TRANSPORTATION IMPACT ANALYSIS

APPENDIX D

to the
38134 Temple Way Residential Project Draft EIR

Hexagon Transportation Consultants, Inc.

Memorandum

Date: October 27, 2023

To: Mr. Alex Zabyshny, City of Fremont Public Works-Transportation

From: Eric Tse, P.E., PTOE
Brett Walinski, T.E.

Subject: Transportation Impact Analysis for Single-Family Residential Development at 38134 Temple Way in Fremont, California

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Introduction

Hexagon Transportation Consultants, Inc. has completed this transportation impact analysis for the proposed residential development located at 38134 Temple Way in Fremont, California. The proposed development would demolish an existing vacant church building and construct 27 single-family housing units.

Access to the project site would be provided via two access driveways on Temple Way. The project location is shown in Figure 1. The project site plan is shown in Figure 2.

Scope of Study

Senate Bill (SB) 743 has changed the primary metric for identifying transportation impacts under the California Environmental Quality Act (CEQA) from vehicle level of service (LOS) to daily vehicle miles traveled (VMT). A VMT analysis was conducted to assess the potential impacts caused by the proposed project. The study also includes an analysis of site access and onsite circulation, an existing pedestrian crossing at Acacia Street/Peralta Boulevard, as well as a qualitative analysis of the project's effect on transit, bicycle and pedestrian facilities.

Because the project is expected to generate fewer than 100 peak hour trips, an offsite intersection level of service analysis was not required.

Vehicle Miles Traveled (VMT) Analysis

The City of Fremont *Transportation Impact Analysis Handbook* provides CEQA transportation analysis exemptions based on screening criteria for some development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the screening criteria, its VMT impacts are assumed to be less-than-significant. The project would not meet any of the applicable City VMT screening criteria, which include exemptions for developments with fewer than 15 single-family detached housing units and location-based screening. Therefore, a VMT analysis was conducted using the City of Fremont's Open Data Hub public eGIS portal, which was based on data from the Alameda County Transportation Commission (CTC) Travel Demand Forecast (TDF) model.

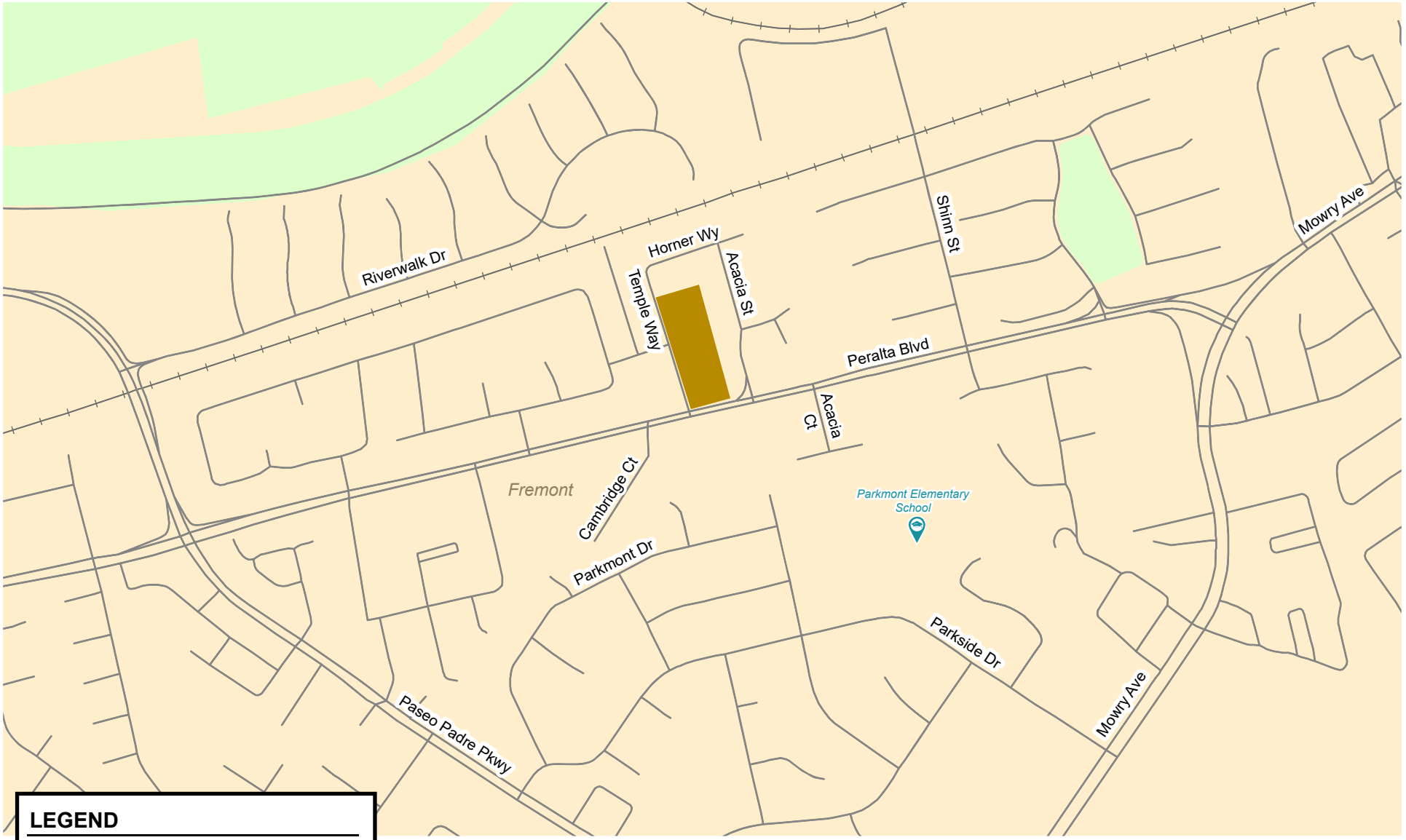


Figure 1
Site Location

NORTH
Not to Scale

Figure 2
Project Site Plan

Because the proposed project is a residential development, VMT was calculated and reported on a per capita basis. The impact threshold is 15 percent below the existing average VMT per capita for the City of Fremont. The City average daily VMT per capita is 23.7. Therefore, the impact threshold for residential use is 20.2 daily VMT per capita.

The project is located in a zone where the VMT per capita is 23.5 based on VMT maps generated from the City of Fremont's Open Data Hub public eGIS portal. Therefore, without mitigation, the project's VMT impact would be considered significant per the City of Fremont's VMT policy.

A collection of TDM measures that are applicable and feasible to the project were considered and applied using the Alameda County Transportation Commission (ACTC) VMT Reduction Calculator Tool. They include the following:

Implement Subsidized Transit Program for Residents (Strategy 1D2)

The project could provide subsidized transit passes for its residents. This measure will reduce the number of vehicular trips on the roadway network by creating incentives for residents to use public transit. Incentives could be in the form of reimbursements for transit fares. The exact amount of the reimbursements would be determined by City staff.

Pedestrian Facility Improvement (Strategy 4B)

The project could construct new sidewalks on Peralta Boulevard, closing the existing sidewalk gaps in the immediate vicinity of the project site. The offsite improvement will increase the sidewalk coverage to improve pedestrian access for the entire neighborhood in the project vicinity. By improving pedestrian access for the neighborhood, it will attract more pedestrian activities, thereby reducing VMT.

Increase Residential Density (Strategy 2B1)

The project, by design, would have VMT reduction characteristics due to the increased residential density and provision of affordable housing onsite. A VMT reduction can be achieved by designing a project with a higher density of dwelling units compared to the average residential density nationally. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. Increasing residential density results in shorter and fewer trips by single occupancy vehicles.

Integrate Affordable and Below Market Rate Housing (Strategy 2C)

The project would also include three below-market housing units out of the total 27 housing units provided onsite. Below-market housing has been shown to reduce VMT, as residents are more likely to consider alternative travel modes.

Using the Alameda CTC VMT Reduction Calculator Tool, implementation of the above TDM measures collectively by the project would reduce the project VMT by a maximum of 9.9 percent, resulting in the project VMT per capita reduced to 21.2. The project VMT per capita, after implementation of the applicable TDM measures, would still be above the impact threshold of 20.2. Therefore, the project's impacts on VMT are considered to be significant. Summary and individual calculation sheets for the applied TDM measures from the Alameda CTC VMT Reduction Calculator are included in Appendix A.

Existing Setting

Existing traffic conditions were evaluated in order to establish an understanding of the nature of the traffic issues in the area and determine the effectiveness of the existing traffic control at the intersections of Temple Way/Peralta Boulevard and Acacia Street/Peralta Boulevard. A general description of these roadways is provided below.

Peralta Boulevard is an east-west, minor arterial that extends from Dusterberry Way in the west to Mowry Avenue in the east. It is a two-lane road with shoulders on both sides in the project vicinity. There are existing sidewalks on both sides of Peralta Boulevard in the project vicinity except for two short segments, one directly opposite to the project site (approximately 400 feet) and another one at the northeast corner of Acacia Street and Peralta Boulevard (approximately 75 feet). It has a posted speed limit of 40 mph in the project vicinity. Parking is allowed on some segments with curbs and gutters.

***Temple Way* and Acacia Street** are two-lane, north-south, local streets that extend from Peralta Boulevard in the south to Horner Way in the north. They have a speed limit of 25 mph and sidewalks on both sides of the street. Parking is allowed on both sides of the streets. Temple Way would provide direct access to the project site.

Observations of the study area were conducted during the commute AM (7:00-9:00), school PM (2:00-4:00), and commute PM (4:00-6:00) peak hours. During the AM peak period, there were a moderate number of pedestrians and bicyclists accessing the marked crosswalk at the intersection of Temple Way/Acacia Street (See Figure 3). The crosswalk is painted yellow due to its proximity to the Parkmont Elementary School (about one-quarter mile away) and the Centerville Junior High School (about one mile away). A crossing guard was present approximately between 7:45 and 8:30 AM to assist pedestrians and bicyclists. All vehicular traffic on Peralta Boulevard was observed to be yielding to pedestrians at the crosswalk. The peak crossing period was between 7:55 and 8:10 AM, when a majority of the crossing pedestrians and bicyclists were students going to the nearby schools. Based on information provided by the crossing guard, there was one close-call incident earlier this year, when a vehicle behind a stopped vehicle at the crossing suddenly pulled forward and attempted to go through the crosswalk while a pedestrian and the crossing guard were inside the crosswalk. This was the only close-call observed by the guard, who has been stationed at the crosswalk for approximately 6 months.

At the Acacia Street/Peralta Boulevard intersection, due to the absence of a left turn lane on the eastbound Peralta Boulevard approach, traffic waiting to turn left onto Acacia Street would momentarily block the eastbound through traffic behind it. However, this situation happens infrequently due to low left turning volumes. The vehicle queues on eastbound Peralta Boulevard typically did not exceed five vehicles.

Crosswalk at Acacia St. & Peralta Blvd. (Looking Northeast)

During the school and commute PM peak periods, the number of pedestrians and bicyclists using the crosswalk were much fewer than during the AM peak period. A crossing guard was present during the school PM period between approximately 2:15 and 3:15 PM. All vehicular traffic on Peralta Boulevard was observed to be yielding to pedestrians at the crosswalk and no traffic issues were observed.

