

APPENDIX I

Traffic Impact Study

(Abrams Associates; December 3, 2025)



Traffic Impact Study

27821 Dutcher Creek Road

City of Cloverdale

Prepared by:

Abrams Associates

1875 Olympic Boulevard, Suite 210

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Abrams Associates
TRAFFIC ENGINEERING, INC.

December 3, 2025

27821 Dutcher Road Project

City of Cloverdale

TRAFFIC IMPACT STUDY

1) INTRODUCTION

This traffic impact study describes the existing and future conditions for transportation with and without the proposed affordable housing project in the City of Cloverdale. The project is expected to include 53 units of affordable housing as well as a 4,168 sq. ft. Behavioral Health and Wellness Center. Residential amenities include a 1,322 sq. ft. fitness center, a 1,475 sq. ft. community room, and a 2,185 sq. ft. property management office area. The site is currently undeveloped except for some materials storage.

This study also describes the regulatory setting; the criterion used for determining the significance of environmental impacts; and summarizes potential environmental impacts and appropriate mitigation measures. This study has been conducted in accordance with the requirements and methodologies set forth by the City of Cloverdale, Sonoma County and Caltrans. Based on the trip generation forecasts the project would generate an increase of about 30 vehicle trips during the weekday AM peak hour and about 36 trips during the weekday PM peak hour. A detailed review of the project's design and an analysis conducted based on the County's guidelines there would be no significant traffic impacts according to the City and County significance criteria.¹

2) PROJECT DESCRIPTION

As noted above, the project is expected to include 53 units of affordable housing as well as a 4,168 sq. ft. Behavioral Health and Wellness Center. Residential amenities include a 1,322 sq. ft. fitness center, a 1,475 sq. ft. community room, and a 2,185 sq. ft. property management office area. The community room will be used for resident services and activities, which is not forecast to significantly affect the weekday peak hour trip generation. The office area will accommodate property management, resident services, and case management staff. The site is currently undeveloped except for some materials storage. The primary access to the site would be via Road A and its stop-controlled intersection with Dutcher Creek Road. A secondary access would connect to Nopo Way. **Figure 1** shows the project location and the surrounding roadway network. **Figures 2** presents the proposed site plan for the project.

¹ *Guidelines for Traffic Impact Studies*, Sonoma County Department of Transportation, Santa Rosa, CA, May, 2016.



FIGURE 1 | PROPOSED PROJECT STUDY INTERSECTIONS
TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
City of Cloverdale



FIGURE 2 | SITE PLAN
TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
City of Cloverdale

3) EXISTING CONDITIONS

This section of the report describes the roadways, traffic conditions and other existing transportation characteristics in the vicinity of the project. The primary basis of the analysis is the peak hour level of service for the key intersections. The hours identified as the “peak” hours are generally between 7:30 a.m. and 8:30 a.m. and 4:45 p.m. and 5:45 p.m. for the transportation facilities described, based on the intersection turning movement counts collected for this analysis. These peak hours will be identified as the AM and PM peak hours. These volumes represent the conditions on a typical weekday (Tuesday through Thursday).

3.1 Project Study Intersections

Figure 1 shows the location of the project study intersections included in the analysis. As mentioned above, the primary access to the site would be via Road A and its stop-controlled intersection with Dutcher Creek Road. A secondary access would connect to Nopo Way. Four study intersections were analyzed, and are shown in **Figure 1**.

3.2 Traffic Analysis Scenarios

The study intersections were evaluated for the four scenarios described below:

- Scenario 1: *Existing Conditions* – Level of Service (LOS) based on the existing weekday peak hour volumes and existing intersection configurations.
- Scenario 2: *Existing Plus Project Conditions* – Existing traffic volumes plus the trips forecast to be generated by the proposed project.
- Scenario 3: *Cumulative Conditions* – This scenario includes year 2045 cumulative volumes based on the Sonoma County Traffic Model.
- Scenario 4: *Cumulative Plus Project Conditions* – This scenario includes year 2045 cumulative volumes based on the Sonoma County Traffic Model and plus the forecast trips from proposed project.

3.3 Existing Roadway Network

As discussed previously, the project location and the surrounding roadway network are illustrated in **Figure 1**. The following is a more detailed description of some of the main roadways in the area that could be affected by the project:

- **U.S. 101** – US-101 is a four-lane freeway in the project area that runs in a north-south direction. Within the San Francisco Bay Area it provides access to Sonoma County, Marin County, San Francisco County, San Mateo County, and Santa Clara County.

- **South Cloverdale Avenue** – South Cloverdale Avenue is a north-south two-lane roadway that extends north from Dutcher Creek Road at Kelly Road and becomes North Cloverdale Avenue to the north of 1st Street. In the vicinity of the proposed project South Cloverdale Avenue has a posted speed limit of 35 mph.
- **Dutcher Creek Road** – Dutcher Creek Road is a north-south two-lane roadway that extends south from South Cloverdale Road at Kelly Road and terminates to the south at Dry Creek Road. In the vicinity of the proposed project Dutcher Creek Road has a posted speed limit of 50 mph.
- **Santana Drive** – Santana Drive is an east-west two-lane roadway that extends east from South Cloverdale Road at terminates at Asti Road. Santana Drive provides access to U.S. 101 in the area with intersections with both the northbound and southbound ramps.
- **Road A and Nopo Way** – Road A and Nopo Way are two-lane local residential roadway that serve the Bi'du Khaale community. Both of these roadways have a prima facie speed limit of 25 mph.

3.4 Analysis Methodology

Existing operational conditions at the four (4) study intersections have been evaluated according to the requirements set forth by the Cloverdale General Plan. Analysis of traffic operations was conducted using the 7th Edition of the *Highway Capacity Manual (HCM)* Level of Service (LOS) methodology with Synchro software.² Level of service is an expression, in the form of a scale, of the relationship between the capacity of an intersection (or roadway segment) to accommodate the volume of traffic moving through it at any given time. The level of service scale describes traffic flow with six ratings ranging from A to F, with “A” indicating relatively free flow of traffic and “F” indicating stop-and-go traffic characterized by traffic jams.

As the amount of traffic moving through a given intersection or roadway segment increases, the traffic flow conditions that motorists experience rapidly deteriorate as the capacity of the intersection or roadway segment is reached. Under such conditions, there is general instability in the traffic flow, which means that relatively small incidents can cause considerable fluctuations in speeds and delays that lead to traffic congestion. This near-capacity situation is labeled level of service (LOS) E. Beyond LOS E, the intersection or roadway segment capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it.

For signalized intersections, The *HCM* methodology determines the capacity of each lane group approaching the intersection. The LOS is then based on average control delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average

² 6th Edition of *Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2016

control delay and LOS are presented for the intersection. A summary of the HCM results and copies of the detailed HCM LOS calculations are included in the appendix to this report. **Table 1** summarizes the relationship between LOS, average control delay, and the volume to capacity ratio at signalized intersections. For unsignalized intersections (all-way stop controlled and two-way stop controlled) the average control delay and LOS operating conditions are calculated by approach (e.g., northbound) and by movement (e.g., northbound left-turn) for those movements that are subject to delay. In general, the operating conditions for unsignalized intersections are presented for the worst approach. **Table 2** summarizes the relationship between LOS and average control delay at unsignalized intersections.

3.5 Existing Intersection Capacity Conditions (Scenario 1)

The existing intersection geometry at each of the project study intersections can be seen in **Figure 3** and the existing traffic volumes at each are presented in **Figure 4**. Traffic counts at the study intersections were conducted in October of 2025 at times when local schools were in session. **Table 3** summarizes the associated LOS computation results for the existing weekday AM and PM peak hour conditions. Please note that the corresponding LOS analysis calculation sheets are presented in the appendix to this report. As shown in **Table 3**, all of the project study intersections currently have acceptable conditions (LOS D or better) during the weekday AM and PM peak hours. See Section 3.8 for a description of the applicable intersection thresholds.

3.6 Pedestrian and Bicycle Facilities

Bicycle and pedestrian facilities in the project study area are currently very limited with no bike lanes or sidewalks provided in the vicinity of the project. Bicycle paths, lanes and routes are typical examples of bicycle transportation facilities, which are defined by Caltrans as being in one of the four classes:

Class I – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.

Class II – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.

Class III – Provides a route designated by signs or permanent markings and shared with pedestrians and motorists.

Class IV – Provides an adjacent bike lane or bikeway that is physically separated from motor vehicle traffic.

Field observations indicate that walking and bicycling activity is limited in the immediate vicinity of the proposed project site. This is primarily due to the lack of existing bicycle and pedestrian traffic generators in the vicinity of the project site. However, there is a lack of curbs, gutters, and sidewalks along Dutcher Creek Road to accommodate pedestrian activity. On most of the

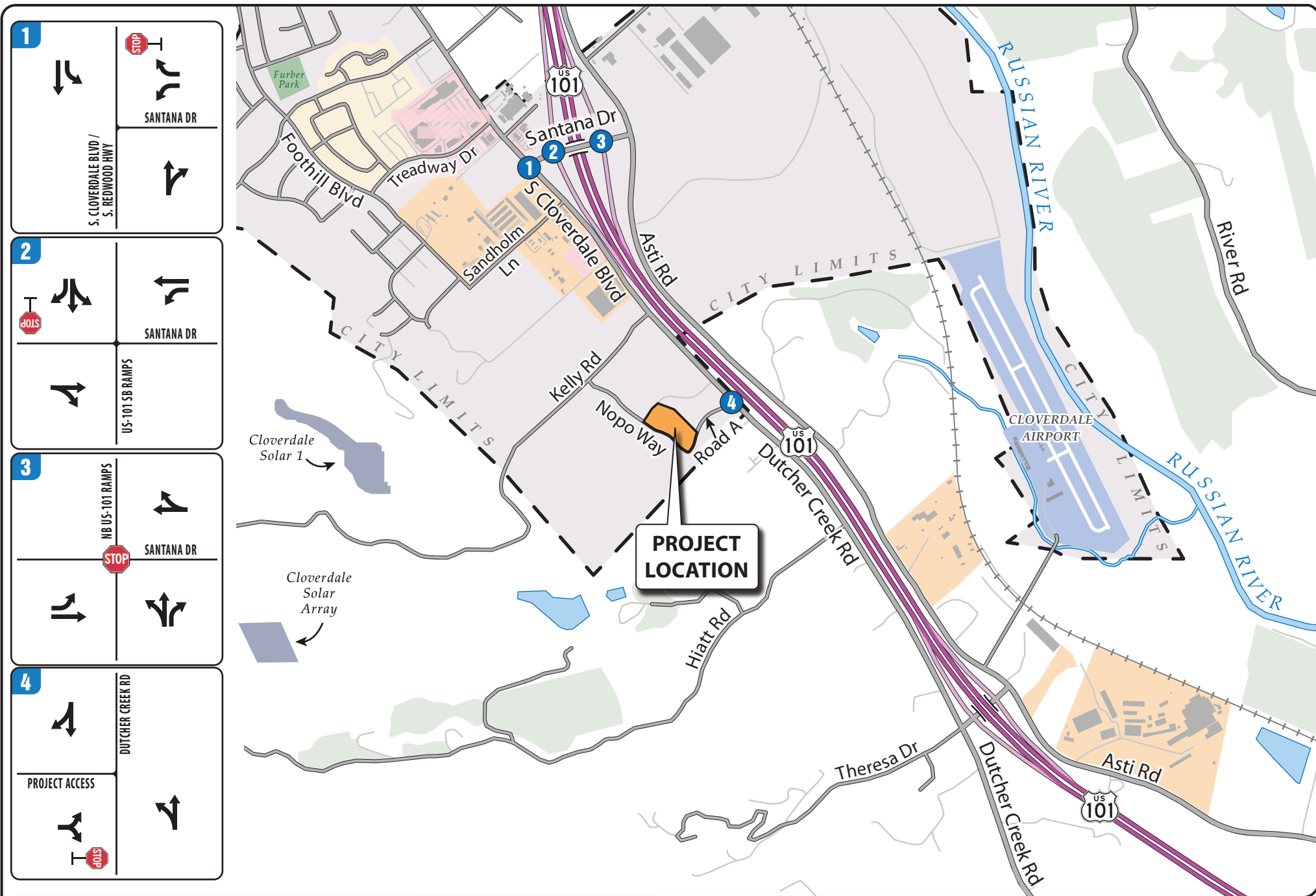


FIGURE 3 | EXISTING LANE CONFIGURATIONS
TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
City of Cloverdale



FIGURE 4 | EXISTING AM(PM) PEAK HOUR TRAFFIC VOLUMES
 TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
 City of Cloverdale

TABLE 1
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description of Operations	Average Delay (sec/veh)	Volume to Capacity Ratio
A	Insignificant Delays: No approach phase is fully used and no vehicle waits longer than one red indication.	≤ 10	< 0.60
B	Minimal Delays: An occasional approach phase is fully used. Drivers begin to feel restricted.	> 10 to 20	> 0.61 to 0.70
C	Acceptable Delays: Major approach phase may become fully used. Most drivers feel somewhat restricted.	> 20 to 35	> 0.71 to 0.80
D	Tolerable Delays: Drivers may wait through no more than one red indication. Queues may develop but dissipate rapidly without excessive delays.	> 35 to 55	> 0.81 to 0.90
E	Significant Delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long vehicle queues from upstream.	> 55 to 80	> 0.91 to 1.00
F	Excessive Delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80	> 1.00

SOURCES: 7th Edition of the *Highway Capacity Manual*, Transportation Research Board, 2022.

