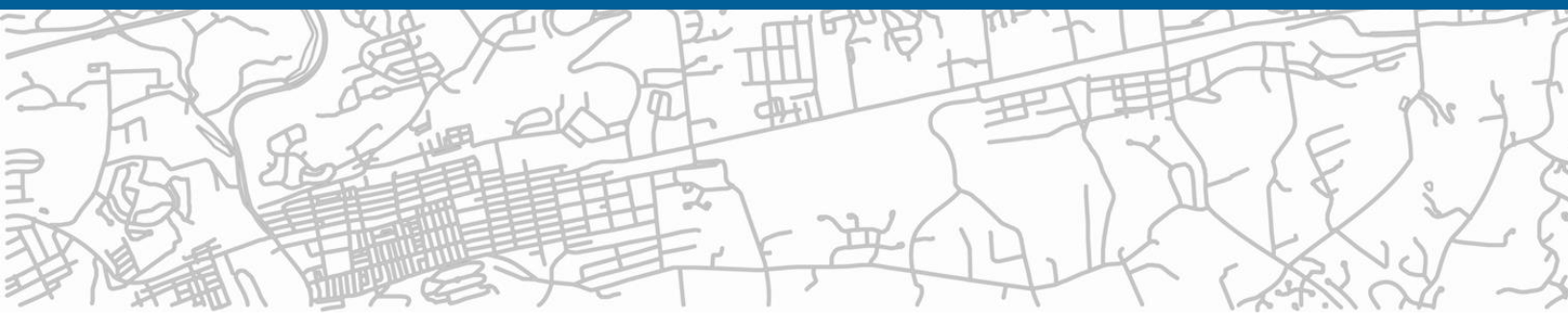
KITTELSON & ASSOCIATES

DUTCH BROS TRANSPORTATION IMPACT ANALYSIS

MORENO VALLEY, CA

September 16, 2024



Dutch Bros Transportation Impact Analysis

Moreno Valley, CA

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Project Number 30317

September 16, 2024

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Executive Summary

This report presents the findings of the analysis conducted under the California Environmental Quality Act (CEQA) and the local transportation analysis for the proposed development of the 25010 Alessandro Boulevard site in Moreno Valley, California. The report adheres to the guidelines outlined in the City of Moreno Valley's Transportation Impact Analysis Preparation Guide (June 2020).

The proposed project is located on the northeast side of Alessandro Boulevard and Perris Boulevard intersection in Moreno Valley, California. The facility would replace an existing retail building (Speedy Cash) on the site. The project site will feature a 950-square-foot retail structure, along with one designated parking stall for ADA accessibility. To optimize the layout and circulation, the project anticipates removing approximately 25 parking spaces from the commercial shopping center.

Additionally, there will be a vehicle drive-through with a single service window. The drive-through will consist of two lanes merging at the service window and will have the capacity to accommodate a queue of up to 15 vehicles. Recommendations for queue management internal to the shopping center are provided to prepare for the potential when queued vehicles at the coffee shop extend beyond the dedicated storage area for Dutch Bros.

The current site has five driveways giving vehicular access to the project site from both Perris Boulevard and Alessandro Boulevard. Perris Boulevard and Alessandro Boulevard have three and two entry points, respectively, to the commercial shopping center.

The analysis of intersection operations considered various scenarios during peak periods in the morning (7-9 am) and afternoon (4-6 pm) to assess the potential operational deficiencies and traffic impacts of the project. The scenarios included existing conditions, existing conditions with ambient growth and cumulative projects, and existing conditions with ambient growth, the project, and cumulative projects. As shown in Table ES-1, all intersections operate at an LOS D or better. The project does not create adverse deficiencies for intersection operations.

Table ES-1: Summary of LOS Results

ID	Intersection	EX		EX + AMB + CUM		EX + AMB + CUM + PROJ	
		AM	PM	AM	PM	AM	PM
1	Perris Boulevard and Alessandro Boulevard	C	C	C	D	C	D
2	Middle Eastern Driveway and Alessandro Boulevard	B	C	C	C	C	C
3	East Driveway and Alessandro Boulevard	C	C	D	C	D	D
4	Perris Boulevard and Middle Northern Driveway	B	C	C	C	C	C
5	Perris Boulevard and Northern Driveway	B	C	C	C	C	C

SOURCE: KITTELSON & ASSOCIATES, INC. (2024)

As summarized in Table ES-2, the proposed Dutch Bros coffee shop at 25010 Alessandro Boulevard meets the VMT screening criteria as local-serving retail and is presumed to have a less than significant impact on VMT and is exempt from detailed VMT analysis.

Table ES-2: VMT Screening Summary

VMT Screening Criteria	Criterion Met?	Reasoning
Transit Priority Area (TPA)	No	The proposed project is not located near high-quality transit, and thus is not screened out under this criterion.
Low VMT Area	No	Using WRCOG's VMT Screening Tool and considering the land-use is dependent on service population, the project is not screened out under this criterion.
Local-Serving Projects	**Yes**	The proposed project is a 950 square feet drive-through coffee shop. The parcel location is near residential areas and the proposed project is intended to function as a neighborhood-serving coffee shop. **The project screens out of further evaluation as a locally serving retail facility**.

SOURCE: KITTELSON & ASSOCIATES, INC. (2024)

Introduction

Dutch Bros is proposing to locate a Dutch Bros coffee shop at 25010 Alessandro Boulevard, Moreno Valley, California. The 950 square feet (sf) Dutch Bros with drive-through is proposed to replace an existing retail building (Speedy Cash). The project is located within a commercial shopping center that also includes other local destinations such as Smart and Final, Ross Dress For Less, Dollar Tree and Del Taco. The project is anticipated to remove 25 parking stalls from the commercial shopping center, but would include one new ADA stall.

Kittelson & Associates, Inc (Kittelson) prepared this traffic analysis report for Dutch Bros to determine the expected transportation-related effects of the project. The scope of the study was developed in coordination with Dutch Bros and the City of Moreno Valley (City).

The transportation analysis documented in this report were performed to comply with CEQA transportation vehicle miles travelled (VMT) analysis and to assess transportation effects and consistency with the City of Moreno Valley's Transportation Impact Analysis Preparation Guide (June 2020). The report covers the following transportation analyses:

- Project trip generation and trip distribution
- Operations analyses (level of service and site performance)
- VMT assessment

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 parcel is in a commercial shopping center that includes retail destinations and fast-food shops such as Smart and Final, Ross Dress for Less, and Del Taco. To the northeast is the Moreno Valley Public Library and Journey School. The Hendrick Ranch Elementary School is located to the southeast of the project. Ramona Elementary School, Riverside County Education Academy, and Sunnymead Montessori School are to the north of the project location. Surrounding these land uses are residential neighborhoods and retail land uses. The project location can be visualized in Figure 1.

Figure 1: Site Location

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Roadway Facilities

The project site is at the intersection of Alessandro Boulevard and Perris Boulevard. More information on adjacent roadway configuration per City of Moreno Valley's General Plan[1] is provided below:

- **Perris Boulevard** is classified as a "Mixed-Use Boulevard" north of Alessandro Boulevard and as an "Other Principal Arterial" south of Alessandro Boulevard. It is typically six-lane (three lanes in each direction) with turn lanes and raised medians at intersections. Both approaches to the Alessandro Boulevard/Perris Boulevard signalized intersection include a left turn lanes and raised medians; and the northbound approach drops its third through lane as a right turn only lane. The posted speed limit is 40 miles per hour (mph).
- **Alessandro Boulevard** is classified as a "Divided Major Arterial" and is typically six-lane (three lanes in each direction) with turn lanes and raised medians at intersections. Both approaches to the Alessandro Boulevard/Perris Boulevard signalized intersection include two left turn lanes and raised medians. The posted speed limit is 45 mph.

Pedestrian Facilities

The existing pedestrian network provides access between the project site and nearby land uses. Sidewalks are mostly available on both sides of Alessandro Boulevard and Perris Boulevard except adjacent to undeveloped land south and east of the project site. Along these gaps in the sidewalk, there is an unpaved walkway area that connects to the sidewalks. Marked crosswalks are located on all legs of the Alessandro Boulevard/Perris Boulevard intersection. There are no striped crosswalks at the ingress driveways to the commercial shopping center along Alessandro Boulevard or Perris Boulevard.

Bicycle Facilities

There are Class II bicycle facilities along Alessandro Boulevard. No bike facilities are provided along Perris Boulevard.

Transit Facilities

Riverside Transit Agency (RTA) is the primary transit operator in the Riverside County Area (including Moreno Valley). Within the project vicinity, RTA operates Route 19 along Perris Boulevard and Route 20 along Alessandro Boulevard.

- **Route 19** travels between Moreno Valley Mall and Perris Station Transit Center and includes stops in each direction at Alessandro Boulevard/Perris Boulevard. Buses are scheduled to arrive at 30 to 60 minutes intervals, depending on the time of day and whether it's a weekday or weekend.
- **Route 20** travels between Magnolia Avenue/Elizabeth Street and Moreno Valley College. The route includes stops in each direction at Alessandro Boulevard/Perris Boulevard. Buses are scheduled to arrive at 30 to 60 minutes intervals, depending on the time of day and whether it's a weekday or weekend.

[1] https://moval.gov/city_hall/general-plan2040/MV-GeneralPlan-complete.pdf

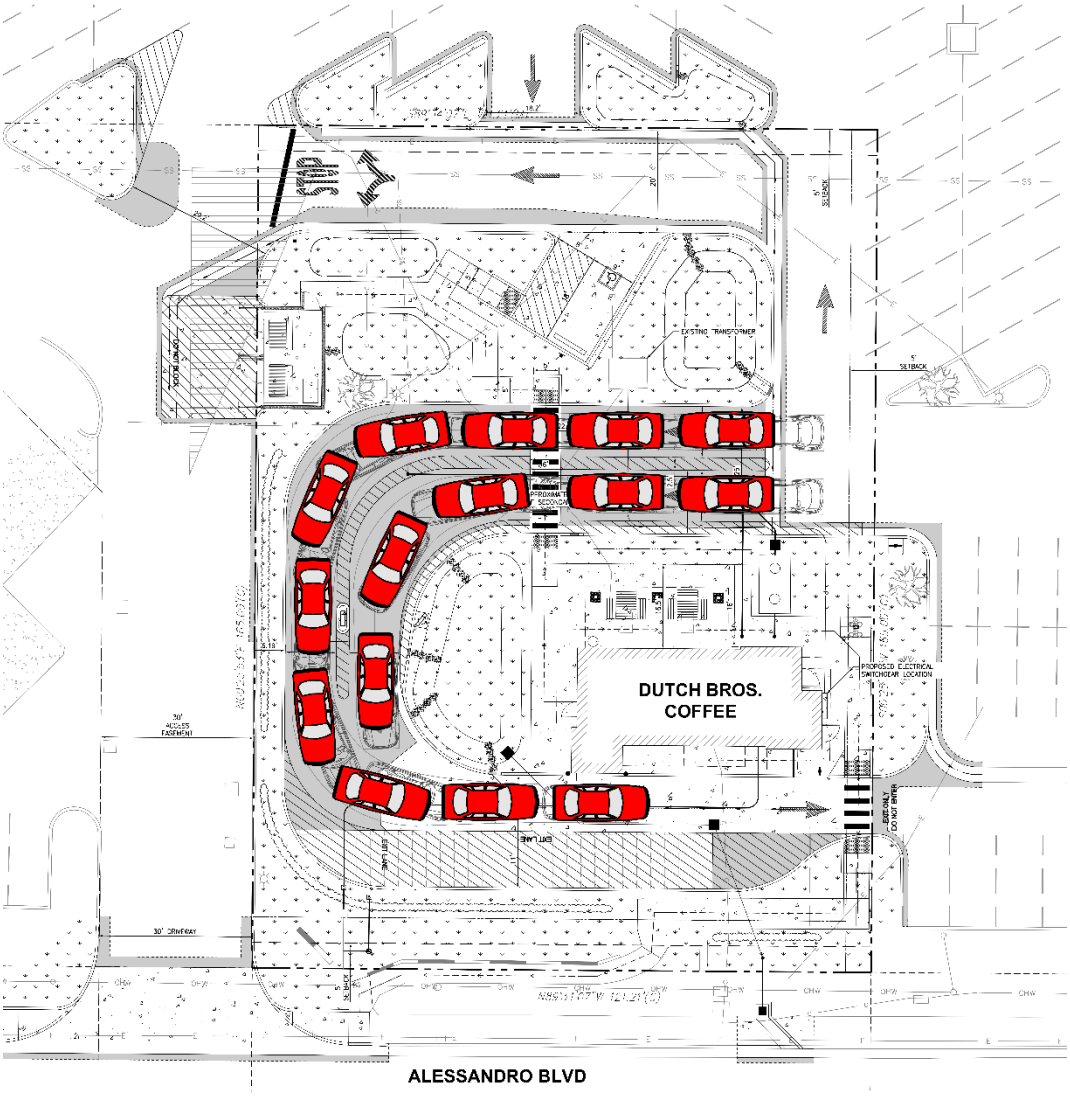
PROPOSED PROJECT

The proposed project is located on the northeast side of Alessandro Boulevard and Perris Boulevard intersection in Moreno Valley, California. The facility would replace an existing retail building (Speedy Cash) on the site. The parcel is currently zoned as Retail, per the Moreno Valley General Plan[1]. The proposed coffee shop would be consistent with the General Plan zoning and land use. The proposed site plan is provided in Appendix A.

The project site would consist of a 950-sf retail structure, with 1 ADA stall, and a vehicle drive-through served by a single service window. The drive-through has two lanes that converge at the service window and is designed to accommodate a queue of 15 vehicles at one time assuming 22 feet per vehicle, as shown in Figure 2. To optimize the layout and circulation, the project anticipates removing approximately 25 parking spaces from the commercial shopping center.

The project will have a single ingress driveway accessible from Alessandro Boulevard. Alessandro Boulevard and Perris Boulevard both provide vehicle access to the commercial shopping center at two and three points, respectively.

Figure 2: Site Plan with On-Site Queuing



SOURCE: BARGHAUSEN CONSULTING ENGINEERS (2024)

Project Traffic Generation

Project-related trip estimates were calculated to assess the project's traffic impact on local roads. The information presented in this section was included in the Scoping Agreement (provided in Appendix B) and approved on Tuesday, April 30, 2024.

TRIP GENERATION

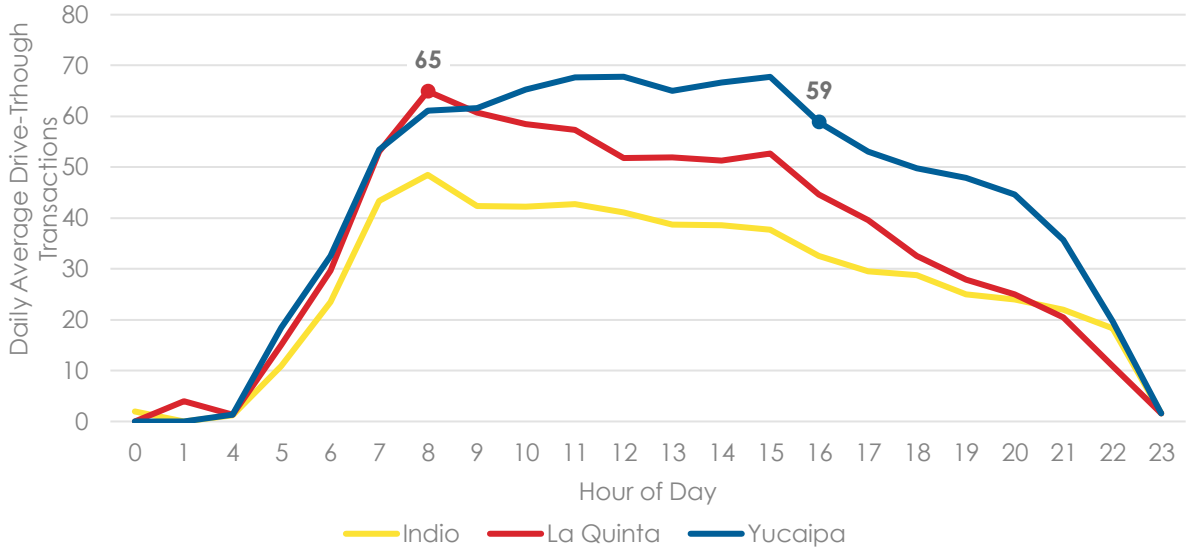
Trip generation for the project uses a combination of the Institute of Transportation Engineers (ITE) *Trip Generation Manual (11th edition)* and historical drive-through transaction data of three existing similar Dutch Bros. The three similar Dutch Bros selected based on market service, layout, and traffic conditions are at the following locations:

- 81-776 Highway 111, Indio, CA 92201
- 44175 Jefferson St, La Quinta, CA 92253
- 32690 Yucaipa Blvd, Yucaipa, CA 92399

The ITE Trip Generation Manual was used to develop the proportional traffic inflow and outflow rates experienced during weekday morning (AM) and afternoon (PM) peak hours and pass-by rate assumptions. The hourly averages of historical Dutch Bros transaction data between January 1, 2022 and December 31, 2022 were used to approximate the total inbound and outbound trips during the weekday AM and PM peak hours. The hourly historical transaction data are provided in Appendix B.

Figure 3 visualizes the hourly transaction data of the Dutch Bros stores. As shown in the figure, the highest number of transactions during the AM network peak period between 7:00 – 9:00 is 65, and the highest during the PM network peak period between 4:00 – 6:00 is 59 transactions. It was assumed that each transaction represents one vehicle, although multiple transactions could occur within one vehicle.

Figure 3: Dutch Bros Daily Average Drive-Through Transactions



SOURCE: DUTCH BROS (2023)

Pass-by trips are a crucial aspect in trip generation for coffee shops since they are likely to receive similar or more pass-by trips than primary trips. A pass by trip reduction of 49% for the AM Peak Hour and daily traffic, and a 50% reduction for the PM Peak Hour was applied, consistent with pass-by trip rates from ITE Trip Generation Manual for fast-food restaurants.

The site anticipates having seven to nine employees on site throughout the day. At peak times, four of the employees will be outside with one controlling traffic. These employees are on a shift schedule assumed to commute to the site outside of typical AM and PM peak hours so are not represented in the peak hour but are represented in the daily calculations.

Table 1 presents the inbound/outbound patterns used in the analysis and Table 2 presents the resulting trip generation estimates.

Table 1: Weekday Inbound and Outbound Rates for Trip Generation

Land Use	AM Peak Hour		PM Peak Hour		Daily	
	In	Out	In	Out	In	Out
Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	50%	50%	50%	50%	50%	50%

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

Table 2: Weekday Project Trip Generation Estimates

Trip Type	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Primary Trips	33	33	66	30	30	60	495	495	990
Pass-By Trips[1]	32	32	64	29	29	58	461	461	922
Total Trips[2]	**65**	**65**	**130**	**59**	**59**	**118**	**956**	**956**	**1,912**

Note:

[1] A pass-by trip rate of 49% was used for AM Peak Hour and Daily Traffic and a rate of 50% was used for PM Peak Hour.

[2] Total inbound/outbound trip generation estimates are the maximum number of historical transaction data within the hour across the three similar Dutch Bros sites (Indio, La Quinta, and Yucaipa).

SOURCE: DUTCH BROS (2023), COMPILED BY KITTELSON & ASSOCIATES, INC (2024)

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. Vehicle trips are separated between primary and pass-by trips.

Primary Trips

Primary trips to and from the site were distributed to account for attracting local community trips. Inbound and outbound trip patterns are illustrated in Appendix B, and generally consist of the following distribution:

- 25% of trips to and from local roads west of the project site
- 35% of trips to and from local roads north of the project site
- 25% of trips to and from local roads south of the project site
- 15% of trips to and from local roads east of the project site

Pass-by Trips

Pass-by trips to and from the site account for attracting trips already occurring along Perris Boulevard and Alessandro Boulevard that now would divert their original path to stop at the proposed project site. It is assumed 35% and 25% of pass-by trips would be generated by southbound and northbound traffic, respectively, along Perris Boulevard. Along Alessandro Boulevard, it is assumed 25% and 15% of pass-by trips would be generated by eastbound and westbound traffic, respectively.

TRIP ASSIGNMENT

The trip generation volumes were applied to the trip distribution to calculate the number of vehicle trips the project would add to the surrounding roadway network. The total net new project trip assignment for the study area intersections during the weekday AM and PM peak hours are shown in Figure 4 and Figure 5, respectively.

Figure 4: Net New Project Trips During AM Peak Hour

SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Figure 5: Net New Project Trips During PM Peak Hour

SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Operations Analysis

This study conducts a level-of-service (LOS) analysis and a site performance analysis. The City of Moreno Valley Transportation Impact Analysis Preparation Guide requires an LOS analysis if a project generates over 100 vehicle trips during the AM or PM peak hour. 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 Highway Capacity Manual (HCM) methodology (Transportation Research Board, Washington, D.C., 2016), calculated with Synchro 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 City. 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 3 presents the relationship of average delay to level of service for both signalized and unsignalized intersections.

Table 3: 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

Regulatory Standards

LOS D is applicable to intersections that are adjacent to freeway on/off ramps, and adjacent to employment generating land uses. LOS C is applicable to all other intersections. For boundary intersections, LOS D is assumed to be acceptable. According to Exhibit B in Moreno Valley's Transportation Impact Analysis Preparation Guide, all study intersections are allowed to operate at LOS D.

Any signalized study intersection that is operating at unacceptable LOS without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

An operational improvement for unsignalized intersections would be required if the study determines that either section a) or both sections b) and c) occur:

a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS to unacceptable LOS.