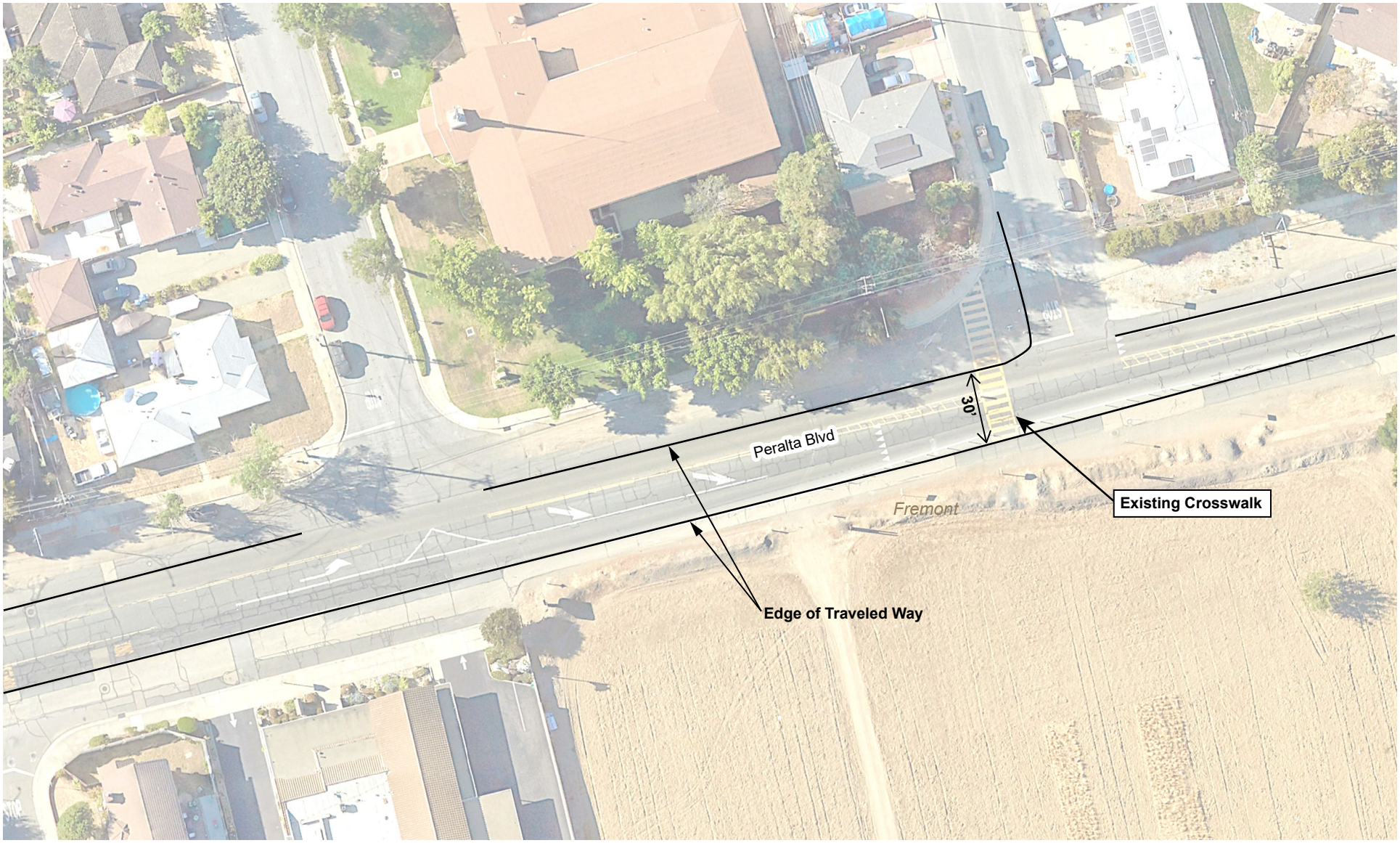


Figure 3
Crosswalk Location

NORTH
Not to Scale

Pedestrian Crossing Safety Review

A pedestrian crossing safety review was conducted for the existing crosswalk at Acacia Street/Peralta Boulevard. Traffic volume and collision data were collected, and potential improvements were evaluated. These are described in the following sections.

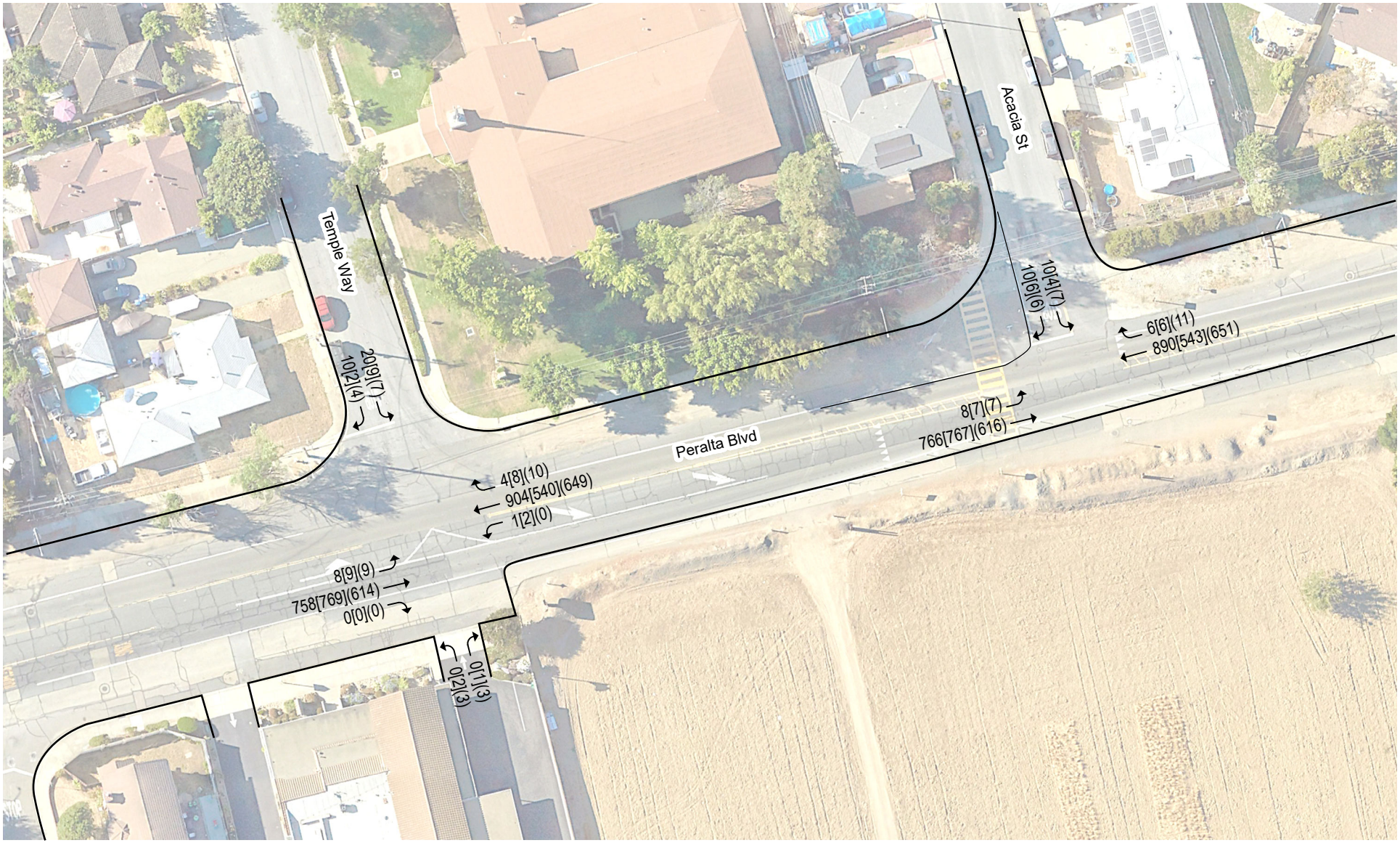
Traffic Volumes

Traffic counts were collected during the AM (7:00 to 9:00 AM), school PM (2:00 to 4:00 PM), and commute PM (4:00 to 6:00 PM) peak periods on Thursday, August 24, 2023 at the intersections of Temple Way/Peralta Boulevard and Acacia Street/Peralta Boulevard (See Figure 4). The count data are included in Appendix B. Table 1 summarizes the 15-minute vehicular and pedestrian/bicycle counts during the three peak period durations.

Table 1
Vehicular, Pedestrian, and Bicycle Counts

	Peralta Boulevard Vehicle Counts			Peds/Bicycles	Hourly Totals	
Time	Eastbound	Westbound	Total	Across Peralta Blvd.	Vehicles	Peds/Bicycles
7:00 AM	63	145	208	0	-	-
7:15 AM	93	155	248	1	-	-
7:30 AM	**76**	**215**	**291**	**4**	**-**	**-**
7:45 AM	**184**	**247**	**431**	**27**	1178	32
8:00 AM	**266**	**255**	**521**	**21**	1491	53
8:15 AM	**183**	**190**	**373**	**3**	**1616**	**55**
8:30 AM	141	204	345	0	1670	51
8:45 AM	97	167	264	1	1503	25
2:00 PM	124	116	240	1	-	-
2:15 PM	127	134	261	3	-	-
2:30 PM	136	176	312	17	-	-
2:45 PM	269	132	401	11	1214	32
3:00 PM	186	124	310	1	1284	32
3:15 PM	135	156	291	0	1314	29
3:30 PM	184	137	321	3	1323	15
3:45 PM	166	121	287	0	1209	4
4:00 PM	148	154	302	0	-	-
4:15 PM	124	168	292	0	-	-
4:30 PM	139	173	312	0	-	-
4:45 PM	140	146	286	0	1192	0
5:00 PM	150	159	309	1	1199	1
5:15 PM	162	173	335	1	1242	2
5:30 PM	143	171	314	0	1244	2
5:45 PM	168	159	327	0	1285	2

Note:-
Data based on counts conducted on Thursday, August 24, 2023



LEGEND

XX[XX](XX) = AM[School PM](PM) Peak-Hour Traffic Volumes

Figure 4
Existing Traffic Volumes

HEXAGON

NORTH
Not to Scale

As shown in Table 1, the two-way hourly traffic volume on Peralta Boulevard ranged between 1,178 and 1,616 vehicles during the AM peak period, ranged between 1,209 and 1,323 vehicles during school PM peak period, and ranged between 1,192 and 1,285 vehicles during the PM peak period. The hourly pedestrian and bicycle counts averaged approximately 43 during the AM peak period, 22 during the school PM peak period, and 2 during the PM peak period. Highlighted in bold in Table 1 is the peak hour during which the highest pedestrian volumes were observed.

Roadway Geometrics

The Peralta Boulevard crosswalk is located on the west leg of the intersection at Acacia Street/Peralta Boulevard, which is approximately 240 feet to the east of Temple Way. The length of the crosswalk measures 30 feet from one side of the edge of traveled way to the opposite side of edge of traveled way (See Figure 3). This is the distance pedestrians need to walk across Peralta Boulevard that are in conflict with vehicles on the road. Pedestrians using the crosswalk cross two lanes on Peralta Boulevard (one in each direction). There is also a painted median refuge five feet in width at the crosswalk, which increases the visibility of the crossing guard for vehicles queued behind the crosswalk. Raised delineators on each side of the traveled way on Peralta Boulevard are present to prevent vehicles from driving in the shoulder area.