TABLE 2
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description of Operations	Average Delay (seconds/vehicle)
A	No delay for stop-controlled approaches.	0 to 10
B	Operations with minor delays.	> 10 to 15
C	Operations with moderate delays.	> 15 to 25
D	Operations with some delays.	> 25 to 35
E	Operations with high delays and long queues.	> 35 to 50
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	> 50

SOURCE: 7th Edition of the *Highway Capacity Manual*, Transportation Research Board, 2022.

TABLE 3
EXISTING INTERSECTION LEVEL OF SERVICE CONDITIONS

INTERSECTION		CONTROL	PEAK HOUR	EXISTING	
				Delay	LOS
1	SOUTH CLOVERDALE BOULEVARD & SANTANA DRIVE	Side Street Stop	AM	11.2	B
			PM	13.1	B
2	US-101 SB & SANTANA DRIVE	Side Street Stop	AM	9.5	A
			PM	12.7	B
3	US-101 NB & SANTANA DRIVE	All Way Stop	AM	9.0	A
			PM	12.6	B
4	DUTCHER CREEK ROAD & ROAD A	Side Street Stop	AM	8.7	A
			PM	8.8	A

SOURCE: Abrams Associates, 2024

NOTE: Delay results are presented in terms of seconds per vehicle.

roadways in the study area, bicyclists must ride in the roadway and share the travel lane with vehicular traffic. However, Dutcher Creek Road is proposed to have bicycle lanes in the Cloverdale General Plan.

3.7 Transit Service

Bus Transit - Bus transit service in the project area is provided by Sonoma County Transit. Sonoma County Transit provides local service in Cloverdale via Route 68, the Cloverdale Shuttle. The Shuttle operates Monday thru Saturday between the hours of 7:25am and 4:05pm. The route terminus is the Furber Ranch Shopping Center on South Cloverdale Blvd. The Shuttle connects the shopping center with the Kings Valley Apartments, the Senior Center, the downtown Plaza and adjacent residential neighborhoods. In addition to local service, Sonoma County Transit's Route 60 provides intercity service that connects Cloverdale with Healdsburg, Windsor and downtown Santa Rosa where transfers to other Sonoma County Transit Routes, local Santa Rosa CityBus services and regional services provided by Golden Gate Transit can be made.

Rail Transit - The Sonoma-Marin Area Rail Transit (SMART) provides additional transportation capacity along the US-101 corridor, operating from the Sonoma County Airport on the north to Downtown San Rafael and Larkspur to the south. The line is also planned to eventually be extended north to the Cities of Healdsburg and Cloverdale.

3.8 Standards and Objectives

Existing policies, laws and regulations that apply to the proposed project are summarized below.

Caltrans - The California Department of Transportation (Caltrans) has jurisdiction over State highways. Therefore, Caltrans controls all construction, modification, and maintenance of State highways, such as U.S. 101. Any improvements to these roadways would require Caltrans' approval.

Cloverdale General Plan - The Transportation and Circulation Element included in the Cloverdale General Plan was prepared pursuant to Section 65302(b) of the California Government Code. The Transportation and Circulation Element addresses the location and extent of existing and planned transportation routes, terminals, and other local public utilities and facilities. The General Plan identifies roadway and transit goals and policies that have been adopted to ensure that the transportation system of the City will have adequate capacity to serve planned growth. These goals and policies are intended to provide a plan and implementation measures for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the City.

Significance Criteria – For the purposes of this analysis a project would have a significant impact if it would conflict with an applicable program, plan, ordinance or policy establishing measures of effectiveness for the performance of addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian facilities/paths.

The goal of the the City of Cloverdale is to maintain a Level of Service (LOS) D during the peak hours, according to the General Plan. The City does not have plans, ordinances, or policies establishing measures of effectiveness for the performance of other parts of its circulation system. Please note this report also includes intersections under the jurisdiction of Caltrans. The applicable measures of effectiveness are summarized below:

Signalized Intersections - Project-related operational impacts on the signalized study intersections in Cloverdale are considered significant if project-related traffic causes the Level of Service (LOS) rating to deteriorate from LOS D to LOS E or F. In addition, in Sonoma County project impacts are also considered significant if a signalized intersection already operates at LOS E or F without project trips, and the project causes the average delay to increase by five seconds or more.

Unsignalized Intersections - Project-related operational impacts on unsignalized intersections in the City of Cloverdale are considered significant if project generated traffic causes the average of all movements to deteriorate from LOS D or better to LOS E or F. Stop-controlled minor street approaches to either collector or arterial street also must meet the LOS D standard. For unsignalized intersections where the LOS would already exceed City/County standards it is considered a significant impact if Caltrans peak hour traffic signal warrants would be met.

4) TRAFFIC IMPACT ANALYSIS

4.1 Project Trip Generation

As noted above, the proposed project would consist of five buildings with 53 units of affordable housing as well as a 4,168 sq. ft. Behavioral Health and Wellness Center. The resulting trip generation calculations are shown in **Table 1**. They are based on trip generation rates using the rates for affordable housing (ITE Land Use Code 223 – General Urban/Suburban Environment), a medical-dental office building (ITE Land Use Code 720 – General Urban/Suburban Environment) and a small standard office building (ITE Land Use Code 712 – General Urban/Suburban Environment) from the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 12th Edition. It is assumed that approximately half of the trips to and from the Behavioral Health and Wellness Center would come from the residents on site. As shown in **Table 1**, the proposed project is forecast to generate 357 trips per day with approximately 30 trips during the AM peak hour and 36 trips during the PM peak hour.

4.2 Project Trip Distribution

The trip distribution assumptions have been based on the project's proximity to the access freeway and other key travel routes in the area, the existing directional split at nearby intersections, and the overall land use patterns in the area. **Figure 5** shows the preliminary trip distribution percentages and **Figure 6** shows the forecast project trips that would be added at the project study intersections.

4.3 Existing Plus Project Traffic Capacity Conditions (Scenario 2)

This scenario evaluates the existing conditions with the addition of traffic from the proposed project. The traffic volumes for each of the study intersections for Existing Plus Project conditions are shown in **Figure 7**. The capacity calculations for the Existing Plus Project scenario are shown in **Table 5**. The corresponding LOS analysis calculation sheets are presented in the appendix to this report. As shown in **Table 5**, all of the project study intersections would continue to have acceptable conditions (LOS D or better) during the weekday AM and PM peak hours with the exception all of the project study intersections currently have acceptable conditions (LOS D or better) during the weekday AM and PM peak hours.

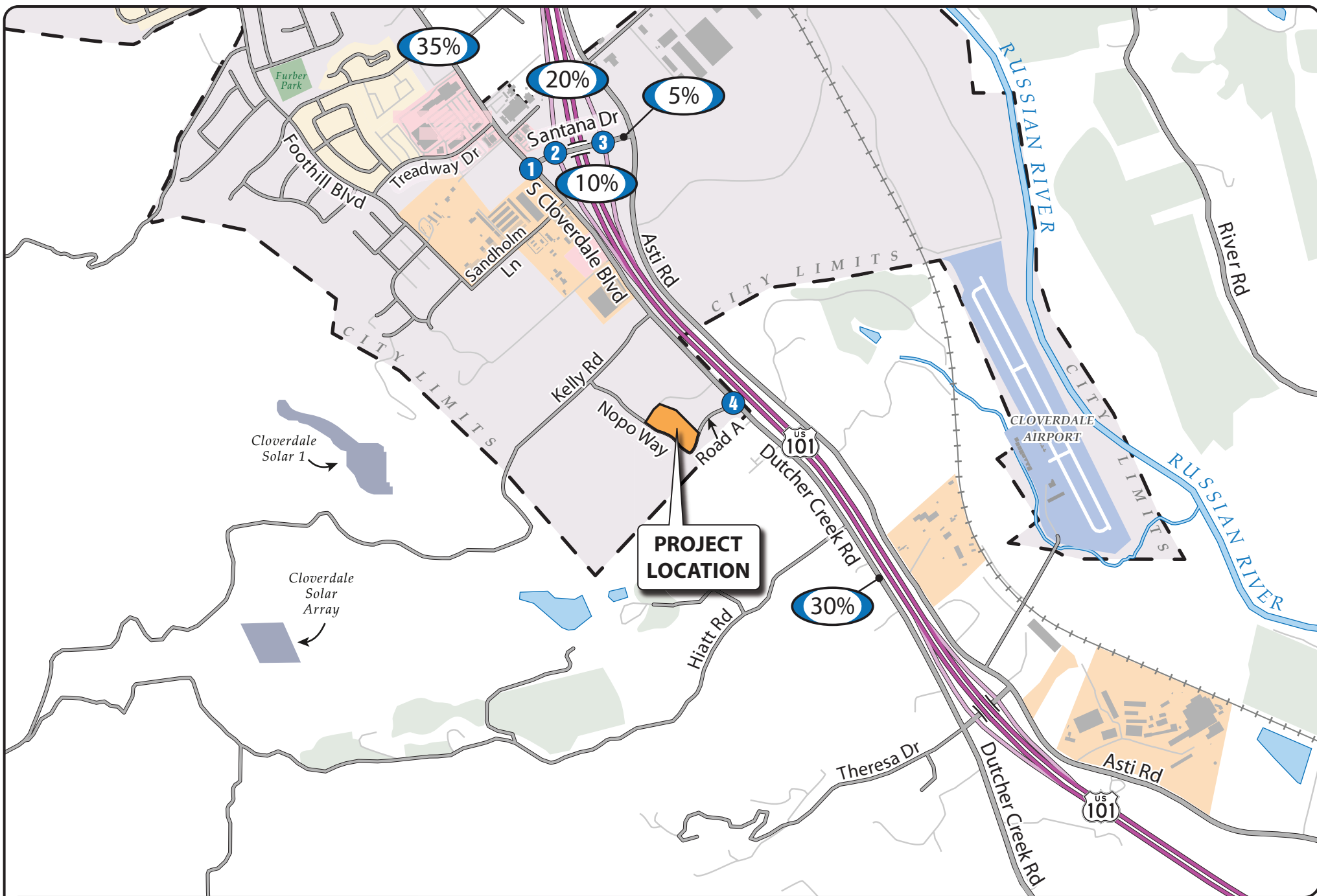


FIGURE 5 | PROJECT TRIP DISTRIBUTION
 TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
 City of Cloverdale

