APPENDIX D

TRANSPORTATION IMPACT ANALYSIS

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TRANSPORTATION IMPACT ANALYSIS

MENLO FLATS

MENLO PARK, SAN MATEO COUNTY, CALIFORNIA

This Transportation Impact Analysis has been prepared under the supervision of
Shiva Delparastaran, P.E.

LSA

September 2021

TRANSPORTATION IMPACT ANALYSIS

MENLO FLATS

MENLO PARK, SAN MATEO COUNTY, CALIFORNIA

Submitted to:

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Project No. CMK2001

LSA

September 2021

EXECUTIVE SUMMARY

LSA prepared this Transportation Impact Analysis (TIA) to identify the potential transportation effects resulting from the development of the proposed Menlo Flats Project (project) at 165 Jefferson Drive, Menlo Park, California. LSA has prepared this analysis based on the objectives and methodologies set forth in the City of Menlo Park (City) TIA Guidelines (City of Menlo Park 2020a), the City's Transportation Demand Management (TDM) Plan (Hexagon 2020), the City's General Plan (City of Menlo Park 2016), the Town of Atherton General Plan (Town of Atherton 2019), applicable requirements of the California Department of Transportation (Caltrans), and applicable provisions of the California Environmental Quality Act (CEQA).

The project site is currently occupied by an office tenant. The project would demolish the existing 24,311-square-foot (sf) office building and construct an approximately 253,700 sf, eight-story mixed-use building with 158 dwelling units and 15,000 sf of community amenity space (13,400 sf of office use and 1,600 sf of commercial space, assumed to be used as a café), as well as associated open space, circulation and parking, and infrastructure improvements. Vehicle access to the project site will be provided via a new full-access driveway on Jefferson Drive. The project will be completed in 2024.

Based on the results of this TIA, the project's estimated average daily vehicle miles traveled (VMT) is above the City's VMT threshold for both residential and office components of the project. However, implementation of the proposed TDM Plan would result in the project's average daily VMT being below the City's VMT thresholds. Therefore, the VMT generated by the project would result in a less than significant impact.

This TIA evaluates the a.m. and p.m. peak-hour levels of service (LOS) during a typical weekday at the study area intersections. The project's adverse effects were determined based on the analysis of the following scenarios, consistent with the City's requirements:

- Existing condition
- Near-Term (Existing plus approved projects) condition
- Near-Term Plus Project condition
- Cumulative (including all future potential development by year 2040) condition
- Cumulative Plus Project condition

Based on the results of this TIA, development of the project would result in one study area intersection operating in noncompliance with the TIA Guidelines under the Near-Term Plus Project condition and in seven study intersections operating in noncompliance with the TIA Guidelines under the Cumulative Plus Project condition. The intersections would operate in compliance with the TIA Guidelines under the Near-Term Plus Project and Cumulative Plus Project conditions with proposed improvements, which will be discussed in the study.

The project residential and nonresidential uses would access the parking garage via a single two-way gated entry point approximately 85 feet (ft) from the back of the sidewalk on Jefferson Drive. Project outbound traffic would need to be stop-controlled at the driveway before turning onto

Jefferson Drive. The project driveway would meet the minimum sight distance requirements specified in the California Manual on Uniform Traffic Control Devices (California MUTCD; Caltrans 2014).

Based on the results of the gate stacking analysis, the minimum stacking distance is satisfied at the proposed gate on the project site, and the proposed gate operation and vehicle storage length would accommodate the projected demand without queuing onto Jefferson Drive.

The project will not meet the minimum required parking spaces for the residential use but will meet the minimum required parking spaces for the nonresidential use. However, as part of the Below Market Rate (BMR) Ordinance and BMR Guidelines, the project sponsor may request a waiver from the minimum parking requirement. Therefore, if the City Council grants the waiver for the minimum number of parking spaces, the project would meet the City's parking requirements.

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LIST OF ABBREVIATIONS AND ACRONYMS

ac	acre(s)
ADT	average daily trips
BMR	Below Market Rate
California MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
City	City of Menlo Park
ft	foot/feet
HCM	*Highway Capacity Manual*
ITE	Institute of Transportation Engineers
LOS	level of service
mi	mile(s)
mph	miles per hour
NCHRP	National Cooperative Highway Research Program
OPR	Office of Planning and Research
project	Menlo Flats Project
SamTrans	San Mateo County Transportation Authority
SB	Senate Bill
sf	square feet
SR-84	State Route 84
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
TIF	Traffic Impact Fee
TRB	Transportation Research Board
US-101	United States Route 101
VMT	vehicle miles traveled

TRANSPORTATION IMPACT ANALYSIS, MENLO FLATS PROJECT

INTRODUCTION

The purpose of this Transportation Impact Analysis (TIA) is to identify the potential transportation effects associated with the proposed Menlo Flats Project (project) located at 165 Jefferson Drive in Menlo Park, San Mateo County, California. The project site is currently occupied by an office tenant. The project would demolish the existing 24,311-square-foot (sf) office building and construct an approximately 253,700 sf, eight-story mixed-use building with 158 dwelling units and 15,000 sf of community amenity space (13,400 sf of office use and 1,600 sf of commercial space, assumed to be used as a café), as well as associated open space, circulation and parking, and infrastructure improvements. The project will be completed in 2024.

The approximately 1.38-acre (ac) project site is bordered by office and light industrial uses to the north, east, and west, and by Jefferson Drive to the south. Vehicle access to the project site will be provided via a new full-access driveway on Jefferson Drive. A project vicinity map is presented on Figure 1. Figure 2 illustrates the conceptual site plan.

LSA prepared the TIA based on the City of Menlo Park (City) TIA Guidelines (City of Menlo Park 2020a), the City's Transportation Demand Management (TDM) Plan (Hexagon 2020), the City's General Plan (City of Menlo Park 2016), the Town of Atherton General Plan (Town of Atherton 2019), applicable requirements of the California Department of Transportation (Caltrans), and applicable provisions of the California Environmental Quality Act (CEQA).

This TIA examines the following four scenarios:

1. Existing condition
2. Near-Term (Existing plus approved projects) condition
3. Near-Term Plus Project condition
4. Cumulative (including all future potential development by year 2040) condition
5. Cumulative Plus Project condition

The following analysis periods have been evaluated:

1. Weekday a.m. peak hour (between 7:00 a.m. and 9:00 a.m.)
2. Weekday p.m. peak hour (between 4:00 p.m. and 6:00 p.m.)

PROJECT DESCRIPTION

The project would demolish the existing office building and construct an approximately 253,700 sf eight-story mixed-use building with 158 dwelling units and 15,000 sf of community amenity space (consisting of 13,400 sf of office use and 1,600 sf of commercial space, assumed to be used as a café), as well as associated open space, circulation and parking, and infrastructure improvements. The project will be completed in 2024.

Vehicle access to the project site will be provided via a new full-access driveway on Jefferson Drive. Project outbound traffic will be stop-controlled at the driveway, while Jefferson Drive will remain uncontrolled along the project frontage.

ANALYSIS METHODOLOGY

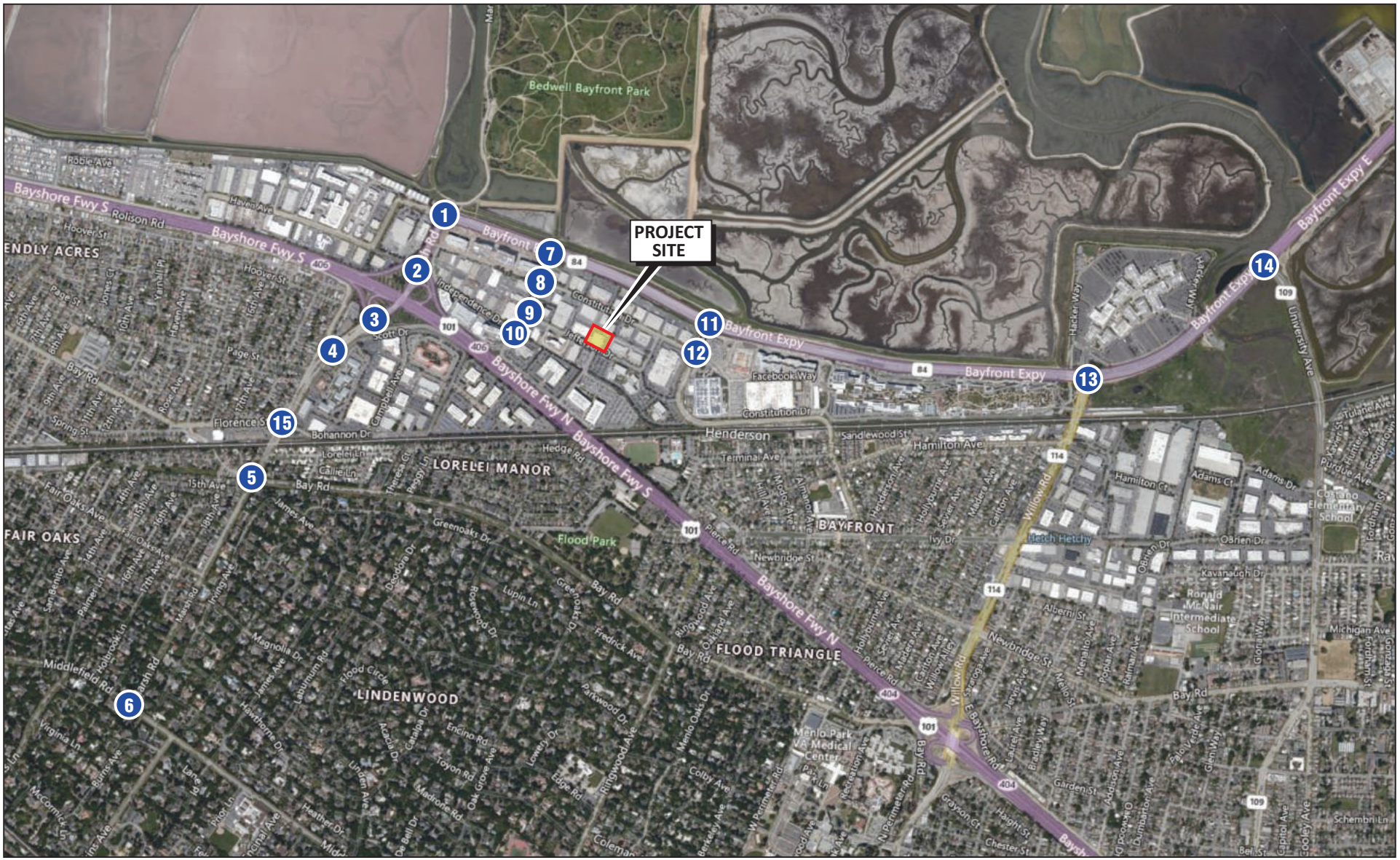
This TIA is prepared consistent with the objectives and requirements of City's TIA Guidelines (City of Menlo Park 2020a), the City's TDM Plan (Hexagon 2020), the City's General Plan (City of Menlo Park 2016), the Town of Atherton General Plan (Town of Atherton 2019), Caltrans, and applicable provisions of CEQA.

Study Area

The study area analyzed in this report includes the following 15 intersections:

1. Marsh Road/Bayfront Expressway/Haven Avenue (local approaches to State)
2. Marsh Road/United States Route 101 (US-101) northbound off-ramp (State)
3. Marsh Road/US-101 southbound off-ramp (State)
4. Marsh Road/Scott Drive (Menlo Park)
5. Marsh Road/Bay Road (Menlo Park)
6. Marsh Road/Middlefield Road (Atherton)
7. Chrysler Drive/Bayfront Expressway (local approaches to State)
8. Chrysler Drive/Constitution Drive (Menlo Park)
9. Chrysler Drive/Jefferson Drive (Menlo Park)
10. Chrysler Drive/Independence Drive (Menlo Park)
11. Chilco Street/Bayfront Expressway (local approaches to State)
12. Chilco Street/Constitution Drive (Menlo Park)
13. Willow Road/Bayfront Expressway (State)
14. University/Bayfront Expressway (State)
15. Marsh Road/Florence Street-Bohannon Drive (Menlo Park)

Figure 3 shows the study intersections.



LSA

LEGEND

- Study Area Intersection

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0 1000 2000

FEET

SOURCE: Bing Maps

FIGURE 3

Menlo Flats

Study Area Intersections

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Intersection Level of Service Methodologies

In accordance with the City's TIA Guidelines (City of Menlo Park 2020a), intersections are evaluated using the *Highway Capacity Manual* (HCM), 6th Edition (TRB 2017) methodology. Vistro software was used to determine the level of service (LOS) based on traffic volume and intersection geometry.

The HCM methodology calculates the average delay experienced by all vehicles at an intersection. The resulting calculation of average delay experienced by vehicles at the intersection is then used to determine the LOS at that location. LOS A represents free-flow activity, and LOS F represents overcapacity operation. LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. LOS criteria for intersections are presented below:

A. In this service level, no approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.

B. This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.

C. This service level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

D. This service level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.

E. Capacity occurs at the upper end of this service level. This level represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.

F. This service level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

The relationship between LOS and the delay (in seconds) of signalized and unsignalized intersections is as follows:

Level of Service	Signalized Intersection Delay per Vehicle (seconds)	Unsignalized Intersections Delay per Vehicle (seconds)
A	≤10	≤10.0
B	>10 and ≤20	>10.0 and ≤15.0
C	>20 and ≤35	>15.0 and ≤25.0
D	>35 and ≤55	>25.0 and ≤35.0
E	>55 and ≤80	>35.0 and ≤50.0
F	>80	>50.0

Threshold of Significance

The City's General Plan considers LOS D as the upper limit of satisfactory operations for the City-controlled signalized intersections, except at the intersection of Ravenswood Avenue/Middlefield Road and the intersections along Willow Road from Middlefield Road to US-101.

Based on the City's TIA Guidelines (City of Menlo Park 2020a), a project is considered potentially noncompliant with local policies if the addition of the project trips results in an intersection on a collector street operating at LOS A through C to operate at an unacceptable LOS (i.e., LOS D, E, or F), or have an increase of 23 seconds or greater in average vehicle delay. A project is also considered potentially noncompliant with local policies if the addition of the project trips results in an intersection on arterial streets or local approaches to State-controlled signalized intersections operating at LOS A through D to operate at an unacceptable LOS (i.e., LOS E or F) or have an increase of 23 seconds or greater in average vehicle delay. Furthermore, a project is considered potentially noncompliant with local policies if the addition of the project trips results in an increase of more than 0.8 second of average delay to vehicles on all critical movements for intersections operating at a near-term LOS D through F for collector streets and at a near-term LOS E or F for arterial streets. A project is also considered potentially noncompliant with local policies if the addition of the project trips results in an increase of more than 0.8 second of average delay to vehicles on the most critical movements for intersections operating at a near-term LOS E or F for local approaches to State-controlled signalized intersections.

The Town of Atherton General Plan Circulation Element (Town of Atherton 2019) considers LOS D as the upper limit of satisfactory operations for minor arterials and collectors, and LOS C for local streets.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities and to maintain the existing LOS in cases where a facility is operating at less than the target LOS. For the purposes of this TIA and consistency with the past studies in the City, the City's LOS standard is also applied to the State-controlled intersections, and the Caltrans LOS standard applies to ramp intersections. A project LOS impact at a Caltrans intersection would occur if the addition of the project trips causes the peak-hour LOS to deteriorate from an acceptable LOS (LOS A, B, C, or D) to an unacceptable LOS (LOS E or F) or causes an intersection that is already operating at an unacceptable LOS to deteriorate to a worse LOS.

EXISTING BASELINE CONDITION

Existing Circulation System

Key roadways in the vicinity of the proposed project are as follows:

- **Bayfront Expressway (State Route 84 [SR-84])** is a six-lane north-south expressway located east of the project site. According to the City's General Plan, Bayfront Expressway is a Freeway. From Marsh Road to Chilco Street, the speed limit is 45 miles per hour (mph), and south of Chilco Street, the speed limit is 50 mph.

- **Constitution Drive** is a two-lane north-south roadway located east of the project site. According to the City's General Plan, Constitution Drive is a Mixed Use Collector. The posted speed limit is 35 mph. On-street parking is generally not permitted.
- **Jefferson Drive** is a two-lane north-south roadway that provides direct access to the project site. According to the City's General Plan, Jefferson Drive is a Mixed Use Collector. The posted speed limit is 25 mph. On-street parking is generally not permitted.
- **Independence Drive** is a two-lane north-south roadway located southwest of the project site. According to the City's General Plan, Independence Drive is a Mixed Use Collector. The posted speed limit is 25 mph. On-street parking is generally not permitted.
- **Bayshore Freeway (US-101)** is an eight-lane north-south freeway located west of the project site. US-101 connects Menlo Park with cities in the San Francisco Peninsula from San Jose to San Francisco. In the vicinity of the project site, the speed limit is 65 mph.
- **Marsh Road** is an east-west roadway located north of the project site. According to the City's General Plan, Marsh Road is a Thoroughfare with three lanes in each direction between US-101 and Bayfront Expressway and is a Mixed Use Collector from US-101 to Bay Road. The posted speed limit is 35 mph. On-street parking is permitted in selected locations south of US-101.
- **Chrysler Drive** is a two-lane east-west roadway located north of the project site. According to the City's General Plan, Chrysler Drive is a Mixed Use Collector. The posted speed limit is 25 mph. On-street parking is not permitted.
- **Chilco Street** is a two- to four-lane east-west roadway located south of the project site. It extends from Bayfront Expressway to residential neighborhoods to the south. According to the City's General Plan, Chilco Street is a Mixed Use Collector. The posted speed limit is 30 mph. On-street parking is not permitted.

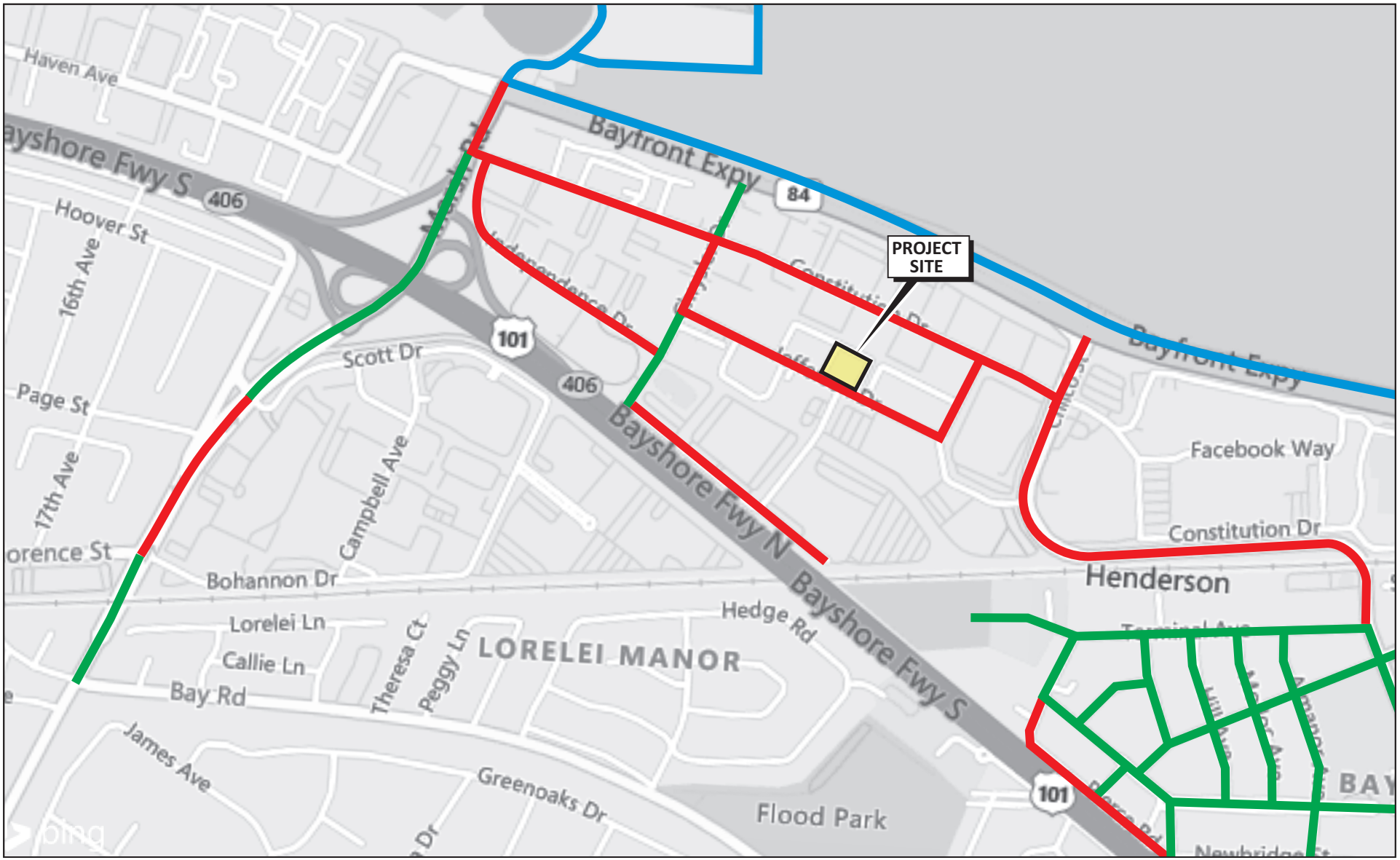
The existing study area intersection geometrics are shown in Appendix A.

Pedestrian Circulation

Sidewalks currently exist in the project vicinity on the west side of Jefferson Drive and Constitution Drive between Chrysler Drive and Chilco Street, on the east side of Constitution Drive between Marsh Road and Chrysler Drive, on the west side of Independence Drive between Constitution Drive and Chrysler Drive, on Chrysler Drive between Jefferson Drive and Commonwealth Drive and between Constitution Drive and Bayfront Expressway, and on the south side of Chrysler Drive between Jefferson Drive and Constitution Drive. Figure 4 represents the existing sidewalk facilities in the project vicinity. The project would maintain the pedestrian crosswalks and curb ramps at the study intersections consistent with the policies from the American with Disabilities Act. There would be no other change to the surrounding pedestrian system with the development of the project.

Bicycle Circulation

The San Francisco Bay Trail (Class I) runs parallel to Bayfront Expressway in the vicinity of the project site. A Class I bike path is also provided on Marsh Road between Constitution Drive and Bayfront Expressway.



LSA

FIGURE 4

LEGEND

- Sidewalks on Both Sides
- Sidewalks on One Side
- Bay Trail

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0 415 830

FEET

SOURCE: Bing Maps

Menlo Flats

Existing Pedestrian Facilities

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Class II bike lanes are currently provided on Jefferson Drive, on Constitution Drive between Independence Drive and Chilco Street, on Chrysler Drive between Bayfront Expressway and Independence Drive, and on Chilco Street between Bayfront Expressway and Constitution Drive.

Class III bike routes are currently provided on Independence Drive between Constitution Drive and Chrysler Drive.

Class IV facilities (protected bike lanes) are provided on the east and west sides of Chilco Street in the vicinity of the project.

Figure 5 illustrates the existing bicycle facilities in the project vicinity. Bicycle travel can occur along these routes to employment, shopping, or recreational destinations.

Transit Facilities

Transit facilities will be accessible to and from the project site. The Crosstown Shuttle (M1) stop is provided at the intersection of Del Norte Avenue/Terminal Avenue, approximately 1 mile (mi) from the project site, and provides free transportation to the Menlo Park Caltrain Station, the Palo Alto Caltrain Station, and the surrounding medical/commercial uses. The M1 Shuttle provides five runs in each direction throughout the day. Two shuttle stops (Marsh Road and M3) are provided approximately 500 feet (ft) north and south of the project site on Jefferson Drive. The Marsh Road Shuttle (M3) provides free transportation service between the Menlo Park Caltrain Station (approximately 3.5 mi from the project site) and Marsh Road business park area. It runs between approximately 7:30 a.m. to 10:00 a.m. and 3:30 p.m. to 6:00 p.m.

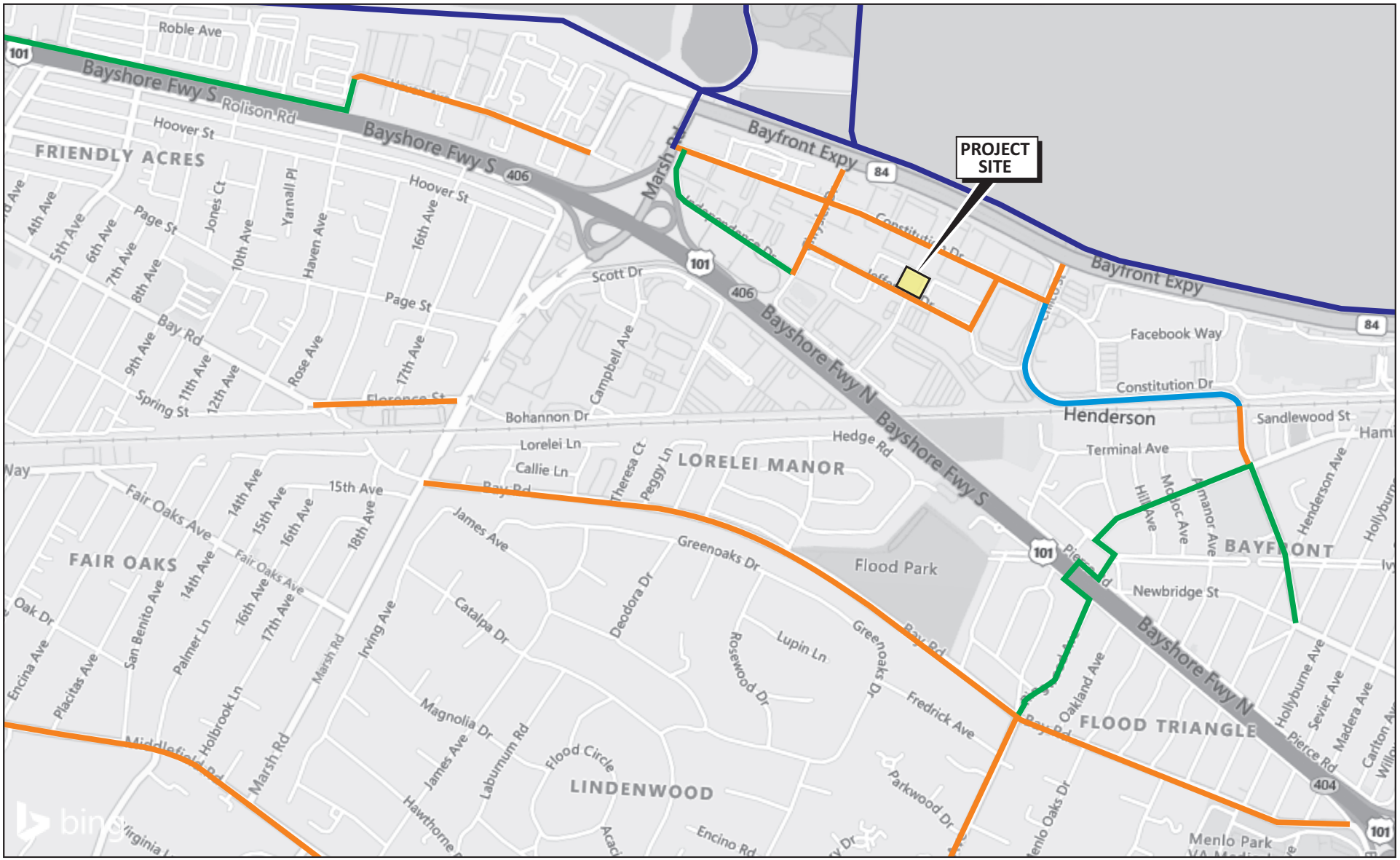
Additionally, a San Mateo County Transportation Authority (SamTrans, Route 270) bus stop is provided on Haven Avenue, approximately 1 mi from the project site. Route 270 operates in a loop between the Redwood City Caltrain Station and the Marsh Road business park area. Figure 6 shows the existing transit and shuttle services in the project vicinity.

Additional transit lines by SamTrans in the vicinity of the project site include Route 281, Route 296, Route 397, and Route ECR. Route 81 and Route 83 provide limited service to local schools on weekdays. Furthermore, AC Transit operates Line U and Dumbarton Express (Lines DB and DB1) in the vicinity of the project site. Appendix B provides the Marsh Road Shuttle, the SamTrans bus routes, and the AC Transit bus routes map and schedule.

Existing Traffic Volumes and Level of Service Analysis

Existing traffic volumes were collected in 2019 and were increased by 1 percent to represent a 2020 condition. Existing traffic counts were included in the Vistro file provided by the City. Appendix C provides the turning movement volumes under the Existing condition.

Table A summarizes the results of the existing peak-hour LOS analysis for the study area intersections. The existing HCM worksheets are provided in Appendix D.



LSA

LEGEND

- Class I Facility
- Class II Facility
- Class III Facility
- Class IV Facility

0 625 1250
FEET

SOURCE: Bing Maps

FIGURE 5

Menlo Flats
Existing Bicycle Facilities

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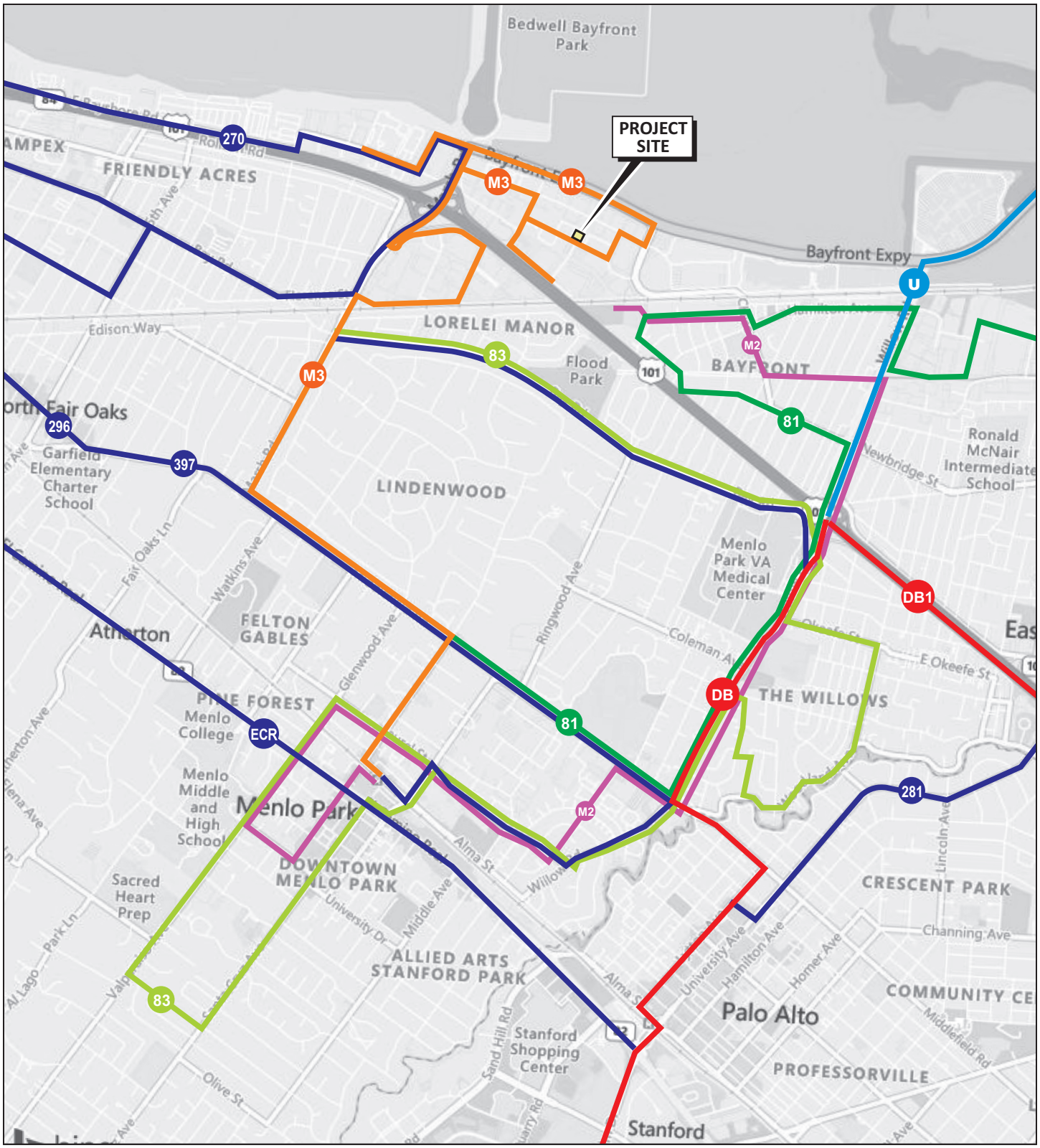

LSA

FIGURE 6

LEGEND

- SanTrans Route (Full Service)

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0 1250 2500

FEET

SOURCE: Bing Maps

Menlo Flats

Existing Transit Facilities

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LSA

Table A: Existing Intersection Level of Service Summary

	Intersection	Control	Peak Hour	Existing		Meet General Plan Standard?[1]
				Delay	LOS	
1	Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	56.9	E	No
			PM	36.5	D	Yes
2	Marsh Road/US-101 Northbound Ramps (State/CMP)	Signal	AM	15.8	B	N/A
			PM	13.3	B	N/A
3	Marsh Road/US-101 Southbound Ramps (State/CMP)	Signal	AM	18.1	B	N/A
			PM	17.0	B	N/A
4	Marsh Road/Scott Drive (Menlo Park)	Signal	AM	18.5	B	Yes
			PM	15.3	B	Yes
5	Marsh Road/Bay Road (Menlo Park)	Signal	AM	19.7	B	Yes
			PM	18.6	B	Yes
6	Marsh Road/Middlefield Road (Atherton)	Signal	AM	35.0	D	N/A
			PM	37.9	D	N/A
7	Chrysler Drive/Bayfront Expressway (Local Approaches to State)	Signal	AM	8.4	A	Yes
			PM	13.1	B	Yes
8	Chrysler Drive/Constitution Drive (Menlo Park)	Signal	AM	50.6	D	Yes
			PM	28.0	C	Yes
9	Chrysler Drive/Jefferson Drive (Menlo Park)	TWSC[2]	AM	18.6	C	Yes
			PM	19.0	C	Yes
10	Chrysler Drive/Independence Drive (Menlo Park)	TWSC[2]	AM	39.3	E	No
			PM	16.7	C	Yes
11	Chilco Street/Bayfront Expressway (Local Approaches to State)	Signal	AM	12.7	B	Yes
			PM	16.0	B	Yes
12	Chilco Street/Constitution Drive (Menlo Park)	Signal	AM	28.3	C	No
			PM	36.2	D	No
13	Willow Road/Bayfront Expressway (State)	Signal	AM	106.0	F	N/A
			PM	168.1	F	N/A
14	University/Bayfront Expressway (State)	Signal	AM	11.4	B	N/A
			PM	94.1	F	N/A
15	Marsh Road/Florence Street-Bohannon Drive (Menlo Park)	Signal	AM	35.3	D	Yes
			PM	34.6	C	Yes

[1] The General Plan Standard information is relevant where the City's LOS policy standards apply.

[2] For TWSC, for unsignalized intersections, delay and LOS for the worst movement are reported.

City = City of Menlo Park

CMP = Congestion Management Program

LOS = level of service

N/A = not applicable

TWSC = two-way stop-controlled

US-101 = United States Route 101

As shown in Table A, the intersections listed below exceed the City's LOS standard during one or both peak hours:

- Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)—LOS E (a.m. peak hour)
- Chrysler Drive/Independence Drive (Menlo Park)—LOS E (a.m. peak hour)
- Willow Road/Bayfront Expressway (State)—LOS F (a.m. and p.m. peak hours)
- University/Bayfront Expressway (State)—LOS F (p.m. peak hour)

All other study area intersections operate at satisfactory LOS under the Existing condition.

A peak-hour traffic signal warrant analysis has been prepared to determine whether a traffic signal is justified at the unsignalized intersection of Chrysler Drive/Independence Drive under the Existing condition. The analysis is based on Warrant 3, Peak Hour Warrant, of the California Manual on Uniform Traffic Control Devices (California MUTCD; Caltrans 2014). The California MUTCD signal warrant analysis worksheets are provided in Appendix E. As shown in Appendix E, installation of a traffic signal is not warranted under the Existing condition.

TRANSPORTATION DEMAND MANAGEMENT PLAN

The project will implement a TDM Plan in order to relieve traffic congestion and parking demand throughout the City. The TDM measures may include the following:

- A Transportation Coordinator will be assigned to provide information regarding alternative modes of transportation to the residents.
- An online kiosk with transportation information will be established. Residents could access the online kiosk from their smartphone.
- A Resident Orientation Packet consisting of transportation information will be provided to residents.
- Twenty-four short-term and 208 long-term bicycle spaces will be provided on site.
- Enhanced pedestrian facilities will be provided on Jefferson Drive, including new sidewalks landscaped with street trees along the project's frontages.
- On-site amenities will be provided, including 26 parking spaces equipped with electric vehicle charging stations and a high-bandwidth internet connection to facilitate telecommunicating and working from home.
- Carpool and vanpool programs will be provided, including on-site ride matching assistance promoting 511 RideMatch and Scoop.

- Carpool and vanpool incentives will be provided, including Scoop discounts for San Mateo County carpools, the Star Store Program, First Five Rides Free on 511, the Vanpool Formation Incentive, the Vanpool Seat Subsidy, and the Vanpool Participant Rebate.

- The on-site residential parking will be unbundled from each unit. Unbundling of parking would encourage residents to forego a second vehicle or have no vehicle at all.

Appendix F provides the detailed TDM Plan (Hexagon 2020).

VEHICLE MILES TRAVELED

Senate Bill (SB) 743 directed the Governor's Office of Planning and Research (OPR) to administer new CEQA guidance for jurisdictions by replacing the focus on automobile vehicle delay and LOS or other similar measures of vehicular capacity or traffic congestion in the TIA with vehicle miles traveled (VMT). This change shifts the focus of the TIA from measuring impacts to drivers, such as the amount of delay and LOS at an intersection, to measuring the impact of driving on the local, regional, and statewide circulation system and the environment. This shift in focus is expected to better align the TIA with the statewide goals related to reducing greenhouse gas emissions, encouraging infill development, and promoting public health through active transportation. As a result of SB 743, the California Office of Administrative Law cleared the revised *State CEQA Guidelines* for use on December 28, 2018. Beginning July 1, 2020, VMT is the legally required threshold for transportation impacts pursuant to CEQA. Prior to July 1, 2020, the City's TIA Guidelines used LOS as the primary metric for potentially significant environmental impacts. On June 23, 2020, the City Council approved the VMT thresholds for incorporation into the updated TIA Guidelines (City of Menlo Park 2020a).

The project is within the Bayfront Area of the City, where the majority of the area consists of industrial and business parkland uses and includes the City's entire existing General Industrial (M-2) zoning district along with some high-density residential land uses. The Bayfront Area contains heavily utilized corridors (e.g., US-101, Bayfront Expressway, and Willow Road), which could be challenging for pedestrians and bikers to utilize. The City's 2016 General Plan (City of Menlo Park 2016) update to the Land Use and Circulation Elements and rezoning of land in the Bayfront Area (i.e., ConnectMenlo) was designated to change the land use in the area and build a more pedestrian/bike-friendly environment, with increased density and diversity of uses. The change in the land use and transportation patterns would result in a reduction in the VMT within the Bayfront Area compared to the Existing condition.

As outlined in the City's TIA Guidelines (City of Menlo Park 2020a), the project VMT is estimated using the City's 2020 travel demand model. The travel demand model is a transportation planning analytical tool that utilizes land use information, travel behavior, and transportation-related data to forecast traffic statistics such as trip generation, trip distribution, and trip length. There are approximately 80 Traffic Analysis Zones (TAZs) in Menlo Park. The project is located within TAZ 3072.

The City's residential VMT threshold is defined as 13.7 per capita, which is 15 percent below the regional average (i.e., 16.1 per resident). Table B presents the regional average VMT and the City's defined VMT threshold per capita for the residential land use.

Table B: Regional, City, and Project VMT—Residential Land Use

Land-Use	Regional Average VMT	City's VMT Threshold (15% below the Regional Average)	Project VMT (TAZ 3072)
Residential (per capita)	16.1	13.7	16.0

Source: Menlo Park Travel Demand Model (2020)
City = City of Menlo Park
TAZ = Traffic Analysis Zone
VMT = vehicle miles traveled

For a previous approved residential project (Menlo Uptown Project) in the City that is located in the same TAZ as the project, the estimated average daily VMT for the residential use of that project was 16.0 per resident, which is 17 percent above the threshold of significance of 13.7 per capita. Therefore, as shown in Table B, the estimated average daily VMT per resident for the residential land use of the project is 16.0, which is 17 percent above the City's defined threshold of significance of 13.7 per capita.

As discussed before, the project will implement a TDM Plan that aims to reduce traffic congestion and parking demand. The proposed TDM measures and estimated percent reduction in VMT are presented in Table C, consistent with the California Air Pollution Control Officers Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010).

Table C: Project TDM Measures and Estimated VMT Reduction—Residential Land Use

TDM Measure	Range of VMT Reduction	Applied VMT Reduction for the Project[1]
Bike Parking (SDT-7)	0.625%	0.625%
Pedestrian Network Improvement (SDT-1)	0%–2%	2%
Limit Parking Supply (PDT-1)	5%–12%	12%
Unbundled Parking (PDT-2)	2.6%–13%	2.6%
Commute Trip Reduction Marketing (TRT-7)	0.8%–4%	4%
Increase Density (LUT-1)	9%–30%	>9%
Total		**>30.23%**

Source: *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010).
Note: The TDM measures and VMT reduction are consistent with the previous approved project (Menlo Uptown Project).
[1] The VMT reduction rate was determined based on the estimated level of adoption and aggressiveness of TDM strategies, accounting for other TDM measures so that the TDM reduction would not be overestimated.
CAPCOA = California Air Pollution Control Officers Association
TDM = Transportation Demand Management
VMT = vehicle miles traveled

As shown in Table C, implementation of the proposed TDM measures will result in a VMT reduction of approximately 30.23 percent of the VMT generated by the residential land use of the project. Application of the TDM measures would result in an average daily VMT of 11.2 per resident for the residential use, which is below the City's defined VMT threshold of significance of 13.7 per capita. As such, the VMT generated by the project's residential land use would result in a less than significant impact.

Table D presents the citywide average VMT and the City's defined VMT threshold per employee for the office land use. As shown in Table D, the City's office VMT threshold is defined as 12.7 per employee, which is 15 percent below the citywide average (i.e., 14.9 per employee). Based on the direction from the City and previous approved projects in the project vicinity, the estimated average daily VMT for the office land use of the project is 16.4 per employee, which is 29 percent above the City's defined threshold of significance of 12.7 per employee.

Table D: Citywide, City, and Project VMT—Office Land Use

Land-Use	Citywide Average VMT	City's VMT Threshold (15% below the Citywide Average)	Project VMT (TAZ 3072)
Office (per employee)	14.9	12.7	16.4

Source: Menlo Park Travel Demand Model (2020)
TAZ = Traffic Analysis Zone
VMT = vehicle miles traveled

Table E presents the proposed TDM measures and estimated percent reduction in VMT for the office use, which is consistent with the CAPCOA Guidelines and previous approved projects in the project vicinity. As shown in Table E, implementation of the proposed TDM measures will result in a VMT reduction of approximately 6.63 percent of the VMT generated by the office land use of the project. Application of the TDM measures would result in an average daily VMT of 15.3 per employee for the office use.

Table E: Project TDM Measures and Estimated VMT Reduction—Office Land Use

Project TDM Measure	Range of VMT Reduction	Applied VMT Reduction for the Project[1]
Pedestrian Network Improvement (SDT-1)	0%–2%	2%
Bike Parking (SDT-7)	0.625%	0.625%
Commute Trip Reduction Marketing (TRT-7)	0.8–4%	4%
TOTAL		**6.63%**

Source: *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010).
[1] The VMT reduction rate was determined based on the estimated level of adoption and aggressiveness of TDM strategies, accounting for other TDM measures so that the TDM reduction would not be overestimated.
CAPCOA = California Air Pollution Control Officers Association
TDM = Transportation Demand Management
VMT = vehicle miles traveled

Given that the TDM plan would need to achieve a 22 percent reduction in VMT per employee and that the TDM plan as currently proposed would achieve a 6.63 percent reduction, the VMT generated by the office use of the project would result in a significant impact. Therefore, additional TDM measures would be required to reduce this impact to a less than significant impact. The additional TDM measures would need to achieve a minimum of 15.4 percent reduction in VMT, for a total 22 percent reduction in VMT.

Table F presents the additional TDM measures for the office use, consistent with the CAPCOA Guidelines and previous approved projects in the project vicinity. As shown in Table F, implementation of additional TDM measures would result in an estimated reduction of an additional 19.6 percent of VMT generated by the office use. Application of the project TDM measures and additional TDM measures would result in an average daily VMT of 11.3 per employee for the office use, which is below the City's defined VMT threshold of significance of 12.7 per employee. As such, the VMT generated by the project's office use would result in a less than significant impact.

Table F: Project and Additional TDM Measures and Total Estimated VMT Reduction—Office Land Use

TDM Measure	Range of VMT Reduction	Applied VMT Reduction for the Project[1]
Project TDM Measures		
Pedestrian Network Improvement (SDT-1)	0%–2%	2%
Bike Parking (SDT-7)	0.625%	0.625%
Commute Trip Reduction Marketing (TRT-7)	0.8%–4%	4%
Total Proposed TDM Plan	—	**6.63%**
Additional TDM Measures		
Price Workplace Parking (TRT-14, TRT-15)	0.1% to 19.7%	6.8%
Subsidized or Discounted Transit (TRT-4)	0% to 20%	7.3%
Telecommuting and Alternative Work Schedule (TRT-6)	0.07% to 5.5%	5.5%
Total Additional TDM Measures	—	**19.6%**
Total TDM Plan		**26.23%**

Source: *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010).

[1] The VMT reduction rate was determined based on the estimated level of adoption and aggressiveness of TDM strategies, accounting for other TDM measures so that the TDM reduction would not be overestimated.

CAPCOA = California Air Pollution Control Officers Association
TDM = Transportation Demand Management
VMT = vehicle miles traveled

The project also includes 1,600 sf of commercial space, which is assumed to operate as a café. According to the City's TIA Guidelines (City of Menlo Park 2020a), local serving retail projects with 10,000 sf or less would be exempt from VMT analysis. Therefore, the project's café is exempt from further VMT analysis and presumed to have a less than significant impact.

NEAR-TERM BASELINE CONDITION

The Near-Term (2024) condition represents the transportation network and traffic conditions at the time of the project's expected occupancy. Table G summarizes the list of approved projects included in the Near-Term condition. The traffic volumes from the approved projects were included in the Vistro file provided by the City. Appendix C provides the turning movement volumes under the Near-Term condition.

Table G: Approved Projects Summary

Project Name[1]		Location	Description
1	Greenheart	1300 El Camino Real	183 du residential 203,000 sf office 18,600 sf retail/personal service
2	Menlo Gateway Constitution	100–155 Constitution Drive	487,244 sf office 7,420 sf restaurant
3	Facebook Expansion Project	301–309 Constitution Drive	450,400 sf office 200 room hotel
4	Stanford	500 El Camino Real	215 du residential 143,900 sf office 10,000 sf retail
5	New Magnet High School	150 Jefferson Drive	400-student high school
6	1275 El Camino Real	1275 El Camino Real	3-unit residential 9,334 sf office 589 sf retail
7	1430 O'Brien Drive	1430 O'Brien Drive	46,608 sf research & development 10,223 sf fitness 7,652 sf café
8	1345 Willow Road	1345 Willow Road	140 du residential

[1] The approved projects were provided by the City staff in February 2021.
City = City of Menlo Park
du = dwelling unit
sf = square feet

Near-Term Traffic LOS Analysis

Table H summarizes the results of the near-term peak-hour LOS analysis for the study area intersections. The near-term HCM worksheets are contained in Appendix D. As shown in Table H, the intersections listed below exceed the City's LOS standard during one or both peak hours:

- Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)—LOS E (a.m. peak hour)
- Marsh Road/Middlefield Road (Atherton)—LOS E (a.m. peak hour)
- Chrysler Drive/Constitution Drive (Menlo Park)—LOS F (a.m. peak hour)
- Chrysler Drive/Independence Drive (Menlo Park)—LOS F (a.m. peak hour)
- Willow Road/Bayfront Expressway (State)—LOS F (a.m. and p.m. peak hours)
- University/Bayfront Expressway (State)—LOS F (p.m. peak hour)

All other study area intersections operate at satisfactory LOS under the Near-Term condition.

LSA

Table H: Near-Term Intersection Level of Service Summary

	Intersection	Control	Peak Hour	Critical Approach[1]	Near-Term Delay	Near-Term LOS	Meet General Plan Standard?[2]
1	Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	N/A	59.7	E	No
				EB	114.1	F	
				WB	36.5	D	
			PM	N/A	37.4	D	Yes
2	Marsh Road/US-101 Northbound Ramps (State/CMP)	Signal	AM	N/A	25.3	C	N/A
			PM	N/A	13.3	B	N/A
3	Marsh Road/US-101 Southbound Ramps (State/CMP)	Signal	AM	N/A	22.9	C	N/A
			PM	N/A	17.7	B	N/A
4	Marsh Road/Scott Drive (Menlo Park)	Signal	AM	N/A	20.0	B	Yes
			PM	N/A	15.1	B	Yes
5	Marsh Road/Bay Road (Menlo Park)	Signal	AM	N/A	22.7	C	Yes
			PM	N/A	18.4	B	Yes
6	Marsh Road/Middlefield Road (Atherton)	Signal	AM	N/A	73.8	E	N/A
			PM	N/A	44.2	D	N/A
7	Chrysler Drive/Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	9.5	A	Yes
			PM	N/A	20.1	C	Yes
8	Chrysler Drive/Constitution Drive (Menlo Park)	Signal	AM	N/A	111.1	F	No
				NB	24.2	C	
				SB	176.1	F	
				EB	104.4	F	
				WB	56.7	E	
			PM	N/A	39.8	D	Yes
9	Chrysler Drive/Jefferson Drive (Menlo Park)	TWSC[3]	AM	N/A	23.2	C	Yes
			PM	N/A	20.1	C	Yes
10	Chrysler Drive/Independence Drive (Menlo Park)	TWSC[3]	AM	N/A	59.0	F	No
			PM	N/A	17.0	C	Yes
11	Chilco Street/Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	21.9	C	Yes
			PM	N/A	25.3	C	Yes
12	Chilco Street/Constitution Drive (Menlo Park)	Signal	AM	N/A	33.8	C	Yes
			PM	N/A	50.0	D	Yes
13	Willow Road/Bayfront Expressway (State)	Signal	AM	N/A	193.1	F	N/A
			PM	N/A	180.9	F	N/A
14	University/Bayfront Expressway (State)	Signal	AM	N/A	12.7	B	N/A
			PM	N/A	113.1	F	N/A
15	Marsh Road/Florence Street-Bohannon Drive (Menlo Park)	Signal	AM	N/A	38.3	D	Yes
			PM	N/A	37.0	D	Yes

[1] The Critical Approach information is relevant where the project would increase delay per the LOS policy standards.