Collision Data Analysis

Collision data for the intersections at Temple Way/Peralta Boulevard and Acacia Street/Peralta Boulevard were provided by the City. The records include a 10-year time period beginning on July 1, 2013 and ending on July 1, 2023. The collision data is included in Appendix C. Table 4 shows the actual measured collision rates and the statewide average collision rates for similar intersections throughout the state within the recent 10-year period.

Table 2
Collision Analysis

Intersection	ADT [1]	Collision Data[2]			Measured Collision Rates (per mil. Vehicles)			Statewide Average Collision Rates (per mil. Vehicles) [3]		
		Total # of Collisions	Fatality Collisions	Injury Collisions	All	Fatality	Fatality + Injury	All	Fatality	Fatality + Injury
Temple Way and Peralta Boulevard	12,990	0	0	0	0	0	0	0.22	0.00264	0.09262
Acacia Street and Peralta Boulevard	12,980	2	0	1	0.04	0	0.02	0.22	0.00264	0.09262

Notes:
1. ADT (Average Daily Traffic) is estimated using the peak hour intersection traffic volumes.
2. Collision data supplied by the City of Fremont.
3. Average collision rates are based on California average rates for three-legged unsignalized intersections in suburban areas as indicated in *2020 Collision data on California State Highways.*

In the immediate vicinity of the Acacia Street/Peralta Boulevard intersection, there were a total of 2 collisions recorded, including 1 injury collision. One of the collisions occurred when a vehicle traveling eastbound on Peralta Boulevard stopped at the intersection and was rear-ended by another vehicle from behind. Another collision involved a solo bicyclist on eastbound Peralta Boulevard turning left at the intersection and colliding with a fixed object. The bicyclist was injured as a result of the collision and the cause of the collision was determined to be improper turning movement by the bicyclist.

There were no collisions recorded at the intersection of Temple Way/Peralta Boulevard during the 10-year period.

There were no fatal collisions recorded during this period at either study intersection. The total collision rate and the total rate of fatal plus injury collisions at the intersections are both lower than the California state-wide averages at similar intersections.

Since only two collisions were recorded at both study intersections, there is no historical collision pattern that indicates any existing safety concerns.

Evaluation of Pedestrian Crossing Control Treatments

The need for additional crossing treatments at Acacia Street/Peralta Boulevard were evaluated based on the *California Manual on Uniform Traffic Control Devices* (CA MUTCD) and described below.

Pedestrian Hybrid Beacons (PHB or Hawk Signal)

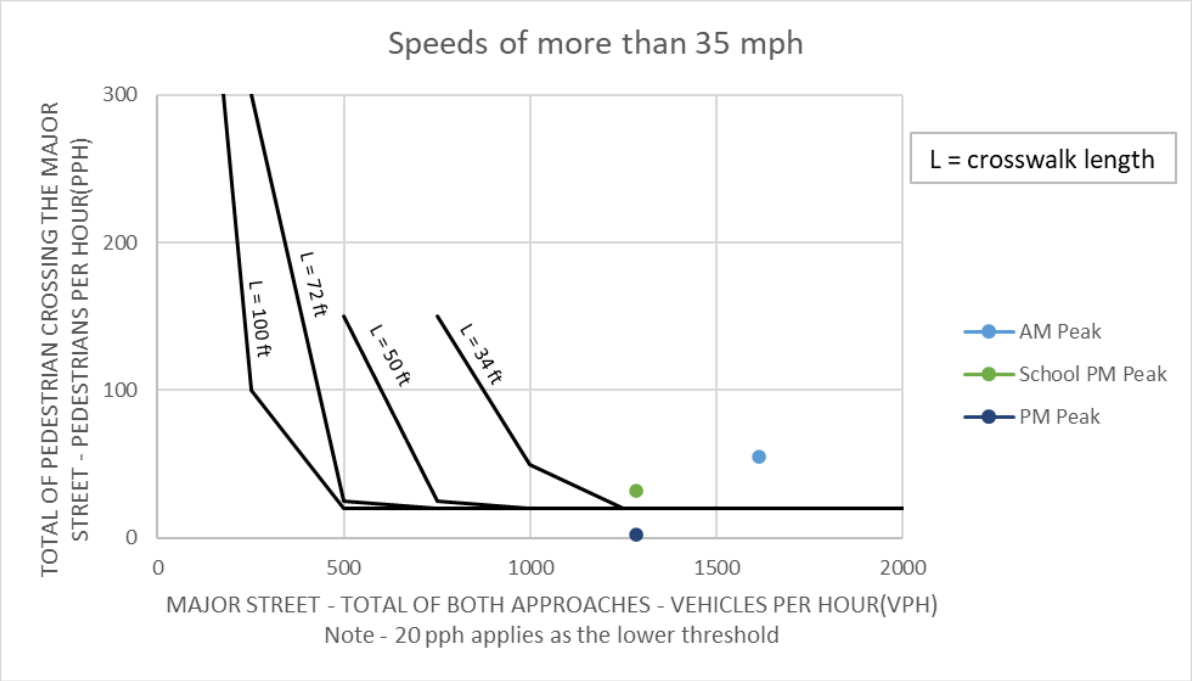
The pedestrian hybrid beacon is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings. They are a combination of a beacon flasher and a traffic control signal. The beacon head consists of two red lenses above a single yellow lens. The beacon head is "dark" until the pedestrian desires to cross the street. The beacon is activated with a push button. When actuated, PHB systems display a yellow (warning) indication followed by a solid red light. During pedestrian clearance, the driver sees a flashing red “wigwag” pattern until the clearance interval has ended and the signal goes dark. PHB systems are most useful in areas where it is difficult for pedestrians to find gaps in automobile traffic to cross safely, but where normal signal warrants are not satisfied. PHB systems are shown to increase driver yielding behavior at crosswalks significantly when supplementing standard pedestrian crossing warning signs and markings. Chapter 4F of the CA MUTCD provides guidance on the application of pedestrian hybrid beacons. It states:

> *For a major street where the posted or statutory speed limit or the 85th-percentile speed exceeds 35 mph, the need for a pedestrian hybrid beacon should be considered if the engineering study finds that the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4F-2 for the length of the crosswalk.*

The two-way vehicular volumes for the commute AM, school PM, and commute PM peak hours were plotted on Figure 4F-2 from the CA MUTCD (the crossing is approximately 30 feet long) in Figure 5.

In order to satisfy the warrant, a minimum of 20 pedestrians per hour (pph) would be required to cross Peralta Boulevard. As shown in Figure 5, the warrant is satisfied during both the commute AM and school PM peak hours. Based on the vehicular and pedestrian data shown in Table 1, during the AM peak hour between 7:30 and 8:30, the number of pedestrian/bicyclists crossing Peralta Boulevard was counted as 55 pph with a two-way directional volume of 1,616 vehicles on Peralta Boulevard. During the school PM peak hour, the number of pedestrians crossing Peralta Boulevard was counted as 32 pph with a two-way directional volume of 1,284 vehicles. During the PM peak hour, the number of pedestrian/bicyclists crossing Peralta Boulevard was counted as 2 pph which does not meet the minimum threshold of 20 pph.

Figure 5
Pedestrian Hybrid Beacon Warrant



Rectangular Rapid Flashing Beacon (RRFB)

RRFBs are user-actuated amber LED flashing beacons that supplement warning signs at crosswalks at unsignalized intersections or mid-block locations. Pedestrians can activate them manually by a push button or passively by a pedestrian detection system. RRFBs use an irregular rapid flash pattern that is similar to emergency flashers on police vehicles. RRFBs are a lower cost alternative to traffic signals and PHB signals. Studies suggest RRFBs are very effective as measured by increased driver yielding behavior, and are appropriate for single or multi-lane roadways.

RRFBs have interim approval from the Federal Highway Administration, and Caltrans was granted approval for the use of RRFBs on all state and local highways in the State. The interim approval does not provide specific volume warrants for the use of RRFBs but contains some information to aid engineers in appropriately applying their use.

Research shows that RRFBs achieve very high compliance rates at a low relative cost compared to other more restrictive devices that provide comparable results, such as full traffic signals or PHBs. Factors to consider include: roadway geometrics, visibility, crossing distance, and the presence of a crossing guard during peak periods. Based on a review of the traffic conditions at Acacia Street/Peralta Boulevard and the factors mentioned above, a RRFB would be a suitable alternative to a PHB at the subject location.

Recommendation

Although the crosswalk at Acacia Street and Peralta Boulevard meets the PHB warrant, a RRFB would be a more cost-effective and feasible pedestrian traffic control device at this location to enhance pedestrian safety, considering the location's collision history, roadway geometrics, the relatively short crossing distance, and the presence of crossing guard during peak pedestrian volume periods. A shoulder mounted RRFB would be sufficient. In addition, the installation of a

RRFB at this location is consistent with the recommendation identified in the *City of Fremont SR 84 relinquishment Measure BB Scoping Study* dated June 2016 (See Appendix D).

Project Traffic Estimates

Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. This research is compiled in the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE). The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. The rates published for Single Family Detached Housing (Land Use Code 210) were used to estimate the vehicle trips generated by the proposed project (see Table 3). Based on ITE rates, the proposed project is estimated to generate a total of 255 daily trips, with 19 and 25 project trips occurring during the AM and PM peak hours, respectively.

The trip distribution pattern for the proposed project was estimated based on existing travel patterns and the locations of complementary land uses. The new peak-hour trips generated by the proposed project (the project trips) were added to the roadway network in accordance with the project trip generation and distribution described above. The project trip distribution and trip assignment are shown in Figure 6.

Table 3
Project Trip Generation Estimates

		Daily		AM Peak Hour				PM Peak Hour			
Land Use	Size	Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Single Family Detached Housing[1]	27 units	9.43	255	0.70	19	5	14	0.94	25	16	9

[1] Based on ITE Trip Generation, 11th Edition Average Rates for Single Family Detached Housing (ITE 210).

Site Access and On-Site Circulation

This section describes the site access and on-site circulation for the proposed project. This review is based on the project site plan dated May 1, 2023 (See Figure 2).

Site Access and Project Driveways

Access to the project site would be provided via two driveways on Temple Way, which are located approximately 100 feet and 430 feet north of the Temple Way/Peralta Boulevard intersection. Both driveways would allow full movement access to the project site from Temple Way. The north driveway is projected to accommodate 9 AM and 12 PM peak hour trips while the south driveway is projected to accommodate 10 AM and 13 PM peak hour trips. Figure 2 shows the project trips in and out of the two site driveways.

Both driveways would have a throat depth of approximately 20 feet (or one vehicle), beyond which vehicle queues exiting the driveway would block adjacent single family home driveways. Vehicle delays at these locations would be brief and vehicle queues would seldom exceed one vehicle due to the low traffic volumes on Temple Way and the site driveways. The onsite vehicular queues would not interfere with traffic operations at the intersection of Temple Way and Peralta Boulevard.