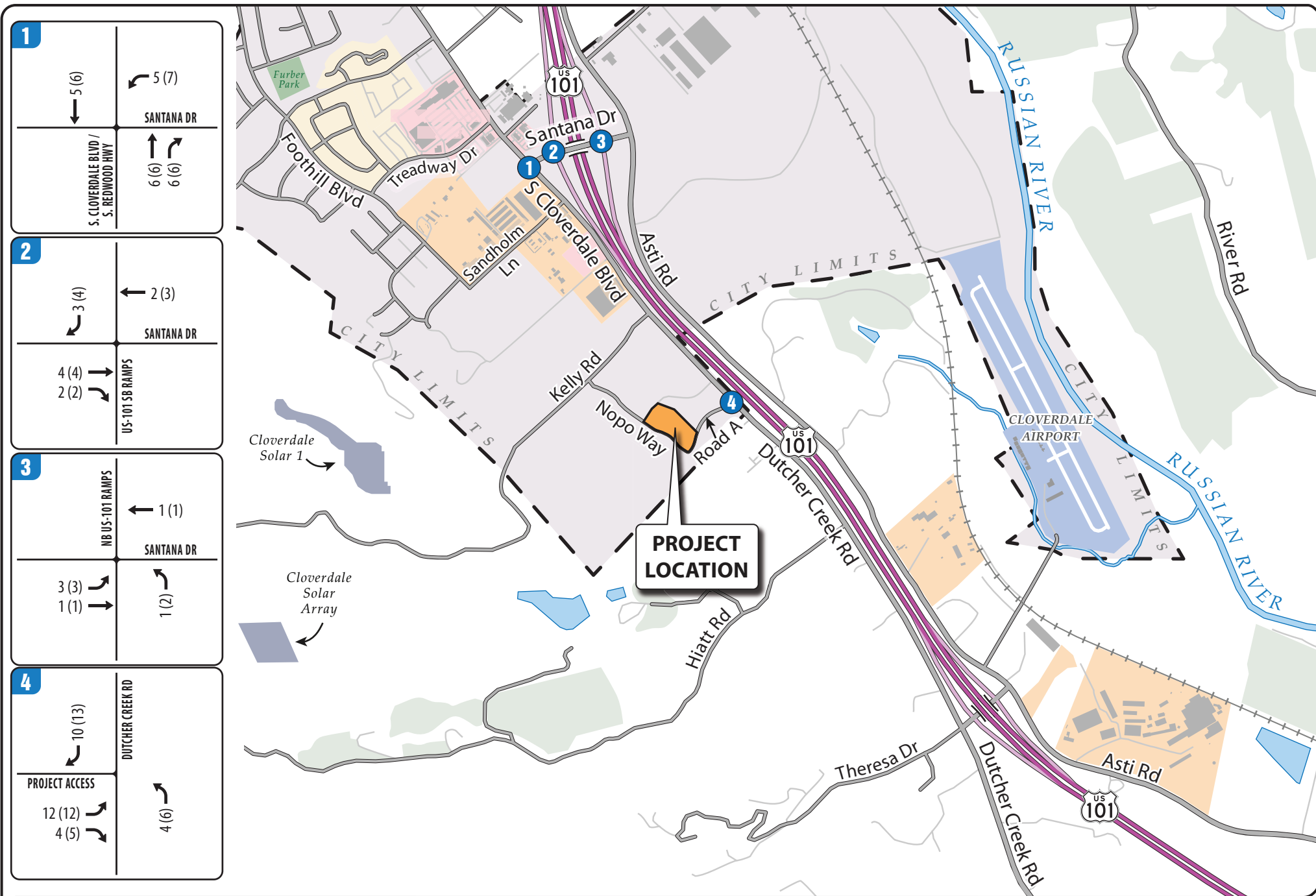


FIGURE 4 | PROPOSED PROJECT AM(PM) PEAK HOUR TRIPS
TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
City of Cloverdale



FIGURE 7 | EXISTING PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES
 TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
 City of Cloverdale

TABLE 4
TRIP GENERATION CALCULATIONS

Land Use	ITE Code	Size	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
ITE Affordable Housing Trip Rates - Trips per Unit	223		4.81	0.10	0.26	0.36	0.27	0.19	0.46
Affordable Housing Trip Generation		53 units	255	6	13	19	14	10	24
ITE Medical-Dental Office Trip Rates - Trips per sq. ft.	720		34.03	2.50	0.71	3.21	1.03	2.39	3.42
Behavioral Health and Wellness Center Trip Generation		4,168 sq. ft.	142	10	3	13	5	9	14
Internal Trips from the Behavioral Health and Wellness Center (50%)			71	5	1	6	2	5	7
Net New External Trip Generation from the Behavioral Health and Wellness Center			71	5	2	7	3	4	7
ITE Office Building Trip Rates - Trips per Unit	712		14.39	1.34	0.30	1.64	0.73	1.43	2.16
Office Space Trip Generation		2,185 sq. ft.	31	3	1	4	2	3	5
Net New Project Trip Generation			357	14	16	30	19	17	36

SOURCE: Institute of Transportation Engineers Trip Generation Manual (12th Edition)

TABLE 5
EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS

INTERSECTION		CONTROL	PEAK HOUR	EXISTING		EXISTING PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	SOUTH CLOVERDALE BOULEVARD & SANTANA DRIVE	Side Street Stop	AM	11.2	B	11.6	B
			PM	13.1	B	13.3	B
2	US-101 SB & SANTANA DRIVE	Side Street Stop	AM	9.5	A	9.5	A
			PM	12.7	B	12.9	B
3	US-101 NB & SANTANA DRIVE	All Way Stop	AM	9.0	A	9.0	A
			PM	12.6	B	12.7	B
4	DUTCHER CREEK ROAD & ROAD A	Side Street Stop	AM	8.7	A	9.2	A
			PM	8.8	A	9.3	A

SOURCE: Abrams Associates, 2024

NOTE: Delay results are presented in terms of seconds per vehicle.

4.4 Cumulative Traffic Capacity Conditions (Scenario 3)

For the cumulative conditions, the intersection traffic volumes were based on the existing turning movements plus incremental growth in background traffic (1% per year to 2045) based on the Sonoma County Traffic Model. **Figure 8** presents the cumulative build-out traffic volumes for the project study intersections. **Table 7** summarizes the LOS results for the Cumulative (Year 2045) traffic conditions at each of the project study intersections. As shown on this table, the project study intersections would be forecast to continue to have acceptable conditions during the weekday AM and PM peak commute hours.

4.6 Cumulative Plus Project Traffic Capacity Conditions (Scenario 4)

Table 7 summarizes the LOS results for the Cumulative Plus Project (Year 2045) traffic conditions at each of the project study intersection. **Figure 9** presents the cumulative build-out traffic volumes including the traffic from the proposed project. As shown on this table, all of the signalized study intersections would continue to have acceptable conditions during the weekday peak hours.

TABLE 7
CUMULATIVE PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS

INTERSECTION		CONTROL	PEAK HOUR	CUMULATIVE		CUMULATIVE PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	SOUTH CLOVERDALE BOULEVARD & SANTANA DRIVE	Side Street Stop	AM	12.8	B	13.5	B
			PM	16.4	C	16.8	C
2	US-101 SB & SANTANA DRIVE	Side Street Stop	AM	9.8	A	9.9	A
			PM	14.9	B	15.1	C
3	US-101 NB & SANTANA DRIVE	All Way Stop	AM	9.3	A	9.4	A
			PM	15.7	C	15.8	C
4	DUTCHER CREEK ROAD & ROAD A	Side Street Stop	AM	8.8	A	9.3	A
			PM	8.9	A	9.4	A

SOURCE: Abrams Associates, 2024

NOTE: Delay results are presented in terms of seconds per vehicle.

4.7 Transit Impacts

The project would not result in degradation of the level of service (or a significant increase in delay) on any roadway segments currently being utilized by bus transit in the area and, as such, no significant impacts to bus transit are expected. The proposed project not be expected to significantly impact the operating capacity any existing Sonoma Transit bus routes. The proposed project could potentially help support existing bus services with additional transit ridership and would not conflict with any transit plans or goals of the City or Sonoma Transit. Although the proposed project does have the potential to increase patronage on bus lines in the area, no significant effects on transit capacity are anticipated given that the additional ridership would be added primarily in the non-peak directions. As a result, the project would not be expected to result in any significant impacts to bus transit service in the area.



FIGURE 8 | CUMULATIVE AM(PM) PEAK HOUR TRAFFIC VOLUMES
 TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
 City of Cloverdale



FIGURE 9 | CUMULATIVE PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES
 TRAFFIC IMPACT STUDY
27821 Dutcher Creek Road
 City of Cloverdale

4.8 Pedestrians, Bicycles and Non-Motorized Vehicular Travel

The City does not have level of service standards for pedestrian or bicycle facilities. Nevertheless, use of existing facilities by the users of the project would not be expected to overcrowd those facilities or decrease their performance or safety. The project could add some pedestrians and bicyclists in the area but the volumes added would not be expected to significantly impact any existing facilities. In relation to the existing conditions, the proposed project would not cause substantial changes to the pedestrian or bicycle traffic in the area and would not significantly impact or require changes to the design of any existing bicycle or pedestrian facilities.

4.9 Site Access and Circulation

Based on the analysis of the proposed project the intersections that would provide access to the project are forecast to have acceptable operations. No other site circulation or access issues have been identified that would cause a traffic safety problem or any unusual traffic congestion or delay. A peak hour traffic signal warrant analysis and the detailed LOS calculations for the project entrance under all scenarios are included in the technical appendix.

4.10 Parking

The proposed project would provide an adequate supply of off-street parking based on the City's requirements. The project is currently proposing to meet the City's parking requirements and based on a review of the proposed parking plan there would be no significant parking impacts expected to the surrounding properties.

5) MITIGATION

The following is a summary of the proposed mitigation measures to address the transportation impacts of the project. Based on a detailed analysis of traffic operations with and without each of the proposed mitigations, implementation of the following mitigation measures would reduce all of the project impacts to a *less-than-significant* level.

Impact #1 Impacts related to public transit, bicycle, or pedestrian facilities, or potential decreases to the performance or safety of such facilities.

The project would not result in degradation of the level of service (or a significant increase in delay) on any roadway segments currently being utilized by bus transit in the area and would not increase ridership beyond existing capacity. As such, no significant impacts to bus transit are expected. In addition, the project would not significantly impact or change the design of any existing transportation facilities or create any new safety problems in the area. Therefore, the project's impacts on

alternative transportation would be considered less than significant and no mitigations would be required, subject to City verification.

Mitigation Measure(s)

None required.

Impact #2 Demolition and construction activities associated with the proposed project would result in an increase in traffic to and from the site and could lead to unsafe conditions near the project site.

The increase in traffic as a result of demolition and construction activities associated with the proposed project has been quantified assuming a worst-case single phase construction period of 12 months.

Heavy Equipment

Approximately 5 truck trips per day are estimated throughout the demolition and construction of the proposed project. Heavy equipment transport to and from the site could cause traffic impacts in the vicinity of the project site during construction. Truck drivers would be notified of and required to use the most direct routes to the freeway; all site ingress and egress would occur only at the main driveways to the project site; specifically designated travel routes for large vehicles would be monitored and controlled by flaggers for large construction vehicle ingress and egress; and any debris and mud on nearby streets caused by trucks would be monitored daily and may require instituting a street cleaning program. In addition, the ten loads of heavy equipment being hauled to and from the site each month would be short-term and temporary.

Employees

The weekday work is expected to begin around 7:00 AM and end around 4:00 PM. The construction worker arrival peak would occur between 6:30 AM and 7:30 AM, and the departure peak would occur between 4:00 PM and 5:00 PM. It should be noted that the number of trips generated during construction would not only be temporary, but would also not be much more than the traffic from proposed project at buildout. Based on estimates of the number of construction workers, the project could require parking for up to 40 vehicles during the peak construction period. Additionally, deliveries, visits, and other activities may generate peak non-worker parking demand of 10 to 20 trucks and automobiles per day. Therefore, up to 60 vehicle parking spaces may be required during the peak construction period for the construction employees. Because the construction of the project can be staged so that employee parking demand is met by using on-site parking, the impacts of

construction-related employee traffic and parking are considered less-than-significant.

