

# Appendix TDM

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Project Transportation Demand Management Strategy



HEXAGON TRANSPORTATION CONSULTANTS, INC.

# 1155 & 1185 Terra Bella Avenue Office Development

## Transportation Demand Management Plan

Prepared for:

**RockPoint Capital**

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# 1.

## Introduction

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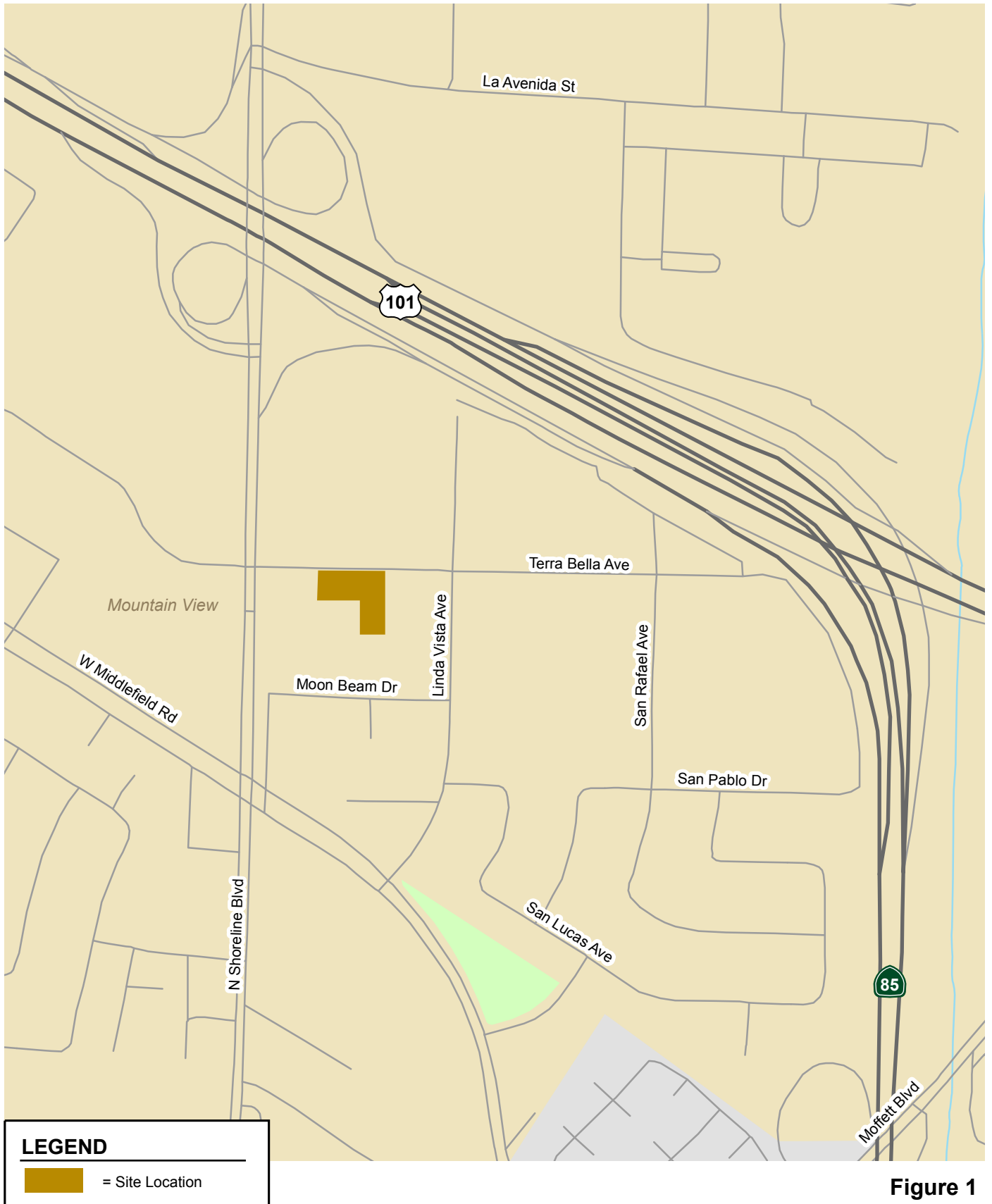
This transportation demand management (TDM) plan has been prepared for the proposed office development at 1155 & 1185 Terra Bella Avenue in Mountain View, California. TDM is a combination of services, incentives, facilities, and actions that reduce single-occupant vehicle (SOV) trips to help relieve traffic congestion, parking demand, and air pollution problems. The purposes of TDM are to (1) reduce the amount of traffic generated by new developments; (2) promote more efficient utilization of existing transportation facilities and ensure that new developments are designed to maximize the potential for alternative transportation usage; (3) reduce the parking demand generated by new developments and allow for a reduction in parking supply; and (4) establish an ongoing monitoring and enforcement program to guarantee the desired trip and parking reductions are achieved.