[2] The General Plan Standard information is relevant where the City's LOS policy standards apply.

[3] For TWSC, for unsignalized intersections, delay and LOS for the worst movement are reported.

City = City of Menlo Park

CMP = Congestion Management Program

EB = eastbound

LOS = level of service

N/A = not applicable

NB = northbound

SB = southbound

TWSC = two-way stop-controlled

US-101 = United States Route 101

WB = westbound

A peak-hour traffic signal warrant analysis has been prepared to determine whether a traffic signal is justified at the unsignalized intersection of Chrysler Drive/Independence Drive under the Near-Term condition. The analysis is based on Warrant 3, Peak Hour Warrant, of the California MUTCD (Caltrans 2014). The California MUTCD signal warrant analysis worksheets are provided in Appendix E. As shown in Appendix E, installation of a traffic signal is not warranted under the Near-Term condition.

CUMULATIVE BASELINE CONDITION

The Cumulative (2040) condition represents the transportation network and traffic conditions under a long-range horizon. The Cumulative condition includes all the approved projects plus future pending projects. Table I summarizes the list of cumulative projects provided by the City staff. The traffic volumes from the cumulative projects were included in the Vistro file provided by the City. Appendix C provides the turning movement volumes under the Cumulative condition.

Table I: Cumulative Projects Summary

Project Name[1]		Location	Description
1	1285 El Camino Real	1285 El Camino Real	15 du residential 1,997 sf office/retail
2	Roger Reynolds	133 Encinal Avenue	24 du residential
3	1010-1026 Alma Street	1010-1026 Alma Street	25,156 sf office 324 sf retail
4	Minkoff Group	650-660 Live Oak Avenue	16,854 sf office 17 du residential
5	1021 Evelyn Street	1021 Evelyn Street	3 du residential 6,610 sf office
6	Stanford	2111-2121 Sand Hill Road	39,010 sf office
7	40 Middlefield Road	40 Middlefield Road	3,584 sf office
8	Guild Theatre	949 El Camino Real	10,854 sf live entertainment venue
9	1540 El Camino Real	1540 El Camino Real	27 du residential 40,759 sf office
10	115 El Camino Real	115 El Camino Real	4 du residential 1,543 sf retail
11	506-556 Santa Cruz Avenue	506-556 Santa Cruz Avenue	7 du residential 4,901 sf retail/café 17,877 sf office
12	1125 Merrill Street	1125 Merrill Street	2 du residential 4,366 sf office
13	409 Glenwood Avenue	409 Glenwood Avenue	7 du residential
14	1350 Adams Court (1315 O'Brien Drive)	1350 Adams Court (1315 O'Brien Drive)	260,400 sf research & development
15	Facebook Willow Village	1350 Willow Road	1,729 du residential 1,600,000 sf office 200,000 sf retail 193-room hotel
16	111 Independence Drive	111 Independence Drive	105 du residential 746 sf retail
17	1125 O'Brien Drive	1125 O'Brien Drive	128,524 sf research & development 2,760 sf retail
18	162–164 Jefferson Drive	162–164 Jefferson Drive	249,500 sf office

Table I: Cumulative Projects Summary

	Project Name[1]	Location	Description
19	555 Willow Road	555 Willow Road	3 du residential
20	Boutique Hotel	1704 El Camino Real	46-room hotel 27,293 sf hotel
21	706–716 Santa Cruz Avenue	706–716 Santa Cruz Avenue	4 du residential23,454 sf office12,035 sf retail
22	201 El Camino Real	201 El Camino Real	14 du residential 5,876 sf retail 1,200 sf restaurant
23	Menlo Uptown	141 Jefferson Drive	483 du residential 2,940 sf retail
24	1162 El Camino Real	1162 El Camino Real	9 du residential
25	Hotel Moxy	3723 Haven Avenue	163-room hotel 58,027 sf hotel
26	Menlo Portal	110 Constitution Drive - 115 Independence Drive	335 du residential 34,819 sf office 1,608 sf retail
27	301 Constitution Drive	301 Constitution Drive	40-room hotel
28	1075 O'Brien Drive	1075 O'Brien Drive	94,617 sf research & development/office 9,869 sf restaurant
29	1550 El Camino Real	1550 El Camino Real	8 du residential
30	Sobrato Mixed-Use[1]	123 Independence Drive	276 du residential 88,750 sf office 107 du residential

[1] The approved projects were provided by the City staff in February 2021.
City = City of Menlo Park
du = dwelling unit
sf = square feet

Planned Transportation Facility Improvements

Based on the City's Comprehensive Bicycle Development Plan (City of Menlo Park 2005), the following bicycle network improvements are anticipated to be implemented by 2040:

- A Class I connector path is recommended on Independence Drive, which would connect the planned Class II bike lanes on Marsh Road and the existing Class II bike lanes on Constitution Drive.
- Class II bike lanes are recommended on Marsh Road between Bayfront Expressway and Bay Road.

[1] The 123 Independence Drive project was revised in August 2021 to include a total of 432 dwelling units and no office space. At the time the NOP was published, the 123 Independence Project included 49 fewer residential units and 88,750 more square feet of office space. For the purposes of the cumulative analysis, the increase in residential units and reduction in office space is assumed to have a negligible effect on the cumulative scenario.

- A new bicycle and pedestrian bridge over the Atherton Channel is planned to extend the bike lanes and sidewalks on Haven Avenue to Marsh Road, as part of the Haven Avenue Streetscape project. The Haven Avenue Streetscape project facilitates connections between Menlo Park, San Mateo County, and Redwood City residents.
- Based on the City's Transportation Master Plan (City of Menlo Park 2020b), the following pedestrian and bicycle improvements are anticipated to be implemented by 2040:
- Pedestrian and bicycle facilities will be improved, including installing sidewalks and adding bike lanes along Jefferson Drive from Chrysler Drive to Constitution Drive.
- Class II bike lanes will be constructed along Constitution Drive from Independence Drive to Chrysler Drive, and sidewalks will be constructed along Constitution Drive from Independence Drive to Chilco Street.
- Bike lanes will be constructed along Chrysler Drive between Constitution Drive and Commonwealth Drive.
- Bike lanes will be constructed along Marsh Road between Independence Drive and Scott Drive. A bicycle and pedestrian bridge will be constructed along Marsh Road over US-101.Bike lanes and a multiuse path will be implemented along Haven Avenue from Marsh Road to Haven Court. The project would construct a Class I multiuse path from Marsh Road to Atherton Channel, establish Class II bike lanes from Haven Court to Atherton Channel, and install bicycle and pedestrian crossing upgrades.
- Pedestrian and bicycle crossings along Bayfront Expressway will be improved. The project includes installing a high-visibility pedestrian crossing along Bayfront Expressway at Chrysler Drive, Chilco Street, and Willow Road. A bicycle and pedestrian bridge will be constructed over Bayfront Expressway between Chilco Street and Willow Road.

Cumulative Traffic LOS Analysis

Table J summarizes the results of the cumulative peak-hour LOS analysis for the study area intersections. The cumulative HCM worksheets are contained in Appendix D. As shown in Table J, the intersections listed below exceed the City's LOS standard during one or both peak hours:

- Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)—LOS F(a.m. peak hour)
- Marsh Road/Middlefield Road (Atherton)—LOS F (a.m. peak hour)
- Chrysler Drive/Bayfront Expressway (Local Approaches to State)—LOS E (p.m. peak hour)
- Chrysler Drive/Constitution Drive (Menlo Park)—LOS F (a.m. and p.m. peak hours)
- Chrysler Drive/Jefferson Drive (Menlo Park)—LOS E (a.m. peak hour) and LOS F (p.m. peak hour)
- Chrysler Drive/Independence Drive (Menlo Park)—LOS F (a.m. peak hour)
- Chilco Street/Bayfront Expressway (Local Approaches to State)—LOS E (a.m. and p.m. peak hours)
- Chilco Street/Constitution Drive (Menlo Park)—LOS F (a.m. and p.m. peak hours)
- Willow Road/Bayfront Expressway (State)—LOS F (a.m. and p.m. peak hours)
- University/Bayfront Expressway (State)—LOS F (a.m. and p.m. peak hours)

All other study area intersections operate at satisfactory LOS under the Cumulative condition.

A peak-hour traffic signal warrant analysis has been prepared to determine whether a traffic signal is justified at the unsignalized intersections of Chrysler Drive/Jefferson Drive and Chrysler Drive/ Independence Drive under the Cumulative condition. The analysis is based on Warrant 3, Peak Hour Warrant, of the nine warrants presented in the California MUTCD (Caltrans 2014). The California MUTCD signal warrant analysis worksheets are provided in Appendix E.

As shown in Appendix E, installation of a traffic signal is warranted at Chrysler Drive/Jefferson Drive during the p.m. peak hour but is not warranted at Chrysler Drive/Independence Drive under the Cumulative condition.

Table J: Cumulative Intersection Level of Service Summary

	Intersection	Control	Peak Hour	Critical Approach[1]	Cumulative Delay	Cumulative LOS	Meet General Plan Standard?[2]
				N/A	103.1	F	
				NB	108.0	F	
				SB	54.4	D	
				EB	169.0	F	
			AM	WB	87.6	F	No
1	Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	PM	N/A	37.1	D	Yes
			AM	N/A	34.9	C	N/A
2	Marsh Road/US-101 Northbound Ramps (State/CMP)	Signal	PM	N/A	18.0	B	N/A
			AM	N/A	37.9	D	N/A
3	Marsh Road/US-101 Southbound Ramps (State/CMP)	Signal	PM	N/A	42.1	D	N/A
			AM	N/A	32.9	C	Yes
4	Marsh Road/Scott Drive (Menlo Park)	Signal	PM	N/A	22.9	C	Yes
			AM	N/A	28.6	C	Yes
5	Marsh Road/Bay Road (Menlo Park)	Signal	PM	N/A	19.9	B	Yes
			AM	N/A	81.2	F	N/A
6	Marsh Road/Middlefield Road (Atherton)	Signal	PM	N/A	53.4	D	N/A
			AM	N/A	12.5	B	Yes
				N/A	62.7	E	
7	Chrysler Drive/Bayfront Expressway (Local Approaches to State)	Signal	PM	NB	212.0	F	No
				N/A	361.5	F	
				NB	40.8	D	
				SB	123.7	F	
				EB	175.9	F	
			AM	WB	1430.7	F	No
				N/A	242.7	F	
				NB	28.0	C	
				SB	837.5	F	
				EB	107.4	F	
8	Chrysler Drive/Constitution Drive (Menlo Park)	Signal	PM	WB	403.1	F	No
			AM	N/A	48.3	E	No
9	Chrysler Drive/Jefferson Drive (Menlo Park)	TWSC[3]	PM	N/A	141.8	F	No
			AM	N/A	307.4	F	No
10	Chrysler Drive/Independence Drive (Menlo Park)	TWSC[3]	PM	N/A	21.2	C	Yes
				N/A	61.6	E	
			AM	NB	164.8	F	No
				N/A	67.1	E	
11	Chilco Street/Bayfront Expressway (Local Approaches to State)	Signal	PM	NB	257.2	F	No
				N/A	85.3	F	
				NB	92.2	F	
				SB	94.0	F	
				EB	35.8	D	
			AM	WB	50.0	D	No
				N/A	252.2	F	
				NB	98.6	F	
				SB	211.6	F	
				EB	521.3	F	
12	Chilco Street/Constitution Drive (Menlo Park)	Signal	PM	WB	113.7	F	No
			AM	N/A	325.6	F	N/A
13	Willow Road/Bayfront Expressway (State)	Signal	PM	N/A	373.8	F	N/A
			AM	N/A	101.0	F	N/A
14	University/Bayfront Expressway (State)	Signal	PM	N/A	215.3	F	N/A
			AM	N/A	40.0	D	Yes
15	Marsh Road/Florence Street-Bohannon Drive (Menlo Park)	Signal	PM	N/A	46.1	D	Yes

[1] The Critical Approach information is relevant where the project would increase delay per the LOS policy standards.

[2] The General Plan Standard information is relevant where the City's LOS policy standards apply.

[3] For TWSC, for unsignalized intersections, delay and LOS for the worst movement are reported.

City = City of Menlo Park

CMP = Congestion Management Program

EB = eastbound

LOS = level of service

N/A = not applicable

NB = northbound

SB = southbound

TWSC = two-way stop-controlled

US-101 = United States Route 101

WB = westbound

PROPOSED PROJECT

Trip Generation

The project site is currently occupied by 24,311 sf of office use. The project would demolish the existing office building and construct 158 residential dwelling units and 15,000 sf of community amenity space (i.e., 13,400 sf of office use and 1,600 sf of commercial space, assumed to be used as a café) as well as associated open space, circulation and parking, and infrastructure improvements. Project trips were estimated by applying the trip generation rates for Land Use Code 221 (Mid-Rise Residential Housing), Land Use Code 710 (General Office Building), and Land Use Code 936 (Coffee/Donut Shop without Drive-Through Window) from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition (ITE 2017a). Table K summarizes the project trip generation. As Table K indicates, the proposed project would generate an average daily trips (ADT) of 2,218, including 258 trips in the a.m. peak hour (131 inbound and 127 outbound) and 145 trips in the p.m. peak hour (75 inbound and 70 outbound).

Due to the characteristics of mixed-use developments, internal trip capture and pass-by trip reductions were applied to the project. Internal trip capture was estimated using the National Cooperative Highway Research Program (NCHRP) 684 Trip Capture Estimation Tool, which is referenced in the latest version of the ITE *Trip Generation Handbook* (3rd Edition) (ITE 2017b). The internal capture percentages for each land use type of a mixed-use development (e.g., office and coffee/donut shop uses) are calculated after the vehicle trip generation is input into the NCHRP 684 Trip Capture Estimation Tool. The NCHRP 684 Trip Capture Estimation Tool outputs are provided in Appendix G. The pass-by trip reduction percentage for the assumed coffee/donut shop is also referenced in the ITE *Trip Generation Handbook* (3rd Edition) (ITE 2017b). A 43 percent p.m. peak-hour pass-by reduction was applied for Land Use Code 936 (Coffee/Donut Shop without Drive-Through Window). In addition, based on direction from the City, a 20 percent reduction was applied to the project trips, as the project would develop a TDM Plan that is forecast to reduce the project trips by approximately 20 percent. As such, the net project trip generation is 1,066 ADT, including 120 trips in the a.m. peak hour (61 inbound and 59 outbound) and 77 trips in the p.m. peak hour (41 inbound and 36 outbound).

It should be noted that at the time that the TIA was prepared, the specific land use, tenant, and square footage of the proposed ground-floor commercial use were uncertain; therefore, in order to provide a conservative (maximum) estimate of the potential trips associated with the nonresidential use, ITE Land Use Code 936 (Coffee/Donut Shop without Drive-Through Window) was used. A typical use that corresponds to this category would be a café. As shown in Table K, a 1,600 sf café would generate 74 trips during the a.m. peak hour and 22 trips during the p.m. peak hour after internal trip capture and pass-by reductions are applied. For reference, a similarly sized office use would generate a total of 2 trips during the a.m. peak hour and 2 trips during the p.m. peak hour before any trip reductions or credits are applied.

LSA

Table K: Menlo Flats Project Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Multifamily Mid-Rise		DU	5.44	0.09	0.27	0.36	0.27	0.17	0.44
General Office		TSF	Regression Equations						
Coffee/Donut Shop[2]		TSF	754.55	51.58	49.56	101.14	18.16	18.15	36.31
Project Trip Generation									
Gross Trips									
Multifamily Mid-Rise	158	DU	860	14	43	57	43	27	70
General Office	13.400	TSF	151	34	5	39	3	14	17
Coffee/Donut Shop	1.600	TSF	1,207	83	79	162	29	29	58
Total			***2,218***	***131***	***127***	***258***	***75***	***70***	***145***
Internal Trip Capture and Pass-By Trips									
Internal Trip Capture (Multifamily Mid-Rise)[3]			(129)	(1)	(10)	(11)	(5)	(5)	(10)
Internal Trip Capture (General Office)[3]			(57)	(6)	(3)	(9)	(2)	(1)	(3)
Internal Trip Capture (Coffee/Donut Shop)[3]			(181)	(12)	(6)	(18)	(5)	(6)	(11)
Pass-By Trips (Coffee/Donut Shop)[4]			(519)	(36)	(34)	(70)	(12)	(13)	(25)
Total			***(886)***	***(55)***	***(53)***	***(108)***	***(24)***	***(25)***	***(49)***
Subtotal (Gross - Internal Capture and Pass-By) Trips			**1,332**	**76**	**74**	**150**	**51**	**45**	**96**
TDM Plan[5]			***(266)***	***(15)***	***(15)***	***(30)***	***(10)***	***(9)***	***(19)***
Total			**1,066**	**61**	**59**	**120**	**41**	**36**	**77**
Existing Trip Generation									
General Office	**24.311**	**TSF**	**269**	**42**	**7**	**49**	**5**	**25**	**30**
Net Trip Generation (Project - Existing)			**797**	**19**	**52**	**71**	**36**	**11**	**47**

[1] Trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* , 10th Edition (2017).
Land Use Code (221) - Multifamily Housing (Mid-Rise) - Between 3 and 10 Levels
Land Use Code (710) - General Office Building
Regression Equations: ADT: Ln(T) = 0.97Ln(X) + 2.50; AM: T = 0.94(X) + 26.49; PM: Ln(T) = 0.95(X) + 0.36
Land Use Code (936) - Coffee/Donut Shop without Drive-Through Window

[2] ITE does not have an ADT rate. ADT trip rate is provided by the City.

[3] Internal Capture based on the NCHRP 684 Internal Trip Capture Estimation Tool, developed by the Texas A&M Transportation Institute (Version 2013.1).
Multifamily Housing Internal Trip Capture with Office and Coffee/Donut Shop: 15% ADT, 7% AM In, 23% AM Out, 12% PM In, 19% PM Out.
General Office Internal Trip Capture with Residential and Coffee/Donut Shop: 38% ADT, 18% AM In, 60% AM Out, 67% PM In, 7% PM Out.
Coffee/Donut Shop Internal Trip Capture with Residential and Office: 15% ADT, 14% AM In, 8% AM Out, 17% PM In, 21% PM Out.

[4] Pass-by trip percentage from the ITE *Trip Generation Handbook* , 3rd Edition (2017).
Land Use Code (932) - High-Turnover (Sit-Down) Restaurant: 43%.

[5] The project will develop a Transportation Demand Management (TDM) Plan that reduces the project trips by 20%.

ADT = average daily trips
DU = dwelling unit
TSF = thousand square feet

As such, the transportation analysis can be considered conservative and allows for flexibility in selecting the future tenant of the nonresidential space.

Additionally, Table K illustrates the existing site trip generation for the 24,311 sf of office use. Using ITE trip rates for Land Use Code 710 (General Office Building), the existing site generates 269 ADT, including 49 trips in the a.m. peak hour (42 inbound and 7 outbound) and 30 trips in the p.m. peak hour (5 inbound and 25 outbound).

The net trip generation of the project is an additional 797 ADT, including 71 trips in the a.m. peak hour (19 inbound and 52 outbound) and 47 trips in the p.m. peak hour (36 inbound and 11 outbound).

Trip Distribution and Assignment

Trip distribution for the project is based on the trip distribution patterns for the Menlo Uptown Project (located west of the 141 Jefferson Drive Project site). Project peak-hour traffic volumes entering/exiting the project site were assigned to the adjacent street system based on the location of the project driveway. Project trip distribution and project-added traffic volumes at the study intersections are provided in Appendix C.

NEAR-TERM PLUS PROJECT CONDITION

To determine the Near-Term Plus Project condition, net traffic generated by the project was added to near-term traffic volumes at the study area intersections. Appendix C shows the resulting Near-Term Plus Project peak-hour traffic volumes.

Near-Term Plus Project Traffic Level of Service Analysis

Table L summarizes the results of the Near-Term Plus Project peak-hour LOS analysis for the study area intersections. Appendix D provides the Near-Term Plus Project HCM worksheets. As shown in Table L, the intersections listed below exceed the City's LOS standard during one or both peak hours:

- Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)—LOS E (a.m. peak hour)
- Marsh Road/Middlefield Road (Atherton)—LOS E (a.m. peak hour)
- Chrysler Drive/Constitution Drive (Menlo Park)—LOS F (a.m. peak hour)
- Chrysler Drive/Independence Drive (Menlo Park)—LOS F (a.m. peak hour)
- Willow Road/Bayfront Expressway (State)—LOS F (a.m. and p.m. peak hours)
- University/Bayfront Expressway (Menlo Park)—LOS F (p.m. peak hour)

All other study area intersections operate at satisfactory LOS under the Near-Term Plus Project condition.

A peak-hour traffic signal warrant analysis has been prepared to determine whether a traffic signal is justified at the unsignalized intersection of Chrysler Drive/Independence Drive. The analysis is based on Warrant 3, Peak Hour Warrant, of the California MUTCD (Caltrans 2014). The California MUTCD signal warrant analysis worksheets are provided in Appendix E.

Table L: Near-Term Plus Project Intersection Level of Service Summary

	Intersection	Control	Peak Hour	Critical Approach[1]	Near-Term Delay	Near-Term LOS	Near-Term Plus Project Delay	Near-Term Plus Project LOS	Meet General Plan Standard?[2]	Noncompliant with TIA Guidelines?
				N/A	59.7	E	59.8	E		
				EB	114.1	F	113.9	F		
			AM	WB	36.5	D	37.0	D	No	No
1	Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	PM	N/A	37.4	D	37.7	D	Yes	No
			AM	N/A	25.3	C	25.7	C	N/A	No
2	Marsh Road/US-101 Northbound Ramps (State/CMP)	Signal	PM	N/A	13.3	B	13.5	B	N/A	No
			AM	N/A	22.9	C	23.3	C	N/A	No
3	Marsh Road/US-101 Southbound Ramps (State/CMP)	Signal	PM	N/A	17.7	B	17.8	B	N/A	No
			AM	N/A	20.0	B	20.0	B	Yes	No
4	Marsh Road/Scott Drive (Menlo Park)	Signal	PM	N/A	15.1	B	15.1	B	Yes	No
			AM	N/A	22.7	C	22.7	C	Yes	No
5	Marsh Road/Bay Road (Menlo Park)	Signal	PM	N/A	18.4	B	18.4	B	Yes	No
			AM	N/A	73.8	E	74.2	E	N/A	No
6	Marsh Road/Middlefield Road (Atherton)	Signal	PM	N/A	44.2	D	44.6	D	N/A	No
			AM	N/A	9.5	A	9.7	A	Yes	No
7	Chrysler Drive/Bayfront Expressway (Local Approaches to State)	Signal	PM	N/A	20.1	C	20.4	C	Yes	No
				N/A	111.1	F	120.2	F		
				NB	24.2	C	24.5	C		
				SB	176.1	F	199.1	F		
				EB	104.4	F	112.6	F		
			AM	WB	56.7	E	56.7	E	No	Yes
8	Chrysler Drive/Constitution Drive (Menlo Park)	Signal	PM	N/A	39.8	D	40.7	D	Yes	No
			AM	N/A	23.2	C	24.7	C	Yes	No
9	Chrysler Drive/Jefferson Drive (Menlo Park)	TWSC[3]	PM	N/A	20.1	C	21.9	C	Yes	No
			AM	N/A	59.0	F	60.1	F	No	Yes
10	Chrysler Drive/Independence Drive (Menlo Park)	TWSC[3]	PM	N/A	17.0	C	17.1	C	Yes	No
			AM	N/A	21.9	C	23.3	C	Yes	No
11	Chilco Street/Bayfront Expressway (Local Approaches to State)	Signal	PM	N/A	25.3	C	26.3	C	Yes	No
			AM	N/A	33.8	C	36.0	D	Yes	No
12	Chilco Street/Constitution Drive (Menlo Park)	Signal	PM	N/A	50.0	D	52.7	D	Yes	No
			AM	N/A	193.1	F	193.4	F	N/A	No
13	Willow Road/Bayfront Expressway (State)	Signal	PM	N/A	180.9	F	180.9	F	N/A	No
			AM	N/A	12.7	B	12.8	B	N/A	No
14	University/Bayfront Expressway (State)	Signal	PM	N/A	113.1	F	113.3	F	N/A	No
			AM	N/A	38.3	D	38.3	D	Yes	No
15	Marsh Road/Florence Street-Bohannon Drive (Menlo Park)	Signal	PM	N/A	37.0	D	37.0	D	Yes	No

[1] The Critical Approach information is relevant where the project would increase delay per the LOS policy standards.

[2] The General Plan Standard information is relevant where the City's LOS policy standards apply.

[3] For TWSC, for unsignalized intersections, delay and LOS for the worst movement are reported.

City = City of Menlo Park

CMP = Congestion Management Program

EB = eastbound

LOS = level of service

N/A = not applicable

NB = northbound

SB = southbound

TIA = Transportation Impact Analysis

TWSC = two-way stop-controlled

US-101 = United States Route 101

WB = westbound

As shown in Appendix E, installation of a traffic signal is not warranted under the Near-Term Plus Project condition.

Addition of the project trips would result in the Chrysler Drive/Constitution Drive and Chrysler Drive/Independence Drive intersections operating in noncompliance with the TIA Guidelines in the a.m. peak hour under the Near-Term Plus Project condition. The project would cause these City-controlled intersections to experience an increase in average critical movement delay of greater than 0.8 second during the a.m. peak hour.

Recommended Improvements

Consistent with the previous approved projects in Menlo Park (e.g., the Menlo Uptown Project and 111 Independence Drive Project), the following improvements are recommended.

Chrysler Drive/Constitution Drive

Addition of the project trips would result in the Chrysler Drive/Constitution Drive intersection operating in noncompliance with the TIA Guidelines in the a.m. peak hour under the Near-Term Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of greater than 0.8 second during the a.m. peak hour.

The recommended improvement at Chrysler Drive/Constitution Drive is to convert the westbound shared left-through-right-turn lane on Chrysler Drive to one left-turn lane and one shared through-right-turn lane. It is also recommended to convert the southbound shared through-right-turn lane on Constitution Drive to one through lane and one right-turn lane. The recommended improvements would require roadway widening to accommodate the lane modifications on westbound Chrysler Drive and on southbound Constitution Drive. The recommended improvement may require traffic signal modification if traffic signal poles need to be replaced due to the widening. The project is required to pay Traffic Impact Fees (TIFs) according to the current TIF schedule. While the improvements to the westbound approach are included in the City's TIF program, the improvements on the southbound approach are beyond those in the TIF program, and payment of the TIFs would not entirely address the change to intersection delay as a result of project traffic. The recommended improvement would result in the intersection operating in compliance with the City's TIA Guidelines in the Near-Term Plus Project condition.

Chrysler Drive/Independence Drive

Addition of the project trips would result in the Chrysler Drive/Independence Drive intersection operating in noncompliance with the TIA Guidelines in the a.m. peak hour under the Near-Term Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of greater than 0.8 second during the a.m. peak hour.

The recommended improvement at Chrysler Drive/Independence Drive is to install a stop control for both approaches of Chrysler Drive, therefore converting the intersection from a two-way stop control to an all-way stop control. Alternatively, the City's Transportation Master Plan (City of Menlo Park 2020b) identifies installation of a traffic signal as a future improvement at Chrysler Drive/ Independence Drive. This improvement is in the City's TIF program, and the project is required to

pay TIFs according to the City's current TIF schedule. Converting the intersection from a two-way stop control to an all-way stop control would result in the intersection operating in compliance with the City's TIA Guidelines in the Near-Term Plus Project condition.

Table M summarizes the results of the Near-Term Plus Project with Improvements peak-hour LOS analysis.

CUMULATIVE PLUS PROJECT CONDITION

To determine the Cumulative Plus Project condition, net traffic generated by the project was added to cumulative traffic volumes at the study area intersections. Appendix C shows the resulting Cumulative Plus Project peak-hour traffic volumes.

Cumulative Plus Project Traffic LOS Analysis

Table N summarizes the results of the Cumulative Plus Project peak-hour LOS analysis for the study area intersections. Appendix D provides the Cumulative Plus Project HCM worksheets. As shown in Table N, the intersections listed below exceed the City's LOS standard during one or both peak hours:

- Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State)—LOS F (a.m. peak hour)
- Marsh Road/Middlefield Road (Atherton)—LOS F (a.m. peak hour)
- Chrysler Drive/Bayfront Expressway (Local Approaches to State)—LOS E (p.m. peak hour)
- Chrysler Drive/Constitution Drive (Menlo Park)—LOS F (a.m. and p.m. peak hours)
- Chrysler Drive/Jefferson Drive (Menlo Park)—LOS F (a.m. and p.m. peak hours)
- Chrysler Drive/Independence Drive (Menlo Park)—LOS F (a.m. peak hour)
- Chilco Street/Bayfront Expressway (local approaches to State)—LOS E (a.m. and p.m. peak hours)
- Chilco Street/Constitution Drive (Menlo Park)—LOS F (a.m. and p.m. peak hours)
- Willow Road/Bayfront Expressway (State)—LOS F (a.m. and p.m. peak hours)
- University/Bayfront Expressway (State)—LOS F (a.m. and p.m. peak hours)

All other study area intersections operate at satisfactory LOS under the Cumulative Plus Project condition.

A peak-hour traffic signal warrant analysis has been prepared to determine whether a traffic signal is justified at the unsignalized intersections of Chrysler/Jefferson Drive and Chrysler Drive/ Independence Drive. The analysis is based on Warrant 3, Peak Hour Warrant, of the California MUTCD (Caltrans 2014). The California MUTCD signal warrant analysis worksheets are provided in Appendix E. As shown in Appendix E, installation of a traffic signal is warranted at Chrysler Drive/ Jefferson Drive during the p.m. peak hour and is not warranted at Chrysler Drive/Independence Drive, under the Cumulative Plus Project condition.

Table M: Near-Term Plus Project with Improvements Intersection Level of Service Summary

	Intersection	Control	Peak Hour	Critical Approach[1]	Near-Term		Near-Term Plus Project		Near-Term Plus Project with Improvements		Meet General Plan Standard?[2]
					Delay	LOS	Delay	LOS	Delay	LOS	
				N/A	111.1	F	120.2	F	32.1	C	
				NB	24.2	C	24.5	C	18.2	B	
				SB	176.1	F	199.1	F	35.9	D	
				EB	104.4	F	112.6	F	31.3	C	
			AM	WB	56.7	E	56.7	E	41.8	D	Yes
8	Chrysler Drive/Constitution Drive (Menlo Park)	Signal	PM	N/A	39.8	D	40.7	D	33.1	C	Yes
			AM	N/A	59.0	F	60.1	F	14.6	B	Yes
10	Chrysler Drive/Independence Drive (Menlo Park)	AWSC	PM	N/A	17.0	C	17.1	C	11.4	B	Yes

[1] The Critical Approach information is relevant where the project would increase delay per the LOS policy standards.

[2] The General Plan Standard information is relevant where the City's LOS policy standards apply.

AWSC = all-way stop-controlled

City = City of Menlo Park

EB = eastbound

LOS = level of service

N/A = not applicable

NB = northbound

SB = southbound

WB = westbound

Table N: Cumulative Plus Project Intersection Level of Service Summary

	Intersection	Control	Peak Hour	Critical Approach[1]	Cumulative Delay	Cumulative LOS	Cumulative Plus Project Delay	Cumulative Plus Project LOS	Meet General Plan Standard?[2]	Noncompliant with TIA Guidelines?
				N/A	103.1	F	105.2	F		
				NB	108.0	F	108.0	F		
				SB	54.4	D	54.4	D		
				EB	169.0	F	168.7	F		
			AM	WB	87.6	F	91.7	F	No	Yes
1	Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to	Signal	PM	N/A	37.1	D	37.4	D	Yes	No
			AM	N/A	34.9	C	35.5	D	N/A	No
2	Marsh Road/US-101 Northbound Ramps (State/CMP)	Signal	PM	N/A	18.0	B	18.7	B	N/A	No
			AM	N/A	37.9	D	38.6	D	N/A	No
3	Marsh Road/US-101 Southbound Ramps (State/CMP)	Signal	PM	N/A	42.1	D	43.3	D	N/A	No
			AM	N/A	32.9	C	32.9	C	Yes	No
4	Marsh Road/Scott Drive (Menlo Park)	Signal	PM	N/A	22.9	C	22.9	C	Yes	No
			AM	N/A	28.6	C	28.7	C	Yes	No
5	Marsh Road/Bay Road (Menlo Park)	Signal	PM	N/A	19.9	B	20.0	B	Yes	No
			AM	N/A	81.2	F	81.9	F	N/A	No
6	Marsh Road/Middlefield Road (Atherton)	Signal	PM	N/A	53.4	D	54.0	D	N/A	No
			AM	N/A	12.5	B	13.2	B	Yes	No
				N/A	62.7	E	63.9	E		
7	Chrysler Drive/Bayfront Expressway (Local Approaches to State)	Signal	PM	NB	212.0	F	216.3	F	No	Yes
				N/A	361.5	F	371.1	F		
				NB	40.8	D	41.3	D		
				SB	123.7	F	131.7	F		
				EB	175.9	F	192.8	F		
			AM	WB	1430.7	F	1473.2	F	No	Yes
				N/A	242.7	F	249.8	F		
				NB	28.0	C	28.2	C		
				SB	837.5	F	866.1	F		
				EB	107.4	F	116.3	F		
8	Chrysler Drive/Constitution Drive (Menlo Park)	Signal	PM	WB	403.1	F	403.1	F	No	Yes
			AM	N/A	48.3	E	52.5	F	No	Yes
9	Chrysler Drive/Jefferson Drive (Menlo Park)	TWSC[3]	PM	N/A	141.8	F	162.2	F	No	Yes
			AM	N/A	307.4	F	311.3	F	No	Yes
10	Chrysler Drive/Independence Drive (Menlo Park)	TWSC[3]	PM	N/A	21.2	C	21.3	C	Yes	No
				N/A	61.6	E	65.0	E		
			AM	NB	164.8	F	188.7	F	No	Yes
				N/A	67.1	E	68.6	E		
11	Chilco Street/Bayfront Expressway (Local Approaches to State)	Signal	PM	NB	257.2	F	259.8	F	No	Yes
				N/A	85.3	F	91.2	F		
				NB	92.2	F	98.6	F		
				SB	94.0	F	101.4	F		
				EB	35.8	D	38.2	D		
			AM	WB	50.0	D	51.0	D	No	Yes
				N/A	252.2	F	255.6	F		
				NB	98.6	F	98.7	F		
				SB	211.6	F	222.6	F		
				EB	521.3	F	524.7	F		
12	Chilco Street/Constitution Drive (Menlo Park)	Signal	PM	WB	113.7	F	113.7	F	No	Yes
			AM	N/A	325.6	F	325.8	F	N/A	No
13	Willow Road/Bayfront Expressway (State)	Signal	PM	N/A	373.8	F	374.5	F	N/A	No
			AM	N/A	101.0	F	101.2	F	N/A	No
14	University/Bayfront Expressway (State)	Signal	PM	N/A	215.3	F	215.2	F	N/A	No
			AM	N/A	40.0	D	40.1	D	Yes	No
15	Marsh Road/Florence Street-Bohannon Drive (Menlo Park)	Signal	PM	N/A	46.1	D	46.1	D	Yes	No

[1] The Critical Approach information is relevant where the project would increase delay per the LOS policy standards.

[2] The General Plan Standard information is relevant where the City's LOS policy standards apply.

[3] For TWSC, for unsignalized intersections, delay and LOS for the worst movement are reported.

City = City of Menlo Park
CMP = Congestion Management Program
EB = eastbound
LOS = level of service
N/A = not applicable
NB = northbound
SB = southbound
TIA = Transportation Impact Analysis
TWSC = two-way stop-controlled
US-101 = United States Route 101
WB = westbound

Addition of the project trips would result in seven study intersections to operate in noncompliance with the TIA Guidelines under Cumulative Plus Project condition in one or both peak hours. The project would cause these intersections to experience an increase in average critical movement delay of 0.8 second or greater during at least one peak hour.

Recommended Improvements

Consistent with the previous approved projects in the City (e.g., the Menlo Uptown Project and 111 Independence Drive Project), the following improvements are recommended.

Marsh Road-Bayfront Expressway/Haven Avenue

Addition of the project trips would result in the Marsh Road-Bayfront Expressway/Haven Avenue intersection operating in noncompliance with the TIA Guidelines in the a.m. peak hour under the Cumulative Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of greater than 0.8 second during the a.m. peak hour.

The recommended improvement at Marsh Road-Bayfront Expressway/Haven Avenue is to restripe the southbound approach along Haven Avenue to one shared left-through lane, one shared through-right-turn lane, and one right-turn lane. This improvement is in the City's TIF program, and the project is required to pay TIFs according to the City's current TIF schedule. The recommended improvement would result in the intersection operating better than the Cumulative baseline condition and in compliance with the City's TIA Guidelines in the Cumulative Plus Project condition.

Chrysler Drive/Bayfront Expressway

Addition of the project trips would result in the Chrysler Drive/Bayfront Expressway intersection operating in noncompliance with the TIA Guidelines in the p.m. peak hour under the Cumulative Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of greater than 0.8 second during the p.m. peak hour.

The recommended improvement at Chrysler Drive/Bayfront Expressway is to convert the eastbound right-turn lane on Chrysler Drive to a shared left-right-turn lane. The recommended improvement is subject to Caltrans review and approval, as this intersection is located within Caltrans jurisdiction. The recommended improvement would result in the intersection operating in compliance with the City's TIA Guidelines in the Cumulative Plus Project condition.

Chrysler Drive/Constitution Drive

Addition of the project trips would result in the Chrysler Drive/Constitution Drive intersection operating in noncompliance with the TIA Guidelines in both peak hours under the Cumulative Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of 0.8 second or greater during both peak hours.

The recommended improvement at Chrysler Drive/Constitution Drive is to convert the westbound shared left-through-right-turn lane on Chrysler Drive to one left-turn lane and one shared through-right-turn lane. It is also recommended to convert the southbound shared through-right-turn lane on Constitution Drive to one through lane and one right-turn lane. Additionally, it is recommended

to convert the northbound shared left-through-right-turn lane on Constitution Drive to one shared left-through lane and one right-turn lane. The recommended improvements would require widening to accommodate the lane modifications on westbound Chrysler Drive and on northbound and southbound Constitution Drive. The recommended improvements may require traffic signal modification if traffic signal poles need to be replaced due to the widening.

The project is required to pay TIFs according to the current TIF schedule. While the improvements to the westbound approach are included in the City's TIF program, the improvements on the northbound and southbound approaches are beyond those in the TIF program, and payment of the TIFs would not entirely address the change to intersection delay as a result of project traffic. The recommended improvements would result in the intersection operating in compliance with the City's TIA guidelines in the Cumulative Plus Project condition.

Chrysler Drive/Jefferson Drive

Addition of the project trips would result in the Chrysler Drive/Jefferson Drive intersection operating in noncompliance with the TIA Guidelines in both peak hours under the Cumulative Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of 0.8 second or greater during both peak hours.

The recommended improvement at Chrysler Drive/Jefferson Drive is to install a traffic signal and convert the northbound shared left-right-turn lane on Jefferson Drive to one left-turn lane and one right-turn lane. The installation of a traffic signal is consistent with the City's Transportation Master Plan (City of Menlo Park 2020b), which identifies traffic signal installation as a future improvement at Chrysler Drive/Jefferson Drive. No widening or additional right-of-way would be required.

This improvement is in the City's TIF program, and the project is required to pay TIFs according to the City's current TIF schedule. As such, payment of the TIFs would address the changes in intersection delay as a result of project traffic. The recommended improvement would result in the intersection operating in compliance with the City's TIA guidelines in the Cumulative Plus Project condition.

Chrysler Drive/Independence Drive

Addition of the project trips would result in the Chrysler Drive/Independence Drive intersection operating in noncompliance with the TIA Guidelines in the a.m. peak hour under Cumulative Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of greater than 0.8 second during the a.m. peak hour.

The recommended improvement at Chrysler Drive/Independence Drive is to install a traffic signal consistent with the City's Transportation Master Plan (City of Menlo Park 2020b), which identifies traffic signal installation as a future improvement at Chrysler Drive/Independence Drive.

This improvement is in the City's TIF program, and the project is required to pay TIFs according to the City's current TIF schedule. As such, payment of the TIFs would address the changes in intersection delay as a result of project traffic. The recommended improvement would result in the

intersection operating in compliance with the City's TIA Guidelines in the Cumulative Plus Project condition.

Chilco Street/Bayfront Expressway

Addition of the project trips would result in the Chilco Street/Bayfront Expressway intersection operating in noncompliance with the TIA Guidelines in both peak hours under the Cumulative Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of greater than 0.8 second during both peak hours.

The recommended improvement at Chilco Street/Bayfront Expressway is to restripe the eastbound center left-turn lane on Chilco Street to a shared left-right-turn lane and to redesign the existing bike lane. The lane configuration in this direction would be one left-turn lane, one shared left/right lane, and one right-turn lane. The recommended improvements are subject to Caltrans review and approval, as this intersection is located within Caltrans jurisdiction. The recommended improvements would result in the intersection operating in compliance with the City's TIA Guidelines in the Cumulative Plus Project condition.

Chilco Street/Constitution Drive

Addition of the project trips would result in the Chilco Street/Constitution Drive intersection operating in noncompliance with the TIA Guidelines in both peak hours under the Cumulative Plus Project condition. The project would cause this intersection to experience an increase in average critical movement delay of greater than 0.8 second during both peak hours.

The recommended improvement at Chilco Street/Constitution Drive is to convert the westbound shared through-right-turn lane on Chilco Street to a through lane and a right-turn lane. The lane configuration in this direction would be two left-turn lanes, one through lane, and one right-turn lane. It is also recommended to convert the southbound left-through lane on Constitution Drive to one left-turn lane and one through lane, resulting in one left-turn lane, one through lane, and one right-turn lane in this direction. The recommended improvements would require widening along westbound Chilco Street and southbound Constitution Drive. This may require traffic signal modification if traffic signal poles need to be replaced due to the widening.

The project is required to pay TIFs according to the current TIF schedule. The improvements are beyond those in the TIF program, and payment of the TIFs would not entirely address the change to intersection delay as a result of the project traffic. The recommended improvements would result in the intersection operating in compliance with the City's TIA Guidelines in the Cumulative Plus Project condition.

Table O summarizes the results of the Cumulative Plus Project with Improvements peak-hour LOS analysis.

Table O: Cumulative Plus Project with Improvements Intersection Level of Service Summary

	Intersection	Control	Peak Hour	Critical Approach[1]	Cumulative		Cumulative Plus Project		Cumulative Plus Project with Improvements		Meet General Plan Standard?[2]
					Delay	LOS	Delay	LOS	Delay	LOS	
				N/A	103.1	F	105.2	F	82.0	F	
				NB	108.0	F	108.0	F	67.7	E	
				SB	54.4	D	54.4	D	54.4	D	
				EB	169.0	F	168.7	F	84.2	F	
			AM	WB	87.6	F	91.7	F	91.4	F	No
1	Marsh Road-Bayfront Expressway/Haven Avenue (Local Approaches to State	Signal	PM	N/A	37.1	D	37.4	D	38.6	D	Yes
			AM	N/A	12.5	B	13.2	B	12.2	B	Yes
				N/A	62.7	E	63.9	E	26.8	C	
7	Chrysler Drive/Bayfront Expressway (Local Approaches to State)	Signal	PM	NB	212.0	F	216.3	F	55.2	E	Yes
				N/A	361.5	F	371.1	F	52.5	D	
				NB	40.8	D	41.3	D	41.3	D	
				SB	123.7	F	131.7	F	66.0	E	
				EB	175.9	F	192.8	F	50.0	D	
			AM	WB	1430.7	F	1473.2	F	47.8	D	Yes
				N/A	242.7	F	249.8	F	122.5	F	
				NB	28.0	C	28.2	C	28.3	C	
				SB	837.5	F	866.1	F	418.4	F	
				EB	107.4	F	116.3	F	85.3	F	
8	Chrysler Drive/Constitution Drive (Menlo Park)	Signal	PM	WB	403.1	F	403.1	F	80.8	F	No
			AM	N/A	48.3	E	52.5	F	35.3	D	YEs
9	Chrysler Drive/Jefferson Drive (Menlo Park)	Signal	PM	N/A	141.8	F	162.2	F	114.8	F	No
			AM	N/A	307.4	F	311.3	F	31.2	C	Yes
10	Chrysler Drive/Independence Drive (Menlo Park)	Signal	PM	N/A	21.2	C	21.3	C	9.6	A	Yes
				N/A	61.6	E	65.0	E	48.1	D	
			AM	NB	164.8	F	188.7	F	58.6	F	Yes
				N/A	67.1	E	68.6	E	30.8	C	
11	Chilco Street/Bayfront Expressway (Local Approaches to State)	Signal	PM	NB	257.2	F	259.8	F	65.7	E	Yes
				N/A	85.3	F	91.2	F	52.8	D	
				NB	92.2	F	98.6	F	91.6	F	
				SB	94.0	F	101.4	F	42.7	D	
				EB	35.8	D	38.2	D	35.3	C	
			AM	WB	50.0	D	51.0	D	50.0	D	Yes
				N/A	252.2	F	255.6	F	124.3	F	
				NB	98.6	F	98.7	F	98.7	F	
				SB	211.6	F	222.6	F	75.1	E	
				EB	521.3	F	524.7	F	187.4	F	
12	Chilco Street/Constitution Drive (Menlo Park)	Signal	PM	WB	113.7	F	113.7	F	113.7	F	No

[1] The Critical Approach information is relevant where the project would increase delay per the LOS policy standards.

[2] The General Plan Standard information is relevant where the City's LOS policy standards apply.

City = City of Menlo Park

EB = eastbound

LOS = level of service

N/A = not applicable

NB = northbound

SB = southbound

WB = westbound

SITE ANALYSIS

Access and On-Site Circulation

Vehicle access to the project site will be provided via a new full-access driveway on Jefferson Drive. Residential and nonresidential uses would access the parking garage via a single two-way gated entry point approximately 85 ft from the back of the sidewalk on Jefferson Drive. Project outbound traffic would need to be stop-controlled at the driveway before turning onto Jefferson Drive. Jefferson Drive would continue to be uncontrolled along the project frontage.

Sight Distance Analysis

A sight distance analysis was conducted along Jefferson Drive at the location of the proposed project driveway to ensure driver visibility and safety. The speed limit along Jefferson Drive is 25 mph. According to Table 6C-2 of the California MUTCD (Caltrans 2014), the stopping sight distance for roadways with a speed limit of 25 mph is 155 ft. Figure 7 illustrates the sight distance along Jefferson Drive. As shown in this figure, there are no sight distance obstructions at the proposed project driveway. The sight distance at the proposed project driveway exceeds 155 ft looking east and west. Therefore, the project driveway would meet the minimum sight distance requirements specified in the California MUTCD (Caltrans 2014).

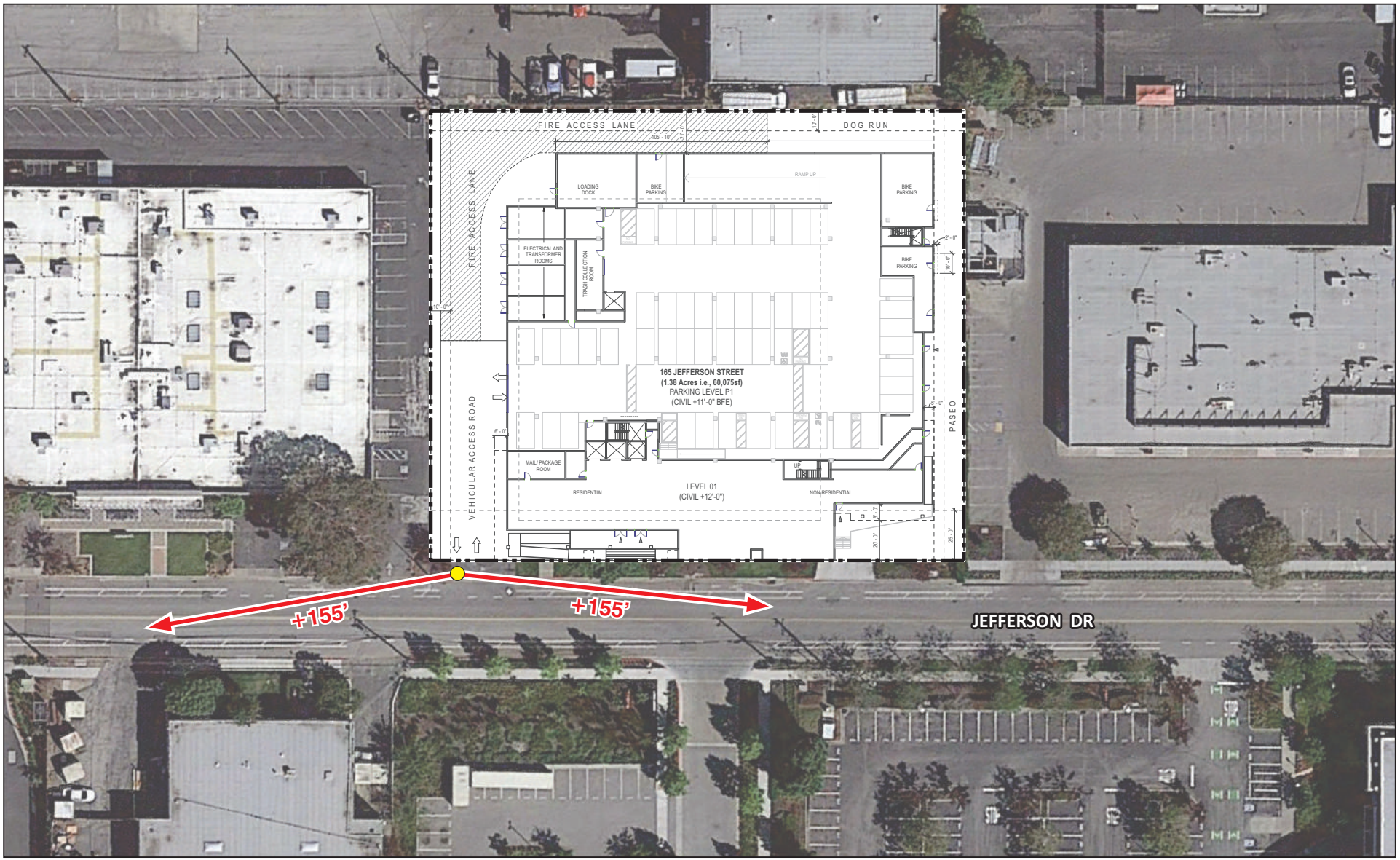
Gate Stacking Analysis

The project proposes to provide a gate at the parking garage entrance. The proposed gate will be located approximately 85 ft from the back of the sidewalk on Jefferson Drive. Project vehicles would need to pass through the security gate in order to enter/exit the parking garage. The gated access would provide one inbound lane and one outbound lane. A gate stacking analysis was conducted to evaluate the peak inbound traffic volumes into the project site and the adequacy of vehicle storage so that project vehicles would not queue onto Jefferson Drive.