OR

b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at unacceptable LOS,

AND

c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

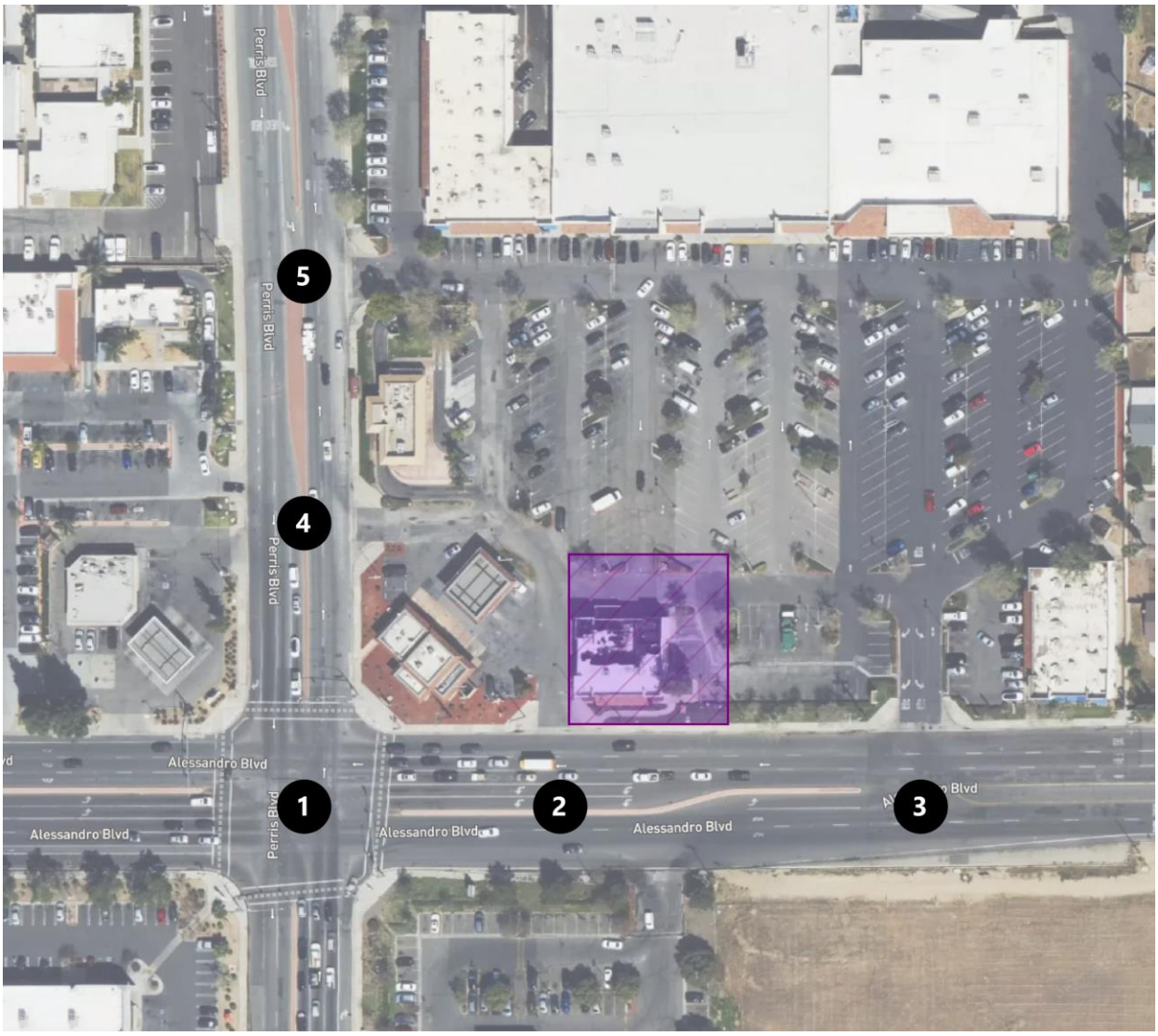
Data Collection

Weekday intersection vehicle turning movement counts were collected during the AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak periods on Wednesday, April 24, 2024, at the following study intersections:

1. Perris Boulevard and Alessandro Boulevard
2. Middle Eastern Driveway and Alessandro Boulevard
3. East Driveway and Alessandro Boulevard
4. Perris Boulevard and Middle Northern Driveway
5. Perris Boulevard and Northern Driveway

The study intersections can be visualized in Figure 6. Original turning movement count data is provided in Appendix C.

Figure 6: Study Area



SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

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 Plus Ambient Growth Plus Cumulative Conditions
- Existing Plus Ambient Growth Plus Cumulative Plus Project Conditions

The analyzed project buildout year is 2026. Detailed Vistro reports are available for reference in Appendix D.

EXISTING CONDITIONS

Table 4 summarizes the delay and LOS analysis results for each intersection under existing conditions. As shown in the table, all intersections currently operate at LOS D or better. Volumes under this scenario were based on turning movement counts collected on Wednesday, April 24, 2024. Figure 7 and Figure 8 illustrates AM and PM peak hour volumes, respectively. These volumes were analyzed using the existing intersection configurations.

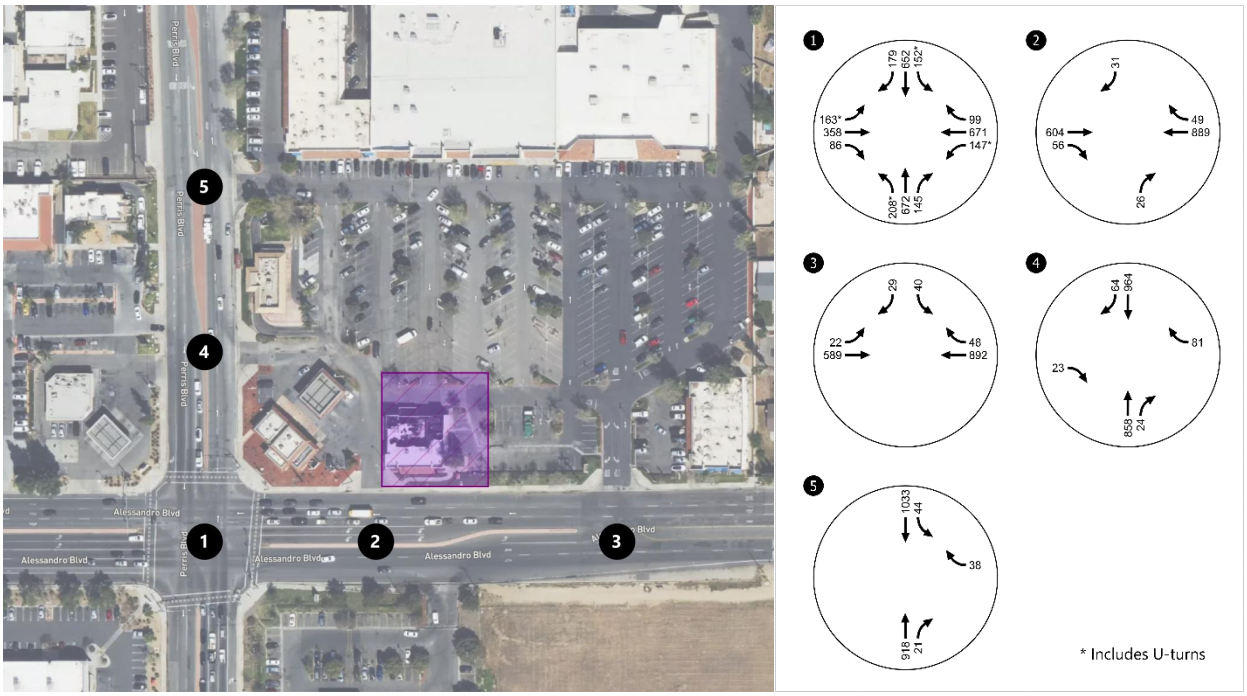
Table 4: Existing Conditions LOS Results

ID	Intersection	Control Type	Delay (s/veh)		LOS	
			AM	PM	AM	PM
1	Perris Boulevard and Alessandro Boulevard	Signalized	25.3	29.4	C	C
2	Middle Eastern Driveway and Alessandro Boulevard	SSSC	13.9	16.3	B	C
3	East Driveway and Alessandro Boulevard	SSSC	24.4	19.3	C	C
4	Perris Boulevard and Middle Northern Driveway	SSSC	14.4	15.5	B	C
5	Perris Boulevard and Northern Driveway	SSSC	13.8	17.6	B	C

Note:
SSSC = Side-Street Stop-Controlled

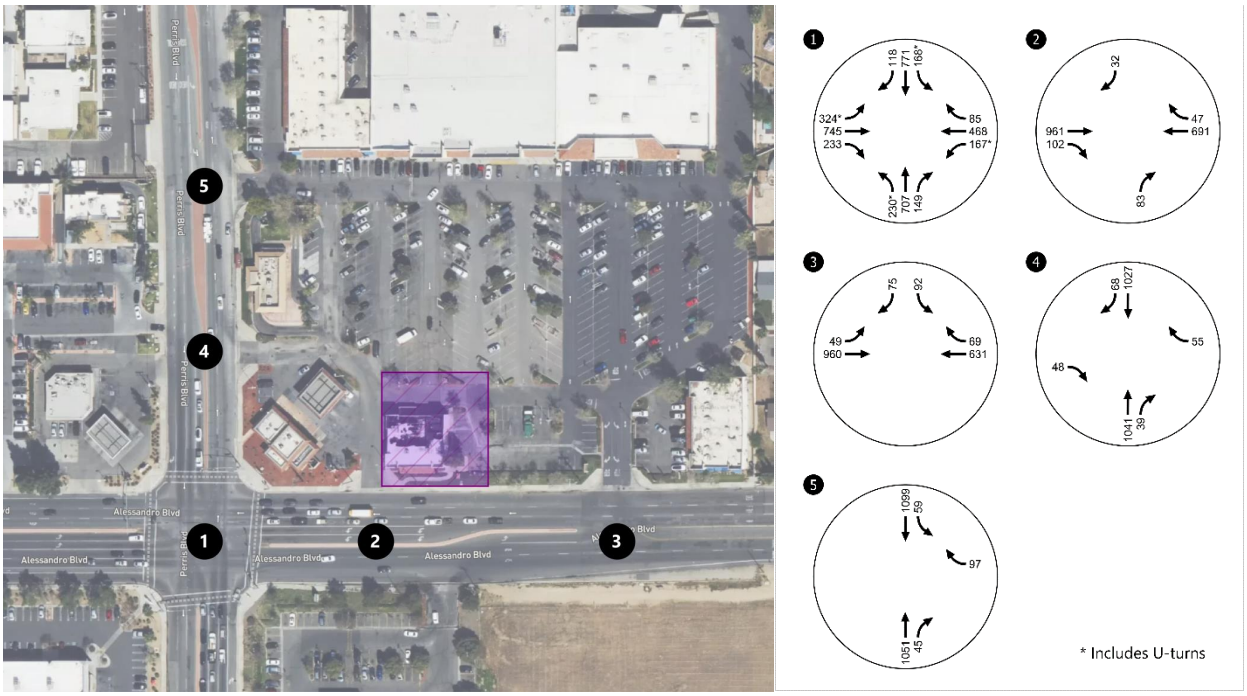
SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Figure 7: AM Peak Hour Volumes Under Existing Conditions



SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Figure 8: PM Peak Hour Volumes Under Existing Conditions



SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

EXISTING PLUS AMBIENT GROWTH PLUS CUMULATIVE CONDITIONS

Table 5 summarizes the delay and LOS analysis results for each intersection under existing plus ambient growth plus cumulative conditions. As shown in the table, all intersections operate at intersection D or better. For this scenario, an ambient growth rate of 2% per year was used to grow existing traffic volumes, and then trips generated from projects within 5 miles of the study area were included. Figure 9 and Figure 10 illustrates the AM and PM peak hour volumes under this scenario, respectively.

The following projects were identified and included in this scenario:

- Northgate Market
- Valley Gardens
- TR38123
- Crystal Cove Apartments
- Flamingo Bay Apartments

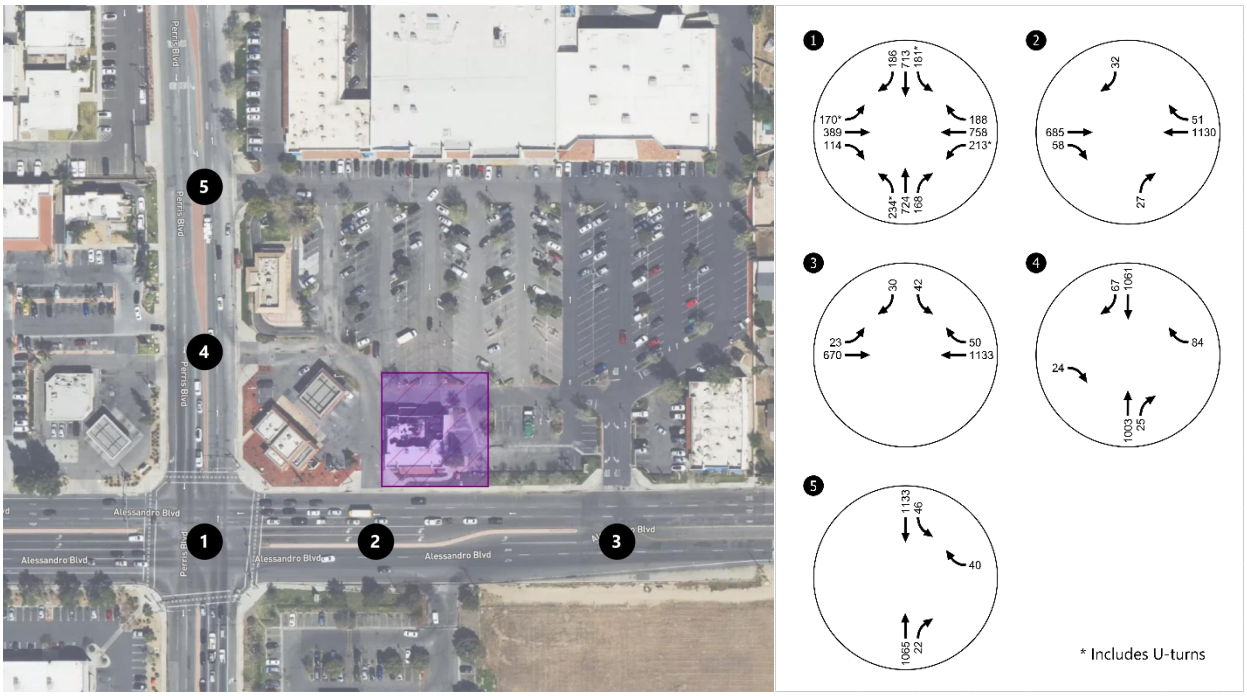
Table 5: Existing Plus Ambient Growth Plus Cumulative Conditions LOS Results

ID	Intersection	Control Type	Delay (s/veh)		LOS	
			AM	PM	AM	PM
1	Perris Boulevard and Alessandro Boulevard	Signalized	28.8	39.1	C	D
2	Middle Eastern Driveway and Alessandro Boulevard	SSSC	15.7	19.6	C	C
3	East Driveway and Alessandro Boulevard	SSSC	32.2	24.0	D	C
4	Perris Boulevard and Middle Northern Driveway	SSSC	15.9	17.4	C	C
5	Perris Boulevard and Northern Driveway	SSSC	15.1	19.9	C	C

Note:
SSSC = Side-Street Stop-Controlled

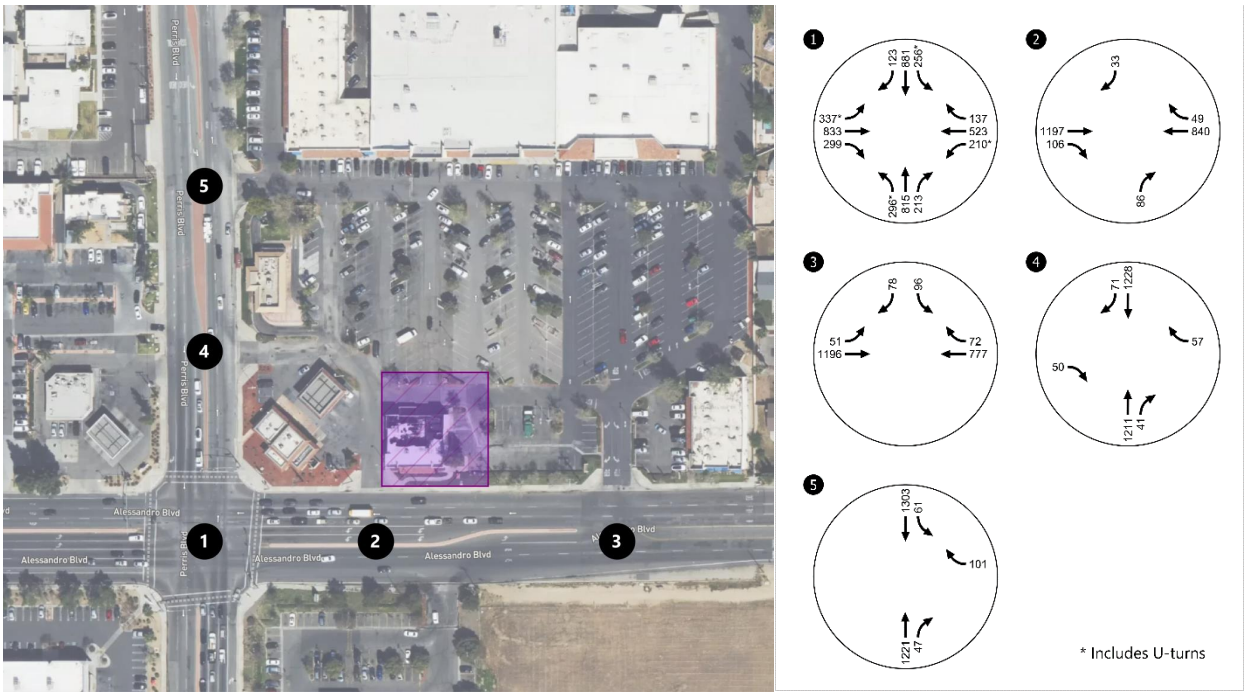
SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Figure 9: AM Peak Hour Volumes Under Existing Plus Ambient Growth Plus Cumulative Conditions



SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Figure 10: PM Peak Hour Volumes Under Existing Plus Ambient Growth Plus Cumulative Conditions



SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

EXISTING PLUS AMBIENT GROWTH PLUS CUMULATIVE PLUS PROJECT CONDITIONS

Table 6 summarizes the delay and LOS analysis results for each intersection under existing plus ambient growth plus cumulative plus project conditions. As shown in the table, all intersections operate at intersection D or better except for Perris Boulevard and Alessandro Boulevard intersection during the PM peak hour which operates at LOS E. For this scenario, an ambient growth rate of 2% per year was used to grow existing traffic volumes, trips generated from projects within 5 miles of the study area were included, and then the net new project trips were added. Figure 11 and Figure 12 illustrates the AM and PM peak hour volumes under this scenario, respectively.

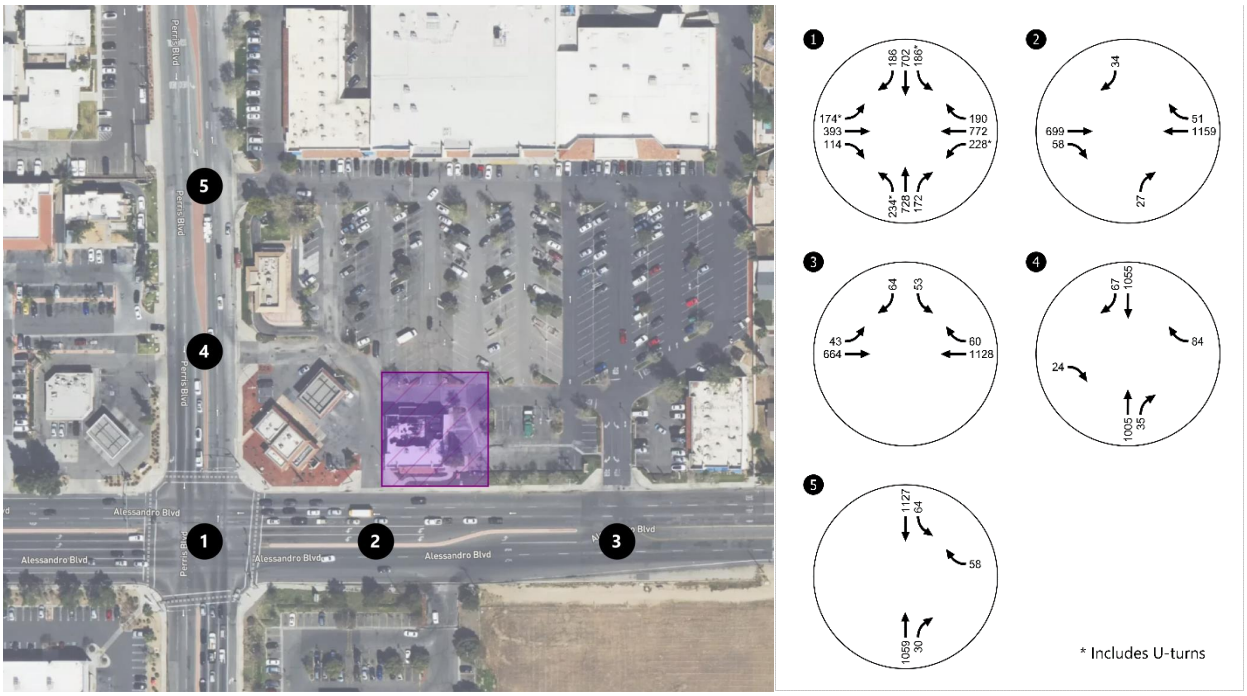
Table 6: Existing Plus Ambient Growth Plus Cumulative Plus Project Conditions LOS Results

ID	Intersection	Control Type	Delay (s/veh)		LOS	
			AM	PM	AM	PM
1	Perris Boulevard and Alessandro Boulevard	Signalized	29.0	40.0	C	D
2	Middle Eastern Driveway and Alessandro Boulevard	SSSC	16.0	19.8	C	C
3	East Driveway and Alessandro Boulevard	SSSC	34.8	25.7	D	D
4	Perris Boulevard and Middle Northern Driveway	SSSC	16.0	17.5	C	C
5	Perris Boulevard and Northern Driveway	SSSC	15.7	21.1	C	C

Note:
SSSC = Side-Street Stop-Controlled

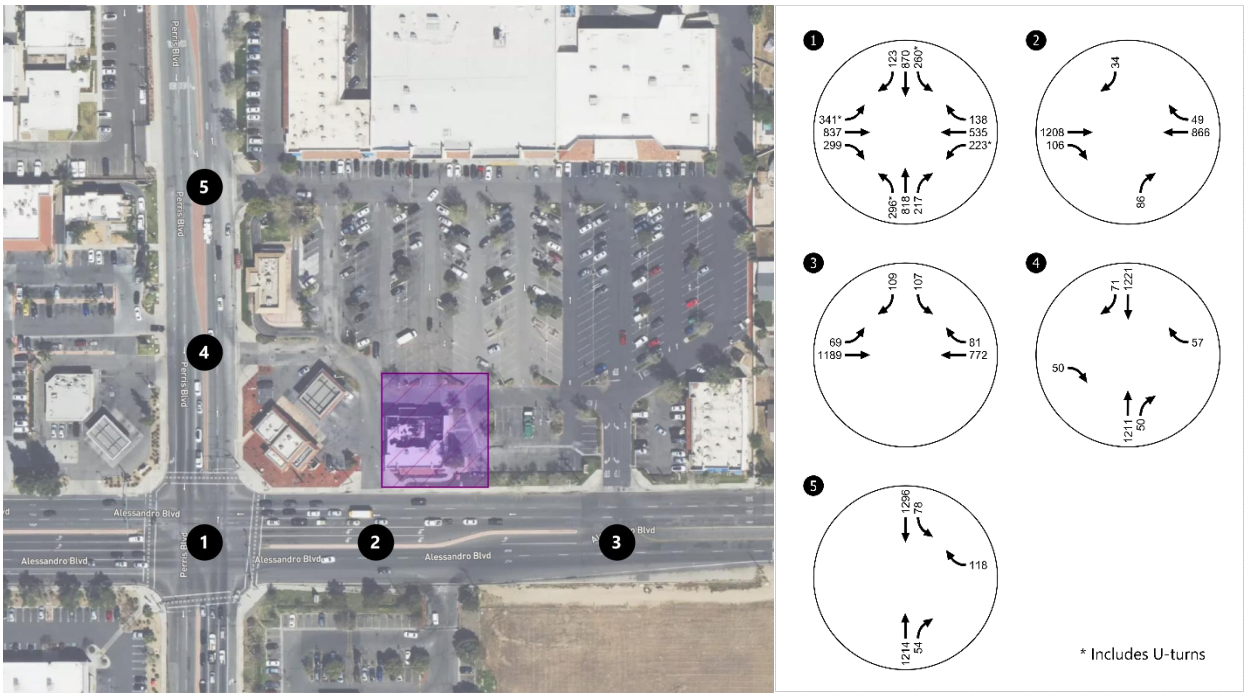
SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Figure 11: AM Peak Hour Volumes Under Existing Plus Ambient Growth Plus Cumulative Plus Project Conditions



SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

Figure 12: PM Peak Hour Volumes Under Existing Plus Ambient Growth Plus Cumulative Plus Project Conditions



SOURCE: KITTELSON AND ASSOCIATES, INC (2024)

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 and On-Site Circulation

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

- **Parking.** The project proposes to remove 25 existing parking stalls from the commercial shopping center to facilitate onsite circulation and accommodate any queues exceeding storage lanes. By removing these parking stalls, the driveway throat depth is extended allowing additional vehicles to queue before interfering with a parking aisle. Moreover, the proposed layout (Appendix A) encourages one-way aisles around the site which helps provide orderly movement throughout the plaza. Parking would not be regularly needed by customers since it is primarily a drive-through operation. However, parking is provided in the existing commercial shopping center spaces where the project is to be located and is assumed to suffice for any walk-up customers and employees. The remaining parking within the commercial shopping center will continue to serve the shopping center needs.
- **Sight Distance.** Sight distance from the drive-through entrance and exit were assessed, and no anticipated issues were found. The site plan confirms that there would not be any landscaping or other installations obstructing sightlines. Visibility from where vehicles exit near the service window area allows for adequate monitoring of approaching cyclists, pedestrians, or vehicles in the parking aisles. The site plan provides adequate throat depth to allow vehicles to enter the parking area and determine the appropriate drive through lane. The trash enclosure was repositioned and striping changes for the parking aisle just north of the site were made to increase sight distance and avoid conflicting movements.
- **Driveway Impacts.** Once a week, garbage trucks will park in front of the garbage receptacles approximately 130 feet from the driveway opening at Middle Eastern Driveway/Alessandro Boulevard. This will cause an obstruction to the driveway and driving aisles that prevent cars from entering further in or using this driveway to exit the commercial shopping center. During these times, it is recommended to reroute entering vehicles to other driveways to prevent internal shopping center queues spilling onto the public right-of-way.
- **Adequacy of Pedestrian Facilities.** Pedestrian access to the site would include new walkways, ramps, and crosswalks along the project frontage that would facilitate pedestrian access by connecting on-site parking and the store frontage to the existing sidewalks along Alessandro Boulevard.
- **Bicycle Accessibility.** Class II bicycle facilities are provided along Alessandro Boulevard. However, bicyclists would need to use the existing sidewalks to access the project site. Two bicycle parking stalls are provided on-site.
- **Accessibility from Adjacent Transit Stops.** The nearest bus stop to the project is approximately 310 feet northwest of the project site and serves Route 19. The next closest bus stop is approximately 430 feet east of the project site and serves Route 20. Riders who get off at these stops would not need to cross any intersection and can access the project site using sidewalks. There are two other bus stops

within 500 feet of the project site serving Route 19 or Route 20 operated by Riverside County Transit Agency. Riders would need to cross a signalized intersection (Perris Boulevard/Alessandro Boulevard) to access the project site. Sidewalks are provided from the bus stops to the project site.