The project is required by the City of Mountain View to prepare and implement a TDM plan. The purpose of the proposed TDM plan is to reduce the project's total vehicle miles traveled (VMT) per employee. The goal of the proposed TDM plan is to achieve a twelve percent (12%) daily trip reduction target.

## Project Description

The project is located at 1155 & 1185 Terra Bella Avenue in Mountain View, California (see Figure 1). Based on the site plan dated December 18, 2020 (see Figure 2), the project proposes to construct 19,951 square feet of office space. The existing buildings are in the process of being demolished. Vehicle access to the site would be provided via a full access driveway on Terra Bella Avenue. The project would provide 73 surface parking spaces.





**Figure 1**  
**Project Site Location**

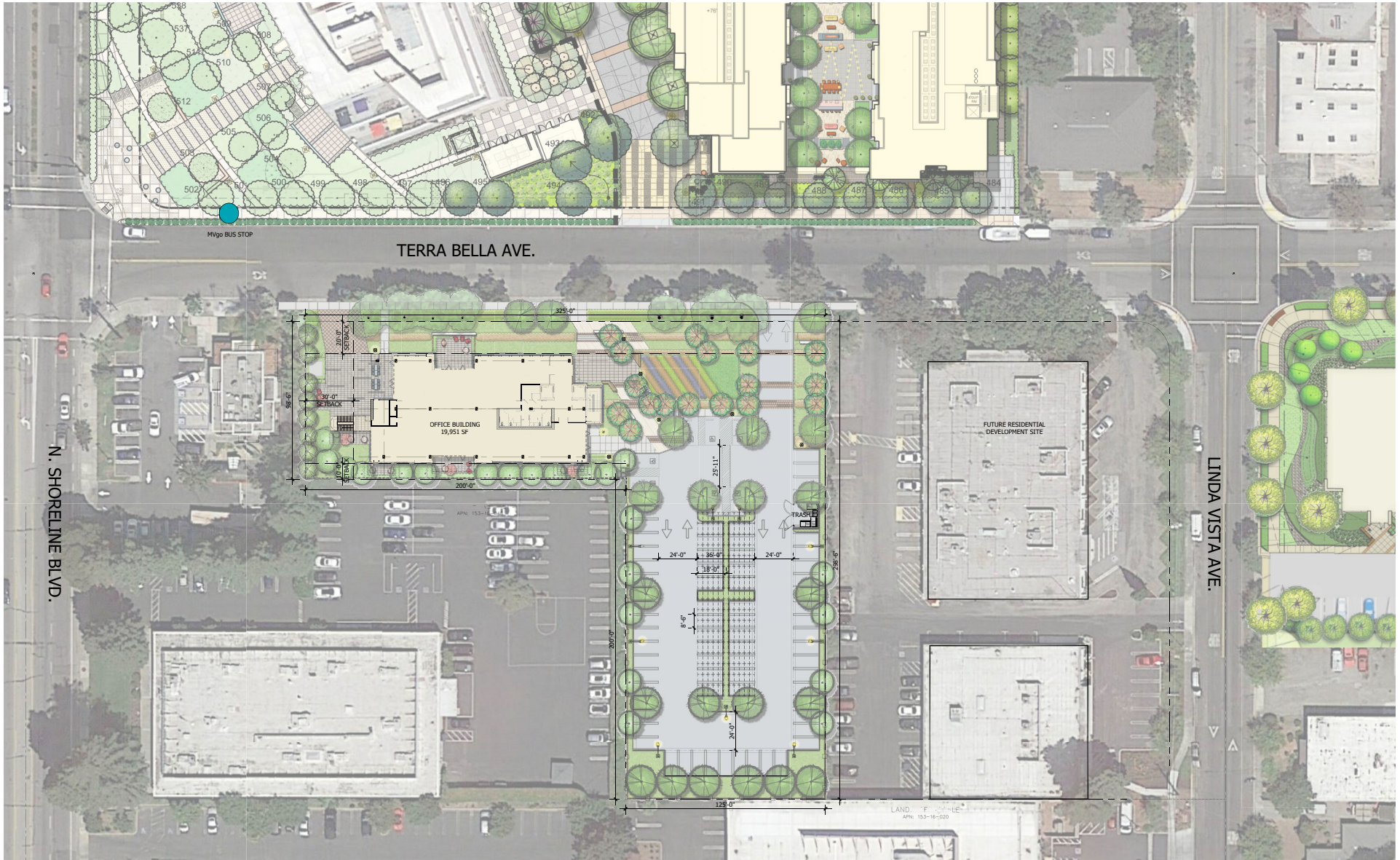


Figure 2  
Site Plan

## 2.

# Transportation Facilities and Services

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Transportation facilities and services that support sustainable modes of transportation include VTA bus routes, City of Mountain View shuttles, and bicycle and pedestrian facilities. This chapter describes the existing facilities and services near the project site. Information on the nearby roadway network is 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 by US 101 and State Route 85. Local access to the project site is provided via Shoreline Boulevard, Middlefield Road, Linda Vista Avenue, and Terra Bella Avenue.

**US 101** is a north-south freeway that extends through and beyond the Bay Area, connecting San Francisco to San Jose. US 101 is eight lanes wide (three mixed-flow lanes and one HOV lane in each direction) in the vicinity of the project site. US 101 provides site access via a full interchange at N. Shoreline Boulevard.

**State Route 85 (SR 85)** is a six-lane freeway that extends from US 101 in Mountain View to US 101 in San Jose. SR 85 connects to US 101 and has a partial interchange at Moffett Boulevard.

**Shoreline Boulevard** is a four-lane north-south roadway that begins at Shoreline Lake Park in Mountain View and extends south to El Camino Real, where it transitions into Miramonte Avenue.