The methodology described in the Robert Crommelin report, *Entrance-Exit Design and Control for Major Parking Facilities* (Robert Crommelin and Associates, Inc. 1972; Attachment B), is used to determine the potential queue that may develop at the proposed gate location. Queue formation is a function of the peak-hour inbound traffic volume and the service rate of the gate device to accommodate the demand. The peak-hour inbound volume is compared to the gate service rate, and the queue length is then determined.

Vehicular reservoir needs at the gated facility were identified for a given volume of peak-hour inbound traffic and service rate of the proposed gated entrance device. As shown in Table K, the proposed project would generate 2,218 ADT, including 258 trips in the a.m. peak hour (131 inbound and 127 outbound) and 145 trips in the p.m. peak hour (75 inbound and 70 outbound). The maximum inbound volume during the peak hour will determine the formation of the queues in front of the gate. The maximum inbound volume is 131 trips during the a.m. peak hour.

After accounting for internal trip capture and TDM Plan reductions, the net maximum inbound volume would be 97 trips during the a.m. peak hour. As such, 97 inbound vehicles in the a.m. peak hour are used to evaluate the potential queue in front of the gate.



LSA

FIGURE 7

N

0 35 70
FEET

SOURCE: Google Earth

I:\CMK2001\G\Sight Distance.cdr (7/1/2021)

Menlo Flats
Sight Distance

For purposes of the gate stacking analysis, the gate control system for the proposed gate would be coded-card operated. This is a conservative analysis, as residents and employees will be able to open the gate remotely and will not need to insert a card into a reader in order to open the gate. The Crommelin service rate for a coded-card operated gate (Robert Crommelin and Associates 1972) has been used to analyze the proposed gate as presented in Table P.

Table P: Gate Service Rates

Type of Gate Control[1]	Proposed Typical Service Rate		
	Average Headway (seconds/vehicle)	Design Capacity (vehicles/hour)	Maximum Capacity (vehicles/hour)
Coded-Card-Operated Gate	8.9	340	425

[1] The type of gate control is from *Entrance-Exit Design and Control for Major Parking Facilities* (Robert Crommelin and Associates 1972).

Based on the volume of inbound vehicles and the service rates presented above, the traffic intensity (i.e., volume-to-service rate ratio) is determined. Table Q presents the gate stacking analysis for the inbound vehicles at the proposed gate. The a.m. peak-hour inbound volume of 97 vehicles was divided by the service rate of 340 vehicles per hour to determine the 0.285 traffic intensity.

Table Q: Traffic Intensity

Gate Entrance	Traffic Intensity
Project Driveway (97 Inbound Vehicles)	97/340 = 0.285

Based on the traffic intensities and the Crommelin methodology (see the Reservoir Needs vs. Traffic Intensity graph in *Entrance-Exit Design and Control for Major Parking Facilities* [Robert Crommelin and Associates 1972]), a stacking reservoir of one vehicle behind the gate is required. A standard-design passenger car is 22 ft in length. As previously described, 85 ft of storage length is provided from the back of the Jefferson Drive sidewalk to the gate entrance. As such, the minimum gate stacking distance is satisfied, and the proposed gate operation and vehicle storage length would accommodate the projected vehicle demand without queuing onto Jefferson Drive.

Parking

The project would provide 176 parking spaces in a three-level parking garage. Approximately 138 parking spaces would be designated for residents, and 38 spaces would be for nonresidents. The project is located within the Residential Mixed-Use Bonus (R-MU-B) zoning district. Based on the City's Municipal Code (Chapter 16.45.080, Parking Standards for R-MU Residential Mixed Use District), residential units require 1 parking space per dwelling unit, office use requires 2 parking spaces per 1,000 sf of office use, and eating and drinking establishment use requires 2.5 parking spaces per 1,000 sf of eating and drinking establishment use. Application of the City's parking requirements to the project site would require a minimum of 158 parking spaces for the residential use and 33 spaces for the nonresidential uses. As such, the project will not meet the minimum required parking spaces for the residential use (13 percent short of the City's Parking Code) but will meet the minimum required parking spaces for the nonresidential use.

As mentioned before, the project will implement TDM measures that would result in a VMT reduction of approximately 30 percent for both residential and nonresidential land uses. The project will be short of the City's Parking Code by 13 percent for the residential use. It is expected that the implementation of the TDM measures would result in reduction of both the project's estimated VMT and its parking demand. As such, the project is not expected to have any parking deficiency. As part of the BMR Ordinance and BMR Guidelines, the project sponsor may request a waiver from the minimum parking requirement. Therefore, if the City Council grants the waiver for the minimum number of parking spaces, the project would meet the City's parking requirements.

CONCLUSIONS

Based on the results of this TIA, the project's estimated average daily VMT is above the City's VMT threshold for both the residential and office components of the project. However, implementation of the proposed TDM Plan would result in the project's average daily VMT being below the City's VMT thresholds. Therefore, the VMT generated by the project would result in a less than significant impact.

Development of the project would result in two study area intersections operating in noncompliance with the TIA Guidelines under the Near-Term Plus Project condition and seven study intersections operating in noncompliance with the TIA Guidelines under the Cumulative Plus Project condition. With the prescribed improvements, the intersections would operate in compliance with the TIA Guidelines under the Near-Term Plus Project and Cumulative Plus Project conditions.

The project residential and nonresidential uses would access the parking garage via a single two-way gated entry point approximately 85 ft from the back of the sidewalk on Jefferson Drive. Project outbound traffic would need to be stop-controlled at the driveway before turning onto Jefferson Drive. The project driveway would meet the minimum sight distance requirements specified in the California MUTCD (Caltrans 2014).

Based on the results of the gate stacking analysis, the minimum stacking distance is satisfied at the proposed gate on the project site, and the proposed gate operation and vehicle storage length would accommodate the projected demand without queuing onto Jefferson Drive.

The project will not meet the minimum required parking spaces for the residential use but will meet the minimum required parking spaces for the nonresidential use. However, as part of the BMR Ordinance and BMR Guidelines, the project sponsor may request a waiver from the minimum parking requirement. Therefore, if the City Council grants the waiver for the minimum number of parking spaces, the project would meet the City's parking requirements.

REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2010. *Quantifying Greenhouse Gas Mitigation Measures*. August.

California Department of Transportation (Caltrans). 2014. California Manual on Uniform Traffic Control Devices.

City of Menlo Park. 2005. Comprehensive Bicycle Development Plan. January.

_____. 2016. General Plan. Adopted November 29.

_____. 2020a. Transportation Impact Analysis Guidelines. June 16.

_____. 2020b. Transportation Master Plan. November.

Robert Crommelin and Associates. 1972. *Entrance-Exit Design and Control for Major Parking Facilities*.

Hexagon. 2020. Transportation Demand Management Plan. June 15.

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

_____. 2017b. *Trip Generation Handbook.* 3rd ed.

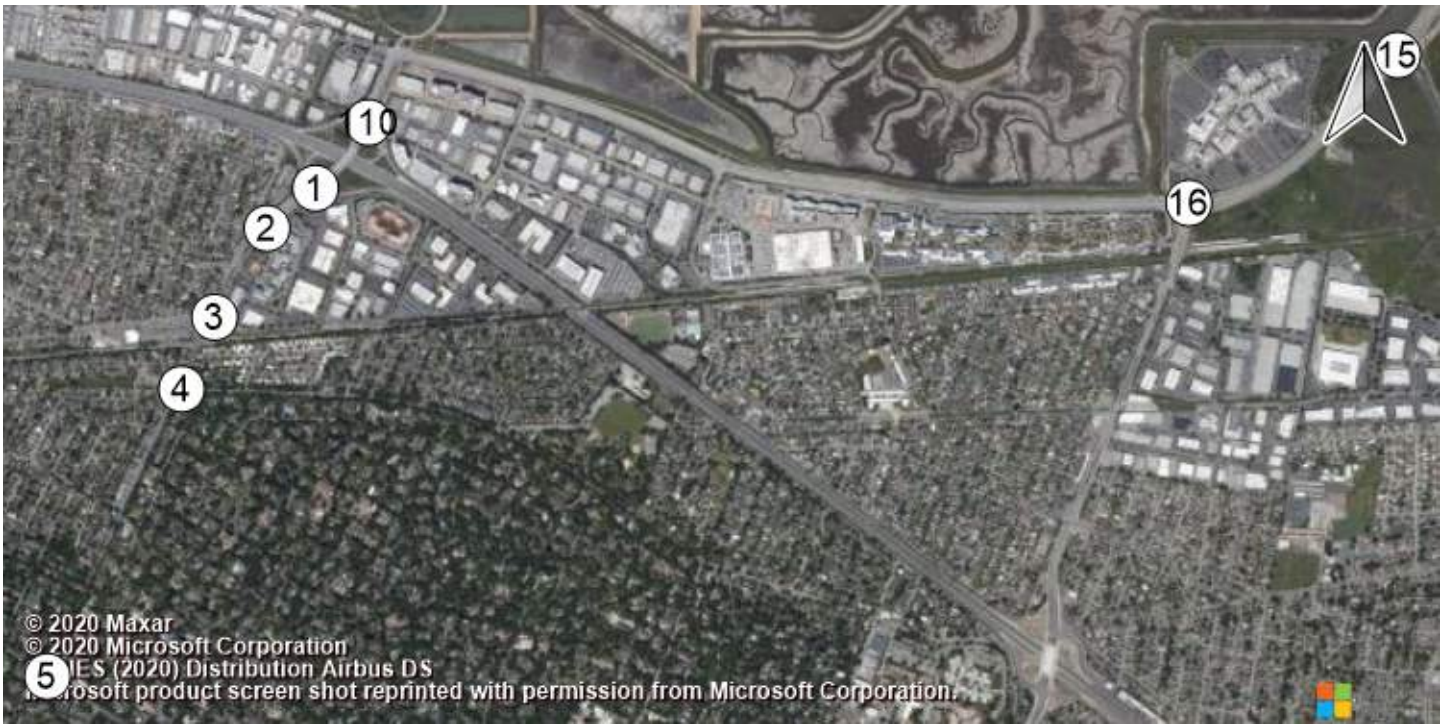
Town of Atherton. 2019. General Plan.

Transportation Research Board. 2017. *Highway Capacity Manual*. 6th ed.

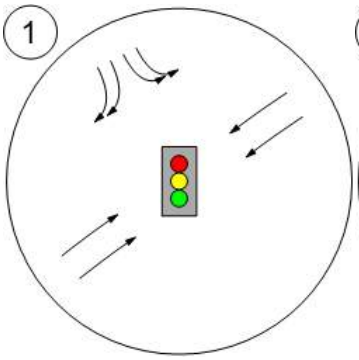
APPENDIX A

INTERSECTION GEOMETRICS

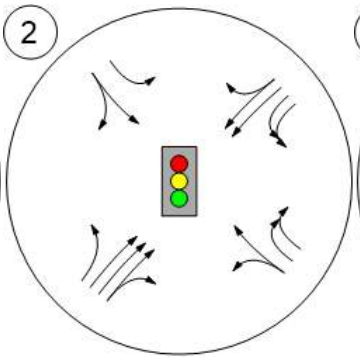
Lane Configuration and Traffic Control



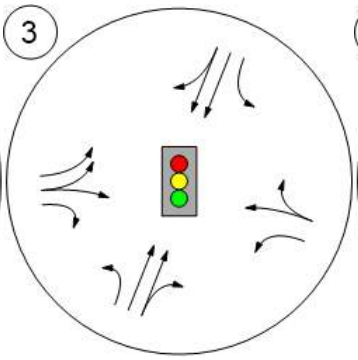
Marsh Rd (SR 84)/US 101 S



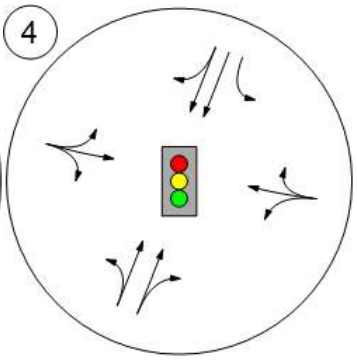
Marsh Rd/Rolison Rd-Scott D



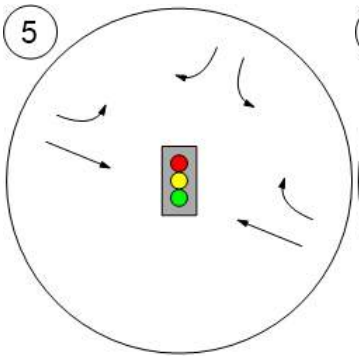
Marsh Rd/Florence St-Bohan



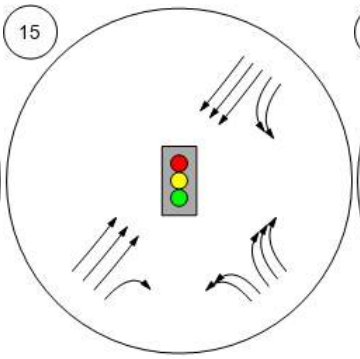
Marsh Rd/Bay Rd



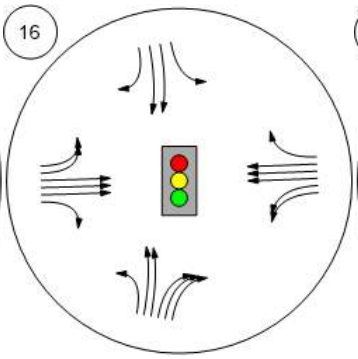
Middlefield Rd/Marsh Rd



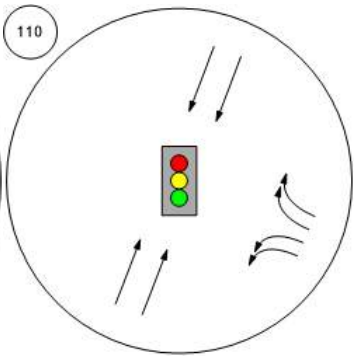
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

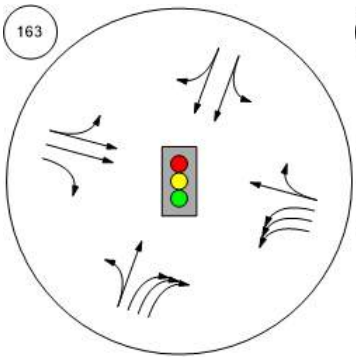


Marsh Road and US 101 NB

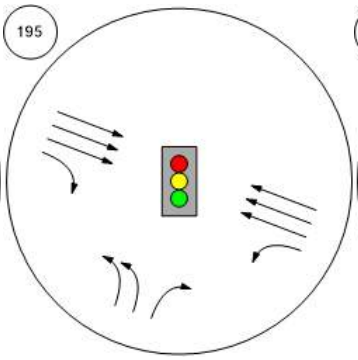


Lane Configuration and Traffic Control

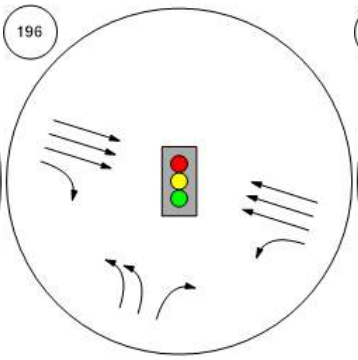
Bayfront Expy/Marsh Rd



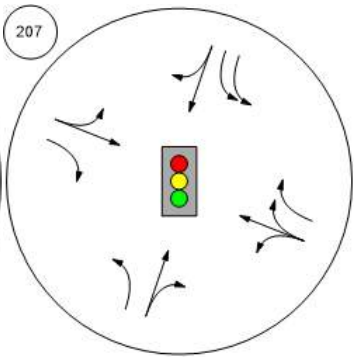
Bayfront Expy/Chilco St



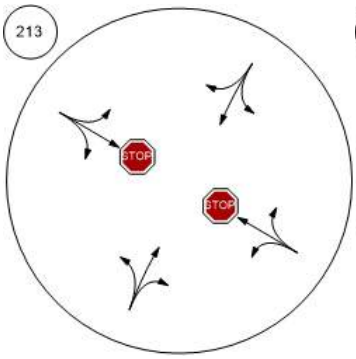
Bayfront Expy/Chrysler Drive



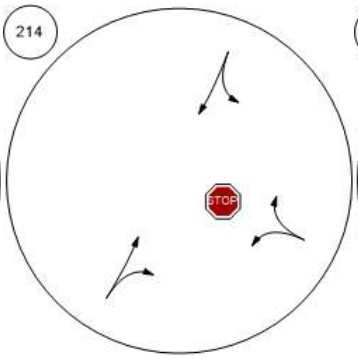
Chilco St/Constitution Dr



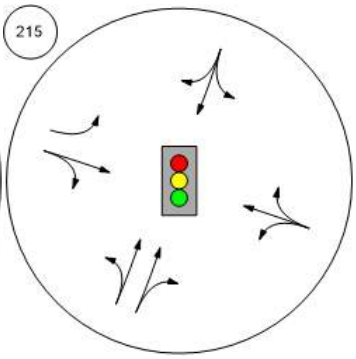
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



Chrysler Dr/Constitution Dr



APPENDIX B

TRANSIT INFORMATION

M1 CROSSTOWN SHUTTLE

Belle Haven to Sharon Heights

Effective June 28, 2021

The M1-Crosstown Shuttle is FREE and open to everyone. The shuttle can accommodate wheelchairs and two bicycles.

FOR MORE INFORMATION

Menlo Park Shuttles
650-330-6770
menlopark.org/shuttles

Caltrain
800-660-4287
caltrain.com

Regional Transit
Dial 5-1-1
511.org

Immediate Shuttle Assistance
MV Transportation
650-692-1003

Sign up for text alerts: smctd.com/shuttles/shuttle_text_alerts
Live Shuttle Tracker: peninsulashuttles.com

FREE Door-to-Door Shoppers' Shuttle

Tuesdays to Redwood City:	650-330-2286
Wednesdays to Menlo Park/Palo Alto:	650-330-2288
Saturdays to Menlo Park/Palo Alto:	650-330-2289

The M1-Crosstown Shuttle is funded through generous grants from our partner agencies:

C/CAG · MTC Metropolitan Transportation Commission · City of Menlo Park

Inbound to Sharon Heights

	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5
Terminal and Del Norte	8:15	10:49	12:07	2:32	3:27
Belle Haven Branch Library	8:19	10:53	12:11	2:36	3:31
V.A. Medical Center	8:25	10:59	12:17	2:42	3:37
Menlo Medical Clinic	8:29	11:03	12:21	2:46	3:41
MP Library, Senior services	8:35	11:09	12:27	2:52	3:47
Middlefield and Oak Grove	8:39	11:13	12:31	2:56	3:51
Crane Place	8:44	11:18	12:36	3:01	3:56
Downtown (Santa Cruz and Chestnut)	8:47	11:21	12:39	3:04	3:59
Menlo Park Caltrain	8:50	11:24	12:42	3:07	4:02
Safeway	8:54	11:28	12:46	3:11	4:06
Little House	8:58	11:32	12:50	3:15	4:10
Partridge / Kennedy	9:02	11:36	12:54	3:19	4:14
P.A. Medical Foundation	9:08	11:42	1:00	3:25	4:20
Palo Alto Caltrain	9:13	11:47	1:05	3:30	4:25
Hoover Pavilion	9:18	11:52	1:10	3:35	4:30
Stanford Shopping Center	9:20	11:54	1:12	3:37	4:32
Nordstrom / Crate and Barrel	9:23	11:57	1:15	3:40	4:35
Stanford Medical Center (900 Welch Road)	9:27	12:01	1:19	3:44	4:39
Sharon Hts. Shopping Ctr.	9:34	12:08	1:26	3:51	4:46
Menlo Commons	9:41	12:15	1:33	3:58	4:53

Outbound to Belle Haven

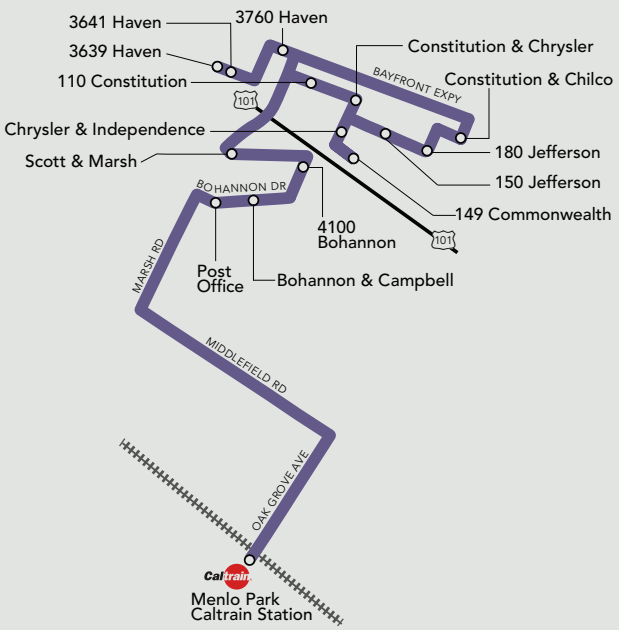
	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5
Sharon Hts. Shopping Ctr.	9:00	10:01	12:55	1:38	4:23
Menlo Commons	9:07	10:08	1:02	1:45	4:30
Stanford Medical Center (Welch and Blake Wilbur)	9:13	10:14	1:08	1:51	4:36
Stanford Shopping Center	9:18	10:19	1:13	1:56	4:41
Nordstrom / Crate and Barrel	9:21	10:22	1:16	1:59	4:44
Hoover Pavilion	9:24	10:25	1:19	2:02	4:47
P.A. Medical Foundation	9:28	10:29	1:23	2:06	4:51
Palo Alto Caltrain	9:33	10:34	1:28	2:11	4:56
University and Partridge	9:39	10:40	1:34	2:17	5:02
Little House	9:42	10:43	1:37	2:20	5:05
Safeway	9:46	10:47	1:41	2:24	5:09
Menlo Park Caltrain	9:50	10:51	1:45	2:28	5:13
Downtown (Santa Cruz and Crane)	9:54	10:55	1:49	2:32	5:17
Crane Place	9:57	10:58	1:52	2:35	5:20
Middlefield and Oak Grove	10:02	11:03	1:57	2:40	5:25
MP Library, Senior services	10:08	11:09	2:03	2:46	5:31
Menlo Medical Clinic	10:13	11:14	2:08	2:51	5:36
V.A. Medical Clinic	10:19	11:20	2:14	2:57	5:42
Belle Haven Branch Library	10:25	11:26	2:20	3:03	5:48
Terminal and Del Norte	10:29	11:30	2:24	3:07	5:52

The M1-Crosstown Shuttle operates Monday to Friday. No service on federal holidays or their observed days. Exceptions: service on Columbus Day and Veterans Day; no service on the Friday after Thanksgiving.

MARSH ROAD SHUTTLE

Menlo Park Caltrain to Marsh Road Business Parks

Effective March 22, 2021



The M3-Marsh Road Shuttle is FREE and open to everyone. Stanford Health Care's Bohannon Line also provides all day service to the Bohannon Drive area.

FOR MORE INFORMATION

Menlo Park Shuttles
650-330-6770
menlopark.org/shuttles

Caltrain
800-660-4287
caltrain.com

Regional Transit
Dial 5-1-1
511.org

Stanford Health Care
650-736-8000
stanfordmedicinetransportation.org/shuttles

Sign up for text alerts: smctd.com/shuttles/shuttle_text_alerts
Live Shuttle Tracker: peninsulashuttles.com

The M3-Marsh Road Shuttle is funded through generous grants from our partner agencies:

This schedule is in response to Caltrain's modified schedule effective March 22, 2021. The second Marsh shuttle is still temporarily suspended. Resumption of the second shuttle is to be determined, pending Caltrain's full, normal schedule resumption based on the ongoing COVID-19 situation.

Morning Schedule

	RUN 1	RUN 2	RUN 3
Menlo Park Caltrain (Depart)	7:38	8:38	9:38
Post Office	7:46	8:48	9:46
Bohannon & Campbell	7:47	8:49	9:47
4100 Bohannon	7:48	8:50	9:48
Scott & Marsh	7:49	8:51	9:49
110 Constitution	7:52	8:56	9:53
Constitution & Chrysler	7:53	8:57	9:54
Chrysler & Independence	7:54	8:58	9:55
149 Commonwealth	7:55	8:59	9:56
150 Jefferson/180 Jefferson	7:57	9:01	9:58
Constitution & Chilco	7:59	9:03	10:00
3641 Haven (Elan Menlo)	8:06	9:10	10:06
3639 Haven (Anton Menlo)	8:06	9:10	10:06
3760 Haven (Quicken)	8:08	9:12	10:08
Menlo Park Caltrain (Arrive)	8:22	9:24	--

Caltrain Arrivals in Menlo Park

From San Francisco	From San Jose	Shuttle Connection
#214: 7:33	**#213:** 7:07	**Run 1** Dep. 7:38
#222: 8:33	**#221:** 8:07	**Run 2** Dep. 8:38
#230: 9:33	**#229:** 9:07	**Run 3** Dep. 9:38

Afternoon Schedule

	RUN 1	RUN 2	RUN 3
Menlo Park Caltrain (Depart)	--	4:00	5:00
110 Constitution	3:27	4:23	5:23
Constitution & Chrysler	3:28	4:24	5:24
Chrysler & Independence	3:29	4:25	5:25
149 Commonwealth	3:30	4:26	5:26
150 Jefferson/180 Jefferson	3:32	4:28	5:28
Constitution & Chilco	3:34	4:31	5:31
3641 Haven (Elan Menlo)	3:38	4:37	5:37
3639 Haven (Anton Menlo)	3:38	4:37	5:37
3760 Haven (Quicken)	3:40	4:39	5:39
Scott & Marsh	3:45	4:46	5:46
4100 Bohannon	3:47	4:48	5:48
Bohannon & Campbell	3:48	4:49	5:49
Post Office	3:49	4:50	5:50
Menlo Park Caltrain (Arrive)	4:00	5:00	6:00

Caltrain Departures from Menlo Park

Shuttle Connection	To San Jose	To San Francisco
Run 1 Arr. 4:00	**#260:** 4:33	**#263:** 4:07
Run 2 Arr. 5:00	**#268:** 5:33	**#271:** 5:07
Run 3 Arr. 6:00	**#276:** 6:33	**#279:** 6:07

The M3-Marsh Road Shuttle operates Monday to Friday. No service on federal holidays or their observed days. Exceptions: service on Columbus Day and Veterans Day; no service on the Friday after Thanksgiving.

Fares

	Local Cash	Day Pass*
Adult ..... Age 19 – 64	$2.25	$4.50
Youth ..... Age 18 and younger	$1.10	$2.00
Eligible Discount .... Age 65+, disabled & Medicare cardholder (proof of eligibility or identity required)	$1.10	$2.00

Children
Two children (age 4 and younger) ride free with each adult or eligible discount fare-paying passenger. Additional children subject to youth fare.

* **Purchase at farebox or SamTrans MobileApp. Info at www.samtrans.com/daypass**

Exact fare please. Driver does not make change.

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For more details about fare payments, visit **www.samtrans.com/fares**

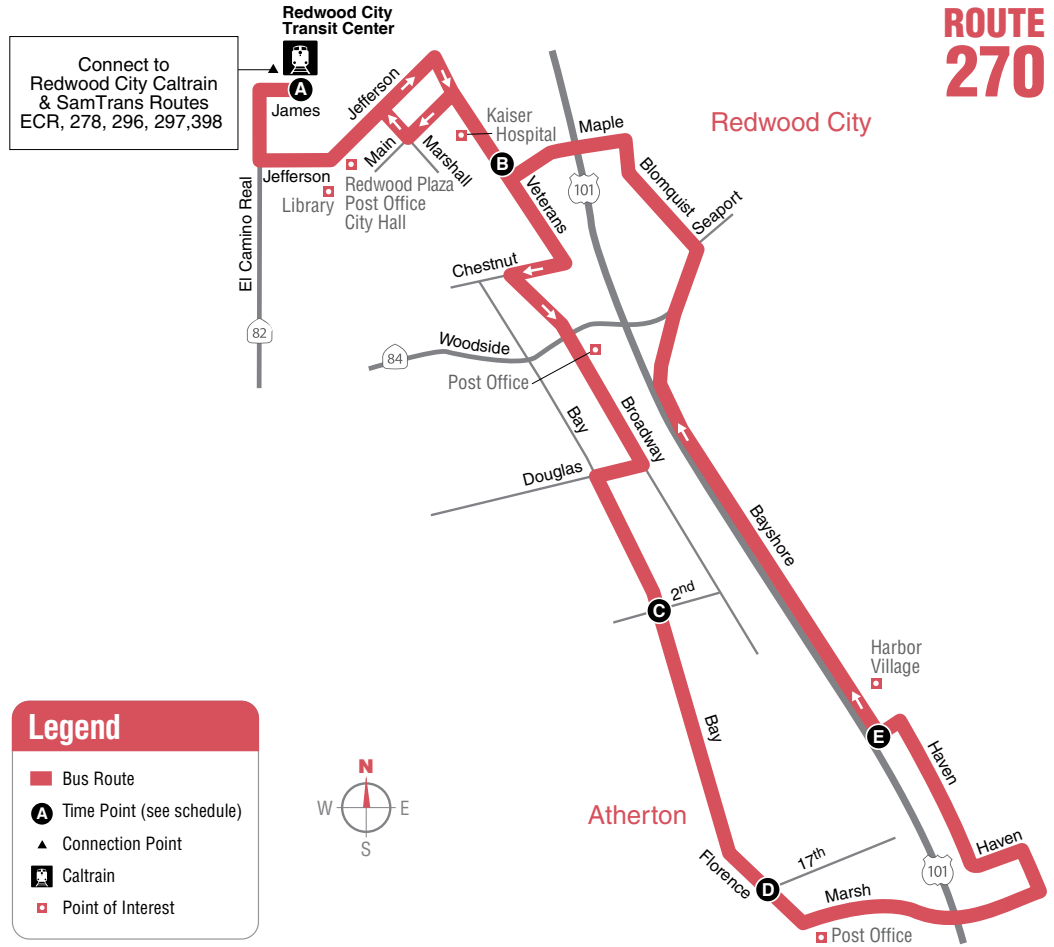
samTrans
Caltrain Connection

270

Effective 04/26/20

Redwood City
- Redwood City Transit Center
- Post Office
- Library
- City Hall
- Redwood Plaza
- Kaiser Hospital

Atherton
- Post Office



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Loops - Weekdays to Redwood City Transit Center

Redwood City Transit Center (A)	Kaiser Hospital (B)	Bay/ 2nd (C)	Florence/ 17th (D)	Haven/ Bayshore (E)	Veterans/ Maple (Kaiser Hospital) (B)	Redwood City Transit Center (A)
6:30	6:36	6:44	6:47	6:55	7:02	7:09
7:30	7:36	7:44	7:47	7:56	8:03	8:10
8:30	8:36	8:44	8:47	8:56	9:03	9:10
9:30	9:36	9:44	9:47	9:56	10:04	10:11
10:30	10:36	10:45	10:48	10:57	11:05	11:14
11:30	11:36	11:45	11:48	11:57	**12:05**	**12:14**
12:30	**12:36**	**12:45**	**12:48**	**12:56**	**1:04**	**1:13**
1:30	**1:36**	**1:45**	**1:48**	**1:56**	**2:04**	**2:13**
2:30	**2:36**	**2:45**	**2:48**	**2:56**	**3:04**	**3:13**
3:30	**3:36**	**3:45**	**3:48**	**3:57**	**4:04**	**4:12**
4:30	**4:36**	**4:45**	**4:48**	**4:57**	**5:04**	**5:12**
5:30	**5:36**	**5:45**	**5:48**	**5:57**	**6:04**	**6:11**
6:30	**6:36**	**6:44**	**6:47**	**6:55**	**7:01**	**7:08**

AM - light type. **PM - bold type.**
Bus is not considered late until 5 minutes past scheduled time. Not all stops shown.
Please call 1-800-660-4287 for other bus stops.

Loops - Saturdays to Redwood City Transit Center

Redwood City Transit Center (A)	Kaiser Hospital (B)	Bay/ 2nd (C)	Florence/ 17th (D)	Haven/ Bayshore (E)	Veterans/ Maple (Kaiser Hospital) (B)	Redwood City Transit Center (A)
7:30	7:36	7:44	7:47	7:56	8:03	8:10
8:30	8:36	8:44	8:47	8:56	9:03	9:10
9:30	9:36	9:44	9:47	9:56	10:04	10:11
10:30	10:36	10:45	10:48	10:57	11:05	11:14
11:30	11:36	11:45	11:48	11:57	**12:05**	**12:14**
12:30	**12:36**	**12:45**	**12:48**	**12:56**	**1:04**	**1:13**
1:30	**1:36**	**1:45**	**1:48**	**1:56**	**2:04**	**2:13**
2:30	**2:36**	**2:45**	**2:48**	**2:56**	**3:04**	**3:13**
3:30	**3:36**	**3:45**	**3:48**	**3:57**	**4:04**	**4:12**
4:30	**4:36**	**4:45**	**4:48**	**4:57**	**5:04**	**5:12**
5:30	**5:36**	**5:45**	**5:48**	**5:57**	**6:04**	**6:11**
6:30	**6:36**	**6:44**	**6:47**	**6:55**	**7:01**	**7:08**

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Saturdays to Onetta Harris Center

Stanford Shopping Center (A)	Palo Alto Transit Center (B)	University/ Woodland (C)	Bay/University (D)	Newbridge/ Saratoga (E)	Onetta Harris Community Center (G)
8:03	8:09	8:18	8:23	8:27	8:33
8:33	8:39	8:48	8:53	8:57	9:03
9:03	9:10	9:19	9:24	9:28	9:34
9:33	9:40	9:50	9:56	10:00	10:06
10:03	10:09	10:19	10:25	10:29	10:36
10:33	10:39	10:49	10:55	10:59	11:06
11:03	11:09	11:19	11:25	11:29	11:36
11:33	11:39	11:49	11:55	11:59	**12:06**
12:03	**12:10**	**12:20**	**12:26**	**12:30**	**12:37**
12:32	**12:39**	**12:50**	**12:56**	**1:00**	**1:07**
1:02	**1:09**	**1:20**	**1:26**	**1:30**	**1:37**
1:32	**1:39**	**1:50**	**1:56**	**2:00**	**2:07**
2:03	**2:10**	**2:22**	**2:28**	**2:32**	**2:39**
2:30	**2:38**	**2:50**	**2:56**	**3:00**	**3:07**
3:00	**3:08**	**3:21**	**3:27**	**3:31**	**3:38**
3:30	**3:38**	**3:51**	**3:57**	**4:01**	**4:08**
4:00	**4:08**	**4:20**	**4:27**	**4:31**	**4:38**
4:30	**4:38**	**4:50**	**4:57**	**5:01**	**5:08**
5:00	**5:08**	**5:20**	**5:27**	**5:31**	**5:38**
5:30	**5:38**	**5:50**	**5:56**	**6:00**	**6:07**
6:00	**6:08**	**6:20**	**6:26**	**6:30**	**6:37**
6:30	**6:38**	**6:49**	**6:55**	**6:59**	**7:06**
7:00	**7:08**	**7:19**	**7:25**	**7:29**	**7:36**

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Sundays to Onetta Harris Center

Stanford Shopping Center (A)	Palo Alto Transit Center (B)	University/ Woodland (C)	Bay/University (D)	Newbridge/ Saratoga (E)	Onetta Harris Community Center (G)
8:00	8:06	8:15	8:20	8:24	8:30
8:40	8:46	8:55	9:00	9:04	9:10
9:20	9:27	9:37	9:43	9:47	9:53
10:00	10:07	10:17	10:23	10:27	10:33
10:40	10:46	10:56	11:02	11:06	11:13
11:20	11:26	11:36	11:42	11:46	11:53
12:00	**12:07**	**12:17**	**12:23**	**12:27**	**12:34**
12:40	**12:47**	**12:58**	**1:04**	**1:08**	**1:15**
1:20	**1:27**	**1:38**	**1:44**	**1:48**	**1:55**
2:00	**2:07**	**2:19**	**2:25**	**2:29**	**2:36**
2:40	**2:48**	**3:00**	**3:06**	**3:10**	**3:17**
3:20	**3:28**	**3:41**	**3:47**	**3:51**	**3:58**
4:00	**4:08**	**4:20**	**4:27**	**4:31**	**4:38**
4:40	**4:48**	**5:00**	**5:07**	**5:11**	**5:18**
5:20	**5:28**	**5:40**	**5:47**	**5:51**	**5:58**
6:00	**6:08**	**6:20**	**6:26**	**6:30**	**6:37**

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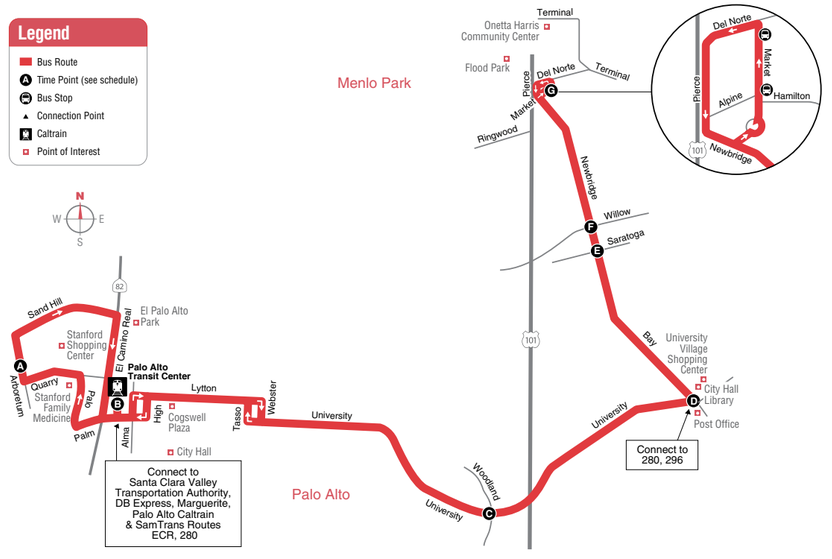

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samTrans
Caltrain Connection

Menlo Park
- Kelly Park
- Onetta Harris Community Center

East Palo Alto
- City Hall
- Library
- Post Office

Palo Alto
- Caltrain
- Transit Center
- Stanford Shopping Center

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Effective 06/28/21

Information/Información
1-800-660-4287
(TTY 650-508-6448)
www.samtrans.com

samTrans

Saturdays to Stanford Mall

Onetta Harris Community Center (G)	Newbridge/ Willow (F)	Bay/University (D)	University/ Woodland (C)	Palo Alto Transit Center (B)	Stanford Shopping Center (A)
8:15	8:21	8:27	8:32	8:42	8:47
8:45	8:51	8:57	9:02	9:12	9:17
9:15	9:21	9:26	9:31	9:41	9:46
9:45	9:51	9:56	10:01	10:11	10:16
10:15	10:21	10:26	10:31	10:42	10:48
10:45	10:51	10:56	11:01	11:12	11:18
11:15	11:21	11:26	11:32	11:43	11:49
11:45	11:51	11:56	**12:02**	**12:13**	**12:19**
12:15	**12:21**	**12:26**	**12:32**	**12:43**	**12:49**
12:45	**12:51**	**12:56**	**1:02**	**1:13**	**1:19**
1:15	**1:21**	**1:26**	**1:32**	**1:43**	**1:49**
1:45	**1:51**	**1:56**	**2:02**	**2:14**	**2:20**
2:15	**2:21**	**2:26**	**2:32**	**2:44**	**2:50**
2:45	**2:51**	**2:56**	**3:02**	**3:15**	**3:21**
3:15	**3:20**	**3:25**	**3:31**	**3:44**	**3:50**
3:45	**3:50**	**3:55**	**4:01**	**4:14**	**4:20**
4:15	**4:20**	**4:25**	**4:31**	**4:43**	**4:49**
4:45	**4:50**	**4:55**	**5:00**	**5:12**	**5:18**
5:15	**5:20**	**5:25**	**5:30**	**5:41**	**5:47**
5:45	**5:50**	**5:55**	**6:00**	**6:11**	**6:17**
6:15	**6:20**	**6:25**	**6:30**	**6:41**	**6:47**
6:45	**6:50**	**6:55**	**7:00**	**7:11**	**7:17**
7:15	**7:20**	**7:25**	**7:29**	**7:39**	**7:45**
7:37	**7:42**	**7:47**	**7:51**	**8:00**	**8:07**

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Sundays to Stanford Mall

Onetta Harris Community Center (G)	Newbridge/ Willow (F)	Bay/University (D)	University/ Woodland (C)	Palo Alto Transit Center (B)	Stanford Shopping Center (A)
8:39	8:45	8:51	8:56	9:06	9:11
9:19	9:25	9:30	9:35	9:45	9:50
9:59	10:05	10:10	10:15	10:25	10:30
10:39	10:45	10:50	10:55	11:06	11:12
11:19	11:25	11:30	11:36	11:47	11:53
11:59	**12:05**	**12:10**	**12:16**	**12:27**	**12:33**
12:39	**12:45**	**12:50**	**12:56**	**1:07**	**1:13**
1:19	**1:25**	**1:30**	**1:36**	**1:47**	**1:53**
1:59	**2:05**	**2:10**	**2:16**	**2:28**	**2:34**
2:39	**2:45**	**2:50**	**2:56**	**3:08**	**3:14**
3:19	**3:24**	**3:29**	**3:35**	**3:48**	**3:54**
3:59	**4:04**	**4:09**	**4:15**	**4:28**	**4:34**
4:39	**4:44**	**4:49**	**4:54**	**5:06**	**5:12**
5:19	**5:24**	**5:29**	**5:34**	**5:45**	**5:51**
5:59	**6:04**	**6:09**	**6:14**	**6:25**	**6:31**
6:39	**6:44**	**6:49**	**6:54**	**7:05**	**7:11**

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Weekdays to Onetta Harris Center

A Stanford Shopping Center	B Palo Alto Transit Center	C University/ Woodland	D Bay/University	E Newbridge/ Saratoga	G Onetta Harris Community Center
6:00	6:06	6:15	6:20	6:24	6:30
6:30	6:36	6:45	6:50	6:54	7:00
7:00	7:06	7:15	7:20	7:24	7:30
7:30	7:36	7:45	7:50	7:54	8:00
8:00	8:06	8:15	8:20	8:24	8:30
8:30	8:36	8:45	8:50	8:54	9:00
9:00	9:07	9:16	9:21	9:25	9:31
9:30	9:37	9:47	9:53	9:57	10:03
10:00	10:07	10:17	10:23	10:27	10:33
10:30	10:36	10:46	10:52	10:56	11:03
11:00	11:06	11:16	11:22	11:26	11:33
11:30	11:36	11:46	11:52	11:56	**12:03**
12:00	**12:07**	**12:17**	**12:23**	**12:27**	**12:34**
12:30	**12:37**	**12:48**	**12:54**	**12:58**	**1:05**
1:00	**1:07**	**1:18**	**1:24**	**1:28**	**1:35**
1:30	**1:37**	**1:48**	**1:54**	**1:58**	**2:05**
2:00	**2:07**	**2:19**	**2:25**	**2:29**	**2:36**
2:30	**2:38**	**2:50**	**2:56**	**3:00**	**3:07**
3:00	**3:08**	**3:21**	**3:27**	**3:31**	**3:38**
3:30	**3:38**	**3:51**	**3:57**	**4:01**	**4:08**
4:00	**4:08**	**4:20**	**4:27**	**4:31**	**4:38**
4:23	**4:31**	**4:43**	**4:50**	**4:54**	**5:01**
4:42	**4:50**	**5:02**	**5:09**	**5:13**	**5:20**
5:02	**5:10**	**5:22**	**5:29**	**5:33**	**5:40**
5:22	**5:30**	**5:42**	**5:49**	**5:53**	**6:00**
5:43	**5:51**	**6:03**	**6:09**	**6:13**	**6:20**
6:02	**6:10**	**6:22**	**6:28**	**6:32**	**6:39**
6:30	**6:38**	**6:49**	**6:55**	**6:59**	**7:06**
7:00	**7:08**	**7:19**	**7:25**	**7:29**	**7:36**
7:30	**7:38**	**7:49**	**7:54**	**7:58**	**8:04**
8:00	**8:08**	**8:17**	**8:22**	**8:26**	**8:32**
8:30	**8:38**	**8:47**	**8:52**	**8:56**	**9:02**
9:00	**9:08**	**9:17**	**9:22**	**9:26**	**9:32**
9:30	**9:38**	**9:47**	**9:52**	**9:56**	**10:02**
10:00	**10:08**	**10:17**	**10:22**	**10:26**	**10:32**

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Weekdays to Stanford Mall

G Onetta Harris Community Center	F Newbridge/ Willow	D Bay/University	C University/ Woodland	B Palo Alto Transit Center	A Stanford Shopping Center
6:10	6:15	6:21	6:26	6:36	6:41
6:40	6:46	6:52	6:57	7:07	7:12
7:10	7:16	7:22	7:27	7:37	7:42
7:40	7:46	7:52	7:57	8:07	8:12
8:10	8:16	8:22	8:27	8:37	8:42
8:40	8:46	8:52	8:57	9:07	9:12
9:10	9:16	9:21	9:26	9:36	9:41
9:40	9:46	9:51	9:56	10:06	10:11
10:10	10:16	10:21	10:26	10:37	10:43
10:40	10:46	10:51	10:56	11:07	11:13
11:10	11:16	11:21	11:27	11:38	11:44
11:40	11:46	11:51	11:57	**12:08**	**12:14**
12:10	**12:16**	**12:21**	**12:27**	**12:38**	**12:44**
12:40	**12:46**	**12:51**	**12:57**	**1:08**	**1:14**
1:10	**1:16**	**1:21**	**1:27**	**1:38**	**1:44**
1:40	**1:46**	**1:51**	**1:57**	**2:08**	**2:14**
2:10	**2:16**	**2:21**	**2:27**	**2:39**	**2:45**
2:40	**2:46**	**2:51**	**2:57**	**3:10**	**3:16**
3:10	**3:15**	**3:20**	**3:26**	**3:39**	**3:45**
3:40	**3:45**	**3:50**	**3:56**	**4:09**	**4:15**
4:00	**4:05**	**4:10**	**4:16**	**4:28**	**4:34**
4:20	**4:25**	**4:30**	**4:36**	**4:48**	**4:54**
4:40	**4:45**	**4:50**	**4:55**	**5:07**	**5:13**
5:03	**5:08**	**5:13**	**5:18**	**5:29**	**5:35**
5:22	**5:27**	**5:32**	**5:37**	**5:48**	**5:54**
5:42	**5:47**	**5:52**	**5:57**	**6:08**	**6:14**
6:12	**6:17**	**6:22**	**6:27**	**6:38**	**6:44**
6:42	**6:47**	**6:52**	**6:57**	**7:08**	**7:14**
7:10	**7:15**	**7:20**	**7:24**	**7:34**	**7:40**
7:40	**7:45**	**7:50**	**7:54**	**8:03**	**8:10**
8:10	**8:15**	**8:20**	**8:24**	**8:33**	**8:40**
8:40	**8:45**	**8:50**	**8:54**	**9:03**	**9:10**
9:10	**9:15**	**9:20**	**9:24**	**9:33**	**9:40**
9:40	**9:45**	**9:50**	**9:54**	**10:03**	**10:10**
10:10	**10:15**	**10:20**	**10:24**	**10:33**	**10:40**

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samTrans
Caltrain Connection

296

Effective 04/26/20

Redwood City
- Caltrain
- Transit Center
- City Hall
- Library

Menlo Park
- Library
- City Hall
- Caltrain
- VA Medical Center

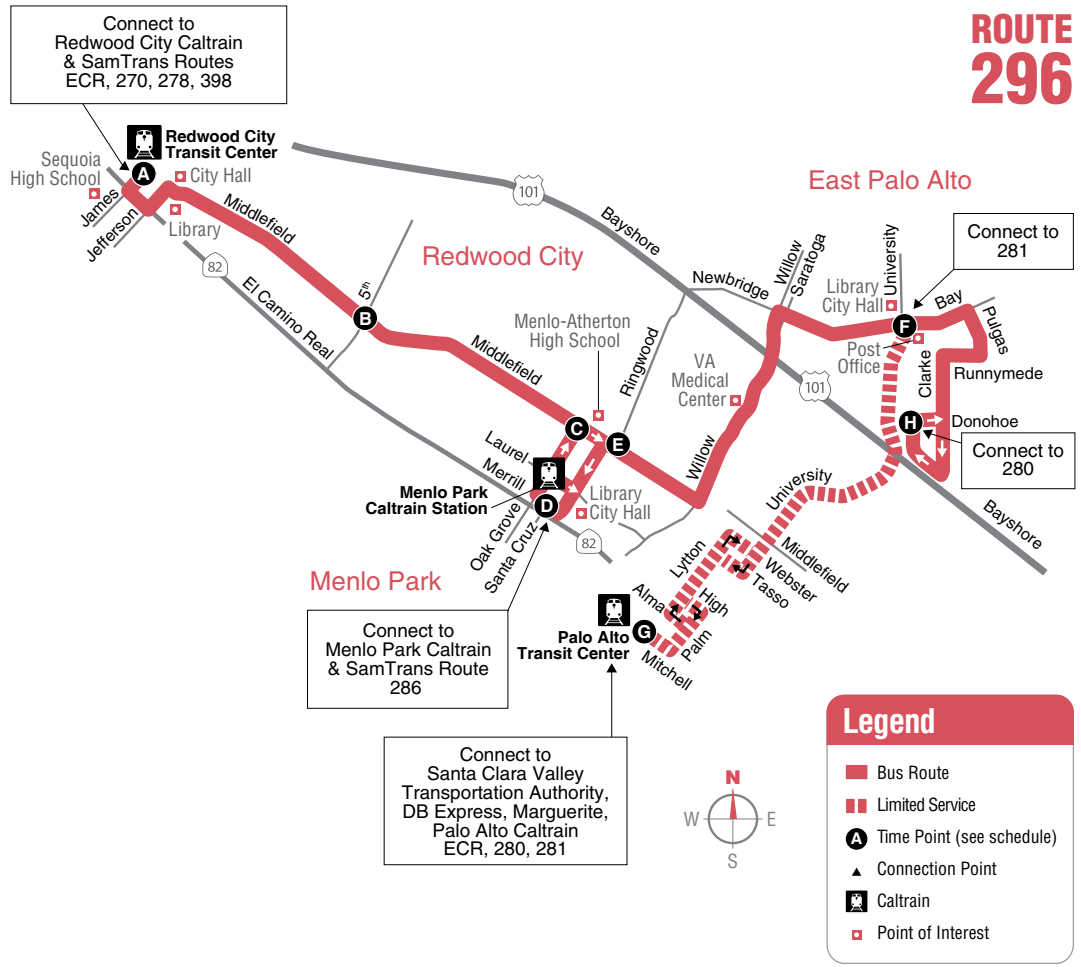
East Palo Alto
- Library
- City Hall
- Post Office

Palo Alto
- Caltrain
- Transit Center

Information/Información
1-800-660-4287
(TTY 650-508-6448)
www.samtrans.com

samTrans

ROUTE 296



How to Use this Timetable:

Locate the time point (Ⓐ) on the map prior to where you want to board the bus. Not all bus stops are shown. Find the same time point on the schedule. The departure/arrival times are listed under each time point. Please plan to arrive 5 minutes prior to your departure time. To plan your trip, use this timetable with the SamTrans System Map, which shows where all routes operate. Trip-planning assistance is available by calling SamTrans at 1-800-660-4287.

