Max Q Clear Time (g_c+I1), s	3.3	3.7	5.0				3.2
Green Ext Time (p_c), s	0.7	0.0	2.8				1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	235	47	85	218	165	38	127	84	226	262	75
Future Volume (veh/h)	187	235	47	85	218	165	38	127	84	226	262	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	336	67	96	245	185	45	151	100	251	291	83
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	690	136	200	311	264	145	520	232	556	619	173
Arrive On Green	0.18	0.23	0.23	0.11	0.17	0.17	0.08	0.15	0.15	0.16	0.23	0.23
Sat Flow, veh/h	1781	2959	583	1781	1870	1585	1781	3554	1585	3456	2741	768
Grp Volume(v), veh/h	267	200	203	96	245	185	45	151	100	251	187	187
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1870	1585	1781	1777	1585	1728	1777	1732
Q Serve(g_s), s	7.9	5.3	5.4	2.8	6.9	6.0	1.3	2.1	3.1	3.6	5.0	5.1
Cycle Q Clear(g_c), s	7.9	5.3	5.4	2.8	6.9	6.0	1.3	2.1	3.1	3.6	5.0	5.1
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	319	414	412	200	311	264	145	520	232	556	401	391
V/C Ratio(X)	0.84	0.48	0.49	0.48	0.79	0.70	0.31	0.29	0.43	0.45	0.47	0.48
Avail Cap(c_a), veh/h	521	682	678	391	889	753	489	2274	1014	1137	1137	1108
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	21.7	18.1	18.2	22.8	21.9	21.5	23.7	20.8	21.3	20.8	18.3	18.4
Incr Delay (d2), s/veh	2.9	0.3	0.3	0.7	1.7	1.3	0.4	0.1	0.5	0.2	0.3	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	3.3	2.1	2.1	1.1	3.0	2.2	0.5	0.8	1.1	1.3	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.6	18.4	18.5	23.4	23.5	22.8	24.1	20.9	21.7	21.0	18.6	18.7
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		670			526			296			625	
Approach Delay, s/veh		20.9			23.3			21.7			19.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	13.7	10.7	17.4	8.6	18.0	14.4	13.7
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	21.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.6	5.1	4.8	7.4	3.3	7.1	9.9	8.9
Green Ext Time (p_c), s	0.0	0.1	0.0	0.4	0.0	0.3	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	21.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	946	343	61	1024	517
Future Volume (vph)	0	946	343	61	1024	517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.98		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3373		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3373		3519	1909
Peak-hour factor, PHF	0.67	0.67	0.83	0.83	0.95	0.95
Adj. Flow (vph)	0	1412	413	73	1078	544
RTOR Reduction (vph)	0	266	14	0	0	0
Lane Group Flow (vph)	0	1146	472	0	1078	544
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		36.6	18.6		36.6	65.8
Effective Green, g (s)		36.6	18.6		36.6	60.9
Actuated g/C Ratio		0.56	0.28		0.56	0.93
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1480	953		1957	1766
v/s Ratio Prot		c0.43	c0.14		0.31	0.28
v/s Ratio Perm						
v/c Ratio		0.77	0.49		0.55	0.31
Uniform Delay, d1		11.4	19.7		9.3	0.3
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		2.4	0.1		0.2	0.0
Delay (s)		13.7	19.8		9.5	0.3
Level of Service		B	B		A	A
Approach Delay (s/veh)	13.7		19.8			6.4
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	65.8	Sum of lost time (s)	10.6
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	813	257	341	841	15	76	1	183	18	3	29
Future Volume (veh/h)	16	813	257	341	841	15	76	1	183	18	3	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	21	1042	329	437	1078	19	98	0	235	23	4	37
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1342	599	223	1502	670	668	0	297	113	20	112
Arrive On Green	0.02	0.38	0.38	0.06	0.42	0.42	0.20	0.00	0.20	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	1753	305	1745
Grp Volume(v), veh/h	21	1042	329	437	1078	19	98	0	235	27	0	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2058	0	1745
Q Serve(g_s), s	0.7	16.0	10.1	4.0	15.6	0.4	1.5	0.0	9.5	0.8	0.0	1.3
Cycle Q Clear(g_c), s	0.7	16.0	10.1	4.0	15.6	0.4	1.5	0.0	9.5	0.8	0.0	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	35	1342	599	223	1502	670	668	0	297	133	0	112
V/C Ratio(X)	0.60	0.78	0.55	1.96	0.72	0.03	0.15	0.00	0.79	0.20	0.00	0.33
Avail Cap(c_a), veh/h	115	1603	715	223	1603	715	1903	0	847	133	0	112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	17.0	15.2	29.0	14.9	10.5	20.3	0.0	23.5	27.5	0.0	27.8
Incr Delay (d2), s/veh	15.5	2.1	0.8	449.2	1.5	0.0	0.1	0.0	4.7	0.7	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.7	3.1	15.4	5.3	0.1	0.6	0.0	3.2	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.7	19.1	16.0	478.2	16.3	10.5	20.4	0.0	28.2	28.3	0.0	29.4
LnGrp LOS	D	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1392			1534			333			64	
Approach Delay, s/veh		18.7			147.8			25.9			29.0	
Approach LOS		B			F			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	17.1	8.5	28.0	8.5	5.7	30.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	36.0	4.0	28.0	4.0	4.0	28.0
Max Q Clear Time (g_c+I1), s	11.5	6.0	18.0	3.3	2.7	17.6
Green Ext Time (p_c), s	1.2	0.0	5.4	0.0	0.0	5.0

Intersection Summary	
HCM 7th Control Delay, s/veh	79.2
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	38	125	135	35	43	93	862	82	29	1282	92
Future Volume (veh/h)	119	38	125	135	35	43	93	862	82	29	1282	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	138	44	145	237	166	96	104	969	92	30	1335	0
Peak Hour Factor	0.86	0.86	0.86	0.45	0.45	0.45	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	52	170	306	191	110	131	1550	147	65	1414	
Arrive On Green	0.14	0.14	0.14	0.17	0.17	0.17	0.07	0.47	0.47	0.04	0.43	0.00
Sat Flow, veh/h	1692	363	1197	1781	1112	643	1781	3280	311	1641	3274	1460
Grp Volume(v), veh/h	138	0	189	237	0	262	104	525	536	30	1335	0
Grp Sat Flow(s),veh/h/ln	1692	0	1561	1781	0	1755	1781	1777	1814	1641	1637	1460
Q Serve(g_s), s	7.7	0.0	11.9	12.8	0.0	14.6	5.8	22.3	22.3	1.8	39.4	0.0
Cycle Q Clear(g_c), s	7.7	0.0	11.9	12.8	0.0	14.6	5.8	22.3	22.3	1.8	39.4	0.0
Prop In Lane	1.00		0.77	1.00		0.37	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	241	0	222	306	0	301	131	840	858	65	1414	
V/C Ratio(X)	0.57	0.00	0.85	0.77	0.00	0.87	0.80	0.63	0.63	0.46	0.94	
Avail Cap(c_a), veh/h	454	0	418	743	0	732	442	1147	1171	244	1788	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.3	0.0	42.1	39.8	0.0	40.6	45.9	19.9	19.9	47.3	27.4	0.0
Incr Delay (d2), s/veh	0.8	0.0	3.5	1.6	0.0	3.0	4.1	0.3	0.3	1.9	8.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	4.8	5.7	0.0	6.6	2.6	8.4	8.6	0.7	15.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.1	0.0	45.7	41.4	0.0	43.6	50.0	20.2	20.2	49.2	36.0	0.0
LnGrp LOS	D		D	D		D	D	C	C	D	D	
Approach Vol, veh/h		327			499			1165			1365	
Approach Delay, s/veh		43.8			42.6			22.8			36.3	
Approach LOS		D			D			C			D	

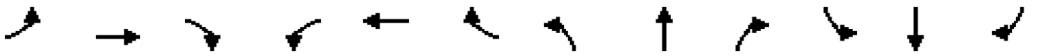
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	52.5		18.5	12.3	48.4		21.5				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	3.8	24.3		13.9	7.8	41.4		16.6				
Green Ext Time (p_c), s	0.0	1.9		0.4	0.0	2.1		0.7				

Intersection Summary		
HCM 7th Control Delay, s/veh	33.3	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	329	7	19	15	19	42	37	1123	9	28	1512	764
Future Volume (veh/h)	329	7	19	15	19	42	37	1123	9	28	1512	764
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	439	9	0	18	23	0	43	1291	10	29	1575	0
Peak Hour Factor	0.75	0.75	0.75	0.82	0.82	0.82	0.87	0.87	0.87	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	627	339		122	128		91	1407	602	90	1751	
Arrive On Green	0.20	0.20	0.00	0.06	0.06	0.00	0.06	0.47	0.47	0.05	0.45	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	439	9	0	18	23	0	43	1291	10	29	1575	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	11.2	0.4	0.0	0.7	0.8	0.0	2.3	33.7	0.4	1.2	31.8	0.0
Cycle Q Clear(g_c), s	11.2	0.4	0.0	0.7	0.8	0.0	2.3	33.7	0.4	1.2	31.8	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	627	339		122	128		91	1407	602	90	1751	
V/C Ratio(X)	0.70	0.03		0.15	0.18		0.47	0.92	0.02	0.32	0.90	
Avail Cap(c_a), veh/h	1673	906		642	674		429	2497	1069	550	3201	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.1	26.8	0.0	37.7	37.7	0.0	38.3	20.9	12.0	38.9	21.2	0.0
Incr Delay (d2), s/veh	3.0	0.1	0.0	0.4	0.5	0.0	1.4	1.5	0.0	0.8	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.1	0.0	0.4	0.5	0.0	0.9	10.4	0.1	0.6	12.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.2	26.9	0.0	38.1	38.2	0.0	39.7	22.4	12.0	39.6	21.9	0.0
LnGrp LOS	C	C		D	D		D	C	B	D	C	
Approach Vol, veh/h		448			41			1344			1604	
Approach Delay, s/veh		34.0			38.1			22.9			22.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	44.3		21.8	9.7	43.2		9.5				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	70.0		46.0	24.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	3.2	35.7		13.2	4.3	33.8		2.8				
Green Ext Time (p_c), s	0.0	3.3		4.0	0.0	4.5		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh		24.2
HCM 7th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1083	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1083	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
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	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1083	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	0	0	0	8
Future Vol, veh/h	5	2	0	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	2	0	0	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	14	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1004	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1622	-	-	-	1001	1083
Mov Cap-2 Maneuver	-	-	-	-	1001	-
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	SB
HCM Control Delay, s/v	5.16	0	8.35
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1286	-	-	-	1083
HCM Lane V/C Ratio	0.003	-	-	-	0.008
HCM Control Delay (s/veh)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	362	18	14	21	21	396
Future Volume (Veh/h)	362	18	14	21	21	396
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	377	19	15	22	22	412
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		765	754	773	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		765	754	773	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	77		90	92	91	62
cM capacity (veh/h)	1623		153	260	253	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	189	189	19	15	22	22	412
Volume Left	189	189	0	15	0	0	0
Volume Right	0	0	19	0	0	0	412
cSH	1623	1623	1700	153	260	253	1085
Volume to Capacity	0.23	0.23	0.01	0.10	0.08	0.09	0.38
Queue Length 95th (ft)	23	23	0	8	7	7	45
Control Delay (s/veh)	7.9	7.9	0.0	31.2	20.1	20.6	10.3
Lane LOS	A	A		D	C	C	B
Approach Delay (s/veh)	7.5			24.6		10.9	
Approach LOS				C		B	

Intersection Summary			
Average Delay	9.9		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	112	337	24	23	373	9	20	4	27	16	5	123
Future Vol, veh/h	112	337	24	23	373	9	20	4	27	16	5	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	351	25	24	389	9	21	4	28	17	5	128

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	398	0	0	376	0	0	829	1030	176	852	1051	199
Stage 1	-	-	-	-	-	-	584	584	-	441	441	-
Stage 2	-	-	-	-	-	-	245	446	-	411	609	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1157	-	-	1179	-	-	263	232	837	253	226	809
Stage 1	-	-	-	-	-	-	464	496	-	565	575	-
Stage 2	-	-	-	-	-	-	737	572	-	589	483	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1157	-	-	1179	-	-	190	204	837	212	199	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	204	-	212	199	-
Stage 1	-	-	-	-	-	-	418	446	-	553	564	-
Stage 2	-	-	-	-	-	-	602	561	-	507	435	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2	0.46	17.19	13.57
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	190	598	1157	-	-	1179	-	-	569
HCM Lane V/C Ratio	0.109	0.054	0.101	-	-	0.02	-	-	0.263
HCM Control Delay (s/veh)	26.2	11.4	8.5	-	-	8.1	-	-	13.6
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.2	0.3	-	-	0.1	-	-	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	721	69	131	829	166	141
Future Volume (veh/h)	721	69	131	829	166	141
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	743	71	135	855	171	145
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1276	122	170	2160	261	233
Arrive On Green	0.39	0.39	0.10	0.61	0.15	0.15
Sat Flow, veh/h	3371	313	1781	3647	1781	1585
Grp Volume(v), veh/h	403	411	135	855	171	145
Grp Sat Flow(s),veh/h/ln	1777	1814	1781	1777	1781	1585
Q Serve(g_s), s	5.8	5.8	2.4	4.1	3.0	2.8
Cycle Q Clear(g_c), s	5.8	5.8	2.4	4.1	3.0	2.8
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	692	706	170	2160	261	233
V/C Ratio(X)	0.58	0.58	0.79	0.40	0.65	0.62
Avail Cap(c_a), veh/h	1254	1280	219	3381	328	292
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	7.9	7.9	14.4	3.3	13.1	13.1
Incr Delay (d2), s/veh	0.8	0.8	14.1	0.1	3.2	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.7	1.5	0.5	1.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.6	8.6	28.5	3.4	16.3	15.8
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	814			990	316	
Approach Delay, s/veh	8.6			6.8	16.1	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	8.8	7.1	16.7		23.8
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s	5.0	4.4	7.8		6.1
Green Ext Time (p_c), s	0.1	0.0	4.9		6.9