**Middlefield Road** is a four-lane roadway that begins at Veterans Boulevard in Redwood City, extends south to Winslow Street, and continues eastward until it terminates at Central Expressway in Sunnyvale.

**Linda Vista Avenue** is a two-lane north-south roadway that begins at W. Middlefield Road and extends north until it terminates in a cul-de-sac just south of US 101.

**Terra Bella Avenue** is a two-lane roadway aligned in an east-west orientation in the vicinity of the site. It runs between W. Middlefield Road and San Leandro Street. Terra Bella Avenue would provide direct access to the project site. In the project vicinity, on-street parking is available on the entire south side of Terra Bella Avenue and on a portion of the north side.

### Pedestrian Facilities

Pedestrian facilities in the study area consist of sidewalks along all of the surrounding streets. Crosswalks with pedestrian signal heads are located at all of the signalized intersections in the study area. Crosswalks also are provided on all approaches of the unsignalized intersection of Linda Vista



Avenue/Terra Bella Avenue and on some approaches of the Linda Vista Avenue/Middlefield Road and N. Shoreline Boulevard/US 101 on-ramps intersections. A continuous pedestrian network is available crossing northbound and southbound over US 101. Overall, the existing network of sidewalks and crosswalks provides pedestrians with safe routes to bus stops and other points of interest within the area.

## Bicycle Facilities

According to the Valley Transportation Agency (VTA) Santa Clara Valley Bikeways Map and the City of Mountain View Interactive Bike Map (2020), there are a few designated bikeways in the vicinity of the project site (see Figure 3).

**The Stevens Creek Trail** is a Class I bicycle path that extends from the intersection of Heatherstone Way/Dale Avenue in the south to the Bay Trail network in the North Bayshore area north of US 101. The trail can be accessed from Middlefield Road, Moffett Boulevard, and La Avenida Street, which are all about a one-mile biking distance from the project site.

**N. Shoreline Boulevard** has striped Class II bicycle lanes from El Camino Real in the south to Charleston Road in the north. N. Shoreline Boulevard provides bicycle access from the project site to the Bailey Park Plaza Shopping Center and the North Bayshore area.