Figure 6
Project Trip Distribution and Trip Assignment

Utah Way, which intersects with Temple Way on the opposite side (west side) of project site, is located 130 feet south of the north driveway and 200 feet north of the south driveway. The spacing of the site driveways, and their locations relative to existing adjacent intersections, are acceptable given the relatively low traffic volumes on Temple Way and Utah Way.

The sight distance at the project driveways on Temple Way was checked and determined to be adequate.

> **Recommendation 1:** Prior to final design, the placement of any landscaping, monuments, and signs within the sight triangles of the site driveways should be reviewed by Public Works staff to ensure adequate corner sight distance.

As identified in the *City of Fremont SR-84 Relinquishment Measure BB Scoping Study*, complete street improvements (see Appendix D) such as wider sidewalks, reduced curb return radii, enhanced street landscaping, as well as Class IV buffered bikeways were planned on Peralta Boulevard in the project vicinity.

> **Recommendation 2:** The project should install complete streets improvements on Peralta Boulevard adjacent to its frontage as identified in the *City of Fremont SR-84 Relinquishment Measure BB Scoping Study.*

A network of internal pedestrian pathways is shown on the site plan along the eastern and northern boundaries of the project site. These pathways would be connected to the sidewalks along Temple Way and Peralta Boulevard. Housing units located along the street frontages on Temple Way and Acacia Street would have their own individual direct paths to the adjacent sidewalks.

On-Site Circulation

The onsite circulation was reviewed in accordance with generally accepted traffic engineering standards. Upon entering the project site from one of the two site driveways, vehicles would proceed straight until intersecting the north-south main drive aisle. There would be two east-west dead-end drive aisles connected to each of the site driveways. Because the drive aisles would be primarily used by residents and are relatively short in length, this should not present an issue.

All internal drive aisle widths vary between 20 and 22 feet, which meet the minimum City standards. All parking would be accommodated in private garages. There is no guest parking shown onsite. All private garages are set back from the onsite drive aisles with short aprons. The project site plan at the time of this review does not include sufficient detail to evaluate the back-up distances for vehicles maneuvering in and out of private garages. However, it is recommended that a minimum of 24 feet be provided between the garage door and face of curb on the opposite side of the drive aisle.

> **Recommendation 3**: Prior to final design, City staff should review the back-up distances for the private garages to ensure adequacy and conformance with the City design requirements.

The layout of the internal drive aisles as well as the provision of two interconnected driveways would accommodate garbage trucks and emergency vehicles to turn around onsite and without the need to back up to the public street in order to exit. The site plan shows no designated loading areas. It's assumed that all loading would be provided on the project's internal drive aisles, which would be acceptable given the infrequency of truck traffic and low traffic volumes onsite.

> **Recommendation 4**: The project applicant should coordinate with city staff to ensure the project meets the requirements for trash collection.

Impacts to Pedestrians, Bikes and Transit

The majority of the neighboring streets have sidewalks, except one segment directly opposite the project site (approximately 400 feet) and another one at the northeast corner of Acacia Street and Peralta Boulevard (approximately 75 feet). Crosswalks are provided at all signalized intersections in the project vicinity. Overall, it is anticipated that the volume of pedestrians generated would not exceed the carrying capacity of the existing sidewalks and crosswalks on streets in the project vicinity. However, the project would contribute additional pedestrian and vehicular trips to the crosswalk located on Peralta Boulevard at Acacia Street. This crosswalk is recommended for upgrade to a RRFB.

> **Recommendation 5:** The project should make a "fair share" monetary contribution to the recommended RRFB crosswalk upgrade at the Peralta Boulevard and Acacia Street intersection.

In addition, the curb ramp along the project frontage on Peralta Boulevard is not compliant with current ADA standards.

> **Recommendation 6:** To better accommodate pedestrians, the project should upgrade the existing curb ramp along the project frontage on Peralta Boulevard, which is currently not ADA-compliant.

Currently, there are wide shoulders but no bike lanes provided on both sides of Peralta Boulevard directly adjacent to the project frontage. In the future, Class IV separated bikeways are planned for Peralta Boulevard between Fremont Boulevard and Mowry Avenue. Generally, the volume of bicycle trips generated by the project would not exceed the bicycle-carrying capacity of the streets surrounding the site, and the increase in bicycle trips would not, by itself, require new off-site bicycle facilities.

Alameda County Congestion Management Program (CMP) Transportation Impact Analysis Technical Guidelines state that a project would create an impact on pedestrian and bike circulation if: (1) its vehicle trips would present a barrier to bikes/pedestrians safely crossing roadways, or (2) it would reduce or sever existing or planned bike/pedestrian circulation in the area. The addition of project trips would not present a barrier to bikes or pedestrians safely crossing roadways with implementation of the proposed recommendations in this analysis, and the project would not preclude any planned modifications to the bike/pedestrian network. Based on these criteria, the proposed project would not create an adverse impact to bike/pedestrian circulation in the area.

There are currently no bus transit services provided on Peralta Boulevard. The nearest commute bus routes are Line 216, 251, and 625. The closest bus stops for Line 216 and 625 are located near the Mowry Avenue/Peralta Boulevard intersection approximately 0.5 miles east of the project site. The closest bus stops for Line 251 are located near the Paseo Padre Parkway/Peralta Boulevard intersection approximately 0.5 miles west of the project site. In addition, the Fremont BART station would be located approximately 0.7 miles southeast of the project site. According to the U.S. Census, transit trips comprise approximately 3 percent of the total commute mode share in Fremont. For the proposed project, this would equate to approximately 1 new transit trip during the peak commute hours. Thus, the volume of riders generated by the project would not exceed the carrying capacity of the existing bus service near the project site.

According to the Alameda County Congestion Management Program (CMP) Transportation Impact Analysis Technical Guidelines, a project would create an impact on transit service if: (1) it would cause vehicular congestion that would significantly degrade transit operations, or (2) it would conflict with existing transit service plans or preclude future transit service to the project area. The project would not generate enough traffic to significantly impact transit operations, nor

would it preclude any existing or future transit plans in the area. Based on these criteria, the proposed project would not cause a significant impact to transit operations in the study area.

Conclusions

The effects of the proposed project were evaluated in accordance with the procedures and guidelines specified by the City of Fremont. The analysis resulted in the following key findings:

- The project site is located in an area where the VMT per capita is above the impact threshold for residential developments. Therefore, according to the City's VMT policy, the project's VMT impact would be significant. In addition, combining all the applicable TDM measures in the *Alameda CTC VMT Reduction Calculator Tool* would not be sufficient to reduce the project VMT to below the impact threshold.
- Although the crosswalk at Acacia Street and Peralta Boulevard meets the PHB warrant, a RRFB would be a more cost-effective traffic control device to enhance pedestrian safety. In addition, installation of a RRFB at this location is consistent with the recommendation identified in the *City of Fremont SR 84 relinquishment Measure BB Scoping Study* dated June 2016.
- The project would not create any adverse impacts to transit, bike and pedestrian facilities.

The analysis also produced the following recommendations:

1. Prior to final design, the placement of any landscaping, monuments, and signs within the sight triangles of the site driveway should be reviewed by Public Works staff to ensure adequate corner sight distance.
2. The project should install complete streets improvements on Peralta Boulevard adjacent to its frontage as identified in the *City of Fremont SR-84 Relinquishment Measure BB Scoping Study.*
3. Prior to final design, City staff should review the back-up distances for the private garages to ensure adequacy and conformance with the City design requirements.
4. The project applicant should coordinate with city staff to ensure the project meets the requirements for trash collection.
5. The project should make a "fair share" monetary contribution to the recommended RRFB crosswalk upgrade at the Peralta Boulevard and Acacia Street intersection.
6. To better accommodate pedestrians, the project should upgrade the existing curb ramp along the project frontage on Peralta Boulevard, which is currently not ADA-compliant.

Appendix A

Applied TDM Measures Calculation Sheets from the Alameda CTC VMT Reduction Calculator

MOBILITY MANAGEMENT VMT REDUCTION CALCULATOR TOOL

Return to Main

Project Information

Project Name (optional):	38134 Temple Way Residential
Project Address (optional):	38134 Temple Way, Fremont
Project Type (optional):	Residential
	Office
Analysis Location (TAZ # from website):	**848**
Jurisdiction (auto calculated from TAZ #):	**Fremont**

TDM Strategy Results

TDM ID	Strategy Name	Strategy Type	VMT Type	Change in VMT	Exclusions
1A	Voluntary Employer Commute Program	Project/Site	Employee commute trips		
1B	Mandatory Employer Commute Program	Project/Site	Employee commute trips		
1C	Employer Carpool Program	Project/Site	Employee commute trips		
1D1	Implement Subsidized or Discounted Transit Program (for Employees)	Project/Site	Employee commute trips		
1D2	Implement Subsidized or Discounted Transit Program (for Residents)	Project/Site	Project-generated trips	-0.8%	
1E	Employer Vanpool Program	Project/Site	Employee commute trips		
1F	Employer Telework Program	Project/Site	Employee commute trips		
2A	Transit Oriented Development	Project/Site	Project-generated trips		
2B1	Increase Residential Density	Project/Site	Project-generated trips	-6.3%	
2B2	Increase Employment Density	Project/Site	Employee commute trips		
2C	Integrate Affordable and Below Market Rate Housing	Neighborhood/City	All neighborhood/city trips	-0.4%	
3A1	Price Workplace Parking	Project/Site	Employee commute trips		
3A2	Unbundle Parking Costs from Property Cost	Project/Site	Project-generated trips		
3B	Parking Cash Out	Project/Site	Employee commute trips		
3C	Limit Parking Supply	Project/Site	Project-generated trips		
3D	Provide Bike Parking	Project/Site	Project-generated trips		
4A	Street Connectivity Improvement	Neighborhood/City	All neighborhood/city trips		
4B	Pedestrian Facility Improvement	Neighborhood/City	All neighborhood/city trips	-2.5%	
4C	Bikeway Network Expansion	Neighborhood/City	All neighborhood/city trips		
4D	Bike Facility Improvement	Neighborhood/City	Trips on roadway with bikeway addition		
4E	Bikeshare	Neighborhood/City	All neighborhood/city trips		
4F	Carshare	Neighborhood/City	All neighborhood/city trips		
4G	Community-Based Travel Planning	Neighborhood/City	All neighborhood/city trips		
4H	Provide Neighborhood Traffic Calming Measures	Neighborhood/City	All neighborhood/city trips		
5A	Transit Service Expansion	Neighborhood/City	All neighborhood/city trips		
5B	Transit Frequency Improvements	Neighborhood/City	All neighborhood/city trips		
5C	Transit-Supportive Treatments	Neighborhood/City	All neighborhood/city trips		
5D	Transit Fare Reduction	Neighborhood/City	All neighborhood/city trips		
5E	Microtransit NEV Shuttle	Neighborhood/City	All neighborhood/city trips		

Employee Commute Trips - Total Change in VMT	**0.0%**
Project-Generated Trips - Total Change in VMT	**-7.0%**
All Neighborhood/City Trips - Total Change in VMT	**-2.9%**
Trips on Roadway Affected by Bikeway Addition - Total Change in VMT	**0.0%**

1D2. Implement Subsidized or Discounted Transit Program (for Residents)

Level of application: **Project/Site**
Type of VMT affected: **Project-generated trips**
Max VMT reduction: **5.5%**

Return to Main
Results Summary

This strategy will provide subsidized, discounted, or free transit passes for residents. Reducing the out-of-pocket cost for choosing transit improves the competitiveness of transit against driving, increasing the total number of transit trips and decreasing vehicle trips. This decrease in vehicle trips results in reduced VMT and thus a reduction in GHG emissions. When implementing transit discounts or subsidies, projects should adhere to the following guidance:

• Project should be located either within one mile of high-quality transit service (either rail, or bus with headways of no more than 15 minutes), one-half mile of local or less frequent transit service, or along a designated shuttle route providing last-mile connections to rail service. As an alternative to shuttle service, if bikeshare service (Strategy 4E) is available, the site may be located up to two miles from a high-quality transit service.
• If more than one transit agency serves the site, subsidies should be provided that can be applied to each of the services available. If subsidies are applied for only one service, all variable inputs below should also pertain only to the service which is subsidized.