Site Queuing, Safety, and Operations

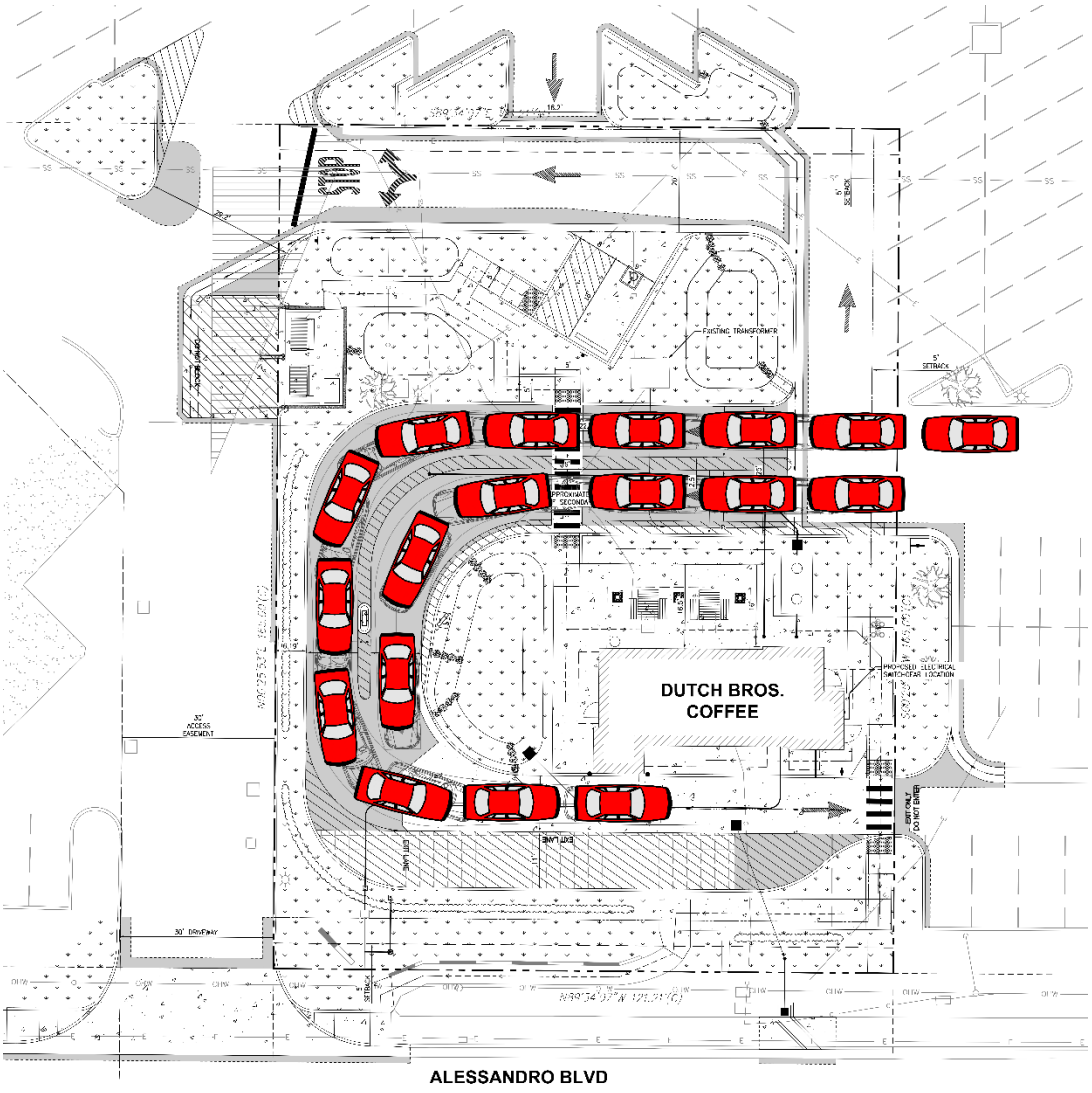
Queuing at coffee shop drive-throughs often are where potential impacts to the roadway network occur. To estimate the potential queueing conditions and how often it may affect public right-of-way, an M/M/1 queuing model was used. This model assumes that customer arrivals and service times are random and requires the average arrival and service rates as inputs. Using historical transaction data from similar Dutch Bros stores, 68 and 80 vehicles per hour were used as conservative average arrival and service rates, respectively, for the proposed store.

From the model, it was determined that there is approximately a 5% probability that the number of vehicles waiting to be served will be longer than 18 vehicles, as shown in Figure 13. Therefore, it is expected that queues would stay within the commercial shopping center. However, with the 95th percentile queuing scenario, it seems likely for queues to extend beyond the allocated drive-through storage area and block entrance to the driving aisle near the drive-through entrance. Therefore, it is recommended for Dutch Bros to implement the following strategies upon reaching 75% of drive-through capacity (approximately 11 vehicles) to manage queues as efficiently and effectively as possible:

- Dutch Bros staff takes orders and payments from and makes deliveries to the queued drive-through lanes to minimize the wait time at the service window. The site plan includes a queue exit lane adjacent to the pick-up window. This is an important queue length management feature because it allows vehicles that receive their fulfilled orders prior to reaching the pick-up window to exit out of the queue early, thereby reducing the overall length of the queue.
- Dutch Bros staff can place signage to guide non-Dutch Bros customer vehicles away from the drive-through entrance and act as temporary traffic control personnel who can effectively manage queues and prevent blockage situations.
- Parking on site can be used as waiting areas for vehicles that make large orders. This is an important operations factor that provides the ability to remove vehicles with long order fulfillment times from the queue and provide a significant positive effect on the overall queue length.

It should be noted that accurately estimating total latent demand is difficult due to various factors. These factors include the location, type, convenience, and pricing of competing opportunities in the area, as well as the traffic volume on adjacent streets and the socioeconomic characteristics of the nearby population and employment areas.

Figure 13: 95th Percentile Queuing Scenario



SOURCE: KITTELSON AND ASSOCIATES (2024); SITE PLAN IS DRAWN BY BARGHAUSEN CONSULTING ENGINEERS (2024)

Vehicle-Miles Travelled (VMT) Assessment

The transportation analysis documented in this report was performed to comply with CEQA transportation VMT analysis and consistency with the City of Moreno Valley's Transportation Impact Analysis Preparation Guide.

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, as described below.

SCREENING CRITERIA

According to the City of Moreno Valley's Transportation Impact Analysis Preparation Guide, a project may require a detailed VMT analysis unless it meets at least one of the City's three screening criteria:

1. **Transit Priority Area (TPA)[2].** Projects located within a TPA may be presumed to have a less than significant impact if they have a floor area ratio greater than or equal to 0.75, includes less parking for use by residents, customers, or employees of the project than required by the jurisdiction, is consistent with the applicable Sustainable Communities Strategy, and doesn't replace affordable residential units with a smaller number of moderate or high-income residential units.
2. **Low VMT Area[3].** Projects that are located within an area of development that is under threshold on a screening map are presumed to have a less than significant impact.
3. **Low VMT Project Type.** Projects that are locally serving retail with 50,000 square feet gross floor area or less are presumed to have a less than significant impact. In addition to local serving retail, the following uses can also be presumed to have a less than significant impact:
    a. Local-serving K-12 schools
    b. Local parks
    c. Day care centers
    d. Local-serving gas stations
    e. Local-serving hotels (e.g. non-destination hotels)
    f. Student housing projects
    g. Local serving community colleges
    h. Projects that generate or attract fewer than 400 vehicle trips per day

SCREENING RESULTS

A review of the City TIA Guidelines has determined that the project meets at least one of the three VMT screening criteria – it is a local-serving retail project with less than 50,000 square feet of gross floor area.

[2] A TPA is defined as a half-mile radius around an existing major transit stop or an existing stop along a high-quality transit corridor, which maintains a service interval frequency of 15 minutes or less during peak commute periods.

[3] https://www.arcgis.com/apps/webappviewer/index.html?id=779a71bc659041ad995cd48d9ef4052b

Therefore, the project is presumed to have a less than significant impact on VMT and is exempt from detailed VMT analysis. Table 7 provides a VMT screening summary for the project.

Table 7: VMT Screening Summary

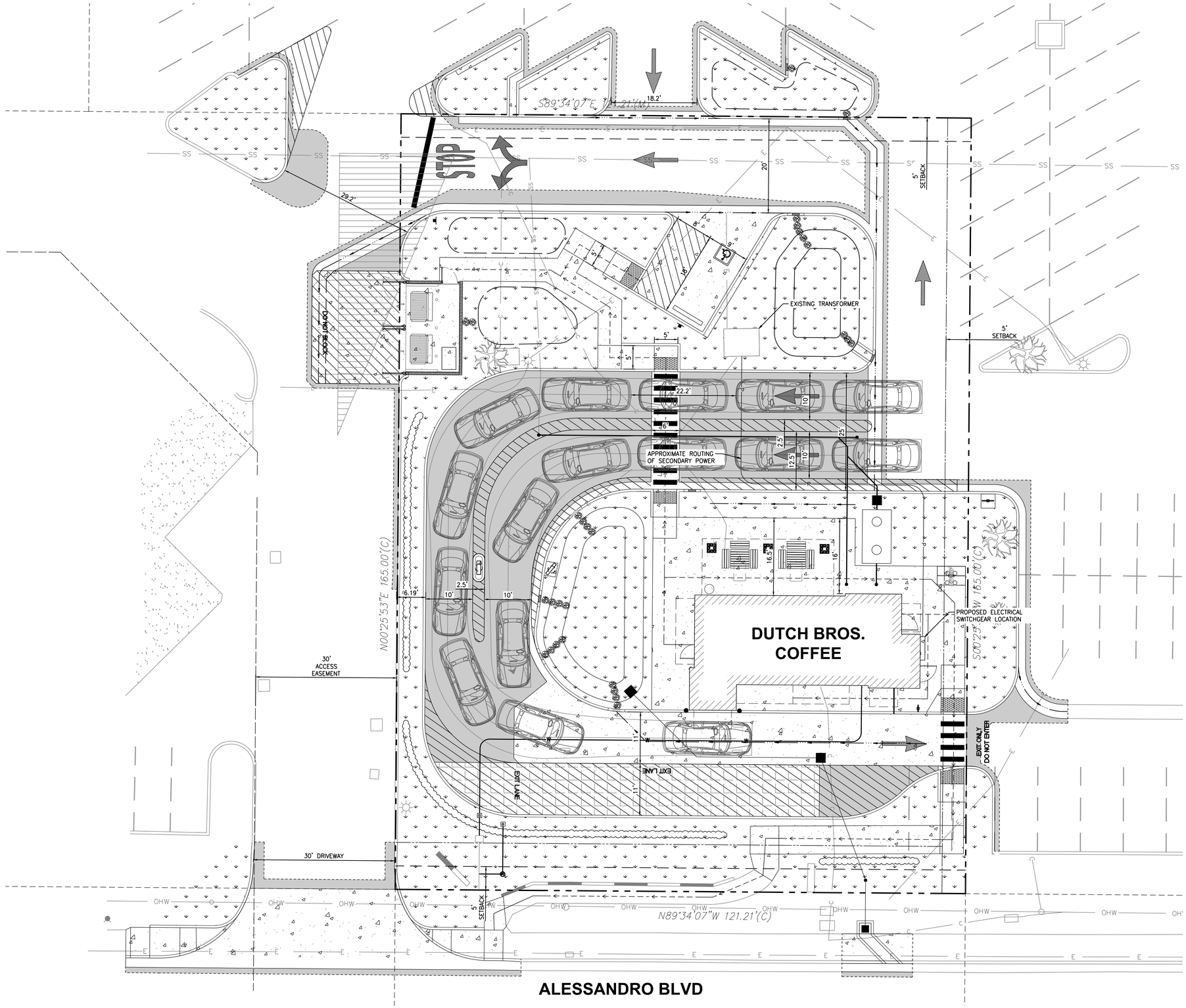
VMT Screening Criteria	Criterion Met?	Reasoning
Transit Priority Area (TPA)	No	The proposed project is not located near high-quality transit, and thus is not screened out under this criterion.
Low VMT Area	No	Using WRCOG's VMT Screening Tool and considering the land-use is dependent on service population, the project is not screened out under this criterion.
Local-Serving Projects	**Yes**	The proposed project is a 950 square feet drive-through coffee shop. The parcel location is near residential areas and the proposed project is intended to function as a neighborhood-serving coffee shop. **The project screens out of further evaluation as a locally serving retail facility**.

SOURCE: KITTELSON & ASSOCIATES, INC. (2024)

Appendix A

Detailed Site Plan

DUTCH BROS. COFFEE - CA5209, MORENO VALLEY, CA



PRELIMINARY NOT FOR CONSTRUCTION

TITLE OF SITE PLAN	
CITY RECORD NUMBER	PEN24-0013
DATE OF PLAN PREPARATION	8/19/2024

Title: PRELIMINARY SITE PLAN
25010 ALESSANDRO BLVD
MORENO VALLEY, CA 92553

For:

LICENSED PROFESSIONAL ENGINEER
HAL P. BARGHAUSEN
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

Scale: Horizontal 1" = 10' Vertical N/A

Designed	EMM
Drawn	EMM
Checked	AEM
Approved	HPG
Date	08/22/24

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

9/10/2024 4:51 PM EMGUEL

Job Number 23146

Sheet C2.0

2019 DB Franchising USA, LLC

P:\23000s\23146\preliminary\23146-A.dwg

Appendix B

Scoping Agreement

EXHIBIT A

Project Scoping Form

This scoping form shall be submitted to the Lead Agency to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	**PEN24-0013**
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	**Dutch Bros Coffee Shop**
Project Address:	**25010 Alessandro Blvd, Moreno Valley, CA 92553**
Project Opening Year:	**2026**
Project Description:	**Conditional Use Permit for the development of a Dutch Bros Coffee Shop at 25010 Alessandro Boulevard (APN: 479220017)**

	Consultant:	Developer:
Name:	**Kittelson & Associates, Inc**	**Dutch Bros**
Address:	**750 The City Dr, Ste 410, Orange, CA 92868**	**110 SW 4th Street, Grants Pass, OR 97526**
Telephone:	**(714) 468-1192**	**(714) 883-9092**
Email:	**sliu@kittelson.com**	**john.caglia@dutchbros.com**

Trip Generation Information:

Trip Generation Data Source: **Dutch Bros Historical Transaction Data - see attachment**

The City of Moreno Valley reserves the right to use, share, and reproduce the information including, but not limited to, traffic counts, exhibits, and surveys provided in all submitted traffic studies and VMT assessments.

4/30/2024

Current General Plan Land Use: **Vacant - Retail**

Proposed General Plan Land Use: **Retail**

Current Zoning: **Corridor Mixed Use**

Proposed Zoning: **Corridor Mixed Use**

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	0	0	0	65	65	130
PM Trips	0	0	0	59	59	118

Trip Internalization: ☐ Yes ☑ No (_____% Trip Discount)

Pass-By Allowance: ☑ Yes ☐ No (_____% Trip Discount)
49% for AM Peak and Daily
50% for PM Peak

Potential Screening Checks

Is your project screened from specific analyses (see Page 3 of the guidelines related to LOS assessment and Pages 22-23 for VMT screening criteria).

Is the project screened from LOS assessment? ☐ Yes ☑ No

LOS screening justification (see Page 3 of the guidelines): _____

Is the project screened from VMT assessment? ☑ Yes ☐ No

VMT screening justification (see Pages 22-23 of the guidelines): **Project is a local serving retail project less than 50,000 square feet (950 square feet)**

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution): **See Attachment**

North	South	East	West
35 %	**25** %	**15** %	**25** %

Link level of service and data collection:

____ will be required

☑ will not be required

- Attach list of study intersections (and roadway segments if applicable) **See Attachment**
- Attach site plan **See Attachment**
- Other specific items to be addressed:
  - Site access
  - On-site circulation
  - Parking
  - Consistency with Plans supporting Bikes/Peds/Transit
  - Other **Queuing analysis for drive-through and Alessandro/Perris intersection**
- Date of Traffic Counts **Mid to Late April**
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- ~~Attach proposed phasing approach (if the project is phased)~~

Proposed Analysis Scenarios:
(1) Existing Conditions
(2) Existing Plus Ambient Growth Plus Cumulative Project Conditions
(3) Existing Plus Ambient Growth Plus Cumulative Project Plus Project Conditions

Project is not phased

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used _____
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

A. DUTCH BROS HISTORICAL TRANSACTION DATA

DUTCH BROS TRANSACTION DATA

Average of [Gue:	Column Labels			
	Indio	La Quinta	Yucaipa	MAX OF
Row Labels	CA3702	CA3703	CA4501	LOCATIONS
0	2.0			2.0
1		4.0		4.0
4	1.2	1.3	1.3	1.3
5	11.0	15.0	18.4	18.4
6	23.5	29.6	32.6	32.6
7	43.3	53.0	53.4	53.4
8	48.5	64.9	61.1	64.9
9	42.4	60.8	61.6	61.6
10	42.2	58.4	65.3	65.3
11	42.7	57.4	67.6	67.6
12	41.1	51.8	67.7	67.7
13	38.7	52.0	65.0	65.0
14	38.6	51.3	66.6	66.6
15	37.7	52.7	67.8	67.8
16	32.5	44.6	58.9	58.9
17	29.5	39.6	53.0	53.0
18	28.8	32.5	49.8	49.8
19	25.0	27.8	47.9	47.9
20	24.0	25.0	44.7	44.7
21	22.0	20.5	35.7	35.7
22	18.3	10.8	19.7	19.7
23	1.6	1.6	1.6	1.6
Daily Average	**32.2**	**42.0**	**52.1**	**43.2**
Daily Total	**594.6**	**754.8**	**939.8**	**939.8**

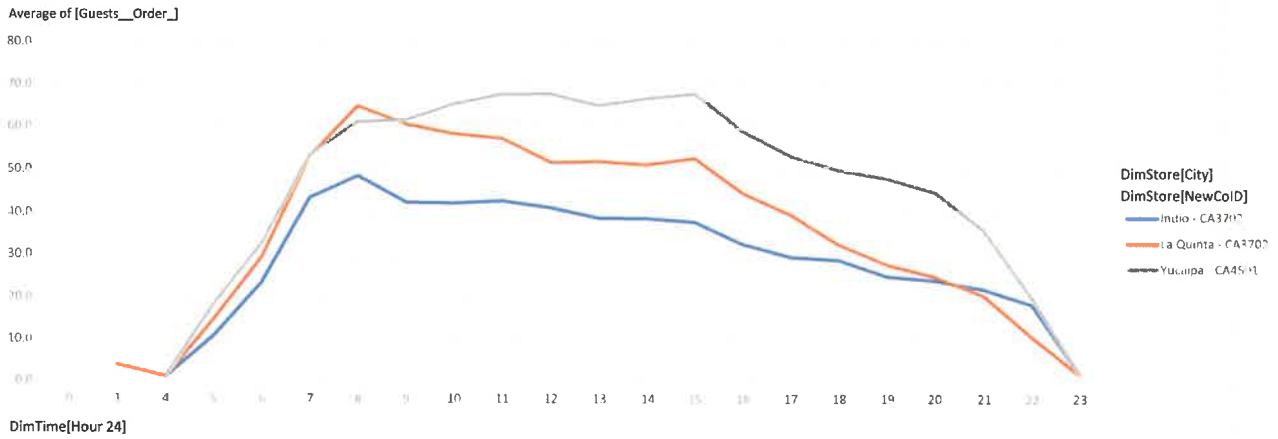
ITE TRIP GENERATION RATES AND ESTIMATES FOR COMPARISON

Table 1 - Trip Generation Rates

Land Use	ITE Code	Unit	Weekday								
			Daily			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	938	Drive-Through Lanes	50%	50%	179.00	50%	50%	39.81	50%	50%	15.06

Table 2 - Trip Generation Estimates

Land Use	ITE Code	Size	Weekday								
			Daily			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	938	2 Drive-Through Lanes	179	179	358	40	40	80	15	15	30