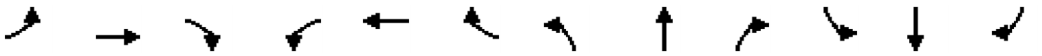
Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	332	124	122	448	275	127
Future Volume (veh/h)	0	332	124	122	448	275	127
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		339	127	124	457	281	130
Peak Hour Factor		0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		697	257	155	1817	649	298
Arrive On Green		0.27	0.27	0.09	0.51	0.19	0.19
Sat Flow, veh/h		2636	936	1781	3647	3456	1585
Grp Volume(v), veh/h		235	231	124	457	281	130
Grp Sat Flow(s),veh/h/ln		1777	1702	1781	1777	1728	1585
Q Serve(g_s), s		3.3	3.4	2.0	2.2	2.2	2.2
Cycle Q Clear(g_c), s		3.3	3.4	2.0	2.2	2.2	2.2
Prop In Lane			0.55	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		487	466	155	1817	649	298
V/C Ratio(X)		0.48	0.50	0.80	0.25	0.43	0.44
Avail Cap(c_a), veh/h		1545	1479	238	3089	3640	1669
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		9.1	9.1	13.4	4.1	10.7	10.7
Incr Delay (d2), s/veh		0.7	0.8	10.4	0.1	0.5	1.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.0	0.9	1.1	0.3	0.6	0.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		9.8	9.9	23.8	4.2	11.2	11.8
LnGrp LOS		A	A	C	A	B	B
Approach Vol, veh/h		466			581	411	
Approach Delay, s/veh		9.9			8.4	11.4	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4				8
Phs Duration (G+Y+Rc), s	10.1	7.1	12.7				19.8
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0				26.0
Max Q Clear Time (g_c+I1), s	4.2	4.0	5.4				4.2
Green Ext Time (p_c), s	1.4	0.0	2.8				3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	9.7
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	299	71	112	399	286	84	347	153	203	189	78
Future Volume (veh/h)	185	299	71	112	399	286	84	347	153	203	189	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	329	78	118	420	301	98	403	178	214	199	82
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	804	188	203	478	405	213	525	234	498	427	170
Arrive On Green	0.14	0.28	0.28	0.11	0.26	0.26	0.12	0.15	0.15	0.14	0.17	0.17
Sat Flow, veh/h	1781	2858	669	1781	1870	1585	1781	3554	1585	3456	2482	988
Grp Volume(v), veh/h	203	203	204	118	420	301	98	403	178	214	140	141
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1870	1585	1781	1777	1585	1728	1777	1693
Q Serve(g_s), s	6.7	5.6	5.8	3.8	13.1	10.6	3.1	6.6	6.5	3.4	4.3	4.6
Cycle Q Clear(g_c), s	6.7	5.6	5.8	3.8	13.1	10.6	3.1	6.6	6.5	3.4	4.3	4.6
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	248	500	492	203	478	405	213	525	234	498	306	291
V/C Ratio(X)	0.82	0.41	0.41	0.58	0.88	0.74	0.46	0.77	0.76	0.43	0.46	0.48
Avail Cap(c_a), veh/h	469	615	605	352	801	679	440	2049	914	1024	1024	976
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	25.4	17.7	17.8	25.5	21.7	20.8	24.9	24.9	24.8	23.7	22.6	22.7
Incr Delay (d2), s/veh	2.5	0.2	0.2	1.0	3.2	1.0	0.6	0.9	1.9	0.2	0.4	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	2.2	2.2	1.6	5.8	3.8	1.2	2.5	2.5	1.3	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.9	17.9	18.0	26.5	24.9	21.8	25.5	25.8	26.7	23.9	23.0	23.1
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		610			839			679			495	
Approach Delay, s/veh		21.2			24.0			26.0			23.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	14.7	11.5	21.7	11.4	16.2	13.1	20.1
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	21.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.4	8.6	5.8	7.8	5.1	6.6	8.7	15.1
Green Ext Time (p_c), s	0.0	0.4	0.0	0.4	0.0	0.2	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	23.8
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	890	662	156	913	470
Future Volume (vph)	0	890	662	156	913	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.97		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3352		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3352		3519	1909
Peak-hour factor, PHF	0.87	0.87	0.91	0.91	0.90	0.90
Adj. Flow (vph)	0	1023	727	171	1014	522
RTOR Reduction (vph)	0	161	14	0	0	0
Lane Group Flow (vph)	0	862	884	0	1014	522
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		33.8	34.3		33.8	78.7
Effective Green, g (s)		33.8	34.3		33.8	73.8
Actuated g/C Ratio		0.43	0.44		0.43	0.94
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1142	1460		1511	1790
v/s Ratio Prot		c0.32	c0.26		0.29	0.27
v/s Ratio Perm						
v/c Ratio		0.75	0.61		0.67	0.29
Uniform Delay, d1		19.0	17.0		18.0	0.2
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		2.6	0.5		0.9	0.0
Delay (s)		21.5	17.5		18.9	0.2
Level of Service		C	B		B	A
Approach Delay (s/veh)	21.5		17.5			12.6
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	10.6
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	861	180	337	632	7	250	17	480	7	12	8
Future Volume (veh/h)	22	861	180	337	632	7	250	17	480	7	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	23	906	189	355	665	7	276	0	505	7	13	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1080	482	169	1183	528	1238	0	551	36	67	86
Arrive On Green	0.02	0.30	0.30	0.05	0.33	0.33	0.38	0.00	0.38	0.05	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	738	1370	1745
Grp Volume(v), veh/h	23	906	189	355	665	7	276	0	505	20	0	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2108	0	1745
Q Serve(g_s), s	1.0	19.4	7.7	4.0	12.5	0.2	4.7	0.0	26.8	0.7	0.0	0.4
Cycle Q Clear(g_c), s	1.0	19.4	7.7	4.0	12.5	0.2	4.7	0.0	26.8	0.7	0.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	35	1080	482	169	1183	528	1238	0	551	103	0	86
V/C Ratio(X)	0.65	0.84	0.39	2.09	0.56	0.01	0.22	0.00	0.92	0.19	0.00	0.09
Avail Cap(c_a), veh/h	87	1220	544	169	1220	544	1449	0	645	103	0	86
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.7	26.5	22.4	38.8	22.3	18.2	17.3	0.0	24.2	37.2	0.0	37.0
Incr Delay (d2), s/veh	18.1	4.9	0.5	512.1	0.6	0.0	0.1	0.0	16.5	0.9	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.1	2.7	13.7	4.8	0.1	1.7	0.0	10.7	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.8	31.4	23.0	550.9	22.9	18.2	17.4	0.0	40.6	38.1	0.0	37.5
LnGrp LOS	E	C	C	F	C	B	B		D	D		D
Approach Vol, veh/h		1118			1027			781			28	
Approach Delay, s/veh		30.5			205.4			32.4			38.0	
Approach LOS		C			F			C			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	35.3	8.5	29.3	8.5	6.1	31.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	36.0	4.0	28.0	4.0	4.0	28.0
Max Q Clear Time (g_c+I1), s	28.8	6.0	21.4	2.7	3.0	14.5
Green Ext Time (p_c), s	1.9	0.0	3.4	0.0	0.0	3.4

Intersection Summary	
HCM 7th Control Delay, s/veh	91.9
HCM 7th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	10	154	55	15	15	161	1350	4	8	1134	174
Future Volume (veh/h)	268	10	154	55	15	15	161	1350	4	8	1134	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	261	100	186	76	58	27	168	1406	4	8	1181	0
Peak Hour Factor	0.83	0.83	0.83	0.56	0.56	0.56	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	114	212	142	96	45	203	1809	5	23	1275	
Arrive On Green	0.21	0.21	0.21	0.08	0.08	0.08	0.11	0.50	0.50	0.01	0.39	0.00
Sat Flow, veh/h	1692	556	1034	1781	1207	562	1781	3635	10	1641	3274	1460
Grp Volume(v), veh/h	261	0	286	76	0	85	168	687	723	8	1181	0
Grp Sat Flow(s),veh/h/ln	1692	0	1590	1781	0	1769	1781	1777	1868	1641	1637	1460
Q Serve(g_s), s	12.5	0.0	15.0	3.5	0.0	4.0	7.9	27.3	27.3	0.4	29.6	0.0
Cycle Q Clear(g_c), s	12.5	0.0	15.0	3.5	0.0	4.0	7.9	27.3	27.3	0.4	29.6	0.0
Prop In Lane	1.00		0.65	1.00		0.32	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	347	0	326	142	0	141	203	884	930	23	1275	
V/C Ratio(X)	0.75	0.00	0.88	0.54	0.00	0.60	0.83	0.78	0.78	0.34	0.93	
Avail Cap(c_a), veh/h	531	0	499	870	0	864	518	1343	1412	286	2094	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.1	0.0	33.1	38.1	0.0	38.3	37.3	17.7	17.7	42.0	25.1	0.0
Incr Delay (d2), s/veh	1.2	0.0	7.4	1.2	0.0	1.5	3.3	0.7	0.7	3.2	3.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	6.4	1.6	0.0	1.8	3.5	9.6	10.1	0.2	10.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.4	0.0	40.5	39.2	0.0	39.8	40.5	18.4	18.4	45.2	28.3	0.0
LnGrp LOS	C		D	D		D	D	B	B	D	C	
Approach Vol, veh/h		547			161			1578			1189	
Approach Delay, s/veh		37.1			39.5			20.8			28.4	
Approach LOS		D			D			C			C	

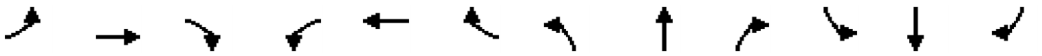
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	47.7		21.8	14.7	38.4		11.1				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	2.4	29.3		17.0	9.9	31.6		6.0				
Green Ext Time (p_c), s	0.0	2.8		0.7	0.1	1.9		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		26.8
HCM 7th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	849	14	21	14	16	48	18	1589	16	53	1304	517
Future Volume (veh/h)	849	14	21	14	16	48	18	1589	16	53	1304	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	1061	18	0	21	24	0	19	1709	17	56	1387	0
Peak Hour Factor	0.80	0.80	0.80	0.68	0.68	0.68	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	859	465		88	93		43	1557	667	87	2060	
Arrive On Green	0.28	0.28	0.00	0.04	0.04	0.00	0.03	0.52	0.52	0.04	0.53	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	1061	18	0	21	24	0	19	1709	17	56	1387	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	46.0	1.3	0.0	1.6	1.7	0.0	2.0	85.0	1.1	4.7	42.9	0.0
Cycle Q Clear(g_c), s	46.0	1.3	0.0	1.6	1.7	0.0	2.0	85.0	1.1	4.7	42.9	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	859	465		88	93		43	1557	667	87	2060	
V/C Ratio(X)	1.23	0.04		0.24	0.26		0.45	1.10	0.03	0.65	0.67	
Avail Cap(c_a), veh/h	859	465		330	346		459	1557	667	282	2060	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	59.0	42.9	0.0	76.0	76.0	0.0	78.4	39.5	19.3	77.0	27.7	0.0
Incr Delay (d2), s/veh	115.8	0.1	0.0	1.0	1.1	0.0	2.7	54.4	0.0	3.0	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.7	0.6	0.0	0.9	1.0	0.0	0.8	41.5	0.3	2.4	19.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	174.8	43.0	0.0	77.0	77.1	0.0	81.2	93.9	19.3	80.0	28.4	0.0
LnGrp LOS	F	D		E	E		F	F	B	F	C	
Approach Vol, veh/h		1079			45			1745			1443	
Approach Delay, s/veh		172.6			77.1			93.0			30.4	
Approach LOS		F			E			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	89.9		50.6	9.2	92.6		11.6				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	85.0		46.0	50.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	6.7	87.0		48.0	4.0	44.9		3.7				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	3.6		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh		91.8
HCM 7th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	2	0	0	0
Future Vol, veh/h	0	5	2	0	0	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	3	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1014	1083	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1012	1083	1621	-	-	-
Mov Cap-2 Maneuver	1012	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.35	7.22	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	1083	-	-
HCM Lane V/C Ratio	0.002	-	0.007	-	-
HCM Control Delay (s/veh)	7.2	0	8.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	2	5	0
Future Vol, veh/h	0	2	1	2	5	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	1	3	7	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	7	7	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1006	1075	1613	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1006	1075	1613	-	-	-
Mov Cap-2 Maneuver	1006	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.36	2.41	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	600	-	1075	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s/veh)	7.2	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	6	3	7	0
Future Vol, veh/h	0	16	6	3	7	0
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	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	9	4	10	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	31	10	10	0	-	0
Stage 1	10	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	982	1071	1610	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	977	1071	1610	-	-	-
Mov Cap-2 Maneuver	977	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.43	4.83	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1200	-	1071	-	-
HCM Lane V/C Ratio	0.005	-	0.021	-	-
HCM Control Delay (s/veh)	7.2	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	1	1	0	0	41
Future Vol, veh/h	19	1	1	0	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	1	1	0	0	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	57	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	56	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1621	-	-	-	950	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1621	-	-	-	934	1083
Mov Cap-2 Maneuver	-	-	-	-	934	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	SB
HCM Control Delay, s/v	6.9	0	8.51
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1620	-	-	-	1083
HCM Lane V/C Ratio	0.017	-	-	-	0.054
HCM Control Delay (s/veh)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	163	0	0	0	0	308
Future Volume (Veh/h)	163	0	0	0	0	308
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	204	0	0	0	0	385
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		408	408	408	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		408	408	408	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	87		100	100	100	65
cM capacity (veh/h)	1623		323	466	466	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	102	102	0	0	0	0	385
Volume Left	102	102	0	0	0	0	0
Volume Right	0	0	0	0	0	0	385
cSH	1623	1623	1700	1700	1700	1700	1085
Volume to Capacity	0.13	0.13	0.00	0.00	0.00	0.00	0.35
Queue Length 95th (ft)	11	11	0	0	0	0	41
Control Delay (s/veh)	7.5	7.5	0.0	0.0	0.0	0.0	10.1
Lane LOS	A	A		A	A	A	B
Approach Delay (s/veh)	7.5			0.0		10.1	
Approach LOS				A		B	