Note: please carefully specify the "Percent of project-generated VMT from residents" input, especially for projects with a high proportion of non-resident trips (e.g. schools, hotels, shopping centers). One way to estimate this value is to look at the trip generation calculations for the project and determine what proportion of the total trips comes from the residential portion of the project.

Transit fare unit	$/day	user input
Average transit fare without subsidy	$15.00	user input
Subsidy amount	$15.00	user input
Percent of residents eligible for subsidy	100%	user input
Percent of project-generated VMT from residents	100%	user input
Default transit mode share in neighborhood/city	3.7%	Alameda CTC model
User override of transit mode share in neighborhood/city		user input, optional
Transit mode share in neighborhood/city used for calculation	3.7%	calculated
Elasticity of transit boardings with respect to transit fare price	-0.43	constant, source (2, 3, 4)
Percent of transit trips that would otherwise be made in a vehicle	50%	constant, source (2)
Conversion factor of vehicle trips to VMT	1	standard assumption
Change in VMT	-0.8%	☐ Exclude from Results Active

Formula: % Change in VMT = ((Subsidy amount / Average transit fare without subsidy)* Elasticity of transit boardings with respect to transit fare price) * Percent of residents eligible for subsidy * Percent of project-generated VMT from residents * Transit mode share in neighborhood/city * Percent of transit trips that would otherwise be made in a vehicle * Conversion factor of vehicle trips to VMT

Subsidy amount is capped at 100% of average transit fare without subsidy

Sources:

(1) Federal Highway Administration (FHWA). 2017. National Household Travel Survey – 2017 Table Designer. Travel Day PMT by TRPTRANS by HH_CBSA, Workers by WRKTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.

(2) Handy, L., Boarnet, S. 2013. Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions. Available: http://www.arb.ca.gov/cc/sb375/policies/transitservice/transit_brief.pdf. Accessed: January 2021.

(3) Litman, T. 2020a. Transit Price Elasticities and Cross-elasticities. Victoria Transport Policy Institute. April. Available: https://www.vtpi.org/tranelas.pdf. Accessed: January 2021.

(4) Taylor, B., Miller, D., Iseki, H., & Fink, C. 2008. Nature and/or Nurture? Analyzing the Determinants of Transit Ridership Across US Urbanized Areas. Transportation Research Part A: Policy and Practice, 43(1), 60-77. Available: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.367.5311&rep=rep1&type=pdf. Accessed: January 2021.

2B1. Increase Residential Density

Level of application: **Project/Site**
Type of VMT affected: **Project-generated trips**
Max VMT reduction: **30.0%**

Return to Main
Results Summary

This strategy accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units (du) compared to the average residential density in the United States. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. Increasing residential density results in shorter and fewer trips by single occupancy vehicles and thus a reduction in GHG emissions.

Projects with a residential density greater than 9.1 dwelling units per acre will see VMT reductions due to this strategy.

Residential density of project development (dwelling units per acre)	11.7	user input
Residential density of typical development (dwelling units per acre)	9.1	constant, source (1)
User override of residential density of typical development		user input, optional
Residential density of typical development used for calculation	9.1	calculated
Elasticity of VMT with respect to residential density	-0.22	constant, source (2)
Change in VMT (as compared to single-use project)	-6.3%	☐ Exclude from Results — Active

Formula: % Change in VMT = ((Residential density of project development (dwelling units per acre) - Residential density of typical development)/ Residential density of typical development)* Elasticity of VMT with respect to residential density

Sources:
(1) Ewing, R., Bartholomew, K., Winkelman, S., Walters, J., Chen, D. 2007. Growing Cooler: The Evidence on Urban Development and Climate Change. October. Available: https://www.nrdc.org/sites/default/files/cit_07092401a.pdf. Accessed: January 2021.

(2) Stevens, M. 2016. Does Compact Development Make People Drive Less? Journal of the American Planning Association 83:1(7–18), DOI: 10.1080/01944363.2016.1240044. November. Available: https://www.researchgate.net/publication/309890412_Does_Compact_Development_Make_Pe ople_Drive_Less. Accessed: January 2021.

2C. Integrate Affordable and Below Market Rate Housing

Level of application: **Neighborhood/City**
Type of VMT affected: **All neighborhood/city trips**
Max VMT reduction: **1.2%**

Return to Main
Results Summary

Income has a statistically significant effect on the probability that a commuter will take transit or walk to work (1). Below market rate (BMR) housing provides greater opportunity for lower-income families to live closer to jobs centers and achieve jobs/housing match near transit. It also addresses to some degree the risk that new transit oriented development would displace lower-income families. This strategy potentially encourages building a greater percentage of smaller units that allow a greater number of families to be accommodated on infill and transit oriented development sites within a given building footprint and height limit. Lower-income families tend to have lower levels of auto ownership, allowing buildings to be designed with less parking which, in some cases, represents the difference between a project being economically viable or not. Residential development projects of five or more dwelling units will provide a deed-restricted low-income housing component on-site.

% of units in project that are deed-restricted BMR housing	11%	user input
Elasticity	-4%	constant, source (2, 3, 4)
Change in VMT (as compared to single-use project)	**-0.4%**	☐ Exclude from Results — Active

Formula: % Change in VMT = % of units in project that are deed-restricted BMR housing * Elasticity
% BMR capped at 30%

Sources:

(1) Bento, Antonio M., Maureen L. Cropper, Ahmed Mushfiq Mobarak, and Katja Vinha. 2005. "The Effects of Urban Spatial Structure on Travel Demand in the United States." The Review of Economics and Statistics 87,3: 466-478.

(2) Nelson\Nygaard, 2005. Crediting Low-Traffic Developments (p.15). http://www.montgomeryplanning.org/transportation/documents/TripGenerationAnalysisUsingURBEMIS.pdf Criteron Planner/Engineers and Fehr & Peers Associates (2001).

(3) Index 4D Method. A Quick-Response Method of Estimating Travel Impacts from Land- Use Changes. Technical Memorandum prepared for US EPA, October 2001.

(4) Holtzclaw, John; Clear, Robert; Dittmar, Hank; Goldstein, David; and Haas, Peter (2002), "Location Efficiency: Neighborhood and Socio-Economic Characteristics Determine Auto Ownership and Use – Studies in Chicago, Los Angeles and San Francisco", Transportation Planning and Technology, 25 (1): 1-27.

4B. Pedestrian Facility Improvement

Level of application: **Neighborhood/City**
Type of VMT affected: **All neighborhood/city trips**
Max VMT reduction: **3.4%**

Return to Main
Results Summary

This strategy will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions. When improving sidewalks, a best practice is to ensure they are contiguous and link externally with existing and planned pedestrian facilities. Barriers to pedestrian access and interconnectivity, such as walls, landscaping buffers, and slopes, should be minimized. The strategy is based on the share of vehicle trips which could easily shift to walking - on average, approximately 21.4 percent of vehicle trips are 1 mile or less (3).

Existing sidewalk length in study area (miles)	0.2	user input
Existing street length in study area (miles)	0.1	user input
Ratio of sidewalk length to street length	1.3	calculated
Sidewalk length in study area with strategy (miles)	0.3	user input
Ratio of sidewalk length to street length with strategy	1.9	calculated
% change in ratio of sidewalk length to street length	49%	calculated
Elasticity of VMT with respect to the ratio of sidewalks-to-streets	-0.05	constant, source (1, 2)
Change in VMT	-2.5%	☐ Exclude from Results Active

Formula: % Change in VMT = (((Sidewalk length in study area with strategy (miles) / Existing street length in study area (miles))-(Existing sidewalk length in study area (miles) / Existing street length in study area (miles)))/(Existing sidewalk length in study area (miles) / Existing street length in study area (miles)))* Elasticity of VMT with respect to the ratio of sidewalks-to-streets

Sources:

(1) Frank, L., Greenwald, M., Kavage, S. and Devlin, A. 2011. An Assessment of Urban Form and Pedestrian and Transit Improvements as an Integrated GHG Reduction Strategy. WSDOT Research Report WA-RD 765.1, Washington State Department of Transportation. April. Available: www.wsdot.wa.gov/research/reports/fullreports/765.1.pdf. Accessed: January 2021.

(2) Handy, Susan, Glan-Claudia, Sciara, and Boarnet, Marlon. 2014. Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions: Policy Brief. September. Available: https://ww2.arb.ca.gov/sites/default/files/2020-06/Impacts_of_Pedestrian_Strategies_on_Passenger_Vehicle_Use_and_Greenhouse_Gas_Emission s_Policy_Brief.pdf. Accessed: January 2021.

(3) Federal Highway Administration (FHWA). 2019. 2017 National Household Travel Survey Popular Vehicle Trip Statistics. Available: https://nhts.ornl.gov/vehicle-trips. Accessed: January 2021.

