HEXAGON TRANSPORTATION CONSULTANTS, INC.

340 Portage Avenue Research and Development

Transportation Demand Management Plan

Prepared for:

City of Palo Alto on Behalf of The Sobrato Organization

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1. Introduction

This transportation demand management (TDM) plan has been prepared for the research and development project located at 340 Portage Avenue in Palo Alto, California. 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 this TDM plan is to propose effective and appropriate TDM measures that would satisfy the City's requirement of a 15 percent reduction in vehicle trips.

Project Description

The project site is located on Portage Avenue between El Camino Real and Park Boulevard (see Figure 1). The project is an existing building that would be occupied with 143,000 square feet of research and development space. The project would provide 405 parking spaces and 48 bicycle parking spaces allocated to the building on site. The project site plan is shown on Figure 2.

Project Trip Generation and Trip Reduction Target

Trip generation resulting from the development is estimated using the trip rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual 11th Edition* (2021). Trips that would be generated by the proposed project were estimated using the ITE trip rates for "Research and Development Center" (Land Use Code 760). The ITE *Trip Generation Manual* describes Research and Development Center as a facility or group of facilities devoted almost exclusively to research and development activities, and are typically used for projects such as this that include a combination of office and labortory space.

Based on the published trip rates, the project is expected to generate 147 trips during the AM peak hour and 140 trips during the PM peak hour (see Table 1). With the required minimum 15 percent trip reduction through TDM, the vehicle trips generated by the project should not exceed 125 trips during the AM peak hour and 119 trips during the PM peak hour.