To Redwood City Transit Center

Bayshore/ Donohoe (H)	Palo Alto Transit Center (G)	Bay/ University (F)	Middlefield/ Ringwood (E)	Merrill/ Santa Cruz (D)	Middlefield/ 5th (B)	Redwood City Transit Center (A)
—	3:45	3:59	4:14	—	4:20	4:26
—	4:45	4:59	5:14	—	5:20	5:26
—	5:45	5:59	6:14	—	6:20	6:26
—	6:45	6:59	7:14	—	7:20	7:26
—	7:45	7:59	8:14	—	8:20	8:26
8:47	—	8:54	9:07	9:11	9:19	9:30
9:46	—	9:53	10:06	10:10	10:18	10:30
10:45	—	10:51	11:05	11:09	11:17	11:30
11:43	—	11:49	**12:04**	**12:08**	**12:17**	**12:30**
12:43	**—**	**12:49**	**1:04**	**1:08**	**1:17**	**1:30**
1:45	**—**	**1:51**	**2:05**	**2:09**	**2:17**	**2:30**
2:45	**—**	**2:51**	**3:05**	**3:09**	**3:17**	**3:30**
3:46	**—**	**3:52**	**4:06**	**4:10**	**4:18**	**4:30**
4:46	**—**	**4:52**	**5:06**	**5:10**	**5:18**	**5:30**
5:49	**—**	**5:55**	**6:07**	**6:11**	**6:18**	**6:30**
6:46	**—**	**6:52**	**7:03**	**7:06**	**7:13**	**7:23**
—	**7:45**	**7:59**	**8:14**	**—**	**8:20**	**8:26**
—	**8:45**	**8:59**	**9:14**	**—**	**9:20**	**9:26**
—	**9:45**	**9:59**	**10:14**	**—**	**10:20**	**10:26**
—	**10:45**	**10:59**	**11:14**	**—**	**11:20**	**11:26**
—	**11:45**	**11:59**	12:14	—	12:20	12:26

AM - light type. **PM - bold type.** Red type – Late Night and Early AM 296 trips DO NOT serve Menlo Park Caltrain. These trips serve Palo Alto Caltrain Via University Ave.
Bus is not considered late until 5 minutes past scheduled time. Not all stops shown.
Please call 1-800-660-4287 for other bus stops.

To Palo Alto Transit Center

Redwood City Transit Center (A)	Middlefield/ 5th (B)	Middlefield/ Oak Grove (C)	Merrill/ Santa Cruz (D)	Bay/ University (F)	Bayshore/ Donohoe (H)	Palo Alto Transit Center (G)
6:43	6:54	6:59	—	7:11	—	7:21
7:43	7:54	7:59	8:03	8:21	8:26	—
8:43	8:54	8:59	9:03	9:21	9:26	—
9:45	9:57	10:02	10:06	10:25	10:31	—
10:45	10:57	11:03	11:07	11:27	11:33	—
11:45	11:57	**12:03**	**12:07**	**12:27**	**12:33**	**—**
12:45	**12:59**	**1:05**	**1:09**	**1:29**	**1:36**	**—**
1:45	**1:59**	**2:05**	**2:09**	**2:29**	**2:36**	**—**
2:45	**2:59**	**3:05**	**3:09**	**3:29**	**3:36**	**—**
3:45	**4:00**	**4:06**	**4:10**	**4:30**	**4:37**	**—**
4:45	**4:59**	**5:05**	**5:09**	**5:27**	**5:34**	**—**
5:45	**5:59**	**6:05**	**6:09**	**6:27**	**6:34**	**—**
6:45	**6:58**	**7:04**	**—**	**7:16**	**—**	**7:26**
7:43	**7:53**	**7:58**	**—**	**8:10**	**—**	**8:20**
8:43	**8:53**	**8:58**	**—**	**9:10**	**—**	**9:20**
9:43	**9:53**	**9:58**	**—**	**10:10**	**—**	**10:20**
10:43	**10:53**	**10:58**	**—**	**11:10**	**—**	**11:20**
11:43	**11:53**	**11:58**	—	12:10	—	12:20
12:43	12:53	12:58	—	1:10	—	1:20
1:43	1:53	1:58	—	2:10	—	2:20

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Fares

	Local Cash	Day Pass*
Adult ..... Age 19 – 64	$2.25	$4.50
Youth ..... Age 18 and younger	$1.10	$2.00
Eligible Discount .... Age 65+, disabled & Medicare cardholder (proof of eligibility or identity required)	$1.10	$2.00

Children
Two children (age 4 and younger) ride free with each adult or eligible discount fare-paying passenger. Additional children subject to youth fare.

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BART/Caltrain Connection

397

Effective 01/19/20

ALL NIGHTER

San Francisco
- The Embarcadero & Ferry Building
- Mission/1st
- 11th/Market

Brisbane
- Park & Ride

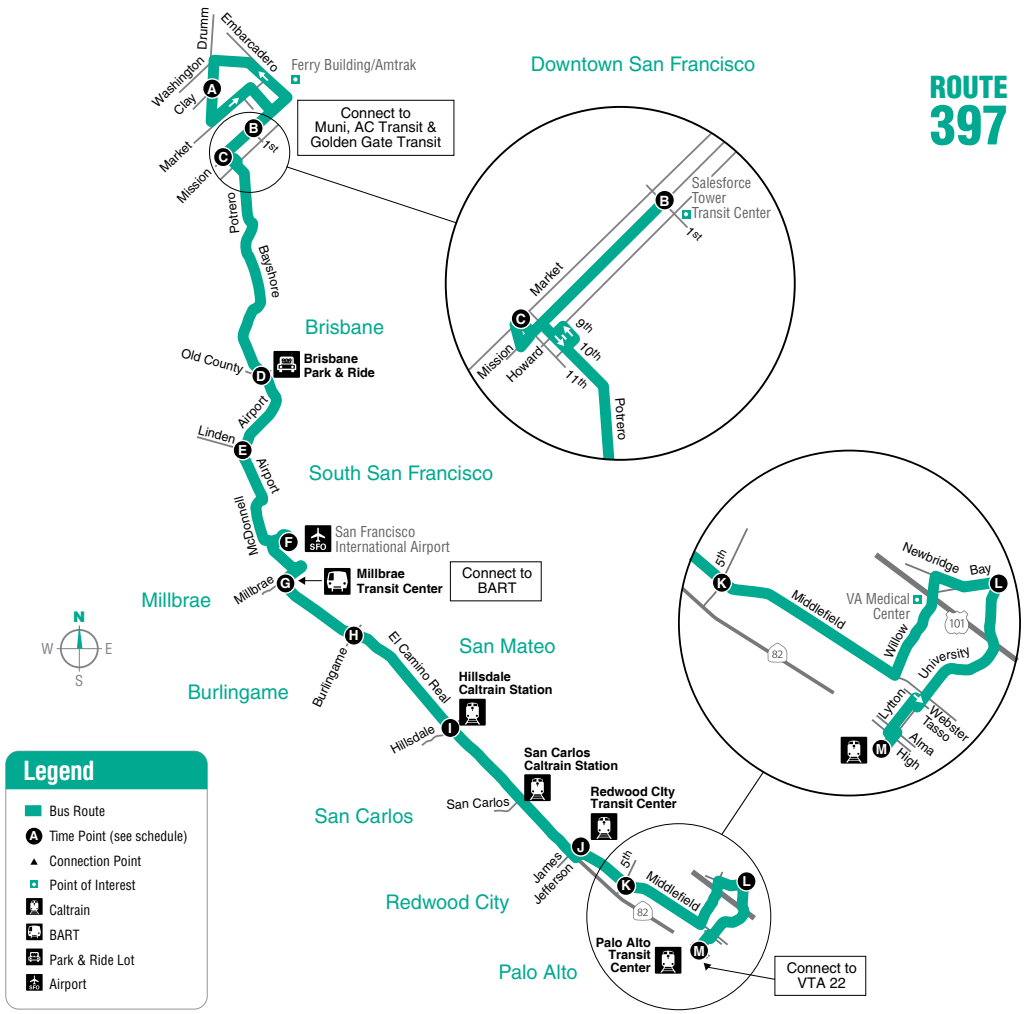
South San Francisco
San Francisco Int'l Airport
Millbrae
- Millbrae Transit Center

Burlingame
San Mateo
- Hillsdale Caltrain

San Carlos
- Caltrain

Redwood City
- Caltrain
- Transit Center

Palo Alto
- Caltrain
- Transit Center



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To San Francisco

Palo Alto Transit Center (M)	Bay/ University (L)	Middlefield/ 5th (K)	Redwood City Transit Center (J)	El Camino/ Hillsdale (I)	El Camino/ Burlingame (H)	Millbrae Transit Center (G)	SF Airport Courtyard A (F)	Airport/ Linden (E)	Bayshore/ Old County (D)	Drumm/ Clay (A)
12:46	12:59	1:14	1:23	1:35	1:45	1:55	2:04	2:18	2:24	3:09
1:46	1:59	2:14	2:23	2:35	2:45	2:55	3:04	3:18	3:24	4:09
2:46	2:59	3:14	3:23	3:35	3:45	3:55	4:04	4:18	4:24	5:09

Northbound service is drop off only in San Francisco.

To Palo Alto Transit Center

Drumm/ Clay (A)	Mission/ 1st (B)	11th/ Market (C)	Bayshore/ Old County (D)	Airport/ Linden (E)	SF Airport Courtyard A (F)	Millbrae Transit Center (G)	El Camino/ Burlingame (H)	El Camino/ Hillsdale (I)	Redwood City Transit Center (J)	Middlefield/ 5th (K)	Bay/ University (L)	Palo Alto Transit Center (M)
1:08	1:15	1:24	1:46	1:53	2:06	2:17	2:25	2:36	2:53	3:01	3:17	3:32
2:08	2:15	2:24	2:46	2:53	3:06	3:17	3:25	3:36	3:53	4:01	4:17	4:32
3:08	3:15	3:24	3:46	3:53	4:06	4:17	4:25	4:36	4:53	5:01	5:17	5:32
4:08	4:15	4:24	4:46	4:53	5:06	5:17	5:25	5:36	5:53	6:01	6:17	6:32

Southbound service is pick-up only in San Francisco.

Route 397 does not operate mid-day or in the evening.

AM - light type. Bus is not considered late until 5 minutes past scheduled time. Not all stops shown. Please call 1-800-660-4287 for other bus stops.

SOUTHBOUND Weekdays to Palo Alto Transit Center

Daly City BART (L)	Mission/ Wellington (K)	Colma BART (J)	El Camino/ McLellan (I)	San Bruno BART (H)	SF Airport* Courtyard A (G)	El Camino/ Victoria (F)	El Camino/ 4th (E)	El Camino/ Hillsdale (D)	El Camino/ San Carlos (C)	Redwood City Transit Center (B)	Palo Alto Transit Ctr (A)
—	4:16	—	4:26	—	4:42	—	—	—	—	—	—
—	—	—	—	—	—	—	—	5:05	5:17	5:26	5:43
—	—	—	—	—	—	—	—	—	5:39	5:48	6:05
4:40	—	4:57	5:05	5:16	—	5:28	5:43	5:51	6:03	6:12	6:29
4:55	—	5:12	5:20	5:31	—	5:43	5:58	6:06	6:18	6:27	6:44
5:10	—	5:27	5:35	5:46	—	5:58	6:13	6:21	6:33	6:42	6:59
5:25	—	5:42	5:50	6:01	—	6:13	6:28	6:36	6:48	6:57	7:14
5:41	—	5:58	6:06	6:17	—	6:29	6:44	6:52	7:04	7:13	7:30
5:56	—	6:13	6:21	6:32	—	6:44	6:59	7:07	7:19	7:28	7:45
6:08	—	6:24	6:32	6:44	—	6:57	7:12	7:20	7:32	7:41	8:00
6:21	—	6:38	6:46	6:58	—	7:11	7:26	7:34	7:46	7:56	8:15
6:34	—	6:51	6:59	7:11	—	7:24	7:40	7:49	8:01	8:11	8:30
6:47	—	7:04	7:12	7:24	—	7:37	7:53	8:02	8:14	8:24	8:43
7:00	—	7:18	7:26	7:38	—	7:52	8:08	8:17	8:29	8:39	9:00
7:13	—	7:31	7:39	7:51	—	8:05	8:21	8:30	8:42	8:52	9:13
7:26	—	7:44	7:53	8:05	—	8:19	8:35	8:44	8:56	9:07	9:28
7:41	—	8:00	8:09	8:21	—	8:35	8:51	9:01	9:13	9:24	9:45
7:57	—	8:16	8:25	8:37	—	8:51	9:07	9:17	9:29	9:40	10:01
8:13	—	8:32	8:41	8:53	—	9:07	9:24	9:34	9:46	9:57	10:19
8:28	—	8:47	8:56	9:10	—	9:24	9:41	9:51	10:04	10:18	10:40
8:43	—	9:02	9:12	9:26	—	9:40	9:57	10:08	10:21	10:35	10:57
8:58	—	9:18	9:28	9:42	—	9:56	10:14	10:25	10:38	10:52	11:15
9:13	—	9:33	9:43	9:57	—	10:11	10:29	10:40	10:53	11:07	11:30
9:28	—	9:48	9:59	10:14	—	10:28	10:46	10:57	11:10	11:24	11:47
9:43	—	10:03	10:14	10:29	—	10:43	11:01	11:12	11:25	11:39	**12:02**
9:58	—	10:18	10:29	10:44	—	10:58	11:16	11:27	11:40	11:54	**12:17**
10:13	—	10:33	10:44	10:59	—	11:13	11:31	11:42	11:55	**12:09**	**12:32**
10:28	—	10:48	10:59	11:14	—	11:28	11:47	11:58	**12:11**	**12:25**	**12:49**
10:43	—	11:03	11:14	11:29	—	11:44	**12:03**	**12:14**	**12:27**	**12:41**	**1:05**
10:58	—	11:18	11:29	11:44	—	11:59	**12:18**	**12:29**	**12:42**	**12:56**	**1:20**
11:13	—	11:33	11:44	**12:00**	—	**12:15**	**12:34**	**12:46**	**12:59**	**1:13**	**1:37**
11:28	—	11:49	**12:00**	**12:16**	—	**12:31**	**12:50**	**1:02**	**1:15**	**1:29**	**1:53**
11:43	—	**12:04**	**12:15**	**12:31**	—	**12:47**	**1:06**	**1:18**	**1:31**	**1:45**	**2:09**
11:58	—	**12:19**	**12:30**	**12:46**	—	**1:02**	**1:21**	**1:33**	**1:46**	**2:00**	**2:24**
12:13	—	**12:34**	**12:45**	**1:01**	—	**1:17**	**1:36**	**1:48**	**2:01**	**2:15**	**2:39**
12:28	—	**12:49**	**1:01**	**1:17**	—	**1:33**	**1:51**	**2:03**	**2:16**	**2:30**	**2:54**
12:42	—	**1:03**	**1:15**	**1:31**	—	**1:47**	**2:05**	**2:17**	**2:30**	**2:44**	**3:08**
12:56	—	**1:17**	**1:29**	**1:45**	—	**2:01**	**2:19**	**2:31**	**2:44**	**2:58**	**3:22**
1:10	—	**1:31**	**1:43**	**1:59**	—	**2:16**	**2:33**	**2:45**	**2:58**	**3:12**	**3:36**
1:24	—	**1:45**	**1:57**	**2:13**	—	**2:29**	**2:46**	**2:58**	**3:11**	**3:25**	**3:49**
1:38	—	**1:59**	**2:11**	**2:27**	—	**2:43**	**3:00**	**3:12**	**3:25**	**3:39**	**4:03**
1:52	—	**2:13**	**2:25**	**2:41**	—	**2:57**	**3:14**	**3:26**	**3:39**	**3:53**	**4:17**
2:06	—	**2:27**	**2:39**	**2:55**	—	**3:11**	**3:28**	**3:40**	**3:53**	**4:07**	**4:31**
2:20	—	**2:41**	**2:53**	**3:09**	—	**3:25**	**3:42**	**3:54**	**4:07**	**4:19**	**4:43**
2:35	—	**2:56**	**3:08**	**3:24**	—	**3:40**	**3:57**	**4:08**	**4:21**	**4:33**	**4:57**
2:50	—	**3:11**	**3:23**	**3:39**	—	**3:55**	**4:12**	**4:23**	**4:36**	**4:48**	**5:12**
3:05	—	**3:26**	**3:38**	**3:54**	—	**4:10**	**4:27**	**4:38**	**4:51**	**5:03**	**5:26**
3:20	—	**3:41**	**3:53**	**4:09**	—	**4:24**	**4:41**	**4:52**	**5:05**	**5:16**	**5:39**
3:35	—	**3:56**	**4:07**	**4:23**	—	**4:38**	**4:55**	**5:06**	**5:19**	**5:30**	**5:53**
3:50	—	**4:11**	**4:22**	**4:38**	—	**4:53**	**5:10**	**5:21**	**5:34**	**5:45**	**6:08**
4:05	—	**4:26**	**4:37**	**4:53**	—	**5:08**	**5:25**	**5:36**	**5:49**	**6:00**	**6:23**
4:20	—	**4:41**	**4:52**	**5:08**	—	**5:22**	**5:38**	**5:49**	**6:02**	**6:13**	**6:36**
4:35	—	**4:56**	**5:07**	**5:22**	—	**5:36**	**5:52**	**6:03**	**6:16**	**6:26**	**6:48**
4:50	—	**5:11**	**5:22**	**5:37**	—	**5:51**	**6:07**	**6:18**	**6:31**	**6:41**	**7:03**
5:05	—	**5:25**	**5:36**	**5:51**	—	**6:05**	**6:21**	**6:30**	**6:43**	**6:53**	**7:15**
5:21	—	**5:41**	**5:52**	**6:07**	—	**6:21**	**6:36**	**6:45**	**6:58**	**7:08**	**7:30**
5:37	—	**5:57**	**6:08**	**6:23**	—	**6:37**	**6:52**	**7:01**	**7:14**	**7:23**	**7:43**
5:53	—	**6:13**	**6:24**	**6:39**	—	**6:53**	**7:08**	**7:17**	**7:30**	**7:39**	**7:59**
6:09	—	**6:29**	**6:40**	**6:55**	—	**7:09**	**7:24**	**7:33**	**7:46**	**7:55**	**8:15**
6:24	—	**6:44**	**6:55**	**7:10**	—	**7:24**	**7:39**	**7:48**	**8:01**	**8:10**	**8:30**
6:43	—	**7:02**	**7:13**	**7:28**	—	**7:42**	**7:57**	**8:05**	**8:18**	**8:27**	**8:46**
7:03	—	**7:22**	**7:32**	**7:46**	—	**8:00**	**8:15**	**8:23**	**8:36**	**8:44**	**9:03**
7:23	—	**7:42**	**7:52**	**8:06**	—	**8:20**	**8:35**	**8:43**	**8:56**	**9:04**	**9:23**
7:43	—	**8:01**	**8:11**	**8:25**	—	**8:39**	**8:54**	**9:02**	**9:15**	**9:23**	**9:42**
8:13	—	**8:31**	**8:40**	**8:53**	—	**9:07**	**9:22**	**9:30**	**9:43**	**9:51**	**10:09**
8:43	—	**9:01**	**9:10**	**9:23**	—	**9:37**	**9:52**	**10:00**	**10:12**	**10:19**	**10:37**
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10:43	—	**10:58**	**11:06**	**11:17**	—	**11:30**	**11:45**	**11:52**	12:03	12:10	12:26
11:13	—	**11:28**	**11:36**	**11:47**	—	**11:59**	12:13	12:20	12:31	12:38	12:54
11:43	—	**11:57**	12:05	12:16	—	12:28	12:42	12:48	12:59	1:06	1:21
12:13	—	12:27	12:35	12:46	—	12:57	1:10	1:16	1:27	1:34	1:49
—	1:16	—	1:26	—	1:42	—	—	—	—	—	—
—	2:16	—	2:26	—	2:42	—	—	—	—	—	—
—	3:16	—	3:26	—	3:42	—	—	—	—	—	—

AM - light type. **PM - bold type.** Green Type - Late Night Service (1 - 4 AM).
*Stops on lower (arrival) level curbside at Courtyard A, on the center island at Terminal 2, curbside at Terminal 3 & Courtyard G. Bus is not considered late until 5 minutes past scheduled time. Not all stops shown.
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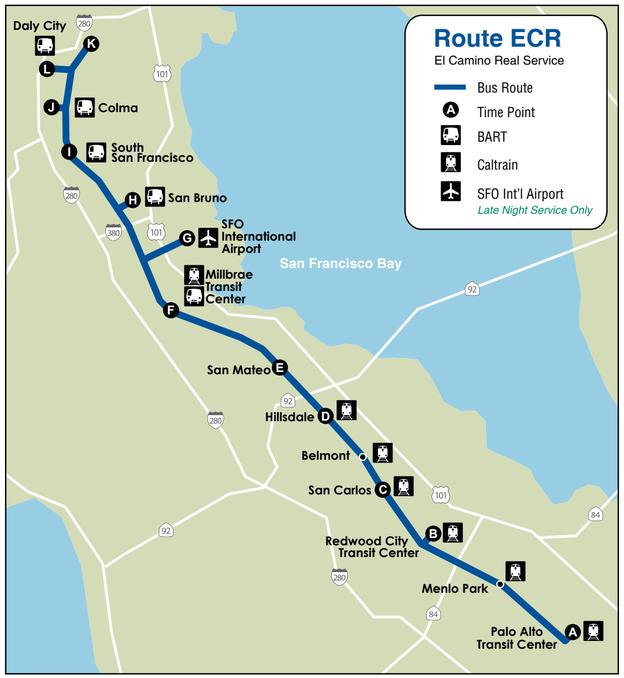

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samTrans
El Camino Real

ECR

Effective 08/16/20

Daly City
Colma
South San Francisco
San Bruno
Millbrae
Burlingame
San Mateo
Belmont
San Carlos
Redwood City
Menlo Park
Palo Alto

Key Destinations:
BART stations, Caltrain stations, shopping centers and downtowns along El Camino Real

Information/Información
1-800-660-4287
(TTY 650-508-6448)
www.samtrans.com
samTrans

SOUTHBOUND Saturdays to Palo Alto Transit Center

Daly City BART (L)	Mission/ Wellington (K)	Colma BART (J)	El Camino/ McLellan (I)	San Bruno BART (H)	SF Airport* Courtyard A (G)	El Camino/ Victoria (F)	El Camino/ 4th (E)	El Camino/ Hillsdale (D)	El Camino/ San Carlos (C)	Redwood City Transit Center (B)	Palo Alto Transit Ctr (A)
—	4:16	—	4:26	—	4:42	—	—	—	—	—	—
—	5:16	—	5:26	—	5:42	—	—	—	—	—	—
5:41	—	5:58	6:06	6:17	—	6:29	6:44	6:52	7:04	7:13	7:30
6:10	—	6:27	6:35	6:46	—	6:59	7:14	7:22	7:34	7:43	8:02
6:29	—	6:46	6:54	7:06	—	7:19	7:34	7:42	7:54	8:04	8:23
6:50	—	7:07	7:15	7:27	—	7:40	7:56	8:05	8:17	8:27	8:46
7:09	—	7:27	7:35	7:47	—	8:01	8:17	8:26	8:38	8:48	9:09
7:26	—	7:44	7:53	8:05	—	8:19	8:35	8:44	8:56	9:07	9:28
7:45	—	8:04	8:13	8:25	—	8:39	8:55	9:05	9:17	9:28	9:49
8:04	—	8:23	8:32	8:44	—	8:58	9:15	9:25	9:37	9:48	10:10
8:20	—	8:39	8:48	9:02	—	9:16	9:33	9:43	9:56	10:10	10:32
8:37	—	8:56	9:06	9:20	—	9:34	9:51	10:02	10:15	10:29	10:51
8:54	—	9:14	9:24	9:38	—	9:52	10:10	10:21	10:34	10:48	11:11
9:13	—	9:33	9:43	9:57	—	10:11	10:29	10:40	10:53	11:07	11:30
9:29	—	9:49	10:00	10:15	—	10:29	10:47	10:58	11:11	11:25	11:48
9:49	—	10:09	10:20	10:35	—	10:49	11:07	11:18	11:31	11:45	**12:08**
10:09	—	10:29	10:40	10:55	—	11:09	11:27	11:38	11:51	**12:05**	**12:28**
10:27	—	10:47	10:58	11:13	—	11:27	11:46	11:57	**12:10**	**12:24**	**12:48**
10:46	—	11:06	11:17	11:32	—	11:47	**12:06**	**12:17**	**12:30**	**12:44**	**1:08**
11:04	—	11:24	11:35	11:51	—	**12:06**	**12:25**	**12:37**	**12:50**	**1:04**	**1:28**
11:23	—	11:44	11:55	**12:11**	—	**12:26**	**12:45**	**12:57**	**1:10**	**1:24**	**1:48**
11:42	—	**12:03**	**12:14**	**12:30**	—	**12:46**	**1:05**	**1:17**	**1:30**	**1:44**	**2:08**
12:02	—	**12:23**	**12:34**	**12:50**	—	**1:06**	**1:25**	**1:37**	**1:50**	**2:04**	**2:28**
12:22	—	**12:43**	**12:55**	**1:11**	—	**1:27**	**1:45**	**1:57**	**2:10**	**2:24**	**2:48**
12:42	—	**1:03**	**1:15**	**1:31**	—	**1:47**	**2:05**	**2:17**	**2:30**	**2:44**	**3:08**
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1:43	—	**2:04**	**2:16**	**2:32**	—	**2:48**	**3:05**	**3:17**	**3:30**	**3:44**	**4:08**
2:03	—	**2:24**	**2:36**	**2:52**	—	**3:08**	**3:25**	**3:37**	**3:50**	**4:04**	**4:28**
2:24	—	**2:45**	**2:57**	**3:13**	—	**3:29**	**3:46**	**3:58**	**4:11**	**4:23**	**4:47**
2:44	—	**3:05**	**3:17**	**3:33**	—	**3:49**	**4:06**	**4:17**	**4:30**	**4:42**	**5:06**
3:04	—	**3:25**	**3:37**	**3:53**	—	**4:09**	**4:26**	**4:37**	**4:50**	**5:02**	**5:25**
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AM - light type. **PM - bold type.** Green Type - Late Night Service (1 - 4 AM). Trip ends at SFO Airport Courtyard G
*Stops on lower (arrival) level curbside at Courtyard A, on the center island at Terminal 2, curbside at Terminal 3 & Courtyard G.
Bus is not considered late until 5 minutes past scheduled time. Not all stops shown. Please call 1-800-660-4287 for other bus stops.

SOUTHBOUND Sundays to Palo Alto Transit Center

Daly City BART (L)	Mission/ Wellington (K)	Colma BART (J)	El Camino/ McLellan (I)	San Bruno BART (H)	SF Airport* Courtyard A (G)	El Camino/ Victoria (F)	El Camino/ 4th (E)	El Camino/ Hillsdale (D)	El Camino/ San Carlos (C)	Redwood City Transit Center (B)	Palo Alto Transit Ctr (A)
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6:29	—	6:45	6:53	7:05	—	7:18	7:34	7:42	7:53	8:03	8:22
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7:05	—	7:22	7:31	7:43	—	7:56	8:13	8:21	8:34	8:45	9:04
7:24	—	7:42	7:51	8:03	—	8:16	8:33	8:41	8:54	9:05	9:24
7:42	—	8:00	8:09	8:23	—	8:36	8:53	9:01	9:14	9:25	9:44
8:00	—	8:19	8:28	8:42	—	8:55	9:12	9:20	9:33	9:45	10:04
8:17	—	8:36	8:45	8:59	—	9:12	9:30	9:39	9:52	10:04	10:23
8:33	—	8:52	9:01	9:15	—	9:28	9:47	9:56	10:09	10:21	10:40
8:49	—	9:08	9:17	9:31	—	9:46	10:05	10:14	10:27	10:41	11:00
9:09	—	9:28	9:38	9:52	—	10:07	10:26	10:35	10:48	11:02	11:21
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9:47	—	10:07	10:17	10:31	—	10:46	11:06	11:15	11:28	11:42	**12:03**
10:05	—	10:25	10:35	10:50	—	11:05	11:25	11:35	11:48	**12:02**	**12:23**
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11:21	—	11:43	11:54	**12:09**	—	**12:24**	**12:44**	**12:55**	**1:08**	**1:22**	**1:43**
11:41	—	**12:03**	**12:14**	**12:29**	—	**12:44**	**1:04**	**1:15**	**1:28**	**1:42**	**2:03**
12:00	—	**12:22**	**12:33**	**12:48**	—	**1:03**	**1:23**	**1:34**	**1:47**	**2:01**	**2:23**
12:20	—	**12:42**	**12:53**	**1:08**	—	**1:23**	**1:43**	**1:54**	**2:07**	**2:20**	**2:42**
12:40	—	**1:02**	**1:13**	**1:28**	—	**1:43**	**2:03**	**2:13**	**2:26**	**2:39**	**3:01**
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1:20	—	**1:42**	**1:53**	**2:08**	—	**2:23**	**2:43**	**2:53**	**3:06**	**3:19**	**3:41**
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2:00	—	**2:22**	**2:33**	**2:48**	—	**3:03**	**3:22**	**3:32**	**3:45**	**3:58**	**4:20**
2:20	—	**2:42**	**2:53**	**3:08**	—	**3:23**	**3:42**	**3:52**	**4:05**	**4:18**	**4:40**
2:40	—	**3:02**	**3:12**	**3:27**	—	**3:42**	**4:01**	**4:11**	**4:24**	**4:37**	**4:59**
3:00	—	**3:22**	**3:32**	**3:47**	—	**4:02**	**4:20**	**4:30**	**4:43**	**4:56**	**5:18**
3:20	—	**3:42**	**3:52**	**4:07**	—	**4:22**	**4:40**	**4:50**	**5:03**	**5:15**	**5:37**
3:40	—	**4:02**	**4:12**	**4:27**	—	**4:42**	**5:00**	**5:10**	**5:22**	**5:34**	**5:56**
4:00	—	**4:21**	**4:31**	**4:46**	—	**5:01**	**5:19**	**5:29**	**5:41**	**5:53**	**6:14**
4:20	—	**4:41**	**4:51**	**5:06**	—	**5:20**	**5:38**	**5:48**	**6:00**	**6:11**	**6:31**
4:40	—	**5:01**	**5:11**	**5:26**	—	**5:40**	**5:58**	**6:08**	**6:20**	**6:31**	**6:51**
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5:20	—	**5:40**	**5:50**	**6:05**	—	**6:19**	**6:35**	**6:45**	**6:57**	**7:08**	**7:28**
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6:37	—	**6:56**	**7:05**	**7:19**	—	**7:33**	**7:49**	**7:58**	**8:09**	**8:19**	**8:38**
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NORTHBOUND Weekdays to Daly City BART

Palo Alto Transit Center (A)	Redwood City Transit Center (B)	El Camino/ San Carlos (C)	El Camino/ Hillsdale (D)	El Camino/ 5th (E)	El Camino/ Linden (F)	SF Airport* Courtyard A (G)	San Bruno BART (H)	El Camino/ McLellan (I)	Colma BART (J)	Mission/ Wellington (K)	Daly City BART (L)
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4:06	4:21	4:29	4:37	4:43	4:55	—	5:13	5:20	5:26	5:32	5:38
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10:05	10:25	10:37	10:49	10:58	11:16	—	11:42	11:52	11:59	**12:08**	**12:16**
10:20	10:40	10:52	11:04	11:13	11:31	—	11:57	**12:07**	**12:14**	**12:23**	**12:31**
10:35	10:55	11:07	11:19	11:28	11:46	—	**12:12**	**12:22**	**12:29**	**12:38**	**12:46**
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11:05	11:25	11:37	11:50	**12:01**	**12:19**	—	**12:45**	**12:55**	**1:02**	**1:11**	**1:19**
11:20	11:42	11:54	**12:07**	**12:18**	**12:36**	—	**1:02**	**1:13**	**1:21**	**1:30**	**1:38**
11:35	11:57	**12:09**	**12:22**	**12:33**	**12:51**	—	**1:18**	**1:29**	**1:37**	**1:46**	**1:54**
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12:05	**12:28**	**12:40**	**12:53**	**1:04**	**1:22**	—	**1:49**	**2:00**	**2:08**	**2:17**	**2:25**
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3:44	**4:08**	**4:20**	**4:32**	**4:42**	**5:00**	—	**5:26**	**5:37**	**5:46**	**5:55**	**6:03**
3:59	**4:23**	**4:35**	**4:47**	**4:57**	**5:15**	—	**5:41**	**5:52**	**6:01**	**6:10**	**6:18**
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AM - light type. **PM - bold type.** Green Type - Late Night Service (1 - 4 AM).
*Stops on lower (arrival) level curbside at Courtyard A, on the center island at Terminal 2, curbside at Terminal 3 & Courtyard G. Bus is not considered late until 5 minutes past scheduled time. Not all stops shown.
Please call 1-800-660-4287 for other bus stops.

NORTHBOUND Saturdays to Daly City BART

Palo Alto Transit Center (A)	Redwood City Transit Center (B)	El Camino/ San Carlos (C)	El Camino/ Hillsdale (D)	El Camino/ 5th (E)	El Camino/ Linden (F)	SF Airport* Courtyard A (G)	San Bruno BART (H)	El Camino/ McLellan (I)	Colma BART (J)	Mission/ Wellington (K)	Daly City BART (L)
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4:47	5:02	5:10	5:18	5:24	5:36	—	5:54	6:01	6:07	6:13	6:19
5:16	5:31	5:39	5:47	5:53	6:05	—	6:23	6:32	6:38	6:44	6:50
5:44	5:59	6:07	6:15	6:21	6:35	—	6:53	7:02	7:08	7:14	7:20
6:09	6:24	6:32	6:40	6:46	7:00	—	7:21	7:30	7:36	7:43	7:50
6:35	6:51	6:59	7:07	7:13	7:27	—	7:50	7:59	8:05	8:12	8:19
6:51	7:07	7:16	7:25	7:32	7:47	—	8:10	8:19	8:25	8:33	8:40
7:11	7:27	7:36	7:45	7:52	8:07	—	8:30	8:40	8:47	8:55	9:02
7:28	7:46	7:55	8:04	8:11	8:26	—	8:50	9:00	9:07	9:15	9:22
7:46	8:04	8:13	8:22	8:29	8:46	—	9:10	9:20	9:27	9:35	9:42
8:04	8:22	8:32	8:42	8:49	9:06	—	9:30	9:40	9:47	9:55	10:02
8:23	8:42	8:52	9:02	9:09	9:26	—	9:50	10:00	10:07	10:15	10:22
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NORTHBOUND Sundays to Daly City BART

Palo Alto Transit Center (A)	Redwood City Transit Center (B)	El Camino/ San Carlos (C)	El Camino/ Hillsdale (D)	El Camino/ 5th (E)	El Camino/ Linden (F)	SF Airport* Courtyard A (G)	San Bruno BART (H)	El Camino/ McLellan (I)	Colma BART (J)	Mission/ Wellington (K)	Daly City BART (L)
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5:50	6:05	6:12	6:20	6:25	6:40	—	6:59	7:08	7:14	7:21	7:28
6:14	6:30	6:37	6:45	6:50	7:05	—	7:27	7:37	7:44	7:51	7:58
6:36	6:52	6:59	7:07	7:12	7:27	—	7:50	8:00	8:07	8:14	8:21
6:57	7:13	7:20	7:28	7:34	7:49	—	8:12	8:22	8:29	8:36	8:43
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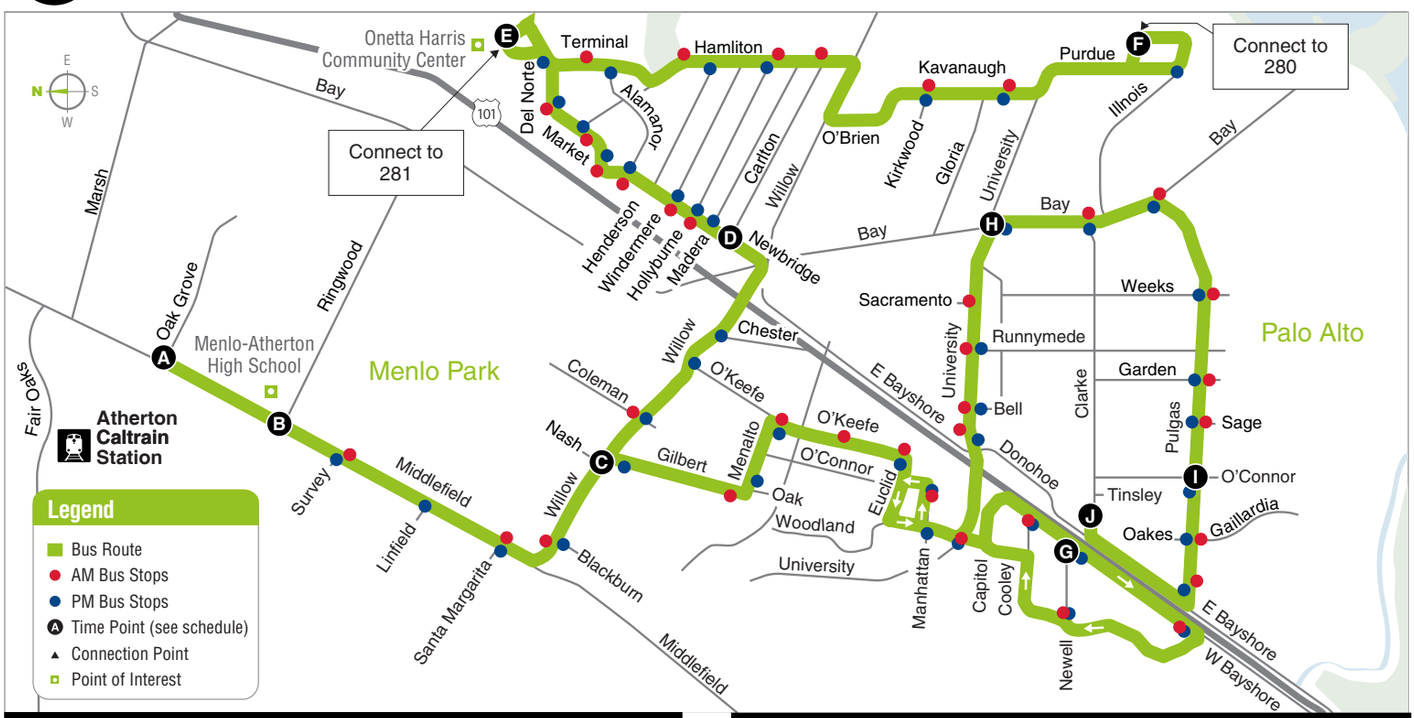
12:03	**12:26**	**12:36**	**12:48**	**12:57**	**1:14**	—	**1:41**	**1:52**	**2:01**	**2:10**	**2:18**
12:23	**12:46**	**12:56**	**1:08**	**1:17**	**1:34**	—	**2:01**	**2:12**	**2:21**	**2:30**	**2:38**
12:43	**1:06**	**1:16**	**1:28**	**1:37**	**1:54**	—	**2:21**	**2:32**	**2:41**	**2:50**	**2:58**
1:03	**1:26**	**1:36**	**1:48**	**1:58**	**2:15**	—	**2:42**	**2:53**	**3:02**	**3:11**	**3:19**
1:23	**1:46**	**1:56**	**2:08**	**2:18**	**2:35**	—	**3:02**	**3:13**	**3:22**	**3:31**	**3:39**
1:43	**2:06**	**2:16**	**2:28**	**2:38**	**2:55**	—	**3:21**	**3:32**	**3:41**	**3:50**	**3:58**
2:03	**2:26**	**2:36**	**2:48**	**2:58**	**3:15**	—	**3:41**	**3:52**	**4:01**	**4:10**	**4:18**
2:23	**2:46**	**2:56**	**3:08**	**3:18**	**3:35**	—	**4:01**	**4:12**	**4:21**	**4:30**	**4:38**
2:43	**3:06**	**3:16**	**3:28**	**3:38**	**3:55**	—	**4:21**	**4:32**	**4:41**	**4:50**	**4:58**
3:03	**3:26**	**3:36**	**3:48**	**3:58**	**4:15**	—	**4:41**	**4:52**	**5:01**	**5:10**	**5:18**
3:23	**3:46**	**3:56**	**4:08**	**4:18**	**4:35**	—	**5:01**	**5:12**	**5:21**	**5:30**	**5:38**
3:43	**4:06**	**4:16**	**4:28**	**4:38**	**4:55**	—	**5:21**	**5:32**	**5:41**	**5:50**	**5:58**
4:03	**4:26**	**4:36**	**4:48**	**4:58**	**5:15**	—	**5:41**	**5:52**	**6:01**	**6:10**	**6:18**
4:23	**4:46**	**4:56**	**5:07**	**5:17**	**5:34**	—	**6:00**	**6:11**	**6:19**	**6:27**	**6:35**
4:43	**5:05**	**5:15**	**5:26**	**5:36**	**5:53**	—	**6:19**	**6:29**	**6:37**	**6:45**	**6:53**
5:03	**5:25**	**5:35**	**5:46**	**5:56**	**6:12**	—	**6:36**	**6:46**	**6:54**	**7:02**	**7:10**
5:23	**5:45**	**5:55**	**6:06**	**6:15**	**6:31**	—	**6:55**	**7:05**	**7:13**	**7:21**	**7:29**
5:43	**6:05**	**6:14**	**6:24**	**6:33**	**6:49**	—	**7:13**	**7:23**	**7:31**	**7:39**	**7:47**
6:03	**6:24**	**6:33**	**6:43**	**6:52**	**7:08**	—	**7:32**	**7:42**	**7:50**	**7:58**	**8:05**
6:23	**6:44**	**6:53**	**7:03**	**7:12**	**7:28**	—	**7:52**	**8:02**	**8:09**	**8:17**	**8:24**
6:43	**7:04**	**7:13**	**7:23**	**7:32**	**7:48**	—	**8:11**	**8:21**	**8:28**	**8:36**	**8:43**
7:05	**7:26**	**7:35**	**7:45**	**7:53**	**8:09**	—	**8:32**	**8:42**	**8:49**	**8:57**	**9:04**
7:25	**7:46**	**7:54**	**8:03**	**8:11**	**8:27**	—	**8:50**	**9:00**	**9:07**	**9:14**	**9:20**
7:45	**8:04**	**8:12**	**8:21**	**8:29**	**8:45**	—	**9:08**	**9:17**	**9:23**	**9:30**	**9:36**
8:05	**8:24**	**8:32**	**8:41**	**8:49**	**9:05**	—	**9:25**	**9:34**	**9:40**	**9:47**	**9:53**
8:25	**8:44**	**8:52**	**9:01**	**9:08**	**9:23**	—	**9:43**	**9:52**	**9:58**	**10:05**	**10:11**
8:55	**9:13**	**9:21**	**9:30**	**9:37**	**9:52**	—	**10:12**	**10:21**	**10:27**	**10:34**	**10:40**
9:25	**9:43**	**9:51**	**10:00**	**10:07**	**10:22**	—	**10:42**	**10:51**	**10:57**	**11:04**	**11:10**
9:55	**10:13**	**10:21**	**10:30**	**10:37**	**10:51**	—	**11:11**	**11:20**	**11:26**	**11:33**	**11:39**
10:25	**10:43**	**10:50**	**10:58**	**11:04**	**11:17**	—	**11:37**	**11:45**	**11:51**	**11:58**	12:04
10:55	**11:12**	**11:19**	**11:27**	**11:33**	**11:46**	—	12:03	12:11	12:17	12:24	12:30
11:25	**11:42**	**11:49**	**11:56**	12:02	12:14	—	12:31	12:38	12:43	12:50	12:56
11:55	12:12	12:19	12:26	12:32	12:44	—	1:01	1:08	1:13	1:20	1:26
—	—	—	—	—	—	1:42	—	1:58	—	2:10	—
—	—	—	—	—	—	2:42	—	2:58	—	3:10	—
—	—	—	—	—	—	3:42	—	3:58	—	4:10	—

AM - light type. **PM - bold type.** Green Type - Late Night Service (1 - 4 AM).
*Stops on lower (arrival) level curbside at Courtyard A, on the center island at Terminal 2, curbside at Terminal 3 & Courtyard G. Bus is not considered late until 5 minutes past scheduled time. Not all stops shown.
Please call 1-800-660-4287 for other bus stops.

ROUTE 81

School-Days Only



AM to Menlo-Artherton High

	Bus Stops	Mon, Tue, Thurs, & Fri Only	
J	Clarke/Tinsley	7:43a	—
	Pulgas/Bayshore		
	Pulgas/Gaillardia		
I	Pulgas/O'Connor	7:48a	—
	Pulgas/Sage		
	Pulgas/Gadren		
	Pulgas/Weeks		
	Bay/Pulgas		
	Bay/Clarke		
H	Bay/University	7:57a	—
	University/Sacramento		
	University/Runnymede		
	University/Bell		
	2111 University (Bell Park)		
	Bayshore/Cooley		
G	Bayshore/Newell	8:08a	—
	Bayshore/Woodland		
	Woodland/Newell		
	Woodland/University		
	Manhattan/O'Connor		
	Okeefe/Euclid		
	Okeefe/Menalto		
	Menalto/O'Keefe		
	Gilbert/Menalto		
C	Willow/Nash	8:18a	8:18a
	Willow/Blackburn		
	Middlefield/Santa Margarita		
	Middlefield/Survey		
B	Middlefield/Ringwood	8:30a	8:30a

PM to Clarke/Bayshore

	Bus Stops	Mon, Tue, Thurs, & Fri Only	
A	Middlefield/Oak Grove	1:25p	1:30p
	Middlefield/Survey		
	Middlefield/Linfield		
	Middlefield/Santa Margarita		
	Willow/Blackburn		
C	Willow/Gilbert	1:35p	1:40p
	Gilbert/Willow		
	Menalto/Oak		
	Okeefe/Menalto		
	Okeefe/Euclid		
	Woodland/Manhattan		
	Bayshore/Cooley		
	Bayshore/Newell		
	Bayshore/Woodland		
	Woodland/Newell		
	Woodland/University		
	University/Donohoe		
	University/Bell		
	University/Runnymede		
	Bay/University (Farside)		
	Bay/Clarke		
	Bay/Pulgas		
	Pulgas/Weeks		
	Pulgas/Gadren		
	Pulgas/Sage		
	Pulgas/O'Connor		
	Pulgas/Oakes		
	Pulgas/Bayshore		
J	Clarke /Bayshore	—	2:16p

ROUTE 81

School-Days Only

AM to Menlo-Atherton High

Bus Stops	Mon, Tue, Thurs, & Fri Only	
F Purdue/Fordham	—	7:44a
Kavanaugh/Gloria Way		
Kavanaugh/Kirkwood		
Hamilton/Carlton		
Hamilton/Hollyburne		
Hamilton/Hazel		
Terminal/Modoc		
E Onetta Harris Community Ctr	—	7:59a
Market/Del Norte		
Market/Alpine		
Newbridge/Pierce		
Newbridge/Almanor		
Newbridge/Windermere		
Newbridge/Hollyburne		
D Newbridge/Carlton	—	8:08a
Willow/Coleman		
C Willow/Nash	8:18a	8:18a
Willow/Blackburn		
Middlefield/Santa Margarita		
Middlefield/Survey		
B Middlefield/Ringwood	8:30a	8:30a

PM to Purdue/Fordham

Bus Stops	Mon, Tue, Thurs, & Fri Only	
A Middlefield/Oak Grove	1:25p	1:30p
Middlefield/Survey		
Middlefield/Linfield		
Middlefield/Santa Margarita		
Willow/Blackburn		
Willow/Gilbert		
Willow/Coleman		
Willow/O'Keefe		
Willow/Chester		
Newbridge/Madera		
Newbridge/Hollyburne		
Newbridge/Windermere		
Newbridge/Alamanor		
Newbridge/Market		
Market/Hamilton		
Market/Del Norte		
Onetta Harris Community Ctr		
Terminal/Almanor		
Hamilton/Henderson		
Hamilton/Hollyburne		
Kavanaugh/Kirkwood		
Kavanaugh/Farrington		
Notre Dame/Illinois		
F Purdue/Fordham	2:04p	—

Bus Fares	Cash	Clipper*	Day Pass	Monthly Pass
Youth (Age 18 & younger)	**$1.10**	**$1.00**	**$2.00**	**$27.00**
Adult (Age 19 through 64)	**$2.25**	**$2.05**	**$4.50**	**$65.60**

*Free 2-hour transfers between local SamTrans routes on Clipper or SamTrans Mobile App.

