



480 E. 4th Avenue Residential Development

Transportation Demand Management Plan

San Mateo, California

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Table of Contents

Introduction & Purpose.....	1
Project Description.....	1
Applicable Goals, Policies and Ordinances.....	2
City of San Mateo General Plan 2030	2
San Mateo Zoning Ordinance	6
Downtown Area Plan 2009	6
Sustainable Streets Plan 2015 (not adopted).....	6
Other Plans and Policies	7
Existing Transportation Facilities and Services.....	7
Transit Service.....	7
Walking & Bicycling Facilities	7
Vehicle Trip Generation Forecast	8
ITE Trip Generation Forecast.....	8
Trip Reduction for Downtown/Transit-Adjacent Location.....	8
TDM Measures.....	9
Description of TDM Measures.....	9
(1) Provision of Affordable Housing.....	9
(2) Provision of Car-share Parking in the Project's Parking Facility	9
(3) Discounted SamTrans Bus Passes for Employees and Residents.....	9
(4) On-Site Bicycle Repair Station	10
(5) Transportation Information Kiosk/Board.....	10
(6) Promotional Programs.....	10
(7) TDM Coordinator	10
References.....	11

Tables

Table 1: Motor Vehicle Trip Generation Forecast – Proposed Affordable Housing.....	8
Table 2: Project TDM Measures	9

Figures

Figure 1: Project Location Map	3
Figure 2: Project Site Plan	4
Figure 3: Existing Pedestrian, Bicycle and Transit Facilities.....	5

INTRODUCTION & PURPOSE

This document describes recommended measures to be included in the transportation demand management (TDM) plan for the proposed MidPen Affordable Housing development at 480 East 4th Avenue in downtown San Mateo.

The City of San Mateo requires establishment and implementation of a TDM program to include measures to reduce vehicle trips, encourage transit use and promote bicycle and pedestrian accessibility for development within one-half mile of the Downtown transit center. The proposed project site is located within the Downtown Area Plan boundaries, which has been referenced for guidance in the development of the recommendations for TDM measures for the project.

TDM refers to strategies that reduce demand for motor vehicle travel, particularly in single-occupancy vehicles. TDM is intended to result in more efficient use of transportation resources to help relieve traffic congestion, parking demand, and air pollution including greenhouse gas emissions. TDM combines different strategies, services, facilities, and actions that result in a reduction of single-occupant vehicle (SOV) trips. A TDM plan is developed to guide efficient use of an existing transportation system and to ensure new developments are designed to maximize sustainable transportation usage (Smart Growth America, 2013). Within San Mateo County, Commute.org provides TDM programs that aim to reduce travel demand, particularly during peak commute hours. To propose effective and appropriate TDM measures, this plan is based on the project's size, location, land use and proximity to services including public transit and the mix of land uses in downtown San Mateo.

PROJECT DESCRIPTION

This TDM plan is for the residential portion of a larger project that also includes construction of a 696-space parking garage. The City owns two properties in Downtown San Mateo, 480 East 4th Avenue and 400 East 5th Avenue, which were originally purchased by the City of San Mateo Redevelopment Agency (City of San Mateo, 2017). Both parcels are currently used as surface parking lots, providing a total of 235 existing parking spaces, and are bordered to the west by at-grade Caltrain tracks that pass through Downtown San Mateo.

The proposed project would provide 225 affordable multi-family housing units in a seven-story building on the single block at 480 East 4th Avenue, and an adjacent five-story 696-space parking garage encompassing one-half block at 400 East 5th Avenue. The parking garage would provide a total of 696 parking spaces, including 164 spaces that would be designated for use by the residents of the affordable housing, while the remaining spaces would be open to the public.

The locations of the residential and parking garage sites are shown in **Figure 1**. The project is located in the Downtown Specific Plan Area and Central Parking and Improvement District (CPID). The San Mateo Caltrain station is located within a quarter-mile walking distance from the site.

The proposed site plan is shown on **Figure 2**. Access to the garage would be via one driveway on East 5th Avenue. The parking garage will also be accessed via a residential pedestrian bridge over 5th Avenue.