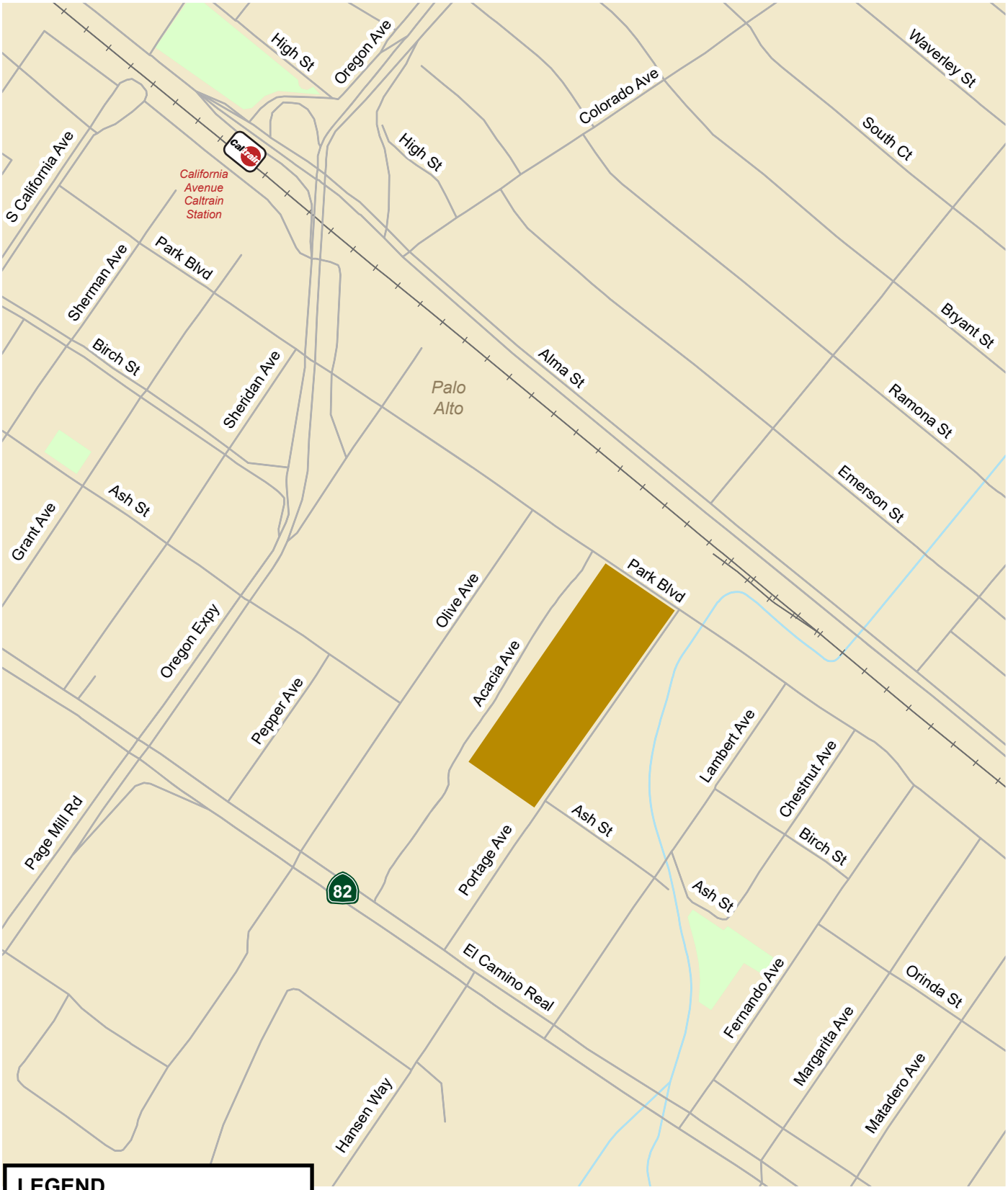


Figure 1
Project Site Location

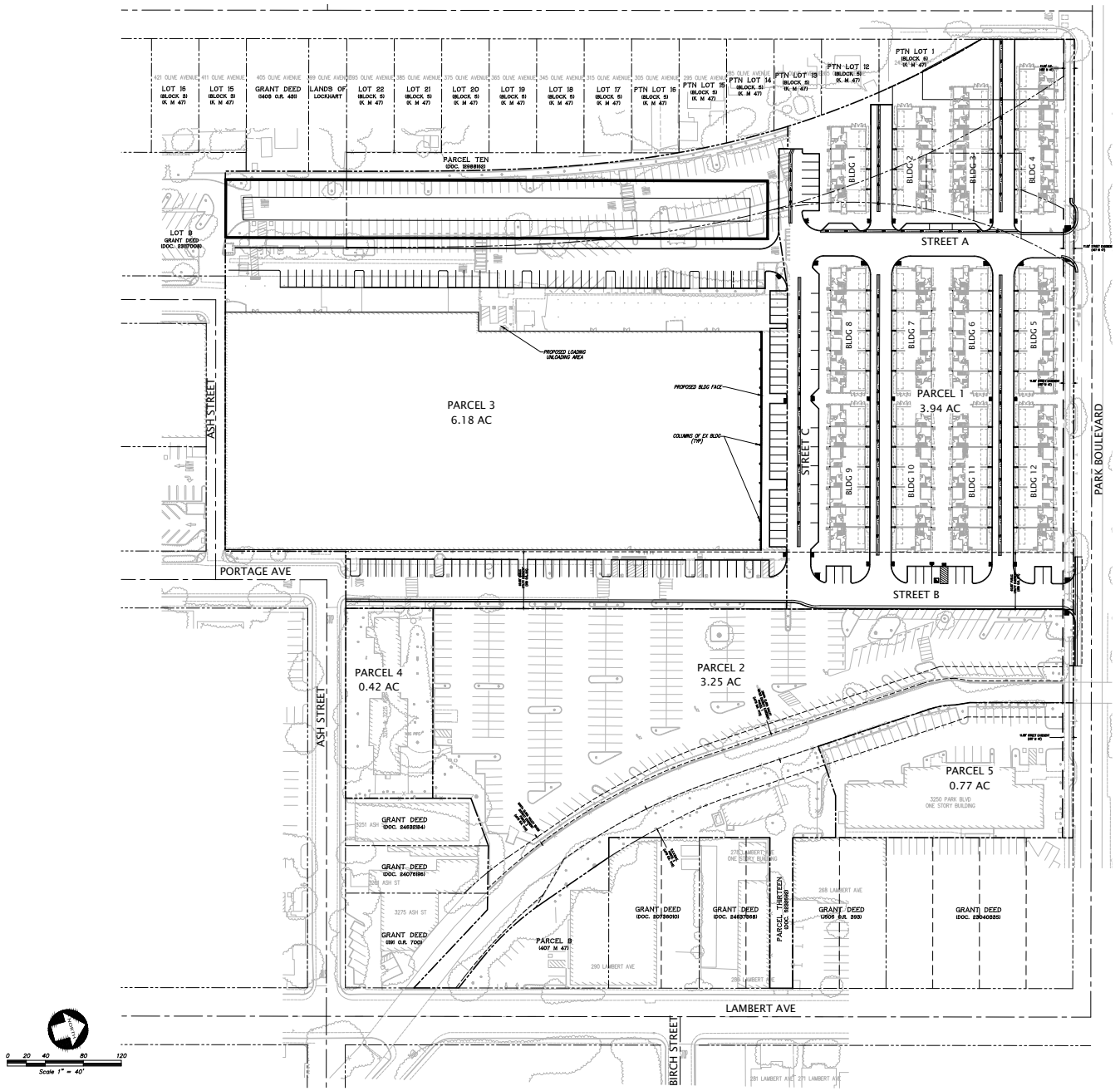


Figure 2
Site Plan

NORTH
Not to Scale

Table 1
Trip Generation Table

Land Use	Size	Units	Daily Rate[1]	Daily Trips	AM Peak-Hour Rate[1]	AM In	AM Out	AM Trips	PM Peak-Hour Rate[1]	PM In	PM Out	PM Trips
Proposed Uses												
Research and Development [2]	143,000	s.f.	11.08	1,584	1.03	121	26	147	0.98	22	118	140
TDM Reduction (15%) [3]				(238)		(18)	(4)	(22)		(3)	(18)	(21)
Trip Generation Goal				***1,346***		***103***	***22***	***125***		***19***	***100***	***119***

Note: s.f. = square feet
Source: ITE Trip Generation Manual, 11th Edition 2021.

[1] Rate expressed in trips per 1,000 s.f. for Research and Development.
[2] Average rates used for Research and Development Center (Land Use 760).
[3] The project would be required to meet a 15 percent trip reduction set by the City of Palo Alto staff for this project.

TDM Goal

The TDM plan should reduce the peak hour trips by a minimum of 15 percent. The TDM plan will be monitored through employee surveys and driveway counts to determine if the peak hour trips are being reduced by 15 percent. Annual monitoring reports will be provided to the City for the first five years after occupancy and afterwards at the City's request.

2. Existing Transportation Facilities and Services

Transportation facilities and services that support sustainable modes of transportation include buses and shuttles, commuter rail, and bicycle and pedestrian facilities. This chapter describes existing facilities and services near the project site that would support the TDM measures described in this plan.