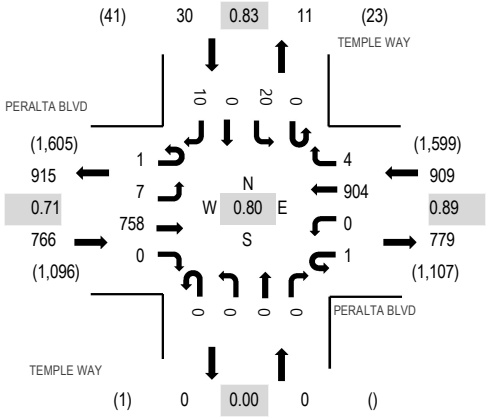
Appendix B

Turning Movement Counts

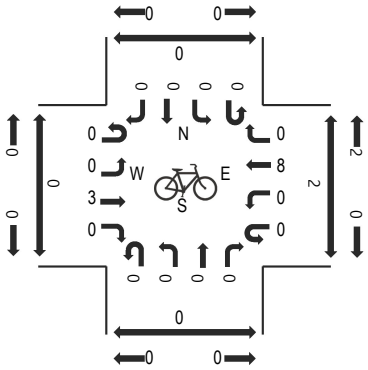
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 TEMPLE WAY & PERALTA BLVD AM
Date: Thursday, August 24, 2023
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

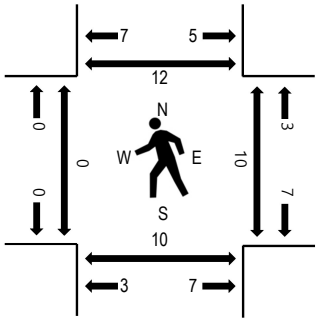
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	PERALTA BLVD Eastbound				PERALTA BLVD Westbound				TEMPLE WAY Northbound				TEMPLE WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	66	1	0	0	145	1	0	0	0	0	0	1	0	1	215	1,205	0	0	1	1
7:15 AM	0	3	89	0	0	0	156	1	0	0	0	0	0	0	0	3	252	1,522	0	0	0	0
7:30 AM	0	3	74	0	0	0	218	2	0	0	0	0	0	3	0	2	302	1,656	0	0	0	1
7:45 AM	0	0	180	0	1	0	246	0	0	0	0	0	0	6	0	3	436	1,705	0	8	6	5
8:00 AM	1	4	264	0	0	0	255	2	0	0	0	0	0	3	0	3	532	1,531	0	2	3	2
8:15 AM	0	3	181	0	0	0	192	1	0	0	0	0	0	5	0	4	386		0	0	0	3
8:30 AM	0	0	133	0	0	0	211	1	0	0	0	0	0	6	0	0	351		0	0	1	2
8:45 AM	0	0	94	0	0	0	165	2	0	0	0	0	0	1	0	0	262		0	1	1	2

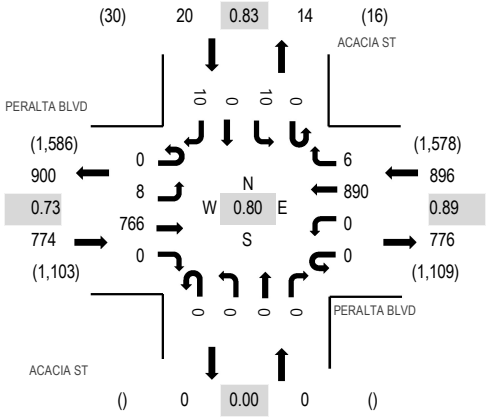
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Lights	1	7	746	0	1	0	891	4	0	0	0	0	0	18	0	9	1,677
Mediums	0	0	12	0	0	0	12	0	0	0	0	0	0	2	0	1	27
Total	1	7	758	0	1	0	904	4	0	0	0	0	0	20	0	10	1,705

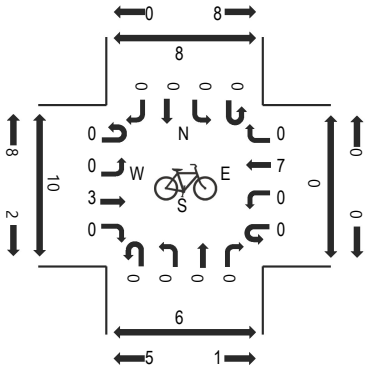
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 ACACIA ST & PERALTA BLVD AM
Date: Thursday, August 24, 2023
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

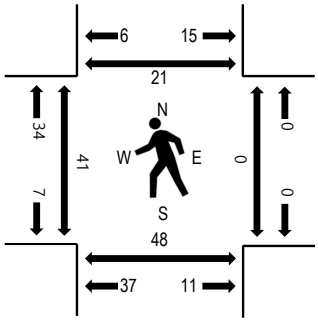
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	PERALTA BLVD Eastbound				PERALTA BLVD Westbound				ACACIA ST Northbound				ACACIA ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	63	0	0	0	145	0	0	0	0	0	0	2	0	2	212	1,192	0	0	0	0
7:15 AM	0	1	92	0	0	0	155	0	0	0	0	0	0	0	0	0	248	1,505	0	0	0	0
7:30 AM	0	0	76	0	0	0	215	0	0	0	0	0	0	2	0	2	295	1,635	1	0	0	0
7:45 AM	0	1	183	0	0	0	246	1	0	0	0	0	0	3	0	3	437	1,690	19	0	23	14
8:00 AM	0	0	266	0	0	0	252	3	0	0	0	0	0	3	0	1	525	1,519	20	0	23	3
8:15 AM	0	5	178	0	0	0	190	0	0	0	0	0	0	2	0	3	378		2	0	1	4
8:30 AM	0	2	139	0	0	0	202	2	0	0	0	0	0	2	0	3	350		0	0	1	0
8:45 AM	0	1	96	0	0	0	167	0	0	0	0	0	0	2	0	0	266		1	0	0	1

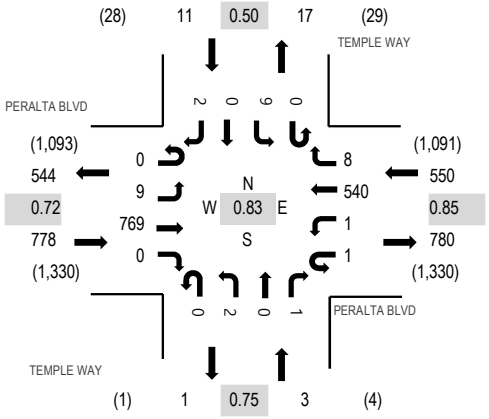
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Lights	0	4	757	0	0	0	877	5	0	0	0	0	0	9	0	10	1,662
Mediums	0	4	9	0	0	0	12	0	0	0	0	0	0	1	0	0	26
Total	0	8	766	0	0	0	890	6	0	0	0	0	0	10	0	10	1,690

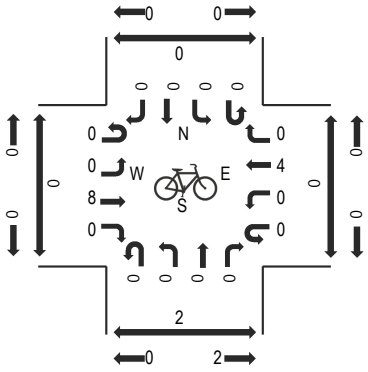
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 TEMPLE WAY & PERALTA BLVD PM
Date: Thursday, August 24, 2023
Peak Hour: 02:45 PM - 03:45 PM
Peak 15-Minutes: 02:45 PM - 03:00 PM

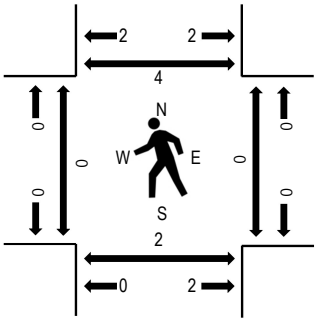
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	PERALTA BLVD Eastbound				PERALTA BLVD Westbound				TEMPLE WAY Northbound				TEMPLE WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
2:00 PM	0	2	122	0	0	0	115	0	0	0	0	0	0	4	0	4	247	1,230	0	0	1	0
2:15 PM	0	0	132	0	0	0	129	2	0	0	0	0	0	0	0	2	265	1,290	0	0	2	1
2:30 PM	0	3	132	0	0	0	171	2	0	1	0	0	0	1	0	3	313	1,325	0	0	2	2
2:45 PM	0	2	268	0	0	0	133	0	0	0	0	0	0	2	0	0	405	1,342	0	0	1	2
3:00 PM	0	0	182	0	1	0	118	2	0	1	0	0	0	3	0	0	307	1,223	0	0	0	1
3:15 PM	0	6	132	0	0	0	154	5	0	1	0	0	0	2	0	0	300		0	0	0	0
3:30 PM	0	1	187	0	0	1	135	1	0	0	0	1	0	2	0	2	330		0	0	1	1
3:45 PM	0	3	158	0	0	0	122	0	0	0	0	0	0	1	0	2	286		0	0	0	1

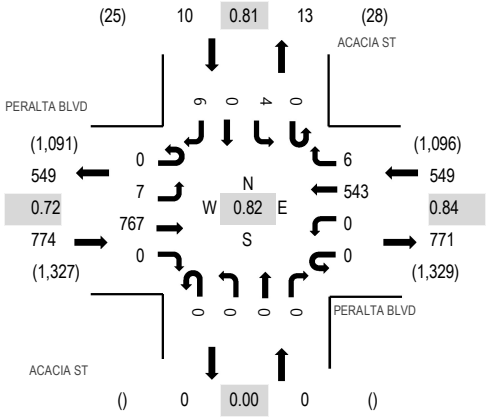
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4
Lights	0	8	749	0	1	1	531	8	0	2	0	1	0	8	0	2	1,311
Mediums	0	1	17	0	0	0	8	0	0	0	0	0	0	1	0	0	27
Total	0	9	769	0	1	1	540	8	0	2	0	1	0	9	0	2	1,342

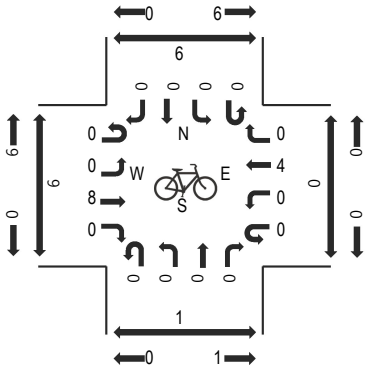
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 ACACIA ST & PERALTA BLVD PM
Date: Thursday, August 24, 2023
Peak Hour: 02:45 PM - 03:45 PM
Peak 15-Minutes: 02:45 PM - 03:00 PM

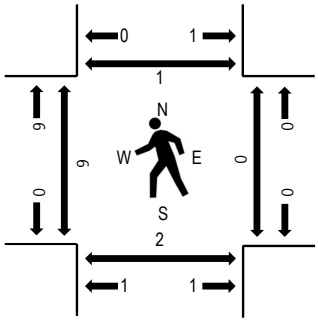
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	PERALTA BLVD Eastbound				PERALTA BLVD Westbound				ACACIA ST Northbound				ACACIA ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
2:00 PM	0	1	123	0	0	0	114	2	0	0	0	0	0	4	0	0	244	1,227	1	0	2	2
2:15 PM	0	0	127	0	0	0	132	2	0	0	0	0	0	3	0	1	265	1,295	3	0	4	3
2:30 PM	0	1	135	0	0	0	173	3	0	0	0	0	0	1	0	1	314	1,325	14	0	14	7
2:45 PM	0	3	266	0	0	0	131	1	0	0	0	0	0	3	0	0	404	1,333	5	0	2	1
3:00 PM	0	1	185	0	0	0	121	3	0	0	0	0	0	0	0	2	312	1,221	0	0	0	0
3:15 PM	0	1	134	0	0	0	155	1	0	0	0	0	0	1	0	3	295		0	0	0	0
3:30 PM	0	2	182	0	0	0	136	1	0	0	0	0	0	0	0	1	322		1	0	0	0
3:45 PM	0	3	163	0	0	0	118	3	0	0	0	0	0	2	0	3	292		0	0	0	1