Construction Material Import/Export

The project would also require removal of existing debris as well as the importation of construction material, including raw materials for the building pads, the buildings, the parking area, and landscaping. During the maximum peak construction period, it is estimated material import and export could generate approximately 5 truck trips per day.

Mitigation Measure(s)

None required.

Impact #3 Impacts related to site access and circulation.

No site circulation or access issues have been identified that would cause a traffic safety problem or any unusual traffic congestion or delay. In general, the project was not found to cause (or substantially increase) any safety hazards due to any design features or incompatible uses. A peak hour traffic signal warrant analysis and detailed LOS calculations for the project entrance under all scenarios is included in the appendix.

Mitigation Measure(s)

None required.

Impact #4 Impacts regarding emergency vehicle access on and surrounding the proposed project site.

Sufficient emergency access is determined by factors such as number of access points, roadway width, and proximity to fire stations. The land use plan for the proposed project includes a main entrance Road A and also a secondary access onto Nopo Way. All lane widths within the project would meet the minimum width that can accommodate an emergency vehicle; therefore, the width of the internal roadways would be adequate. In addition, the addition of traffic from project traffic would not result in any significant changes to emergency vehicle response times in the area. Therefore, development of the project is expected to have ***less-than-significant*** impacts regarding emergency vehicle access.

Mitigation Measure(s)

None required.



Traffic Impact Study Technical Appendix

27821 Dutcher Creek Road

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December 3, 2025

Appendix

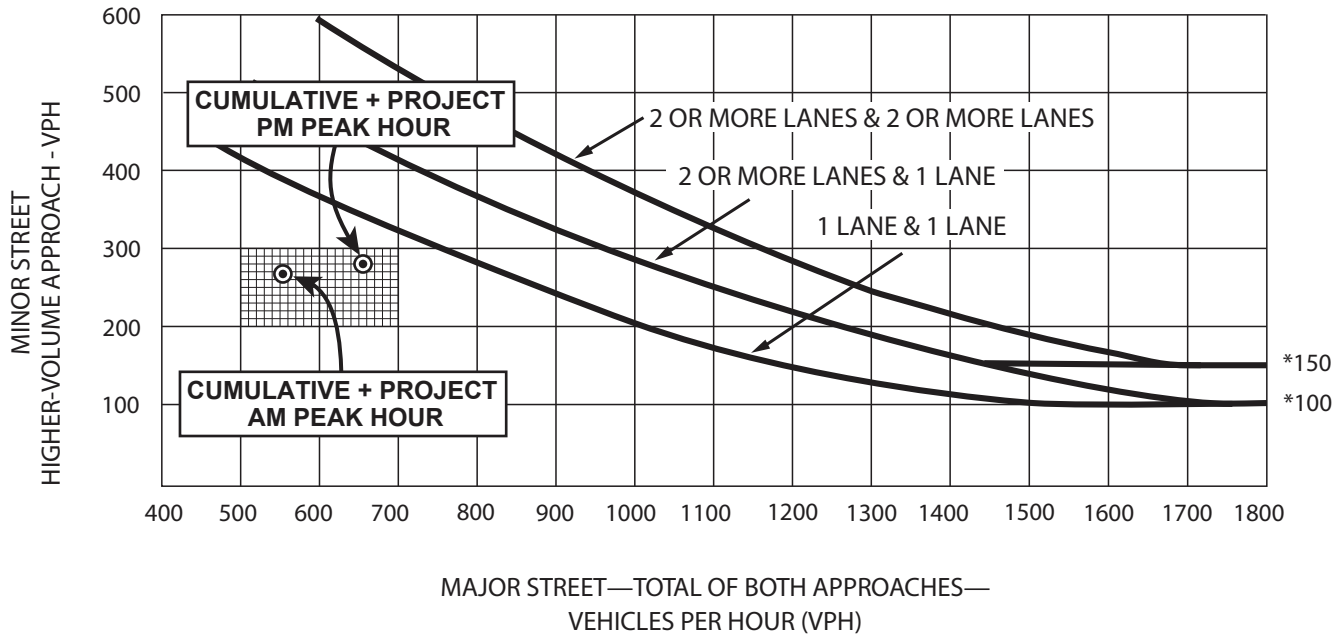
Table of Contents

- 1.) Accident Summary (5 Years)
- 2.) Warrants
- 3.) Traffic Counts
- 4.) HCM 7th Edition Level of Service (LOS) Results

Accident Summary
5 Years (2020-2024)
27821 Dutcher Creek Road
Results for Project Study Intersections

Collision Id	Crash Date Time	City Name	Primary Road	Secondary Road	Weather	Lighting Description	Collision Type Description	Motor Vehicle Involved With Description	Number Injured	Number Killed	Road Condition	Secondary Direction	Secondary Distance
2612956	2/20/22 3:06 PM	Cloverdale	S CLOVERDALE BL	SANTANA DR	CLEAR	DAYLIGHT	HEAD-ON	FIXED OBJECT	0	0	NO UNUSUAL CONDITIONS - NO UNUSUAL CONDITIONS	S	115
2279078	12/27/23 7:50 PM	Unincorporated	SANTANA DR	US-101 N/B	RAINING	DARK-STREET LIGHTS	HIT OBJECT	FIXED OBJECT	0	0	NO UNUSUAL CONDITIONS	E	40
4366363	5/25/24 11:35 AM	Cloverdale	S CLOVERDALE BL	SANTANA DR	CLEAR	DAYLIGHT	OTHER	NON-COLLISION	1	0	LOOSE MATERIAL ON ROADWAY* - LOOSE MATERIAL ON ROADWAY*	0	0

PEAK HOUR VOLUME WARRANT (Urban Areas)

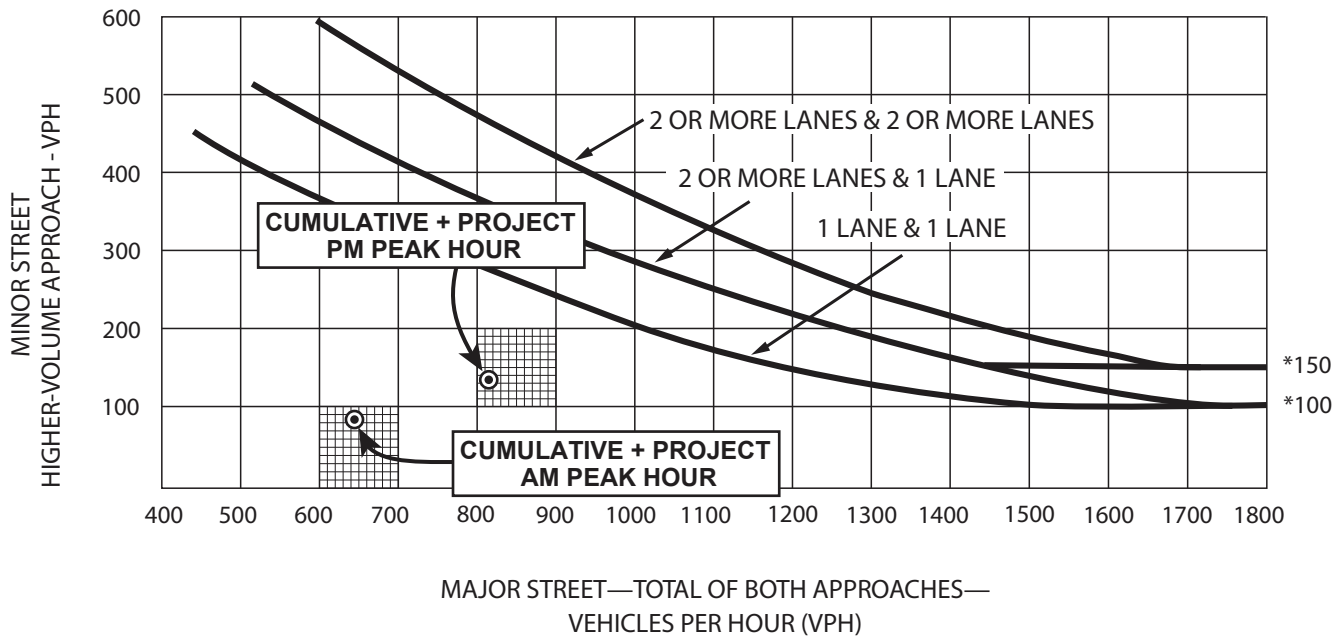


*** NOTE:**

150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH ONE LANE.

SOURCE:
CAMUTCD, CHAPTER 4
(FIGURE 4C-3)

PEAK HOUR VOLUME WARRANT (Urban Areas)

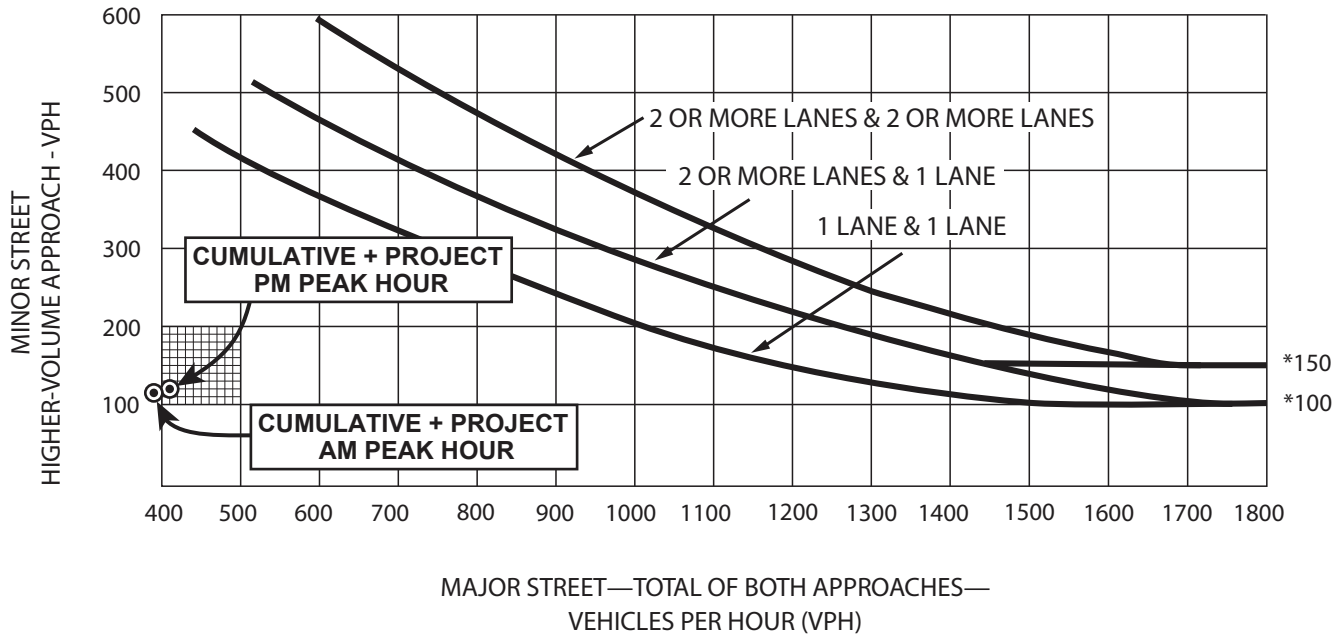


*** NOTE:**

150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH ONE LANE.