Transit Services

Existing transit services in the project area are provided by the Santa Clara Valley Transportation Authority (VTA) and Caltrain. VTA operates bus and light-rail transit (LRT) services in Santa Clara County. The VTA bus routes in the project vicinity and the bus stops near the project site are summarized in Table 2 and shown on Figure 3.

Caltrain

Commuter rail service between San Francisco and Gilroy is provided by Caltrain. Caltrain provides service with approximately 30-minute headways during the weekday AM and PM commute hours to the California Avenue station, which is located approximately ½ mile north of the project site. The Palo Alto station is a stop for the Caltrain local and limited lines. Weekday service is provided from approximately 5:00 AM to 1:00 AM in the northbound directions and from approximately 6:00 AM to 1:45 AM in the southbound direction.

Table 2
Existing Transit Services

Route	Route Description	Weekday Hours of Operation	Headways[1] (minutes)	Nearby Bus Stops/Stations	Walking Distance to Project Site
VTA Bus Route					
Frequent Rapid Route 522	Palo Alto Transit Center - Eastridge Transit Center	5:20 AM - 11:15 PM	30	El Camino Real and California Avenue	0.5 mile
Frequent Route 22	Palo Alto Transit Center - Eastridge Transit Center	4:00 AM - 1:30 AM	30	El Camino Real and Portage Avenue	1,000 feet
				El Camino Real and Hansen Way	1,300 feet
Caltrain					
Caltrain	Gilroy - San Francisco	5:00 AM - 1:45 AM	30	California Avenue Station	0.5 mile

Notes:
[1] Headways during weekday peak periods as of July 2022.