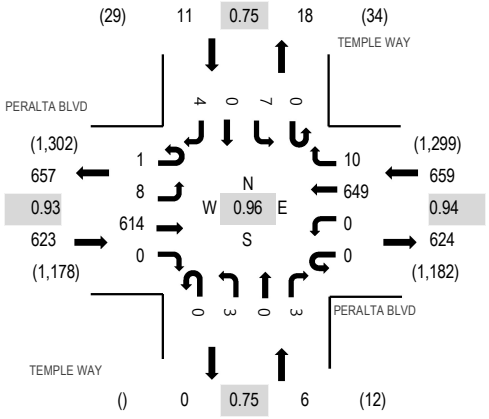
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4
Lights	0	7	745	0	0	0	535	6	0	0	0	0	0	4	0	5	1,302
Mediums	0	0	19	0	0	0	7	0	0	0	0	0	0	0	0	1	27
Total	0	7	767	0	0	0	543	6	0	0	0	0	0	4	0	6	1,333

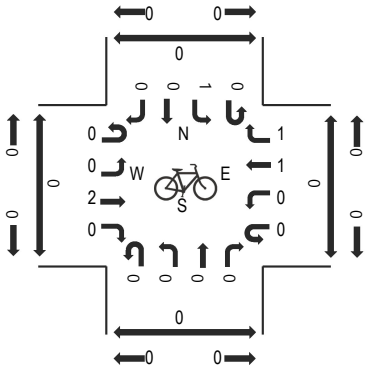
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 TEMPLE WAY & PERALTA BLVD PM
Date: Thursday, August 24, 2023
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

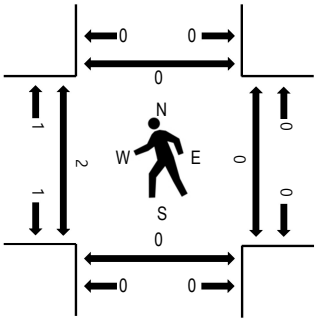
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	PERALTA BLVD Eastbound				PERALTA BLVD Westbound				TEMPLE WAY Northbound				TEMPLE WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	4	149	0	0	0	151	4	0	0	0	0	0	0	0	3	311	1,219	0	0	0	0
4:15 PM	0	0	123	0	0	0	164	0	0	1	0	1	0	2	0	1	292	1,220	0	0	0	0
4:30 PM	0	3	136	0	0	0	179	1	0	0	0	3	0	2	0	3	327	1,265	0	0	1	0
4:45 PM	0	2	138	0	0	0	139	2	0	1	0	0	0	4	0	3	289	1,262	0	0	0	0
5:00 PM	0	1	147	0	0	0	154	2	0	0	0	3	0	3	0	2	312	1,299	0	0	0	0
5:15 PM	0	2	155	0	0	0	172	3	0	1	0	0	0	3	0	1	337		1	0	0	0
5:30 PM	1	2	148	0	0	0	168	2	0	2	0	0	0	0	0	1	324		0	0	0	0
5:45 PM	0	3	164	0	0	0	155	3	0	0	0	0	0	1	0	0	326		1	0	0	0

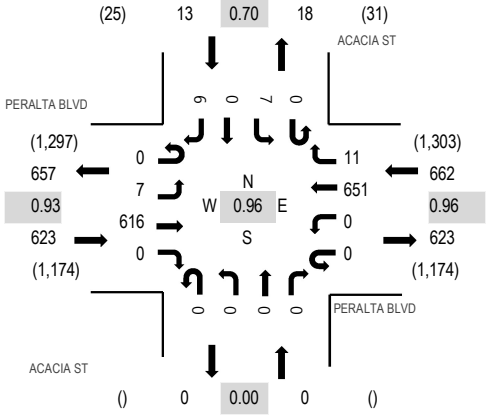
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Lights	1	8	609	0	0	0	644	10	0	3	0	3	0	7	0	4	1,289
Mediums	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	8
Total	1	8	614	0	0	0	649	10	0	3	0	3	0	7	0	4	1,299

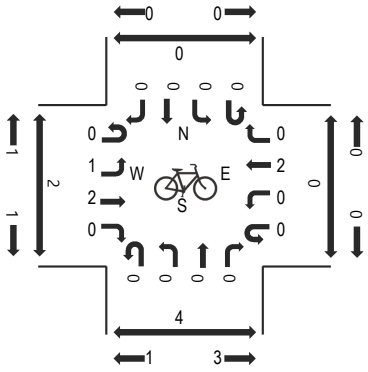
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 ACACIA ST & PERALTA BLVD PM
Date: Thursday, August 24, 2023
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

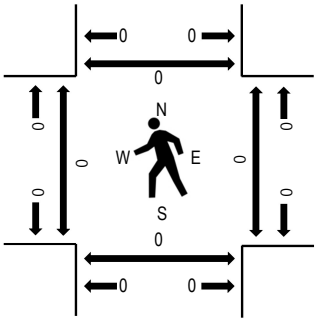
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	PERALTA BLVD Eastbound				PERALTA BLVD Westbound				ACACIA ST Northbound				ACACIA ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	5	143	0	0	0	153	1	0	0	0	0	0	2	0	1	305	1,204	0	0	0	0
4:15 PM	0	0	124	0	0	0	167	1	0	0	0	0	0	2	0	1	295	1,212	0	0	0	0
4:30 PM	0	2	137	0	0	0	173	0	0	0	0	0	0	4	0	1	317	1,256	0	0	1	0
4:45 PM	0	2	138	0	0	0	144	2	0	0	0	0	0	1	0	0	287	1,255	0	0	0	0
5:00 PM	0	0	150	0	0	0	154	5	0	0	0	0	0	2	0	2	313	1,298	0	0	0	0
5:15 PM	0	1	161	0	0	0	171	2	0	0	0	0	0	1	0	3	339		0	0	0	0
5:30 PM	0	3	140	0	0	0	169	2	0	0	0	0	0	2	0	0	316		0	0	0	0
5:45 PM	0	3	165	0	0	0	157	2	0	0	0	0	0	2	0	1	330		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Lights	0	7	611	0	0	0	647	11	0	0	0	0	0	7	0	5	1,288
Mediums	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	1	8
Total	0	7	616	0	0	0	651	11	0	0	0	0	0	7	0	6	1,298

Appendix C

Collision Data

City of Fremont

From 7/1/2013 to 7/1/2023

Total Collisions: 5
Injury Collisions: 3
Fatal Collisions: 0

Collision Summary Report

7/19/23

PERALTA BLVD & ACACIA ST

140607030	6/7/2014	15:24	Saturday	PERALTA BLVD - SHINN ST			191'	Direction: West	Daylight	Clear	Pty at Fault:
	Overturned		Other Object	Unsafe Speed		22350		Hit & Run: No	Other Visible Injury	# Inj: 1	# Killed: 0
Party 1 Bicyclist	East	Proceeding Straight		Male	Age: 30			Bicycle			Other Visible Injury
Veh Type: Bicycle		Sobriety: HNBD		Assoc Factor: None Apparent			M/C Helmet Driver - Yes		Cell Phone Not In Use		
170311025	3/11/2017	20:10	Saturday	CAMBRIDGE CT - PERALTA BLVD			19'	Direction: South	Dark - Street Lig	Clear	Pty at Fault:1
	Hit Object		Fixed Object	Improper Turning		22107		Hit & Run: No	Property Damage Only	# Inj: 0	# Killed: 0
Party 1 Driver	East	Making Right Turn		Male	Age: 28	1998 BMW	M3	Passenger Car, Station Wagon, Jeep			No Injury
Veh Type:		Sobriety: HNBD		Assoc Factor: Runaway Vehicle			Lap/Shoulder Harness Not Us		Cell Phone Not In Use		
170608012	6/8/2017	12:03	Thursday	PERALTA BLVD - SHINN ST			209'	Direction: West	Daylight	Cloudy	Pty at Fault:1
	Hit Object		Fixed Object	Improper Turning		22107		Hit & Run: No	Complaint of Pain	# Inj: 1	# Killed: 0
Party 1 Driver	West	Proceeding Straight		Female	Age: 28	2015 ACURA	MDX	Sport Utility Vehicle			Complaint of Pain
Veh Type:		Sobriety: HNBD		Assoc Factor: Other			Lap/Shoulder Harness Used		Cell Phone Not In Use		
201018008	10/18/2020	09:05	Sunday	PERALTA BLVD - ACACIA CT			0'	Direction: Not Stated	Daylight	Clear	Pty at Fault:1
	Sideswipe		Fixed Object	Improper Turning		22107		Hit & Run: No	Other Visible Injury	# Inj: 1	# Killed: 0
Party 1 Bicyclist	East	Making Left Turn		Female	Age: 44	2020 CANNONDALE	TOPSTONE	Bicycle			Other Visible Injury
Veh Type:		Sobriety: HNBD		Assoc Factor: None Apparent			Not Stated		Cell Phone Not In Use		
230301009	3/1/2023	08:07	Wednesday	PERALTA BLVD - ACACIA ST			0'	Direction: Not Stated	Daylight	Clear	Pty at Fault:1
	Rear-End		Other Motor Vehicle	Unsafe Speed		22350		Hit & Run: No	Property Damage Only	# Inj: 0	# Killed: 0
Party 1 Driver	WEST	Proceeding Straight		M	Age: 35	2022 JEEP	GRAND CHERO	Passenger Car, Station Wagon, Jeep			
Veh Type:		Sobriety: HNBD		Assoc Factor: Inattention			Lap/Shoulder Harness Used		Cell Phone Not In Use		
Party 2 Driver	WEST	Stopped In Road		M	Age: 36	2001 TESLA	MODEL 3	Passenger Car, Station Wagon, Jeep			
Veh Type:		Sobriety: HNBD		Assoc Factor: None Apparent			Lap/Shoulder Harness Used		Cell Phone Not In Use		

Settings for Query:

Street: PERALTA BLVD
Cross Street: ACACIA ST
Within a Radius of: 1000'
Sorted By: Date and Time

Appendix D

Excerpt from City of Fremont SR84 Relinquishment Scoping Study

SR 84 Relinquishment

Peralta Boulevard

KEY CORRIDOR CONSIDERATIONS

- Frequent sidewalk gaps force pedestrians to walk in the roadway shoulder
- Near Fremont Boulevard, a mix of commercial and residential uses front Peralta
- East of Camden Street, single-family neighborhoods are located adjacent to but do not front Peralta, and commercial uses sporadically front the street
- Roadway right-of-way is generally wide but changes frequently, resulting in sidewalk and streetscape set back from the roadway by very wide paved or unpaved shoulders
- Wide lanes and shoulders encourages high speeds

Top: Near Paseo Padre, the two- to three-lane roadways widens to five-lanes with a raised median.
Middle: Three-lane cross-section at Edward Ave.
Bottom: At its narrowest, the roadway is a two-lane roadway with shoulders that are used for parking and walking.

CITY OF Fremont

FEHR PEERS

Segment Overview

Peralta Boulevard extends between Fremont Boulevard and Mowry Avenue. This segment has a frequently changing cross-section with a curb-to-curb dimension ranging between 41 and 83 feet. The roadway provides access to single and multi-family residential neighborhoods and some commercial uses. Changes in the cross-section vary by block depending on when the adjacent property was developed. As roadway volumes do not warrant additional travel lanes, wide paved and striped shoulders are prevalent. Sidewalk gaps exist on either side of the street for much of the corridor. Transit does not operate on Peralta Boulevard.