**W. Middlefield Road** has Class II bicycle lanes across the City of Mountain View, from Old Middlefield Way in the west to Bernardo Avenue in the east. W. Middlefield Road provides bicycle access to the Stevens Creek Trail.

**La Avenida Street** has Class II bicycle lanes from Inigo Way in the west to a cul-de-sac in the east that provides access to the Stevens Creek Trail. The VTA Bikeways Map and the City of Mountain View Bike Map show a Class III bicycle route on La Avenida Street between N. Shoreline Boulevard and Inigo Way. However, there is no signage on the roadway to suggest that this segment is a bicycle route.

**Inigo Way** has Class II bicycle lanes along its entirety from La Avenida Street to Pear Avenue.

## Transit Services

Existing transit services in the project vicinity are provided by the Santa Clara Valley Transportation Authority (VTA) and the Mountain View Transportation Management Association (MTMA). These transit services are described below (see Table 1) and are shown on Figure 4.

### VTA Service

VTA operates the Local Bus Route 40 in the project vicinity (with bus stops within walking distance). The closest bus stop for northbound service is located at the intersection of N. Shoreline Boulevard and Terra Bella Avenue, an approximate walking distance of 270 feet from the site. The closest stop for southbound service is located at the same intersection, approximately 450 feet from the project site.

### Mountain View Community Shuttle

The Mountain View Community Shuttle provides free connections between residential neighborhoods and points of interest, such as city offices, libraries, parks, medical offices, shopping centers, and entertainment venues, throughout Mountain View. The Red Route, traveling westbound on Middlefield Road, and the Gray Route, traveling eastbound on Middlefield Road, stop at two bus stops at the intersection of N. Shoreline Boulevard and W. Middlefield Road, which are both less than a half mile walking distance from the project site.

## Mountain View Transportation Management Association (MTMA) Shuttle

The MTMA operates the MVgo shuttle system. This shuttle system is provided through the collection of MTMA member dues. MVgo operates four shuttle routes that provide service to employment areas from the Mountain View Transit Center during the peak commute hours. Route B provides service along N. Shoreline Boulevard, Pear Avenue, and at Google offices in the North Bayshore area. The closest stops are located at the intersection of N. Shoreline Boulevard and Terra Bella Avenue, which are both less than 500 feet walking distance from the project site. The shuttles are free and open to the public. However, the MVgo shuttle service is currently suspended due to COVID-19.