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	22.4%	ICU Level of Service	A
Analysis Period (min)	15		

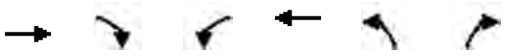
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	164	9	12	327	6	9	2	20	8	2	26
Future Vol, veh/h	86	164	9	12	327	6	9	2	20	8	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	184	10	13	367	7	10	2	22	9	2	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	374	0	0	194	0	0	589	779	92	684	785	187
Stage 1	-	-	-	-	-	-	378	378	-	398	398	-
Stage 2	-	-	-	-	-	-	212	401	-	287	388	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1181	-	-	1376	-	-	392	326	947	335	323	823
Stage 1	-	-	-	-	-	-	616	614	-	599	601	-
Stage 2	-	-	-	-	-	-	771	599	-	697	608	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	1376	-	-	341	296	947	295	294	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	341	296	-	295	294	-
Stage 1	-	-	-	-	-	-	566	564	-	593	595	-
Stage 2	-	-	-	-	-	-	733	593	-	622	558	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.76	0.27	11.5	12.07
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	341	789	1181	-	-	1376	-	-	549
HCM Lane V/C Ratio	0.03	0.031	0.082	-	-	0.01	-	-	0.074
HCM Control Delay (s/veh)	15.9	9.7	8.3	-	-	7.6	-	-	12.1
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	0.3	-	-	0	-	-	0.2



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	485	108	80	594	40	43
Future Volume (veh/h)	485	108	80	594	40	43
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	614	137	101	752	51	54
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1167	260	139	2232	143	127
Arrive On Green	0.40	0.40	0.08	0.63	0.08	0.08
Sat Flow, veh/h	2982	643	1781	3647	1781	1585
Grp Volume(v), veh/h	377	374	101	752	51	54
Grp Sat Flow(s),veh/h/ln	1777	1755	1781	1777	1781	1585
Q Serve(g_s), s	4.4	4.4	1.5	2.7	0.7	0.9
Cycle Q Clear(g_c), s	4.4	4.4	1.5	2.7	0.7	0.9
Prop In Lane		0.37	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	718	709	139	2232	143	127
V/C Ratio(X)	0.53	0.53	0.72	0.34	0.36	0.42
Avail Cap(c_a), veh/h	1490	1471	260	4015	390	347
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	6.2	6.2	12.4	2.4	11.9	12.0
Incr Delay (d2), s/veh	0.6	0.6	6.9	0.1	1.5	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	0.7	0.1	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.8	6.8	19.3	2.5	13.4	14.2
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	751			853	105	
Approach Delay, s/veh	6.8			4.5	13.9	
Approach LOS	A			A	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		6.2	6.1	15.1		21.2
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s		2.9	3.5	6.4		4.7
Green Ext Time (p_c), s		0.1	0.0	4.7		6.0

Intersection Summary	
HCM 7th Control Delay, s/veh	6.1
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	318	71	95	271	146	38
Future Volume (veh/h)	0	318	71	95	271	146	38
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		388	87	116	330	178	46
Peak Hour Factor		0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		824	183	152	1889	502	230
Arrive On Green		0.29	0.29	0.09	0.53	0.15	0.15
Sat Flow, veh/h		2984	642	1781	3647	3456	1585
Grp Volume(v), veh/h		237	238	116	330	178	46
Grp Sat Flow(s),veh/h/ln		1777	1755	1781	1777	1728	1585
Q Serve(g_s), s		3.1	3.1	1.8	1.3	1.3	0.7
Cycle Q Clear(g_c), s		3.1	3.1	1.8	1.3	1.3	0.7
Prop In Lane			0.37	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		506	500	152	1889	502	230
V/C Ratio(X)		0.47	0.48	0.77	0.17	0.35	0.20
Avail Cap(c_a), veh/h		1659	1638	256	3317	3908	1793
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		8.2	8.2	12.5	3.4	10.7	10.5
Incr Delay (d2), s/veh		0.7	0.7	7.8	0.0	0.4	0.4
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.8	0.8	0.8	0.1	0.4	0.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		8.9	8.9	20.3	3.4	11.2	10.9
LnGrp LOS		A	A	C	A	B	B
Approach Vol, veh/h		475			446	224	
Approach Delay, s/veh		8.9			7.8	11.1	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4				8
Phs Duration (G+Y+Rc), s	8.5	6.9	12.4				19.3
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0				26.0
Max Q Clear Time (g_c+I1), s	3.3	3.8	5.1				3.3
Green Ext Time (p_c), s	0.8	0.0	2.8				2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	237	47	89	223	180	38	127	85	231	262	75
Future Volume (veh/h)	187	237	47	89	223	180	38	127	85	231	262	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	339	67	100	251	202	45	151	101	257	291	83
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	695	136	203	317	269	145	517	231	555	616	172
Arrive On Green	0.18	0.23	0.23	0.11	0.17	0.17	0.08	0.15	0.15	0.16	0.22	0.22
Sat Flow, veh/h	1781	2964	579	1781	1870	1585	1781	3554	1585	3456	2741	768
Grp Volume(v), veh/h	267	202	204	100	251	202	45	151	101	257	187	187
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	1781	1870	1585	1781	1777	1585	1728	1777	1732
Q Serve(g_s), s	8.0	5.4	5.5	2.9	7.1	6.7	1.3	2.1	3.2	3.7	5.0	5.2
Cycle Q Clear(g_c), s	8.0	5.4	5.5	2.9	7.1	6.7	1.3	2.1	3.2	3.7	5.0	5.2
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	319	417	414	203	317	269	145	517	231	555	399	389
V/C Ratio(X)	0.84	0.48	0.49	0.49	0.79	0.75	0.31	0.29	0.44	0.46	0.47	0.48
Avail Cap(c_a), veh/h	518	679	675	389	885	750	486	2262	1009	1131	1131	1103
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	21.8	18.2	18.2	22.9	21.9	21.7	23.8	21.0	21.4	20.9	18.5	18.5
Incr Delay (d2), s/veh	3.0	0.3	0.3	0.7	1.7	1.6	0.4	0.1	0.5	0.2	0.3	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	3.4	2.1	2.1	1.2	3.0	2.4	0.5	0.8	1.1	1.3	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.8	18.5	18.6	23.6	23.6	23.3	24.2	21.1	21.9	21.2	18.8	18.9
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		673			553			297			631	
Approach Delay, s/veh		21.0			23.5			21.8			19.8	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	13.7	10.9	17.5	8.6	18.0	14.4	13.9
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	21.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.7	5.2	4.9	7.5	3.3	7.2	10.0	9.1
Green Ext Time (p_c), s	0.0	0.1	0.0	0.4	0.0	0.3	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	21.4
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	946	358	61	1024	522
Future Volume (vph)	0	946	358	61	1024	522
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.98		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3376		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3376		3519	1909
Peak-hour factor, PHF	0.67	0.67	0.83	0.83	0.95	0.95
Adj. Flow (vph)	0	1412	431	73	1078	549
RTOR Reduction (vph)	0	248	14	0	0	0
Lane Group Flow (vph)	0	1164	490	0	1078	549
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		38.6	19.2		38.6	68.4
Effective Green, g (s)		38.6	19.2		38.6	63.5
Actuated g/C Ratio		0.56	0.28		0.56	0.93
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1501	947		1985	1772
v/s Ratio Prot		c0.44	c0.15		0.31	0.29
v/s Ratio Perm						
v/c Ratio		0.78	0.52		0.54	0.31
Uniform Delay, d1		11.5	20.7		9.4	0.2
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		2.3	0.2		0.2	0.0
Delay (s)		13.9	20.9		9.5	0.3
Level of Service		B	C		A	A
Approach Delay (s/veh)	13.9		20.9			6.4
Approach LOS	B		C			A

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	68.4	Sum of lost time (s)	10.6
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	813	257	344	841	15	76	1	190	18	3	29
Future Volume (veh/h)	16	813	257	344	841	15	76	1	190	18	3	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	21	1042	329	441	1078	19	98	0	244	23	4	37
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1336	596	220	1493	666	687	0	306	112	19	111
Arrive On Green	0.02	0.38	0.38	0.06	0.42	0.42	0.21	0.00	0.21	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	1753	305	1745
Grp Volume(v), veh/h	21	1042	329	441	1078	19	98	0	244	27	0	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2058	0	1745
Q Serve(g_s), s	0.7	16.2	10.2	4.0	15.8	0.4	1.5	0.0	9.9	0.8	0.0	1.3
Cycle Q Clear(g_c), s	0.7	16.2	10.2	4.0	15.8	0.4	1.5	0.0	9.9	0.8	0.0	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	35	1336	596	220	1493	666	687	0	306	131	0	111
V/C Ratio(X)	0.60	0.78	0.55	2.00	0.72	0.03	0.14	0.00	0.80	0.21	0.00	0.33
Avail Cap(c_a), veh/h	114	1587	708	220	1587	708	1884	0	838	131	0	111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	17.3	15.4	29.4	15.1	10.7	20.2	0.0	23.5	27.8	0.0	28.1
Incr Delay (d2), s/veh	15.6	2.2	0.8	466.1	1.5	0.0	0.1	0.0	4.8	0.8	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.8	3.2	15.8	5.4	0.1	0.6	0.0	3.4	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.1	19.4	16.2	495.4	16.7	10.7	20.3	0.0	28.3	28.6	0.0	29.8
LnGrp LOS	D	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1392			1538			342			64	
Approach Delay, s/veh		19.1			153.9			26.0			29.3	
Approach LOS		B			F			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.6	8.5	28.1		8.5	5.7	30.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		36.0	4.0	28.0		4.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		11.9	6.0	18.2		3.3	2.7	17.8				
Green Ext Time (p_c), s		1.2	0.0	5.3		0.0	0.0	4.9				

Intersection Summary	
HCM 7th Control Delay, s/veh	82.1
HCM 7th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	38	125	135	35	43	93	877	82	29	1287	92
Future Volume (veh/h)	119	38	125	135	35	43	93	877	82	29	1287	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	138	44	145	237	166	96	104	985	92	30	1341	0
Peak Hour Factor	0.86	0.86	0.86	0.45	0.45	0.45	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	52	170	306	191	110	131	1558	145	65	1419	
Arrive On Green	0.14	0.14	0.14	0.17	0.17	0.17	0.07	0.47	0.47	0.04	0.43	0.00
Sat Flow, veh/h	1692	363	1197	1781	1112	643	1781	3285	307	1641	3274	1460
Grp Volume(v), veh/h	138	0	189	237	0	262	104	533	544	30	1341	0
Grp Sat Flow(s),veh/h/ln	1692	0	1561	1781	0	1755	1781	1777	1815	1641	1637	1460
Q Serve(g_s), s	7.7	0.0	12.0	12.9	0.0	14.7	5.8	22.8	22.8	1.8	39.9	0.0
Cycle Q Clear(g_c), s	7.7	0.0	12.0	12.9	0.0	14.7	5.8	22.8	22.8	1.8	39.9	0.0
Prop In Lane	1.00		0.77	1.00		0.37	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	240	0	222	306	0	301	131	843	861	65	1419	
V/C Ratio(X)	0.57	0.00	0.85	0.78	0.00	0.87	0.80	0.63	0.63	0.46	0.95	
Avail Cap(c_a), veh/h	450	0	416	738	0	727	439	1139	1164	243	1776	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.6	0.0	42.4	40.1	0.0	40.9	46.2	20.0	20.0	47.6	27.6	0.0
Incr Delay (d2), s/veh	0.8	0.0	3.5	1.6	0.0	3.0	4.1	0.3	0.3	1.9	8.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	4.8	5.8	0.0	6.6	2.6	8.6	8.8	0.8	15.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.4	0.0	46.0	41.7	0.0	43.9	50.4	20.3	20.3	49.6	36.4	0.0
LnGrp LOS	D		D	D		D	D	C	C	D	D	
Approach Vol, veh/h		327			499			1181			1371	
Approach Delay, s/veh		44.1			42.9			22.9			36.7	
Approach LOS		D			D			C			D	