Tickets available on SamTrans Mobile

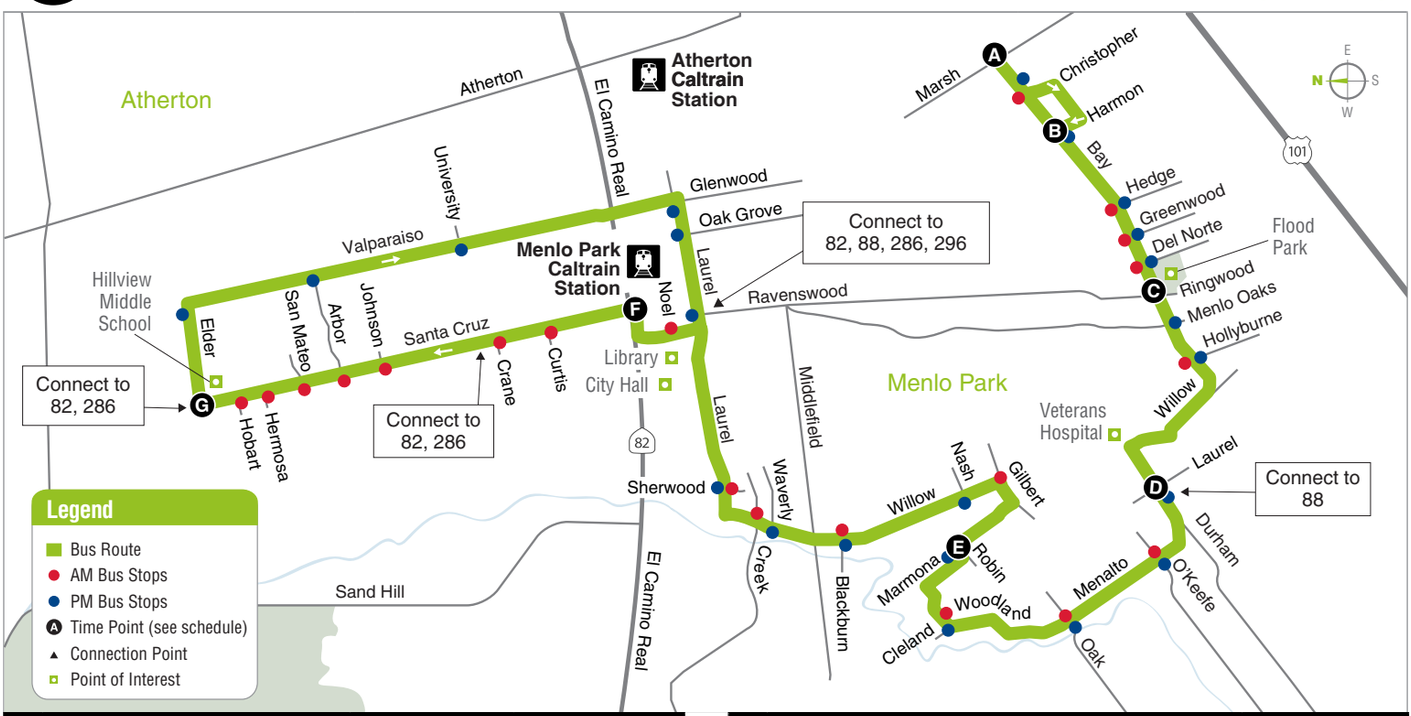
Call 1-800-660-4287
(TTY 650-508-6448)

samtrans.com/81
Effective 03/28/21

samTrans

ROUTE 83

School-Days Only



AM to Kennedy Middle School

Bus Stops	Weekdays	
B Bay/Harmon	7:18a	7:23a
Bay/Hedge		
Bay/Greenwood		
Bay/Del Norte		
C Bay/Ringwood	7:28a	7:33a
Bay/Hollyburne		
D Durham/Laurel	7:36a	7:41a
Menalto/O'Keefe		
Woodland/Cleland		
F Marmona/Robin	7:43a	7:48a
Willow/Nash		
Willow/Blackburn		
Willow/Waverley		
Laurel/Sherwood		
Ravenswood/Noel		
E Merrill/Santa Cruz	7:53a	7:58a
Santa Cruz/Curtis		
Santa Cruz/Crane		
Santa Cruz/Johnson		
Santa Cruz/Arbor		
Santa Cruz/San Mateo		
Santa Cruz/Hermosa		
Santa Cruz/Hobart		
G Hillview Middle School	8:00a	8:05a

PM to Florence/17th

Bus Stops	Weekdays	Wed & Thurs Only
G Hillview Middle School	2:43p	3:21p
Valparaiso/Elder		
Valparaiso/Arbor		
Valparaiso/University		
Laurel/Glenwood		
Laurel/Oak Grove		
Laurel/Ravenswood		
Laurel/Sherwood		
Willow/Creek		
Willow/Blackburn		
Gilbert/Willow		
Marmona/Robin		
Woodland/Woodland		
Menalto/Oak		
Menalto/O'Keefe		
Durham/Laurel		
Bay/Hollyburne		
Bay/Menlo Oaks		
Bay/Del Norte		
Bay/Greenwood		
Bay/Hedge		
Bay/Harmon		
Bay/Christopher		
A Bay/Marsh	3:27p	4:05p

Bus Fares	Cash	Clipper*	Day Pass	Monthly Pass
Youth (Age 18 & younger)	**$1.10**	**$1.00**	**$2.00**	**$27.00**
Adult (Age 19 through 64)	**$2.25**	**$2.05**	**$4.50**	**$65.60**

*Free 2-hour transfers between local SamTrans routes on Clipper or SamTrans Mobile App.

Tickets available on SamTrans Mobile

Call 1-800-660-4287
(TTY 650-508-6448)

samtrans.com/83
Effective 08/16/20

samTrans

U Monday through Friday except holidays To Stanford Shopping Center

Fremont BART	Fremont/ Centerville Amtrak	Ardenwood Park & Ride	Embarcadero Road & Wildwood Lane	Stanford Oval	Stanford Shopping Center
6:00a	6:10a	6:22a	6:44a	6:53a	6:59a
6:30a	6:41a	6:53a	7:23a	7:35a	7:41a
7:10a	7:21a	7:34a	8:13a	8:27a	8:33a
7:45a	7:56a	8:09a	8:48a	9:02a	9:08a
8:20a	8:31a	8:44a	9:20a	9:34a	9:40a

U Monday through Friday except holidays To Fremont BART

Stanford Oval	Stanford Shopping Center	Embarcadero Road & Wildwood Lane	Ardenwood Park & Ride	Fremont/ Centerville Amtrak	Fremont BART
2:45p	**2:53p**	**3:05p**	**3:37p**	**3:53p**	**4:05p**
3:20p	**3:28p**	**3:40p**	**4:12p**	**4:28p**	**4:40p**
4:20p	**4:29p**	**4:40p**	**5:19p**	**5:37p**	**5:48p**
4:40p	**4:49p**	**5:00p**	**5:39p**	**5:57p**	**6:08p**
5:25p	**5:34p**	**5:45p**	**6:24p**	**6:42p**	**6:53p**
5:55p	**6:03p**	**6:14p**	**6:49p**	**7:03p**	**7:12p**

U

AC TRANSIT SCHEDULE

EFFECTIVE:
August 9, 2020

Fremont

Fremont BART
Liberty Way & Walnut Avenue
Centerville Amtrak/ACE
Ardenwood Park & Ride
(Highway 84)

Stanford University

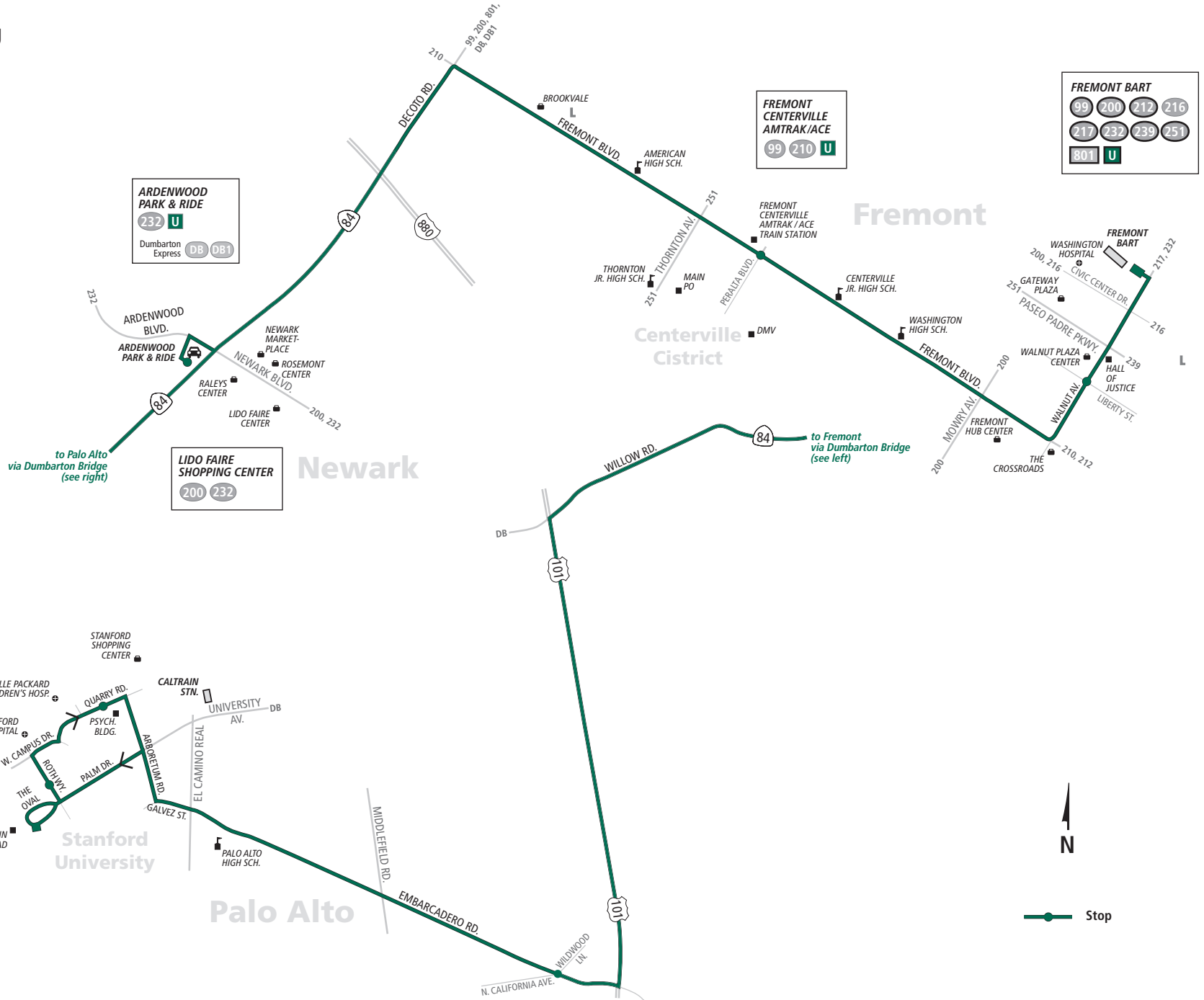
Stanford Oval
Stanford Medical Center
Stanford Shopping Center

Transbay Bus

Monday through Friday except holidays

No Local Passengers Allowed

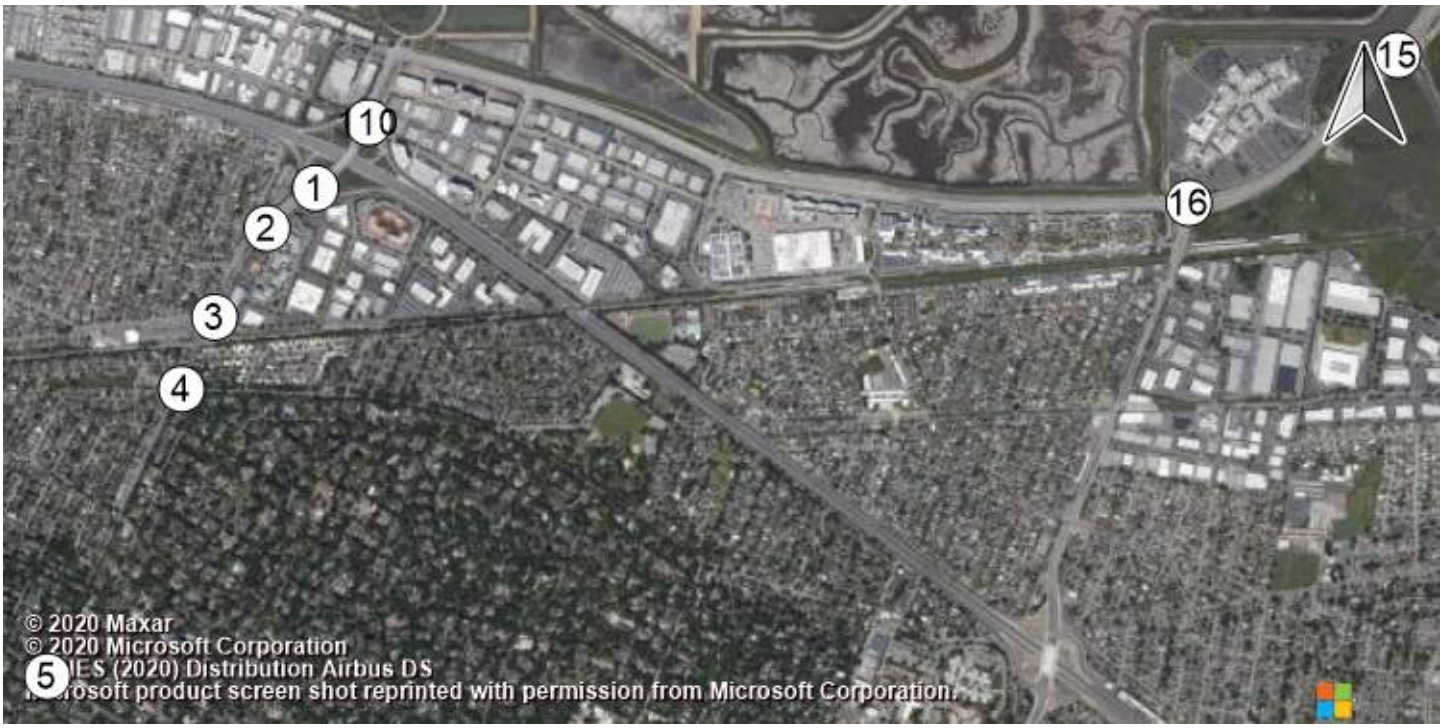
Line U


99, 200, 801, DB, DB1
210
DECOTO RD.
84
880
BROOKVALE
L
FREMONT BLVD.
AMERICAN HIGH SCH.
251
THORNTON AV.
THORNTON JR. HIGH SCH.
MAIN PO
PERALTA BLVD.
FREMONT CENTERVILLE AMTRAK / ACE TRAIN STATION
CENTERVILLE JR. HIGH SCH.
WASHINGTON HIGH SCH.
DMV
Fremont
Centerville Cistrict
FREMONT BART
WASHINGTON HOSPITAL
200, 216
CIVIC CENTER DR.
GATEWAY PLAZA
251
PASEO PADRE PKWY.
216
217, 232
239
WALNUT PLAZA CENTER
HALL OF JUSTICE
L
LIBERTY ST.
WALNUT AV.
200
MOWRY AV.
FREMONT HUB CENTER
THE CROSSROADS
210, 212
ARDENWOOD PARK & RIDE
232
U
Dumbarton Express
DB
DB1
232
ARDENWOOD BLVD.
ARDENWOOD PARK & RIDE
NEWARK MARKET-PLACE
ROSEMONT CENTER
NEWARK BLVD.
RALEYS CENTER
LIDO FAIRE CENTER
200, 232
84
to Palo Alto via Dumbarton Bridge (see right)
LIDO FAIRE SHOPPING CENTER
200
232
Newark
FREMONT BART
99
200
212
216
217
232
239
251
801
U
to Fremont via Dumbarton Bridge (see left)
WILLOW RD.
DB
101
STANFORD SHOPPING CENTER
LUCILLE PACKARD CHILDREN'S HOSP.
QUARRY RD.
CALTRAIN STN.
UNIVERSITY AV.
DB
STANFORD HOSPITAL
PSYCH. BLDG.
W. CAMPUS DR.
ROTH WY.
PALM DR.
ARBORETUM RD.
EL CAMINO REAL
THE OVAL
GALVEZ ST.
MAIN QUAD
Stanford University
PALO ALTO HIGH SCH.
MIDDLEFIELD RD.
EMBARCADERO RD.
Palo Alto
WILDWOOD LN.
N. CALIFORNIA AVE.
DB1
N
Stop

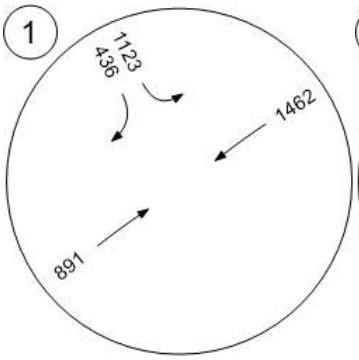
APPENDIX C

VISTRO TRAFFIC VOLUMES AND PROJECT TRIP DISTRIBUTION

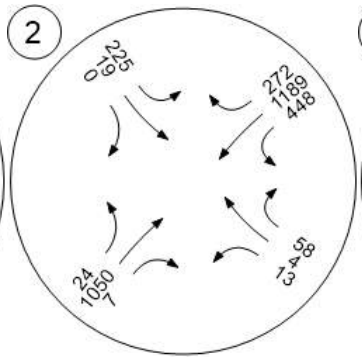
Traffic Volume - Future Total Volume Existing AM



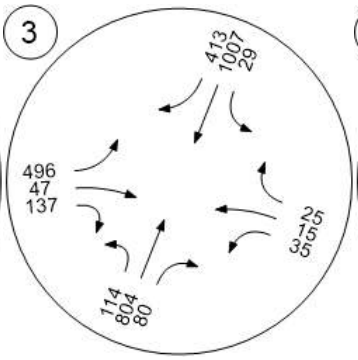
Marsh Rd (SR 84)/US 101 S



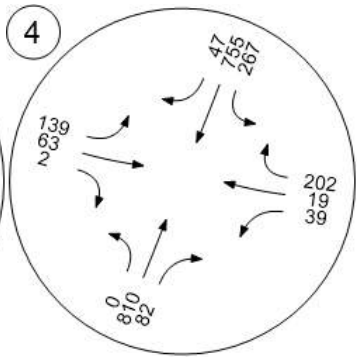
Marsh Rd/Rolison Rd-Scott D



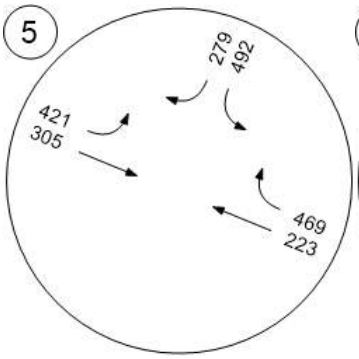
Marsh Rd/Florence St-Bohan



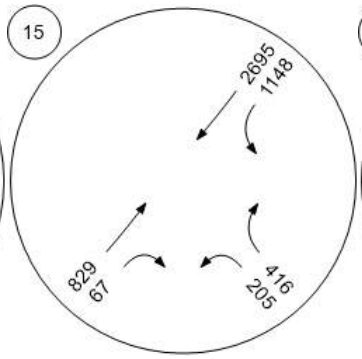
Marsh Rd/Bay Rd



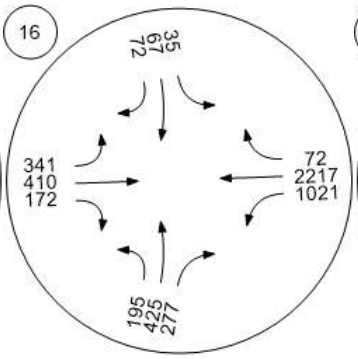
Middlefield Rd/Marsh Rd



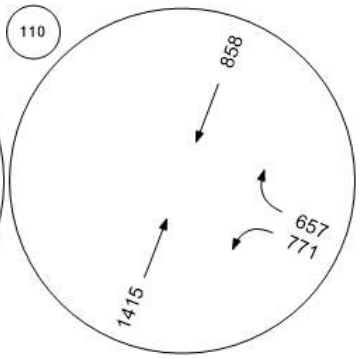
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

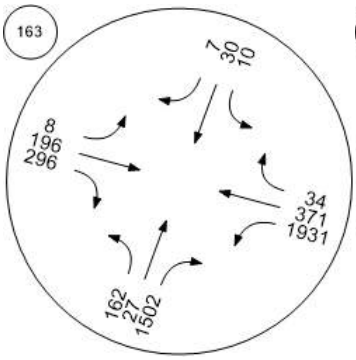


Marsh Road and US 101 NB

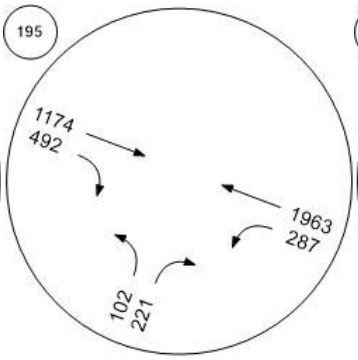


Traffic Volume - Future Total Volume

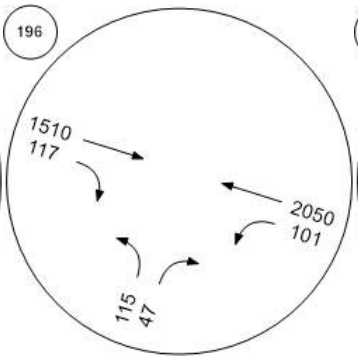
Bayfront Expy/Marsh Rd



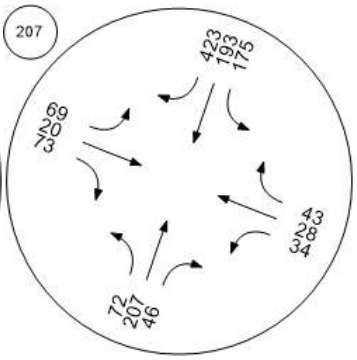
Bayfront Expy/Chilco St



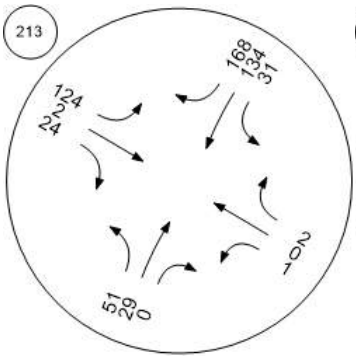
Bayfront Expy/Chrysler Drive



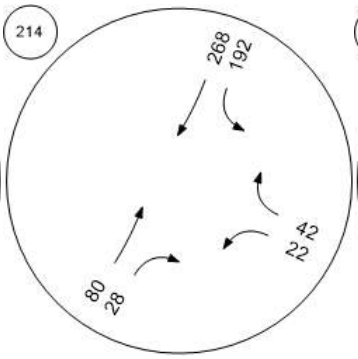
Chilco St/Constitution Dr



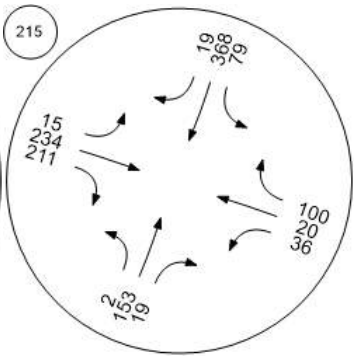
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



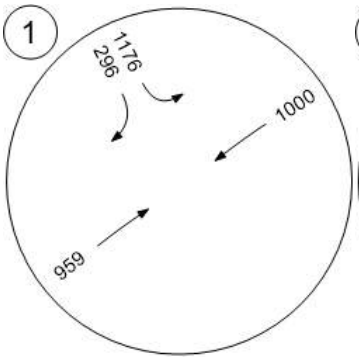
Chrysler Dr/Constitution Dr



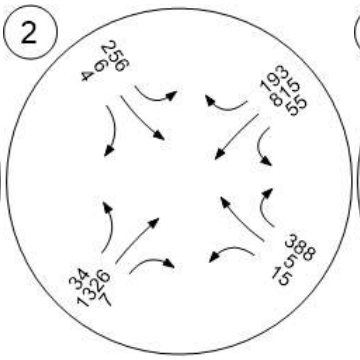
Traffic Volume - Future Total Volume

Existing PM

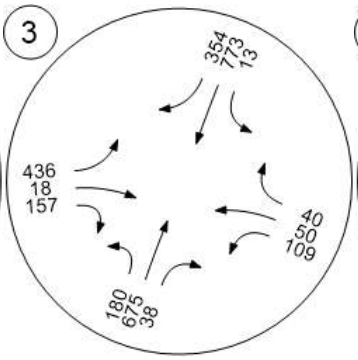
Marsh Rd (SR 84)/US 101 S



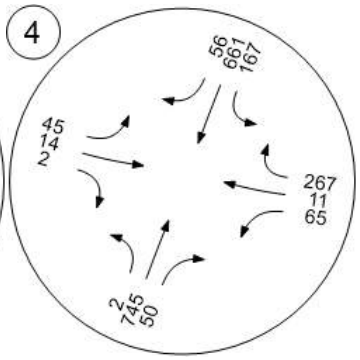
Marsh Rd/Rolison Rd-Scott D



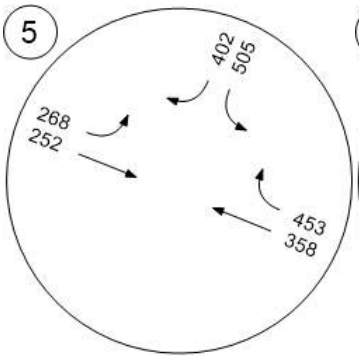
Marsh Rd/Florence St-Bohan



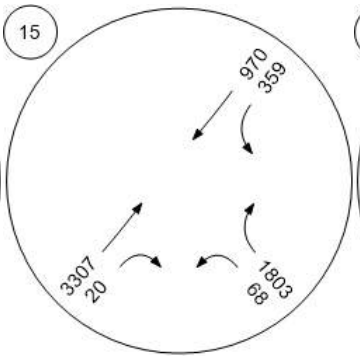
Marsh Rd/Bay Rd



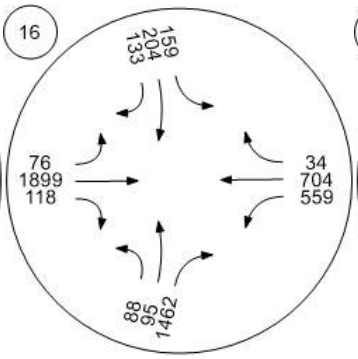
Middlefield Rd/Marsh Rd



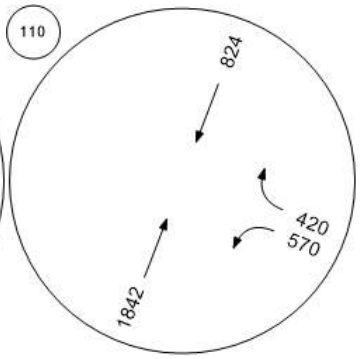
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

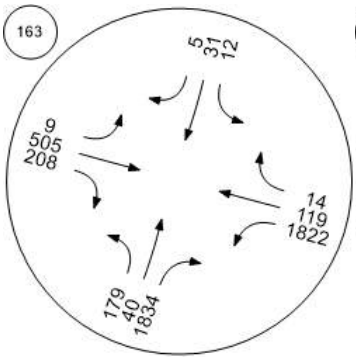


Marsh Road/101 NB Ramps

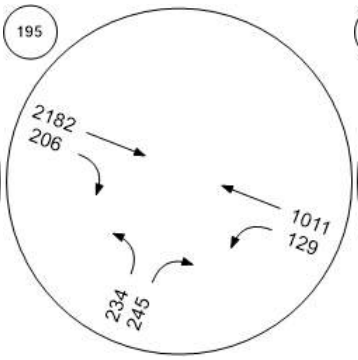


Traffic Volume - Future Total Volume

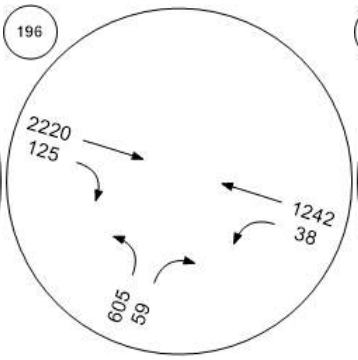
Bayfront Expy/Marsh Rd



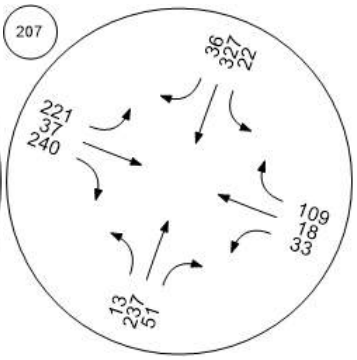
Bayfront Expy/Chilco St



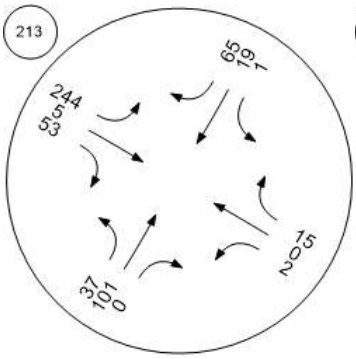
Bayfront Expy/Chrysler Drive



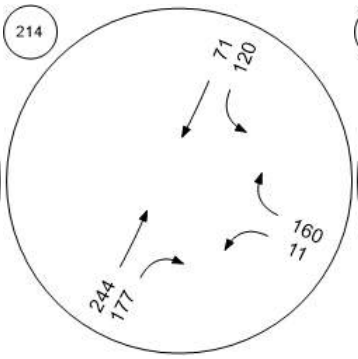
Chilco St/Constitution Dr



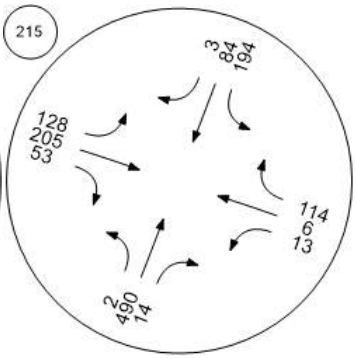
Chrysler Dr/Independence Dr



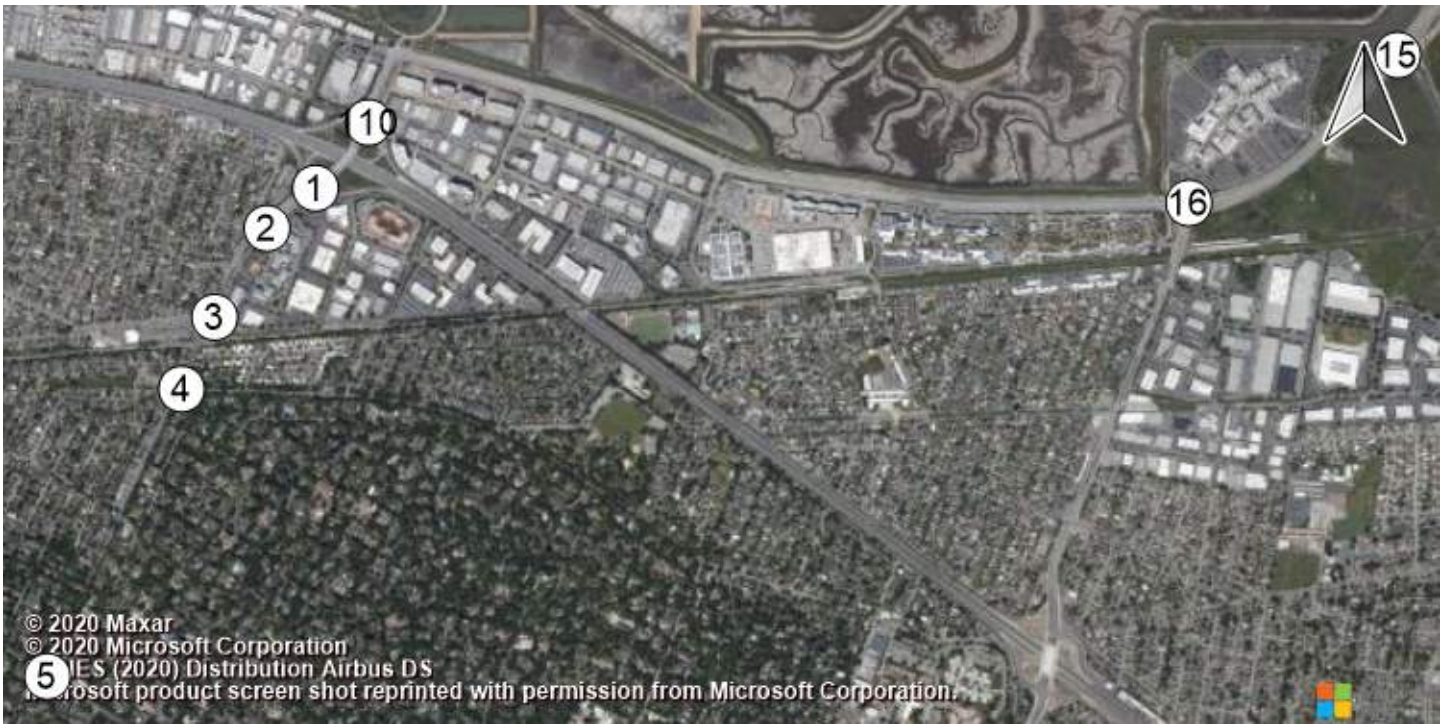
Chrysler Dr/Jefferson Dr



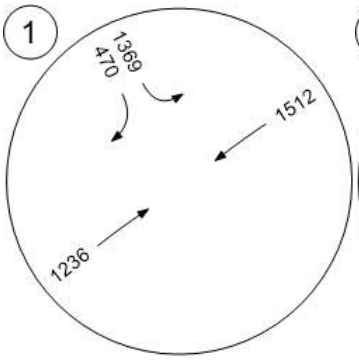
Chrysler Dr/Constitution Dr



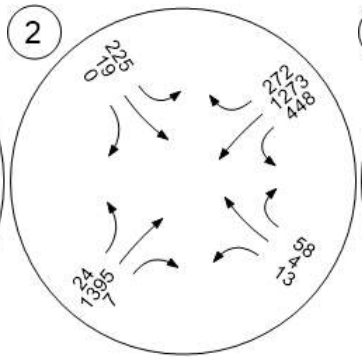
Traffic Volume - Future Total Volume | Near-Term AM



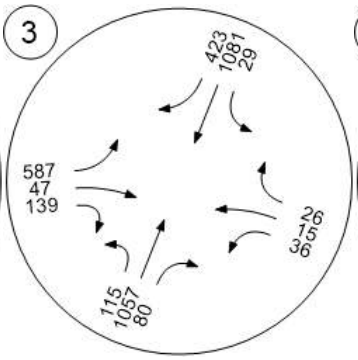
Marsh Rd (SR 84)/US 101 S



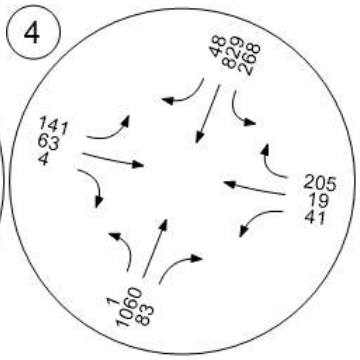
Marsh Rd/Rolison Rd-Scott D



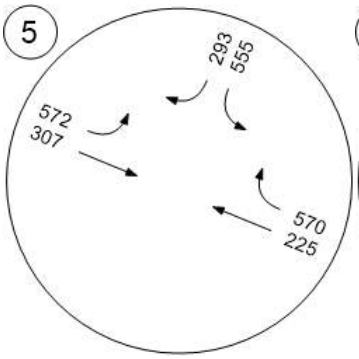
Marsh Rd/Florence St-Bohan



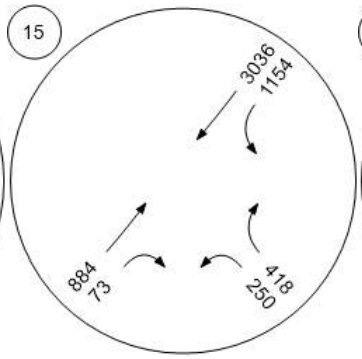
Marsh Rd/Bay Rd



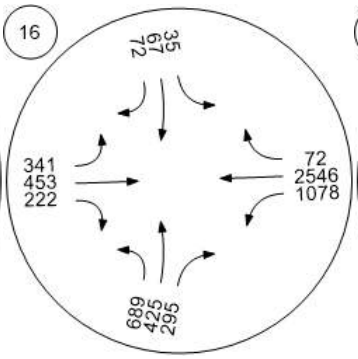
Middlefield Rd/Marsh Rd



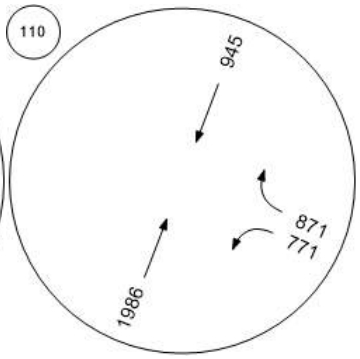
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

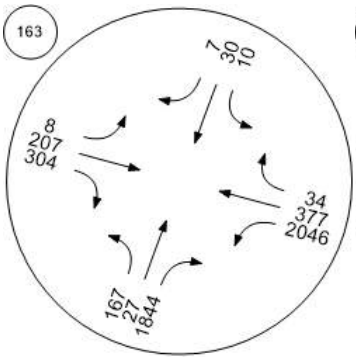


Marsh Road and US 101 NB

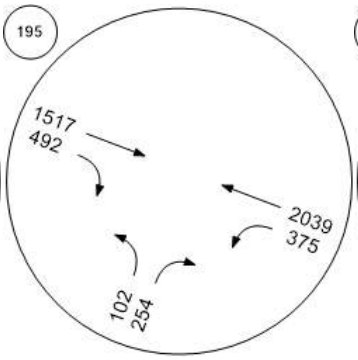


Traffic Volume - Future Total Volume

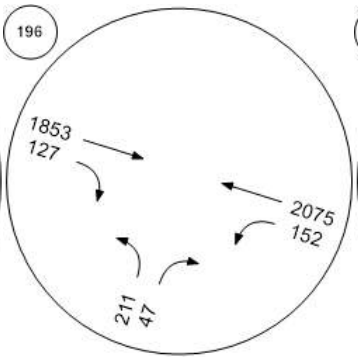
Bayfront Expy/Marsh Rd



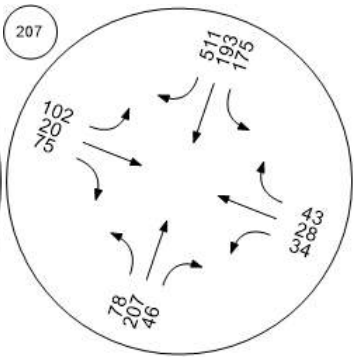
Bayfront Expy/Chilco St



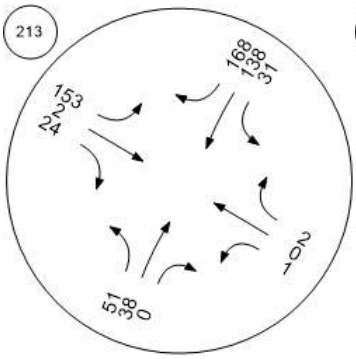
Bayfront Expy/Chrysler Drive



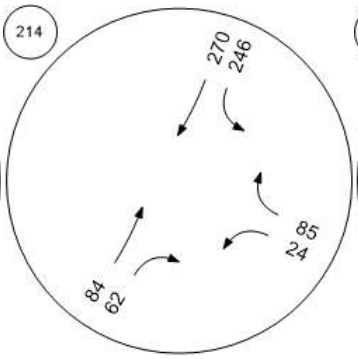
Chilco St/Constitution Dr



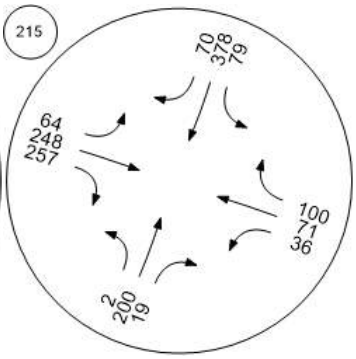
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr

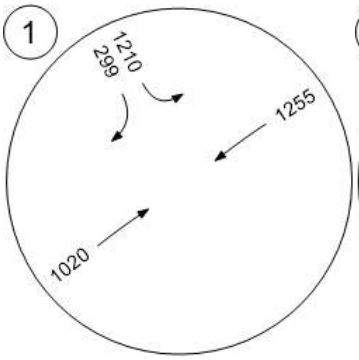


Chrysler Dr/Constitution Dr

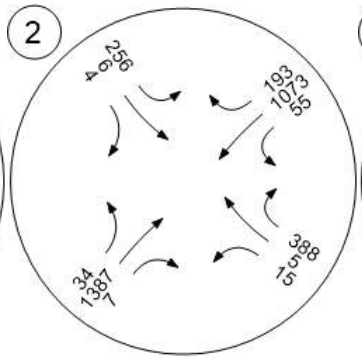


Traffic Volume - Future Total Volume | Near-Term PM

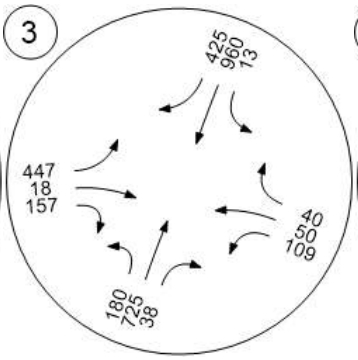
Marsh Rd (SR 84)/US 101 S



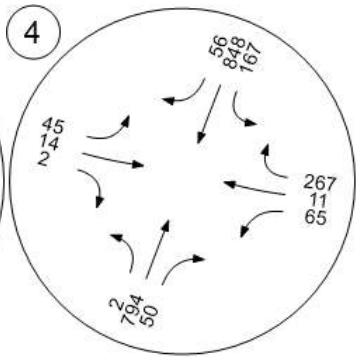
Marsh Rd/Rolison Rd-Scott D



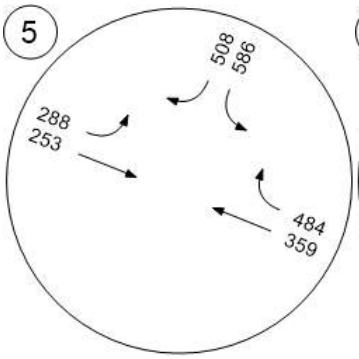
Marsh Rd/Florence St-Bohan



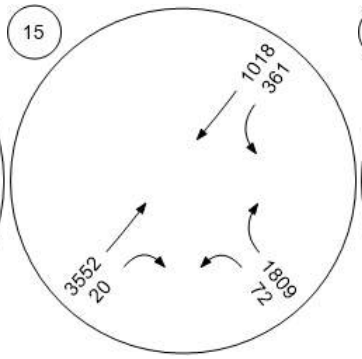
Marsh Rd/Bay Rd



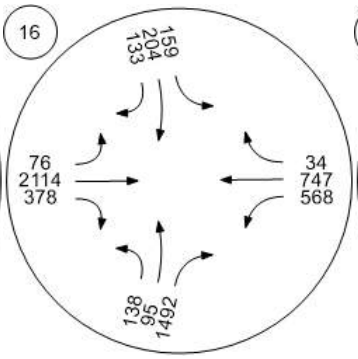
Middlefield Rd/Marsh Rd



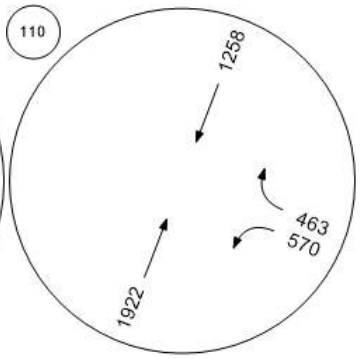
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

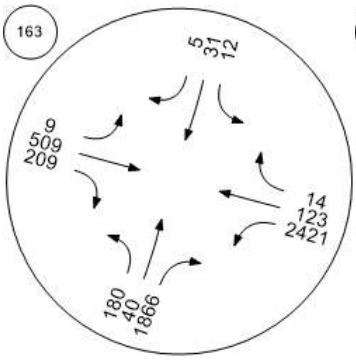


Marsh Road/101 NB Ramps

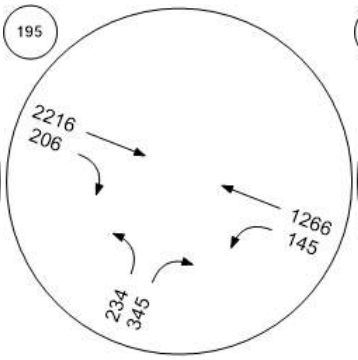


Traffic Volume - Future Total Volume

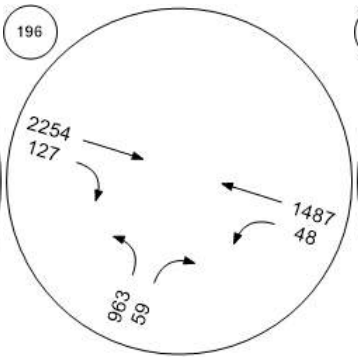
Bayfront Expy/Marsh Rd



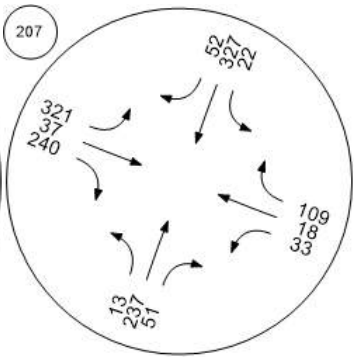
Bayfront Expy/Chilco St



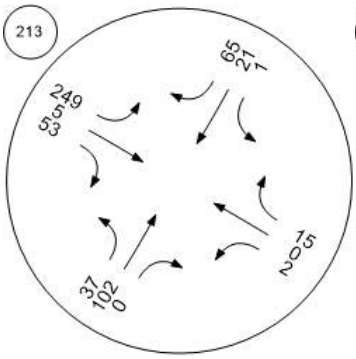
Bayfront Expy/Chrysler Drive



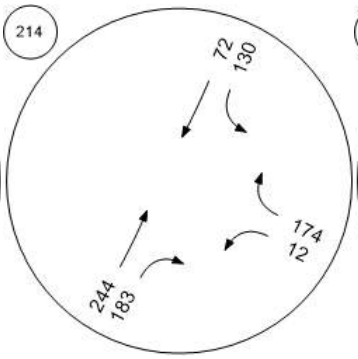
Chilco St/Constitution Dr



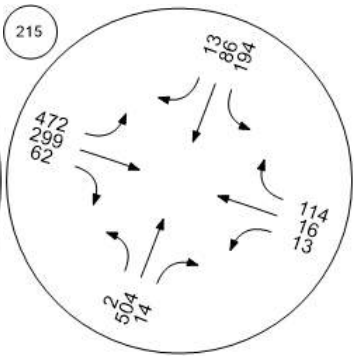
Chrysler Dr/Independence Dr



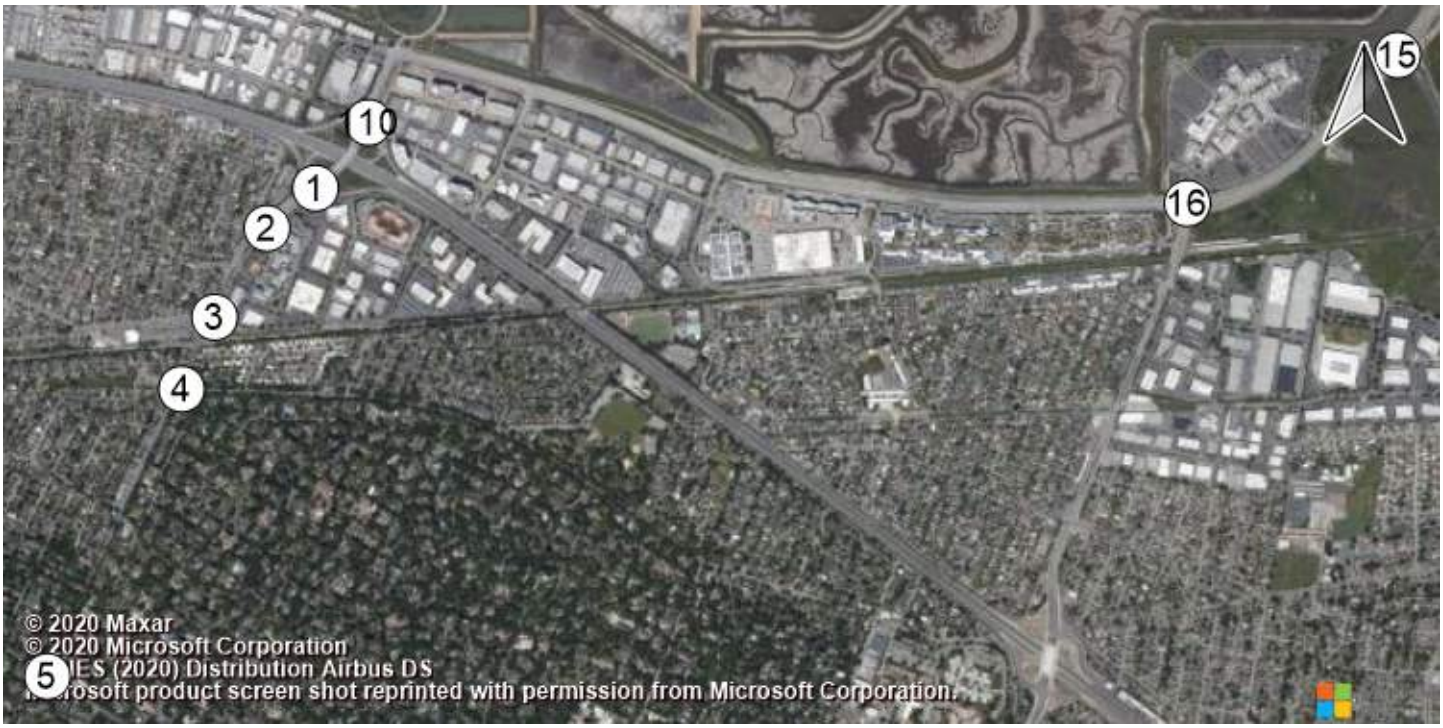
Chrysler Dr/Jefferson Dr



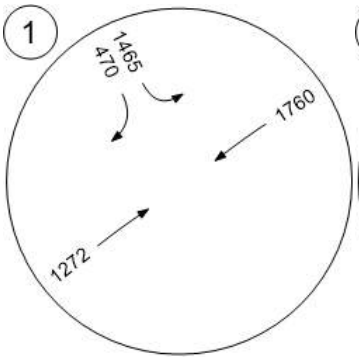
Chrysler Dr/Constitution Dr



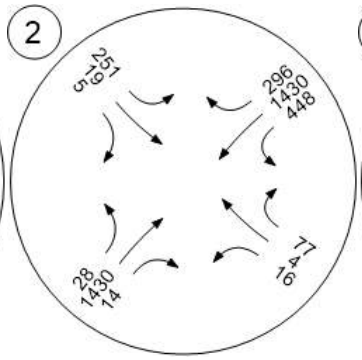
Traffic Volume - Future Total Volume Cumulative AM