## Caltrain Service

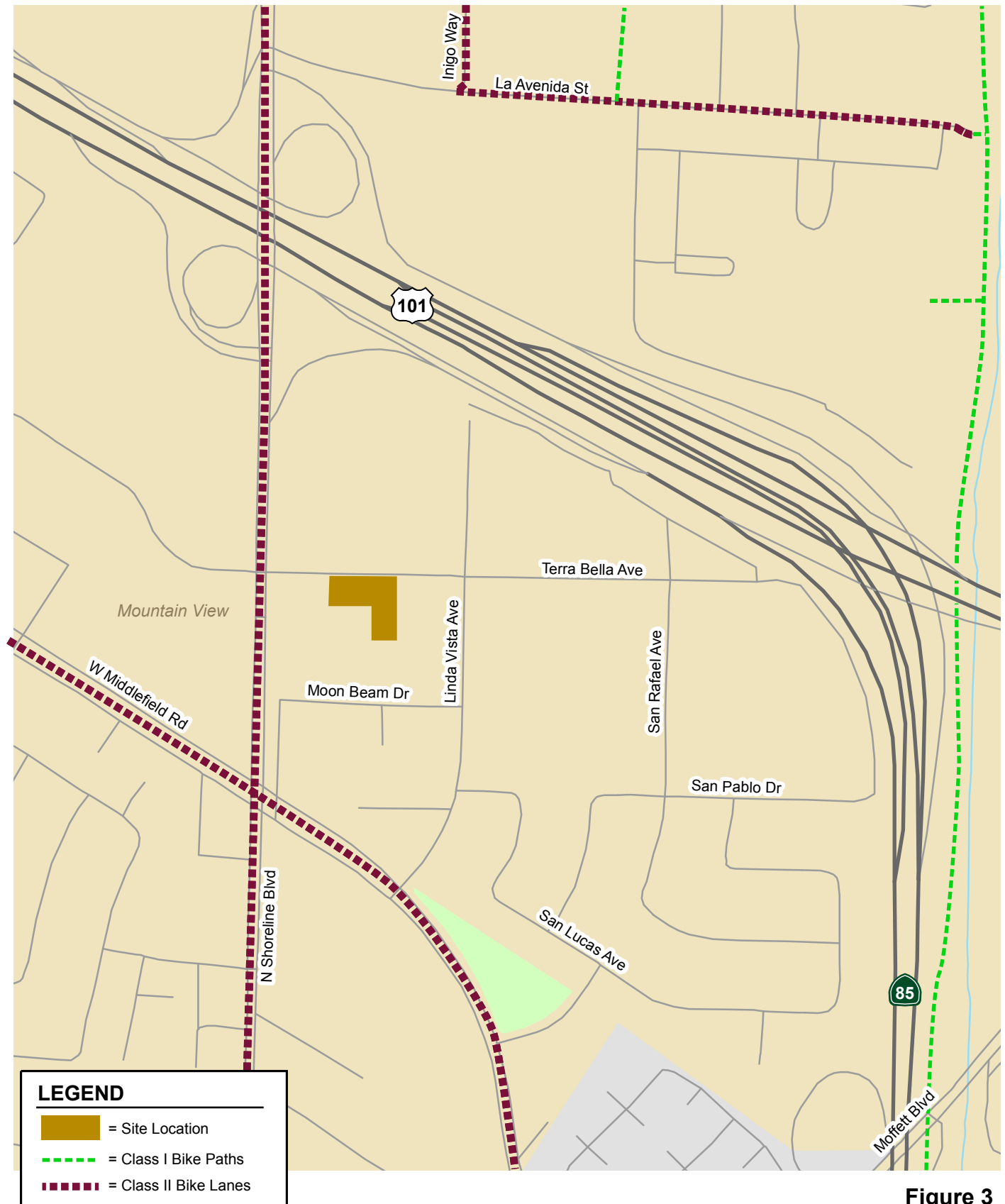
Caltrain is a regional, intercity commuter rail service between San Francisco and Gilroy. Caltrain provides service with approximately 30- to 60-minute headways during the weekday AM and PM commute hours. Trains stop frequently at the Mountain View Station between 5:00 AM and 11:00 PM in the northbound direction, and between 6:00 AM and 1:15 AM in the southbound direction. On weekdays, there are 34 northbound and 34 southbound trains stopping at the Mountain View Station. Baby Bullet trains are currently suspended during the COVID-19 pandemic. The Mountain View Station is a 1.1-mile walk from the project site, and employees could get to the site using the MVgo shuttle system when service is restarted or VTA's Local Bus 40.