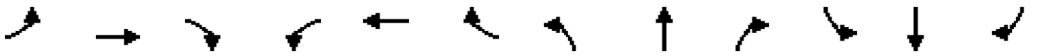
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	53.0		18.6	12.3	48.8		21.6				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	3.8	24.8		14.0	7.8	41.9		16.7				
Green Ext Time (p_c), s	0.0	2.0		0.4	0.0	2.1		0.7				

Intersection Summary			
HCM 7th Control Delay, s/veh		33.5	
HCM 7th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	329	7	19	15	19	42	37	1138	9	28	1517	764
Future Volume (veh/h)	329	7	19	15	19	42	37	1138	9	28	1517	764
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	439	9	0	18	23	0	43	1308	10	29	1580	0
Peak Hour Factor	0.75	0.75	0.75	0.82	0.82	0.82	0.87	0.87	0.87	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	338		121	128		90	1416	606	90	1763	
Arrive On Green	0.20	0.20	0.00	0.06	0.06	0.00	0.06	0.47	0.47	0.05	0.46	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	439	9	0	18	23	0	43	1308	10	29	1580	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	11.3	0.4	0.0	0.7	0.9	0.0	2.3	34.7	0.4	1.2	32.1	0.0
Cycle Q Clear(g_c), s	11.3	0.4	0.0	0.7	0.9	0.0	2.3	34.7	0.4	1.2	32.1	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	625	338		121	128		90	1416	606	90	1763	
V/C Ratio(X)	0.70	0.03		0.15	0.18		0.48	0.92	0.02	0.32	0.90	
Avail Cap(c_a), veh/h	1658	897		636	668		425	2474	1059	545	3171	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.4	27.1	0.0	38.0	38.1	0.0	38.7	21.1	12.0	39.2	21.2	0.0
Incr Delay (d2), s/veh	3.1	0.1	0.0	0.4	0.5	0.0	1.4	1.9	0.0	0.8	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.2	0.0	0.4	0.5	0.0	0.9	10.7	0.1	0.6	12.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.5	27.2	0.0	38.4	38.6	0.0	40.1	23.0	12.0	40.0	21.9	0.0
LnGrp LOS	C	C		D	D		D	C	B	D	C	
Approach Vol, veh/h		448			41			1361			1609	
Approach Delay, s/veh		34.4			38.5			23.4			22.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	45.0		21.9	9.7	43.8		9.6				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	70.0		46.0	24.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	3.2	36.7		13.3	4.3	34.1		2.9				
Green Ext Time (p_c), s	0.0	3.4		4.0	0.0	4.5		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	24.5	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	5	0	0	0
Future Vol, veh/h	0	3	5	0	0	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	6	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	12	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1007	1083	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1004	1083	1622	-	-	-
Mov Cap-2 Maneuver	1004	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.33	7.23	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1083	-	-
HCM Lane V/C Ratio	0.003	-	0.003	-	-
HCM Control Delay (s/veh)	7.2	0	8.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	3	5	3	0
Future Vol, veh/h	0	2	3	5	3	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	3	6	3	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	16	3	3	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1003	1080	1619	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1080	1619	-	-	-
Mov Cap-2 Maneuver	1001	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	1011	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.34	2.71	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	675	-	1080	-	-
HCM Lane V/C Ratio	0.002	-	0.002	-	-
HCM Control Delay (s/veh)	7.2	0	8.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	19	8	5	0
Future Vol, veh/h	0	11	19	8	5	0
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	21	9	6	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	57	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	951	1077	1616	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	938	1077	1616	-	-	-
Mov Cap-2 Maneuver	938	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.38	5.11	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1267	-	1077	-	-
HCM Lane V/C Ratio	0.013	-	0.011	-	-
HCM Control Delay (s/veh)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	2	0	0	0	33
Future Vol, veh/h	46	2	0	0	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	2	0	0	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	106	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	104	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	892	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	864	1083
Mov Cap-2 Maneuver	-	-	-	-	864	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	SB
HCM Control Delay, s/v	6.99	0	8.44
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1620	-	-	-	1083
HCM Lane V/C Ratio	0.032	-	-	-	0.034
HCM Control Delay (s/veh)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	362	51	34	26	29	396
Future Volume (Veh/h)	362	51	34	26	29	396
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	377	53	35	27	30	412
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	875					
pX, platoon unblocked						
vC, conflicting volume	0		769	754	807	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		769	754	807	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	77		76	90	88	62
cM capacity (veh/h)	1623		147	260	242	1085

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	189	189	53	35	27	30	412
Volume Left	189	189	0	35	0	0	0
Volume Right	0	0	53	0	0	0	412
cSH	1623	1623	1700	147	260	242	1085
Volume to Capacity	0.23	0.23	0.03	0.24	0.10	0.12	0.38
Queue Length 95th (ft)	23	23	0	22	9	10	45
Control Delay (s/veh)	7.9	7.9	0.0	36.9	20.5	22.0	10.3
Lane LOS	A	A		E	C	C	B
Approach Delay (s/veh)	6.9			29.8		11.1	
Approach LOS				D		B	

Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

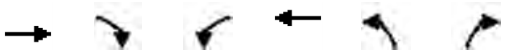
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	112	370	24	23	393	9	20	4	27	16	5	123
Future Vol, veh/h	112	370	24	23	393	9	20	4	27	16	5	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	100	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	385	25	24	409	9	21	4	28	17	5	128

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	419	0	0	410	0	0	874	1085	193	890	1106	209
Stage 1	-	-	-	-	-	-	619	619	-	462	462	-
Stage 2	-	-	-	-	-	-	255	467	-	428	644	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1137	-	-	1145	-	-	244	215	816	237	209	796
Stage 1	-	-	-	-	-	-	443	479	-	549	563	-
Stage 2	-	-	-	-	-	-	727	560	-	575	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1137	-	-	1145	-	-	175	189	816	197	184	796
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	189	-	197	184	-
Stage 1	-	-	-	-	-	-	397	429	-	538	551	-
Stage 2	-	-	-	-	-	-	592	549	-	493	418	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.89	0.44	18.19	14.02
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	175	572	1137	-	-	1145	-	-	548
HCM Lane V/C Ratio	0.119	0.057	0.103	-	-	0.021	-	-	0.274
HCM Control Delay (s/veh)	28.3	11.7	8.5	-	-	8.2	-	-	14
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.2	0.3	-	-	0.1	-	-	1.1



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	752	69	132	848	166	143
Future Volume (veh/h)	752	69	132	848	166	143
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	775	71	136	874	171	147
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1306	120	172	2180	260	232
Arrive On Green	0.40	0.40	0.10	0.61	0.15	0.15
Sat Flow, veh/h	3385	301	1781	3647	1781	1585
Grp Volume(v), veh/h	418	428	136	874	171	147
Grp Sat Flow(s),veh/h/ln	1777	1816	1781	1777	1781	1585
Q Serve(g_s), s	6.2	6.2	2.5	4.2	3.0	2.9
Cycle Q Clear(g_c), s	6.2	6.2	2.5	4.2	3.0	2.9
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	705	720	172	2180	260	232
V/C Ratio(X)	0.59	0.59	0.79	0.40	0.66	0.63
Avail Cap(c_a), veh/h	1229	1256	214	3312	321	286
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	7.9	7.9	14.7	3.3	13.4	13.4
Incr Delay (d2), s/veh	0.8	0.8	14.7	0.1	3.5	3.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.8	1.5	0.6	1.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.7	8.7	29.4	3.4	16.9	16.5
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	846			1010	318	
Approach Delay, s/veh	8.7			6.9	16.7	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	8.9	7.2	17.2		24.4
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	4.0	23.0		31.0
Max Q Clear Time (g_c+I1), s	5.0	4.5	8.2		6.2
Green Ext Time (p_c), s	0.1	0.0	5.0		7.1

Intersection Summary	
HCM 7th Control Delay, s/veh	9.0
HCM 7th LOS	A

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	0	361	124	123	466	275	129
Future Volume (veh/h)	0	361	124	123	466	275	129
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		368	127	126	476	281	132
Peak Hour Factor		0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		736	250	158	1843	645	296
Arrive On Green		0.28	0.28	0.09	0.52	0.19	0.19
Sat Flow, veh/h		2696	885	1781	3647	3456	1585
Grp Volume(v), veh/h		250	245	126	476	281	132
Grp Sat Flow(s),veh/h/ln		1777	1711	1781	1777	1728	1585
Q Serve(g_s), s		3.6	3.7	2.1	2.3	2.2	2.3
Cycle Q Clear(g_c), s		3.6	3.7	2.1	2.3	2.2	2.3
Prop In Lane			0.52	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		502	484	158	1843	645	296
V/C Ratio(X)		0.50	0.51	0.80	0.26	0.44	0.45
Avail Cap(c_a), veh/h		1512	1456	233	3024	3563	1634
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		9.1	9.2	13.7	4.1	11.0	11.0
Incr Delay (d2), s/veh		0.8	0.8	11.2	0.1	0.5	1.1
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.0	1.0	1.2	0.3	0.7	0.7
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		9.9	10.0	24.9	4.2	11.5	12.1
LnGrp LOS		A	A	C	A	B	B
Approach Vol, veh/h		495			602	413	
Approach Delay, s/veh		10.0			8.5	11.7	
Approach LOS		A			A	B	

Timer - Assigned Phs	2	3	4				8
Phs Duration (G+Y+Rc), s	10.2	7.2	13.1				20.3
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s	31.5	4.0	26.0				26.0
Max Q Clear Time (g_c+I1), s	4.3	4.1	5.7				4.3
Green Ext Time (p_c), s	1.4	0.0	3.0				3.2