APPLICABLE GOALS, POLICIES AND ORDINANCES

The City of San Mateo has adopted goals, policies and ordinances aimed at providing a convenient, multimodal and safe transportation system for its residents. Some of the goals and policies relevant to the proposed project are listed below:

City of San Mateo General Plan 2030

The Circulation Element of the *City of San Mateo General Plan* establishes the city's transportation goals and policies that include establishing TDM program requirements as well as policies to support the provision of adequate public transit services (City of San Mateo, 2010), including the following policies:

Policy C 2.10: Transportation Demand Management (TDM). *Participate in the TDM Program as outlined by the San Mateo City/County Association of Governments (C/CAG). Encourage TDM measures as a condition of approval for development projects, which are anticipated to cause substantial traffic impacts. C/CAG requires the preparation of a TDM program for all new development that would add 100 peak hour trips¹ or more to the regional road network.*

Policy C 2.12 C 2.12: Transportation Demand Management (TDM) in Downtown³. *Establish and implement a TDM program, a Transportation Management Association (TMA), and other measures to reduce vehicle trips and encourage transit use and promote bicycle and pedestrian accessibility for development within one-half mile of the Downtown transit center.*

Policy C 3.1 Increase Bus Ridership: *Strongly promote increased bus ridership and improved accessibility to bus transit ... (e) Recognize the importance of complementary land uses, such as higher-density, compact development with pedestrian-friendly environments, to especially justify increasing levels of transit service.*

Policy C 3.2 Caltrain. *Continue the City's strong support of Caltrain as an essential element of the overall circulation system on the Peninsula and in the City.*

The Circulation Element also states on page III-16 that TDM measures for residential development may include "creation of housing within one-quarter mile of rail stations".

¹ The proposed residential development will generate fewer than 100 peak hour peak hour trips, as forecasted by the *408 E. 4th Ave Residential Development Transportation Impact Analysis* (Hexagon Transportation Consultants, 2020).

³ TDM program requirements have not yet been adopted for Downtown.

Figure 1: Vicinity Map



LEGEND



-  Proposed Residential Site
-  Proposed Garage Site



Figure 2: Project Site Plan



Figure 3: Existing Pedestrian, Bicycle and Transit Facilities



In addition to policies focusing on public transit services, the General Plan encourages the use of bicycle and pedestrian facilities for every-day transportation as well as recreation. Overall, the General Plan aims for the city to provide diverse transportation options, typically including walking, cycling, public transit, and automobile, and accounts for land use factors that affect accessibility.

San Mateo Zoning Ordinance

The City of San Mateo Zoning ordinance (Title 27 of the City Municipal Code) specifies TDM program requirements applicable to properties within the Rail Corridor Plan boundaries. Since the project site is located outside the boundaries of the Rail Corridor Transit-Oriented Development Plan, the San Mateo zoning ordinance requirements do not directly apply.

Chapter 27.90.060 Transportation Demand Management: All projects shall be consistent with the provisions of Rail Corridor Plan Chapter 7 (G) Transportation Demand Management (TDM), including participation in the Transportation Management Association (TMA). All planning application submittals shall include a trip reduction and parking management plan. This plan shall include recommended trip reduction and parking reduction measures. These recommendations shall include a definition of appropriate trip generation thresholds for the project. This requirement shall pertain to all projects which result in a net increase of 100 p.m. peak hours trips (before implementation of TDM measures) as calculated using coefficients contained in the latest edition of Trip Generation as published by the Institute of Transportation Engineers. (Ord. 2007-3 § 2, 2007.)

Downtown Area Plan 2009

Downtown San Mateo provides a pedestrian-friendly environment lending to its charm as a traditional center of the community. The *Downtown Area Plan* intends to enhance the downtown's pedestrian environment, safety, and attractiveness of downtown. The plan suggests sidewalk widening, addition of pedestrian amenities and other traffic calming strategies to ensure a walkable downtown (City of San Mateo, 2009).

Sustainable Streets Plan 2015 (not adopted)

Although not formally adopted, the City of *San Mateo Sustainable Streets Plan* lays out a vision for how San Mateo's streets might look in the future, and identifies recommended TDM measures for "Tier 1" sites that include the project site:

- A 25% trip reduction target
- TMA participation⁴
- Submission of a trip reduction and parking management plan with new development applications
- An annual monitoring plan

⁴ Establishment of a transportation management association (TMA) for downtown San Mateo (which includes the project site) has not yet occurred.

Other Plans and Policies

The *Citywide Pedestrian Master Plan, 2012* and *Bicycle Master Plan, 2020* were adopted to guide the improvement of bicycle and pedestrian facilities in San Mateo. The City also recently adopted *Climate Action Plan 2020* which aims to reduce greenhouse gas (GHG) emissions, and implements both General Plan and State guidance as a way to achieve reduction targets for 2030 and 2050. Chapter 3 of the Plan has identified TDM as a strategy to help achieve the target. Additionally, the City of San Mateo in 2017 initiated the Downtown Specific Plan Update that is currently on hold and will be incorporated into the city's General Plan 2040 update.