SOURCE:
CAMUTCD, CHAPTER 4
(FIGURE 4C-3)

PEAK HOUR VOLUME WARRANT (Urban Areas)

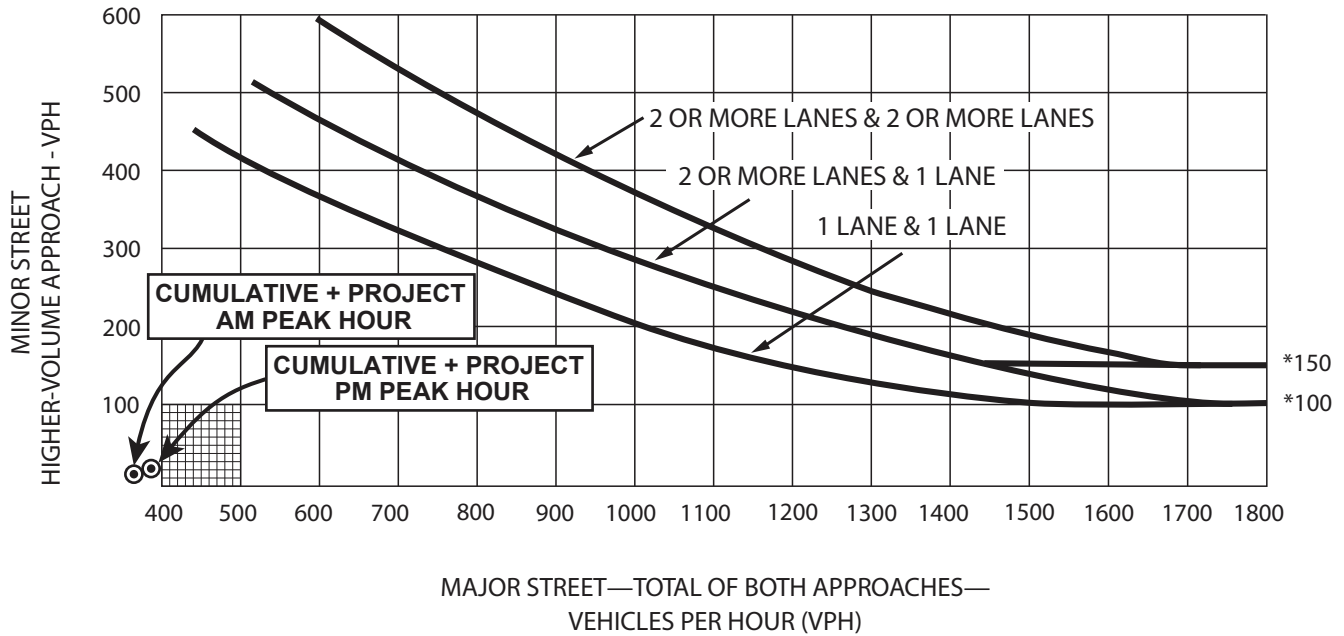


*** NOTE:**

150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH ONE LANE.

SOURCE:
CAMUTCD, CHAPTER 4
(FIGURE 4C-3)

PEAK HOUR VOLUME WARRANT (Urban Areas)



*** NOTE:**

150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH ONE LANE.

SOURCE:
CAMUTCD, CHAPTER 4
(FIGURE 4C-3)

Intersection No: 1

Location: S. Cloverdale Boulevard at Santana Drive

AM Start Time 7:00 AM

PM Start Time 4:00 PM

Date: Thursday, October 16, 2025

Collected By: Rick Folster

Abrams Associates
TRAFFIC ENGINEERING, INC.

S. CLOVERDALE BOULEVARD AT SANTANA DRIVE INTERSECTION TURNING MOVEMENT SUMMARY

1	S. Cloverdale Boulevard			S. Cloverdale Boulevard			Santana Drive			Santana Drive			AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00 AM		7	9	46	9					5		27	103
7:15 AM		9	10	59	12					4		33	127
7:30 AM		8	8	82	10					6		40	154
7:45 AM		10	11	82	15					7		34	159
8:00 AM		7	12	76	13					9		59	176
8:15 AM		8	13	66	14					8		42	151
8:30 AM		5	16	80	11					13		43	168
8:45 AM		8	6	58	13					10		43	138
Total	0	62	85	549	97	0	0	0	0	62	0	321	1176

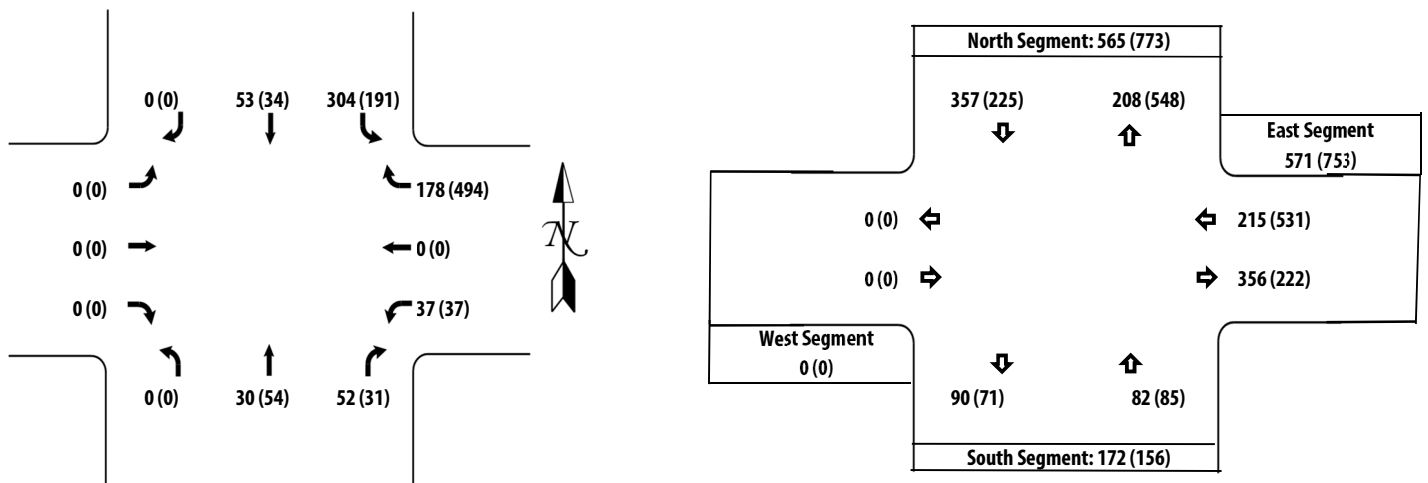
1	S. Cloverdale Boulevard			S. Cloverdale Boulevard			Santana Drive			Santana Drive			PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
4:00 PM		18	6	63	11					10		141	249
4:15 PM		5	6	34	10					4		76	135
4:30 PM		8	14	55	5					13		107	202
4:45 PM		19	10	53	4					14		108	208
5:00 PM		18	6	46	13					10		124	217
5:15 PM		12	5	36	7					7		127	194
5:30 PM		12	11	55	7					6		123	214
5:45 PM		12	9	54	7					14		120	216
Total	0	104	67	396	64	0	0	0	0	78	0	926	1635

AM PEAK HOUR VOLUMES

AM PEAK HOUR VOLUMES													
1	S. Cloverdale Boulevard			S. Cloverdale Boulevard			Santana Drive			Santana Drive			AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:45 AM		10	11	82	15					7		34	159
8:00 AM		7	12	76	13					9		59	176
8:15 AM		8	13	66	14					8		42	151
8:30 AM		5	16	80	11					13		43	168
Total	0	30	52	304	53	0	0	0	0	37	0	178	654

PM PEAK HOUR VOLUMES

PM PEAK HOUR VOLUMES													
1	S. Cloverdale Boulevard			S. Cloverdale Boulevard			Santana Drive			Santana Drive			PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
5:00 PM		18	6	46	13					10		124	217
5:15 PM		12	5	36	7					7		127	194
5:30 PM		12	11	55	7					6		123	214
5:45 PM		12	9	54	7					14		120	216
Total	0	54	31	191	34	0	0	0	0	37	0	494	841



Intersection No: 2

Location: US-101 SB RAMPS at Santana Drive

AM Start Time 7:00 AM

PM Start Time 4:00 PM

Date: Thursday, October 16, 2025

Collected By: Steve Abrams

Abrams Associates
TRAFFIC ENGINEERING, INC.

US-101 SB RAMPS AT SANTANA DRIVE INTERSECTION TURNING MOVEMENT SUMMARY

2	US-101 SB RAMPS			US-101 SB RAMPS			Santana Drive			Santana Drive			AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00 AM				2		7		11	48	2	23		93
7:15 AM				1		15		15	46	3	26		106
7:30 AM				3		21		18	52	1	21		116
7:45 AM				1		10		29	68	3	36		147
8:00 AM				2		18		18	63	6	37		144
8:15 AM				1		14		17	66	3	40		141
8:30 AM				2		18		22	72	5	36		155
8:45 AM				4		21		10	41	1	30		107
Total	0	0	0	16	0	124	0	140	456	24	249	0	1009

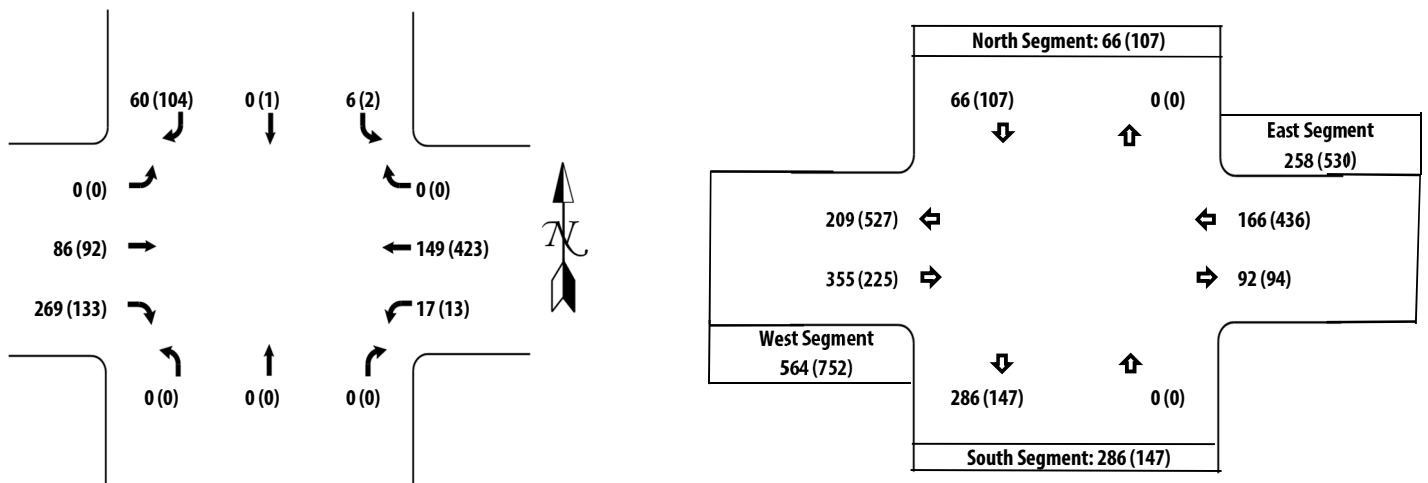
2	US-101 SB RAMPS			US-101 SB RAMPS			Santana Drive			Santana Drive			PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
4:00 PM				0	1	22			19			35	157
4:15 PM				0	1	16			17			26	131
4:30 PM				3	0	19			18			43	175
4:45 PM				1	0	21			22			31	159
5:00 PM				0	0	24			19			32	174
5:15 PM				1	1	27			24			21	184
5:30 PM				1	0	28			26			43	218
5:45 PM				0	0	25			23			37	192
Total	0	0	0	6	3	182	0	168	268	29	734	0	1390

AM PEAK HOUR VOLUMES

AM PEAK HOUR VOLUMES													
2	US-101 SB RAMPS			US-101 SB RAMPS			Santana Drive			Santana Drive			AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:45 AM				1		10		29	68	3	36		147
8:00 AM				2		18		18	63	6	37		144
8:15 AM				1		14		17	66	3	40		141
8:30 AM				2		18		22	72	5	36		155
Total	0	0	0	6	0	60	0	86	269	17	149	0	587

PM PEAK HOUR VOLUMES

PM PEAK HOUR VOLUMES													
2	US-101 SB RAMPS			US-101 SB RAMPS			Santana Drive			Santana Drive			PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
5:00 PM				0	0	24		19	32	3	96		174
5:15 PM				1	1	27		24	21	2	108		184
5:30 PM				1	0	28		26	43	7	113		218
5:45 PM				0	0	25		23	37	1	106		192
Total	0	0	0	2	1	104	0	92	133	13	423	0	768



Intersection No: 3

Location: US-101 NB Ramps at Santana Drive

AM Start Time 7:00 AM

PM Start Time 4:00 PM

Date: Thursday, October 23, 2025

Collected By: Steve Abrams

Abrams Associates
TRAFFIC ENGINEERING, INC.