Intersection Summary	
HCM 7th Control Delay, s/veh	9.8
HCM 7th LOS	A

Notes
User approved ignoring U-Turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	305	71	115	403	297	84	347	157	222	189	78
Future Volume (veh/h)	185	305	71	115	403	297	84	347	157	222	189	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	308	72	116	407	300	85	351	159	224	191	79
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	760	175	208	468	397	206	492	219	523	431	172
Arrive On Green	0.13	0.26	0.26	0.12	0.25	0.25	0.12	0.14	0.14	0.15	0.17	0.17
Sat Flow, veh/h	1781	2868	661	1781	1870	1585	1781	3554	1585	3456	2480	989
Grp Volume(v), veh/h	187	189	191	116	407	300	85	351	159	224	135	135
Grp Sat Flow(s),veh/h/ln	1781	1777	1751	1781	1870	1585	1781	1777	1585	1728	1777	1692
Q Serve(g_s), s	5.9	5.1	5.2	3.6	12.1	10.1	2.6	5.5	5.6	3.4	3.9	4.1
Cycle Q Clear(g_c), s	5.9	5.1	5.2	3.6	12.1	10.1	2.6	5.5	5.6	3.4	3.9	4.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	234	471	464	208	468	397	206	492	219	523	309	294
V/C Ratio(X)	0.80	0.40	0.41	0.56	0.87	0.76	0.41	0.71	0.73	0.43	0.44	0.46
Avail Cap(c_a), veh/h	493	645	636	370	841	713	462	2151	959	1076	1075	1024
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	24.4	17.5	17.5	24.1	20.8	20.0	23.7	23.8	23.9	22.3	21.4	21.5
Incr Delay (d2), s/veh	2.4	0.2	0.2	0.9	2.0	1.1	0.5	0.7	1.7	0.2	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	2.5	2.0	2.0	1.5	5.1	3.6	1.0	2.0	2.1	1.2	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.7	17.7	17.8	25.0	22.7	21.2	24.2	24.6	25.6	22.5	21.7	21.9
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		567			823			595			494	
Approach Delay, s/veh		20.7			22.5			24.8			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	13.7	11.4	19.9	10.8	15.8	12.2	19.1
Change Period (Y+Rc), s	4.1	5.7	4.6	4.6	4.1	5.7	4.6	4.6
Max Green Setting (Gmax), s	18.0	35.0	12.0	21.0	15.0	35.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.4	7.6	5.6	7.2	4.6	6.1	7.9	14.1
Green Ext Time (p_c), s	0.0	0.3	0.0	0.4	0.0	0.2	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	890	673	156	913	489
Future Volume (vph)	0	890	673	156	913	489
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	9%		5%			-5%
Total Lost time (s)		4.9	5.7		4.9	5.7
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.97		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2661	3353		3519	1909
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2661	3353		3519	1909
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	918	694	161	941	504
RTOR Reduction (vph)	0	183	14	0	0	0
Lane Group Flow (vph)	0	735	841	0	941	504
Turn Type		Over	NA		Prot	NA
Protected Phases		3	2		3	2 3
Permitted Phases						
Actuated Green, G (s)		27.3	29.1		27.3	67.0
Effective Green, g (s)		27.3	29.1		27.3	62.1
Actuated g/C Ratio		0.41	0.43		0.41	0.93
Clearance Time (s)		4.9	5.7		4.9	
Vehicle Extension (s)		0.2	2.0		0.2	
Lane Grp Cap (vph)		1084	1456		1433	1769
v/s Ratio Prot		c0.28	c0.25		0.27	0.26
v/s Ratio Perm						
v/c Ratio		0.68	0.58		0.66	0.28
Uniform Delay, d1		16.3	14.3		16.1	0.2
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.3	0.3		0.8	0.0
Delay (s)		17.6	14.7		16.9	0.3
Level of Service		B	B		B	A
Approach Delay (s/veh)	17.6		14.7			11.1
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	67.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	861	180	345	632	7	250	17	485	7	12	8
Future Volume (veh/h)	22	861	180	345	632	7	250	17	485	7	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	23	906	189	363	665	7	276	0	511	7	13	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1077	480	168	1179	526	1249	0	556	36	67	85
Arrive On Green	0.02	0.30	0.30	0.05	0.33	0.33	0.38	0.00	0.38	0.05	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3282	0	1460	738	1370	1745
Grp Volume(v), veh/h	23	906	189	363	665	7	276	0	511	20	0	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2108	0	1745
Q Serve(g_s), s	1.1	19.6	7.7	4.0	12.6	0.2	4.7	0.0	27.4	0.7	0.0	0.4
Cycle Q Clear(g_c), s	1.1	19.6	7.7	4.0	12.6	0.2	4.7	0.0	27.4	0.7	0.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	35	1077	480	168	1179	526	1249	0	556	103	0	85
V/C Ratio(X)	0.65	0.84	0.39	2.16	0.56	0.01	0.22	0.00	0.92	0.19	0.00	0.09
Avail Cap(c_a), veh/h	87	1212	540	168	1212	540	1439	0	640	103	0	85
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.0	26.8	22.7	39.1	22.6	18.4	17.2	0.0	24.2	37.5	0.0	37.3
Incr Delay (d2), s/veh	18.2	5.0	0.5	539.7	0.6	0.0	0.1	0.0	17.2	0.9	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.2	2.7	14.2	4.9	0.1	1.7	0.0	11.0	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.2	31.8	23.2	578.8	23.1	18.4	17.3	0.0	41.5	38.4	0.0	37.8
LnGrp LOS	E	C	C	F	C	B	B		D	D		D
Approach Vol, veh/h		1118			1035			787			28	
Approach Delay, s/veh		30.9			218.0			33.0			38.3	
Approach LOS		C			F			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		35.7	8.5	29.4		8.5	6.1	31.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		36.0	4.0	28.0		4.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		29.4	6.0	21.6		2.7	3.1	14.6				
Green Ext Time (p_c), s		1.9	0.0	3.3		0.0	0.0	3.4				

Intersection Summary	
HCM 7th Control Delay, s/veh	96.8
HCM 7th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	10	154	55	15	15	161	1361	4	8	1153	174
Future Volume (veh/h)	268	10	154	55	15	15	161	1361	4	8	1153	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1776	1776	1776	1870	1870	1870	1870	1870	1870	1723	1723	1723
Adj Flow Rate, veh/h	220	84	157	43	33	15	164	1389	4	8	1177	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	100	187	139	95	43	201	1817	5	23	1283	
Arrive On Green	0.18	0.18	0.18	0.08	0.08	0.08	0.11	0.50	0.50	0.01	0.39	0.00
Sat Flow, veh/h	1692	554	1036	1781	1217	553	1781	3635	10	1641	3274	1460
Grp Volume(v), veh/h	220	0	241	43	0	48	164	679	714	8	1177	0
Grp Sat Flow(s),veh/h/ln	1692	0	1590	1781	0	1771	1781	1777	1868	1641	1637	1460
Q Serve(g_s), s	9.4	0.0	11.3	1.8	0.0	2.0	6.9	23.8	23.8	0.4	26.2	0.0
Cycle Q Clear(g_c), s	9.4	0.0	11.3	1.8	0.0	2.0	6.9	23.8	23.8	0.4	26.2	0.0
Prop In Lane	1.00		0.65	1.00		0.31	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	305	0	286	139	0	138	201	888	934	23	1283	
V/C Ratio(X)	0.72	0.00	0.84	0.31	0.00	0.35	0.81	0.76	0.76	0.34	0.92	
Avail Cap(c_a), veh/h	594	0	559	974	0	968	580	1503	1581	320	2344	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.7	0.0	30.4	33.5	0.0	33.6	33.3	15.6	15.6	37.5	22.2	0.0
Incr Delay (d2), s/veh	1.2	0.0	2.6	0.5	0.0	0.6	3.0	0.5	0.5	3.1	1.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	4.4	0.8	0.0	0.9	2.9	7.9	8.3	0.2	8.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.9	0.0	33.0	33.9	0.0	34.1	36.3	16.1	16.1	40.6	23.5	0.0
LnGrp LOS	C		C	C		C	D	B	B	D	C	
Approach Vol, veh/h		461			91			1557			1185	
Approach Delay, s/veh		32.0			34.0			18.2			23.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	43.3		18.0	13.6	35.0		10.2				
Change Period (Y+Rc), s	4.2	4.9		4.2	4.9	* 4.9		4.2				
Max Green Setting (Gmax), s	15.0	65.0		27.0	25.0	* 55		42.0				
Max Q Clear Time (g_c+I1), s	2.4	25.8		13.3	8.9	28.2		4.0				
Green Ext Time (p_c), s	0.0	2.8		0.6	0.0	1.9		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		22.5	
HCM 7th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	849	14	21	14	16	48	18	1600	16	53	1323	517
Future Volume (veh/h)	849	14	21	14	16	48	18	1600	16	53	1323	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
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	1658	1658	1658	2185	2185	2185	1582	1582	1518	2027	2027	2027
Adj Flow Rate, veh/h	894	15	0	15	17	0	19	1684	17	56	1393	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	864	467		78	82		43	1565	670	87	2071	
Arrive On Green	0.28	0.28	0.00	0.04	0.04	0.00	0.03	0.52	0.52	0.05	0.54	0.00
Sat Flow, veh/h	3064	1658	0	2081	2185	1851	1506	3005	1287	1931	3852	1718
Grp Volume(v), veh/h	894	15	0	15	17	0	19	1684	17	56	1393	0
Grp Sat Flow(s),veh/h/ln	1532	1658	0	2081	2185	1851	1506	1503	1287	1931	1926	1718
Q Serve(g_s), s	46.0	1.1	0.0	1.1	1.2	0.0	2.0	85.0	1.0	4.7	42.7	0.0
Cycle Q Clear(g_c), s	46.0	1.1	0.0	1.1	1.2	0.0	2.0	85.0	1.0	4.7	42.7	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	864	467		78	82		43	1565	670	87	2071	
V/C Ratio(X)	1.04	0.03		0.19	0.21		0.45	1.08	0.03	0.64	0.67	
Avail Cap(c_a), veh/h	864	467		331	348		462	1565	670	284	2071	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.6	42.5	0.0	76.1	76.2	0.0	78.0	39.1	19.0	76.6	27.3	0.0
Incr Delay (d2), s/veh	40.1	0.1	0.0	0.9	0.9	0.0	2.7	46.2	0.0	2.9	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.6	0.5	0.0	0.6	0.7	0.0	0.8	39.7	0.3	2.4	19.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	98.6	42.5	0.0	77.0	77.1	0.0	80.7	85.3	19.0	79.5	28.0	0.0
LnGrp LOS	F	D		E	E		F	F	B	E	C	
Approach Vol, veh/h		909			32			1720			1449	
Approach Delay, s/veh		97.7			77.1			84.6			30.0	
Approach LOS		F			E			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	89.9		50.6	9.2	92.6		10.7				
Change Period (Y+Rc), s	4.6	4.9		4.6	4.6	4.9		4.6				
Max Green Setting (Gmax), s	24.0	85.0		46.0	50.0	70.0		26.0				
Max Q Clear Time (g_c+I1), s	6.7	87.0		48.0	4.0	44.7		3.2				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	3.7		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		68.2	
HCM 7th LOS		E	