EXISTING TRANSPORTATION FACILITIES AND SERVICES

This section describes the existing facilities and services near the project site that will support the TDM achievement of the trip-reduction goals associated with this TDM Plan.

Transit Service

Caltrain commuter rail service, SamTrans buses and shuttle services are provided within walking distance of the project site. **Figure 3** shows the existing transit services available in the project vicinity.

Caltrain

The project site is located about one-fourth mile (approximately five minutes' walk) from the San Mateo Caltrain Station. Caltrain provides commuter rail service between San Francisco and San Jose, with limited service to Gilroy during commute hours. SamTrans connected service is available through route 250, 292 and 295.

Bus and Shuttle Routes

The San Mateo County Transit District (SamTrans) SamTrans operates bus services in San Mateo with major transfer points located at the downtown San Mateo Caltrain Station. There majority of the SamTrans transit lines that are located west US 101. These facilities feed into the South San Francisco Caltrain and further into BART Stations. The project site is in close proximity with routes 59 and 250 which further connects with Hillsdale, Norfolk and other parts of the City. In addition, there is a free shuttle service that runs between the Millbrae Intermodal BART & Caltrain Station and businesses in the North Foster City Area.

Walking & Bicycling Facilities

Most of the streets near the study area have continuous sidewalks on both sides with high visibility crosswalks on some intersections. Most of the streets in project vicinity are dedicated as Class III bike routes with class II bike lanes on parts of Delaware Street and Laurel Avenue.

VEHICLE TRIP GENERATION FORECAST

A forecast of vehicle trip generation attributable to the proposed 225 affordable housing units was prepared as shown on **Table 1**. The vehicle trip generation forecast is limited to motor vehicle trips (does not include trips generated by non-motorized vehicles such as bicycles). The vehicle trip generation forecast was prepared as part of the transportation impact analysis (TIA) conducted for the project (*480 E. 4th Avenue Residential Development TIA*, Hexagon Associates, February 4, 2020). The TIA evaluated transportation impacts resulting from both the proposed housing and proposed public parking garage. This TDM Plan is for the proposed housing.

ITE Trip Generation Forecast

The vehicle trip generation forecast was based on standard Institute of Transportation Engineers (ITE) trip generation rates that were augmented with an estimate of the anticipated reduction in vehicle trips that is anticipated given the mix of adjacent land uses and proximity to transit. Based strictly on the vehicle trip generation rates for Multi-family Mid-rise housing contained in the *ITE Trip Generation Manual* (10th Edition): the proposed housing development would be anticipated to generate 81 vehicle trips during the a.m. peak hour, 99 vehicle trips during the p.m. peak hour, and 1,224 daily vehicle trips.

Trip Reduction for Downtown/Transit-Adjacent Location

The project is located in downtown San Mateo, an area served by frequent transit, including the San Mateo Caltrain Station that includes a mix of diverse land uses and local services within convenient walking distance. Given those characteristics: the housing will generate less motor vehicle traffic than typical multi-family housing sites. Hexagon Associates estimated the anticipated reduction in vehicle trip generation, compared to standard ITE rates, using US EPA's MXD model.

- Based on the MXD model: the project is predicted to generate 16 percent fewer motor vehicle trips per day given the mix of land uses nearby that can be conveniently reached via walking, bicycling or transit. During the a.m. and p.m. peak hours, the anticipated vehicle trip reduction would be 12 percent and 15 percent respectively.
- Applying those reduction to an initial calculation based on standard ITE rates: the proposed housing units are forecasted to generate 1,028 daily motor vehicle trips, including 71 during the a.m. peak hour and 84 during the p.m. peak hour.

Table 1: Motor Vehicle Trip Generation Forecast – Proposed Affordable Housing

ITE code	Land Use	Dwellings	Daily		AM Peak Hour				PM Peak Hour			
			Rate	Daily Trips	Rate	In	Out	Total	Rate	In	Out	Total
221	Multi-family Mid-rise	225	5.44	1,224	0.36	21	60	81	0.44	60	39	99
Mixed-Use Reduction (16% daily, 12% am. 15% pm)				(196)		(3)	(7)	(10)		(9)	(6)	(15)
TOTAL MOTOR VEHICLE TRIPS				1,028		18	53	71		51	33	84

Source: *408 E. 4th Ave Residential Development TIA*, Hexagon Transportation Consultants, 2020.