US-101 NB RAMPS AT SANTANA DRIVE INTERSECTION TURNING MOVEMENT SUMMARY

3	US-101 NB Ramps			US-101 NB Ramps			Santana Drive			Santana Drive			AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00 AM	17	0	2				8	6			5	0	38
7:15 AM	20	1	2				11	5			4	1	44
7:30 AM	23	0	5				13	9			8	0	58
7:45 AM	42	1	3				11	10			12	1	80
8:00 AM	25	0	3				22	4			13	1	68
8:15 AM	33	0	2				12	9			5	1	62
8:30 AM	26	1	1				10	7			9	0	54
8:45 AM	22	0	1				11	8			7	1	50
Total	208	3	19	0	0	0	98	58	0	0	63	5	454

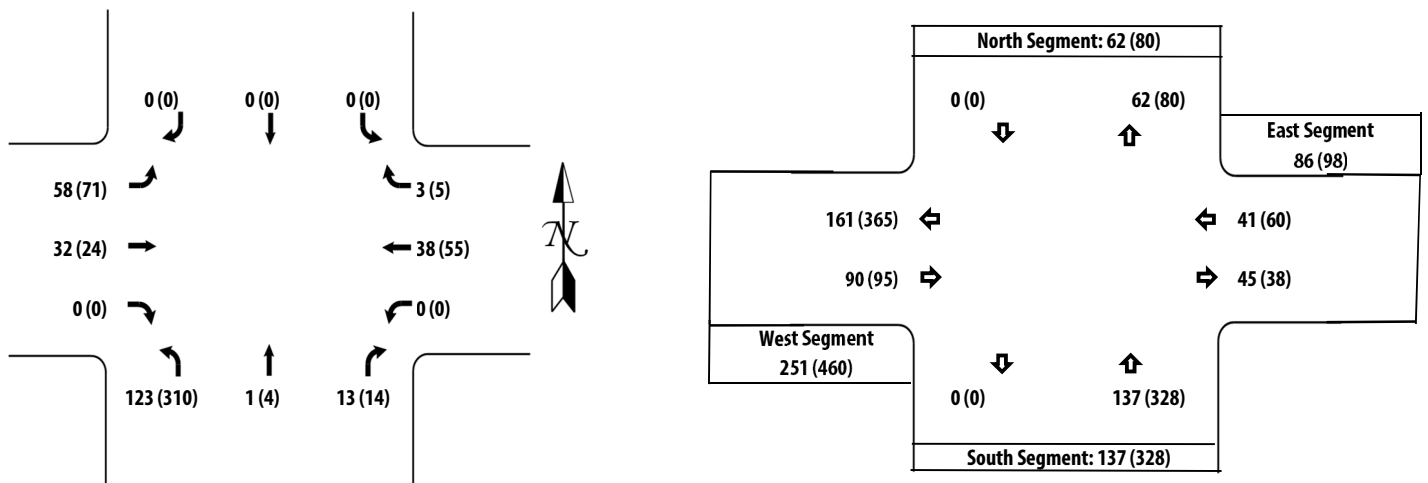
3	US-101 NB Ramps			US-101 NB Ramps			Santana Drive			Santana Drive			PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
4:00 PM	58	0	2				14	4			16	0	94
4:15 PM	73	0	4				25	6			21	4	133
4:30 PM	71	2	2				13	3			12	1	104
4:45 PM	86	1	3				13	6			12	0	121
5:00 PM	80	1	5				20	9			10	0	125
5:15 PM	74	1	3				17	6			11	3	115
5:30 PM	75	1	3				11	8			7	1	106
5:45 PM	72	0	5				16	4			9	4	110
Total	589	6	27	0	0	0	129	46	0	0	98	13	908

AM PEAK HOUR VOLUMES

AM PEAK HOUR VOLUMES													
3	US-101 NB Ramps			US-101 NB Ramps			Santana Drive			Santana Drive			AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:30 AM	23	0	5				13	9			8	0	58
7:45 AM	42	1	3				11	10			12	1	80
8:00 AM	25	0	3				22	4			13	1	68
8:15 AM	33	0	2				12	9			5	1	62
Total	123	1	13	0	0	0	58	32	0	0	38	3	268

PM PEAK HOUR VOLUMES

PM PEAK HOUR VOLUMES													
3	US-101 NB Ramps			US-101 NB Ramps			Santana Drive			Santana Drive			PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
4:15 PM	73	0	4				25	6			21	4	133
4:30 PM	71	2	2				13	3			12	1	104
4:45 PM	86	1	3				13	6			12	0	121
5:00 PM	80	1	5				20	9			10	0	125
Total	310	4	14	0	0	0	71	24	0	0	55	5	483



Intersection No: 4

Location: Dutcher Creek Road at Road A

AM Start Time 7:00 AM

PM Start Time 4:00 PM

Date: Thursday, October 23, 2025

Collected By: Rick Folster

Abrams Associates
TRAFFIC ENGINEERING, INC.

DUTCHER CREEK ROAD AT ROAD A INTERSECTION TURNING MOVEMENT SUMMARY

4	Dutcher Creek Road			Dutcher Creek Road			Road A						AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00 AM	1	7			10				1				19
7:15 AM	0	9			16				0				25
7:30 AM	1	11			22				1				35
7:45 AM	0	7			18				0				25
8:00 AM	0	9			20				1				30
8:15 AM	0	7			15				1				23
8:30 AM	1	10			13				0				24
8:45 AM	0	6			9				0				15
Total	3	66	0	0	123	0	0	0	4	0	0	0	196

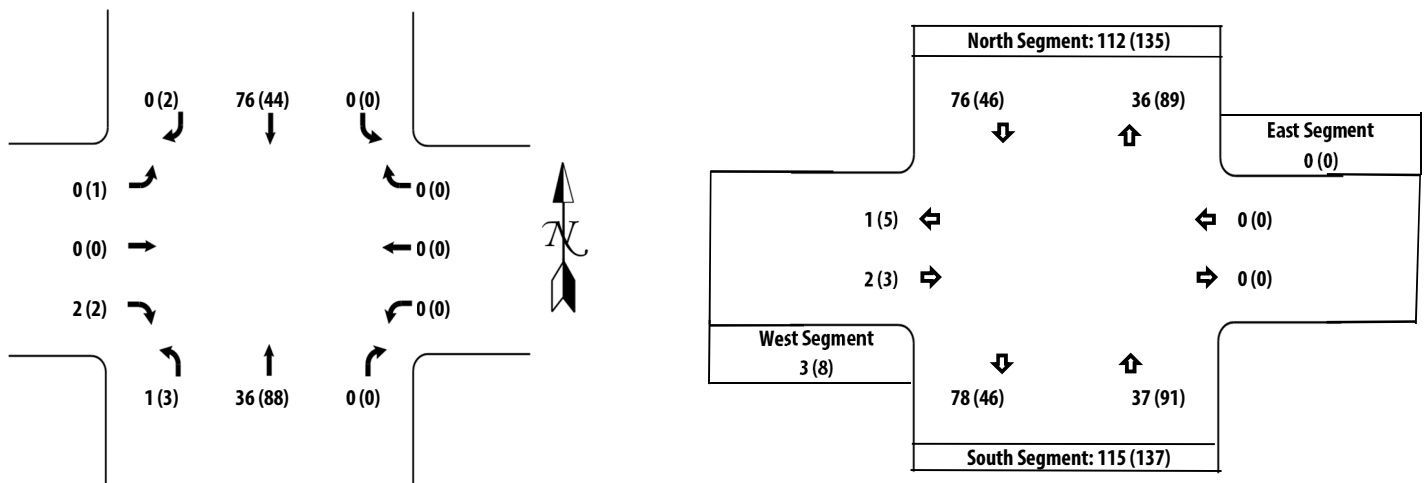
4	Dutcher Creek Road			Dutcher Creek Road			Road A						PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
4:00 PM	0	16			7	1	0		1				25
4:15 PM	1	23			14	0	0		1				39
4:30 PM	1	21			10	1	1		0				34
4:45 PM	0	19			11	1	0		1				32
5:00 PM	1	25			9	0	0		0				35
5:15 PM	0	18			11	0	0		0				29
5:30 PM	1	21			9	1	1		0				33
5:45 PM	0	16			8	0	0		1				25
Total	4	159	0	0	79	4	2	0	4	0	0	0	252

AM PEAK HOUR VOLUMES

AM PEAK HOUR VOLUMES													
4	Dutcher Creek Road			Dutcher Creek Road			Road A			WESTBOUND			AM
	NORTHBOUND			SOUTHBOUND			EASTBOUND						
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:15 AM	0	9			16				0				25
7:30 AM	1	11			22				1				35
7:45 AM	0	7			18				0				25
8:00 AM	0	9			20				1				30
Total	1	36	0	0	76	0	0	0	2	0	0	0	115

PM PEAK HOUR VOLUMES

PM PEAK HOUR VOLUMES													
4	Dutcher Creek Road			Dutcher Creek Road			Road A						PM
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
4:15 PM	1	23			14	0	0		1				39
4:30 PM	1	21			10	1	1		0				34
4:45 PM	0	19			11	1	0		1				32
5:00 PM	1	25			9	0	0		0				35
Total	3	88	0	0	44	2	1	0	2	0	0	0	140



Intersection						
Int Delay, s/veh	7.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	178	30	52	304	53
Future Vol, veh/h	37	178	30	52	304	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	40	193	33	57	330	58
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	779	61	0	0	89	0
Stage 1	61	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	363	1002	-	-	1500	-
Stage 1	959	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	283	1002	-	-	1500	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	11.24	0	6.88			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 283 1002 1500		-		
HCM Lane V/C Ratio	-	- 0.142 0.193 0.22		-		
HCM Ctrl Dly (s/v)	-	- 19.8 9.5 8.1		-		
HCM Lane LOS	-	- C A A		-		
HCM 95th %tile Q(veh)	-	- 0.5 0.7 0.8		-		

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↱	↱
Traffic Vol, veh/h	0	86	269	17	149	0	0	0	0	6	0	60
Future Vol, veh/h	0	86	269	17	149	0	0	0	0	6	0	60
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	93	292	18	162	0	0	0	0	7	0	65
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	386	0	0				292	585	162
Stage 1	-	-	-	-	-	-				199	199	-
Stage 2	-	-	-	-	-	-				93	386	-
Critical Hdwy	-	-	-	4.13	-	-				6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-				5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-				3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1167	-	0				696	422	880
Stage 1	0	-	-	-	-	0				832	735	-
Stage 2	0	-	-	-	-	0				928	609	-
Platoon blocked, %		-	-	-								
Mov Cap-1 Maneuver	-	-	-	1167	-	-				685	0	880
Mov Cap-2 Maneuver	-	-	-	-	-	-				685	0	-
Stage 1	-	-	-	-	-	-				832	0	-
Stage 2	-	-	-	-	-	-				913	0	-
Approach	EB			WB			SB					
HCM Ctrl Dly, s/v	0			0.83			9.5					
HCM LOS							A					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2						
Capacity (veh/h)	-	-	1167	-	685	880						
HCM Lane V/C Ratio	-	-	0.016	-	0.01	0.074						
HCM Ctrl Dly (s/v)	-	-	8.1	-	10.3	9.4						
HCM Lane LOS	-	-	A	-	B	A						
HCM 95th %tile Q(veh)	-	-	0	-	0	0.2						