Pedestrian and Bicycle Facilities

A network of sidewalks is present along the streets in the immediate vicinity of the project site, including Portage Avenue, El Camino Real, and Park Boulevard. Crosswalks are provided at El Camino Real/Portage Avenue and El Camino Real/Hansen Way near the project site. The surrounding area includes residential and commercial uses, and most of the streets include sidewalks that have good connectivity and provides pedestrians with safe routes to transit services and other points of interest in the project vicinity.

The existing bicycle facilities within the study area are listed below and shown on Figure 4.

- Striped Class II bike lanes on Park Boulevard, Hansen Way, and Page Mill Road
- Class III bike lanes on California Avenue, Bryant Street, Margarita Avenue and Park Boulevard from Lambert Avenue to Margarita Avenue

The City of Palo Alto 2030 Comprehensive Plan shows proposed bicycle facilities within the project vicinity. These locations are listed below and shown on Figure 4.

- Class II bicycle lane on El Camino Real from Page Mill Road/Oregon Expressway to Maybell Avenue,
- Enhanced Class II bikeway on Portage Avenue, Hansen Way, and California Avenue
- Class III shared arterial on Page Mill Road/Oregon Expressway from El Camino Real to St Francis Drive,
- Class III bicycle boulevard on Margarita Avenue,
- Class III shared arterial on Alma Street,
- Class I multi-use pathway on Matadero Canal,