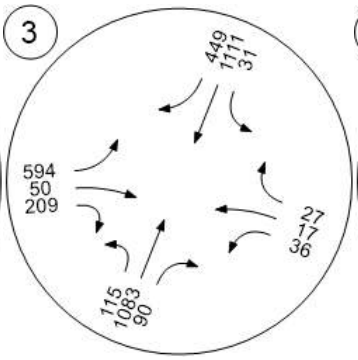
Marsh Rd (SR 84)/US 101 S



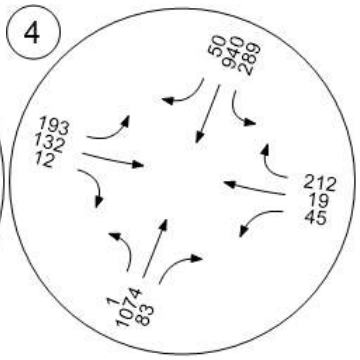
Marsh Rd/Rolison Rd-Scott D



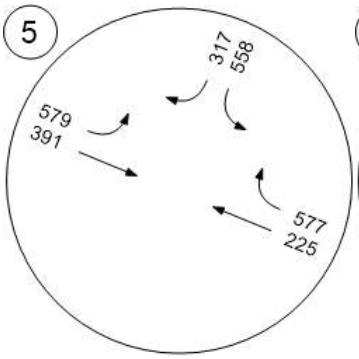
Marsh Rd/Florence St-Bohan



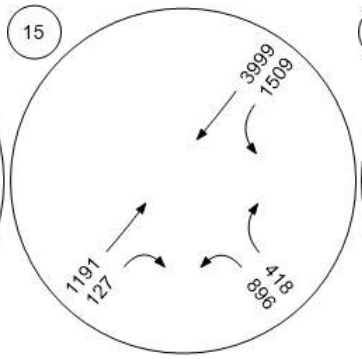
Marsh Rd/Bay Rd



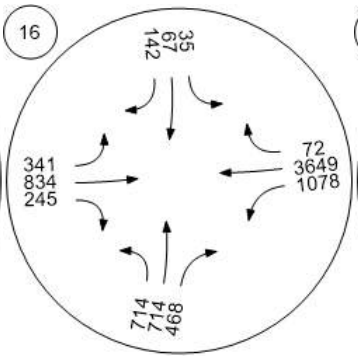
Middlefield Rd/Marsh Rd



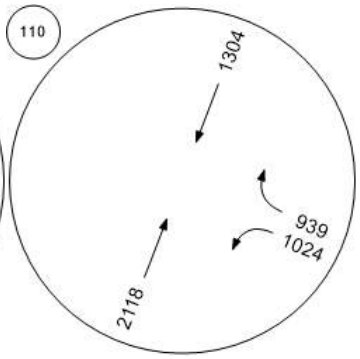
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

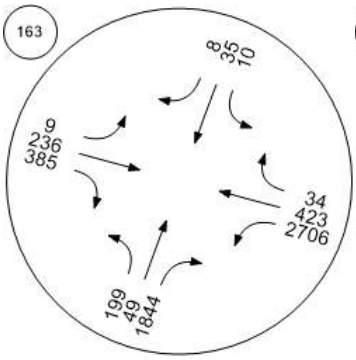


Marsh Road and US 101 NB

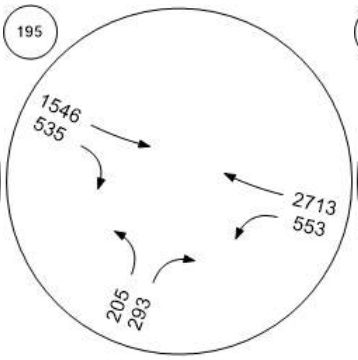


Traffic Volume - Future Total Volume

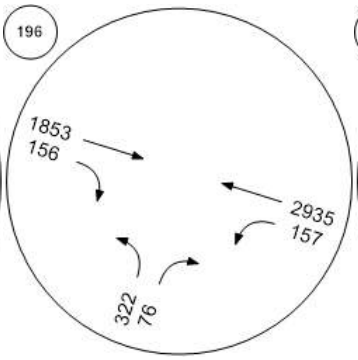
Bayfront Expy/Marsh Rd



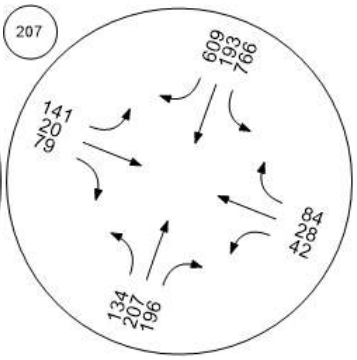
Bayfront Expy/Chilco St



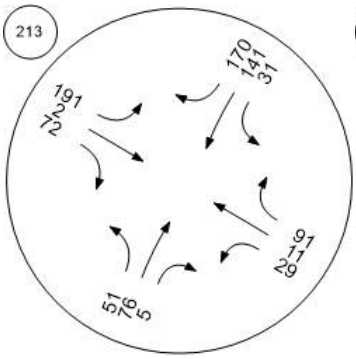
Bayfront Expy/Chrysler Drive



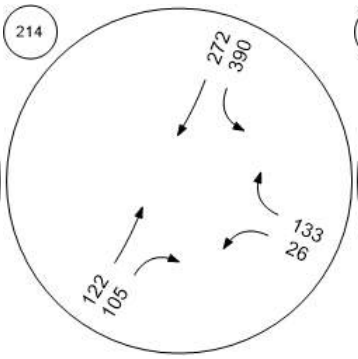
Chilco St/Constitution Dr



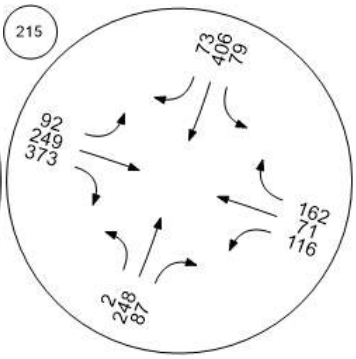
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



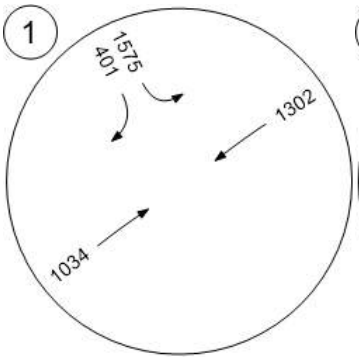
Chrysler Dr/Constitution Dr



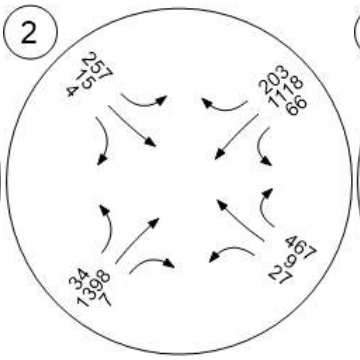
Traffic Volume - Future Total Volume

Cumulative PM

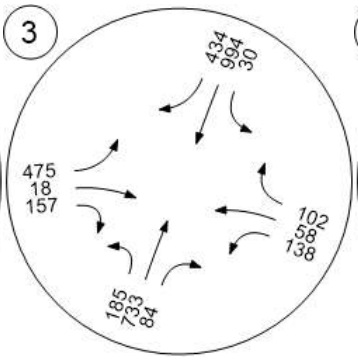
Marsh Rd (SR 84)/US 101 S



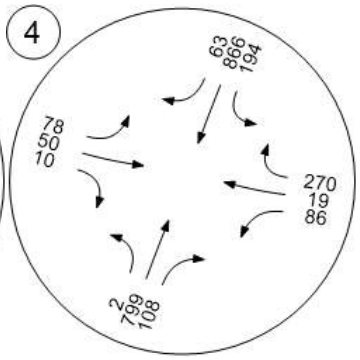
Marsh Rd/Rolison Rd-Scott D



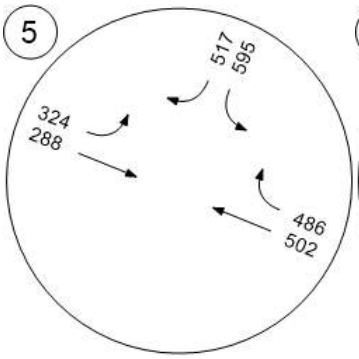
Marsh Rd/Florence St-Bohan



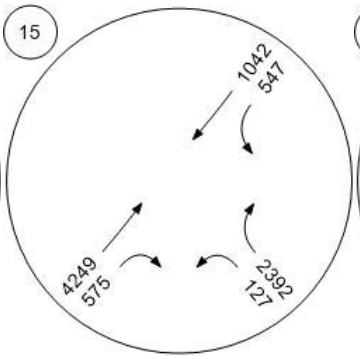
Marsh Rd/Bay Rd



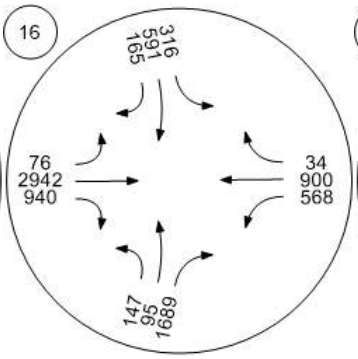
Middlefield Rd/Marsh Rd



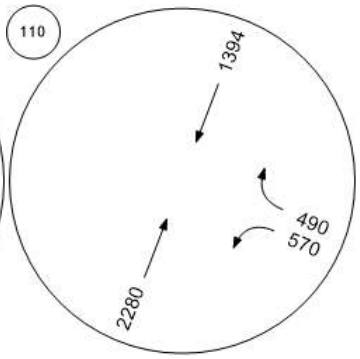
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

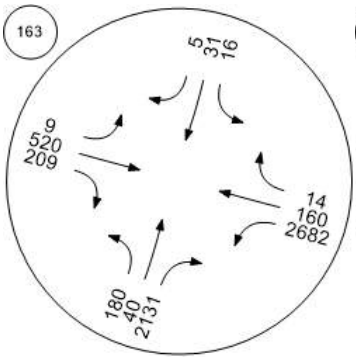


Marsh Road/101 NB Ramps

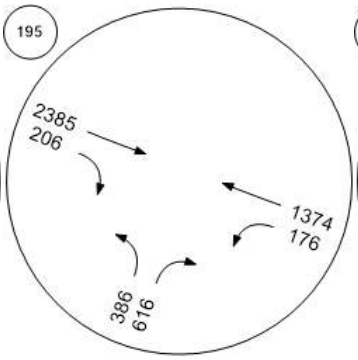


Traffic Volume - Future Total Volume

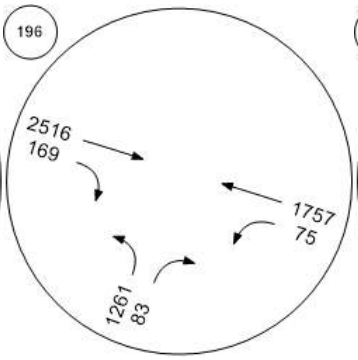
Bayfront Expy/Marsh Rd



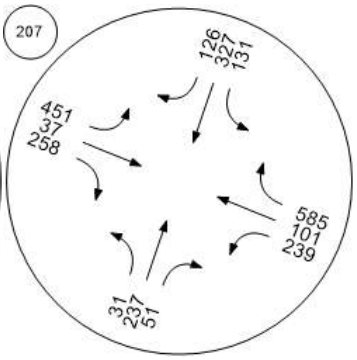
Bayfront Expy/Chilco St



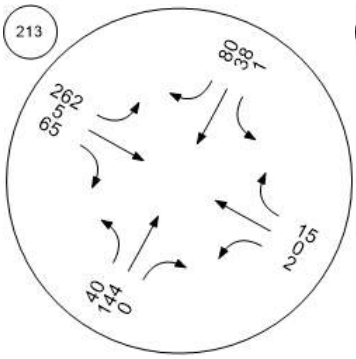
Bayfront Expy/Chrysler Drive



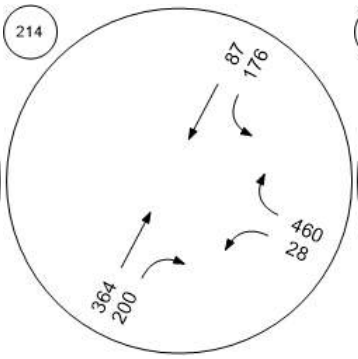
Chilco St/Constitution Dr



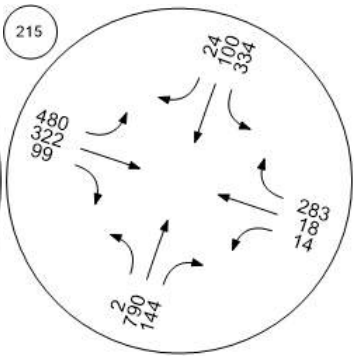
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



Chrysler Dr/Constitution Dr



LSA

FIGURE A

Legend

Inbound Trip Distribution Percentage

Outbound Trip Distribution Percentage

Menlo Flats

Project Trip Distribution - AM Peak Hour

\\acorp04\ptrprojects\CMK2001 Menlo Flats\BACKGROUND\Transportation\xls\Proj Trip Distribution - AM.xls 9/9/2021

LSA

FIGURE B

Legend

Inbound Trip Distribution Percentage

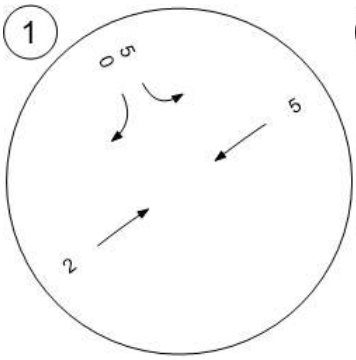
Outbound Trip Distribution Percentage

Menlo Flats

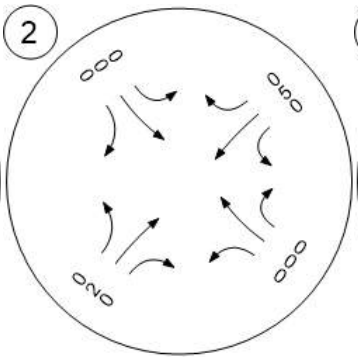
Project Trip Distribution - PM Peak Hour

Traffic Volume - Net New Site Trips | Project Only - AM

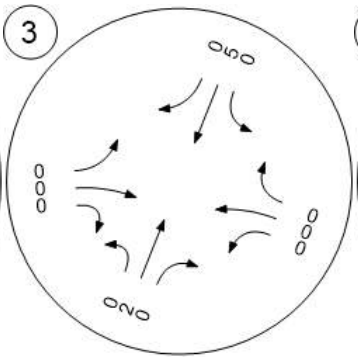
Marsh Rd (SR 84)/US 101 S



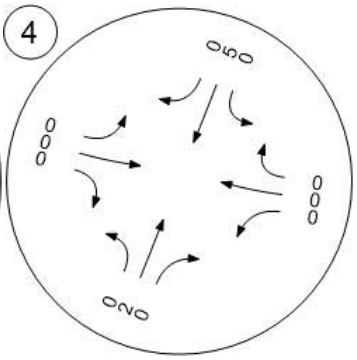
Marsh Rd/Rolison Rd-Scott D



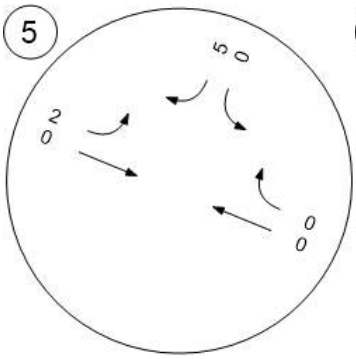
Marsh Rd/Florence St-Bohan



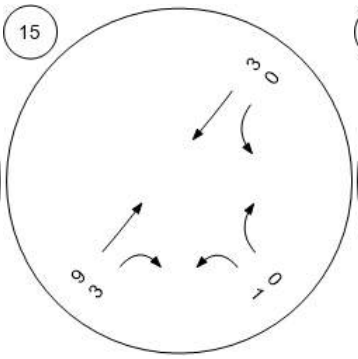
Marsh Rd/Bay Rd



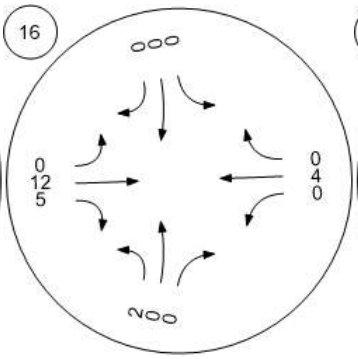
Middlefield Rd/Marsh Rd



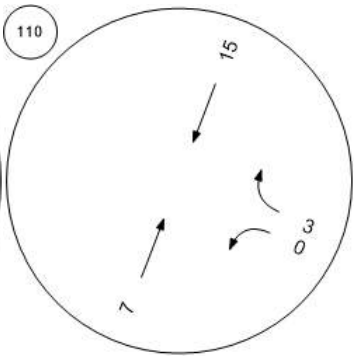
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

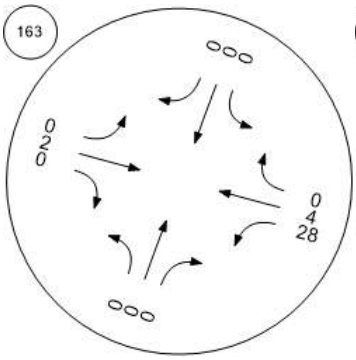


Marsh Road and US 101 NB

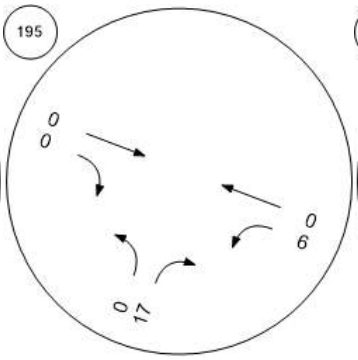


Traffic Volume - Net New Site Trips

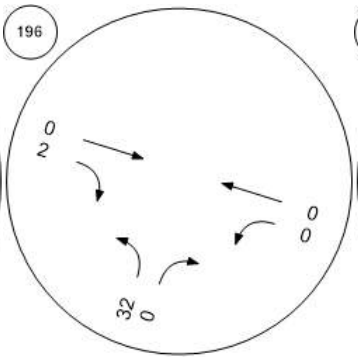
Bayfront Expy/Marsh Rd



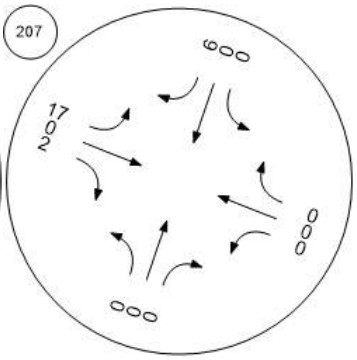
Bayfront Expy/Chilco St



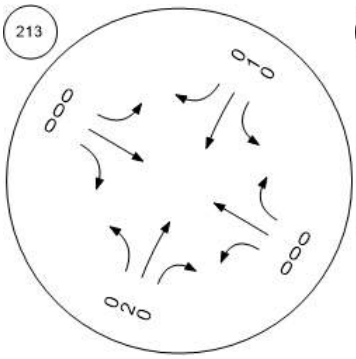
Bayfront Expy/Chrysler Drive



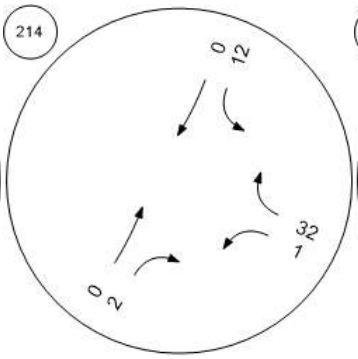
Chilco St/Constitution Dr



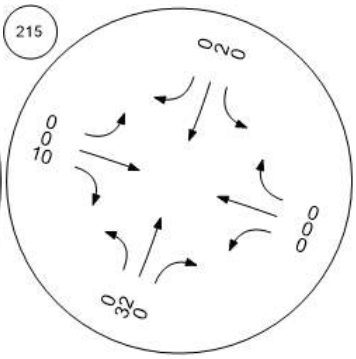
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



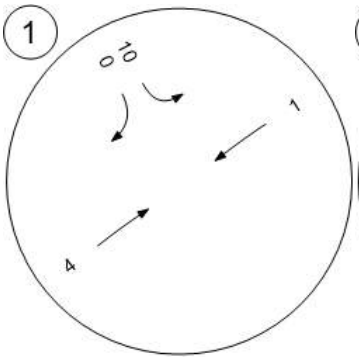
Chrysler Dr/Constitution Dr



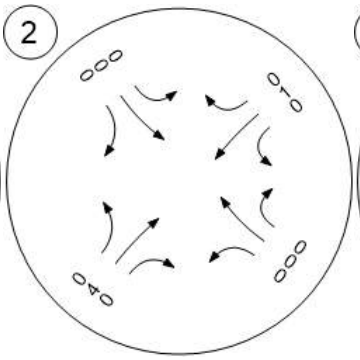
Traffic Volume - Net New Site Trips

Project Only - PM

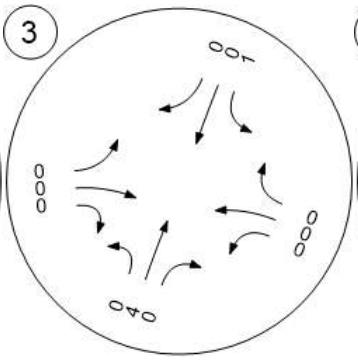
Marsh Rd (SR 84)/US 101 S



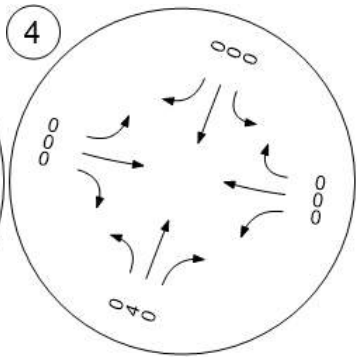
Marsh Rd/Rolison Rd-Scott D



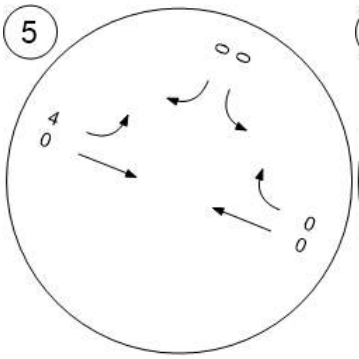
Marsh Rd/Florence St-Bohan



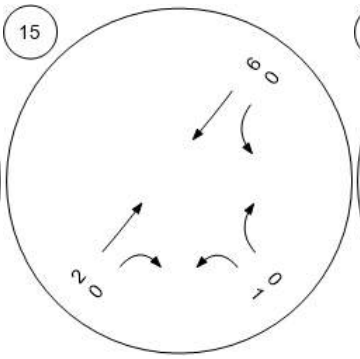
Marsh Rd/Bay Rd



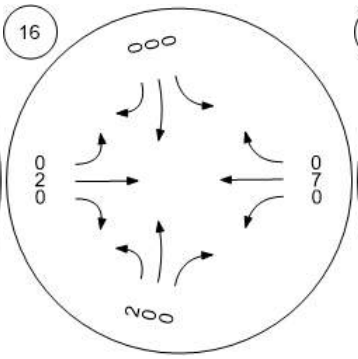
Middlefield Rd/Marsh Rd



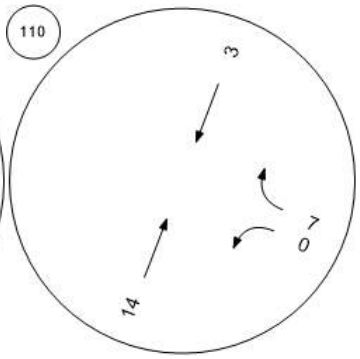
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

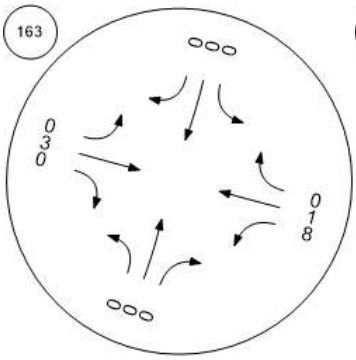


Marsh Road/101 NB Ramps

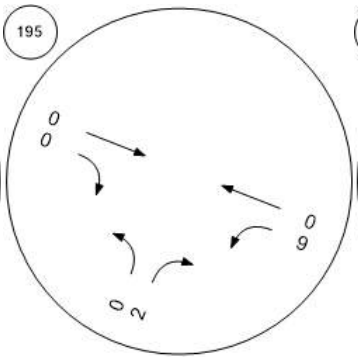


Traffic Volume - Net New Site Trips

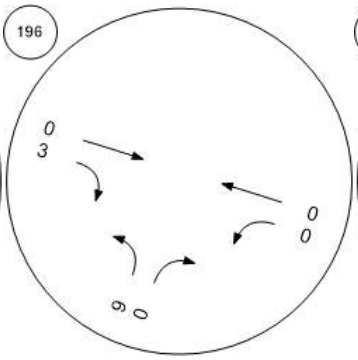
Bayfront Expy/Marsh Rd



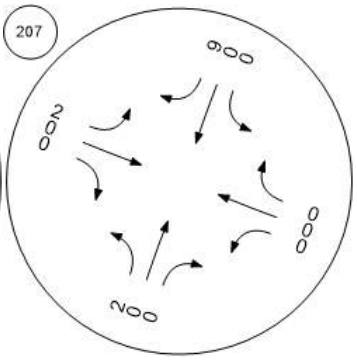
Bayfront Expy/Chilco St



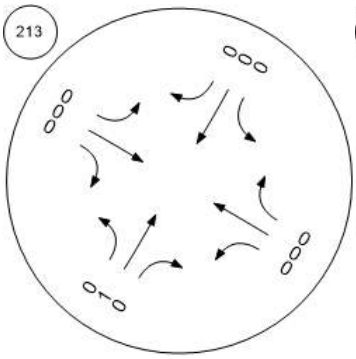
Bayfront Expy/Chrysler Drive



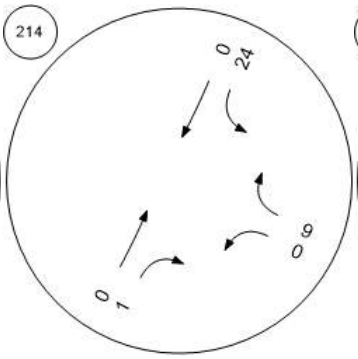
Chilco St/Constitution Dr



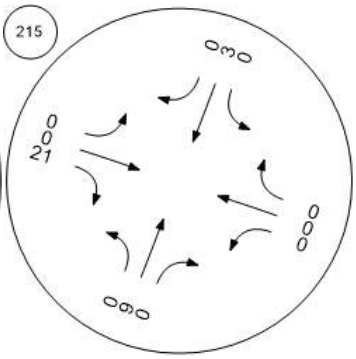
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr

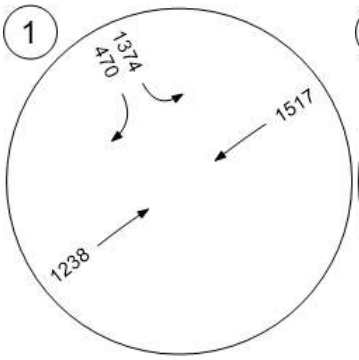


Chrysler Dr/Constitution Dr

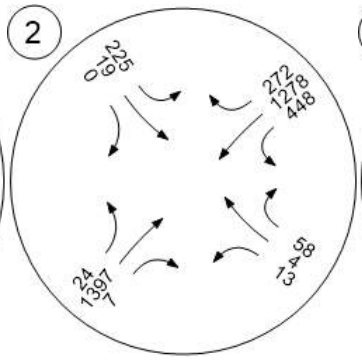


Traffic Volume - Future Total Volume

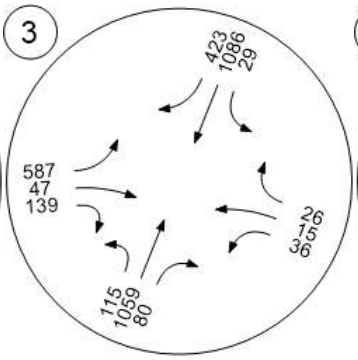
Marsh Rd (SR 84)/US 101 S



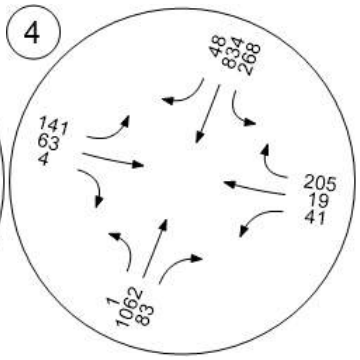
Marsh Rd/Rolison Rd-Scott D



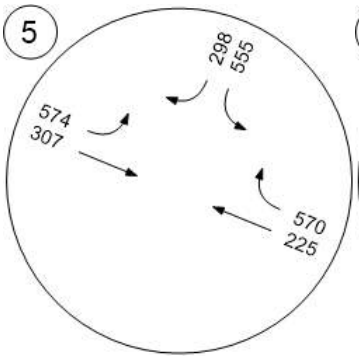
Marsh Rd/Florence St-Bohan



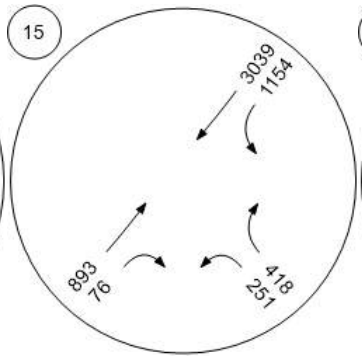
Marsh Rd/Bay Rd



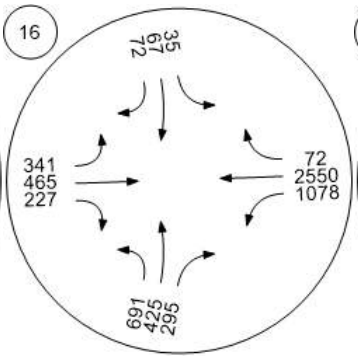
Middlefield Rd/Marsh Rd



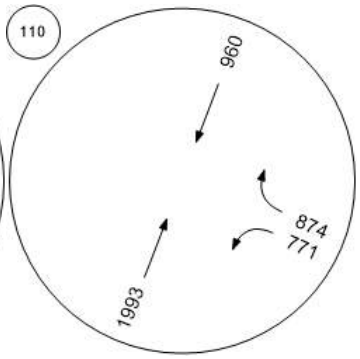
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

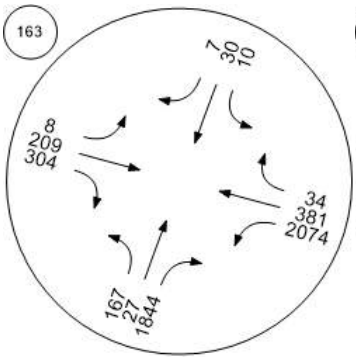


Marsh Road and US 101 NB

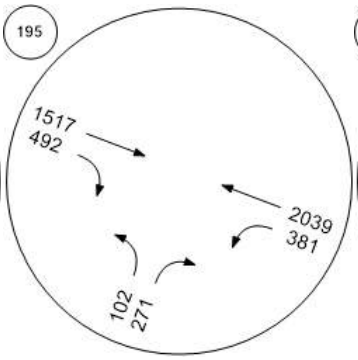


Traffic Volume - Future Total Volume

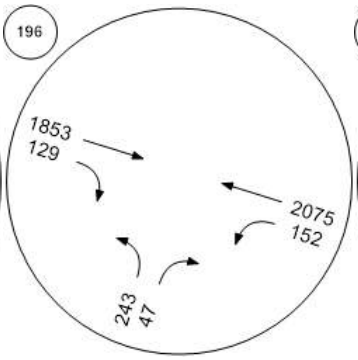
Bayfront Expy/Marsh Rd



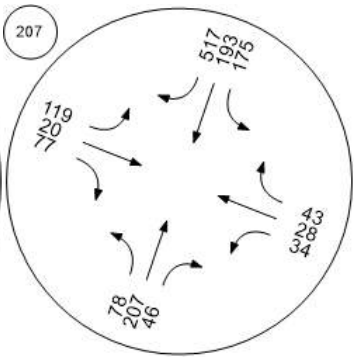
Bayfront Expy/Chilco St



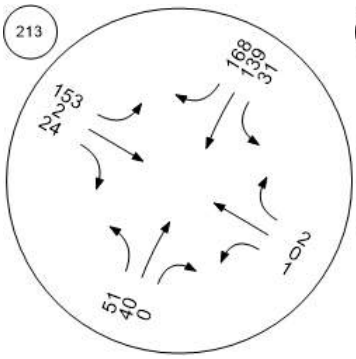
Bayfront Expy/Chrysler Drive



Chilco St/Constitution Dr



Chrysler Dr/Independence Dr



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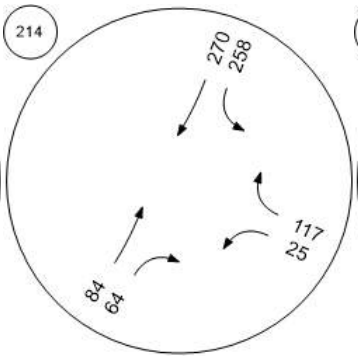

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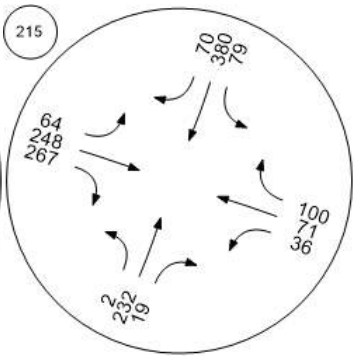
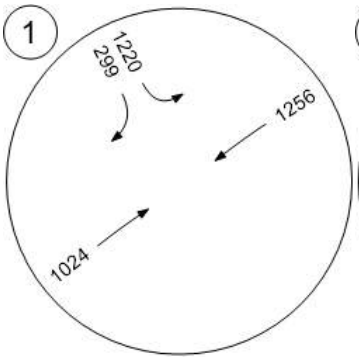
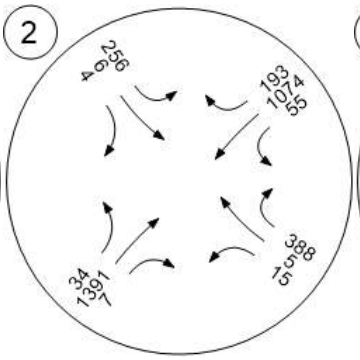


Traffic Volume - Future Total Volume

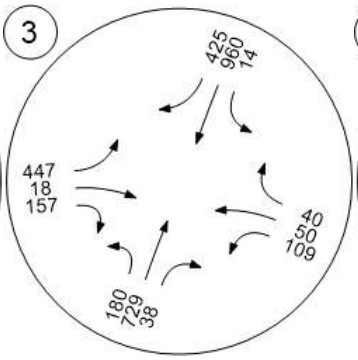
Marsh Rd (SR 84)/US 101 S



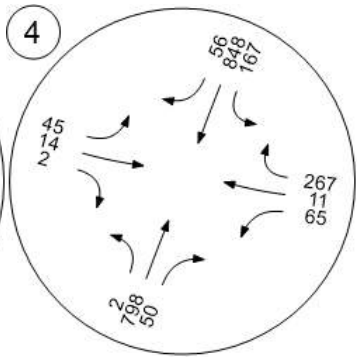
Marsh Rd/Rolison Rd-Scott D



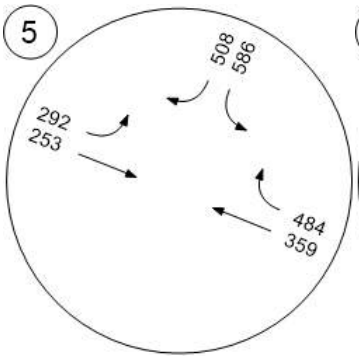
Marsh Rd/Florence St-Bohan



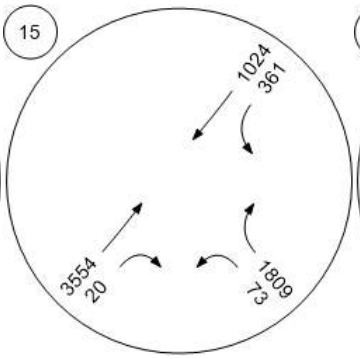
Marsh Rd/Bay Rd



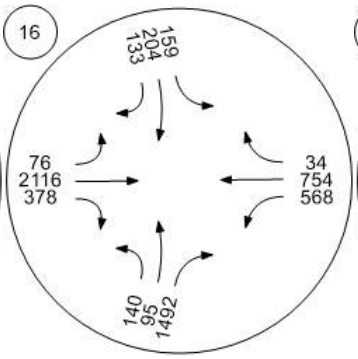
Middlefield Rd/Marsh Rd



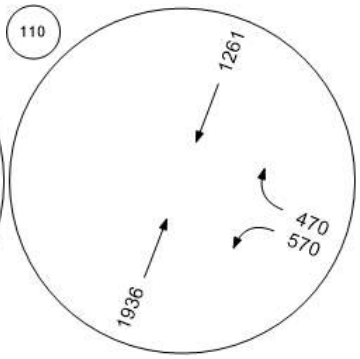
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

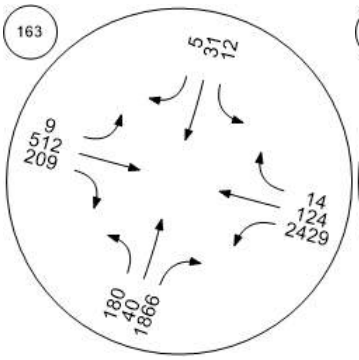


Marsh Road/101 NB Ramps

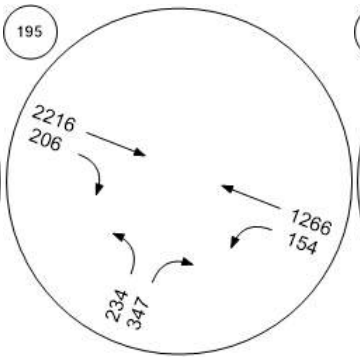


Traffic Volume - Future Total Volume

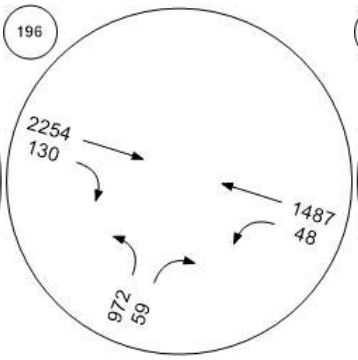
Bayfront Expy/Marsh Rd



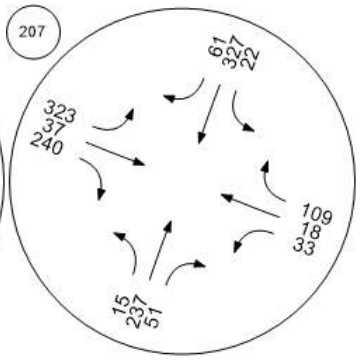
Bayfront Expy/Chilco St



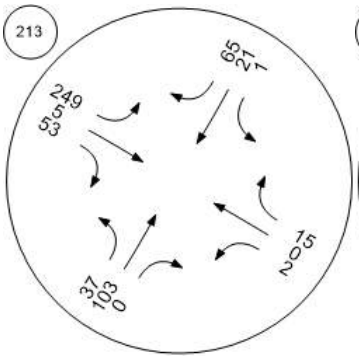
Bayfront Expy/Chrysler Drive



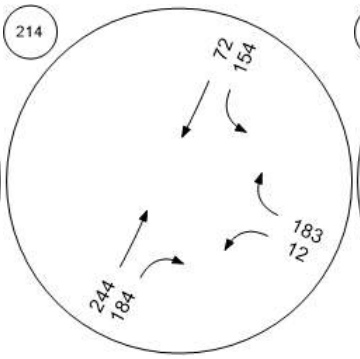
Chilco St/Constitution Dr



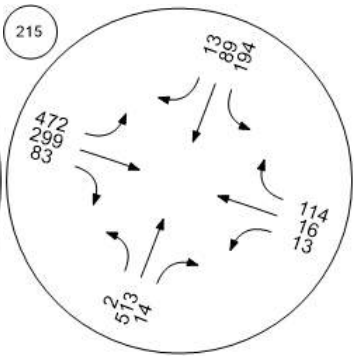
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr

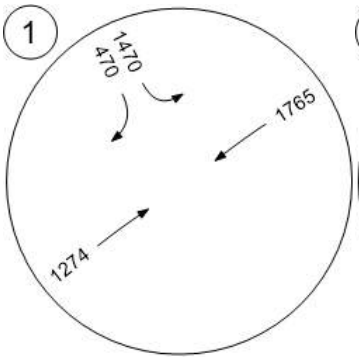


Chrysler Dr/Constitution Dr

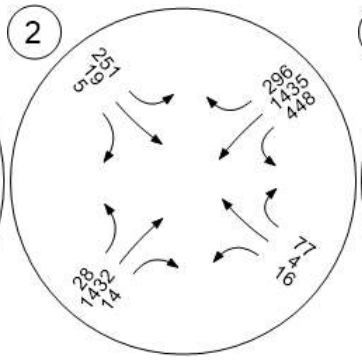


Traffic Volume - Future Total Volume

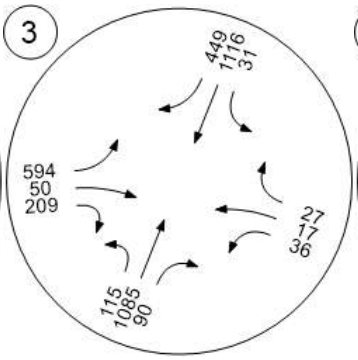
Marsh Rd (SR 84)/US 101 S



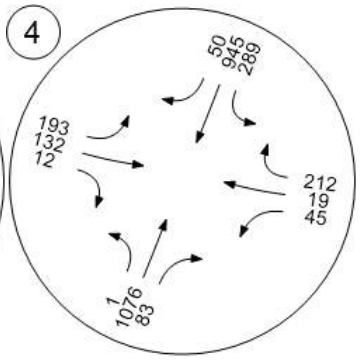
Marsh Rd/Rolison Rd-Scott D



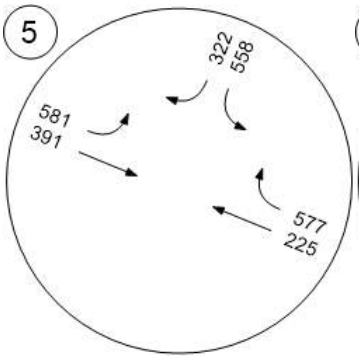
Marsh Rd/Florence St-Bohan



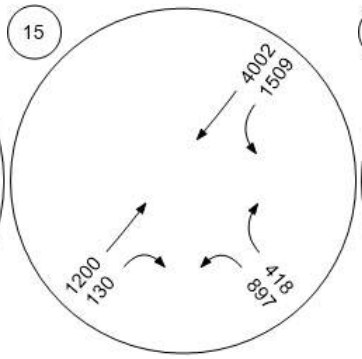
Marsh Rd/Bay Rd



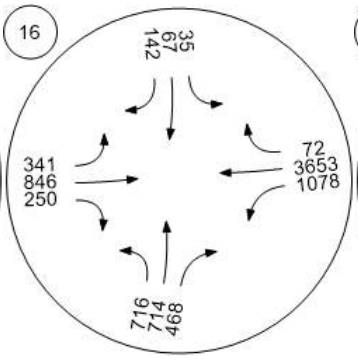
Middlefield Rd/Marsh Rd



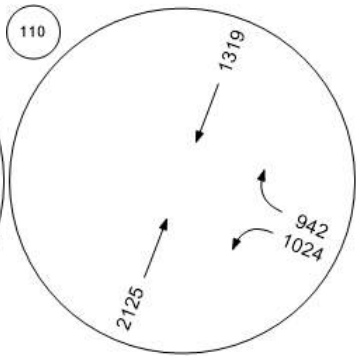
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

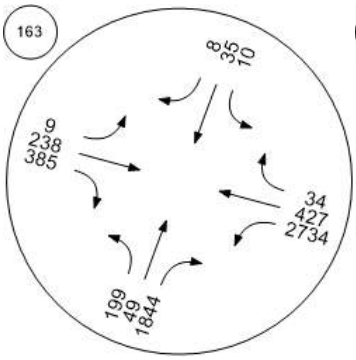


Marsh Road and US 101 NB

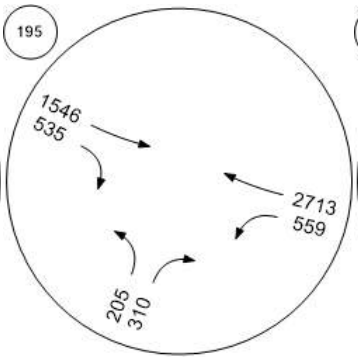


Traffic Volume - Future Total Volume

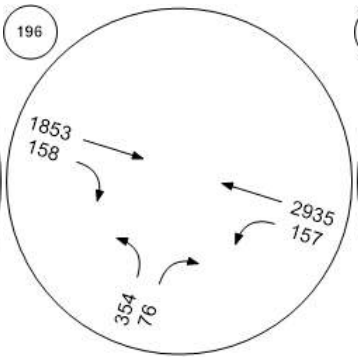
Bayfront Expy/Marsh Rd



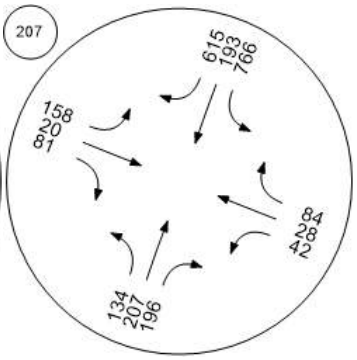
Bayfront Expy/Chilco St



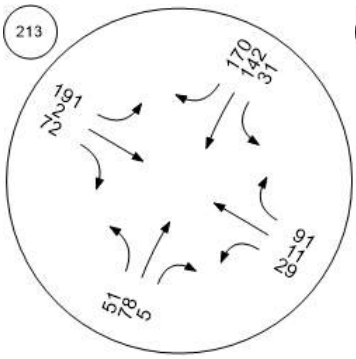
Bayfront Expy/Chrysler Drive



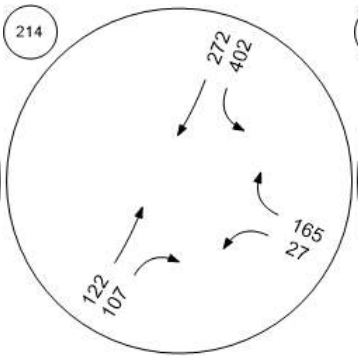
Chilco St/Constitution Dr



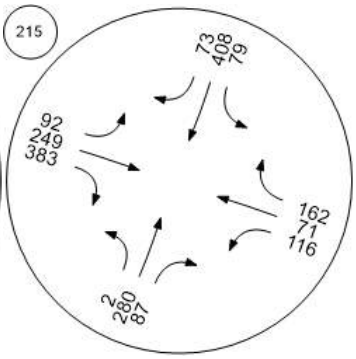
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr

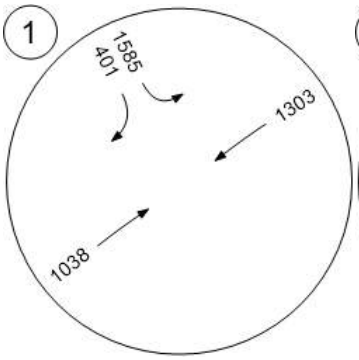


Chrysler Dr/Constitution Dr

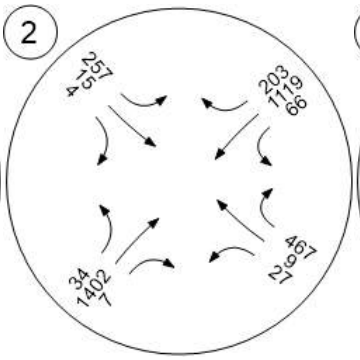


Traffic Volume - Future Total Volume

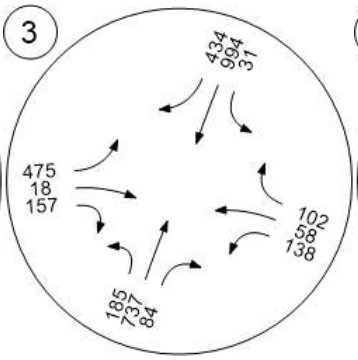
Marsh Rd (SR 84)/US 101 S



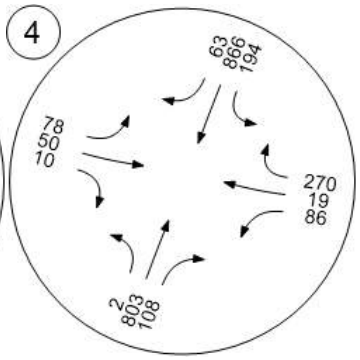
Marsh Rd/Rolison Rd-Scott D



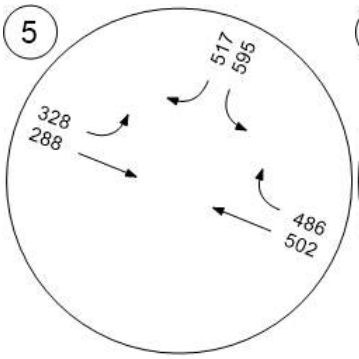
Marsh Rd/Florence St-Bohan



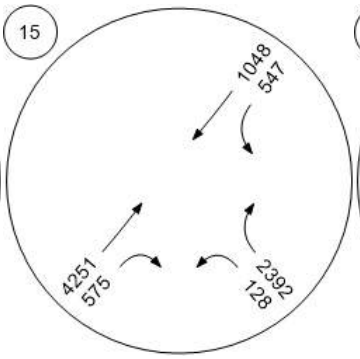
Marsh Rd/Bay Rd



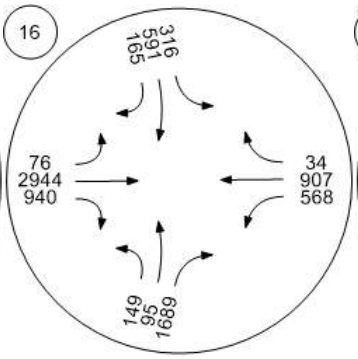
Middlefield Rd/Marsh Rd



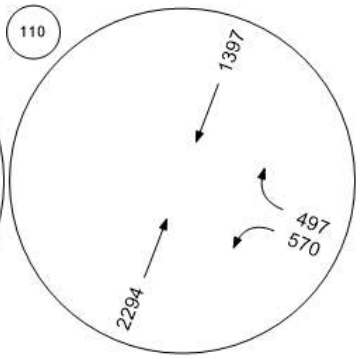
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow

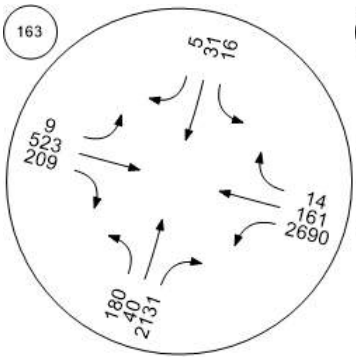


Marsh Road/101 NB Ramps

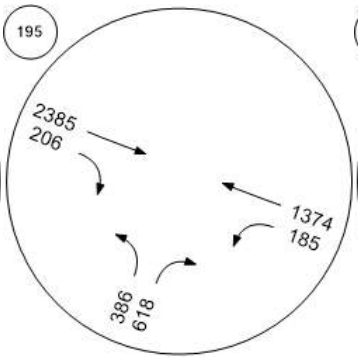


Traffic Volume - Future Total Volume

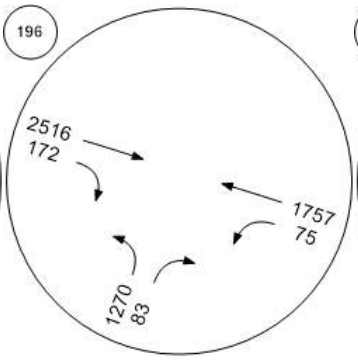
Bayfront Expy/Marsh Rd



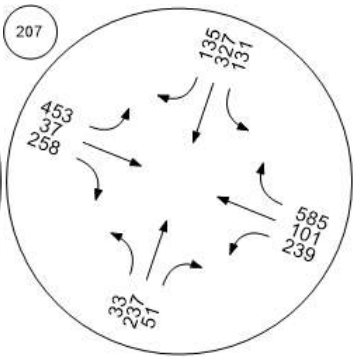
Bayfront Expy/Chilco St



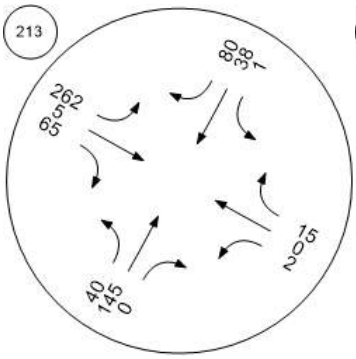
Bayfront Expy/Chrysler Drive



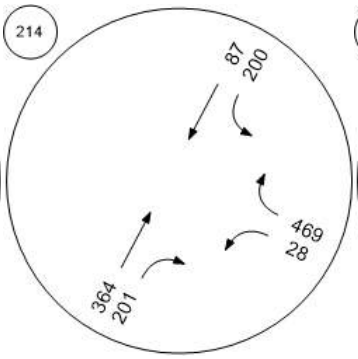
Chilco St/Constitution Dr



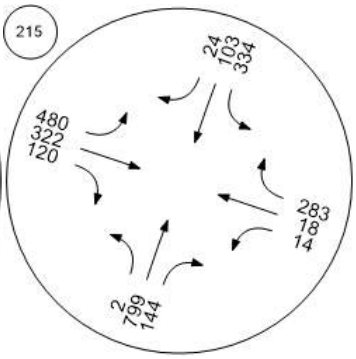
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



Chrysler Dr/Constitution Dr



APPENDIX D

HCM WORKSHEETS

Vistro File: \...\Existing Conditions_AM.vistro
Report File: \...\Existing AM.pdf
Scenario 16 Existing AM (2019 vols)
6/26/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.838	18.1	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.696	18.5	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.711	35.3	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.641	19.7	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.855	35.0	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	0.727	11.4	B
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Thru	0.967	106.0	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NWB Right	0.727	15.8	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.792	56.9	E
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.808	12.7	B
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.621	8.4	A
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	NB Left	0.613	28.3	C
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	39.3	E
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.084	18.6	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	0.846	50.6	D

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.