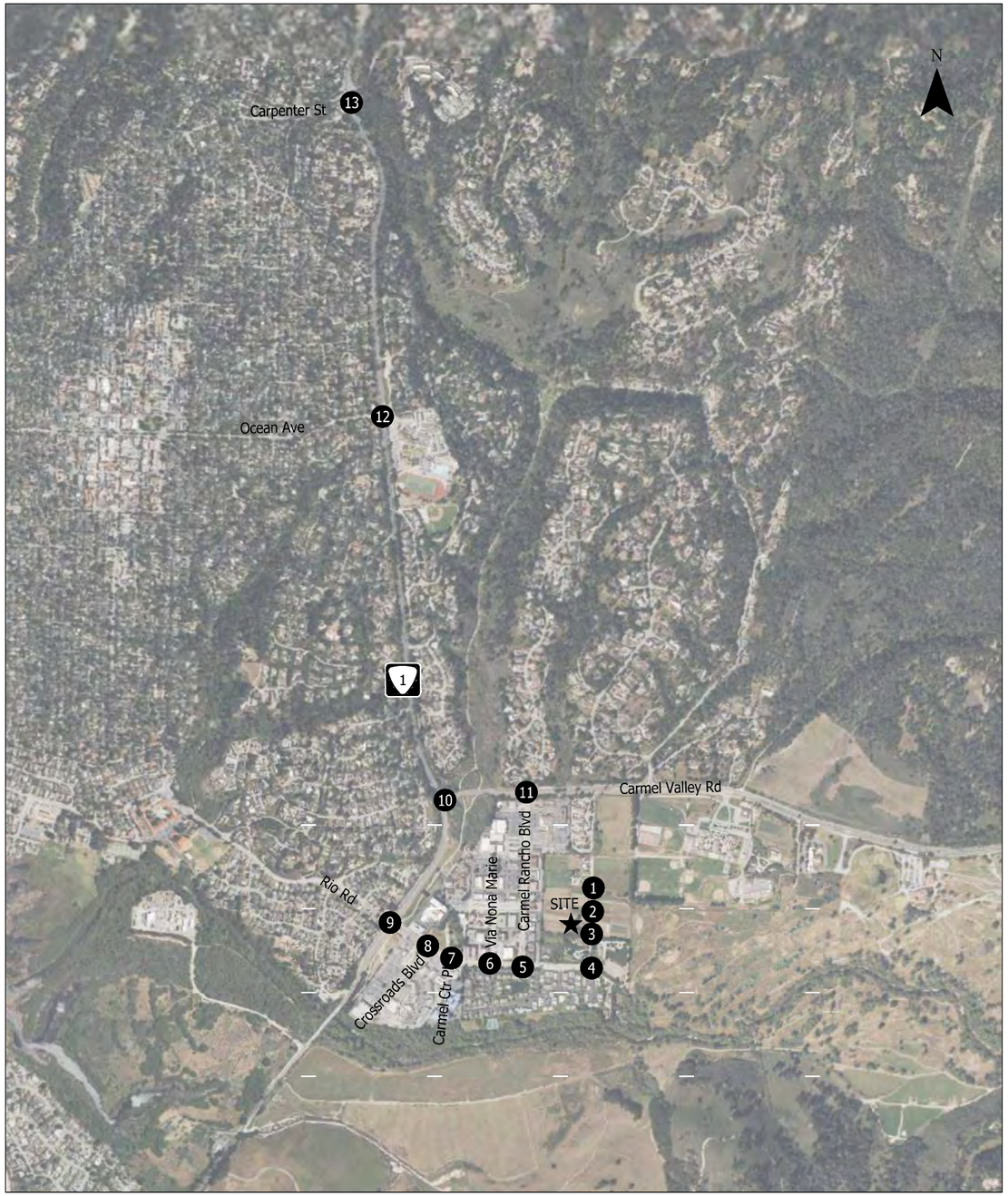
Notes

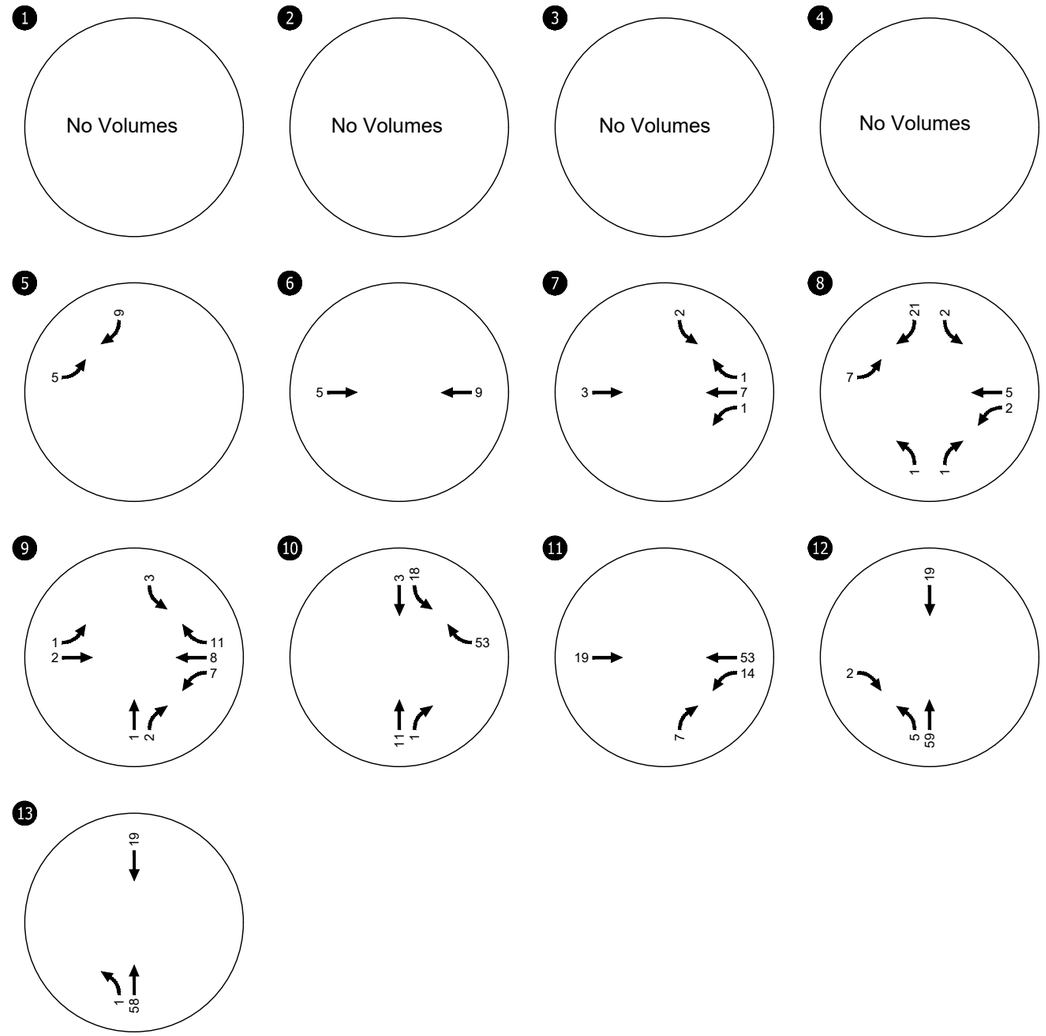
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Appendix E

Cumulative Projects Volumes

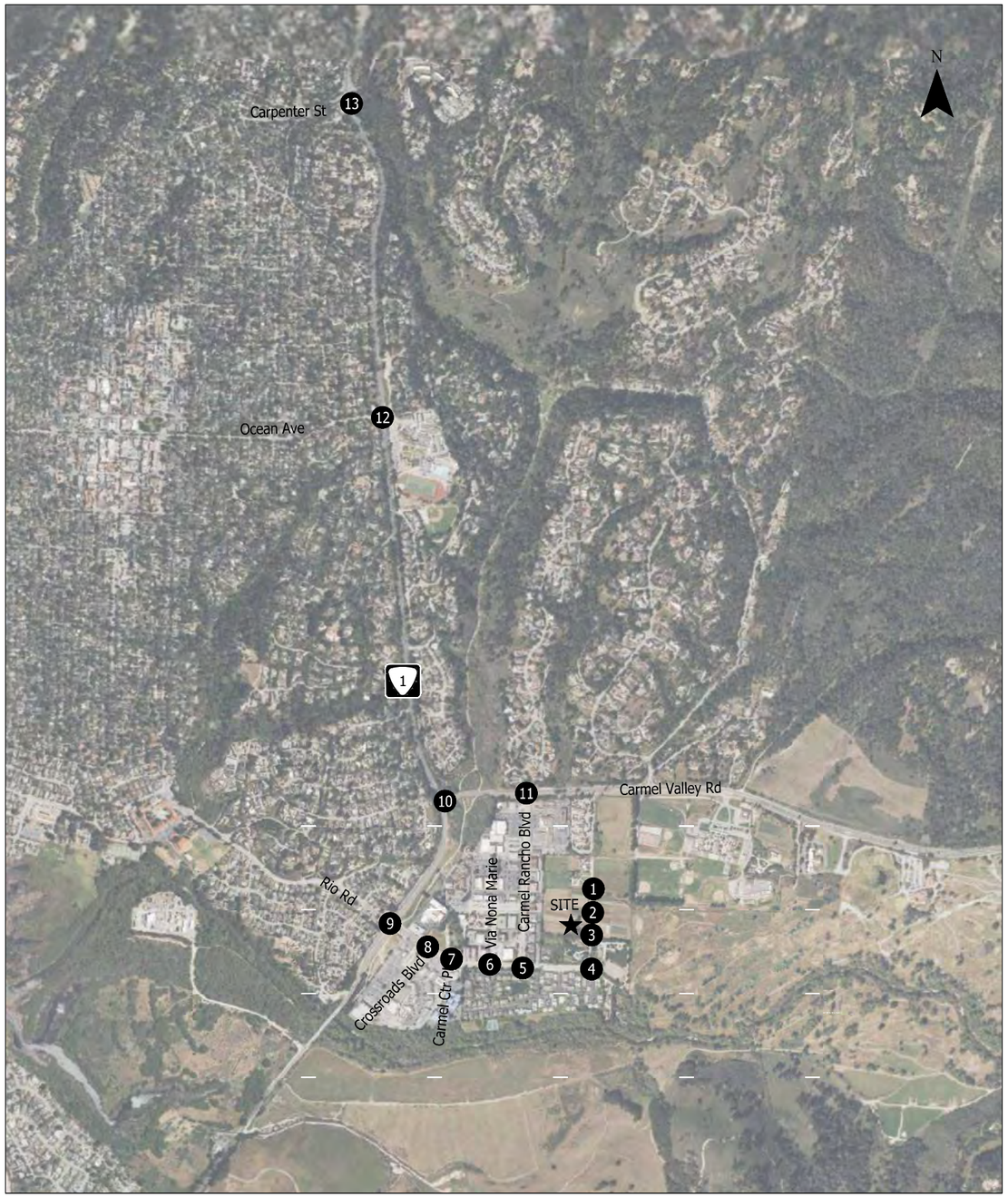


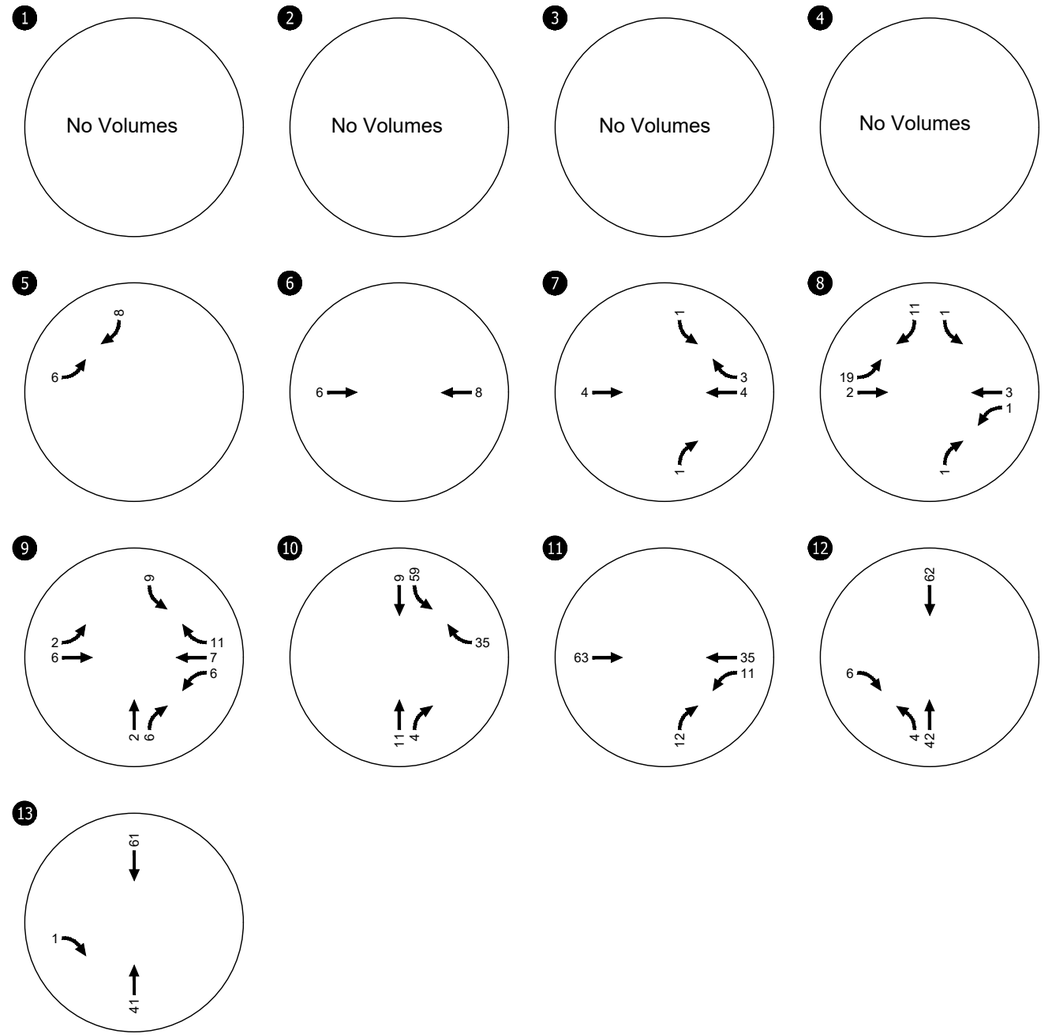


Cumulative Projects Volumes
AM Peak Hour
Carmel-By-The-Sea, CA

Appendix
E

KITTELSON & ASSOCIATES





Cumulative Projects Volumes
PM Peak Hour
Carmel-By-The-Sea, CA

Appendix
E

KITTELSON & ASSOCIATES

Appendix F
Roadway Segment Analysis Reports

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	25.6	85.2	0.39	16.5	C
	Total	IV		59.6	25.6	85.2	0.39	16.5	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	33.2	51.7	0.07	4.9	F
	Total	IV		18.5	33.2	51.7	0.07	4.9	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	18.2	46.1	0.16	12.1	D
K	Crosssroads Blvd	IV	30	20.8	10.8	31.6	0.12	13.2	C
L, M	Carmel Center Pl	IV	25	11.5	5.6	17.1	0.04	9.2	D
	Total	IV		60.2	34.6	94.8	0.31	11.9	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	2.6	32.4	0.17	18.4	C
K,	Crosssroads Blvd	IV	30	9.9	4.5	14.4	0.04	10.9	D
J	SR 1	IV	25	25.4	36.3	61.7	0.12	6.7	F
	Total	IV		65.1	43.4	108.5	0.32	10.8	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	16.8	80.0	0.75	33.5	B
	Total	II		63.2	16.8	80.0	0.75	33.5	B

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	22.8	44.4	0.20	16.0	E
	Total	II		21.6	22.8	44.4	0.20	16.0	E

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	20.6	80.2	0.39	17.5	C
	Total	IV		59.6	20.6	80.2	0.39	17.5	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	43.8	62.3	0.07	4.0	F
	Total	IV		18.5	43.8	62.3	0.07	4.0	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	16.7	44.6	0.16	12.5	D
K	Crosssroads Blvd	IV	30	20.8	10.6	31.4	0.12	13.2	C
L, M	Carmel Center Pl	IV	25	11.5	7.5	19.0	0.04	8.3	E
	Total	IV		60.2	34.8	95.0	0.31	11.9	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	3.3	33.1	0.17	18.0	C
K,	Crosssroads Blvd	IV	30	9.9	5.4	15.3	0.04	10.2	D
J	SR 1	IV	25	25.4	32.7	58.1	0.12	7.2	E
	Total	IV		65.1	41.4	106.5	0.32	11.0	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	42.7	105.9	0.75	25.3	C
	Total	II		63.2	42.7	105.9	0.75	25.3	C

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	28.4	50.0	0.20	14.2	E
	Total	II		21.6	28.4	50.0	0.20	14.2	E

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	25.4	85.0	0.39	16.5	C
	Total	IV		59.6	25.4	85.0	0.39	16.5	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	33.7	52.2	0.07	4.8	F
	Total	IV		18.5	33.7	52.2	0.07	4.8	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	18.3	46.2	0.16	12.1	D
K	Crosssroads Blvd	IV	30	20.8	10.9	31.7	0.12	13.1	C
L, M	Carmel Center Pl	IV	25	11.5	5.6	17.1	0.04	9.2	D
	Total	IV		60.2	34.8	95.0	0.31	11.9	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	2.6	32.4	0.17	18.4	C
K,	Crosssroads Blvd	IV	30	9.9	4.5	14.4	0.04	10.9	D
J	SR 1	IV	25	25.4	36.6	62.0	0.12	6.7	F
	Total	IV		65.1	43.7	108.8	0.32	10.7	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	17.0	80.2	0.75	33.5	B
	Total	II		63.2	17.0	80.2	0.75	33.5	B