Figure 3
Existing Transit Services

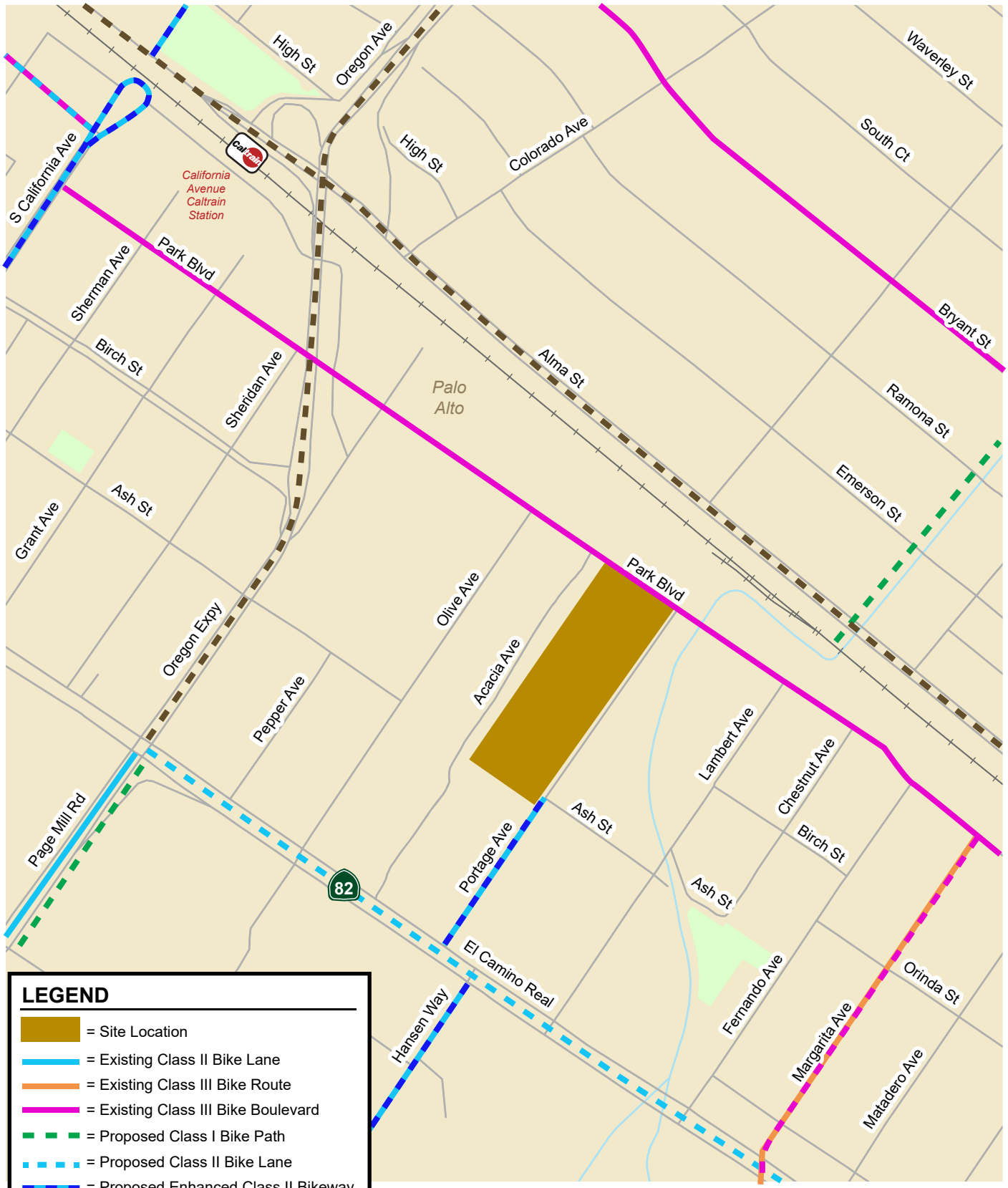


Figure 4
Existing Bicycle Facilities

3.
Potential TDM Measures

This chapter provides a menu of Transportation Demand Management (TDM) measures that the project will choose from to meet the 15% trip reduction requirement. These TDM measures include planning and design measures related to the attributes of the site location, site design, on-site amenities, and TDM programs. The TDM programs, including services, incentives, and actions, will encourage office employees to commute to work using alternatives to single-occupant vehicles. Table 3 presents a summary of the TDM measures in this plan and who would have primary responsibility for implementing each measure.

The project's VMT reduction has been estimated by VTA's Santa Clara Countywide VMT Evaluation Tool, which provides an indication of the likely effectiveness of various trip reduction strategies in various settings. After the project site has been occupied and the TDM Plan has been implemented, employee mode-share surveys and driveway counts will serve as monitoring tools to determine if the City's goal of a 15 percent VMT reduction has been met. If not, then the TDM coordinator (appointed by the property manager) will be responsible for implementing additional measures.

Table 3
TDM Measures and Responsibilites

TDM Measure	Implementation Responsibility
Program Administration	
Designating a Transportation Coordinator	Property Manager
Online Kiosk/TDM Information Board [1]	Transportation Coordinator
Transportation Information Packets	Transportation Coordinator
Trip Planning Assistance	Transportation Coordinator
Program Monitoring and Reporting	
Annual Employee Surveys	Transportation Coordinator
Target Drive-alone Mode Share Monitoring	Transportation Coordinator
Transit Elements	
Proximity to Transit Center	Site Location
Transit Subsidy	Employers/Tenants
Resources (schedules, route maps & other info)	Transportation Coordinator
Telecomutting/Flexible Work Schedule	Employers
Bicycle Facilities	
Bicycle Parking	Building Developer
Showers, Changing Rooms, and Lockers	Building developer
Resources (bikeway maps & other info)	Transportation Coordinator
Parking Reduction	Building developer

Notes:
[1] The building developer will have initial responsibility for creating an online kiosk and appointing the Transportation Coordinator. After the building is occupied, the Transportation Coordinator will have ongoing responsibility for the online kiosk and various program elements.

Project Location

The project is located near to the California Avenue Caltrain station and near El Camino Real with frequent bus service. Bike lanes are present in the immediate vicinity of the project site. Thus, it is likely that transit and bicycling will be an option for employees.

TDM Coordinator

The project will appoint a TDM Coordinator who will be the primary contact with the City and will be responsible for implementing and managing the TDM plan. The TDM Coordinator will be a point of contact for employees/tenants when TDM-related questions arise and will be responsible for ensuring that employees are aware of all transportation options and how to fully utilize the TDM plan. The TDM Coordinator will provide the following services and functions to ensure the TDM plan runs smoothly:

- Provide transportation information brochures to new employees.
- Provide trip planning assistance and/or ride-matching assistance to employees who are considering an alternative mode.
- Manage annual driveway counts and employee travel surveys. The results will be used to determine whether the implemented TDM measures are effective and whether new TDM measures should be implemented.