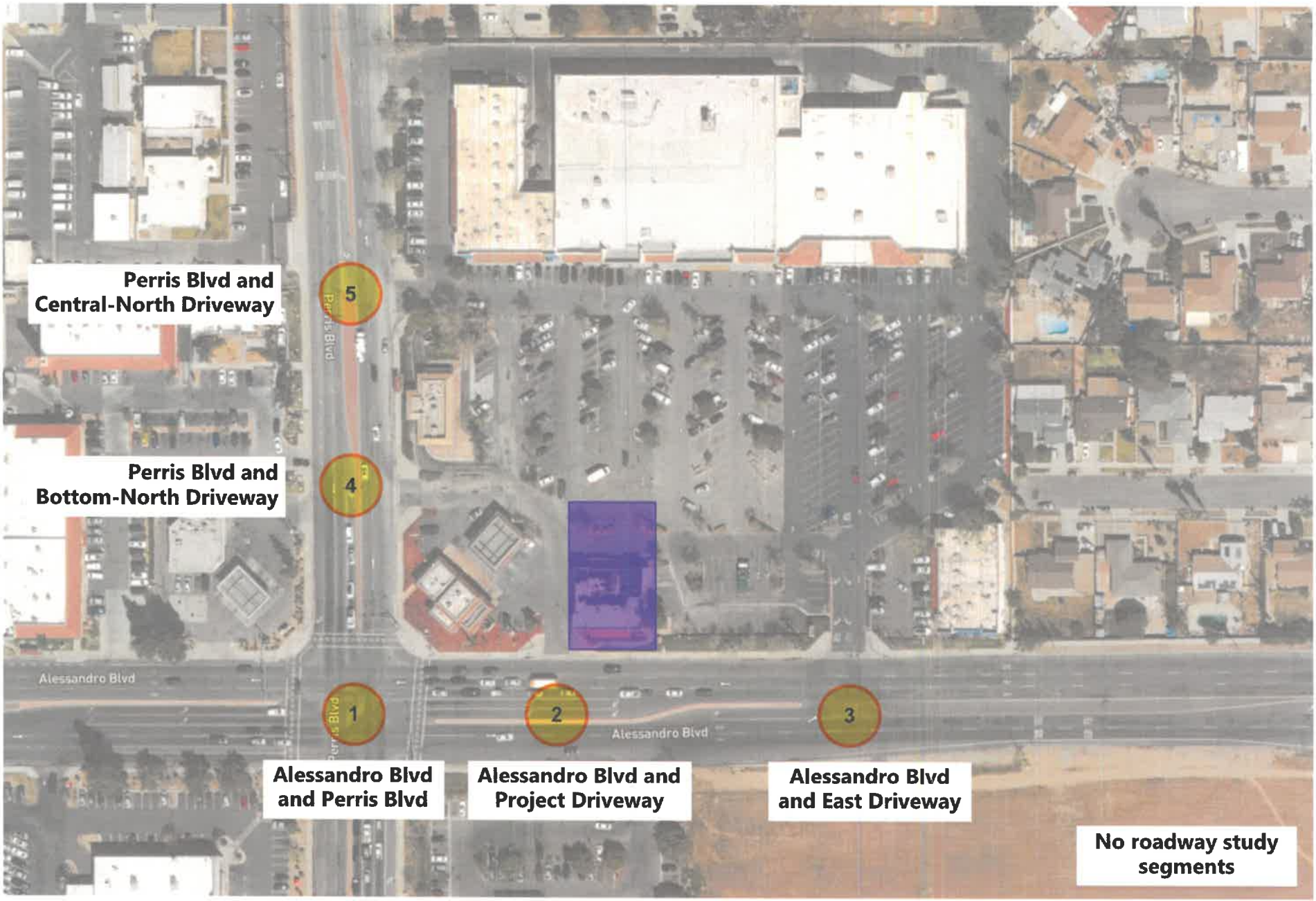
HISTORICAL TRANSACTION DATA GENERATION ESTIMATES

Weekday								
AM Peak Hour			PM Peak Hour			Daily		
In	Out	Total	In	Out	Total	In	Out	Total
65	65	130	59	59	118	956	956	1,912

* took the maximum number of transactions across the three locations during the associated peak perioc

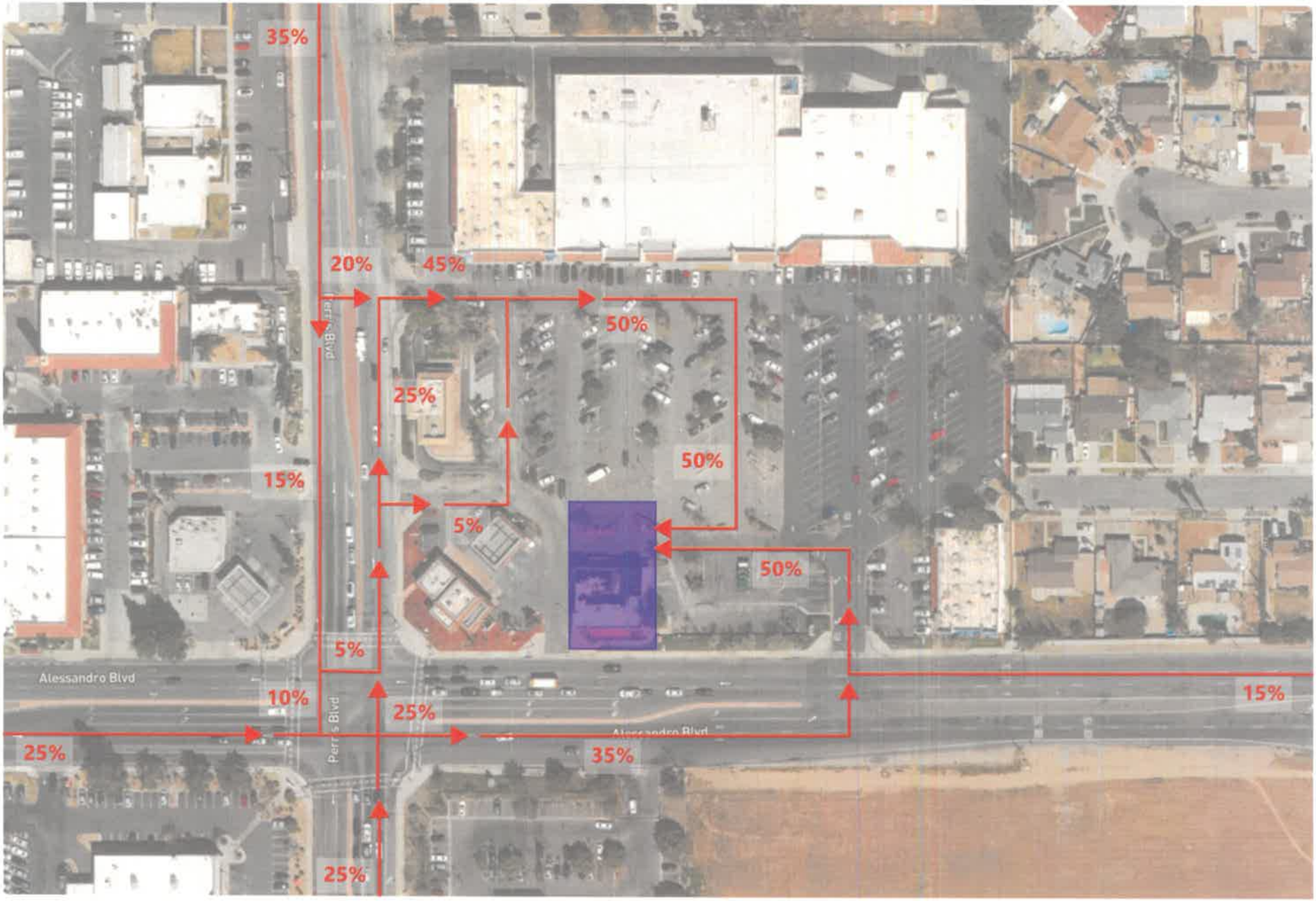
** added 32 trips to the Daily Trip Generation Estimates to account for commuting worker traffic

B. STUDY AREA



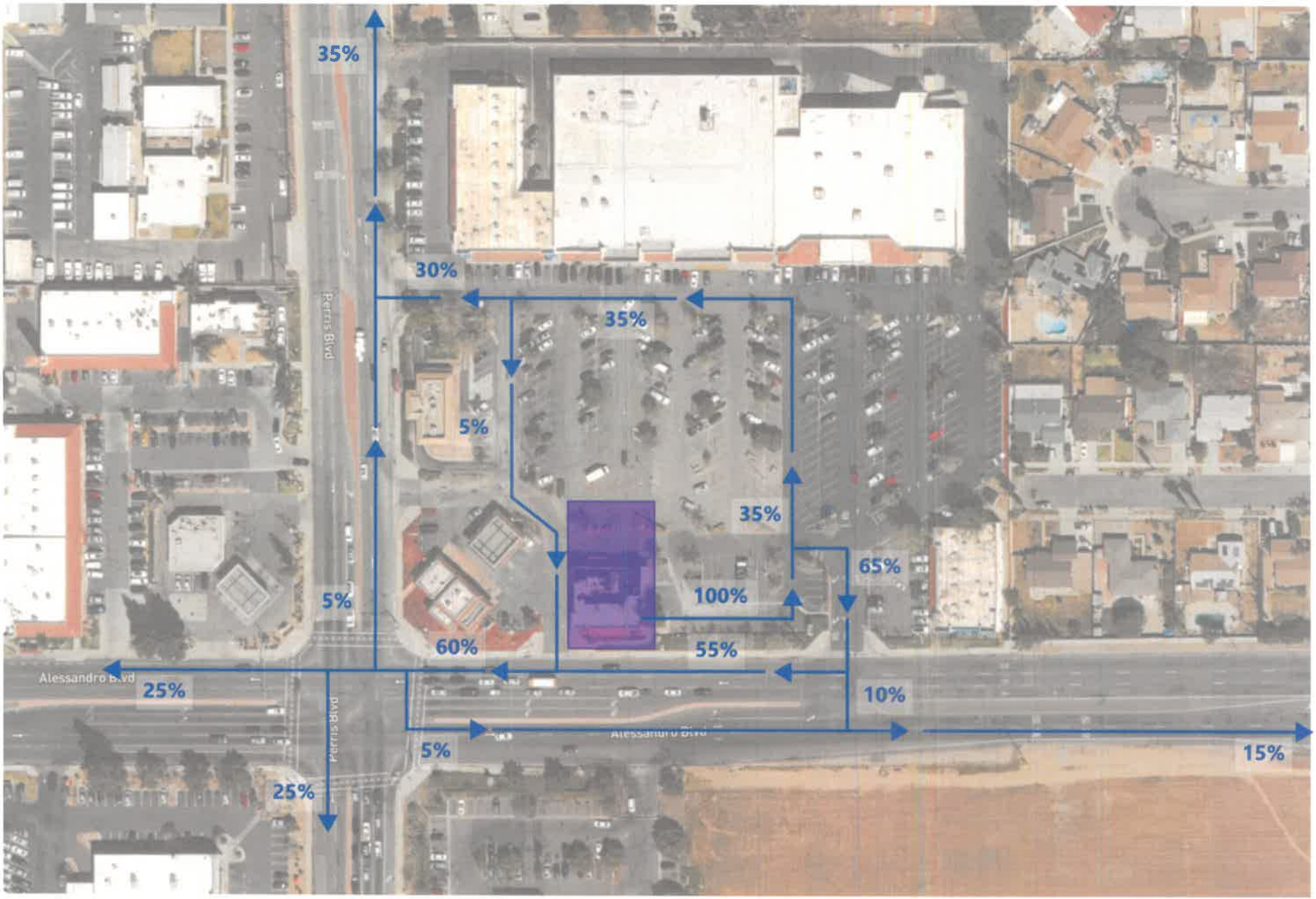
KITTELSON & ASSOCIATES

C. INFLOW TRIP ASSIGNMENT



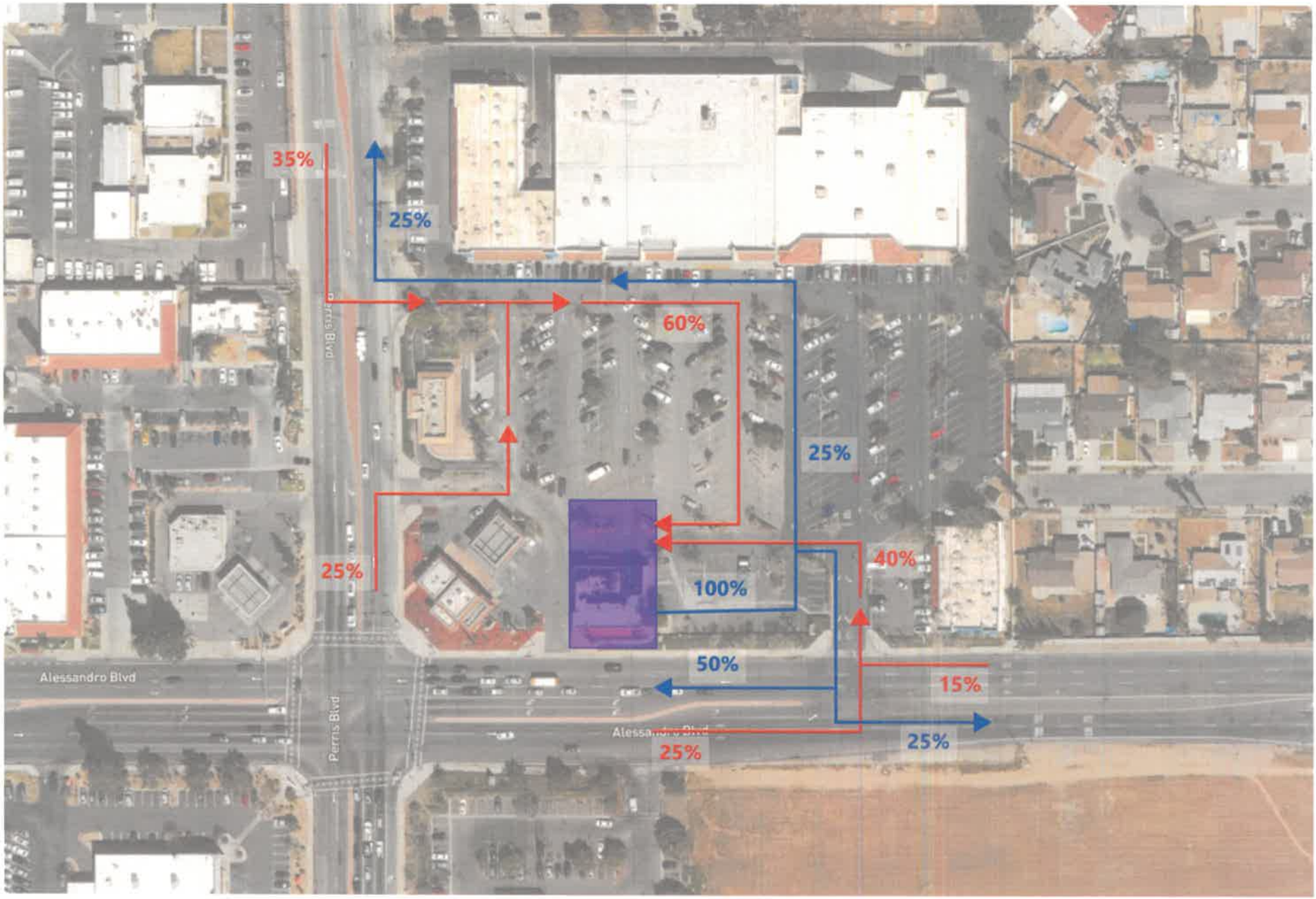
KITTELSON & ASSOCIATES

D. OUTFLOW TRIP ASSIGNMENT



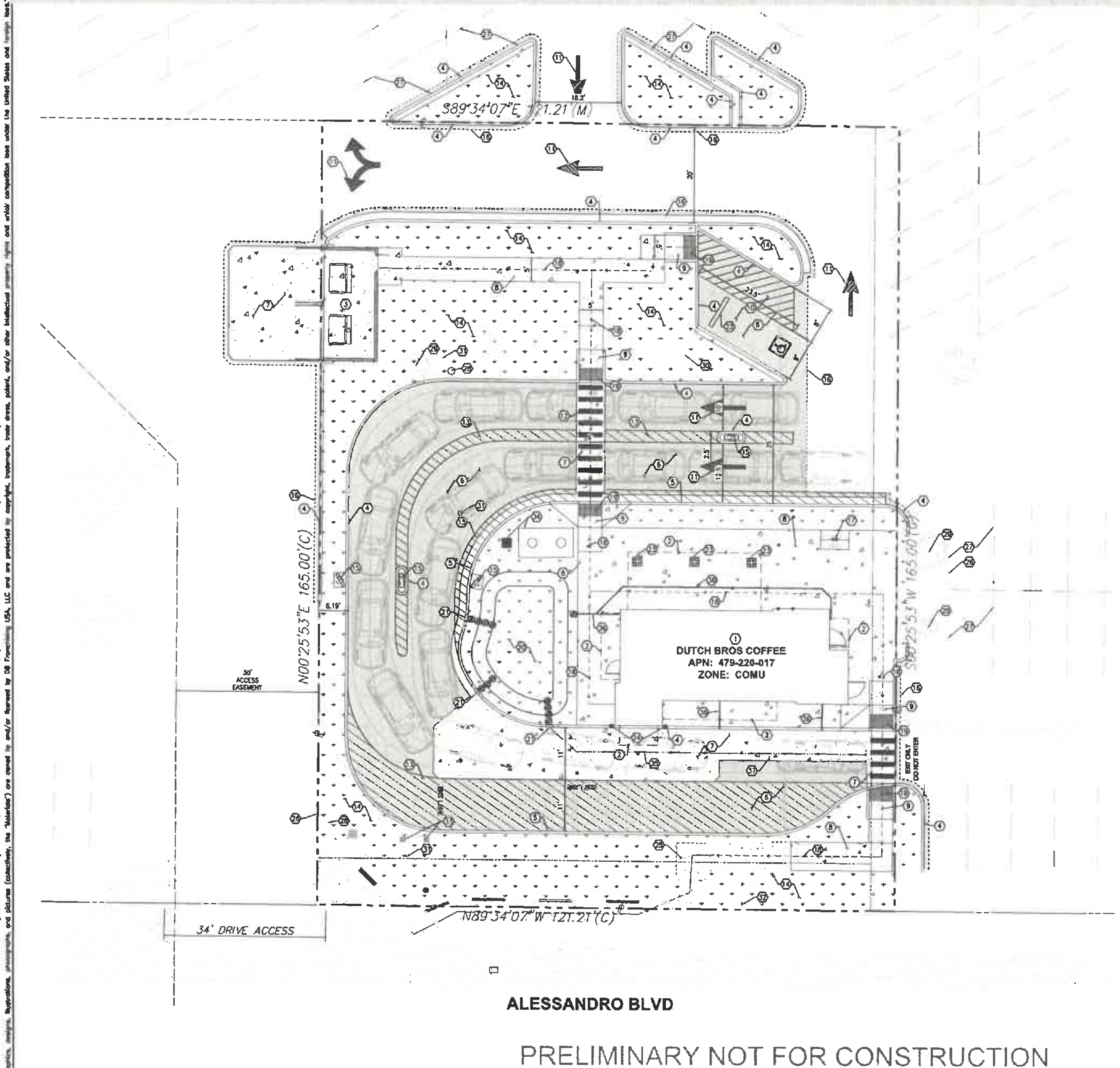
KITTELSON & ASSOCIATES

E. PASS-BY TRIP ASSIGNMENT



KITTELSON & ASSOCIATES

F. PROPOSED SITE PLAN AS OF 03/27/2024



① CONSTRUCTION NOTES:

1. PROPOSED LOCATION OF DUTCH BROS COFFEE. SEE ARCHITECTURAL PLANS FOR DETAILS.
2. PROPOSED BUILDING CANOPY. SEE ARCHITECTURAL PLANS FOR DETAILS.
3. PROPOSED TRASH ENCLOSURE WITH CONCRETE PAD. SEE ARCHITECTURAL PLANS AND STRUCTURAL PLANS FOR DETAILS.
4. PROPOSED CONCRETE BARRIER CURB, TYP.
5. PROPOSED CURB AND GUTTER, TYP.
6. PROPOSED ASPHALT PAVEMENT, TYP.
7. PROPOSED ON-SITE CONCRETE PAVEMENT, TYP.
8. PROPOSED ON-SITE CONCRETE SIDEWALK, TYP.
9. PROPOSED ACCESSIBLE RAMP, TYP.
10. PROPOSED ACCESSIBLE PARKING STALL AND AISLE WITH ALL REQUIRED SIGNAGE.
11. PROPOSED DIRECTIONAL PAVEMENT MARKINGS, TYP.
12. PROPOSED CONTINENTAL TYPE PEDESTRIAN CROSSWALK STRIPING, TYP.
13. PROPOSED 4" WIDE REFLECTIVE PAINT 45 DEGREE STRIPING AT 3' MAX ON CENTER, TYP.
14. PROPOSED LANDSCAPE AREA, TYP. REFER TO LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.
15. PROPOSED SIGN, TYP. REFER TO SIGN PLANS FOR EXACT PLACEMENT, DIMENSIONS, AND FOR ADDITIONAL INFORMATION.
16. APPROXIMATE SAWCUT LIMITS
17. PROPOSED SHORT-TERM BICYCLE PARKING RACK;
18. PROPOSED ADA ACCESSIBLE PATH, SEE ACCESSIBLE PATH NOTE ON THIS SHEET.
19. PROPOSED DETECTABLE WARNING STRIP, TYP.
20. PROPOSED BIORETENTION BASIN, TYP.
21. PROPOSED CURB CUT, TYP.
22. PROPOSED PRECAST WHEEL STOP, TYP.
23. PROPOSED CANOPY COLUMNS. SEE ARCHITECTURAL PLANS FOR DETAILS.
24. PROPOSED BOLLARDS IN CURB. SEE ARCHITECTURAL PLANS FOR DETAILS.
25. EXISTING SIDEWALK
26. EXISTING CURB
27. EXISTING PARKING STALL
28. EXISTING LIGHT
29. EXISTING TREE
30. EXISTING TRANSFORMER
31. EXISTING UTILITY CLEANOUT, PULLBOX, OR VAULT
32. EXISTING SIGN
33. PROPOSED WATER BACKFLOW
34. PROPOSED GREASE INTERCEPTOR AND SAMPLE BOX
35. PROPOSED PAVEMENT SWALE, TYP.
36. PROPOSED SIDEWALK UNDER DRAIN, TYP.
37. PROPOSED CONCRETE SWALE, TYP.

ACCESSIBLE PATH OF TRAVEL NOTE:

WALKWAYS ALONG ACCESSIBLE ROUTES OF TRAVEL SHALL BE CONTINUOUSLY ACCESSIBLE, A MINIMUM 48" IN WIDTH, HAVE A MAXIMUM 1.5% CROSS SLOPE, AND SHALL HAVE RAMPS COMPLYING WITH ADA STANDARDS (SECTION 405) WHERE NECESSARY TO CHANGE ELEVATION AT A LONGITUDINAL SLOPE EXCEEDING 5% (1:20). A CONTINUOUS 36" WIDE DETECTABLE WARNING STRIP MEETING ADA STANDARDS (SECTION 406.8) SHALL BE PLACED WHERE A WALK CROSSES OR ADJOINS A VEHICULAR WAY AND IS NOT SEPARATED BY A CURB, RAILING, OR OTHER ELEMENT MEETING ADA STANDARDS.