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	32	0	0	38	3	123	1	13	0	0	0
Future Vol, veh/h	58	32	0	0	38	3	123	1	13	0	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	66	36	0	0	43	3	140	1	15	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	8.6	8.4	9.4
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	93%
Vol Right, %	0%	100%	0%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	13	58	32	41
LT Vol	123	0	58	0	0
Through Vol	1	0	0	32	38
RT Vol	0	13	0	0	3
Lane Flow Rate	141	15	66	36	47
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.213	0.017	0.101	0.051	0.066
Departure Headway (Hd)	5.443	4.244	5.531	5.029	5.074
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	662	845	651	715	708
Service Time	3.158	1.959	3.245	2.743	3.09
HCM Lane V/C Ratio	0.213	0.018	0.101	0.05	0.066
HCM Control Delay, s/veh	9.6	7	8.9	8	8.4
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.8	0.1	0.3	0.2	0.2

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	36	76	0
Future Vol, veh/h	0	2	1	36	76	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	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	2	1	41	86	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	130	86	86	0	-	0
Stage 1	86	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	862	970	1503	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	862	970	1503	-	-	-
Mov Cap-2 Maneuver	862	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.72	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	49	-	970	-	-
HCM Lane V/C Ratio	0.001	-	0.002	-	-
HCM Ctrl Dly (s/v)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	10					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	494	54	31	191	34
Future Vol, veh/h	37	494	54	31	191	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	40	537	59	34	208	37
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	528	76	0	0	92	0
Stage 1	76	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	509	983	-	-	1496	-
Stage 1	945	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	439	983	-	-	1496	-
Mov Cap-2 Maneuver	439	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	13.05	0	6.62			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 439 983	1496	-		
HCM Lane V/C Ratio	-	- 0.092 0.546	0.139	-		
HCM Ctrl Dly (s/v)	-	- 14 13	7.8	-		
HCM Lane LOS	-	- B B	A	-		
HCM 95th %tile Q(veh)	-	- 0.3 3.4	0.5	-		

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↱	↱
Traffic Vol, veh/h	0	92	133	13	423	0	0	0	0	3	0	104
Future Vol, veh/h	0	92	133	13	423	0	0	0	0	3	0	104
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	105	151	15	481	0	0	0	0	3	0	118
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	256	0	0				615	766	481
Stage 1	-	-	-	-	-	-				510	510	-
Stage 2	-	-	-	-	-	-				105	256	-
Critical Hdwy	-	-	-	4.13	-	-				6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-				5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-				3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1303	-	0				453	332	583
Stage 1	0	-	-	-	-	0				601	536	-
Stage 2	0	-	-	-	-	0				917	694	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1303	-	-				448	0	583
Mov Cap-2 Maneuver	-	-	-	-	-	-				448	0	-
Stage 1	-	-	-	-	-	-				601	0	-
Stage 2	-	-	-	-	-	-				907	0	-
Approach	EB			WB			SB					
HCM Ctrl Dly, s/v	0			0.23			12.74					
HCM LOS							B					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2						
Capacity (veh/h)	-	-	1303	-	448	583						
HCM Lane V/C Ratio	-	-	0.011	-	0.008	0.203						
HCM Ctrl Dly (s/v)	-	-	7.8	-	13.1	12.7						
HCM Lane LOS	-	-	A	-	B	B						
HCM 95th %tile Q(veh)	-	-	0	-	0	0.8						

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	24	0	0	55	5	310	4	14	0	0	0
Future Vol, veh/h	71	24	0	0	55	5	310	4	14	0	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	78	26	0	0	60	5	341	4	15	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	9.6	9.4	14.1
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	92%
Vol Right, %	0%	100%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	314	14	71	24	60
LT Vol	310	0	71	0	0
Through Vol	4	0	0	24	55
RT Vol	0	14	0	0	5
Lane Flow Rate	345	15	78	26	66
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.53	0.019	0.134	0.041	0.104
Departure Headway (Hd)	5.528	4.331	6.167	5.663	5.694
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	652	824	580	631	628
Service Time	3.268	2.071	3.916	3.411	3.746
HCM Lane V/C Ratio	0.529	0.018	0.134	0.041	0.105
HCM Control Delay, s/veh	14.4	7.2	9.9	8.7	9.4
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	3.1	0.1	0.5	0.1	0.3

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	3	88	44	2
Future Vol, veh/h	1	2	3	88	44	2
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, %	3	3	3	3	3	3
Mvmt Flow	1	2	3	98	49	2

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	154	50	51	0	-	0
Stage 1	50	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	835	1015	1549	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	833	1015	1549	-	-	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.82	0.24	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	59	-	946	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	7.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	178	36	58	304	58
Future Vol, veh/h	42	178	36	58	304	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	46	193	39	63	330	63
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	795	71	0	0	102	0
Stage 1	71	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	355	989	-	-	1484	-
Stage 1	950	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	276	989	-	-	1484	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	11.64	0	6.82			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 276 989 1484	-	-		
HCM Lane V/C Ratio	-	- 0.165 0.196 0.223	-	-		
HCM Ctrl Dly (s/v)	-	- 20.6 9.5 8.1	-	-		
HCM Lane LOS	-	- C A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.6 0.7 0.9	-	-		

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↱	↱
Traffic Vol, veh/h	0	90	271	17	151	0	0	0	0	6	0	63
Future Vol, veh/h	0	90	271	17	151	0	0	0	0	6	0	63
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	98	295	18	164	0	0	0	0	7	0	68
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	392	0	0				299	593	164
Stage 1	-	-	-	-	-	-				201	201	-
Stage 2	-	-	-	-	-	-				98	392	-
Critical Hdwy	-	-	-	4.13	-	-				6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-				5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-				3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1161	-	0				690	417	878
Stage 1	0	-	-	-	-	0				830	733	-
Stage 2	0	-	-	-	-	0				924	604	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1161	-	-				679	0	878
Mov Cap-2 Maneuver	-	-	-	-	-	-				679	0	-
Stage 1	-	-	-	-	-	-				830	0	-
Stage 2	-	-	-	-	-	-				909	0	-
Approach	EB			WB			SB					
HCM Ctrl Dly, s/v	0			0.82			9.53					
HCM LOS							A					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2						
Capacity (veh/h)	-	-	1161	-	679	878						
HCM Lane V/C Ratio	-	-	0.016	-	0.01	0.078						
HCM Ctrl Dly (s/v)	-	-	8.2	-	10.4	9.4						
HCM Lane LOS	-	-	A	-	B	A						
HCM 95th %tile Q(veh)	-	-	0	-	0	0.3						

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	33	0	0	39	3	124	1	13	0	0	0
Future Vol, veh/h	61	33	0	0	39	3	124	1	13	0	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	69	38	0	0	44	3	141	1	15	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	8.6	8.5	9.4
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	93%
Vol Right, %	0%	100%	0%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	13	61	33	42
LT Vol	124	0	61	0	0
Through Vol	1	0	0	33	39
RT Vol	0	13	0	0	3
Lane Flow Rate	142	15	69	38	48
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.215	0.017	0.107	0.052	0.067
Departure Headway (Hd)	5.456	4.257	5.536	5.034	5.084
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	661	843	650	714	706
Service Time	3.172	1.973	3.25	2.748	3.101
HCM Lane V/C Ratio	0.215	0.018	0.106	0.053	0.068
HCM Control Delay, s/veh	9.7	7	8.9	8	8.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.8	0.1	0.4	0.2	0.2

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	6	5	36	76	10
Future Vol, veh/h	12	6	5	36	76	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	14	7	6	41	86	11

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	144	92	98	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	846	963	1489	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	843	963	1489	-	-	-
Mov Cap-2 Maneuver	843	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.19	0.91	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	220	-	879	-	-
HCM Lane V/C Ratio	0.004	-	0.023	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	10					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	494	60	37	191	40
Future Vol, veh/h	44	494	60	37	191	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	48	537	65	40	208	43

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	544	85	0	0	105
Stage 1	85	-	-	-	-
Stage 2	459	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227
Pot Cap-1 Maneuver	498	971	-	-	1480
Stage 1	935	-	-	-	-
Stage 2	634	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	428	971	-	-	1480
Mov Cap-2 Maneuver	428	-	-	-	-
Stage 1	935	-	-	-	-
Stage 2	545	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.3	0	6.47
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 428 971 1480	-	-
HCM Lane V/C Ratio	-	- 0.112 0.553 0.14	-	-
HCM Ctrl Dly (s/v)	-	- 14.5 13.2 7.8	-	-
HCM Lane LOS	-	- B B A	-	-
HCM 95th %tile Q(veh)	-	- 0.4 3.5 0.5	-	-

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↱	↱
Traffic Vol, veh/h	0	96	135	13	426	0	0	0	0	3	0	108
Future Vol, veh/h	0	96	135	13	426	0	0	0	0	3	0	108
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	109	153	15	484	0	0	0	0	3	0	123

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	263	0	0	623	776	484
Stage 1	-	-	-	-	-	-	514	514	-
Stage 2	-	-	-	-	-	-	109	263	-
Critical Hdwy	-	-	-	4.13	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1296	-	0	448	327	581
Stage 1	0	-	-	-	-	0	599	534	-
Stage 2	0	-	-	-	-	0	913	689	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1296	-	-	443	0	581
Mov Cap-2 Maneuver	-	-	-	-	-	-	443	0	-
Stage 1	-	-	-	-	-	-	599	0	-
Stage 2	-	-	-	-	-	-	903	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0.23	12.86
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1296	-	443	581
HCM Lane V/C Ratio	-	-	0.011	-	0.008	0.211
HCM Ctrl Dly (s/v)	-	-	7.8	-	13.2	12.9
HCM Lane LOS	-	-	A	-	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0	0.8

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	25	0	0	56	5	312	4	14	0	0	0
Future Vol, veh/h	74	25	0	0	56	5	312	4	14	0	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	81	27	0	0	62	5	343	4	15	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	9.6	9.4	14.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	92%
Vol Right, %	0%	100%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	316	14	74	25	61
LT Vol	312	0	74	0	0
Through Vol	4	0	0	25	56
RT Vol	0	14	0	0	5
Lane Flow Rate	347	15	81	27	67
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.535	0.019	0.14	0.043	0.106
Departure Headway (Hd)	5.545	4.347	6.177	5.673	5.71
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	649	820	579	629	625
Service Time	3.286	2.089	3.928	3.423	3.765
HCM Lane V/C Ratio	0.535	0.018	0.14	0.043	0.107
HCM Control Delay, s/veh	14.5	7.2	9.9	8.7	9.4
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	3.2	0.1	0.5	0.1	0.4

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	7	9	88	44	15
Future Vol, veh/h	13	7	9	88	44	15
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, %	3	3	3	3	3	3
Mvmt Flow	14	8	10	98	49	17

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	175	57	66
Stage 1	57	-	-
Stage 2	118	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	813	1006	1530
Stage 1	963	-	-
Stage 2	905	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	807	1006	1530
Mov Cap-2 Maneuver	807	-	-
Stage 1	956	-	-
Stage 2	905	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.26	0.68	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	167	-	867	-	-
HCM Lane V/C Ratio	0.007	-	0.026	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	8.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	217	37	63	371	65
Future Vol, veh/h	45	217	37	63	371	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	49	236	40	68	403	71

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	952	74	0	0	109	0
Stage 1	74	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	287	984	-	-	1476	-
Stage 1	946	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	208	984	-	-	1476	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	294	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.84	0	7.11
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 208 984 1476	-	-
HCM Lane V/C Ratio	-	- 0.235 0.24 0.273	-	-
HCM Ctrl Dly (s/v)	-	- 27.5 9.8 8.4	-	-
HCM Lane LOS	-	- D A A	-	-
HCM 95th %tile Q(veh)	-	- 0.9 0.9 1.1	-	-

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↱	↱
Traffic Vol, veh/h	0	105	328	21	182	0	0	0	0	7	0	73
Future Vol, veh/h	0	105	328	21	182	0	0	0	0	7	0	73
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	114	357	23	198	0	0	0	0	8	0	79

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	471	0	0	358	714	198
Stage 1	-	-	-	-	-	-	243	243	-
Stage 2	-	-	-	-	-	-	114	471	-
Critical Hdwy	-	-	-	4.13	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1086	-	0	639	355	841
Stage 1	0	-	-	-	-	0	795	703	-
Stage 2	0	-	-	-	-	0	908	558	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1086	-	-	625	0	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	625	0	-
Stage 1	-	-	-	-	-	-	795	0	-
Stage 2	-	-	-	-	-	-	889	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0.87	9.82
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1086	-	625	841
HCM Lane V/C Ratio	-	-	0.021	-	0.012	0.094
HCM Ctrl Dly (s/v)	-	-	8.4	-	10.8	9.7
HCM Lane LOS	-	-	A	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0	0.3