Vistro File: \...\Existing Conditions_PM.vistro
Report File: \...\Existing PM.pdf
Scenario 16 Existing PM (2019 vols)
6/26/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.701	17.0	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.460	15.3	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.682	34.6	C
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.634	18.6	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.849	37.9	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.043	94.1	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Right	1.249	168.1	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Left	0.771	13.3	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.765	36.5	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.862	16.0	B
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.779	13.1	B
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	EB Left	0.646	36.2	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	16.7	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.041	19.0	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	WB Right	0.666	28.0	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.

Vistro File: \...\Existing Conditions_AM.vistro
Report File: \...\Near-Term AM.pdf
Scenario 18 Near Term AM (2019 vols)
6/26/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.935	22.9	C
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.724	20.0	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.768	38.3	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.722	22.7	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.990	73.8	E
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	0.815	12.7	B
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Left	1.229	193.1	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	0.999	25.3	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.827	59.7	E
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.839	21.9	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.690	9.5	A
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	NB Left	0.711	33.8	C
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.012	59.0	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.118	23.2	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	1.029	111.1	F

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.

Vistro File: \...\Existing Conditions_PM.vistro
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Scenario 18 Near Term PM (2019 vols)
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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.793	17.7	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.542	15.1	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.772	37.0	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.650	18.4	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.956	44.2	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.097	113.1	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Right	1.317	180.9	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.808	13.3	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.898	37.4	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.942	25.3	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.863	20.1	C
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	EB Left	0.776	50.0	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	17.0	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.046	20.1	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	0.909	39.8	D

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.

Vistro File: \...\2040(c)_AM - 3723 Haven Ave.vistro
Report File: \...\Cumulative AM.pdf

Scenario 20 165 Jefferson - Cum No Proj AM
6/26/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	1.046	37.9	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.810	32.9	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.795	40.0	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	NB Right	0.835	28.6	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	1.042	81.2	F
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	1.171	101.0	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Thru	1.573	325.6	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	1.070	34.9	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	1.071	103.1	F
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	WB Left	1.139	61.6	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.797	12.5	B
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	SB Right	0.862	85.3	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Left	1.504	307.4	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.284	48.3	E
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	WB Right	3.817	361.5	F

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.

Vistro File: \...\2040(c)_PM - 3723 Haven Ave.vistro
Report File: \...\Cumulative PM.pdf
Scenario 20 165 Jefferson - Cum No Proj PM
6/26/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.927	42.1	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.667	22.9	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.836	46.1	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.714	19.9	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.975	53.4	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.395	215.3	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	SB Thru	2.080	373.8	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.933	18.0	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.941	37.1	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	1.176	67.1	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	NB Left	1.018	62.7	E
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	EB Left	1.498	252.2	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	21.2	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.179	141.8	F
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	2.569	242.7	F

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.

Vistro File: \...\Existing Conditions_AM.vistro
Report File: \...\7 - Near-Term plus Project AM.pdf
Scenario 19 Near Term Plus Project AM (2019 vols)
9/8/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.938	23.3	C
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.726	20.0	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.770	38.3	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.722	22.7	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.992	74.2	E
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	0.815	12.8	B
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Left	1.232	193.4	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	1.003	25.7	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.834	59.8	E
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.857	23.3	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.700	9.7	A
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	NB Left	0.732	36.0	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.012	60.1	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.129	24.7	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	1.057	120.2	F

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 213: Chrysler Dr/Independence Dr

Control Type:	All-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Chrysler Drive			Chrysler Drive						Independence Drive		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
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	1
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]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Chrysler Drive			Chrysler Drive						Independence Drive		
Base Volume Input [veh/h]	51	29	0	31	134	168	1	0	2	124	2	24
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 [%]	0.00	9.10	20.00	100.00	33.30	0.00	10.30	0.00	0.00	0.00	0.00	0.00
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	11	0	0	5	0	0	0	0	29	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]	51	40	0	31	139	168	1	0	2	153	2	24
Peak Hour Factor	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200
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]	18	14	0	11	48	58	0	0	1	53	1	8
Total Analysis Volume [veh/h]	71	56	0	43	193	233	1	0	3	213	3	33
Pedestrian Volume [ped/h]	70			0			17			137		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	647	718	624	548	672
Degree of Utilization, x	0.20	0.65	0.01	0.39	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.72	4.89	0.02	1.87	0.15
95th-Percentile Queue Length [ft]	18.11	122.17	0.48	46.68	3.87
Approach Delay [s/veh]	9.92	16.96	8.80	12.79	
Approach LOS	A	C	A	B	
Intersection Delay [s/veh]	14.64				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 215: Chrysler Dr/Constitution Dr

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.750

Intersection Setup

Name	Chrysler Drive						Constitution Drive					
Approach	Southbound			Eastbound			Westbound			Northeastbound		
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	1	0	0	1	0	1	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.24	37.93	37.93	24.07	28.69	35.46	41.80	41.80	41.80	18.04	18.16	18.30
Movement LOS	C	D	D	C	C	D	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	35.88			31.31			41.80			18.17		
Approach LOS	D			C			D			B		
d_I, Intersection Delay [s/veh]	32.12											
Intersection LOS	C											
Intersection V/C	0.750											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.381	2.329	2.139	2.278
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	467	333	933
d_b, Bicycle Delay [s]	12.80	26.45	31.25	12.80
I_b,int, Bicycle LOS Score for Intersection	2.530	2.622	1.939	1.791
Bicycle LOS	B	B	A	A

Sequence

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

Vistro File: \...\Existing Conditions_PM.vistro
Report File: \...\8 - Near-Term plus Project PM.pdf
Scenario 19 Near Term Plus Project PM (2019 vols)
9/7/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.797	17.8	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.542	15.1	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.773	37.0	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.652	18.4	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.956	44.6	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.097	113.3	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Right	1.317	180.9	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.815	13.5	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.900	37.7	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.946	26.3	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.864	20.4	C
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	0.788	52.7	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	17.1	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.052	21.9	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	0.919	40.7	D

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 213: Chrysler Dr/Independence Dr

Control Type:	All-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	Chrysler Drive									Independence Drive		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
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	1
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Chrysler Drive									Independence Drive		
Base Volume Input [veh/h]	37	101	0	1	19	65	2	0	15	244	5	53
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 [%]	0.00	3.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	5.70	0.00	0.00
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	2	0	0	2	0	0	0	0	5	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]	37	103	0	1	21	65	2	0	15	249	5	53
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
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]	11	31	0	0	6	20	1	0	5	76	2	16
Total Analysis Volume [veh/h]	45	126	0	1	26	79	2	0	18	304	6	65
Pedestrian Volume [ped/h]	31			0			34			1		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	693	752	759	617	793
Degree of Utilization, x	0.25	0.14	0.03	0.50	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.97	0.49	0.08	2.82	0.27
95th-Percentile Queue Length [ft]	24.20	12.23	2.03	70.50	6.68
Approach Delay [s/veh]	9.89	8.57	7.87	13.12	
Approach LOS	A	A	A	B	
Intersection Delay [s/veh]	11.43				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 215: Chrysler Dr/Constitution Dr

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.697

Intersection Setup

Name				Chrysler Drive						Constitution Drive		
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	1	0	1	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

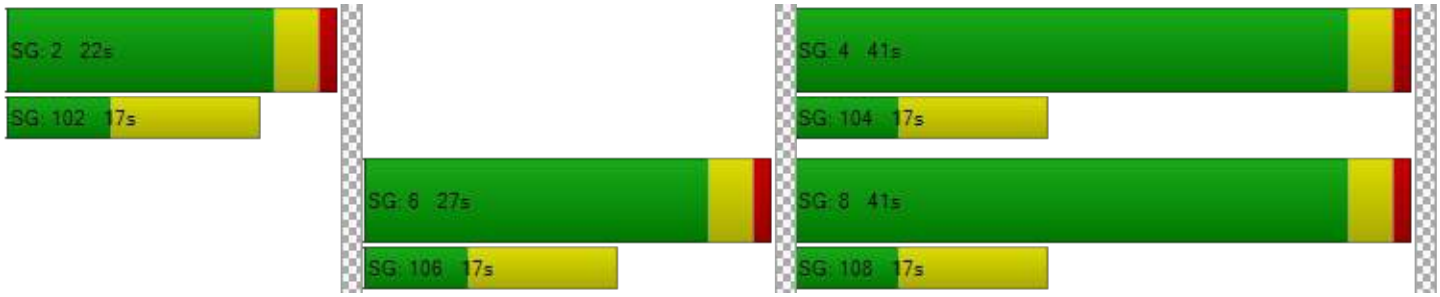
d_M, Delay for Movement [s/veh]	23.50	23.79	24.13	56.33	19.83	19.83	37.17	25.73	22.05	53.66	53.66	53.66
Movement LOS	C	C	C	E	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	23.80			43.75			31.70			53.66		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	33.09											
Intersection LOS	C											
Intersection V/C	0.697											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.172	2.471	2.349	2.307
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	822	822	511	400
d_b, Bicycle Delay [s]	15.61	15.61	24.94	28.80
l_b,int, Bicycle LOS Score for Intersection	1.996	2.048	2.969	1.796
Bicycle LOS	A	B	C	A

Sequence

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



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Scenario 21 165 Jefferson - Cum Plus Proj AM
9/8/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	1.049	38.6	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.811	32.9	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.797	40.1	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	NB Right	0.835	28.7	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	1.044	81.9	F
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	1.172	101.2	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Thru	1.575	325.8	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	1.074	35.5	D
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	1.078	105.2	F
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	WB Left	1.160	65.0	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.807	13.2	B
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	SB Right	0.882	91.2	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Left	1.513	311.3	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.312	52.5	F
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	WB Right	3.908	371.1	F

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 163: Bayfront Expy/Marsh Rd

Control Type:	Signalized	Delay (sec / veh):	82.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.947

Intersection Setup

Name				Marsh Road			Haven Avenue			Bayfront Expressway		
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	351.80	351.80	29.51	54.41	54.43	54.46	77.56	78.35	87.95	101.74	29.70	29.70
Movement LOS	F	F	C	D	D	D	E	E	F	F	C	C
d_A, Approach Delay [s/veh]	67.67			54.43			84.23			91.35		
Approach LOS	E			D			F			F		
d_I, Intersection Delay [s/veh]	81.98											
Intersection LOS	F											
Intersection V/C	0.947											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	0.0
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]	0.00	71.25	71.25	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.017	2.481	0.000
Crosswalk LOS	F	B	B	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	80	349	393	954
d_b, Bicycle Delay [s]	73.76	54.89	52.34	21.90
l_b,int, Bicycle LOS Score for Intersection	5.155	1.604	2.102	7.051
Bicycle LOS	F	A	B	F

Sequence

Ring 1	-	2	1	4	3	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 195: Bayfront Expy/Chilco St

Control Type:	Signalized	Delay (sec / veh):	48.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.012

Intersection Setup

Name	Chilco Street		Bayfront Expy		Bayfront Expy	
Approach	Northbound		Westbound		Southeastbound	
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	1	1	0	0	1
Entry Pocket Length [ft]	100.00	50.00	520.00	100.00	100.00	660.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		45.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Movement, Approach, & Intersection Results

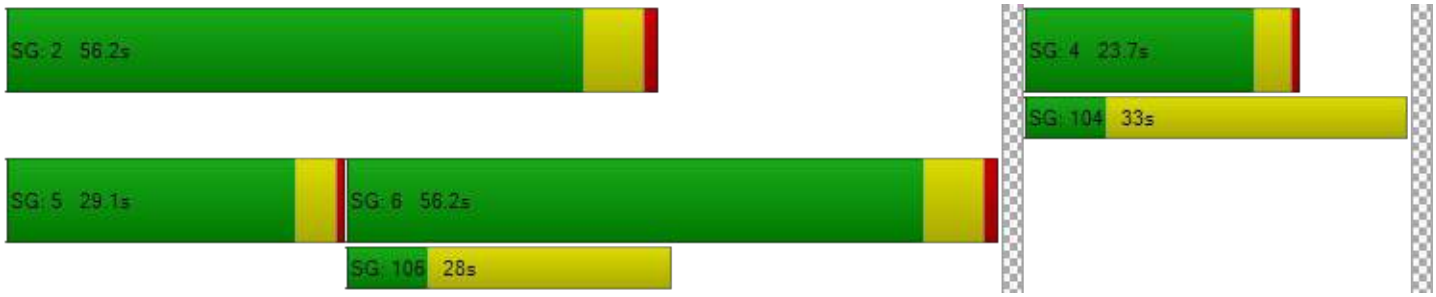
d_M, Delay for Movement [s/veh]	55.77	60.94	304.12	9.66	24.02	35.30
Movement LOS	E	E	F	A	C	D
d_A, Approach Delay [s/veh]	58.58		59.94		26.92	
Approach LOS	E		E		C	
d_I, Intersection Delay [s/veh]	48.11					
Intersection LOS	D					
Intersection V/C	1.012					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.629	3.721	3.815
Crosswalk LOS	B	D	D
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	444	1111	1111
d_b, Bicycle Delay [s]	27.25	8.90	8.89
l_b,int, Bicycle LOS Score for Intersection	2.454	3.454	2.764
Bicycle LOS	B	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 196: Bayfront Expy/Chrysler Drive

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name	Chrysler Drive		Bayfront Expy		Bayfront Expy	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	280.00	100.00	290.00	345.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Movement, Approach, & Intersection Results

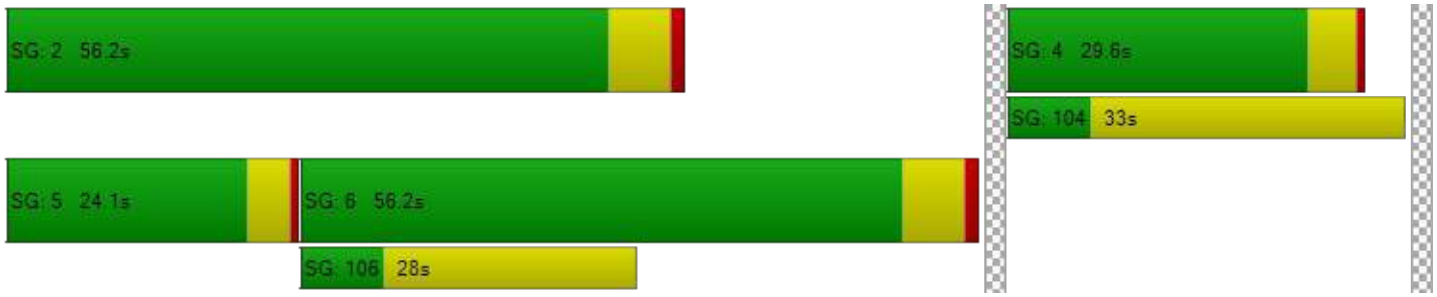
d_M, Delay for Movement [s/veh]	35.56	37.37	12.19	8.30	36.89	7.56
Movement LOS	D	D	B	A	D	A
d_A, Approach Delay [s/veh]	35.88		11.88		9.05	
Approach LOS	D		B		A	
d_I, Intersection Delay [s/veh]	12.16					
Intersection LOS	B					
Intersection V/C	0.785					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.287	3.724	3.675
Crosswalk LOS	B	D	D
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	1111	1111
d_b, Bicycle Delay [s]	23.47	8.89	8.89
l_b,int, Bicycle LOS Score for Intersection	2.291	2.700	3.313
Bicycle LOS	B	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 207: Chilco St/Constitution Dr

Control Type:	Signalized	Delay (sec / veh):	52.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Chilco Street			Chilco Street			Constitution Drive			Constitution Drive		
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	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	75.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

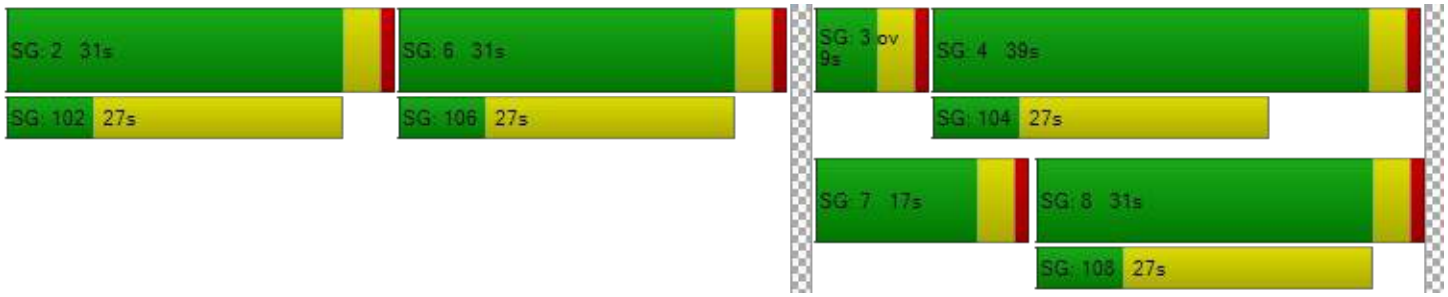
d_M, Delay for Movement [s/veh]	53.53	104.28	104.28	41.39	17.67	52.09	45.38	34.77	15.94	48.14	48.14	51.26
Movement LOS	D	F	F	D	B	D	D	C	B	D	D	D
d_A, Approach Delay [s/veh]	91.59			42.67			35.32			49.96		
Approach LOS	F			D			D			D		
d_I, Intersection Delay [s/veh]	52.76											
Intersection LOS	D											
Intersection V/C	0.779											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	44.55	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersection	2.294	2.798	2.399	2.423
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	491	636	491	491
d_b, Bicycle Delay [s]	31.31	25.57	31.31	31.31
l_b,int, Bicycle LOS Score for Intersection	2.464	4.211	1.995	1.820
Bicycle LOS	B	D	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 213: Chrysler Dr/Independence Dr

Control Type:	Signalized	Delay (sec / veh):	31.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

Intersection Setup

Name	Chrysler Drive			Chrysler Drive						Independence Drive		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
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	1
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]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.58	13.58	13.58	41.15	41.15	41.15	34.19	34.19	34.19	26.89	26.89	22.43
Movement LOS	B	B	B	D	D	D	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	13.58			41.15			34.19			25.68		
Approach LOS	B			D			C			C		
d_I, Intersection Delay [s/veh]	31.17											
Intersection LOS	C											
Intersection V/C	0.744											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	1.969	2.190	1.871	2.228
Crosswalk LOS	A	B	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	933	333	467
d_b, Bicycle Delay [s]	12.80	12.80	31.25	26.45
l_b,int, Bicycle LOS Score for Intersection	1.867	2.345	1.858	2.167
Bicycle LOS	A	B	A	B

Sequence

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

Intersection Level Of Service Report
Intersection 214: Chrysler Dr/Jefferson Dr

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.934

Intersection Setup

Name	Chrysler Drive		Chrysler Drive		Jefferson Drive	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.66	46.66	4.48	4.48	22.99	33.82
Movement LOS	D	D	A	A	C	C
d_A, Approach Delay [s/veh]	46.66		4.48		32.28	
Approach LOS	D		A		C	
d_I, Intersection Delay [s/veh]	35.31					
Intersection LOS	D					
Intersection V/C	0.934					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.61	24.61	24.61
l_p,int, Pedestrian LOS Score for Intersection	2.215	1.984	2.764
Crosswalk LOS	B	A	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	970	970	788
d_b, Bicycle Delay [s]	8.76	8.76	12.12
l_b,int, Bicycle LOS Score for Intersection	2.782	1.975	1.560
Bicycle LOS	C	A	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 215: Chrysler Dr/Constitution Dr

Control Type:	Signalized	Delay (sec / veh):	52.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.916

Intersection Setup

Name	Chrysler Drive			Constitution Drive			Constitution Drive			Chrysler Drive		
Approach	Southbound			Eastbound			Westbound			Northeastbound		
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	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.77	73.46	73.46	146.14	23.66	44.04	69.35	69.35	22.83	39.94	40.81	42.87
Movement LOS	C	E	E	F	C	D	E	E	C	D	D	D
d_A, Approach Delay [s/veh]	66.01			49.96			47.77			41.29		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	52.47											
Intersection LOS	D											
Intersection V/C	0.916											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.572	2.366	2.216	2.584
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	933	933	333
d_b, Bicycle Delay [s]	26.45	12.80	12.80	31.25
l_b,int, Bicycle LOS Score for Intersection	2.586	2.888	2.200	1.898
Bicycle LOS	B	C	B	A

Sequence

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

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Report File: \...\10 - Cumulative plus Project PM.pdf
Scenario 21 165 Jefferson - Cum Plus Proj PM
9/8/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.931	43.3	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.667	22.9	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.836	46.1	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.715	20.0	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.975	54.0	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.396	215.2	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	SB Thru	2.082	374.5	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.940	18.7	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.943	37.4	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	1.185	68.6	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	NB Left	1.020	63.9	E
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	EB Left	1.508	255.6	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	21.3	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.203	162.2	F
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	2.633	249.8	F

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 163: Bayfront Expy/Marsh Rd

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.944

Intersection Setup

Name				Marsh Road			Haven Avenue			Bayfront Expressway		
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	347.42	347.42	10.23	75.29	75.29	75.29	78.02	84.04	72.77	25.25	11.82	11.82
Movement LOS	F	F	B	E	E	E	E	F	E	C	B	B
d_A, Approach Delay [s/veh]	41.88			75.29			80.79			24.42		
Approach LOS	D			E			F			C		
d_I, Intersection Delay [s/veh]	38.64											
Intersection LOS	D											
Intersection V/C	0.944											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	0.0
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]	0.00	71.25	71.25	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.008	2.436	0.000
Crosswalk LOS	F	B	B	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	80	349	393	954
d_b, Bicycle Delay [s]	73.73	54.59	51.68	21.91
l_b,int, Bicycle LOS Score for Intersection	5.602	1.604	2.197	6.485
Bicycle LOS	F	A	B	F

Sequence

Ring 1	-	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 195: Bayfront Expy/Chilco St

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	Chilco Street		Bayfront Expy		Bayfront Expressway (SR 84)	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	50.00	100.00	660.00	520.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Movement, Approach, & Intersection Results

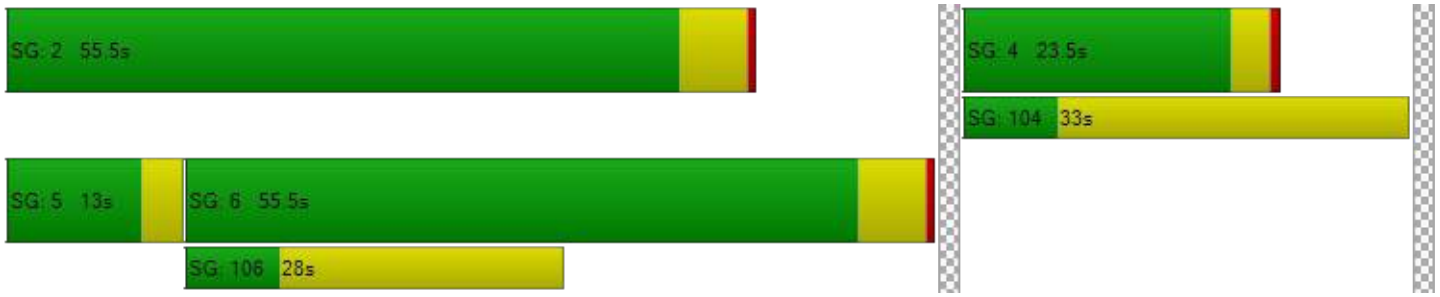
d_M, Delay for Movement [s/veh]	54.65	72.46	20.23	11.20	180.19	6.53
Movement LOS	D	E	C	B	F	A
d_A, Approach Delay [s/veh]	65.69		19.51		27.15	
Approach LOS	E		B		C	
d_I, Intersection Delay [s/veh]	30.82					
Intersection LOS	C					
Intersection V/C	0.969					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.592	3.245	3.277
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	444	1111	1111
d_b, Bicycle Delay [s]	27.29	8.89	8.89
l_b,int, Bicycle LOS Score for Intersection	3.342	3.092	2.481
Bicycle LOS	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 196: Bayfront Expy/Chrysler Drive

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.903

Intersection Setup

Name	Chrysler Drive		Bayfront Expy		Bayfront Expy	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	280.00	100.00	290.00	345.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Movement, Approach, & Intersection Results

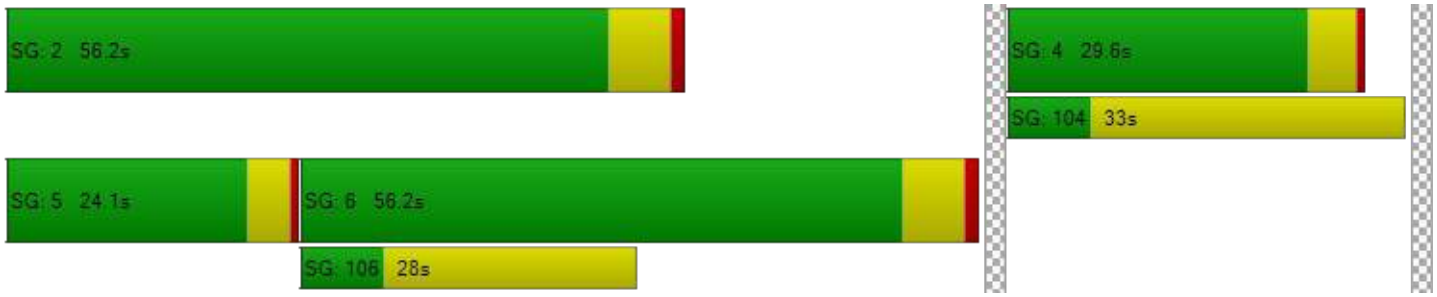
d_M, Delay for Movement [s/veh]	53.62	78.66	23.23	12.12	48.59	10.58
Movement LOS	D	E	C	B	D	B
d_A, Approach Delay [s/veh]	55.21		22.52		12.15	
Approach LOS	E		C		B	
d_I, Intersection Delay [s/veh]	26.81					
Intersection LOS	C					
Intersection V/C	0.903					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.462	3.791	3.538
Crosswalk LOS	B	D	D
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	1111	1111
d_b, Bicycle Delay [s]	23.47	8.90	8.89
l_b,int, Bicycle LOS Score for Intersection	3.838	3.068	2.588
Bicycle LOS	D	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 207: Chilco St/Constitution Dr

Control Type:	Signalized	Delay (sec / veh):	124.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.161

Intersection Setup

Name	Chilco Street			Chilco Street			Constitution Drive			Constitution Drive		
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	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	80.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	75.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

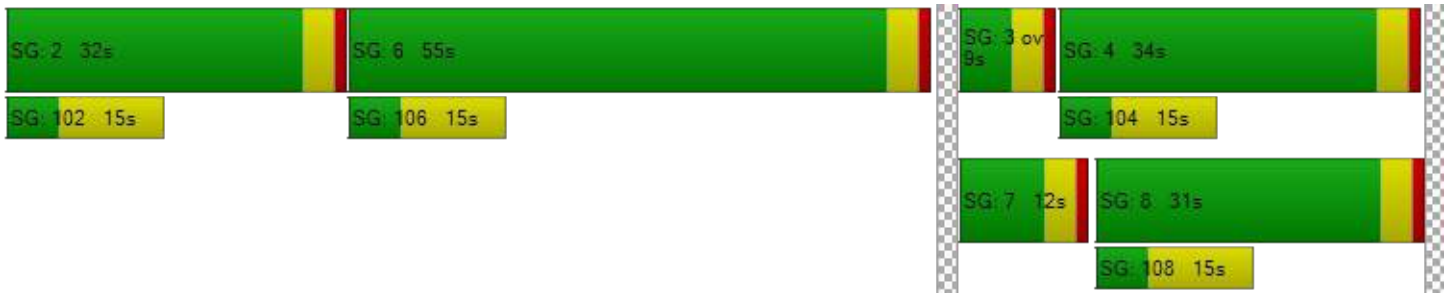
d_M, Delay for Movement [s/veh]	77.08	101.21	101.21	64.91	90.45	47.61	295.71	42.11	17.88	89.81	89.81	122.89
Movement LOS	E	F	F	E	F	D	F	D	B	F	F	F
d_A, Approach Delay [s/veh]	98.70			75.08			187.41			113.67		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	124.28											
Intersection LOS	F											
Intersection V/C	1.161											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
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]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	2.382	2.817	2.432	2.467
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	415	462	431	785
d_b, Bicycle Delay [s]	40.80	38.46	40.02	24.00
I_b,int, Bicycle LOS Score for Intersection	2.162	2.672	2.962	3.295
Bicycle LOS	B	B	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 213: Chrysler Dr/Independence Dr

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	Chrysler Drive									Independence Drive		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
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	1
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.85	9.85	9.85	9.16	9.16	9.16	20.97	20.97	20.97	9.61	9.61	6.77
Movement LOS	A	A	A	A	A	A	C	C	C	A	A	A
d_A, Approach Delay [s/veh]	9.85			9.16			20.97			9.05		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	9.60											
Intersection LOS	A											
Intersection V/C	0.352											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	1.886	2.036	1.729	2.189
Crosswalk LOS	A	B	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	933	333	467
d_b, Bicycle Delay [s]	12.80	12.80	31.25	26.45
I_b,int, Bicycle LOS Score for Intersection	1.933	1.799	1.593	2.228
Bicycle LOS	A	A	A	B

Sequence

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

Intersection Level Of Service Report
Intersection 214: Chrysler Dr/Jefferson Dr

Control Type:	Signalized	Delay (sec / veh):	114.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.877

Intersection Setup

Name			Chrysler Drive		Jefferson Drive	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.45	19.45	342.57	342.57	16.37	96.43
Movement LOS	B	B	F	F	B	F
d_A, Approach Delay [s/veh]	19.45		342.57		91.91	
Approach LOS	B		F		F	
d_I, Intersection Delay [s/veh]	114.83					
Intersection LOS	F					
Intersection V/C	1.877					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1093	1093	693
d_b, Bicycle Delay [s]	7.71	7.71	16.01
l_b,int, Bicycle LOS Score for Intersection	2.655	2.116	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 215: Chrysler Dr/Constitution Dr

Control Type:	Signalized	Delay (sec / veh):	122.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.125

Intersection Setup

Name	Chrysler Drive			Chrysler Drive			Constitution Drive			Constitution Drive		
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	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Movement, Approach, & Intersection Results

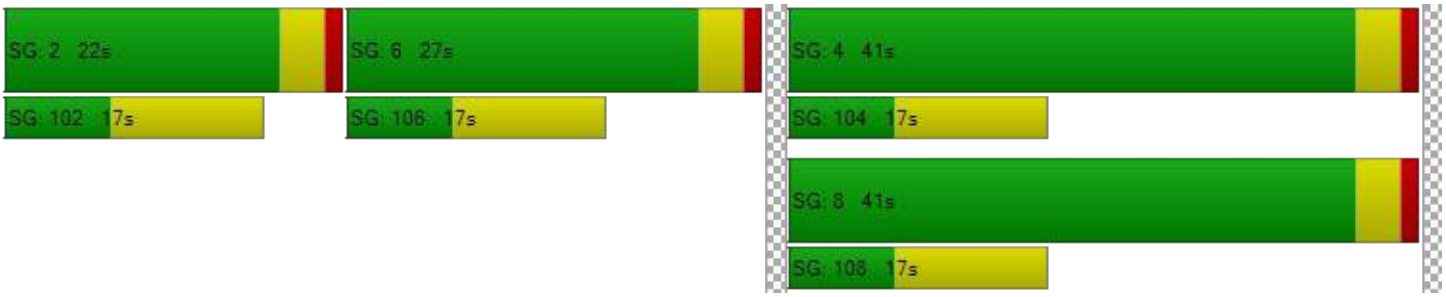
d_M, Delay for Movement [s/veh]	27.16	28.02	29.51	570.92	17.45	17.45	132.87	35.73	28.17	30.12	30.12	86.51
Movement LOS	C	C	C	F	B	B	F	D	C	C	C	F
d_A, Approach Delay [s/veh]	28.25			418.44			85.32			80.78		
Approach LOS	C			F			F			F		
d_I, Intersection Delay [s/veh]	122.48											
Intersection LOS	F											
Intersection V/C	1.125											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.324	2.624	2.369	2.777
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	822	822	511	400
d_b, Bicycle Delay [s]	15.61	15.61	24.94	28.80
l_b,int, Bicycle LOS Score for Intersection	2.339	2.320	3.081	2.079
Bicycle LOS	B	B	C	B

Sequence

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

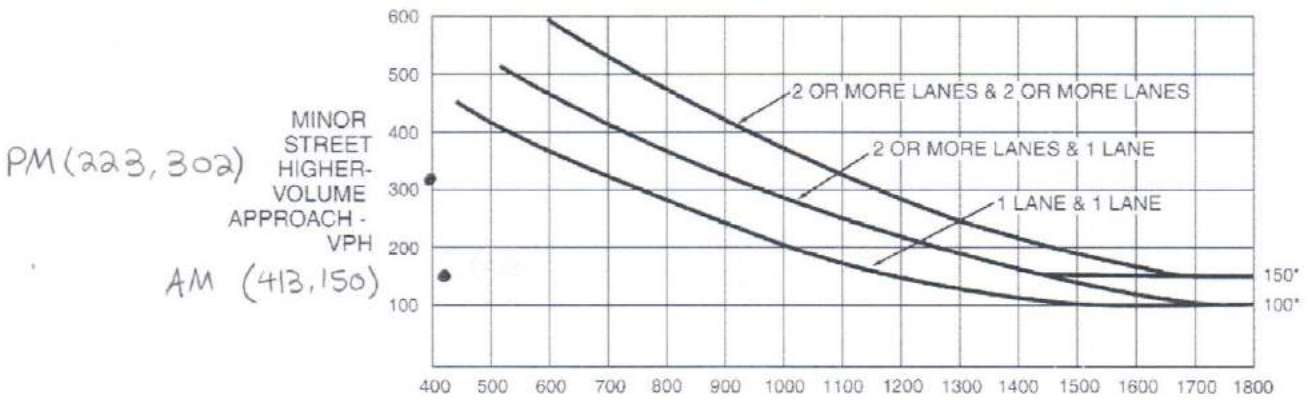


APPENDIX E

CALIFORNIA MUTCD SIGNAL WARRANT WORKSHEETS

Chrysler Dr/Independence Dr. Existing AM/PM

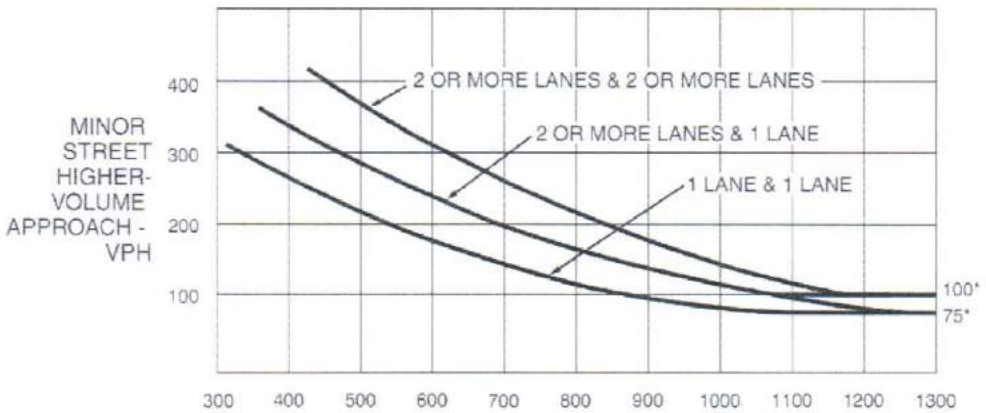
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

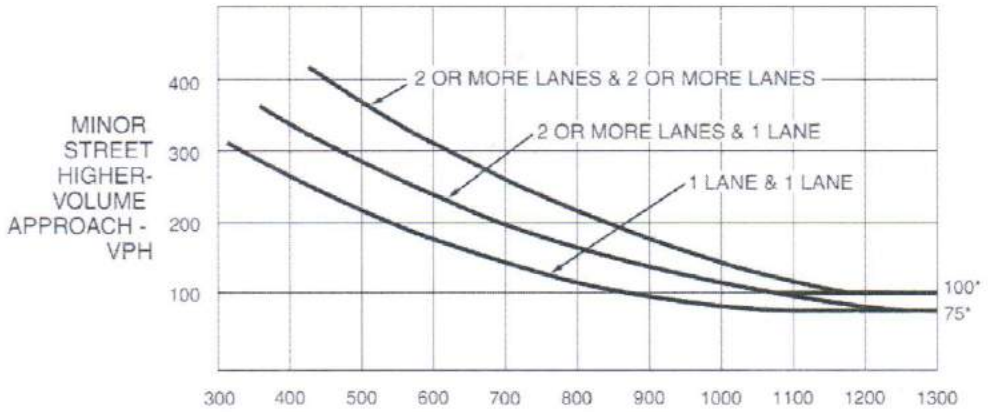
Chrysler Dr/Independance Dr Near_Term AM/PM

Figure 4C-3. Warrant 3, Peak Hour

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

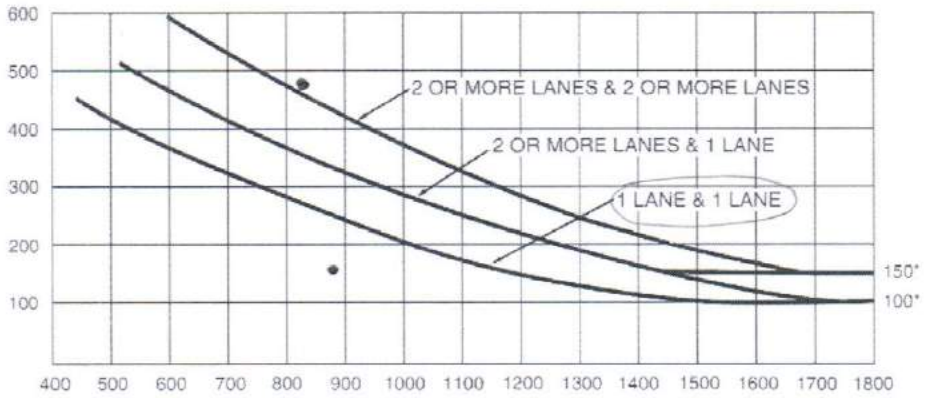
Chrysler Dr / Jefferson Dr

Cumulative AM/PM

Figure 4C-3. Warrant 3, Peak Hour

PM (827, 488)

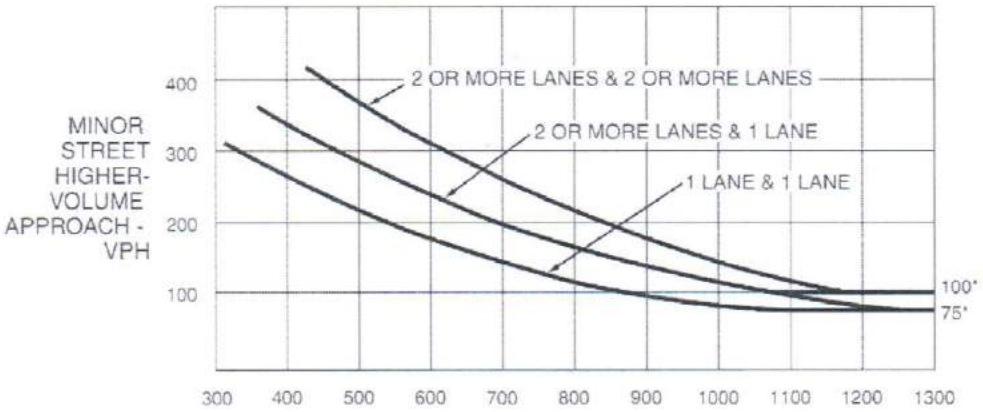
AM (889, 159)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

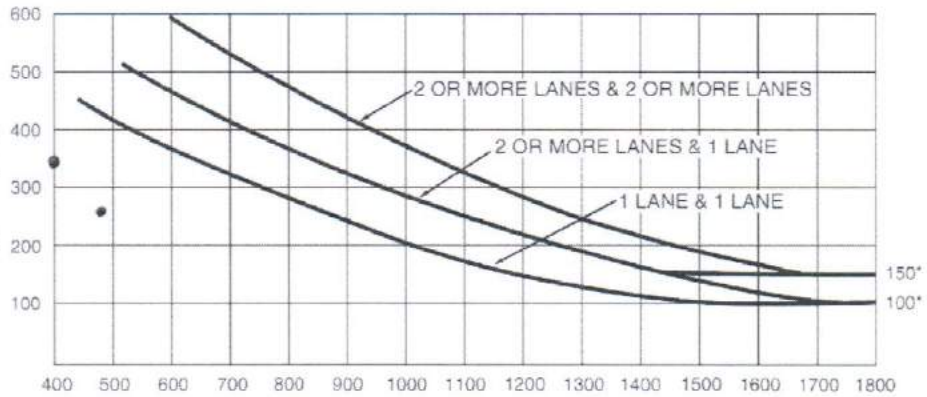


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Chrysler Dr/ Independence Dr Cumulative AM/PM

Figure 4C-3. Warrant 3, Peak Hour

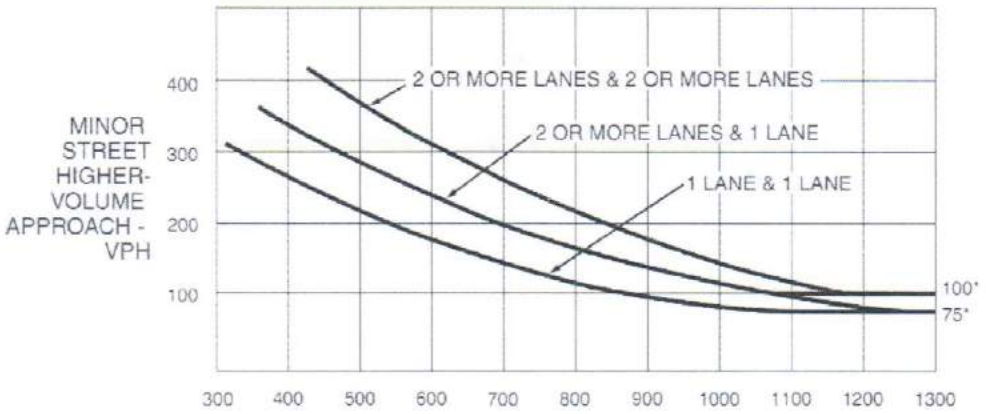
PM (303, 332)
AM(474, 265)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

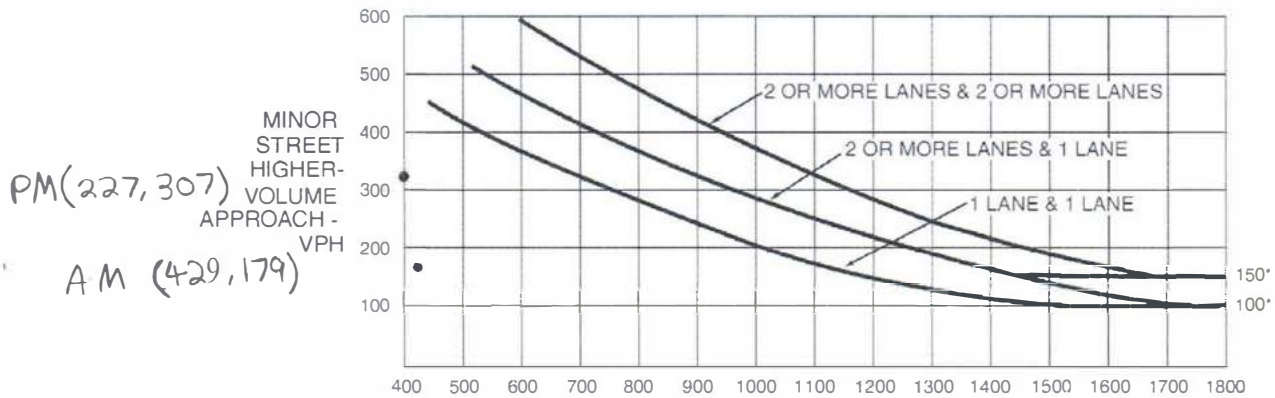
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Chrysler Dr/Independence Dr Near-Term plus Project AM/PM

Figure 4C-3. Warrant 3, Peak Hour



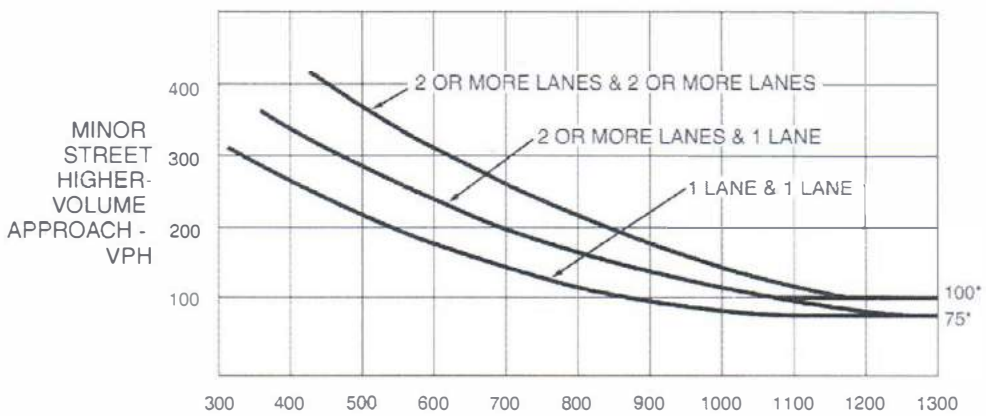
PM(227, 307)

AM (429, 179)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



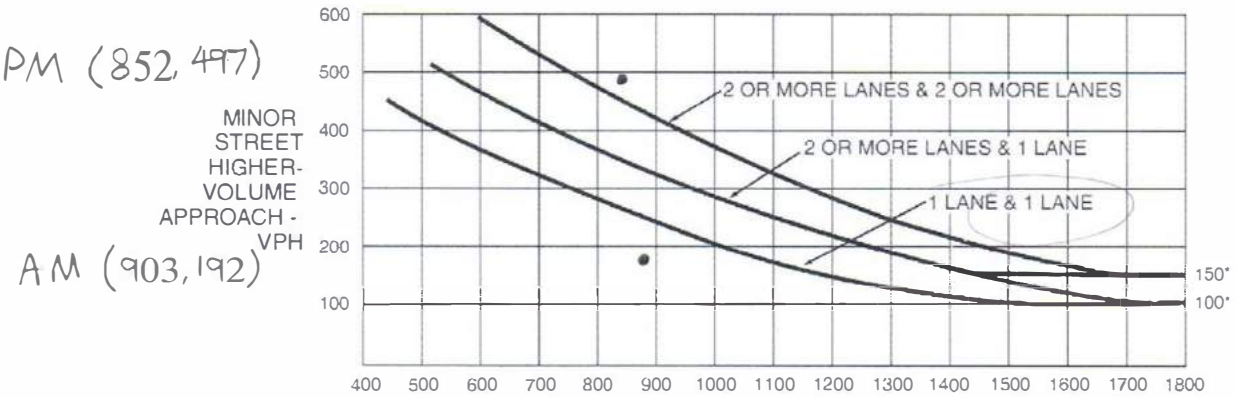
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Chrysler Dr / Jefferson Dr Cumulative Plus Project AM/PM

Figure 4C-3. Warrant 3, Peak Hour

PM (852, 497)

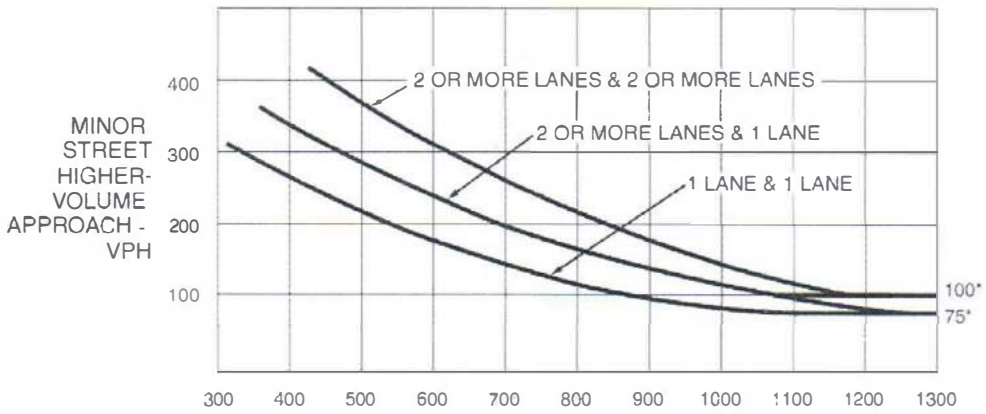
AM (903, 192)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

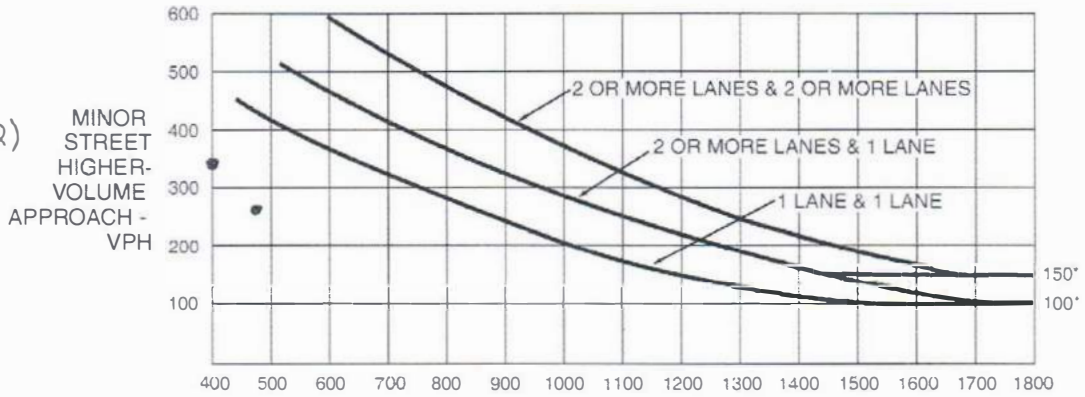


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Chrysler Dr / Independence Dr Cumulative Plus Project AM/PM

PM (304, 332)
AM(477, 265)

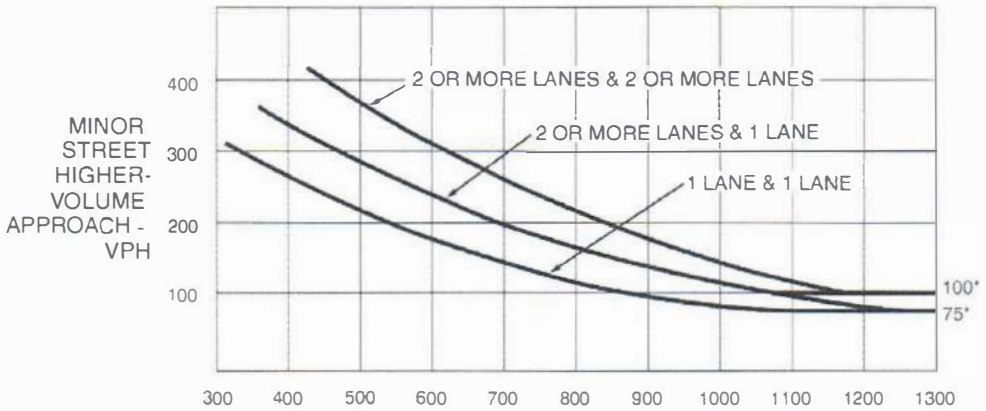
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

APPENDIX F

TRANSPORTATION DEMAND MANAGEMENT PLAN

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Menlo Flats Residential Development in Menlo Park

Transportation Demand Management (TDM) Plan

Prepared for:

Greystar GP II, LLC

June 15, 2020

Hexagon Transportation Consultants, Inc.
Hexagon Office: 4 North Second Street, Suite 400
San Jose, CA 95113
Hexagon Job Number: 20JL05
Phone: 408.971.6100
Document Name: Menlo Flats TDM Plan.docx

Table of Contents

List of Figures

1. Introduction

Transportation Demand Management (TDM) is a combination of services, incentives, facilities, and actions that reduce single-occupant vehicle (SOV) trips to help relieve traffic congestion, parking demand, and air pollution problems. The purpose of TDM is to promote more efficient utilization of existing transportation facilities, and to ensure that new developments are designed to maximize the potential for sustainable transportation usage. This Plan has been prepared for the proposed Menlo Flats residential development at 165 Jefferson Drive in Menlo Park, California. In order to propose effective and appropriate TDM measures, this Plan has been developed based on the project's size, location, and land use. This plan has been developed to satisfy Section 16.45.090 of the City of Menlo Park Municipal Code, which requires a TDM plan to be prepared with the goal of achieving at least a 20 percent reduction in PM peak hour trips. Given that the project is expected to add fewer than 100 peak hour trips, a C/CAG trip reduction analysis was not prepared.