N

SCALE: 1"=10'

TITLE OF SITE PLAN	PRELIMINARY SITE PLAN
CITY RECORD NUMBER	PCXXX-XXXX
DATE OF PLAN PREPARATION	1/26/2024

Title: PRELIMINARY SITE PLAN
25010 ALESSANDRO BLVD
MORENO VALLEY, CA 92553

For: DUTCH BROS Coffee

PRELIMINARY

Scale: Horizontal 1" = 10' Vertical N/A

Designed EMM Drawn EMM Checked ACM Approved HPC Date 01/26/24

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

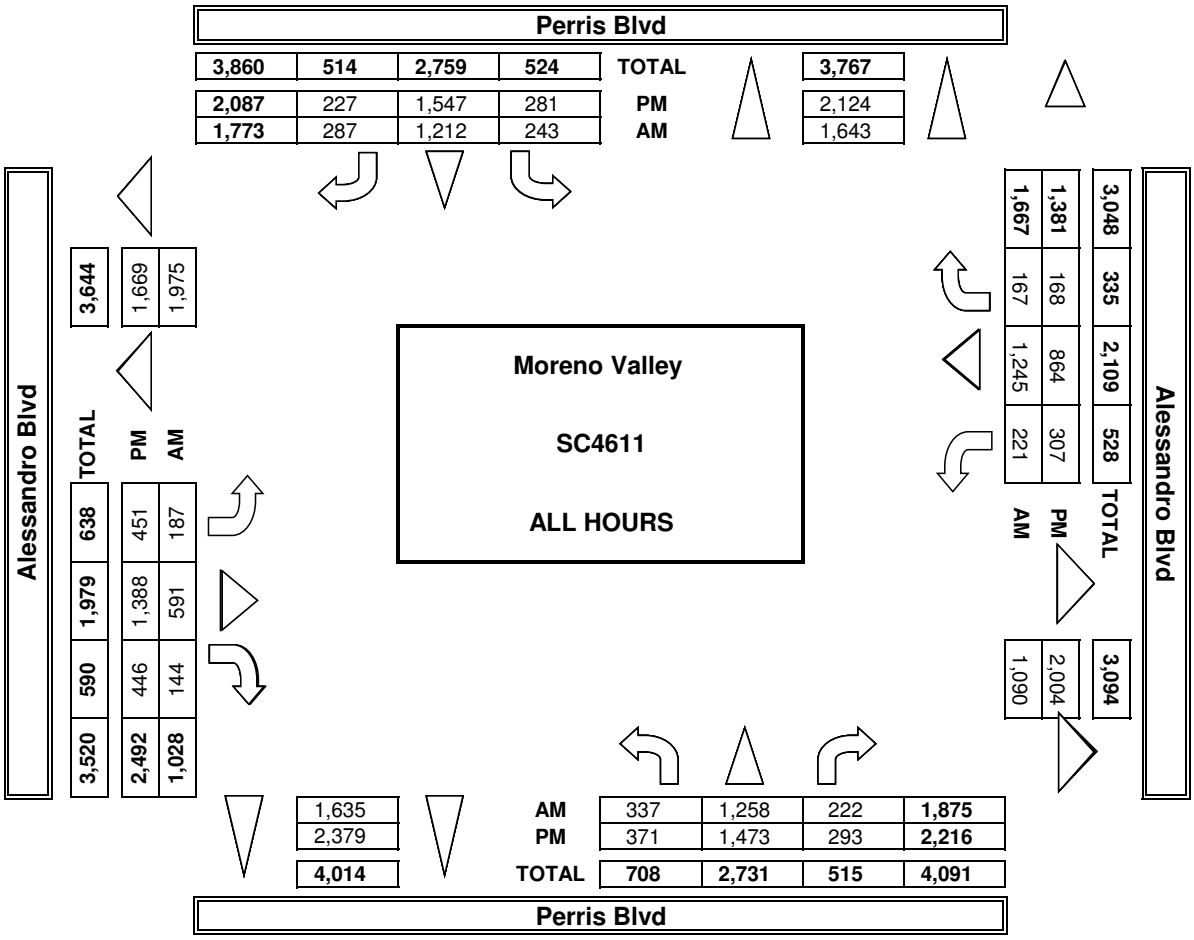
Job Number 23146
Sheet C2.0

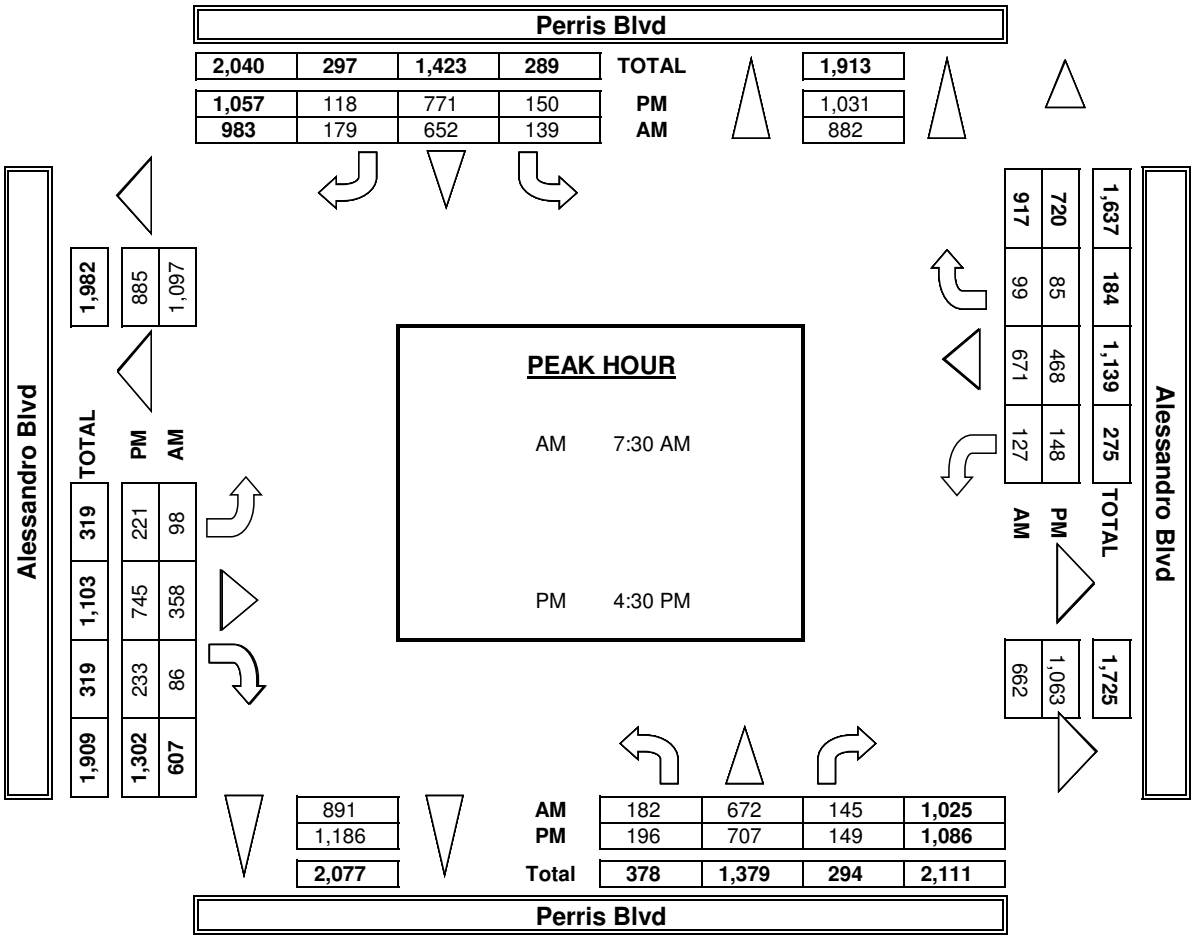
Appendix C

Turning Movement Counts

AimTD LLC

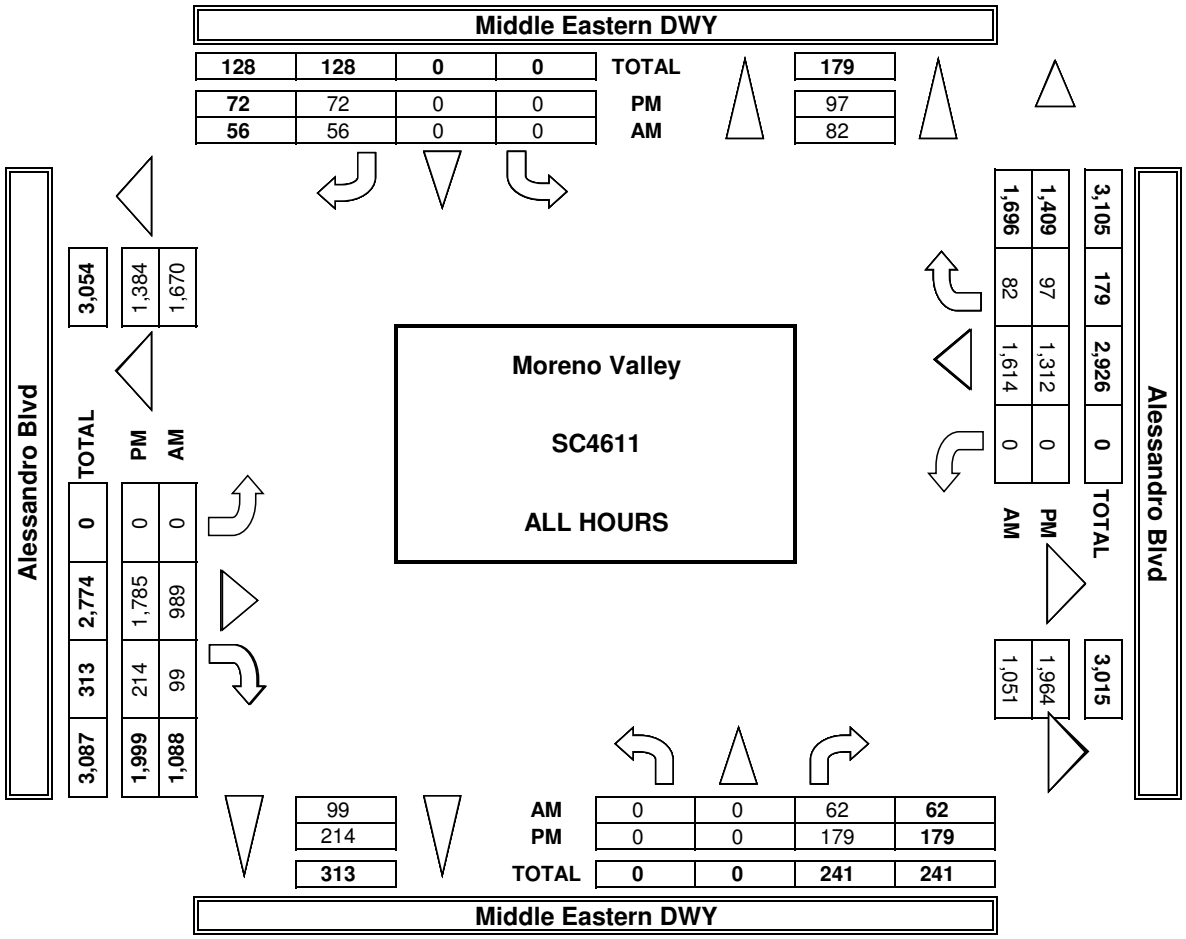
TURNING MOVEMENT COUNTS

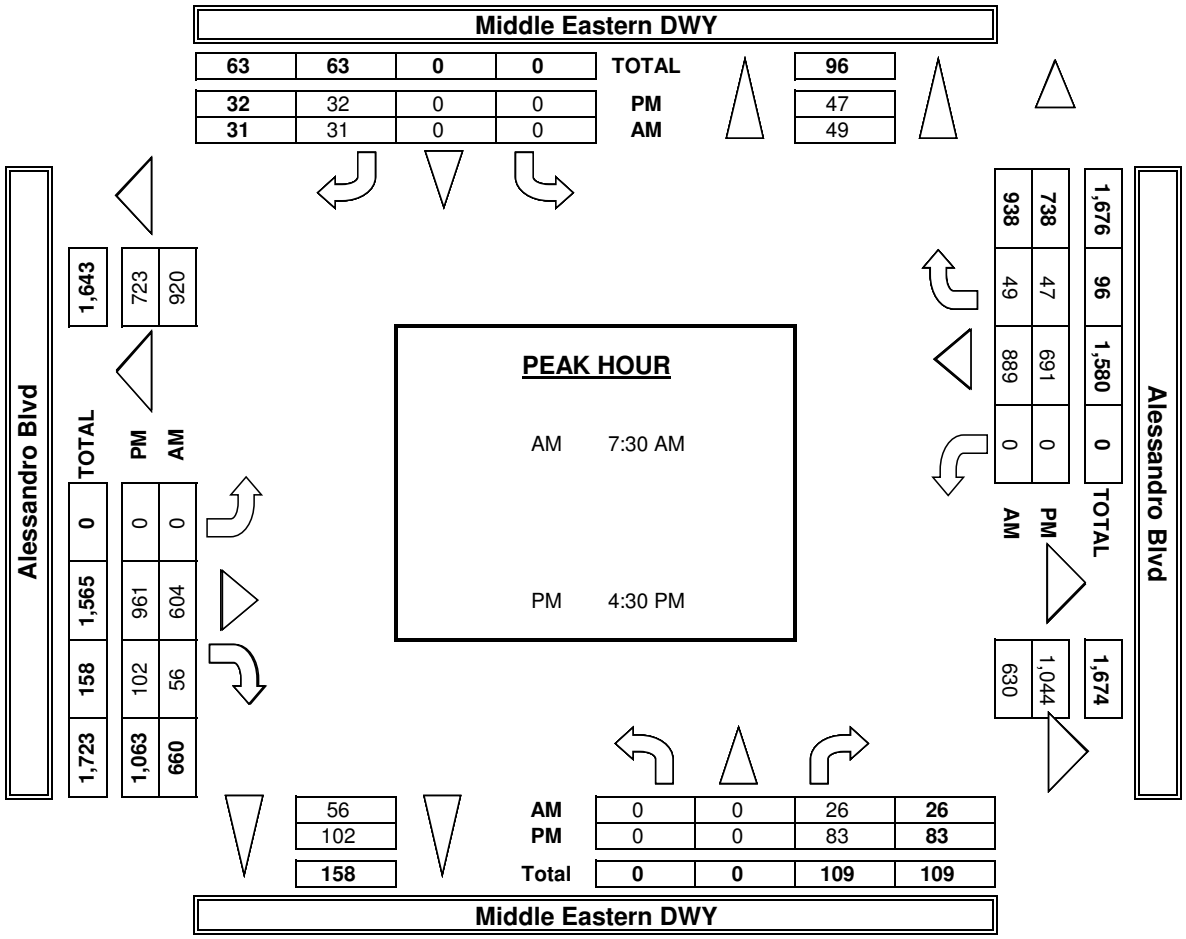




AimTD LLC

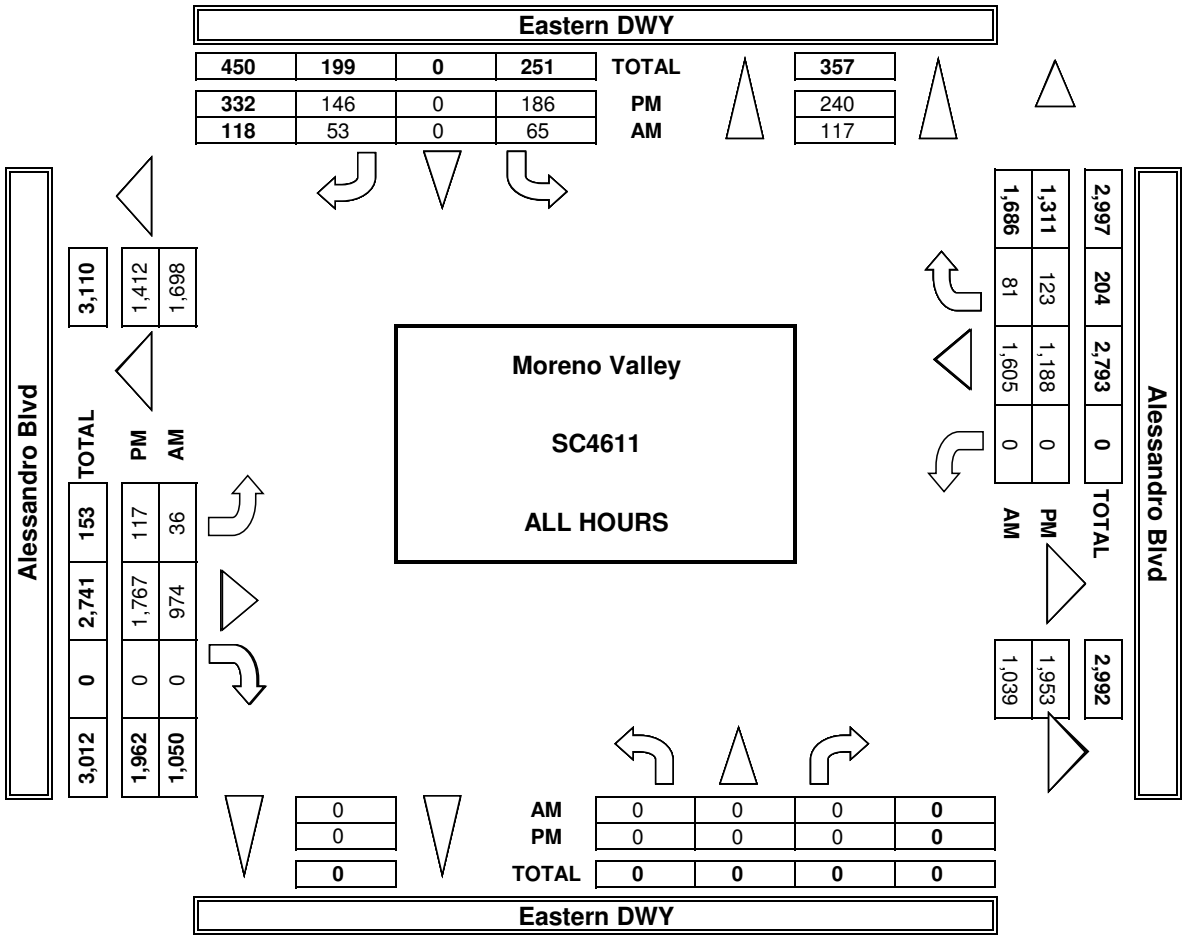
TURNING MOVEMENT COUNTS

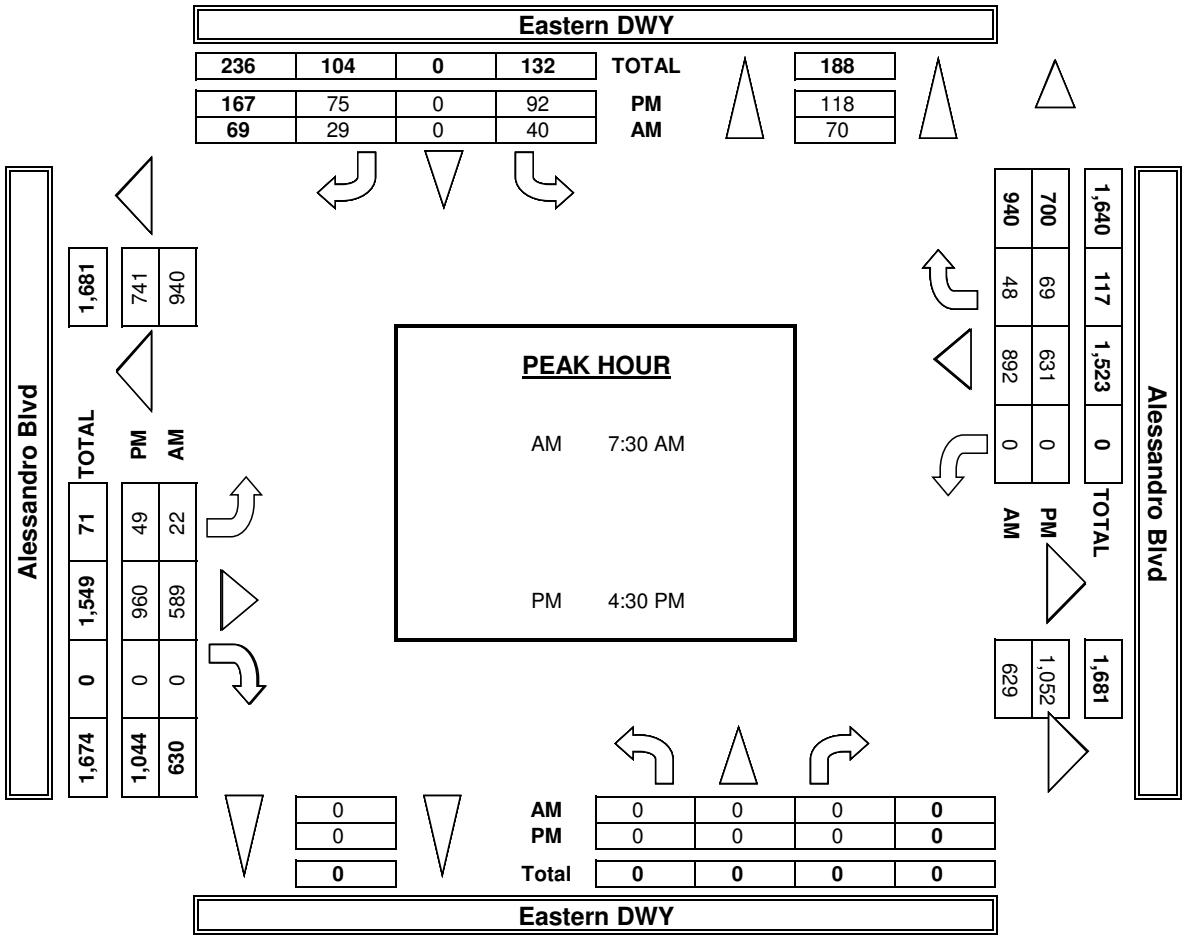




AimTD LLC

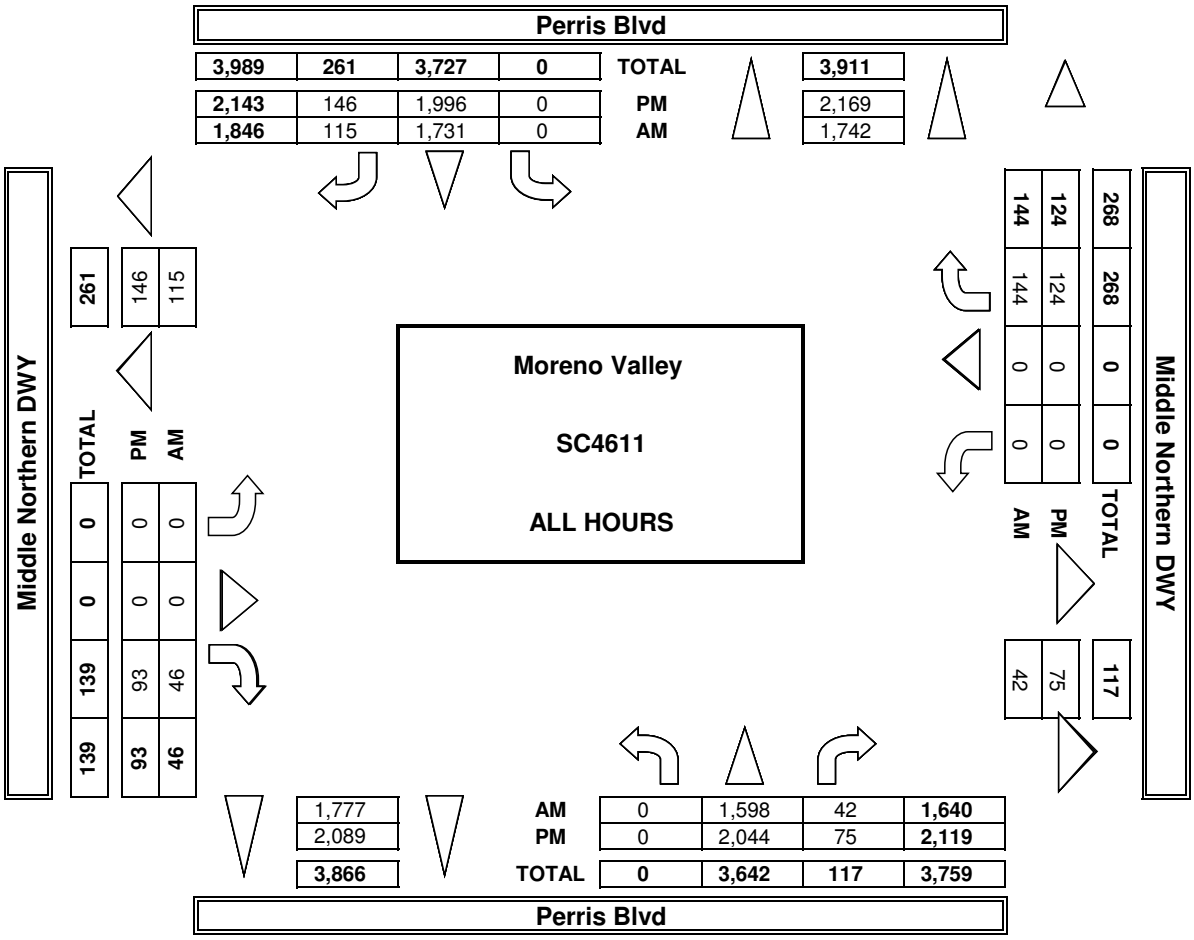
TURNING MOVEMENT COUNTS

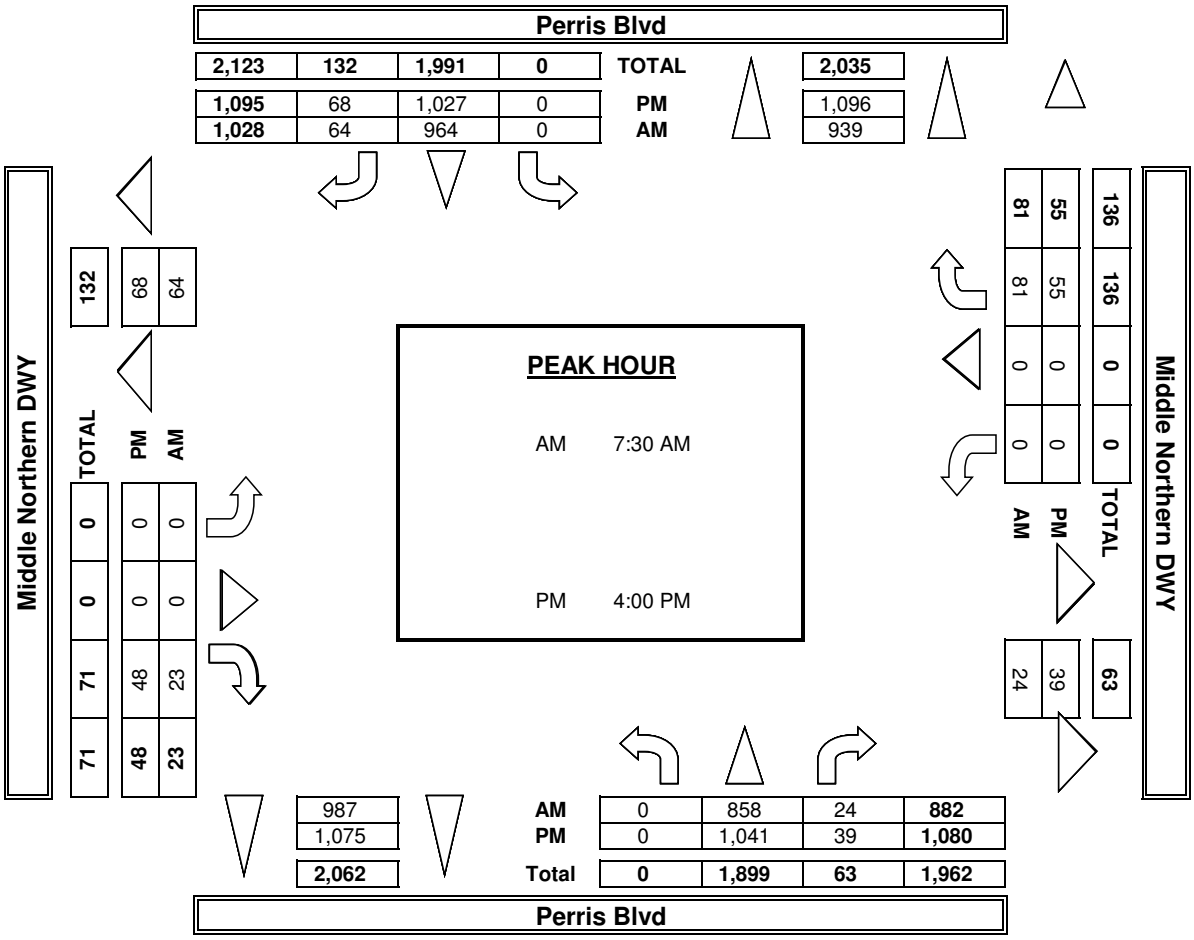




AimTD LLC

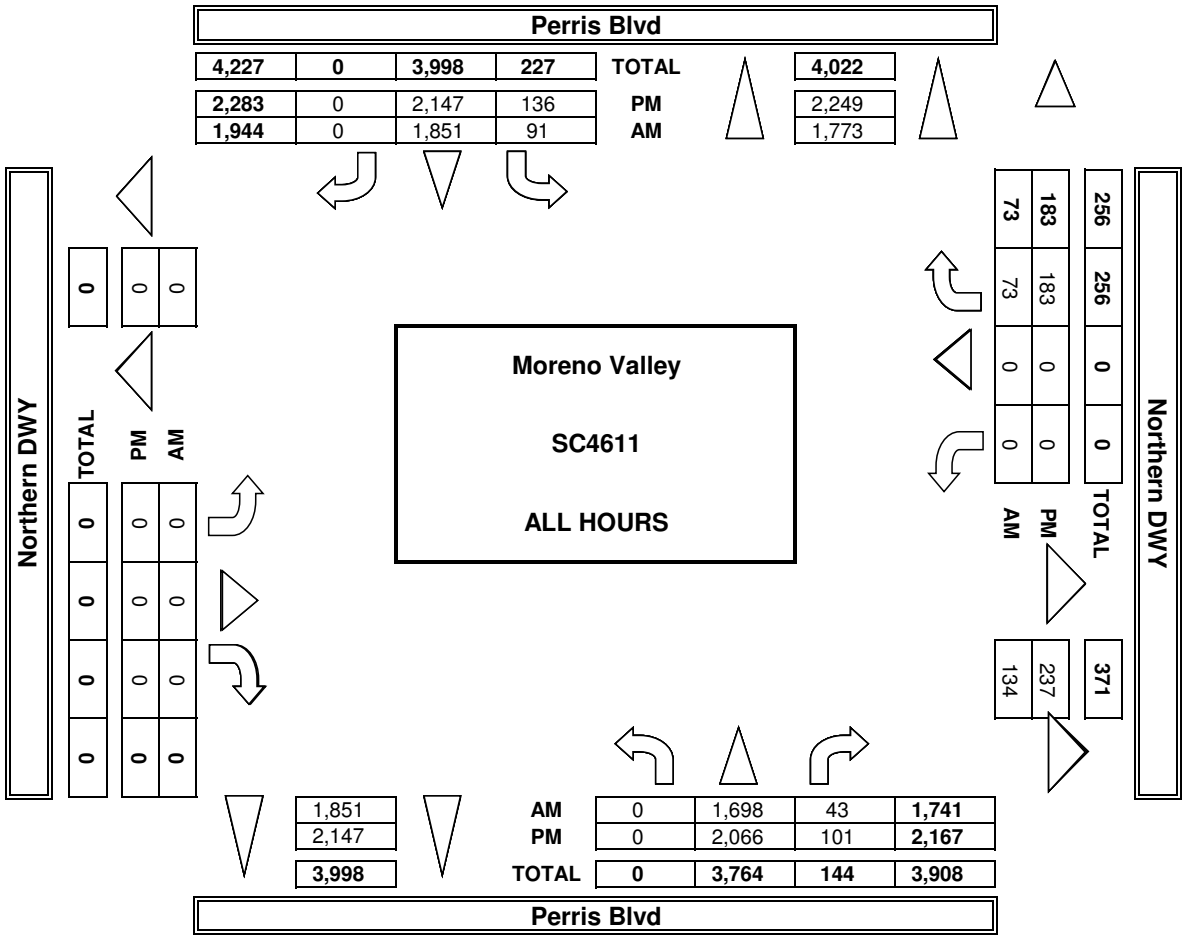
TURNING MOVEMENT COUNTS

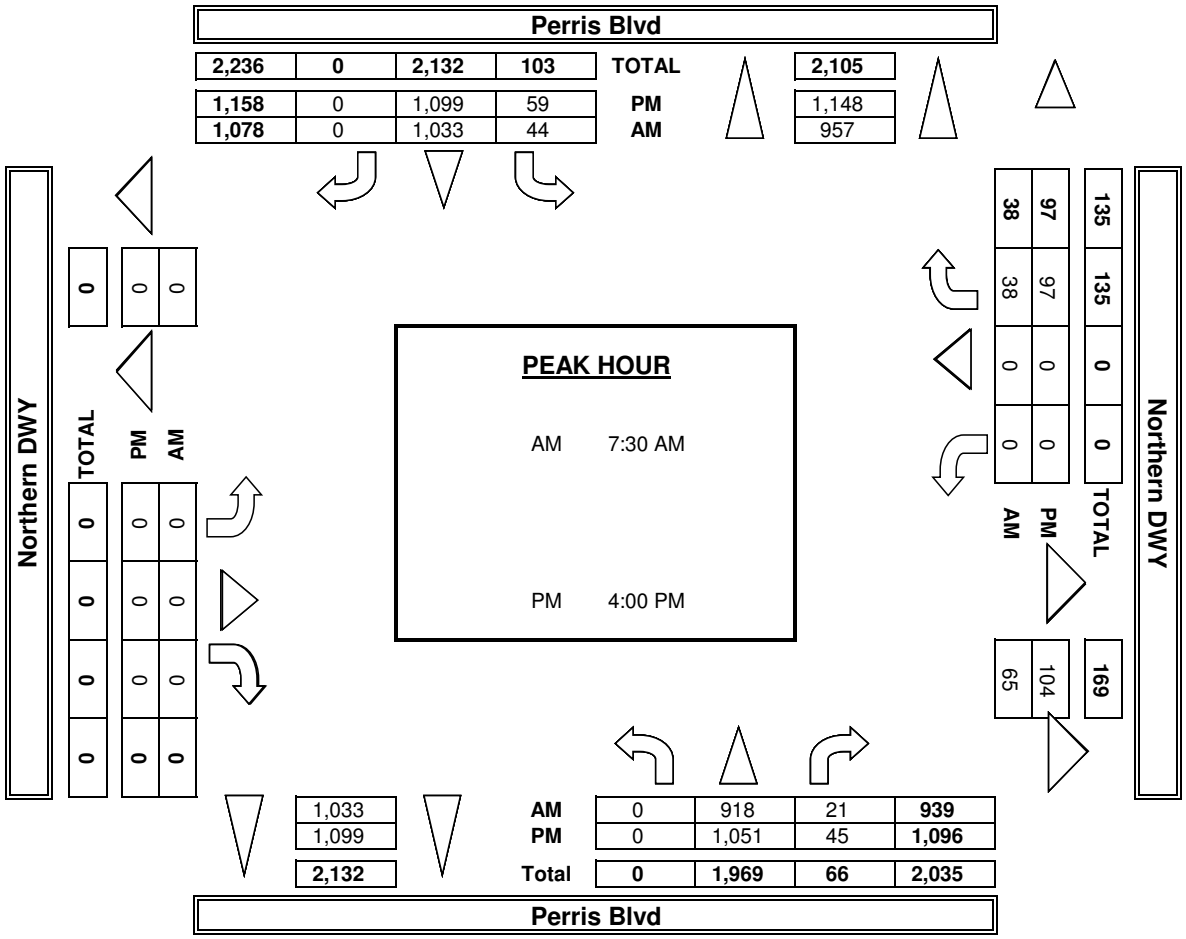




AimTD LLC

TURNING MOVEMENT COUNTS





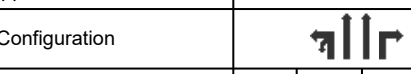
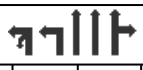
Appendix D

Vistro Reports

Intersection Level Of Service Report
Intersection 1: Perris Blvd & Alessandro Blvd

Control Type:	Signalized	Delay (sec / veh):	25.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
Entry Pocket Length [ft]	475.0	100.0	100.0	100.0	150.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00				40.00				45.00				45.00			
Grade [%]	0.00				0.00				0.00				0.00			
Curb Present	No				No				No				No			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Base Volume Input [veh/h]	26	182	672	145	13	139	652	179	65	98	358	86	20	127	671	99
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00															
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	182	672	145	13	139	652	179	65	98	358	86	20	127	671	99
Peak Hour Factor	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	7	49	179	39	3	37	174	48	17	26	96	23	5	34	179	26
Total Analysis Volume [veh/h]	28	194	718	155	14	149	697	191	69	105	382	92	21	136	717	106
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0			
v_co, Outbound Pedestrian Volume crossing	0				0				0				0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0			
Bicycle Volume [bicycles/h]	0				0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	154
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	0	3	8	0
Auxiliary Signal Groups																
Maximum Green [s]	0	30	45	0	0	30	45	0	0	30	30	0	0	30	30	0
Amber [s]	0.0	3.0	3.7	0.0	0.0	3.0	4.1	0.0	0.0	3.0	4.4	0.0	0.0	3.0	4.8	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	8	0	0	0	8	0	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	32	0	0	0	31	0	0	0	24	0	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.7	0.0	0.0	2.0	3.1	0.0	0.0	2.0	3.4	0.0	0.0	2.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	34	50	0	0	34	50	0	0	34	36	0	0	34	36	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	0	7	7	0	0	7	7	0	0	7	7	0	0	7	7	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0
Minimum Recall		No	No			No	No			No	Yes			No	Yes	
Maximum Recall		No	No			No	No			No	No			No	No	
Pedestrian Recall		No	No			No	No			No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	68	68	68	68	68	68	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	4.00	4.70	4.70	4.00	5.10	5.10	4.00	5.40	5.40	4.00	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.70	2.70	2.00	3.10	3.10	2.00	3.40	3.40	2.00	3.80	3.80
g_i, Effective Green Time [s]	10	20	20	8	17	17	7	16	16	7	15	15
g / C, Green / Cycle	0.15	0.29	0.29	0.12	0.25	0.25	0.10	0.23	0.23	0.10	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.12	0.20	0.10	0.09	0.17	0.17	0.05	0.11	0.06	0.05	0.15	0.15
s, saturation flow rate [veh/h]	1795	3589	1602	1795	3589	1686	3486	3589	1602	3486	3589	1764
c, Capacity [veh/h]	272	1040	464	208	890	418	346	828	370	341	802	394
d1, Uniform Delay [s]	27.94	21.45	19.00	29.25	23.11	23.15	29.04	22.53	21.36	28.98	24.23	24.26
k, delay calibration	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.30	1.18	0.60	2.47	1.29	2.80	0.42	0.57	0.50	0.36	1.50	3.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.69	0.33	0.78	0.68	0.68	0.50	0.46	0.25	0.46	0.69	0.69
d, Delay for Lane Group [s/veh]	30.24	22.63	19.60	31.72	24.40	25.95	29.46	23.10	21.85	29.34	25.73	27.35
Lane Group LOS	C	C	B	C	C	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.38	4.68	1.80	2.53	4.08	4.05	1.25	2.40	1.12	1.12	3.77	3.90
50th-Percentile Queue Length [ft/ln]	84.47	117.00	45.03	63.29	102.05	101.17	31.17	60.06	27.95	28.01	94.15	97.61
95th-Percentile Queue Length [veh/ln]	6.08	8.23	3.24	4.56	7.35	7.28	2.24	4.32	2.01	2.02	6.78	7.03
95th-Percentile Queue Length [ft/ln]	152.05	205.70	81.06	113.93	183.70	182.10	56.11	108.10	50.30	50.42	169.47	175.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.24	30.24	22.63	19.60	31.72	31.72	24.61	25.95	29.46	29.46	23.10	21.85	29.34	29.34	26.11	27.35
Movement LOS	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	23.74				25.96				24.63				26.76			
Approach LOS	C				C				C				C			
d_I, Intersection Delay [s/veh]	25.30															
Intersection LOS	C															
Intersection V/C	0.497															

Emissions

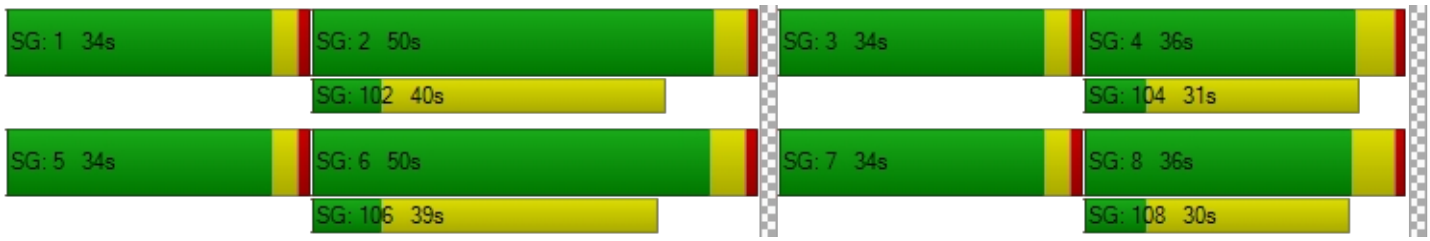
Vehicle Miles Traveled [mph]	28.94	93.61	20.21	8.38	30.98	14.68	11.40	25.02	6.03	6.05	21.20	10.49
Stops [stops/h]	179.40	496.94	95.64	134.41	433.46	214.84	132.40	255.08	59.35	118.98	399.89	207.30
Fuel consumption [US gal/h]	4.17	11.54	2.28	2.67	8.36	4.14	3.08	5.82	1.35	2.62	8.58	4.45