- Initial trip generation forecast derived from Institute of Transportation Engineers, *Trip Generation*, 10th Edition.
- Mixed-use reduction derived from Mixed Use Trip Generation Model (MXD Model) prepared by Fehr & Peers, 2010.

TDM MEASURES

As noted earlier in this report: the project TIA anticipates that the proposed housing will generate traffic at a rate that is 16 percent below that of typical multi-family housing, since the project will create housing in a downtown location that is within one-quarter mile of the Caltrain Station. The goal of this TDM Plan will therefore aim to achieve an additional nine percent reduction from the standard ITE trip generation rate, which will thus equate to the project generating traffic at a rate that is 25 percent lower than standard ITE rates. The measures to be included in the TDM plan are summarized on Table 2 and described further on the following pages.

Table 2: Project TDM Measures

No.	TDM Measures	Typical Reduction in Vehicle Miles Traveled (see Note 1)	Project Trip Reduction Credit
1	Provision of Affordable Housing	0.04% to 1.20%	1%
2	Provision of Car-share Parking	0.4% to 0.7%	0.5%
3	Discounted SamTrans bus passes	0.3% to 20%	4%
4	On-Site Bicycle Repair Station	N/A	4%
5	Transportation Information Kiosk/Board	(Included in #8 Promotional Measures)	
6	Promotional Measures	0.8% to 4%	
7	TDM Coordinator	(Included in #8 Promotional Measures)	
Total Trip Reduction			9.5%

Notes:

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

Description of TDM Measures

(1) Provision of Affordable Housing

By providing affordable housing in an area with an excess of jobs, but a shortage of affordable housing, the project will help to reduce regional VMT and lessen the need for long commutes on Bay Area freeways.

(2) Provision of Car-share Parking in the Project's Parking Facility

The provision of car share spaces, either in the public parking garage or within the parking allocated to the residences, would satisfy this requirement.

(3) Discounted SamTrans Bus Passes for Employees and Residents

Discounted transit passes can be an effective means to reduce the number of car trips in an area. By reducing cost barrier to using transit, including the need to pay “out of pocket” and search for spare change for each trip, people become much more inclined to take transit. Even if one does not commute with transit for work, they may be inclined to use the pass for non-commute trips

(4) On-Site Bicycle Repair Station

Maintenance can be a key barrier to using a bicycle as a primary transportation mode. On-site repair stations can address this barrier by providing a workbench, fix-it pole (to allow bicycles to be hoisted off the ground for easier access), bicycle tools, and a vending machine for commonly needed bicycle parts (i.e. chains and bicycle lights). On-site repair stations can also be equipped with up-to-date bicycle maps, information on bicycle-related programming on-site or nearby, and other information for cyclists. The applicant can dedicate space in close proximity to bicycle parking, as a way to provide easy access to the repair station.

(5) Transportation Information Kiosk/Board

An alternative transportation options board with up-to-date information on transit, ridesharing (e.g. 511.org, Connect San Mateo), ride-matching, bicycling, peer-to-peer car sharing, and other alternative transportation programs will be located in a central location within the building. The TDM coordinator will ensure that the information on the board is updated regularly. Property management may also provide an electronic transportation information portal with links to relevant transportation information and trip planning resources, managed by the site-wide TDM coordinator.

(6) Promotional Programs

Provide new tenant orientation packets on transportation alternatives will encourage residents to use the available transportation options. This should include providing information on Connect San Mateo, Rideshare Week, Bike to Work Day, trip planning assistance-routes and maps.

(7) TDM Coordinator

The residential property manager shall designate a TDM Coordinator that will be responsible for managing the site’s TDM measures. Duties could include, but are not limited to:

- Address any transportation-related concerns and to encourage tenants and employees to participate in the various TDM programs offered.
- Developing and maintaining a tenant welcome packet that provides TDM information.
- Developing and maintaining a transportation information board/kiosk periodically, at least quarterly.
- Monitoring bicycle parking usage and requesting more bicycle parking when the need arises.
- Monitoring carpool, vanpool, and electric vehicle parking, and adjusting accordingly.
- Setting up tabling events at least twice per year, such as Bike to Work Day, or promotional events with Downtown San Mateo Association.
- Distributing transit passes to all employees.
- Coordinating annual monitoring

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