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	22.8	44.4	0.20	16.0	E
	Total	II		21.6	22.8	44.4	0.20	16.0	E

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	20.5	80.1	0.39	17.5	C
	Total	IV		59.6	20.5	80.1	0.39	17.5	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	43.9	62.4	0.07	4.0	F
	Total	IV		18.5	43.9	62.4	0.07	4.0	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	16.9	44.8	0.16	12.5	D
K	Crosssroads Blvd	IV	30	20.8	10.8	31.6	0.12	13.2	C
L, M	Carmel Center Pl	IV	25	11.5	7.6	19.1	0.04	8.2	E
	Total	IV		60.2	35.3	95.5	0.31	11.8	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	3.3	33.1	0.17	18.0	C
K,	Crosssroads Blvd	IV	30	9.9	5.4	15.3	0.04	10.2	D
J	SR 1	IV	25	25.4	32.6	58.0	0.12	7.2	E
	Total	IV		65.1	41.3	106.4	0.32	11.0	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	42.8	106.0	0.75	25.3	C
	Total	II		63.2	42.8	106.0	0.75	25.3	C

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	28.6	50.2	0.20	14.2	E
	Total	II		21.6	28.6	50.2	0.20	14.2	E

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	25.8	85.4	0.39	16.4	C
	Total	IV		59.6	25.8	85.4	0.39	16.4	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	34.6	53.1	0.07	4.7	F
	Total	IV		18.5	34.6	53.1	0.07	4.7	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	18.4	46.3	0.16	12.1	D
K	Crosssroads Blvd	IV	30	20.8	11.0	31.8	0.12	13.1	C
L, M	Carmel Center Pl	IV	25	11.5	6.0	17.5	0.04	9.0	E
	Total	IV		60.2	35.4	95.6	0.31	11.8	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	2.6	32.4	0.17	18.4	C
K,	Crosssroads Blvd	IV	30	9.9	4.5	14.4	0.04	10.9	D
J	SR 1	IV	25	25.4	38.2	63.6	0.12	6.5	F
	Total	IV		65.1	45.3	110.4	0.32	10.6	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	18.2	81.4	0.75	33.0	B
	Total	II		63.2	18.2	81.4	0.75	33.0	B

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	24.6	46.2	0.20	15.4	E
	Total	II		21.6	24.6	46.2	0.20	15.4	E

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	20.8	80.4	0.39	17.5	C
	Total	IV		59.6	20.8	80.4	0.39	17.5	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	45.9	64.4	0.07	3.9	F
	Total	IV		18.5	45.9	64.4	0.07	3.9	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	17.7	45.6	0.16	12.2	D
K	Crosssroads Blvd	IV	30	20.8	10.7	31.5	0.12	13.2	C
L, M	Carmel Center Pl	IV	25	11.5	8.6	20.1	0.04	7.8	E
	Total	IV		60.2	37.0	97.2	0.31	11.6	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	3.7	33.5	0.17	17.8	C
K,	Crosssroads Blvd	IV	30	9.9	5.5	15.4	0.04	10.2	D
J	SR 1	IV	25	25.4	31.9	57.3	0.12	7.3	E
	Total	IV		65.1	41.1	106.2	0.32	11.0	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	48.2	111.4	0.75	24.1	C
	Total	II		63.2	48.2	111.4	0.75	24.1	C

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	30.1	51.7	0.20	13.8	E
	Total	II		21.6	30.1	51.7	0.20	13.8	E

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	25.3	84.9	0.39	16.5	C
	Total	IV		59.6	25.3	84.9	0.39	16.5	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	35.2	53.7	0.07	4.7	F
	Total	IV		18.5	35.2	53.7	0.07	4.7	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	18.4	46.3	0.16	12.1	D
K	Crosssroads Blvd	IV	30	20.8	10.9	31.7	0.12	13.1	C
L, M	Carmel Center Pl	IV	25	11.5	6.1	17.6	0.04	8.9	E
	Total	IV		60.2	35.4	95.6	0.31	11.8	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	2.6	32.4	0.17	18.4	C
K,	Crosssroads Blvd	IV	30	9.9	4.6	14.5	0.04	10.8	D
J	SR 1	IV	25	25.4	38.3	63.7	0.12	6.5	F
	Total	IV		65.1	45.5	110.6	0.32	10.6	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	18.4	81.6	0.75	32.9	B
	Total	II		63.2	18.4	81.6	0.75	32.9	B

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	24.7	46.3	0.20	15.4	E
	Total	II		21.6	24.7	46.3	0.20	15.4	E

Arterial Level of Service: NB Carmel Rancho Blvd

Roadway Segment ID	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	59.6	20.7	80.3	0.39	17.5	C
	Total	IV		59.6	20.7	80.3	0.39	17.5	C

Arterial Level of Service: SB Carmel Rancho Blvd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N, O	Carmel Valley Rd	IV	25	18.5	46.2	64.7	0.07	3.9	F
	Total	IV		18.5	46.2	64.7	0.07	3.9	F

Arterial Level of Service: EB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
J	SR 1	IV	25	27.9	17.9	45.8	0.16	12.2	D
K	Crosssroads Blvd	IV	30	20.8	11.1	31.9	0.12	13.0	C
L, M	Carmel Center Pl	IV	25	11.5	8.7	20.2	0.04	7.8	E
	Total	IV		60.2	37.7	97.9	0.31	11.6	D

Arterial Level of Service: WB Rio Rd

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
L, M	Carmel Center Pl	IV	25	29.8	3.7	33.5	0.17	17.8	C
K,	Crosssroads Blvd	IV	30	9.9	5.5	15.4	0.04	10.2	D
J	SR 1	IV	25	25.4	32.0	57.4	0.12	7.2	E
	Total	IV		65.1	41.2	106.3	0.32	11.0	D

Arterial Level of Service: NB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	42	63.2	49.0	112.2	0.75	23.9	C
	Total	II		63.2	49.0	112.2	0.75	23.9	C

Arterial Level of Service: SB SR 1

	Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
F, G, H, I	Carpenter St	II	45	21.6	30.4	52.0	0.20	13.7	E
	Total	II		21.6	30.4	52.0	0.20	13.7	E

Appendix G
With Improvement Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	763	247	317	757	14	73	1	176	17	3	28
Future Volume (veh/h)	15	763	247	317	757	14	73	1	176	17	3	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	19	978	317	406	971	18	94	0	227	22	4	36
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	1346	600	339	1630	727	214	0	381	124	23	125
Arrive On Green	0.02	0.38	0.38	0.10	0.46	0.46	0.13	0.00	0.13	0.07	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1641	0	2921	1742	317	1745
Grp Volume(v), veh/h	19	978	317	406	971	18	94	0	227	26	0	36
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2058	0	1745
Q Serve(g_s), s	0.6	13.2	8.7	5.5	11.4	0.3	3.0	0.0	4.1	0.7	0.0	1.1
Cycle Q Clear(g_c), s	0.6	13.2	8.7	5.5	11.4	0.3	3.0	0.0	4.1	0.7	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	33	1346	600	339	1630	727	214	0	381	147	0	125
V/C Ratio(X)	0.58	0.73	0.53	1.20	0.60	0.02	0.44	0.00	0.60	0.18	0.00	0.29
Avail Cap(c_a), veh/h	127	1776	792	339	1871	835	1011	0	1799	147	0	125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	14.9	13.5	25.3	11.3	8.3	22.5	0.0	23.0	24.5	0.0	24.7
Incr Delay (d2), s/veh	15.5	1.0	0.7	113.6	0.4	0.0	1.4	0.0	1.5	0.6	0.0	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	0.4	4.3	2.5	7.3	3.3	0.1	1.2	0.0	1.3	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.8	16.0	14.2	138.9	11.7	8.3	23.9	0.0	24.5	25.0	0.0	25.9
LnGrp LOS	D	B	B	F	B	A	C		C	C		C
Approach Vol, veh/h		1314			1395			321			62	
Approach Delay, s/veh		15.9			48.7			24.3			25.5	
Approach LOS		B			D			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	10.0	25.7		8.5	5.5	30.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.5	5.5	28.0		4.0	4.0	29.5				
Max Q Clear Time (g_c+I1), s		6.1	7.5	15.2		3.1	2.6	13.4				
Green Ext Time (p_c), s		1.2	0.0	6.0		0.0	0.0	5.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	31.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	767	173	321	574	7	240	16	455	7	12	8
Future Volume (veh/h)	21	767	173	321	574	7	240	16	455	7	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	22	807	182	338	604	7	253	0	490	7	13	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	1115	497	312	1363	608	386	0	686	48	90	115
Arrive On Green	0.02	0.31	0.31	0.09	0.38	0.38	0.24	0.00	0.24	0.07	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1641	0	2921	738	1370	1745
Grp Volume(v), veh/h	22	807	182	338	604	7	253	0	490	20	0	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2108	0	1745
Q Serve(g_s), s	0.7	12.3	5.4	5.5	7.7	0.2	8.5	0.0	9.4	0.5	0.0	0.3
Cycle Q Clear(g_c), s	0.7	12.3	5.4	5.5	7.7	0.2	8.5	0.0	9.4	0.5	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	36	1115	497	312	1363	608	386	0	686	138	0	115
V/C Ratio(X)	0.61	0.72	0.37	1.08	0.44	0.01	0.66	0.00	0.71	0.14	0.00	0.07
Avail Cap(c_a), veh/h	158	1633	728	312	1639	731	929	0	1653	138	0	115
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	18.6	16.2	27.7	14.0	11.6	21.1	0.0	21.4	26.9	0.0	26.7
Incr Delay (d2), s/veh	15.1	0.9	0.5	75.1	0.2	0.0	1.9	0.0	1.4	0.5	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.3	1.7	5.3	2.5	0.0	3.3	0.0	2.9	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.7	19.5	16.7	102.8	14.2	11.6	23.0	0.0	22.8	27.3	0.0	27.0
LnGrp LOS	D	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1011			949			743			28	
Approach Delay, s/veh		19.5			45.7			22.9			27.2	
Approach LOS		B			D			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.8	10.0	23.6		8.5	5.7	27.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.5	5.5	28.0		4.0	5.4	28.1				
Max Q Clear Time (g_c+I1), s		11.4	7.5	14.3		2.5	2.7	9.7				
Green Ext Time (p_c), s		2.9	0.0	4.8		0.0	0.0	3.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	29.6
HCM 7th LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	813	257	344	841	15	76	1	190	18	3	29
Future Volume (veh/h)	16	813	257	344	841	15	76	1	190	18	3	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	21	1042	329	441	1078	19	97	0	245	23	4	37
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1331	594	559	1837	819	213	0	378	106	19	106
Arrive On Green	0.02	0.37	0.37	0.16	0.52	0.52	0.13	0.00	0.13	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1641	0	2921	1753	305	1745
Grp Volume(v), veh/h	21	1042	329	441	1078	19	97	0	245	27	0	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2058	0	1745
Q Serve(g_s), s	0.8	17.1	10.8	8.1	13.9	0.4	3.6	0.0	5.2	0.8	0.0	1.3
Cycle Q Clear(g_c), s	0.8	17.1	10.8	8.1	13.9	0.4	3.6	0.0	5.2	0.8	0.0	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	35	1331	594	559	1837	819	213	0	378	125	0	106
V/C Ratio(X)	0.61	0.78	0.55	0.79	0.59	0.02	0.46	0.00	0.65	0.22	0.00	0.35
Avail Cap(c_a), veh/h	108	1592	710	714	2110	941	870	0	1548	125	0	106
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	18.2	16.2	26.5	11.0	7.8	26.5	0.0	27.2	29.4	0.0	29.7
Incr Delay (d2), s/veh	16.1	2.2	0.8	4.6	0.3	0.0	1.5	0.0	1.9	0.9	0.0	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.2	3.4	3.3	4.2	0.1	1.5	0.0	1.7	0.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.1	20.4	17.1	31.1	11.4	7.8	28.0	0.0	29.1	30.3	0.0	31.6
LnGrp LOS	D	C	B	C	B	A	C		C	C		C
Approach Vol, veh/h		1392			1538			342			64	
Approach Delay, s/veh		20.0			17.0			28.8			31.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.0	15.1	29.2		8.5	5.8	38.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.9	13.6	29.5		4.0	4.0	39.1				
Max Q Clear Time (g_c+I1), s		7.2	10.1	19.1		3.3	2.8	15.9				
Green Ext Time (p_c), s		1.3	0.6	5.6		0.0	0.0	7.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	19.7
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	861	180	345	632	7	250	17	485	7	12	8
Future Volume (veh/h)	22	861	180	345	632	7	250	17	485	7	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
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	1870	1870	1870	1870	1870	1870	1723	1723	1723	2145	2145	2059
Adj Flow Rate, veh/h	23	906	189	363	665	7	263	0	523	7	13	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	1184	528	293	1411	629	400	0	711	45	84	107
Arrive On Green	0.02	0.33	0.33	0.08	0.40	0.40	0.24	0.00	0.24	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1641	0	2921	738	1370	1745
Grp Volume(v), veh/h	23	906	189	363	665	7	263	0	523	20	0	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1641	0	1460	2108	0	1745
Q Serve(g_s), s	0.8	14.8	5.9	5.5	9.0	0.2	9.4	0.0	10.7	0.6	0.0	0.3
Cycle Q Clear(g_c), s	0.8	14.8	5.9	5.5	9.0	0.2	9.4	0.0	10.7	0.6	0.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	37	1184	528	293	1411	629	400	0	711	130	0	107
V/C Ratio(X)	0.62	0.77	0.36	1.24	0.47	0.01	0.66	0.00	0.74	0.15	0.00	0.07
Avail Cap(c_a), veh/h	148	1532	683	293	1537	686	871	0	1551	130	0	107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.5	19.4	16.4	29.7	14.5	11.9	22.1	0.0	22.6	28.9	0.0	28.7
Incr Delay (d2), s/veh	15.5	1.8	0.4	134.0	0.2	0.0	1.9	0.0	1.5	0.5	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.4	1.9	7.5	3.0	0.1	3.6	0.0	3.4	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.0	21.1	16.8	163.8	14.8	11.9	24.0	0.0	24.1	29.4	0.0	29.0
LnGrp LOS	D	C	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1118			1035			786			28	
Approach Delay, s/veh		20.9			67.0			24.1			29.3	
Approach LOS		C			E			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.3	10.0	26.2		8.5	5.9	30.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.5	5.5	28.0		4.0	5.4	28.1				
Max Q Clear Time (g_c+I1), s		12.7	7.5	16.8		2.6	2.8	11.0				
Green Ext Time (p_c), s		3.1	0.0	4.8		0.0	0.0	3.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	37.9
HCM 7th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