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	39	0	0	46	4	150	1	16	0	0	0
Future Vol, veh/h	71	39	0	0	46	4	150	1	16	0	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	81	44	0	0	52	5	170	1	18	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	8.8	8.7	9.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	92%
Vol Right, %	0%	100%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	16	71	39	50
LT Vol	150	0	71	0	0
Through Vol	1	0	0	39	46
RT Vol	0	16	0	0	4
Lane Flow Rate	172	18	81	44	57
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.264	0.022	0.127	0.063	0.082
Departure Headway (Hd)	5.533	4.333	5.645	5.142	5.202
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	650	827	637	698	689
Service Time	3.257	2.056	3.367	2.865	3.229
HCM Lane V/C Ratio	0.265	0.022	0.127	0.063	0.083
HCM Control Delay, s/veh	10.2	7.2	9.2	8.2	8.7
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	1.1	0.1	0.4	0.2	0.3

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	44	93	0
Future Vol, veh/h	0	2	1	44	93	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	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	2	1	50	106	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	158	106	106	0	-	0
Stage 1	106	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	831	946	1479	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	830	946	1479	-	-	-
Mov Cap-2 Maneuver	830	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.81	0.17	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	40	-	946	-	-
HCM Lane V/C Ratio	0.001	-	0.002	-	-
HCM Ctrl Dly (s/v)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	12.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	603	66	38	233	41
Future Vol, veh/h	45	603	66	38	233	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	49	655	72	41	253	45
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	643	92	0	0	113	0
Stage 1	92	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	436	962	-	-	1470	-
Stage 1	929	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	361	962	-	-	1470	-
Mov Cap-2 Maneuver	361	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	16.35	0	6.77			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 361 962 1470	-	-		
HCM Lane V/C Ratio	-	- 0.136 0.681 0.172	-	-		
HCM Ctrl Dly (s/v)	-	- 16.5 16.3 8	-	-		
HCM Lane LOS	-	- C C A	-	-		
HCM 95th %tile Q(veh)	-	- 0.5 5.6 0.6	-	-		

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	112	162	16	516	0	0	0	0	4	0	127
Future Vol, veh/h	0	112	162	16	516	0	0	0	0	4	0	127
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	127	184	18	586	0	0	0	0	5	0	144
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	311	0	0				750	934	586
Stage 1	-	-	-	-	-	-				623	623	-
Stage 2	-	-	-	-	-	-				127	311	-
Critical Hdwy	-	-	-	4.13	-	-				6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-				5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-				3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1243	-	0				378	265	508
Stage 1	0	-	-	-	-	0				533	477	-
Stage 2	0	-	-	-	-	0				896	656	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1243	-	-				372	0	508
Mov Cap-2 Maneuver	-	-	-	-	-	-				372	0	-
Stage 1	-	-	-	-	-	-				533	0	-
Stage 2	-	-	-	-	-	-				883	0	-
Approach	EB			WB			SB					
HCM Ctrl Dly, s/v	0			0.24			14.87					
HCM LOS	B											
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2						
Capacity (veh/h)	-	-	1243	-	372	508						
HCM Lane V/C Ratio	-	-	0.015	-	0.012	0.284						
HCM Ctrl Dly (s/v)	-	-	7.9	-	14.8	14.9						
HCM Lane LOS	-	-	A	-	B	B						
HCM 95th %tile Q(veh)	-	-	0	-	0	1.2						

Intersection	
Intersection Delay, s/veh	15.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	29	0	0	67	6	378	5	17	0	0	0
Future Vol, veh/h	87	29	0	0	67	6	378	5	17	0	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	96	32	0	0	74	7	415	5	19	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	10.2	10	18.3
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	92%
Vol Right, %	0%	100%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	383	17	87	29	73
LT Vol	378	0	87	0	0
Through Vol	5	0	0	29	67
RT Vol	0	17	0	0	6
Lane Flow Rate	421	19	96	32	80
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.66	0.023	0.171	0.053	0.133
Departure Headway (Hd)	5.649	4.451	6.439	5.934	5.983
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	636	798	555	600	595
Service Time	3.408	2.21	4.213	3.707	4.063
HCM Lane V/C Ratio	0.662	0.024	0.173	0.053	0.134
HCM Control Delay, s/veh	18.8	7.3	10.6	9	10
HCM Lane LOS	C	A	B	A	A
HCM 95th-tile Q	4.9	0.1	0.6	0.2	0.5

HCM 7th TWSC
4: Dutcher Creek Road & Road A

Cumulative PM
11/28/2025

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	4	107	54	2
Future Vol, veh/h	1	2	4	107	54	2
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, %	3	3	3	3	3	3
Mvmt Flow	1	2	4	119	60	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	189	61	62
Stage 1	61	-	-
Stage 2	128	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	798	1001	1534
Stage 1	959	-	-
Stage 2	896	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	795	1001	1534
Mov Cap-2 Maneuver	795	-	-
Stage 1	956	-	-
Stage 2	896	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.92	0.26	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	65	-	922	-	-
HCM Lane V/C Ratio	0.003	-	0.004	-	-
HCM Ctrl Dly (s/v)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	8.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	217	43	69	371	70
Future Vol, veh/h	50	217	43	69	371	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	54	236	47	75	403	76

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	967	84	0	0	122	0
Stage 1	84	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	281	972	-	-	1459	-
Stage 1	937	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	203	972	-	-	1459	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	291	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.48	0	7.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 203 972 1459	-	-
HCM Lane V/C Ratio	-	- 0.267 0.243 0.276	-	-
HCM Ctrl Dly (s/v)	-	- 29.1 9.9 8.4	-	-
HCM Lane LOS	-	- D A A	-	-
HCM 95th %tile Q(veh)	-	- 1 1 1.1	-	-

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↱	↱
Traffic Vol, veh/h	0	109	330	21	184	0	0	0	0	7	0	76
Future Vol, veh/h	0	109	330	21	184	0	0	0	0	7	0	76
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	118	359	23	200	0	0	0	0	8	0	83
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	477	0	0				364	723	200
Stage 1	-	-	-	-	-	-				246	246	-
Stage 2	-	-	-	-	-	-				118	477	-
Critical Hdwy	-	-	-	4.13	-	-				6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-				5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-				3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1080	-	0				633	351	838
Stage 1	0	-	-	-	-	0				793	701	-
Stage 2	0	-	-	-	-	0				904	554	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1080	-	-				620	0	838
Mov Cap-2 Maneuver	-	-	-	-	-	-				620	0	-
Stage 1	-	-	-	-	-	-				793	0	-
Stage 2	-	-	-	-	-	-				885	0	-
Approach	EB			WB			SB					
HCM Ctrl Dly, s/v	0			0.86			9.86					
HCM LOS							A					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2						
Capacity (veh/h)	-	-	1080	-	620	838						
HCM Lane V/C Ratio	-	-	0.021	-	0.012	0.099						
HCM Ctrl Dly (s/v)	-	-	8.4	-	10.9	9.8						
HCM Lane LOS	-	-	A	-	B	A						
HCM 95th %tile Q(veh)	-	-	0.1	-	0	0.3						

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	40	0	0	47	4	151	1	16	0	0	0
Future Vol, veh/h	74	40	0	0	47	4	151	1	16	0	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	84	45	0	0	53	5	172	1	18	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	8.8	8.7	10
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	92%
Vol Right, %	0%	100%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	16	74	40	51
LT Vol	151	0	74	0	0
Through Vol	1	0	0	40	47
RT Vol	0	16	0	0	4
Lane Flow Rate	173	18	84	45	58
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.266	0.022	0.132	0.065	0.084
Departure Headway (Hd)	5.549	4.349	5.649	5.147	5.214
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	648	824	636	697	688
Service Time	3.273	2.072	3.373	2.87	3.24
HCM Lane V/C Ratio	0.267	0.022	0.132	0.065	0.084
HCM Control Delay, s/veh	10.3	7.2	9.2	8.2	8.7
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	1.1	0.1	0.5	0.2	0.3

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	6	5	44	93	10
Future Vol, veh/h	12	6	5	44	93	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	14	7	6	50	106	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	173	111	117	0	-	0
Stage 1	111	-	-	-	-	-
Stage 2	61	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	815	939	1465	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	812	939	1465	-	-	-
Mov Cap-2 Maneuver	812	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.34	0.76	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	184	-	850	-	-
HCM Lane V/C Ratio	0.004	-	0.024	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	12.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	603	72	44	233	47
Future Vol, veh/h	52	603	72	44	233	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	57	655	78	48	253	51
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	660	102	0	0	126	0
Stage 1	102	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	427	950	-	-	1454	-
Stage 1	919	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	352	950	-	-	1454	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	16.79	0	6.65			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 352 950 1454	-	-		
HCM Lane V/C Ratio	-	- 0.16 0.69 0.174	-	-		
HCM Ctrl Dly (s/v)	-	- 17.2 16.8 8	-	-		
HCM Lane LOS	-	- C C A	-	-		
HCM 95th %tile Q(veh)	-	- 0.6 5.8 0.6	-	-		

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↱	↱
Traffic Vol, veh/h	0	116	164	16	519	0	0	0	0	4	0	131
Future Vol, veh/h	0	116	164	16	519	0	0	0	0	4	0	131
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	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	132	186	18	590	0	0	0	0	5	0	149

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	318	0	0	758	944	590
Stage 1	-	-	-	-	-	-	626	626	-
Stage 2	-	-	-	-	-	-	132	318	-
Critical Hdwy	-	-	-	4.13	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1236	-	0	373	261	506
Stage 1	0	-	-	-	-	0	531	475	-
Stage 2	0	-	-	-	-	0	892	652	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1236	-	-	368	0	506
Mov Cap-2 Maneuver	-	-	-	-	-	-	368	0	-
Stage 1	-	-	-	-	-	-	531	0	-
Stage 2	-	-	-	-	-	-	879	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0.24	15.05
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1236	-	368	506
HCM Lane V/C Ratio	-	-	0.015	-	0.012	0.294
HCM Ctrl Dly (s/v)	-	-	8	-	14.9	15.1
HCM Lane LOS	-	-	A	-	B	C
HCM 95th %tile Q(veh)	-	-	0	-	0	1.2

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	30	0	0	68	6	380	5	17	0	0	0
Future Vol, veh/h	90	30	0	0	68	6	380	5	17	0	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	99	33	0	0	75	7	418	5	19	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay, s/veh	10.2	10	18.6
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	92%
Vol Right, %	0%	100%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	385	17	90	30	74
LT Vol	380	0	90	0	0
Through Vol	5	0	0	30	68
RT Vol	0	17	0	0	6
Lane Flow Rate	423	19	99	33	81
Geometry Grp	5	5	5	5	4b
Degree of Util (X)	0.666	0.023	0.177	0.054	0.135
Departure Headway (Hd)	5.664	4.465	6.45	5.944	5.998
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	635	796	553	598	593
Service Time	3.424	2.226	4.227	3.721	4.083
HCM Lane V/C Ratio	0.666	0.024	0.179	0.055	0.137
HCM Control Delay, s/veh	19.1	7.3	10.6	9.1	10
HCM Lane LOS	C	A	B	A	A
HCM 95th-tile Q	5	0.1	0.6	0.2	0.5

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	7	10	107	54	15
Future Vol, veh/h	13	7	10	107	54	15
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, %	3	3	3	3	3	3
Mvmt Flow	14	8	11	119	60	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	209	68	77	0	-	0
Stage 1	68	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	777	992	1516	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	771	992	1516	-	-	-
Mov Cap-2 Maneuver	771	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.42	0.63		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	154	-	836	-	-	
HCM Lane V/C Ratio	0.007	-	0.027	-	-	
HCM Ctrl Dly (s/v)	7.4	0	9.4	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	