CO [g/h]	291.15	806.77	159.48	186.83	584.41	289.62	215.29	407.15	94.61	183.41	599.84	311.29
NOx [g/h]	56.65	156.97	31.03	36.35	113.71	56.35	41.89	79.22	18.41	35.69	116.71	60.57
VOC [g/h]	67.48	186.98	36.96	43.30	135.44	67.12	49.90	94.36	21.93	42.51	139.02	72.14

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.80	23.80	22.97	22.97
l_p,int, Pedestrian LOS Score for Intersectio	2.953	2.866	3.028	3.013
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1336	1324	903	891
d_b, Bicycle Delay [s]	3.74	3.87	10.21	10.43
l_b,int, Bicycle LOS Score for Intersection	2.303	2.056	2.008	2.087
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Project Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
Speed [mph]	30.00			15.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Base Volume Input [veh/h]	0	0	26	0	0	31	0	604	56	0	889	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	26	0	0	31	0	604	56	0	889	49
Peak Hour Factor	1.0000	1.0000	0.9240	1.0000	1.0000	0.9240	1.0000	0.9240	0.9240	1.0000	0.9240	0.9240
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	7	0	0	8	0	163	15	0	241	13
Total Analysis Volume [veh/h]	0	0	28	0	0	34	0	654	61	0	962	53
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.00	0.08	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.93	0.00	0.00	13.89	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			B			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.16	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.03	0.00	0.00	6.27	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.93			13.89			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.45											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: East Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	24.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.196

Intersection Setup

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	85.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	2	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	15.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Base Volume Input [veh/h]	40	29	22	589	892	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	29	22	589	892	48
Peak Hour Factor	0.8910	0.8910	0.8910	0.8910	0.8910	0.8910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	8	6	165	250	13
Total Analysis Volume [veh/h]	45	33	25	661	1001	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	5	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.08	0.07	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	24.42	14.16	15.40	0.00	0.00	0.00
Movement LOS	C	B	C	A	A	A
95th-Percentile Queue Length [veh/ln]	0.71	0.25	0.22	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.70	6.26	5.39	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.08		0.56		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.07					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Perris Blvd & Bottom North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.182

Intersection Setup

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Base Volume Input [veh/h]	0	858	24	0	964	64	0	0	23	0	0	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	858	24	0	964	64	0	0	23	0	0	81
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	226	6	0	254	17	0	0	6	0	0	21
Total Analysis Volume [veh/h]	0	903	25	0	1015	67	0	0	24	0	0	85
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.18
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.14	0.00	0.00	14.39
Movement LOS		A	A		A	A			B			B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.66
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.56	0.00	0.00	16.41
d_A, Approach Delay [s/veh]	0.00			0.00			14.14			14.39		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.74											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 5: Perris Blvd & Central North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

Intersection Setup

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Base Volume Input [veh/h]	0	918	21	44	1033	0	0	0	0	0	0	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	918	21	44	1033	0	0	0	0	0	0	38
Peak Hour Factor	1.0000	0.9510	0.9510	0.9510	0.9510	1.0000	1.0000	1.0000	0.9510	1.0000	1.0000	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	241	6	12	272	0	0	0	0	0	0	10
Total Analysis Volume [veh/h]	0	965	22	46	1086	0	0	0	0	0	0	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.49	0.00	0.00	0.00	0.00	13.65	0.00	0.00	13.82
Movement LOS		A	A	B	A				B			B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	5.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.31
d_A, Approach Delay [s/veh]	0.00			0.43			13.65			13.82		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.48											
Intersection LOS	B											

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Report File: H:\...\Ex_PM.pdf

Scenario 2 EX_PM
7/29/2024

Intersection Analysis Summary

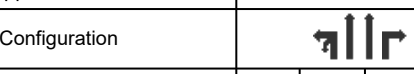
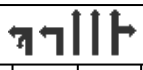
ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Perris Blvd & Alessandro Blvd	Signalized	HCM 7th Edition	SB Left	0.577	29.4	C
2	Project Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	NB Right	0.214	16.3	C
3	East Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	SB Left	0.284	19.3	C
4	Perris Blvd & Bottom North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.145	15.5	C
5	Perris Blvd & Central North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.267	17.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Perris Blvd & Alessandro Blvd