## VTA Light Rail Service

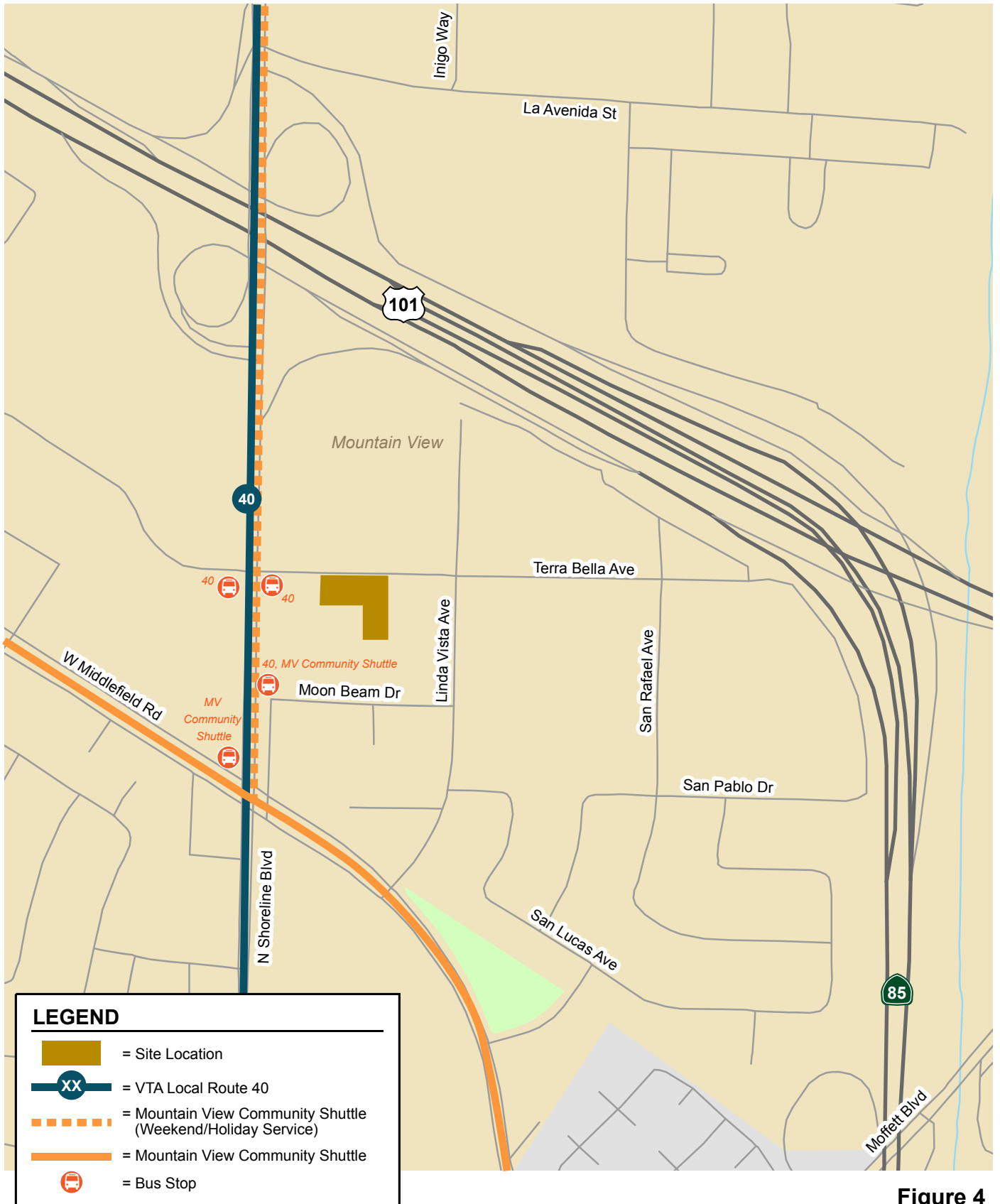
The VTA operates the 42.2-mile LRT system extending from south San Jose through downtown to the northern areas of San Jose, Santa Clara, Milpitas, Mountain View and Sunnyvale. The service operates from approximately 5:00 AM to 1:00 AM with 20-minute headways during much of the day on weekdays. The Mountain View-Alum Rock LRT line (Orange Line) stops at the Mountain View Transit Center. The Mountain View Station is a 1.1-mile walk from the project site, and employees could get to the site using the MVgo shuttle system when service is restarted or VTA's Local Bus 40.

**Table 1**  
**Existing Bus and Shuttle Services**

Route	Route Description	Weekday Hours of Operation	Headways <sup>1</sup> (minutes)	Nearby Bus Stop	Walking Distance from Nearest Stop to Project Site (feet)
VTA Local Route 40	Foothill College - Mountain View Transit Center	6:15 AM - 8:30 PM	30	Shoreline Boulevard and Terra Bella Avenue	270
Mountain View Community Shuttle <sup>2</sup>	Throughout Mountain View (via Middlefield Rd)	10:00 AM - 6:00 PM	30	Shoreline Boulevard and Middlefield Road	1,060
MVgo Route B <sup>3</sup>	Shoreline, Pear, Crittenden	N/A	N/A	Shoreline Boulevard and Terra Bella Avenue	270
<b>Notes:</b> Based on transit services as of January 2021 under COVID-19 conditions. 1. Headways during weekday peak periods in the project area. 2. Operated by Mountain View and Google. It provides free transportation connections between many residential neighborhoods, senior residences and services, city offices, library, park and recreational facilities, medical offices, shopping centers, and entertainment venues throughout Mountain View. 3. Due to COVID-19, all MVgo Routes have been temporarily suspended as of January 2021.					