TDM Marketing and Alternative Transportation Information

The project will provide transportation information brochures to all new employees/tenants and ensure that employees/tenants are aware of the programs available to them. This brochure will include information about transit maps/schedules (Caltrain and VTA), locations of bus stops and Caltrain stations, transit fare subsidies or transit passes to be provided by employers, guaranteed ride home service to be provided by employers, ride matching programs (511.org's RideMatching service, peer-to-peer matching apps, such as Scoop and Waze), 511.org's carpool/vanpool subsidy program, bike maps, and bicycle parking on-site.

Online Transportation Kiosk

A key element of this TDM plan is to set up an "online kiosk" with site specific information about the transportation resources available to employees/tenants. The kiosk will include information about transit maps/schedules (Caltrain and VTA) and locations of bus stops and Caltrain stations.

The TDM Coordinator will have responsibility for maintenance of the online kiosk with information regarding non-auto transportation alternatives. The online kiosk will include information about all the measures and services discussed in this Plan, and local bikeway maps and information about bike parking on site.

Rideshare Matching Services

One of the greatest impediments to carpool and vanpool formation can be finding suitable riders with similar work schedules, origins, and destinations. Facilitated rideshare matching can overcome this obstacle by enabling commuters who are interested in ridesharing to enter their travel preferences into a database and receive a list of potential rideshare partners. The success of these programs is largely determined by the number of participants and, in turn, the number of potential matches that can be made.

The TDM Coordinator will provide employees/tenants with information on 511.org's ridematching service and other ridematching services. For example, ridematching assistance is available through a number of peer-to-peer matching programs, such as Scoop and Waze Carpool, which utilize mobile apps to match commuters.

Vanpool/Carpool Incentives

The TDM Coordinator will provide employees/tenants with information on 511.org's carpool/vanpool subsidy program. The 511.org's Carpool/Vanpool Program offers several incentive programs to encourage people to try carpooling and vanpooling. Most of these programs are designed to reward someone for forming or trying a carpool or vanpool and provide an award or subsidy after the first three to six months of use.

Transit Passes

Subsidized transit passes are an extremely effective means of encouraging employees to use transit rather than drive to work. Transit passes allow employees to save money and avoid the stress of driving during the commute periods.

The project could require future office tenants, as part of the lease agreement, to provide free transit passes (Caltrain and/or VTA) for their employees. There are a few ways to structure a financial incentive for transit. Employers can cover the total monthly cost of transit for those employees who take

transit through a pre-tax benefit, or purchase transit passes themselves and distribute them to employees or offer a universal transit pass program.

Employers may consider universal transit pass programs in which an employer purchases a pass for all employees, regardless of whether they currently ride transit or not. These passes typically provide unlimited transit rides on local or regional transit providers for a low monthly fee; a fee that is lower than the individual cost to purchase a pass, since a bulk discount is given. Such programs can be more cost-effective option for employers to reducing vehicle trips as compared to purchasing individual passes.

It is likely that many of the employees taking public transit will take Caltrain to work; therefore, future tenants should consider the Caltrain universal transit pass program (Go Pass program). The Caltrain Go Pass is an annual pass purchased by a company for its employees. All eligible employees receive the Go Pass, whether they use it or not. The passes are purchased from Caltrain at a significant discount and provide all employees with free Caltrain travel between all zones, seven days a week.

Telecommute/Flexible Work Schedule Program

Offering employees the opportunity to work from home or travel outside the peak travel periods can help reduce the number of commute trips to and from the project site.

The project may include the following infrastructure to support its future tenants to implement an alternative work schedule:

- Heating, cooling, and ventilation systems for extended schedules
- High-bandwidth internet connections to facilitate telecommuting

Bicycle Facilities

Bicycle Parking

Providing bicycle parking encourages bicycle commuting and reduces vehicle trips and parking demand. Based on the Palo Alto Municipal Code, the project will provide one bicycle parking space per 3,000 square feet, which equates to 48 bicycle parking spaces.

Showers, Changing Rooms, and Lockers

The project may provide shower stalls, changing rooms, and lockers for employees to use after biking or walking to the office. Having the option to shower and change clothes in the building encourages employees to bike or walk to work. Employees who ride their bike a considerable distance to the Caltrain station nearest to their home may also take advantage of these facilities.