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
Entry Pocket Length [ft]	475.0	100.0	100.0	100.0	150.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00				40.00				45.00				45.00			
Grade [%]	0.00				0.00				0.00				0.00			
Curb Present	No				No				No				No			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Base Volume Input [veh/h]	34	196	707	149	18	150	771	118	103	221	745	233	19	148	468	85
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00															
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	196	707	149	18	150	771	118	103	221	745	233	19	148	468	85
Peak Hour Factor	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	9	51	185	39	5	39	202	31	27	58	195	61	5	39	123	22
Total Analysis Volume [veh/h]	36	205	741	156	19	157	808	124	108	232	781	244	20	155	491	89
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0			
v_co, Outbound Pedestrian Volume crossing	0				0				0				0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0			
Bicycle Volume [bicycles/h]	0				0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	154
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	0	3	8	0
Auxiliary Signal Groups																
Maximum Green [s]	0	30	45	0	0	30	45	0	0	30	30	0	0	30	30	0
Amber [s]	0.0	3.0	3.7	0.0	0.0	3.0	4.1	0.0	0.0	3.0	4.4	0.0	0.0	3.0	4.8	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	8	0	0	0	8	0	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	32	0	0	0	31	0	0	0	24	0	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.7	0.0	0.0	2.0	3.1	0.0	0.0	2.0	3.4	0.0	0.0	2.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	34	50	0	0	34	50	0	0	34	36	0	0	34	36	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	0	7	7	0	0	7	7	0	0	7	7	0	0	7	7	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0
Minimum Recall		No	No			No	No			No	Yes			No	Yes	
Maximum Recall		No	No			No	No			No	No			No	No	
Pedestrian Recall		No	No			No	No			No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	4.00	4.70	4.70	4.00	5.10	5.10	4.00	5.40	5.40	4.00	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.70	2.70	2.00	3.10	3.10	2.00	3.40	3.40	2.00	3.80	3.80
g_i, Effective Green Time [s]	13	23	23	10	19	19	10	22	22	7	19	19
g / C, Green / Cycle	0.16	0.29	0.29	0.12	0.24	0.24	0.13	0.28	0.28	0.09	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.13	0.21	0.10	0.10	0.17	0.17	0.10	0.22	0.15	0.05	0.11	0.11
s, saturation flow rate [veh/h]	1795	3589	1602	1795	3589	1760	3486	3589	1602	3486	3589	1742
c, Capacity [veh/h]	286	1028	459	218	874	429	440	1000	447	301	839	407
d1, Uniform Delay [s]	32.52	25.55	22.46	34.07	27.57	27.60	33.68	26.47	24.43	35.00	26.20	26.26
k, delay calibration	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.64	1.38	0.62	2.70	1.57	3.20	1.11	1.93	1.48	0.67	0.57	1.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.72	0.34	0.81	0.71	0.72	0.77	0.78	0.55	0.58	0.46	0.47
d, Delay for Lane Group [s/veh]	35.16	26.93	23.08	36.78	29.14	30.79	34.79	28.40	25.91	35.66	26.77	27.47
Lane Group LOS	D	C	C	D	C	C	C	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.44	5.99	2.22	3.29	5.24	5.35	3.03	6.43	3.74	1.56	2.97	3.01
50th-Percentile Queue Length [ft/ln]	111.10	149.71	55.58	82.35	130.90	133.80	75.66	160.74	93.42	38.88	74.15	75.22
95th-Percentile Queue Length [veh/ln]	7.90	10.00	4.00	5.93	8.99	9.15	5.45	10.59	6.73	2.80	5.34	5.42
95th-Percentile Queue Length [ft/ln]	197.53	250.05	100.04	148.23	224.72	228.65	136.20	264.70	168.16	69.98	133.47	135.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.16	35.16	26.93	23.08	36.78	36.78	29.52	30.79	34.79	34.79	28.40	25.91	35.66	35.66	26.92	27.47
Movement LOS	D	D	C	C	D	D	C	C	C	C	C	C	D	D	C	C
d_A, Approach Delay [s/veh]	28.14				30.81				29.55				29.01			
Approach LOS	C				C				C				C			
d_I, Intersection Delay [s/veh]	29.41															
Intersection LOS	C															
Intersection V/C	0.577															

Emissions

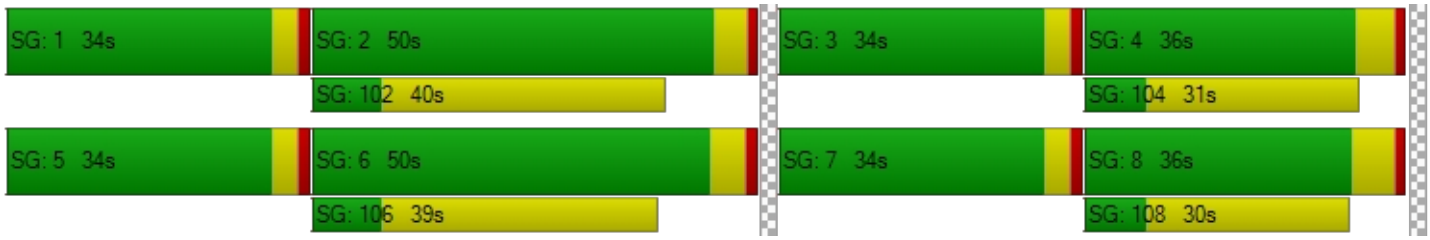
Vehicle Miles Traveled [mph]	31.42	96.61	20.34	9.05	32.11	15.81	22.27	51.15	15.98	6.74	14.95	7.39
Stops [stops/h]	201.55	543.20	100.82	149.40	474.95	242.73	274.53	583.19	169.48	141.06	269.03	136.45
Fuel consumption [US gal/h]	4.83	12.86	2.45	3.11	9.52	4.88	6.58	13.52	3.94	3.25	5.97	3.02
CO [g/h]	337.59	898.73	171.38	217.32	665.43	340.91	460.21	944.95	275.52	227.52	417.45	211.24
NOx [g/h]	65.68	174.86	33.34	42.28	129.47	66.33	89.54	183.85	53.61	44.27	81.22	41.10
VOC [g/h]	78.24	208.29	39.72	50.37	154.22	79.01	106.66	219.00	63.86	52.73	96.75	48.96

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.45	29.45	28.60	28.60
l_p,int, Pedestrian LOS Score for Intersectio	3.022	2.916	3.117	3.055
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1141	1131	771	761
d_b, Bicycle Delay [s]	7.31	7.49	14.99	15.23
l_b,int, Bicycle LOS Score for Intersection	2.329	2.083	2.494	1.964
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Project Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.214

Intersection Setup

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
Speed [mph]	30.00			15.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Base Volume Input [veh/h]	0	0	83	0	0	32	0	961	102	0	691	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	83	0	0	32	0	961	102	0	691	47
Peak Hour Factor	1.0000	1.0000	0.9490	1.0000	1.0000	0.9490	1.0000	0.9490	0.9490	1.0000	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	22	0	0	8	0	253	27	0	182	12
Total Analysis Volume [veh/h]	0	0	87	0	0	34	0	1013	107	0	728	50
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.21	0.00	0.00	0.07	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	16.27	0.00	0.00	12.36	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			C			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.80	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	20.05	0.00	0.00	5.20	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.27			12.36			0.00			0.00		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.91											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: East Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.284

Intersection Setup

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	85.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	2	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	15.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Base Volume Input [veh/h]	92	75	49	960	631	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	75	49	960	631	69
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	20	13	259	170	19
Total Analysis Volume [veh/h]	99	81	53	1037	681	75
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	5	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.15	0.10	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	19.34	12.99	12.78	0.00	0.00	0.00
Movement LOS	C	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.15	0.53	0.34	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	28.63	13.36	8.54	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.48		0.62		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.80					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Perris Blvd & Bottom North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.145

Intersection Setup

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Base Volume Input [veh/h]	0	1041	39	0	1027	0	0	0	48	0	0	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1041	39	0	1027	0	0	0	48	0	0	55
Peak Hour Factor	1.0000	0.9480	0.9480	1.0000	0.9480	1.0000	1.0000	1.0000	0.9480	1.0000	1.0000	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	275	10	0	271	0	0	0	13	0	0	15
Total Analysis Volume [veh/h]	0	1098	41	0	1083	0	0	0	51	0	0	58
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.12	0.00	0.00	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.82	0.00	0.00	15.51
Movement LOS		A	A		A				B			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.50
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.35	0.00	0.00	12.56
d_A, Approach Delay [s/veh]	0.00			0.00			14.82			15.51		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	0.71											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 5: Perris Blvd & Central North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.267

Intersection Setup

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Base Volume Input [veh/h]	0	1051	45	59	1099	0	0	0	0	0	0	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1051	45	59	1099	0	0	0	0	0	0	97
Peak Hour Factor	1.0000	0.9310	0.9310	0.9310	0.9310	1.0000	1.0000	1.0000	0.9310	1.0000	1.0000	0.9310
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	282	12	16	295	0	0	0	0	0	0	26
Total Analysis Volume [veh/h]	0	1129	48	63	1180	0	0	0	0	0	0	104
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.27
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.77	0.00	0.00	0.00	0.00	14.27	0.00	0.00	17.59
Movement LOS		A	A	B	A				B			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	8.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.57
d_A, Approach Delay [s/veh]	0.00			0.60			14.27			17.59		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	1.02											
Intersection LOS	C											

Vistro File: H:\...\30317_DB_MorenoValley.vistro
Report File: H:\...\Ex_AMB_CUM_AM.pdf

Scenario 3 EX_AMB_CUM_AM
7/29/2024

Intersection Analysis Summary

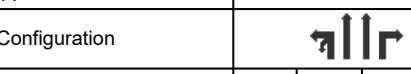
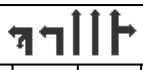
ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Perris Blvd & Alessandro Blvd	Signalized	HCM 7th Edition	SB Left	0.559	28.8	C
2	Project Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	SB Right	0.092	15.7	C
3	East Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	SB Left	0.251	32.2	D
4	Perris Blvd & Bottom North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.211	15.9	C
5	Perris Blvd & Central North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.105	15.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Perris Blvd & Alessandro Blvd

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
Entry Pocket Length [ft]	475.0	100.0	100.0	100.0	150.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00				40.00				45.00				45.00			
Grade [%]	0.00				0.00				0.00				0.00			
Curb Present	No				No				No				No			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Base Volume Input [veh/h]	27	207	724	168	14	168	713	186	68	102	389	114	21	192	758	188
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00															
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	207	724	168	14	168	713	186	68	102	389	114	21	192	758	188
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	7	54	191	44	4	44	188	49	18	27	102	30	6	51	199	49
Total Analysis Volume [veh/h]	28	218	762	177	15	177	751	196	72	107	409	120	22	202	798	198
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0			
v_co, Outbound Pedestrian Volume crossing	0				0				0				0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0			
Bicycle Volume [bicycles/h]	0				0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	154
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	0	3	8	0
Auxiliary Signal Groups																
Maximum Green [s]	0	30	45	0	0	30	45	0	0	30	30	0	0	30	30	0
Amber [s]	0.0	3.0	3.7	0.0	0.0	3.0	4.1	0.0	0.0	3.0	4.4	0.0	0.0	3.0	4.8	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	8	0	0	0	8	0	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	32	0	0	0	31	0	0	0	24	0	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.7	0.0	0.0	2.0	3.1	0.0	0.0	2.0	3.4	0.0	0.0	2.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	34	50	0	0	34	50	0	0	34	36	0	0	34	36	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	0	7	7	0	0	7	7	0	0	7	7	0	0	7	7	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0
Minimum Recall		No	No			No	No			No	Yes			No	Yes	
Maximum Recall		No	No			No	No			No	No			No	No	
Pedestrian Recall		No	No			No	No			No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	77	77	77	77	77	77	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	4.00	4.70	4.70	4.00	5.10	5.10	4.00	5.40	5.40	4.00	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.70	2.70	2.00	3.10	3.10	2.00	3.40	3.40	2.00	3.80	3.80
g_i, Effective Green Time [s]	13	22	22	10	20	20	7	20	20	7	20	20
g / C, Green / Cycle	0.16	0.29	0.29	0.13	0.25	0.25	0.09	0.26	0.26	0.09	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.14	0.21	0.11	0.11	0.18	0.18	0.05	0.11	0.07	0.06	0.19	0.19
s, saturation flow rate [veh/h]	1795	3589	1602	1795	3589	1693	3486	3589	1602	3486	3589	1700
c, Capacity [veh/h]	292	1035	462	236	905	427	308	917	409	320	911	432
d1, Uniform Delay [s]	31.58	24.98	22.12	32.83	26.48	26.51	34.04	24.31	23.28	34.25	26.64	26.66
k, delay calibration	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.57	1.48	0.74	2.61	1.48	3.16	0.65	0.49	0.56	1.04	1.71	3.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.74	0.38	0.81	0.71	0.71	0.58	0.45	0.29	0.70	0.74	0.74
d, Delay for Lane Group [s/veh]	34.15	26.46	22.86	35.44	27.96	29.67	34.69	24.79	23.84	35.29	28.36	30.26
Lane Group LOS	C	C	C	D	C	C	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.40	6.01	2.48	3.47	5.18	5.11	1.54	2.94	1.68	1.96	5.41	5.37
50th-Percentile Queue Length [ft/ln]	109.92	150.21	61.99	86.84	129.52	127.85	38.55	73.39	41.97	48.98	135.35	134.26
95th-Percentile Queue Length [veh/ln]	7.84	10.03	4.46	6.25	8.91	8.82	2.78	5.28	3.02	3.53	9.23	9.17
95th-Percentile Queue Length [ft/ln]	195.89	250.70	111.59	156.32	222.84	220.57	69.38	132.11	75.55	88.16	230.75	229.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.15	34.15	26.46	22.86	35.44	35.44	28.21	29.67	34.69	34.69	24.79	23.84	35.29	35.29	28.65	30.26
Movement LOS	C	C	C	C	D	D	C	C	C	C	C	C	D	D	C	C
d_A, Approach Delay [s/veh]	27.52				29.68				27.13				30.13			
Approach LOS	C				C				C				C			
d_I, Intersection Delay [s/veh]	28.78															
Intersection LOS	C															
Intersection V/C	0.559															

Emissions

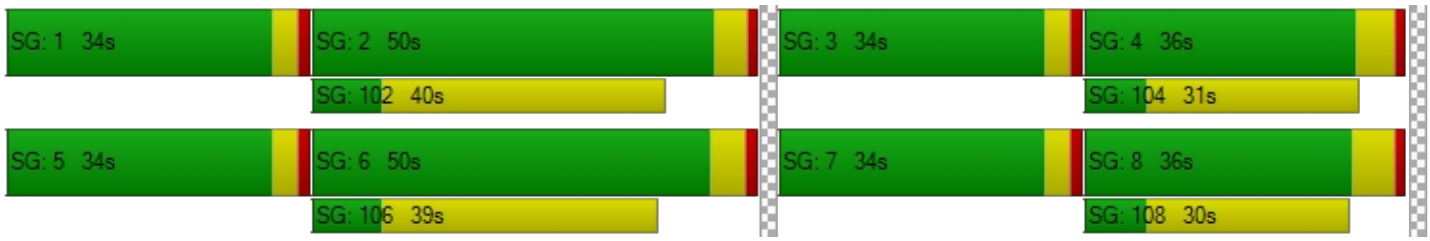
Vehicle Miles Traveled [mph]	32.07	99.34	23.08	9.87	33.03	15.66	11.72	26.79	7.86	8.63	26.01	12.35
Stops [stops/h]	204.32	558.42	115.23	161.43	481.52	237.66	143.30	272.85	78.02	182.08	503.20	249.57
Fuel consumption [US gal/h]	4.87	13.15	2.78	3.32	9.57	4.73	3.45	6.37	1.82	4.17	11.04	5.50
CO [g/h]	340.12	918.98	194.47	232.36	668.90	330.90	240.96	445.54	127.33	291.35	772.05	384.52
NOx [g/h]	66.17	178.80	37.84	45.21	130.14	64.38	46.88	86.69	24.77	56.69	150.21	74.81
VOC [g/h]	78.83	212.98	45.07	53.85	155.03	76.69	55.84	103.26	29.51	67.52	178.93	89.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.51	28.51	27.66	27.66
l_p,int, Pedestrian LOS Score for Intersectio	3.005	2.922	3.067	3.078
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1170	1159	790	780
d_b, Bicycle Delay [s]	6.68	6.85	14.18	14.42
l_b,int, Bicycle LOS Score for Intersection	2.357	2.089	2.055	2.219
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Project Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
Speed [mph]	30.00			15.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Base Volume Input [veh/h]	0	0	27	0	0	32	0	685	58	0	1130	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	27	0	0	32	0	685	58	0	1130	51
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	7	0	0	8	0	180	15	0	297	13
Total Analysis Volume [veh/h]	0	0	28	0	0	34	0	721	61	0	1189	54
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.00	0.09	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.29	0.00	0.00	15.70	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			B			C		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.17	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.24	0.00	0.00	7.53	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.29			15.70			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: East Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	32.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	85.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	2	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	15.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Base Volume Input [veh/h]	42	30	23	670	1133	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	30	23	670	1133	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	8	6	176	298	13
Total Analysis Volume [veh/h]	44	32	24	705	1193	53
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	5	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.25	0.09	0.08	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	32.24	15.66	18.05	0.00	0.00	0.00
Movement LOS	D	C	C	A	A	A
95th-Percentile Queue Length [veh/ln]	0.95	0.28	0.26	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	23.72	7.06	6.48	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	25.26		0.59		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	1.15					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 4: Perris Blvd & Bottom North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.211

Intersection Setup

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Base Volume Input [veh/h]	0	1003	25	0	1061	67	0	0	24	0	0	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1003	25	0	1061	67	0	0	24	0	0	84
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	264	7	0	279	18	0	0	6	0	0	22
Total Analysis Volume [veh/h]	0	1056	26	0	1117	71	0	0	25	0	0	88
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.97	0.00	0.00	15.91
Movement LOS		A	A		A	A			B			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.79
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.17	0.00	0.00	19.65
d_A, Approach Delay [s/veh]	0.00			0.00			14.97			15.91		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	0.74											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 5: Perris Blvd & Central North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Base Volume Input [veh/h]	0	1065	22	46	1133	0	0	0	0	0	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1065	22	46	1133	0	0	0	0	0	0	40
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	280	6	12	298	0	0	0	0	0	0	11
Total Analysis Volume [veh/h]	0	1121	23	48	1193	0	0	0	0	0	0	42
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.38	0.00	0.00	0.00	0.00	14.36	0.00	0.00	15.09
Movement LOS		A	A	B	A				B			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.76
d_A, Approach Delay [s/veh]	0.00			0.44			14.36			15.09		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	0.49											
Intersection LOS	C											

Vistro File: H:\...\30317_DB_MorenoValley.vistro
Report File: H:\...\Ex_AMB_CUM_PM.pdf

Scenario 5 EX_AMB_CUM_PM
7/29/2024

Intersection Analysis Summary

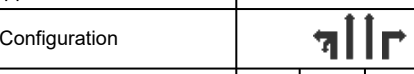
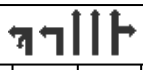
ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Perris Blvd & Alessandro Blvd	Signalized	HCM 7th Edition	NB Left	0.697	39.1	D
2	Project Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	NB Right	0.271	19.6	C
3	East Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	SB Left	0.350	24.0	C
4	Perris Blvd & Bottom North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.171	17.4	C
5	Perris Blvd & Central North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.306	19.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Perris Blvd & Alessandro Blvd

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.697

Intersection Setup

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
Entry Pocket Length [ft]	475.0	100.0	100.0	100.0	150.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00				40.00				45.00				45.00			
Grade [%]	0.00				0.00				0.00				0.00			
Curb Present	No				No				No				No			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Base Volume Input [veh/h]	35	261	815	213	19	237	881	123	107	230	833	299	20	190	523	137
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00															
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	261	815	213	19	237	881	123	107	230	833	299	20	190	523	137
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	9	69	214	56	5	62	232	32	28	61	219	79	5	50	138	36
Total Analysis Volume [veh/h]	37	275	858	224	20	249	927	129	113	242	877	315	21	200	551	144
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0			
v_co, Outbound Pedestrian Volume crossing	0				0				0				0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0			
Bicycle Volume [bicycles/h]	0				0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	154
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	0	3	8	0
Auxiliary Signal Groups																
Maximum Green [s]	0	30	45	0	0	30	45	0	0	30	30	0	0	30	30	0
Amber [s]	0.0	3.0	3.7	0.0	0.0	3.0	4.1	0.0	0.0	3.0	4.4	0.0	0.0	3.0	4.8	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	8	0	0	0	8	0	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	32	0	0	0	31	0	0	0	24	0	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.7	0.0	0.0	2.0	3.1	0.0	0.0	2.0	3.4	0.0	0.0	2.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	34	50	0	0	34	50	0	0	34	36	0	0	34	36	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	0	7	7	0	0	7	7	0	0	7	7	0	0	7	7	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0
Minimum Recall		No	No			No	No			No	Yes			No	Yes	
Maximum Recall		No	No			No	No			No	No			No	No	
Pedestrian Recall		No	No			No	No			No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	103	103	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	4.00	4.70	4.70	4.00	5.10	5.10	4.00	5.40	5.40	4.00	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.70	2.70	2.00	3.10	3.10	2.00	3.40	3.40	2.00	3.80	3.80
g_i, Effective Green Time [s]	20	30	30	17	28	28	13	28	28	9	24	24
g / C, Green / Cycle	0.19	0.30	0.30	0.17	0.27	0.27	0.12	0.28	0.28	0.08	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.17	0.24	0.14	0.15	0.20	0.20	0.10	0.24	0.20	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1795	3589	1602	1795	3589	1770	3486	3589	1602	3486	3589	1694
c, Capacity [veh/h]	346	1062	474	303	963	475	432	989	441	294	833	393
d1, Uniform Delay [s]	40.74	33.65	29.77	41.96	34.44	34.45	44.15	35.88	33.75	46.24	35.05	35.12
k, delay calibration	0.10	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.23	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.78	2.14	1.04	3.48	1.57	3.15	1.52	4.07	4.49	1.47	0.86	1.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.81	0.47	0.89	0.73	0.73	0.82	0.89	0.71	0.75	0.56	0.57
d, Delay for Lane Group [s/veh]	48.52	35.79	30.81	45.44	36.01	37.60	45.68	39.96	38.24	47.71	35.90	36.99
Lane Group LOS	D	D	C	D	D	D	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.22	9.80	4.52	6.77	7.97	8.07	4.35	10.53	7.29	2.73	5.08	4.98
50th-Percentile Queue Length [ft/ln]	205.46	245.04	112.97	169.19	199.19	201.75	108.64	263.20	182.16	68.32	127.00	124.56
95th-Percentile Queue Length [veh/ln]	12.92	14.94	8.00	11.03	12.60	12.73	7.76	15.85	11.71	4.92	8.78	8.64
95th-Percentile Queue Length [ft/ln]	323.00	373.40	200.12	275.85	314.92	318.22	194.10	396.23	292.83	122.98	219.41	216.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.52	48.52	35.79	30.81	45.44	45.44	36.39	37.60	45.68	45.68	39.96	38.24	47.71	47.71	36.06	36.99
Movement LOS	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	37.84				38.34				40.92				39.02			
Approach LOS	D				D				D				D			
d_I, Intersection Delay [s/veh]	39.10															
Intersection LOS	D															
Intersection V/C	0.697															