Existing Conditions

- Posted speed limit is 35 MPH west of and 40 mph east of Martha Avenue
- Sidewalk gaps are located throughout the corridor
- Where present, sidewalks range from 4' with 6' landscaping to 10' and are set back from the edge of the travel way by wide paved or unpaved shoulders
- No bike lanes exist
- On-street parking is permitted on approximately 30% of the corridor
- Challenges with overhead utilities and conforming to existing grades are present in portions
- Lane widths vary from 11-13' typically, with wide shoulders often 15-20'

Needs and Opportunities

- Repurpose travel lanes to create a consistent three-lane cross-section based on low traffic volumes
- Utilize existing excess lane width to better provide for walking and biking
- Improve bicycle facilities to reduce level of traffic stress caused by high vehicle speeds, number of travel lanes, and lack of protection for bicyclists
- At the intersection with Mowry Avenue, consider removing the over-sized right-turn slip lanes, replacing the signal with a roundabout, or otherwise redesigning to right-size the intersection for the neighborhood and repurpose as public park space
- Utilize excess right-of-way to treat stormwater
- Improve accessibility and mobility for pedestrians through sidewalk gap closures

Peralta Boulevard

SEGMENTATION

As an irregular corridor with wide ranging right-of-way dimensions, Peralta Boulevard is divided into the following segments:

- Fremont Boulevard to Sequoia Avenue (**Figure P2-A**)
- Sequoia Avenue to Mowry Avenue (**Figure P2-B**)

Proposed Phase 0 Improvements

General Improvements

- Bring pavement to state of good repair with LATIP funds

Proposed Phase 1 Improvements

General Improvements

- Lane reduction to one travel lane in each direction
- Widen roadway where needed to allow landscaped median, left-turn pockets, and buffered bike lanes
- Reduce curb radii at intersections
- Install bicycle detection at all signals
- Modify all existing signals to include pedestrian countdowns, accessible pushbuttons, and two directional curb ramps per intersection corner

Fremont Boulevard to Sequoia Avenue Improvements

- Create consistent cross-section between Fremont Boulevard and Sequoia Street
- Stripe 10' median
- Close sidewalk gaps on south side of street
- Preserve parking on both sides of street near Sequoia Road

Sequoia Avenue to Camden Street Improvements

- Widen roadway, which requires minor right-of-way acquisition
- Stripe buffered bike lanes
- Close sidewalk gaps on south and north sides of street
- Provide continuous sidewalk adjacent to travelway

Camden Street to Mowry Avenue Improvements

- Lane reduction to one travel lane in each direction with two-way left-turn lane
- Stripe buffered bike lanes
- Enhance existing school crosswalk at Acacia Street with RRFBs and ladder striping and reduce curb radii
- One of two options for improving the intersection at Mowry Avenue (**Figure P5a** and **P5b**)

Proposed Improvements Phase 2 Improvements

General Improvements

- Install landscaped median, sidewalk widening and green infrastructure/landscaping improvements between Sequoia Avenue and Mowry Avenue

Fremont Boulevard to Sequoia Avenue Improvements

- Consider installing landscaped median
- Install green infrastructure

Sequoia Avenue to Camden Street Improvements

- Install green infrastructure

Camden Street to Mowry Avenue Improvements

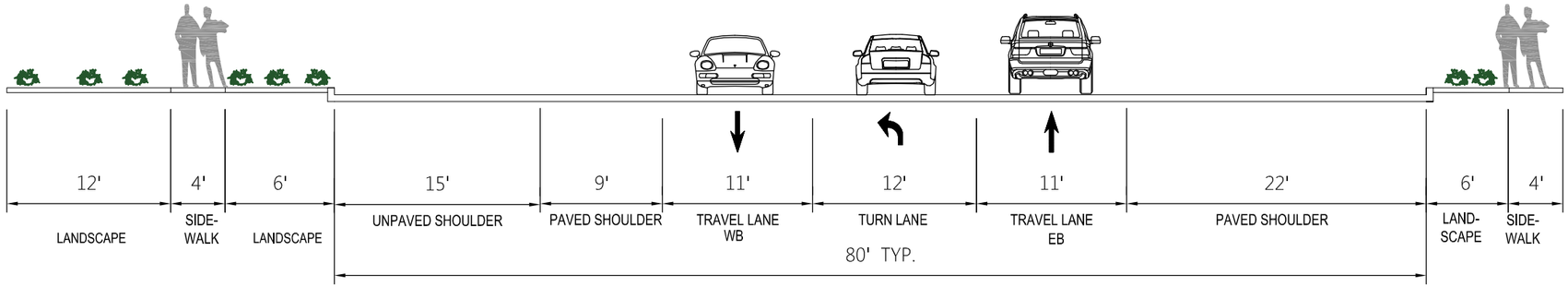
- Construct wide landscaped median, approximately 18' in width
- Install bioretention in excess right-of-way
- Consider locating sidewalk closer to the existing edge of roadway and abandon the sidewalk that is set 20' or more back from the roadway OR widen the existing sidewalk and provide landscaping/green infrastructure to create a park/path-like feel
- Acquire right-of-way on parcel near Martin Avenue
- Remove channelized right-turns at Paseo Padre intersection to improve pedestrian safety

Figures P3-A, 3-B, 3-C, and 3-D present the full build out of Phases 1 and 2 in plan view. **Figure P4** presents an illustrative plan view of Peralta Boulevard near Fremont Boulevard. The preliminary cost of the Peralta Boulevard **Phase 1** improvements is estimated as follows:

- Preliminary Engineering/Environmental: $529,000
- Final Design: $1,093,000
- Right-of-way: $866,000
- Construction: $8,837,000
- ***Total Cost: $11,325,000***

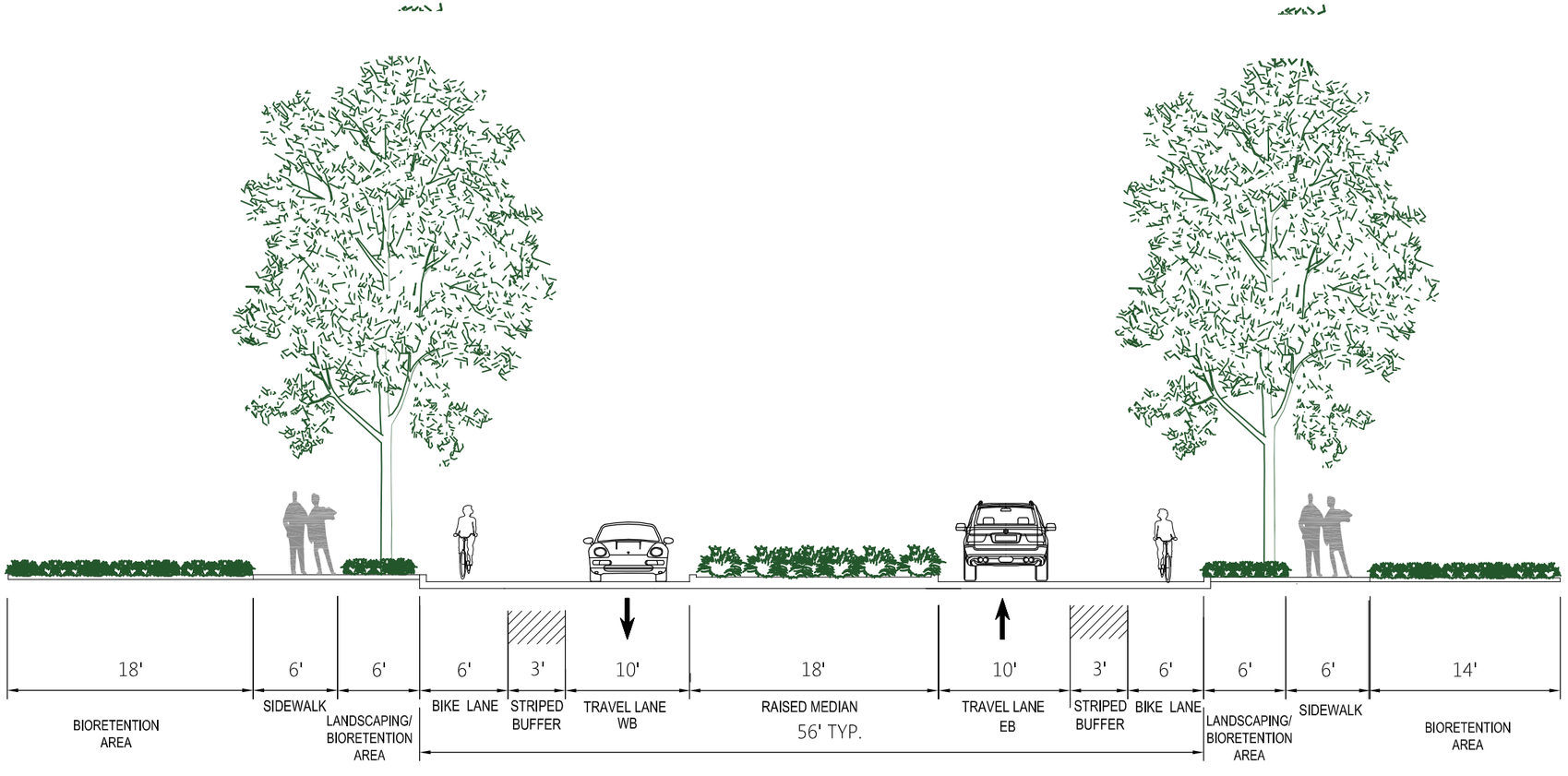
The preliminary cost of the Peralta Boulevard **Phase 2** improvements is estimated as follows:

- Preliminary Engineering/Environmental: $827,000
- Final Design: $1,710,000
- Right-of-way: $1,289,000
- Construction: $14,444,000
- ***Total Cost: $18,271,000***



EXISTING PERALTA BOULEVARDTYPICAL CROSS SECTION

CAMDEN STREET TO MOWRY AVENUE



PROPOSED PERALTA BOULEVARD TYPICAL CROSS SECTION (P2-B)

CAMDEN STREET TO MOWRY AVENUE

Figure P2-B
Peralta Boulevard
Camden Street to Mowry Avenue
Existing & Proposed Street Cross Sections

MATCHLINE - SEE FIGURE P3-B

MATCHLINE - SEE BELOW LEFT

LEGEND:

NEW OR WIDENED LANDSCAPING DESIGN AS GREEN INFRASTURCTURE/ BIORETENSION WHEREVER FEASIBLE. (PHASE II)

NEW OR WIDENED SIDEWALK (PHASE II)

PERALTA BLVD

P2B

P2B

MARTHA AVE

EDWARD AVE

CONSIDER RELOCATING SIDEWALK TO EDGE OF TRAVEL WAY OR WIDENING EXISTING SIDEWALK TO CREATE PARK/PATH FEEL, INCLUDE GREEN INFRASTRUCTURE

RIGHT-OF-WAY REQUIRED

INSTALL RRFBs,

MATCHLINE - SEE ABOVE RIGHT

ARCHER WAY

PERALTA BLVD

P2B

P2B

CAMBRIDGE CT

TEMPLE WAY

ACACIA ST

MATCHLINE - SEE FIGURE P3-D

N

80 0 80 160

1" = 80' GRAPHIC SCALE

Figure P3-C

Peralta Blvd
Paseo Padre Pkwy to Acacia St