Bicycle Resources

The following resources are available to bicycle commuters through 511.org. These resources would be noted in the transportation information brochure, to make employees 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, commuter gear, and clothing

- Links to bicycle organizations

Reduced Parking

The project will provide parking below the municipal code requirement. The project proposes 405 spaces, whereas the municipal code requires 572 spaces. Reduced parking encourages new development at higher densities and promotes greater use of alternate modes of transportation.

Estimated TDM Reduction

The Santa Clara Countywide Vehicle Miles Traveled (VMT) Evaluation Tool was used to calculate the trip reduction due to the TDM Program. This tool can calculate VMT reductions associated with certain TDM measures.

The VMT Tool provides an estimate of the amount by which a project's location and land use characteristics, its site enhancements, and the measures taken to reduce commute trips will reduce VMT. Hexagon has applied the VMT Tool to the TDM Plan for the R&D development at 340 Portage Avenue. The project is in TAZ 517, where the home-based work VMT per worker according to the model is 17.16. The results indicate that the plan would reduce the project VMT to 14.54 work VMT per worker, which is shown in Appendix A. This is a 15 percent reduction in VMT. Therefore, the project is expected is achieve the 15 percent peak-hour vehicle trip reduction target requested by the City of Palo Alto.

4. TDM Implementation, Monitoring, and Reporting

The purpose of this TDM plan is to reduce the vehicle trips generated by the project. The property manager will submit to the City an annual TDM monitoring report that identifies the TDM plan's effectiveness at achieving the trip generation reduction.

Implementation

The project applicant along with the property manager/TDM Coordinator will be responsible for ensuring the TDM plan is implemented. In addition, all lease agreements will require tenants to participate in the TDM plan immediately upon occupancy. Lease agreements will describe the elements of this plan for which tenants have immediate or potential future responsibility.

Monitoring and Reporting

The purpose of monitoring and reporting the TDM plan is to ensure that the plan is successfully meeting the trip reduction requirement. The property manager/TDM Coordinator will work with an independent consultant to implement annual employee surveys and driveway counts and document the results in a TDM monitoring report. The property manager/TDM Coordinator will submit the TDM monitoring report to the City.

The initial TDM monitoring report for the project will be submitted two years after building occupancy. Subsequent reports will be submitted annually. The property manager/TDM Coordinator and/or the consultant preparing the report will coordinate with City staff for any additional reporting requirements.

Employee Surveys

The property manager/TDM Coordinator will conduct an annual survey of all employees to determine the mode split among employees, whether the existing TDM measures are effective, and whether employees prefer different TDM measures.

Driveway Counts

Consistent with common traffic engineering data collection principles, trip generation will be monitored by means of driveway counts at the project's access points. The counts will be conducted one day per year on a typical weekday (Tuesday, Wednesday, or Thursday) when schools are in session. The TDM Coordinator will work with an independent consultant to obtain traffic count data and to document the results in a TDM monitoring report.

Annual Report

The results of the driveway counts and surveys will be reported to the City of Palo Alto annually during the first five years of building occupancy. The annual reports will detail the awareness of the TDM program, quantify the site trip generation, and calculate the mode split. Program enhancements could be developed based on the findings of the TDM monitoring report regarding the employee's awareness and usage of current TDM program elements. After the first five years of the project, an annual report would be submitted to the City upon request.

Appendix A
Santa Clara County VMT Evaluation Tool Report

Santa Clara Countywide VMT Evaluation Tool - Version 2 - Report

Project Details

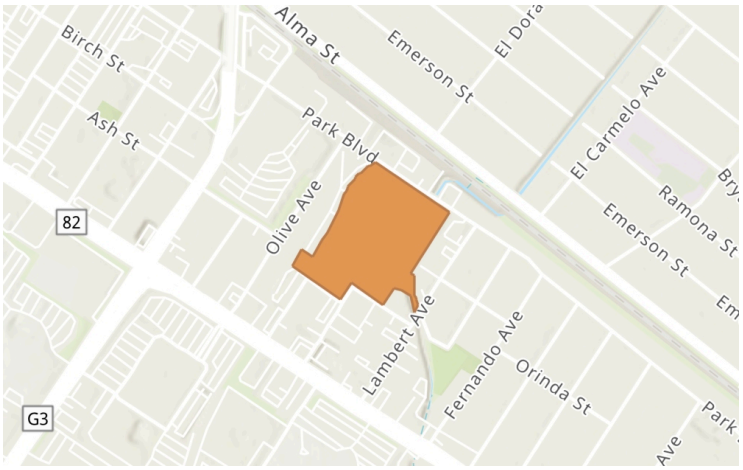
Timestamp of Analysis	July 07, 2022, 11:42:24 AM
Project Name	340 Portage Avenue
Project Description	The project proposes to redevelop 143,000 square feet of R&D space.