Emissions

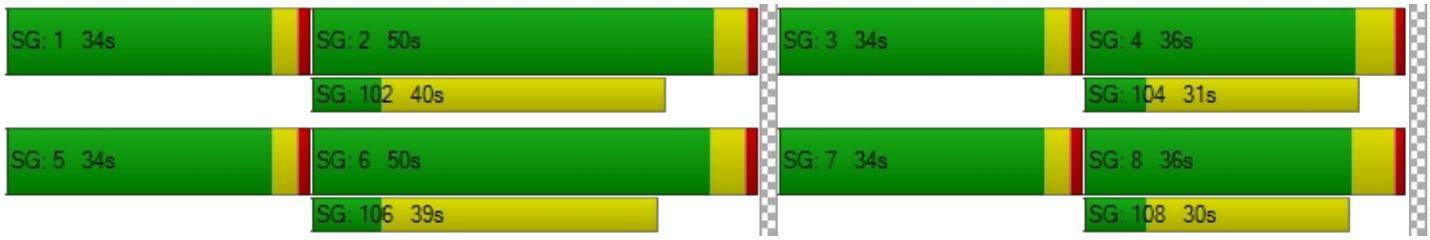
Vehicle Miles Traveled [mph]	40.68	111.86	29.20	13.83	36.36	17.94	23.25	57.44	20.63	8.51	18.10	8.66
Stops [stops/h]	287.03	684.63	157.81	236.35	556.54	281.84	303.53	735.38	254.47	190.89	354.83	174.00
Fuel consumption [US gal/h]	7.36	16.98	4.00	5.30	11.95	6.08	7.87	18.24	6.32	4.81	8.47	4.15
CO [g/h]	514.26	1186.96	279.65	370.77	835.44	425.00	550.14	1275.19	441.95	336.27	591.79	290.35
NOx [g/h]	100.06	230.94	54.41	72.14	162.55	82.69	107.04	248.11	85.99	65.42	115.14	56.49
VOC [g/h]	119.18	275.09	64.81	85.93	193.62	98.50	127.50	295.54	102.43	77.93	137.15	67.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.13	41.13	40.24	40.24
l_p,int, Pedestrian LOS Score for Intersectio	3.127	3.016	3.188	3.145
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	879	871	594	586
d_b, Bicycle Delay [s]	16.19	16.42	25.48	25.76
l_b,int, Bicycle LOS Score for Intersection	2.483	2.151	2.636	2.052
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Project Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.271

Intersection Setup

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
Speed [mph]	30.00			15.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Base Volume Input [veh/h]	0	0	86	0	0	33	0	1197	106	0	840	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	86	0	0	33	0	1197	106	0	840	49
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	23	0	0	9	0	315	28	0	221	13
Total Analysis Volume [veh/h]	0	0	91	0	0	35	0	1260	112	0	884	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.27	0.00	0.00	0.08	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	19.63	0.00	0.00	13.36	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			C			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.08	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	26.88	0.00	0.00	6.07	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.63			13.36			0.00			0.00		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.93											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: East Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	24.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.350

Intersection Setup

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	85.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	2	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	15.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Base Volume Input [veh/h]	96	78	51	1196	777	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	78	51	1196	777	72
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	21	13	315	204	19
Total Analysis Volume [veh/h]	101	82	54	1259	818	76
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	5	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.35	0.17	0.12	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	24.01	14.04	14.24	0.00	0.00	0.00
Movement LOS	C	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.51	0.61	0.41	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	37.86	15.26	10.31	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.54		0.59		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.82					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Perris Blvd & Bottom North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.171

Intersection Setup

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Base Volume Input [veh/h]	0	1211	41	0	1228	0	0	0	50	0	0	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1211	41	0	1228	0	0	0	50	0	0	57
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	319	11	0	323	0	0	0	13	0	0	15
Total Analysis Volume [veh/h]	0	1275	43	0	1293	0	0	0	53	0	0	60
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.15	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.84	0.00	0.00	17.39
Movement LOS		A	A		A				C			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.61
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	15.25
d_A, Approach Delay [s/veh]	0.00			0.00			16.84			17.39		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.71											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 5: Perris Blvd & Central North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.306

Intersection Setup

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Base Volume Input [veh/h]	0	1221	47	61	1303	0	0	0	0	0	0	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1221	47	61	1303	0	0	0	0	0	0	101
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	321	12	16	343	0	0	0	0	0	0	27
Total Analysis Volume [veh/h]	0	1285	49	64	1372	0	0	0	0	0	0	106
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane												
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.31
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	12.92	0.00	0.00	0.00	0.00	15.71	0.00	0.00	19.93
Movement LOS		A	A	B	A				C			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	10.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.78
d_A, Approach Delay [s/veh]	0.00			0.58			15.71			19.93		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	1.02											
Intersection LOS	C											

Vistro File: H:\...\30317_DB_MorenoValley.vistro
Report File: H:\...\Ex_AMB_CUM_Proj_AM.pdf

Scenario 4 EX_AMB_CUM_Proj_AM
7/29/2024

Intersection Analysis Summary

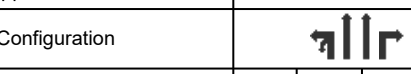
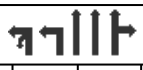
ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Perris Blvd & Alessandro Blvd	Signalized	HCM 7th Edition	SB Left	0.568	29.0	C
2	Project Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	SB Right	0.099	16.0	C
3	East Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	SB Left	0.319	34.8	D
4	Perris Blvd & Bottom North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.213	16.0	C
5	Perris Blvd & Central North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.153	15.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Perris Blvd & Alessandro Blvd

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
Entry Pocket Length [ft]	475.0	100.0	100.0	100.0	150.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00				40.00				45.00				45.00			
Grade [%]	0.00				0.00				0.00				0.00			
Curb Present	No				No				No				No			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Base Volume Input [veh/h]	27	207	728	172	16	171	702	186	68	106	393	114	23	206	772	190
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00															
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	207	728	172	16	171	702	186	68	106	393	114	23	206	772	190
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	7	54	192	45	4	45	185	49	18	28	103	30	6	54	203	50
Total Analysis Volume [veh/h]	28	218	766	181	17	180	739	196	72	112	414	120	24	217	813	200
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0			
v_co, Outbound Pedestrian Volume crossing	0				0				0				0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0			
Bicycle Volume [bicycles/h]	0				0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	154
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	0	3	8	0
Auxiliary Signal Groups																
Maximum Green [s]	0	30	45	0	0	30	45	0	0	30	30	0	0	30	30	0
Amber [s]	0.0	3.0	3.7	0.0	0.0	3.0	4.1	0.0	0.0	3.0	4.4	0.0	0.0	3.0	4.8	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	8	0	0	0	8	0	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	32	0	0	0	31	0	0	0	24	0	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.7	0.0	0.0	2.0	3.1	0.0	0.0	2.0	3.4	0.0	0.0	2.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	34	50	0	0	34	50	0	0	34	36	0	0	34	36	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	0	7	7	0	0	7	7	0	0	7	7	0	0	7	7	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0
Minimum Recall		No	No			No	No			No	Yes			No	Yes	
Maximum Recall		No	No			No	No			No	No			No	No	
Pedestrian Recall		No	No			No	No			No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	78	78	78	78	78	78	78	78	78	78	78	78
L, Total Lost Time per Cycle [s]	4.00	4.70	4.70	4.00	5.10	5.10	4.00	5.40	5.40	4.00	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.70	2.70	2.00	3.10	3.10	2.00	3.40	3.40	2.00	3.80	3.80
g_i, Effective Green Time [s]	13	22	22	10	20	20	7	20	20	8	20	20
g / C, Green / Cycle	0.16	0.28	0.28	0.13	0.25	0.25	0.09	0.25	0.25	0.10	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.14	0.21	0.11	0.11	0.18	0.18	0.05	0.12	0.07	0.07	0.19	0.19
s, saturation flow rate [veh/h]	1795	3589	1602	1795	3589	1690	3486	3589	1602	3486	3589	1701
c, Capacity [veh/h]	291	1021	456	240	902	425	307	908	405	337	921	436
d1, Uniform Delay [s]	31.77	25.40	22.52	32.90	26.58	26.61	34.27	24.62	23.54	34.22	26.68	26.70
k, delay calibration	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.63	1.60	0.80	2.66	1.44	3.08	0.70	0.51	0.57	1.06	1.74	3.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.75	0.40	0.82	0.70	0.71	0.60	0.46	0.30	0.71	0.75	0.75
d, Delay for Lane Group [s/veh]	34.40	27.00	23.32	35.56	28.02	29.69	34.97	25.13	24.12	35.28	28.42	30.34
Lane Group LOS	C	C	C	D	C	C	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.43	6.14	2.58	3.59	5.14	5.06	1.60	3.01	1.70	2.12	5.54	5.50
50th-Percentile Queue Length [ft/ln]	110.80	153.56	64.49	89.69	128.51	126.62	39.99	75.28	42.46	52.97	138.56	137.39
95th-Percentile Queue Length [veh/ln]	7.88	10.21	4.64	6.46	8.86	8.76	2.88	5.42	3.06	3.81	9.40	9.34
95th-Percentile Queue Length [ft/ln]	197.12	255.18	116.09	161.44	221.46	218.89	71.99	135.51	76.42	95.35	235.08	233.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.40	34.40	27.00	23.32	35.56	35.56	28.26	29.69	34.97	34.97	25.13	24.12	35.28	35.28	28.72	30.34
Movement LOS	C	C	C	C	D	D	C	C	C	C	C	C	D	D	C	C
d_A, Approach Delay [s/veh]	27.97				29.78				27.48				30.24			
Approach LOS	C				C				C				C			
d_I, Intersection Delay [s/veh]	29.03															
Intersection LOS	C															
Intersection V/C	0.568															

Emissions

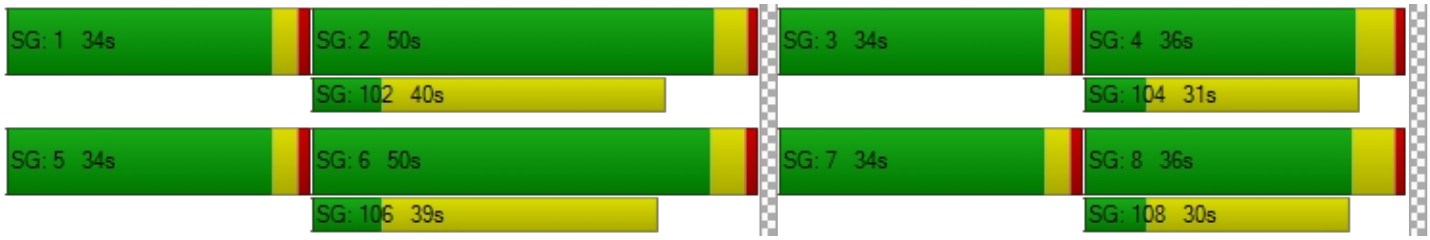
Vehicle Miles Traveled [mph]	32.07	99.87	23.60	10.13	32.63	15.45	12.05	27.11	7.86	9.28	26.45	12.56
Stops [stops/h]	204.83	567.75	119.22	165.79	475.10	234.06	147.86	278.34	78.49	195.85	512.26	253.98
Fuel consumption [US gal/h]	4.88	13.36	2.88	3.42	9.45	4.67	3.56	6.51	1.83	4.48	11.25	5.60
CO [g/h]	341.34	934.15	201.00	238.85	660.90	326.29	248.92	454.86	128.21	313.40	786.29	391.56
NOx [g/h]	66.41	181.75	39.11	46.47	128.59	63.48	48.43	88.50	24.95	60.98	152.98	76.18
VOC [g/h]	79.11	216.50	46.58	55.36	153.17	75.62	57.69	105.42	29.71	72.63	182.23	90.75

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.73	28.73	27.87	27.87
l_p,int, Pedestrian LOS Score for Intersectio	3.007	2.924	3.072	3.087
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1163	1153	786	775
d_b, Bicycle Delay [s]	6.82	6.99	14.36	14.60
l_b,int, Bicycle LOS Score for Intersection	2.364	2.083	2.060	2.236
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Project Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.099

Intersection Setup

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00			15.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Base Volume Input [veh/h]	0	0	27	0	0	34	0	699	58	0	1159	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	27	0	0	34	0	699	58	0	1159	51
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	7	0	0	9	0	184	15	0	305	13
Total Analysis Volume [veh/h]	0	0	28	0	0	36	0	736	61	0	1220	54
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.00	0.10	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.38	0.00	0.00	16.04	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			B			C		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.17	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.29	0.00	0.00	8.22	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.38			16.04			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.43											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: East Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.319

Intersection Setup

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	85.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	2	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	15.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Base Volume Input [veh/h]	53	64	43	664	1128	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	64	43	664	1128	60
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	17	11	175	297	16
Total Analysis Volume [veh/h]	56	67	45	699	1187	63
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	5	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.18	0.15	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	34.78	16.93	19.19	0.00	0.00	0.00
Movement LOS	D	C	C	A	A	A
95th-Percentile Queue Length [veh/ln]	1.29	0.66	0.52	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	32.28	16.38	13.10	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	25.05		1.16		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 4: Perris Blvd & Bottom North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.213

Intersection Setup

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Base Volume Input [veh/h]	0	1005	35	0	1055	67	0	0	24	0	0	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1005	35	0	1055	67	0	0	24	0	0	84
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	264	9	0	278	18	0	0	6	0	0	22
Total Analysis Volume [veh/h]	0	1058	37	0	1111	71	0	0	25	0	0	88
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.93	0.00	0.00	16.04
Movement LOS		A	A		A	A			B			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.80
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.15	0.00	0.00	19.88
d_A, Approach Delay [s/veh]	0.00			0.00			14.93			16.04		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	0.75											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 5: Perris Blvd & Central North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.153

Intersection Setup

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Base Volume Input [veh/h]	0	1059	30	64	1127	0	0	0	0	0	0	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1059	30	64	1127	0	0	0	0	0	0	58
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	279	8	17	297	0	0	0	0	0	0	15
Total Analysis Volume [veh/h]	0	1115	32	67	1186	0	0	0	0	0	0	61
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.62	0.00	0.00	0.00	0.00	14.31	0.00	0.00	15.68
Movement LOS		A	A	B	A				B			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	9.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.41
d_A, Approach Delay [s/veh]	0.00			0.62			14.31			15.68		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	0.70											
Intersection LOS	C											

Vistro File: H:\...\30317_DB_MorenoValley.vistro
Report File: H:\...\Ex_AMB_CUM_Proj_PM.pdf

Scenario 6 EX_AMB_CUM_Proj_PM
7/29/2024

Intersection Analysis Summary

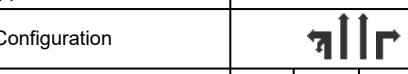
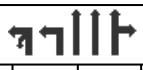
ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Perris Blvd & Alessandro Blvd	Signalized	HCM 7th Edition	NB Left	0.705	40.0	D
2	Project Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	NB Right	0.273	19.8	C
3	East Driveway & Alessandro Blvd	Two-way stop	HCM 7th Edition	SB Left	0.397	25.7	D
4	Perris Blvd & Bottom North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.173	17.5	C
5	Perris Blvd & Central North Driveway	Two-way stop	HCM 7th Edition	WB Right	0.359	21.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Perris Blvd & Alessandro Blvd

Control Type:	Signalized	Delay (sec / veh):	40.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.705

Intersection Setup

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
Entry Pocket Length [ft]	475.0	100.0	100.0	100.0	150.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00				40.00				45.00				45.00			
Grade [%]	0.00				0.00				0.00				0.00			
Curb Present	No				No				No				No			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	Perris Blvd				Perris Blvd				Alessandro Blvd				Alessandro Blvd			
Base Volume Input [veh/h]	35	261	818	217	20	240	870	123	107	233	837	299	21	202	535	138
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00															
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	261	818	217	20	240	870	123	107	233	837	299	21	202	535	138
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	9	69	215	57	5	63	229	32	28	61	220	79	6	53	141	36
Total Analysis Volume [veh/h]	37	275	861	228	21	253	916	129	113	245	881	315	22	213	563	145
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0			
v_co, Outbound Pedestrian Volume crossing	0				0				0				0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0			
Bicycle Volume [bicycles/h]	0				0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	154
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	0	3	8	0
Auxiliary Signal Groups																
Maximum Green [s]	0	30	45	0	0	30	45	0	0	30	30	0	0	30	30	0
Amber [s]	0.0	3.0	3.7	0.0	0.0	3.0	4.1	0.0	0.0	3.0	4.4	0.0	0.0	3.0	4.8	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	8	0	0	0	8	0	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	32	0	0	0	31	0	0	0	24	0	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.7	0.0	0.0	2.0	3.1	0.0	0.0	2.0	3.4	0.0	0.0	2.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	34	50	0	0	34	50	0	0	34	36	0	0	34	36	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	0	7	7	0	0	7	7	0	0	7	7	0	0	7	7	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0
Minimum Recall		No	No			No	No			No	Yes			No	Yes	
Maximum Recall		No	No			No	No			No	No			No	No	
Pedestrian Recall		No	No			No	No			No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.70	4.70	4.00	5.10	5.10	4.00	5.40	5.40	4.00	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.70	2.70	2.00	3.10	3.10	2.00	3.40	3.40	2.00	3.80	3.80
g_i, Effective Green Time [s]	20	31	31	18	28	28	13	29	29	9	25	25
g / C, Green / Cycle	0.19	0.30	0.30	0.17	0.27	0.27	0.12	0.27	0.27	0.09	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.17	0.24	0.14	0.15	0.20	0.20	0.10	0.25	0.20	0.07	0.13	0.14
s, saturation flow rate [veh/h]	1795	3589	1602	1795	3589	1768	3486	3589	1602	3486	3589	1696
c, Capacity [veh/h]	345	1060	473	308	971	479	433	981	438	307	838	396
d1, Uniform Delay [s]	41.61	34.41	30.50	42.70	34.82	34.83	45.05	36.87	34.63	46.99	35.73	35.80
k, delay calibration	0.11	0.15	0.15	0.04	0.15	0.15	0.04	0.15	0.24	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.69	2.20	1.08	3.77	1.45	2.92	1.56	4.52	4.81	1.52	0.88	1.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.81	0.48	0.89	0.72	0.72	0.83	0.90	0.72	0.77	0.57	0.58
d, Delay for Lane Group [s/veh]	50.29	36.61	31.58	46.48	36.28	37.75	46.61	41.39	39.44	48.51	36.61	37.71
Lane Group LOS	D	D	C	D	D	D	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.49	10.09	4.73	7.07	8.01	8.09	4.49	10.93	7.51	2.97	5.30	5.20
50th-Percentile Queue Length [ft/ln]	212.15	252.35	118.20	176.84	200.26	202.36	112.20	273.16	187.74	74.32	132.60	129.93
95th-Percentile Queue Length [veh/ln]	13.26	15.30	8.29	11.44	12.65	12.76	7.96	16.35	12.00	5.35	9.08	8.94
95th-Percentile Queue Length [ft/ln]	331.58	382.61	207.35	285.88	316.31	319.01	199.06	408.69	300.10	133.77	227.03	223.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.29	50.29	36.61	31.58	46.48	46.48	36.62	37.75	46.61	46.61	41.39	39.44	48.51	48.51	36.77	37.71
Movement LOS	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	38.84				38.78				42.20				39.84			
Approach LOS	D				D				D				D			
d_I, Intersection Delay [s/veh]	40.01															
Intersection LOS	D															
Intersection V/C	0.705															

Emissions

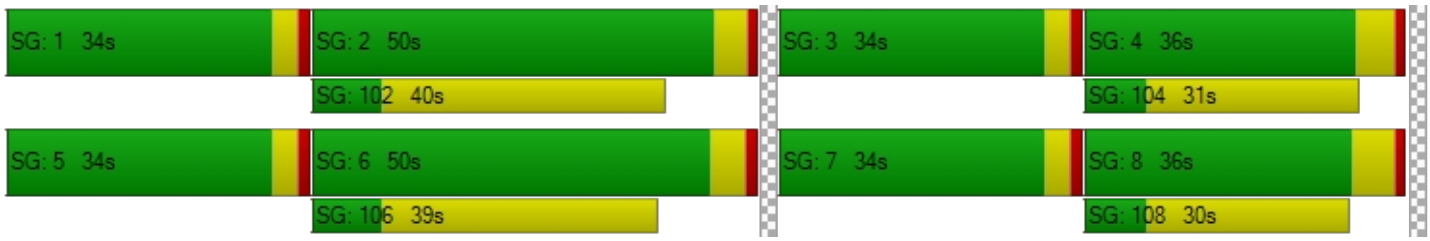
Vehicle Miles Traveled [mph]	40.68	112.25	29.73	14.09	35.99	17.74	23.45	57.70	20.63	9.26	18.86	9.03
Stops [stops/h]	290.45	690.98	161.83	242.11	548.37	277.06	307.22	747.97	257.04	203.50	363.09	177.88
Fuel consumption [US gal/h]	7.50	17.22	4.12	5.47	11.84	6.01	8.02	18.70	6.43	5.17	8.73	4.28
CO [g/h]	524.47	1203.92	287.96	382.66	827.81	419.95	560.52	1306.97	449.52	361.18	610.12	299.11
NOx [g/h]	102.04	234.24	56.03	74.45	161.06	81.71	109.06	254.29	87.46	70.27	118.71	58.20
VOC [g/h]	121.55	279.02	66.74	88.69	191.85	97.33	129.91	302.90	104.18	83.71	141.40	69.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.16	42.16	41.27	41.27
l_p,int, Pedestrian LOS Score for Intersectio	3.130	3.017	3.193	3.153
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	861	854	582	574
d_b, Bicycle Delay [s]	17.04	17.27	26.44	26.72
l_b,int, Bicycle LOS Score for Intersection	2.489	2.146	2.640	2.066
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Project Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.273

Intersection Setup

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	3	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	50.00
Speed [mph]	30.00			15.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name				Project Driveway			Alessandro Blvd			Alessandro Blvd		
Base Volume Input [veh/h]	0	0	86	0	0	34	0	1208	106	0	866	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	86	0	0	34	0	1208	106	0	866	49
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	23	0	0	9	0	318	28	0	228	13
Total Analysis Volume [veh/h]	0	0	91	0	0	36	0	1272	112	0	912	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.27	0.00	0.00	0.08	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	19.81	0.00	0.00	13.57	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			C			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.09	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	27.20	0.00	0.00	6.40	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.81			13.57			0.00			0.00		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.93											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: East Driveway & Alessandro Blvd

Control Type:	Two-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

Intersection Setup

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	85.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	2	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	15.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	East Driveway		Alessandro Blvd		Alessandro Blvd	
Base Volume Input [veh/h]	107	109	69	1189	772	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	109	69	1189	772	81
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	29	18	313	203	21
Total Analysis Volume [veh/h]	113	115	73	1252	813	85
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	5	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.24	0.17	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	25.71	14.88	14.77	0.00	0.00	0.00
Movement LOS	D	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.82	0.93	0.59	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	45.47	23.24	14.67	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.25		0.81		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	2.32					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 4: Perris Blvd & Bottom North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Bottom North Driveway			Bottom North Driveway		
Base Volume Input [veh/h]	0	1211	50	0	1221	0	0	0	50	0	0	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1211	50	0	1221	0	0	0	50	0	0	57
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	319	13	0	321	0	0	0	13	0	0	15
Total Analysis Volume [veh/h]	0	1275	53	0	1285	0	0	0	53	0	0	60
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.15	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.76	0.00	0.00	17.51
Movement LOS		A	A		A				C			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.62
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.82	0.00	0.00	15.39
d_A, Approach Delay [s/veh]	0.00			0.00			16.76			17.51		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.71											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 5: Perris Blvd & Central North Driveway

Control Type:	Two-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Perris Blvd			Perris Blvd			Central North Driveway			Central North Driveway		
Base Volume Input [veh/h]	0	1214	54	78	1296	0	0	0	0	0	0	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1214	54	78	1296	0	0	0	0	0	0	118
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	319	14	21	341	0	0	0	0	0	0	31
Total Analysis Volume [veh/h]	0	1278	57	82	1364	0	0	0	0	0	0	124
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.36
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	13.25	0.00	0.00	0.00	0.00	15.64	0.00	0.00	21.12
Movement LOS		A	A	B	A				C			C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	13.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.67
d_A, Approach Delay [s/veh]	0.00			0.75			15.64			21.12		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	1.28											
Intersection LOS	C											