**Figure 3**  
**Existing Bicycle Facilities**



**Figure 4**  
**Existing Transit Services**

### 3.

## Proposed TDM Measures

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The TDM measures proposed for the 1155 & 1185 Terra Bella Avenue office project include design features, programs, and services that promote sustainable modes of transportation and reduce the vehicular demand that would be generated by the project. The goal of this TDM plan is to achieve a twelve percent (12%) daily trip reduction target. TDM programs encourage employees to take other modes of transportation through benefits and assistance in trip planning.

The project's VMT reduction has been estimated using the Santa Clara Countywide VMT Evaluation Tool, which provides an initial indication of a TDM Plan's likely effectiveness in various settings. After the project has been occupied and the TDM Plan has been implemented, driveway counts should serve as the monitoring tool to determine if the goal of a 12 percent trip reduction has been met. If not, the Transportation Coordinator (appointed by the building management) will be responsible for implementing additional measures.

### 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 if TDM-related questions arise and be responsible for ensuring that employees/tenants are aware of all transportation options and how to fully utilize the TDM programs. The TDM coordinator will provide the following services and functions to ensure the TDM plan runs smoothly:

- Provide information about monthly transit passes
- Provide transportation information packets to new employees/tenants
- Audit and review building transportation needs
- Manage travel surveys to track trends and develop new commute programs

### Commute Trip Reduction Marketing/Education Programs

#### **“Online Kiosk”: An Online Information Center**

A key element of this TDM plan is to set up an attractive, up-to-date “online kiosk” with site-specific information about the transportation resources available to employees. We envision a website that would include information about transit maps/schedules (Caltrain, VTA, MVgo, Community Shuttle), locations of bus stops and Mountain View Station, and all the measures, services, and facilities discussed in this plan.



## Information Packet for Employees

In addition to the online information center, the Transportation coordinator should provide “hard copy” information packets to all employees when they first occupy the building. Because all information would be available online, this packet need not be a comprehensive stack of paper about all services available, which employees tend to disregard anyway. Instead, the New Employee Packet would provide a quick easy-to-read announcement of the most important features of the TDM program for employees to know about immediately.

In addition, the packet would send a message to workers that their employer values alternative modes of transportation and takes their commitment to supporting alternative transportation options seriously. For example, it would include a flyer announcing the “online kiosk”. It is recommended that the packet include information regarding how to contact the TDM coordinator. Additional packets would be provided for distribution to new employees subsequently hired or transferred to the 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.

It is recommended that the TDM coordinator 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 Merge, Scoop and Waze Carpool, which utilize mobile apps to match commuters.

In addition to the free online ridematching services, the TDM coordinator will distribute a carpool/vanpool matching application to all employees as part of the welcome packets. The application will match employees who live in the same area who may be able to carpool or vanpool together. Some employees who may be reluctant to reach out to find carpool partners via online services may be more likely to fill out a form that will be administered by their TDM coordinator. Furthermore, employees may be more likely to try ridesharing with a co-worker than with an unknown person who lives nearby.

## Vanpool/Carpool Incentives

It is recommended that the TDM coordinator provide employees/tenants with information on 511.org’s carpool/vanpool subsidy program. The 511.org’s Carpool/Vanpool Program offers a number of 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.

## 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 will include infrastructure to support its future tenants to implement an alternative work schedule, which may include the following:

- Heating, cooling, and ventilation systems for extended schedules

- High-bandwidth internet connections to facilitate telecommuting
- Security services provided to support extended schedules

## 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. One element of this TDM plan is to provide employees with financial incentives to utilize public transit when commuting to and from the project site.

There are a number of ways to structure a financial incentive for transit. Employers can cover the partial or total monthly cost of transit for those employees who take transit through a pre-tax benefit with Clipper Direct, purchase transit passes themselves and distribute them to employees, offer a reimbursement program requiring monthly receipts, or offer a universal transit pass program.

Employers may consider universal transit pass programs, such as Caltrain Go Pass or VTA SmartPass, which are different from financial incentives in that 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 a more cost-effective option for employers to reducing vehicle trips as compared to purchasing individual passes.

Employers would also have the option of subsidizing the Clipper cards of only those employees who use transit through the Clipper Direct program. Whether it makes sense to pay a deeply discounted rate for all employees regardless of whether they use transit (the Go Pass or SmartPass programs) or pay a portion or the full fare of those employees who actually use transit (likely to be a fairly low percentage of the total workforce at this location) will depend on what percentage of a tenant's employees use transit and whether they are using Caltrain or VTA, which can be ascertained by an employee survey.