Project Location Map

Jurisdiction:

Palo Alto

APN	TAZ
13238071	517



Analysis Details

Data Version	VTA Countywide Model December 2019
Analysis Methodology	Parcel Buffer Method
Baseline Year	2022

Project Land Use

Residential:

Single Family DU:	
Multifamily DU:	
Total DUs:	0

Non-Residential:

Office KSF:	
Local Serving Retail KSF:	
Industrial KSF:	143

Residential Affordability (percent of all units):

Extremely Low Income:	0 %
Very Low Income:	0 %
Low Income:	0 %

Parking:

Motor Vehicle Parking:	415
Bicycle Parking:	58

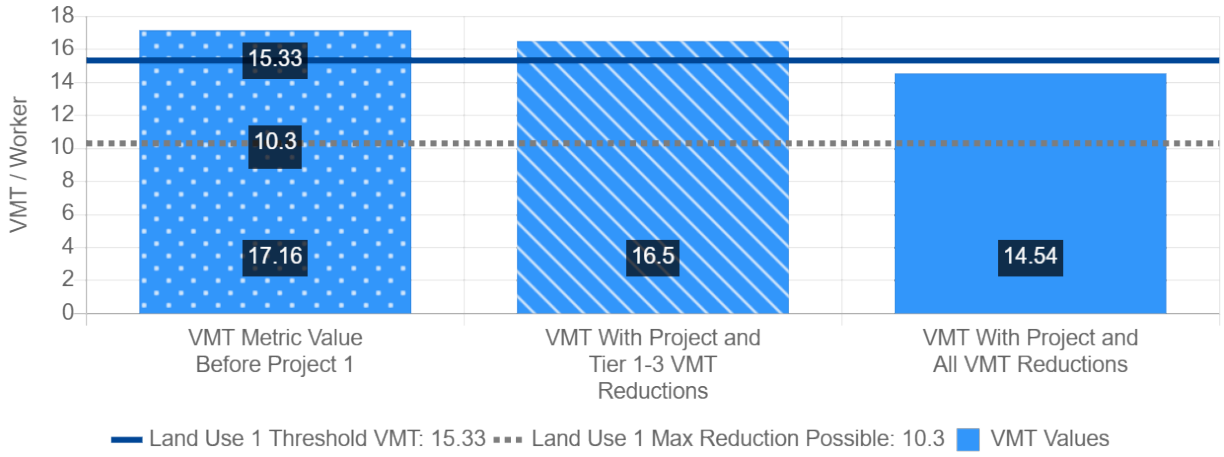
Proximity to Transit Screening

Inside a transit priority area? Yes (Pass)

Office Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Office
VMT Metric 1:	Home-based Work VMT per Worker
VMT Baseline Description 1:	Bay Area Regional Average
VMT Baseline Value 1:	15.33
VMT Threshold Description 1 / Threshold Value 1:	0% / 15.33
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	17.16	16.5	14.54
Low VMT Screening Analysis	No (Fail)	No (Fail)	Yes (Pass)



Tier 3 Parking

PK01 Limit Parking Supply

Minimum Parking Required by City Code:	572
Total Parking Spaces Available to Employees:	415
Is the Surrounding Street Parking Restricted?:	

PK02 Provide Bike Facilities

Bicycle Parking:	58
Project End-of-trip Bike Facilities:	Yes

Tier 4 TDM Programs

TP04 CTR Marketing and Education

CTR Marketing/Education Percent Expected Participants:	100 %

TP07 Subsidized Transit Program

Percent of Transit Subsidy:	100 %

TP08 Telecommuting and Alternative Work Schedules

Telecommuting and Alternative Work Schedule Type:	4/40 schedule
Alternative Work Schedule Percent Participants:	25 %

TP13 Ride-Sharing Programs

Expected Percent of Ride-Sharing Participants:	4 %