Project Description

The project is located at 165 Jefferson Drive in Menlo Park, California (see Figure 1). The project would remove the existing office building that currently occupies the site and would construct multi-family dwelling units in an 8-story building. Vehicular access to the project site would be provided via one full access driveway on Jefferson Drive (see Figure 2).

The ground level of the project would include 3 secured bike storage rooms with spaces for 208 bicycles, and 3 bike racks that can hold 24 bicycles would be provided on the exterior of the building for short-term use. Onsite amenities including a pool, club room, indoor/outdoor roof terrace, bike repair shop, fitness center, and 14,000 to 15,000 square feet of commercial space on the ground floor and 2nd floor. A use for this space has not yet been determined, but could be a mix of retail, office, coworking, and more in order to foster a live/work/play environment.

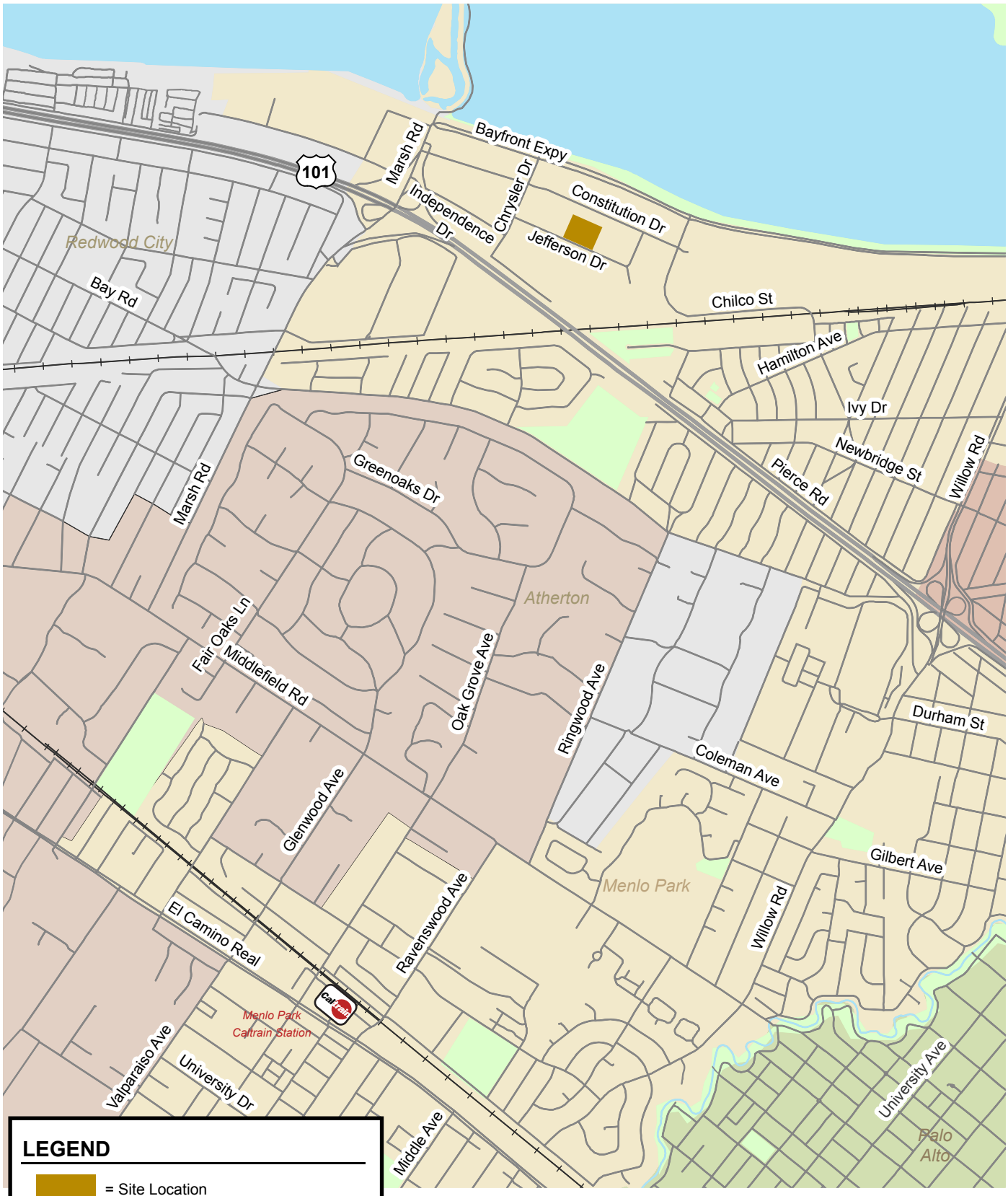


Figure 1
Site Location

NORTH
Not to Scale

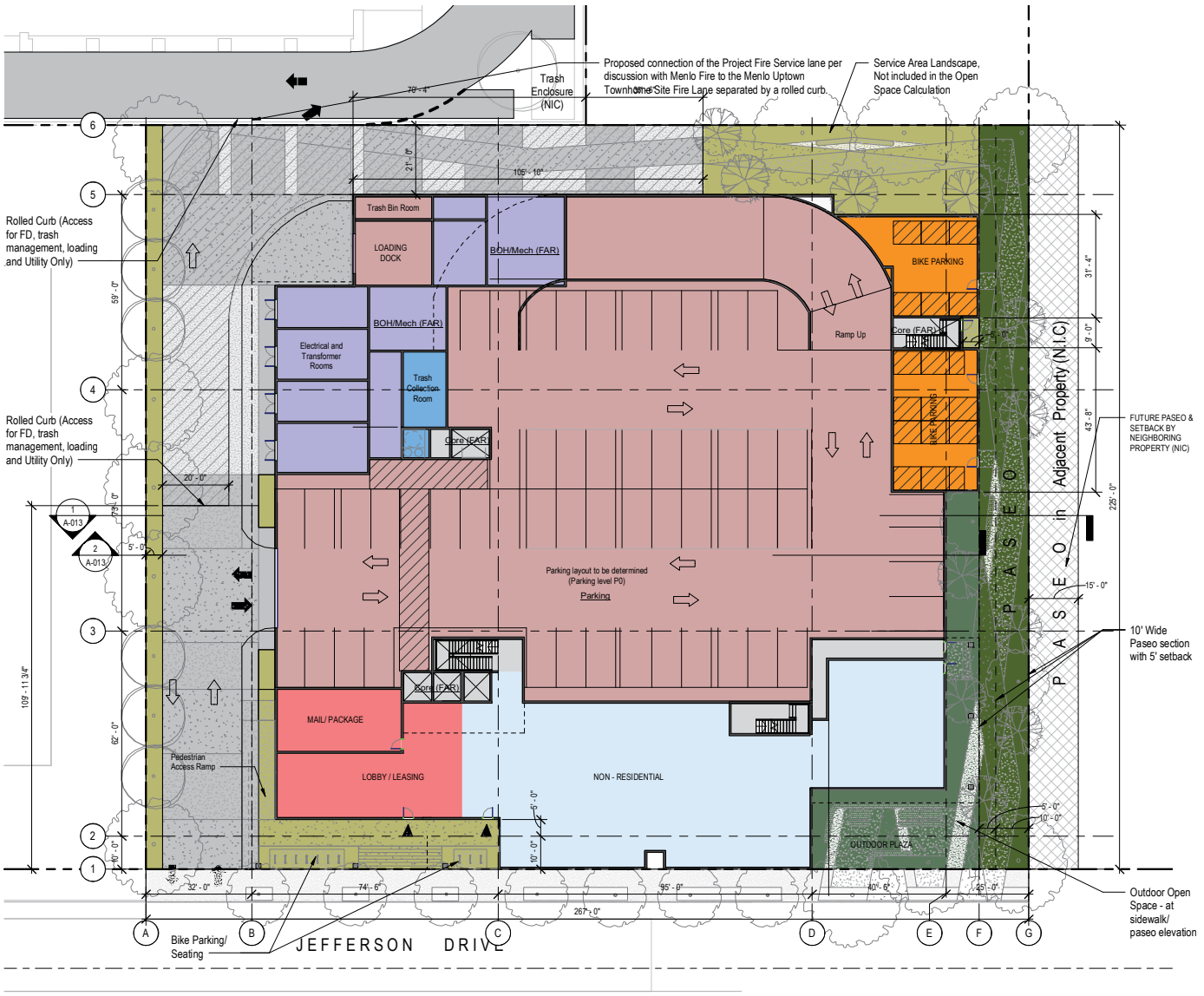


Figure 2
Site Plan

Menlo Park TDM Requirement for R-MU Residential Mixed-Use District

The City of Menlo Park requires that all new projects involving a change of use of 10,000 or more square feet of gross floor area in the Residential Mixed-use (R-MU) zoning district prepare TDM plans that will reduce vehicle trips by 20 percent from standard trip generation rates (Menlo Park Municipal Code Section 16.45.090). This plan has been prepared with the goal of achieving at least a 20 percent reduction in PM peak hour trips.

The trip generation rates published in the Institute of Transportation Engineers' (ITE) manual entitled *Trip Generation, 10th Edition (*2017) for Multifamily High-Rise Housing (Land Use 222) were used for this study. Multifamily High-Rise Housing includes housing developments between 7 to 10 floors. Before TDM reductions, the proposed project is estimated to generate a total of 703 daily trips with 49 trips during the AM peak hour and 57 trips during the PM peak hour.

As shown in Table 1, in order to meet the City's 20 percent reduction requirement, at least 11 PM peak hour trips would need to be eliminated through implementation of the various TDM measures. Stated conversely, the project would be required to generate no more than 46 PM peak hour trips.

Table 1
Trip Generation Estimates for the Menlo Flats Residential Project

		Daily		AM Peak Hour				PM Peak Hour			
		Trip		Trip	Trips			Trip	Trips		
Land Use	Size	Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Multifamily High-Rise Housing[1]	158 d.u.	4.45	703	0.31	12	37	49	0.36	35	22	57
20% Required TDM Reduction			(141)		(3)	(7)	(10)		(7)	(4)	(11)
Total Project Trips *(with TDM Trip Reduction)*			**562**		**9**	**30**	**39**		**28**	**18**	**46**

Notes:
[1] Average trip rates per dwelling unit (d.u.) for Multifamily High-Rise Housing (Land Use 222) are used from Institute of Transportation Engineers' *Trip Generation Manual, 10th Edition*, 2017.

Report Organization

The remainder of this report is divided into three chapters. Chapter 2 describes the transportation facilities and services near the apartment and office buildings. Chapter 3 presents the recommended TDM measures for the proposed project. Chapter 4 describes the program for implementing, monitoring, and reporting on the TDM plan.

2. Transportation Facilities and Services

Transportation facilities and services that support sustainable modes of transportation include commuter rail, buses and shuttle buses, high-occupancy vehicle (HOV) lanes, bicycle facilities, and pedestrian facilities. This chapter describes existing facilities and services near the project site that will support the TDM measures contained in this plan. The existing transit service in the project vicinity is described below and shown on Figure 3. Information on nearby roadways are also included in order to provide a more comprehensive description of the nearby transportation network.

Roadway Network

Regional access to the project site is provided via US 101 and State Route 84.

US 101 is an eight-lane freeway that is adjacent to the southern boundary of the project site. It extends north through San Francisco and south through Gilroy. In Menlo Park, US 101 is eight lanes wide, including two high-occupancy vehicle (HOV) lanes, one in each direction. US 101 provides access to the project site via a full-access interchange at Marsh Road.

State Route 84 is known as Bayfront Expressway in the vicinity of the project site. Bayfront Expressway extends from Marsh Road to the Dumbarton Bridge and provides access to the East Bay. Bayfront Expressway is a six-lane divided roadway and is paralleled by a Class I bicycle/pedestrian path.

Local access to the site is provided via Marsh Road, Chrysler Drive, Constitution Drive, Independence Drive, and Jefferson Drive. These roadways are described below and shown in Figure 1 in the previous chapter.

Marsh Road begins at Middlefield Road and extends to Bayfront Expressway. It is a four-lane divided arterial and includes a full interchange at US 101. There are existing sidewalks on both sides of the street on Marsh Road in the project vicinity. However, no bike facilities currently exist on Marsh Road. Access to the project site is provided via its intersection with Independence Drive.

Chrysler Drive is a two-lane local roadway that is perpendicular to Constitution Drive and Jefferson Drive. It extends from Commonwealth Drive to Bayfront Expressway (SR 84). There are sidewalks on both sides of Chrysler Drive except on the north side between Jefferson Drive and Bayfront Expressway. In addition, only a short road section in the eastbound direction between Constitution Drive and Bayfront Expressway has a Class II bike lane. Access to the project site is provided via its intersection with Jefferson Drive.

Constitution Drive is a two-lane local roadway. It begins at Marsh Road and terminates at Chilco Street. Constitution Drive has sidewalks on both sides except on the east side between Chrysler Drive and Chilco Street. There are existing Class II bike lanes on Constitution Drive between Independence Drive and Chilco Street. Access to the project site is provided via its intersection with Jefferson Drive.

Independence Drive is a two-lane local roadway that includes a sharp turn near its intersection with Marsh Road. A multipurpose trail is present on the west side of Independence Drive. There are existing Class III bike routes on Independence Drive. Access to the project site is provided via its intersection with Chrysler Drive.

Jefferson Drive is a two-lane local roadway that begins at Chrysler Drive and continues eastwards until it turns northward to end at Constitution Drive. On-street parking is provided along both sides of the entire street. Jefferson Drive provides direct access to the project site.

Caltrain Commuter Rail

Caltrain provides commuter rail service between San Francisco and San Jose, with limited service to Gilroy during commute hours. The closest Caltrain station to the project site is the Menlo Park Station, located on Merrill Street between Oak Grove Avenue and Ravenswood Avenue, near El Camino Real.

The Menlo Park Station is located 3.4 miles from the project site. This is a 15-20 minute bike ride. Also, the Marsh Road Shuttle (described below) currently offers free shuttle service between the project site and the Menlo Park Caltrain Station with timed connections to trains during the commute peak periods.

Marsh Road Shuttle

Primary access to the project site from the Menlo Park Caltrain station is provided by the Marsh Road Shuttle, which is a free shuttle service with timed connections to many of the AM and PM peak period trains in both the northbound and southbound directions. The shuttle operates in a loop through the Marsh Road business park. The closest stop is at 180 Jefferson Drive which is 530 feet from the project site. Based on the schedule, the shuttle takes 17 to 23 minutes to travel from the Caltrain station to the stop at 180 Jefferson Drive. In the afternoon, because the project site is one of the first stops in the loop, the shuttle takes 32 minutes to travel from the stop to the Caltrain station.

The Marsh Road Shuttle is funded jointly by the City of Menlo Park, the Bay Area Air Quality Management District (BAAQMD), the Peninsula Corridor Joint Powers Board (Caltrain), the San Mateo County Transportation Authority, and local employers. The shuttle is free and open to everyone.

If the project were to achieve a 20 percent trip reduction, estimated maximums of 10 AM and 11 PM peak hour trips would be made by transit or bicycle modes of transportation. It is anticipated that the service provided by the Marsh Road Shuttle would be able to accommodate the additional riders generated by the proposed project.

SamTrans Bus Service

SamTrans Route 270, the Redwood City Loop, provides service to the Marsh Road/Bayfront Expressway office area. A bus stop is located on Haven Avenue near Marsh Road, approximately 0.8 miles from the project site. Route 270 operates in a loop between the Redwood City Caltrain Station, Redwood Plaza/City Hall, Kaiser Hospital, southbound along Broadway and Bay Road, across US 101 to the Marsh Road business park area, northbound along Bayshore Road, back across US 101 on Maple Street, and then returning to the Redwood City Caltrain Station. Route 270 operates with 60-minute headways on weekdays and Saturdays.

HOV Lanes

High-Occupancy Vehicle (HOV) lanes, also known as diamond or carpool lanes, restrict use to vehicles with two or more occupants (carpool, vanpool, and buses), motorcycles, and ILEVs (subcategory of clean-fuel vehicles that have essentially no fuel vapor emissions) during the morning (5:00 to 9:00 AM) and evening (3:00 to 7:00 PM) commute periods. HOV lanes are present on US 101 within the City of Menlo Park.

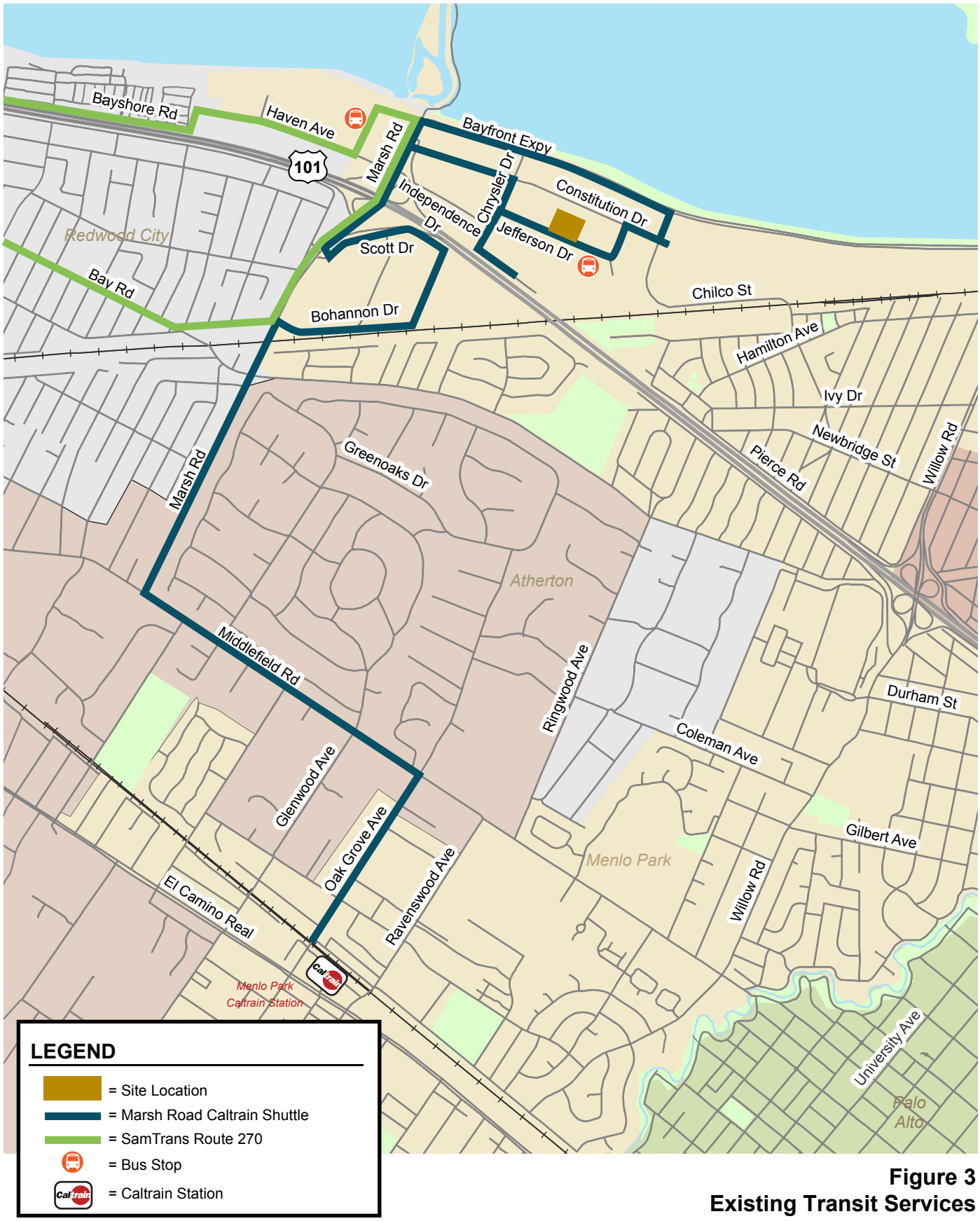


Figure 3
Existing Transit Services

NORTH
Not to Scale

Bicycle Facilities

Bicycle facilities are an important component of the City of Menlo Park's transportation network. The City's bikeways are classified as Class I, Class II, or Class III facilities, as follows:

- Class I Bicycle Path – bike paths within exclusive right-of-way, sometimes shared with pedestrians
- Class II Bicycle Lane – bike lanes for bicycle use only that are striped within the paved area of roadways
- Class III Bicycle Route – bike routes are shared with motor vehicles on the street. Class III bikeways may also be defined by a wide curb lane and/or use of a shared use arrow stencil marking on the pavement, known as a "sharrow"

Existing and future bicycle facilities near the project site are shown on Figure 4. Currently, there are Class II bike lanes on Constitution Drive, Chilco Street, and northbound Chrysler Drive between Constitution Drive and Bayfront Exprssway. The Chilco Street bike lane is a separated bike path in the northbound direction, between Constitution Drive and north of Terminal Avenue. The bike facilities lead to the Belle Haven neighborhood and a bike/pedestrian overcrossing over US 101 at Ringwood Avenue. On the west side of US 101, a bike lane on Ringwood Avenue, south of Bay Road, provides connections to many other bike lanes throughout the City and to the Menlo Park Caltrain Station. In addition, there is a Class I bike trail in the project vicinity next to Bayfront Expressway that begins in Bayfront Park and extends across the Dumbarton Bridge. There is also a Class III bike route on Independence Drive.

The following improvements to the City's bicycle facilities have been proposed in its Comprehensive Bicycle Development Plan:

- Class II bike lanes are planned for Marsh Road, which would connect to the existing bike path next to Bayfront Expressway. Class II bike lanes are also planned for Constitution Drive between Independence Drive and Chrysler Drive, which would connect to the existing bike lane on Constitution Drive, east of Chrysler Drive. These proposed bike lanes would allow bicyclists to cross US 101 safely and access the bikeway network on the west side of the freeway.
- A Class I Connector Path is planned for Independence Drive, which would connect the planned Class II bike lanes on Marsh Road and the planned Class II bike lanes on Constitution Drive. Because Independence Drive is one-way in the southbound direction off Marsh, a Class I off-street connection would allow bicyclists to travel counter-flow to traffic on this short one-way roadway segment. This bike path would provide bicyclists from the project site with safer access to the proposed bike lanes on Marsh Road.
- A new bicycle and pedestrian bridge over the Atherton Channel is planned to extend the bike lanes and sidewalks on Haven Avenue to Marsh Road, as part of the Haven Avenue Streetscape Project. The Haven Avenue Streetscape Project connects Menlo Park, San Mateo County, and Redwood City residents and employees.

The Marsh Road bike lanes and Independence Drive Connector Path are identified as long-term projects. The Marsh Road bike lanes are also identified as proposed improvements in the San Mateo County Comprehensive Bicycle and Pedestrian Plan. It is not known when these two proposed improvements will be constructed.

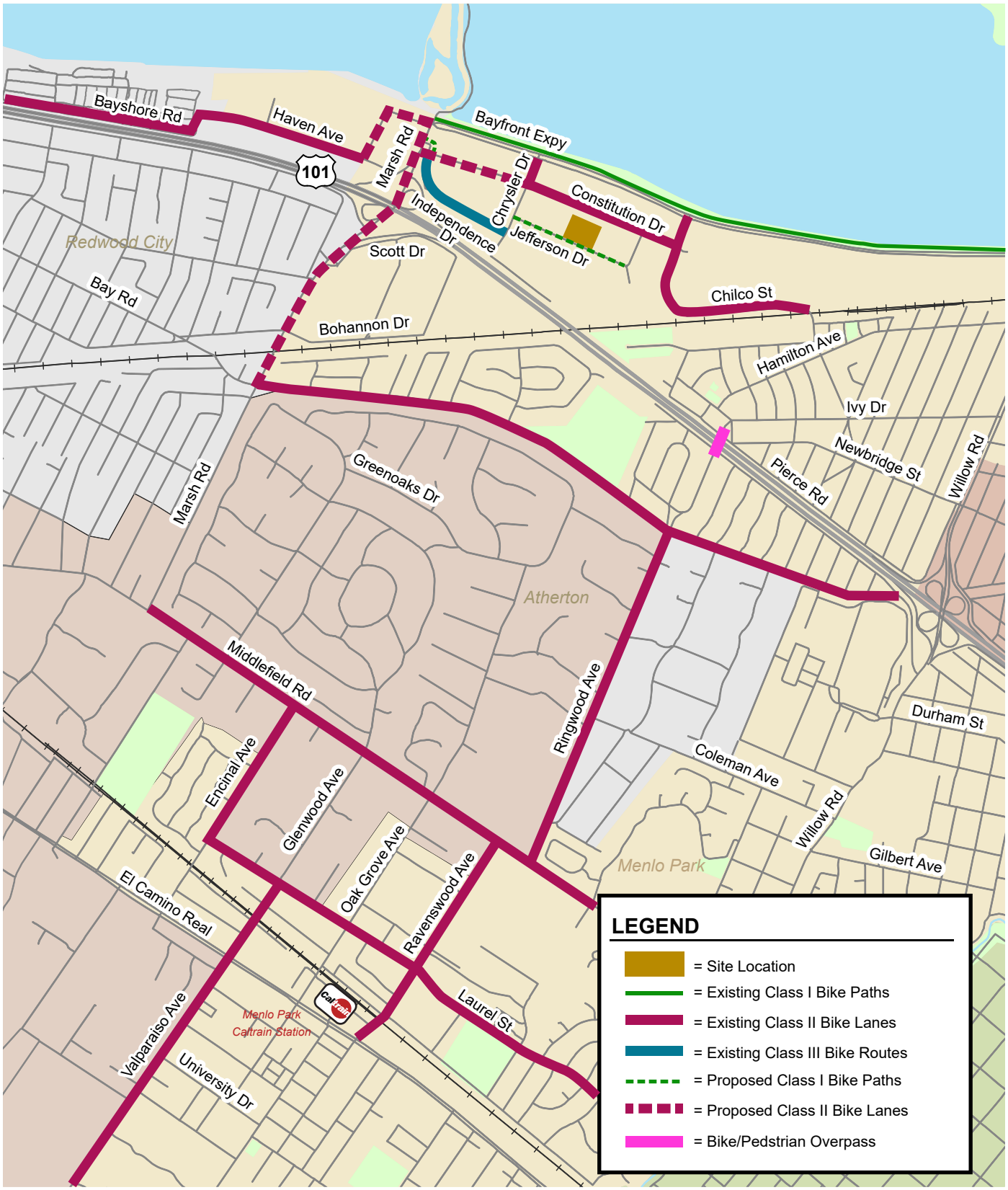


Figure 4
Existing and Proposed Bicycle Facilities

NORTH
Not to Scale

Pedestrian Facilities

A majority of the streets in the project vicinity have sidewalks, except the following street sections:

- North side of Constitution Drive between Chrysler Drive and Chilco Street.
- North side of Jefferson Drive and Independence Drive.
- West side of Chrysler Drive between Bayfront Expressway and Jefferson Drive.
- West side of Chilco Street.

As the adjacent land parcels redevelop, new sidewalks are planned for the street frontages, which will improve pedestrian facilities in the vicinity of the project. The project would help complete the missing sidewalks on Jefferson Drive along the project frontage.

As described in the preceding section on bicycle facilities, the Haven Avenue Streetscape Project also includes pedestrian crossing improvements to the Marsh Road-Haven Avenue-Bayfront Expressway intersection, which will improve the overall pedestrian network in the area east of US 101. The improvements include widened sidewalks, replacement of curb ramps to comply with current ADA standards, realigning the existing crosswalk on the northwest (Haven Avenue) leg of the intersection, and improving the existing median to provide a crossing refuge island.

3. Recommended TDM Measures

This chapter describes Transportation Demand Management (TDM) measures that are applicable to the proposed project.

This plan has been developed to meet the 20 percent trip reduction requirement set forth in Sec.16.45.090 of the Menlo Park municipal code [1] for the residential mixed-use zoning district.

The TDM measures recommended to be implemented by the project include services, incentives, actions, and planning and design measures related to the attributes of the site design and site amenities. Such design measures encourage walking, biking, use of transit, and internalization of trips. Some of the recommended TDM measures are programs that would be created and implemented by the building manager.

Because the project would generate more trips in the PM peak hour than the AM peak hour, the PM peak-hour estimate of trips is used to determine the number of trip credits required. The project would generate 57 PM peak-hour trips, so in order to meet the City's 20 percent reduction requirement, at least 11 PM peak hour trips would need to be eliminated through implementation of the various TDM measures.

TDM Administration and Promotion

Transportation Coordinator

A Transportation Coordinator should be assigned to provide information regarding alternative modes of transportation to residents of the project. The Transportation Coordinator should be designated by the building developer, the property manager, or any subsequent building owner.

The Transportation Coordinator's responsibilities will include updating information on the online information board/kiosk, providing trip planning assistance and/or ride-matching assistance to residents who are considering an alternative mode for their commute, and managing the annual surveys. The Transportation Coordinator should maintain a supply of up-to-date transit schedules and route maps for SamTrans and Caltrain and be knowledgeable enough to answer residents' TDM program-related questions. The Transportation Coordinator should distribute a carpool/vanpool

[1] City of Menlo Park Municipal Code, Section 16.45.090, "Transportation demand management." Adopted December 6, 2016.

matching application to all residents as part of the New Resident Information packets. The application will match residents who live at the project site who may be able to carpool or vanpool together.

Online Transportation Kiosk

This TDM plan recommends establishing an "online kiosk" with transportation information that residents could access from their smart phones, their homes, or anywhere else. This online kiosk can be available on the project website.

By allowing someone to have all the information about transportation alternatives and TDM programs available to them in a single online location, people will be more likely to refer to this information from home. The project developer or property manager should have responsibility for setting up and maintaining this online information center. This website should include the site-specific information about all the measures, services, and facilities discussed in this plan. In addition, this online information center should include:

- A summary of SamTrans, Caltrain, and nearby shuttle services and links to further information about their routes and schedules.
- Information about ride matching services (511.org and on-site ride matching) and the incentive programs available to carpools and vanpools.
- Information about services such as Uber, Lyft, and other on-demand transportation services will also be included.
- A local bikeways map and bicycling resources on 511.org.
- A link to the many other resources available in the Bay Area, such as Dadnab, the 511 Carpool Calculator, the 511 Transit Trip Planner, real-time traffic conditions, etc.

Resident Orientation (Welcome) Packet

New residents should be provided transportation information packets. This packet should include information about transit maps/schedules (Caltrain, SamTrans, and shuttle services), location of bus stops, bike maps, ride matching services, transit planning resources, and bicycle parking on site. Also included in the packet should be information regarding how to contact the Transportation Coordinator, who can provide information regarding alternative modes of transportation to residents.

The resident orientation (welcome) packet should provide a quick, easy-to-read announcement of the most important features of the TDM program for residents to know about immediately and a message that the building values alternative modes of transportation and takes their commitment to supporting alternative transportation options seriously. For example, it would include a flyer announcing some highlights of the TDM program and where to find more information online.

Bicycle and Pedestrian Amenities

Bicycle Parking

Providing secure bicycle parking encourages bicycle commuting and reduces daily bicycle trips. A total of 24 short-term bicycle spaces will be provided at convenient and well-lit locations near the entrance of the project site and the outdoor plaza. In addition, a total of 208 long-term bicycle spaces will be provided in a secured bike storage room on the ground level of the project site.

The Transportation Coordinator should monitor the usage of the bicycle parking facilities and should also tabulate the mode share for bicycles based on survey results. Additional bicycle parking could be provided if and when it is warranted by demand.

Bicycle Resources

The following resources are available to bicycle commuters through 511.org. These resources should be noted on the project's online information center, in order to make residents aware of them.

- Free Bike Buddy matching
- Bicycle maps
- Bicycle safety tips
- Information about taking bikes on public transit
- Location and use of bike parking at transit stations
- Information on Bike to Work Day
- Tips on selecting a bike, commute gear, and clothing
- Links to bicycle organizations

In addition, the apartment building will have its own bicycle repair shop adjacent to the bicycle storage room located at the ground level, providing convenient bicycle maintenance services to residents. This service will encourage bicycle usage thereby reducing vehicle trips generated by the project.

Pedestrian Design Elements

The project will provide enhanced pedestrian facilities on Jefferson Drive and a paseo between the project site and a future paseo by the neighboring property. New sidewalks landscaped with street trees will be provided along the project's frontages.

Onsite, clearly defined walkways and a central pedestrian plaza will be incorporated between the apartment units to enable residents to walk between the buildings to the building's amenities. These walkways also will provide safe, well-lit, accessible, and convenient access to sidewalks on Jefferson Drive, as well as convenient access to the shuttle stop on Jefferson Drive.

Passenger Loading for Rideshare Vehicles

Providing convenient passenger loading zones near the entrance of the building would encourage residents and guests to utilize rideshare services/programs (e.g., Uber, Lyft, Scoop, Waze Carpool, etc.) and reduce parking demand. Therefore, the property owner should designate curbside passenger loading zones on Jefferson Drive near the building entrance.

Onsite Amenities

Commercial and Fitness Centers

The project will include a commercial center up to 15,000 square feet and a fitness center on the ground and second levels. The commercial center could include a mix of retail, office, and co-working centers. These amenities will encourage residents to stay on site during the workday, reducing the number of trips that are required to be made.

Electric Vehicle Charging Stations

The project will include a total of 176 parking spaces, of which 26 spaces will be equipped with electric vehicle charging stations. While EV charging station parking spaces will not directly reduce any peak-hour trips, the designated Clean Air Vehicle spaces provide a prominent visual message that the project values a reduction in air pollution.

High-Bandwidth Internet Connection

The residential units will include high-bandwidth internet connections to facilitate telecommunicating. Access to high-bandwidth internet connection will allow residents to work from home and therefore reduce the number of commute trips to and from project site.

Refrigerated Mail Area

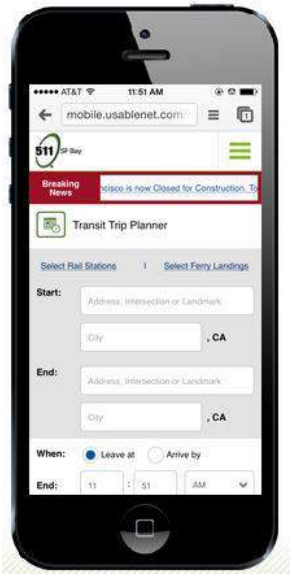
The project will include refrigerated mail areas to faciliate the delivery of groceries, which will allow residents to place their orders from home and therefore reduce the number of shopping trips to and from the project site.

Stockwell Vending Machine

The project will include Stockwell vending machines, which are fully managed by the Stockwell company for deliveries and customer service. Customers would download the app to shop the machine and payment would be electronic through the app. This allows residents to easily shop for smaller household necessities and snacks without having to make a trip to and from the project site.

Carpool and Vanpool Programs

On-Site Ride Matching Assistance



The Transportation Coordinator should distribute a carpool/vanpool matching application to all residents as part of the welcome packets. The application should match residents who work in the same area who may be able to carpool or vanpool together. Some residents who may be reluctant to reach out to find carpool partners via the 511 RideMatch service may be more likely to fill out a form that will be administered by their Transportation Coordinator. Furthermore, residents may be more likely to try ridesharing with a neighbor than with an unknown person who lives nearby.

511 Ride Matching Assistance

511 RideMatch

The 511 RideMatch service provides an interactive, on-demand system that helps commuters find carpools, vanpools or bicycle partners. The Transportation Coordinator in conjunction with the future building manager contacts, will promote the on-line 511 service to residents. This free car and vanpool ride matching service helps commuters find others with similar routes and travel patterns with whom they may share a ride. Registered users are provided with a list of other commuters near their employment or residential ZIP code along with the closest cross street, email, phone number, and hours they are available to commute to and from work. Participants are then able to select and contact others with whom they wish to commute. The service also provides a list of existing car and vanpools in their residential area that may have vacancies.

Scoop

Scoop offers a fee-based ride matching service through an easy-to-use app. Scoop allows commuters to separate their AM and PM trips, to help accommodate unpredictable work schedules. Scoop also lets users schedule a trip as a driver or passenger, depending on their daily needs. Scoop identifies carpoolers who are heading the same direction and finds the most efficient carpool trip based on fastest route, nearby carpoolers, carpool lanes, and other factors. Payment for each trip is made through the app.

Ride matching assistance is also available through a number of peer-to-peer matching programs, such as Zimride, which utilize social networks to match commuters.

Carpool/Vanpool Incentives

Scoop Discounts for San Mateo County Carpools

C/CAG has developed the "Carpool in San Mateo County!" program, which provides a $2 incentive per person for each trip that begins or ends in San Mateo County. Drivers and riders can earn up to $4 per day when using the Scoop app to carpool. Drivers and riders using Scoop will automatically receive the $2 incentive per person during commute periods (5:30 a.m. – 10:00 a.m. and 3:30 p.m. – 8:00 p.m.), with a maximum of $4 per rider and driver each day.

The Star Store

The Peninsula Traffic Congestion Relief Alliance has established a program called the Star Store. Residents and commuters who travel to, from, or through San Mateo County can earn points by logging their commutes in the STAR platform. Every day that someone commutes by an alternative to driving alone, they earn a point. Users collect points and then redeem them for rewards.

First Five Rides Free on 511

Currently, the 511 Carpool Program is offering new riders on carpool apps Scoop or Waze Carpool five free rides. Users can download the apps, set up an account, enter their schedule and get their first five rides free.

Vanpool Formation Incentive

The 511 Regional Rideshare Program provides up to $500 in gas cards to new vanpools that meet certain eligibility requirements and complete three to six consecutive months of operation.

Vanpool Seat Subsidy

The 511 Regional Rideshare Program also offers a vanpool seat subsidy in the form of gas cards. The seat subsidy will provide $100 per month, with a limit of three months per van during the program year, to help cover the fare of a lost participant. The gas cards will be offered to eligible vans on a first-come, first-served basis until the funds are exhausted.

Vanpool Participant Rebates

The Peninsula Traffic Congestion Relief Alliance also offers an incentive to commuters to try vanpooling. The Alliance will pay half of the cost of a new vanpool participant's seat, up to $100 per month, for the first three months in the van. New vanpools that operate for at least six months can receive a one-time rebate of $500, paid to the vanpool driver (rotating drivers may share the bonus).

Unbundling of Onsite Residential Parking

To further encourage non-auto transportation methods and to reduce costs for residents, onsite residential parking will be unbundled from each living unit. This will allow patrons without cars to rent a unit without having to pay for a parking spot. Parking spaces will be added to leases only for residents who desire parking. Unbundling of parking encourages residents to forego a second car or to have no car at all. Carshare would be an additional potential measure, as described below, in the case that the 20% reduction is not achieved.

4. TDM Implementation, Monitoring, and Reporting

This chapter outlines the implementation, monitoring, and reporting of the Menlo Flats Residential Development TDM Plan.

Annual Commute Surveys

The purpose of the TDM Plan is to reduce PM peak-hour vehicle trips by at least 20 percent, thereby lessening parking issues, traffic congestion, and vehicle emissions associated with the proposed project. Regular monitoring will ensure that the implemented TDM measures are effective and achieve that standard. The program should be evaluated annually to assess the actual level of trip reduction achieved at the site and to identify any adjustments to the program necessary to ensure the TDM measures are successful.

Annual commute surveys should be administered by the transportation coordinator to measure the number of residents commuting by alternative modes and whether they are aware of the services and programs that are available to them. Residents who do not respond to the survey will be assumed to be driving alone. In addition to obtaining quantitative data on the mode split, the survey should provide qualitative data regarding resident perceptions of the alternative transportation programs. The survey results will measure the relative effectiveness of individual program components relative to other components and facilitate the design of possible program enhancements. Along with collecting information on mode split, the survey can gather information on use of the bike storage, use of the online kiosk, and walking trips made to nearby retail, restaurant, and entertainment uses. The transportation coordinator should be responsible for administering the survey, compiling the results, and communicating the results to the City.

Annual Driveway Counts

In order to evaluate whether or not the project has met the 20 percent peak-hour trip reduction requirement, annual driveway counts should be conducted. A count of the number of vehicles entering and exiting the project's driveways on a typical weekday during the PM peak period should be conducted annually by an independent third party to determine the number of vehicle trips being generated by the project. The counts should be conducted at the site's driveway on a weekday that is not disclosed in advance. All vehicles entering and exiting the project driveway on Jefferson Drive during the PM peak period (4:00 – 7:00 PM) should be counted, and the peak-hour volume should be identified.

The driveway counts should be used to determine the actual PM peak-hour trip generation of the project. The Transportation Coordinator should provide the results of the driveway counts to the City of Menlo Park, along with a statement as to whether the 20 percent PM peak-hour trip reduction goal was met.

Annual Reporting to City

The ordinance regarding the TDM requirement for the residential mixed-use district states that the required trip reduction will be achieved "over the life of the development, as evidenced by annual reporting provided to the satisfaction of the City's Transportation Manager." The Transportation Coordinator should submit to the City of Menlo Park annual documentation to substantiate implementation of the TDM plan elements, the results of the resident survey, and the results of the driveway counts. If the 20 percent peak-hour trip reduction requirement has not been met, then the report should state what additional measures will be implemented in the coming year in order to achieve the City's requirement.

Additional TDM Measures

If the results of the driveway count indicate that there are more than 46 PM peak-hour trips at the site, then additional TDM measures need to be implemented in order to ensure that the 20 percent trip reduction requirement is met. The following measures are presented as potential supplemental measures. However, if the results of the surveys suggest other measures may be effective, then the measures considered most likely to further reduce single-occupant vehicle trips should be selected for implementation. Additional TDM measures should be implemented until the 20 percent trip reduction requirement has been met, as documented by driveway counts.

Car Sharing

One of the major impediments to foregoing ownership of a permanent car is the need for residents to make longer trips and for use in emergencies. Car sharing programs provide individuals with access to a vehicle whenever they need it, so they do not need to own a car. A carsharing service (e.g., Zipcar or equivalent) could be established at the project site or nearby. Having Zipcars located within the parking garage or nearby would provide quick and easy access to these cars for all residents onsite who use an alternative mode for their commute.

Bike Sharing

Bike sharing is a program that provides a network of self-service bikes for people to use for quick trips, such as the “last mile” between a transit stop and the user’s workplace or for errands. Some bike sharing programs, such as the Ford GoBike program, supply bikes at docks or stations, and users must pick up and return their bikes to those docks. Other programs, such as LimeBike, allow users to locate a bike from a mobile app and do not use docks or stations. The user pays for the use of the bike by paying on a per trip, per day, or annual membership basis. There are no bike sharing companies operating in the project vicinity at this time. Currently, the closest bike sharing program is located in the Menlo Business Park located approximately 2 miles east of the project site.

It is also important to note that the presence of bike sharing services in other Bay Area communities can help support alternative mode use by Menlo Park residents. For example, a project resident could take transit to San Francisco, San Mateo, Mountain View, or San Jose, where bike sharing services currently operate, and then use a shared bike to go the “last mile” to their destination.

APPENDIX G

NCHRP 684 INTERNAL TRIP CAPTURE ESTIMATION TOOL OUTPUTS

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Menlo Flats	**Organization:**	
Project Location:		**Performed By:**	
Scenario Description:		**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				39	34	5
Retail				0		
Restaurant				162	83	79
Cinema/Entertainment				0		
Residential				57	14	43
Hotel				0		
All Other Land Uses[2]				0		
				258	131	127

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	3	0	0	0
Retail	0		0	0	0	0
Restaurant	5	0		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	0	9	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	258	131	127
Internal Capture Percentage	15%	15%	15%
External Vehicle-Trips[5]	220	112	108
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	18%	60%
Retail	N/A	N/A
Restaurant	14%	8%
Cinema/Entertainment	N/A	N/A
Residential	7%	23%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Menlo Flats	**Organization:**	
Project Location:		**Performed By:**	
Scenario Description:		**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				17	3	14
Retail				0		
Restaurant				58	29	29
Cinema/Entertainment				0		
Residential				70	43	27
Hotel				0		
All Other Land Uses[2]				0		
				145	75	70

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	1	0	0	0
Retail	0		0	0	0	0
Restaurant	1	0		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	0	4	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	145	75	70
Internal Capture Percentage	17%	16%	17%
External Vehicle-Trips[5]	121	63	58
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	67%	7%
Retail	N/A	N/A
Restaurant	17%	21%
Cinema/Entertainment	N/A	N/A
Residential	12%	19%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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