KITTELSON & ASSOCIATES
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TECHNICAL MEMORANDUM

December 3, 2025 Project# 31384

To: Bora Akkaya
County of Monterey | Housing and Community Development Department
1441 Schilling Place
Salinas, CA 93901

From: Kittelson & Associates, Inc

RE: 26500 Val Verde Drive – VMT Memorandum

City Ventures proposes to develop 59 single family homes and 15 townhomes for a total of 74 for-sale, solar, all-electric dwelling units (Project) at 26500 Val Verde Drive in Monterey County, CA . The project is located on five parcels located in unincorporated county just east of City Carmel limits that currently has one single family home and farmland. Approximately 20% of the dwelling units are designated affordable housing. Access to the project will be provided from Rio Road to Val Verde Drive. Rio Road connects to State Route 1 (SR 1) about a half-mile to the west of Val Verde Drive.

This memorandum documents the methodology and findings of a vehicle miles traveled (VMT) assessment prepared in partial fulfillment of project development review requirements. As documented herein, the Project does not meet any of the VMT screening criteria and thus, detailed VMT analysis is required to determine if the project will result in significant VMT impacts under the California Environmental Quality Act (CEQA).

VMT ASSESSMENT

The transportation analysis documented in this report was performed to comply with CEQA transportation VMT analysis. At this time, the County has not adopted its own VMT thresholds. Therefore, VMT guidelines from the Governor's Office of Planning and Research (OPR[1]) Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) were referenced and utilized as guidance.

Screening Criteria

OPR's Technical Advisory includes screening criteria that can be used to determine if a project will result in less than significant VMT impacts without a detailed VMT analysis. To be screened out of a detailed VMT analysis, a project or project component would need to satisfy at least one of the VMT screening criteria. A summary of the OPR's screening criteria and determinations are listed below:

- **Net Daily Trips Less than 110 Average Daily Traffic (ADT):** Projects generating less than 110 trips per day can be presumed to result in a less than significant VMT impact.

[1] Effective July 1, 2024, the Governor's Office of Planning and Research was renamed the Governor's Office of Land Use and Climate Innovation (LCI)

- **Within a ½ Mile of Major Transit Stop:** Projects, including residential, retail, and office projects, as well as mixed-use projects within a ½ mile of an existing major transit stop or along a high-quality transit corridor, can be presumed to have a less than significant VMT impact. This presumption is not valid if project-specific or location-specific information indicates significant VMT levels. A major transit stop is defined as a site with a rail transit station, a ferry terminal served by bus or rail transit, or the intersection of multiple major bus routes with frequent service during peak commute periods.
- **100% Affordable Housing:** Projects that consist of 100% affordable housing in infill locations are presumed to result in less than significant impact on VMT. Infill locations generally offer better access to transit and more opportunities for walking and cycling. The definition of infill locations is determined based on local conditions.
- **Local Serving Retail:** Projects below 50,000 square feet in building area categorized as local-serving retail and may be presumed to have a less than significant impact on VMT.

Screening Determination

The project does not meet any of the VMT screening criteria listed above.

Table 1 summarizes the VMT screening results.

Table 1: VMT Screening Summary

VMT Screening Criteria	Criterion Met?	Reasoning
Less than 110 Trips per Day	No	Based on the estimated trip generation using rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual 11th Edition* and described in Table 1 of the project's Transportation Impact Assessment report, the proposed project would generate up to 685 net new daily primary vehicle trips and therefore would not screen out under this criterion.
Within a ½ mile of a Major Transit Stop	No	The proposed project is not located within a ½ mile of a major transit stop and does not screen out under this criterion.
100% Affordable Housing	No	The project will consist of 20% affordable housing units. Therefore, the project does not screen out of this criterion.
Local Serving Retail	No	The proposed project does not contain retail land use and does not screen out under this criterion.

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

Site Evaluation

A VMT analysis was conducted in accordance with CEQA requirements and OPR's guidelines utilizing the VMT Calculator and VMT maps provided by the County. The county average for VMT per Capita is 11.4 according to the VMT calculator. In order to have a less-than-significant impact, the project needs to be equal to or less than 85% of the county average (9.7). Based on the VMT calculator, the VMT per capita

for the project location is 11.3, which is less than the countywide average but not less than the 85% threshold. A 14% reduction would be needed for the project to meet the VMT threshold (14% of 11.3 to meet 9.7).

Transportation Demand Management (TDM) Strategies

The following strategies were identified to reduce project VMT:

- TDM-1: Transit subsidy for the affordable housing units (Transit Strategy)
    - This involves subsidization of transit fare for residents, specifically applied to the 20% of units that will be affordable housing.
    - According to the OPR guidelines, adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT.
    - **This results in a 4% reduction to the project VMT**
    - *Source: California Air Pollution Control Officers Association publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA), Strategy TRT-4*
- TDM-2: Mandatory Travel Behavior Change Program with Promotions & Marketing (Communications & Information Strategy).
    - This involves the development of a travel behavior change program that targets individuals attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials.
    - **This results in a 4% reduction to the project VMT**
    - *Source: 2013 Policy Brief by Steven Spears, Marlon Boarnet, and Susan Handy, Policy Brief on the Impacts of Voluntary Travel Behavior Change Programs Based on a Review of the Empirical Literature.*
- TDM-3: Passenger Loading Zones for Carpool/Vanpool
    - This includes an easy access location for carpools/vanpools
    - **This results in a 1% reduction to the project VMT**
    - *Source: County of Monterey, VMT Calculator Version 1.0 Build Date 12-8-2020*
- TDM-4: Include Bike Parking Per City Code, Secure Bike Parking, and Bicycle Repair Station/ Services (Bicycle Infrastructure Strategy)
    - Implements short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations. Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation.
    - **This results in a 2% reduction to the project VMT**
    - *Source: California Air Pollution Control Officers Association publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA), Strategy SDT-6*
- TDM-5: Pedestrian Network Improvements (Neighborhood Enhancement Strategy)
    - Implements pedestrian network improvements throughout and around the project site that encourages people to walk.
    - The proposed project also includes sidewalk along the entirety of Val Verde Dr to Rio Road, which provides a walkable path from the site to nearby retail areas.

- **This results in a 2% reduction to the project VMT.**
  - Note that this is not identified as an applicable reduction for Monterey County in the VMT Tool, but due to the extent of improvements being completed by the project it is assumed to be applicable to the extent consistent with other areas of the County as identified in the VMT tool.
- *Source: California Air Pollution Control Officers Association publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA), Strategy SDT-1*

TDM-6: EV Parking Spaces/Stations (Miscellaneous Strategy)

- Provide a charging station for electric vehicles.
- **This results in a 1% reduction to the project VMT**
- *Source: County of Monterey, VMT Calculator Version 1.0 Build Date 12-8-2020*

The total VMT reduction with the above strategies is 14%.

CEQA TRANSPORTATION CHECKLIST

In addition to VMT analysis, other analyses under CEQA must also be conducted to fully capture the potential effects of a project on the transportation network. This section discusses the other (non-VMT) transportation impact analyses to fulfill CEQA requirements. The information in this section corresponds to the CEQA Appendix G Environmental Checklist Form transportation questions.

The following summarizes the analysis consistent with the CEQA checklist.

(a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The proposed project would consist of changes primarily within the existing parcel footprint. Vehicle, pedestrian, and bicycle access in adjacent streets would not be changed as a result of the proposed project. There are no sidewalks along Val Verde Drive. The project proposes to build sidewalks along Val Verde Drive. There are no bicycle facilities that provide direct access to the study site. The Circulation Element for the City of Carmel does not propose any new bike lanes. The study area is served by the Monterey-Salinas Transit agency. Route 24 (Crossroads Carmel – Carmel Valley) has stops along Carmel Rancho Boulevard. The proposed project would not affect transit operations and conditions along the adjacent street. The proposed project would not require changes to bus service frequency or routes.

The project is proposing to provide three site accesses on Val Verde Drive. The southern primary site access on Val Verde Drive would loop within the development, and have pedestrian crossings. This change is anticipated to improve pedestrian access to the site. This change is not anticipated to conflict with the City's roadway classifications.

Overall, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation systems, and impacts would be less-than-significant.

(b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

In response to SB 743, California agencies are required to evaluate development projects for VMT. A detailed CEQA assessment is not required for land use elements of a project that meet certain screening criteria. To be screened out of a detailed VMT analysis, a project or project component would need to satisfy at least one of the VMT screening criteria: Net Daily Trips Less than 110 Average Daily Traffic (ADT), Within a ½ Mile of Major Transit Stop, Affordable Housing, or Local Retail (<50,000 square feet). The proposed project does not meet any of the identified screening criteria. Therefore, the proposed project would be required to conduct a detailed VMT analysis.

A VMT analysis was conducted in accordance with CEQA requirements and the Office of the Planning & Research (OPR) guidelines utilizing the VMT Calculator and VMT maps provided by the County. The county average for VMT per Capita is 11.4 according to the VMT calculator. In order to have a less-than-significant impact, the project needs to be equal to or less than 85% of the county average (9.7). Based on the project location, the VMT per capita for the site is anticipated to be 11.3, which is less than the countywide average but not less than the 85% threshold. The following strategies were identified to reduce the VMT resulting from the proposed project:

- TDM-1: Transit subsidy for the affordable housing units (Transit Strategy)
    - This involves subsidization of transit fare for residents, specifically applied to the 20% of units that will be affordable housing.
    - This results in a 4% reduction to the project VMT
- TDM-2: Mandatory Travel Behavior Change Program with Promotions & Marketing (Communications & Information Strategy).
    - This involves the development of a travel behavior change program that targets individuals attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials.
    - This results in a 4% reduction to the project VMT
- TDM-3: Passenger Loading Zones for Carpool/Vanpool
    - This includes an easy access location for carpools/vanpools
    - This results in a 1% reduction to the project VMT
- TDM-4: Include Bike Parking Per City Code, Secure Bike Parking, and Bicycle Repair Station/ Services (Bicycle Infrastructure Strategy)
    - Implements short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations. Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation.
    - This results in a 2% reduction to the project VMT
- TDM-5: Pedestrian Network Improvements (Neighborhood Enhancement Strategy)
    - Implements pedestrian network improvements throughout and around the project site that encourages people to walk.
    - The proposed project also includes sidewalk along the entirety of Val Verde Dr to Rio Road, which provides a walkable path from the site to nearby retail areas.
    - This results in a 2% reduction to the project VMT.

TDM-6: EV Parking Spaces/Stations (Miscellaneous Strategy)

These strategies would result in a 14% reduction to VMT and would result in the project having a VMT/capita of 9.7, which would result in a less-than-significant impact.

(c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project would consist of changes within the existing parcel footprint, and would convert the existing vacant parcel to residential units. The project proposes to construct 3 site accesses off Val Verde Drive. These site accesses would not change off-site roadway configurations. The project would not substantially increase hazards due to geometric design features and impacts would be less-than-significant.

The proposed project would border the Carmel Rancho Shopping Center and existing residential areas. Therefore, the proposed project would not substantially increase hazards due to incompatible uses and impacts would be less-than-significant.

(d) Would the project result in inadequate emergency access?

The proposed project would create three site accesses off Val Verde Drive that would be compliant with the existing standards. Under the Fire Code of Monterey County, all roads are required to have at least two 10 feet wide traffic lanes with unobstructed access to the fire apparatus and a vertical clearance of at least 15 feet. The civil plan set prepared by the applicant's engineer for the development will document the design of the vehicle driveway and internal circulation for trucks and emergency vehicles, and will meet City and County requirements. Therefore, the proposed project would not result in inadequate emergency access and the impacts would be less-than-significant.