## Bicycle Storage

The project site plan shows three long-term bike lockers and two short-term bike racks near the east side of the proposed office building. The City of Mountain View Bicycle Parking Guidelines require the proportion of bicycle parking facilities for office use to be 80% Class I (long-term) and 20% Class II (short-term). Therefore, it is recommended that the project provide four bike lockers and one bike rack.

## Parking Cash-out Programs

The project will offer a parking "cash-out" program, which will give employees the option to give up their free on-site parking space in exchange for a cash payment equivalent to the cost that the employer would otherwise pay for the parking space. By declining to use on-site parking, employees are encouraged to use alternative modes of transportation to commute to work.

## Estimated Trips and TDM Reduction

### Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. The research is compiled in the manual entitled *Trip Generation, 10<sup>th</sup> Edition*, published by the Institute of Transportation Engineers' (ITE). ITE trip generation rates for General Office Building (Land Use 710) were used for this study. The ITE rates are based on research at office buildings that do not implement TDM programs. Therefore, they are a starting point for determining the success of the TDM program.

As shown in Table 2, the project is estimated to generate 194 additional daily vehicle trips, with 23 trips occurring during the AM peak hour and 23 trips during the PM peak hour. These estimates represent the number of trips that would be generated without a TDM program.

**Table 2**  
**Project Trip Generation Estimates**

Land Use	Size	Daily		AM Peak Hour						PM Peak Hour					
		Rate	Trips	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Proposed Use															
Office <sup>1</sup>	19.951 ksf	9.74	194	1.16	86%	14%	20	3	23	1.15	16%	84%	4	19	23
<u>Note:</u> Rates are from: Institute of Transportation Engineers, <i>Trip Generation, 10th Edition</i> , 2017 ksf = 1,000 square feet 1. General Office Building (Land Use 710) average trip rates expressed in trips per ksf are used.															

### Trip Reduction Target

The goal of the proposed TDM plan is to achieve a twelve percent (12%) daily trip reduction target. Therefore, the project would need to generate 170 daily trips in order to meet the 12% trip reduction target.

### Estimated TDM Reduction

The trip reduction that would be achieved with the TDM program was estimated using the Santa Clara Countywide VMT Evaluation Tool. Based on the project's TDM plan, the County's VMT Tool estimates that the project can achieve a 12.7% trip reduction, assuming the following participation is achieved:

- 100% of employees are eligible for commute trip reduction marketing/education and parking cash-out programs
- The project provides at least a 10% transit fare subsidy to all employees
- At least 30% of employees participate in alternative work schedules, including a 4/40 schedule or telecommuting 1.5 days a week
- At least 2% of employees participate in ridesharing programs

## 4.

# TDM Implementation, Monitoring, and Reporting

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The purpose of this TDM plan is to reduce the project's total vehicle miles traveled (VMT) per employee. The goal of this TDM plan is to meet a twelve percent (12%) daily trip reduction target. The property owner will be required to submit to the City an annual TDM performance report that identifies the TDM plan's effectiveness at achieving the vehicle trip reduction requirement.

## Implementation

The project applicant and 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. The 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 program is successfully achieving the trip reduction goal. The property owner shall prepare an annual TDM report and submit it to the City to document the effectiveness of the TDM program in achieving the goal of twelve percent (12%) daily trip reduction by employees within the project. The TDM report shall be prepared by an independent consultant and paid for by the property owner; the consultant shall work with the property's TDM coordinator. The TDM report will include a determination of historical employee commute methods, which shall be informed by surveying all employees working on the project site. All nonresponses to the employee survey will be counted as a drive-alone trip. The TDM report will also include project trip generation via driveway counts during a 24-hour period. It is recommended that the initial TDM report for the project be submitted one year after final occupancy. Subsequent reports will be collected annually.

The TDM report shall either: (1) state that the project has achieved twelve percent (12%) daily trip reduction or higher, providing supporting statistics and analysis to establish attainment of the goal; or (2) state that the project has not achieved the twelve percent (12%) daily trip reduction, providing an explanation of how and why the goal has not been reached and a description of additional measures that will be adopted in order to attain the TDM goal of twelve percent (12%) daily trip reduction. The property owner and the consultant preparing the report coordinate with City staff for any additional reporting requirements.