TDM Plan
October 2022

435 East 3rd Avenue TDM Plan

City of San Mateo
24105302

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1 Introduction

A Transportation Demand Management (TDM) Plan is a long-term management strategy for an organization or site that seeks to deliver sustainable transportation objectives. It is articulated in a document that is regularly reviewed by the implementing organization. It identifies an appropriate package of measures aimed at promoting sustainable travel, with an emphasis on reducing reliance on single occupancy vehicle (SOV) trips and vehicle miles traveled (VMT). It can also assist in meeting other objectives, such as increasing and reducing congestion, greenhouse gases, and noise.

This TDM Plan was produced on behalf of the City of San Mateo (City) for the 435 E. 3rd Avenue project site, which is a proposed mixed-use building owned and being developed by Windy Hill Property Ventures (referred to as 'the developer' or as 'Windy Hill' throughout this document).

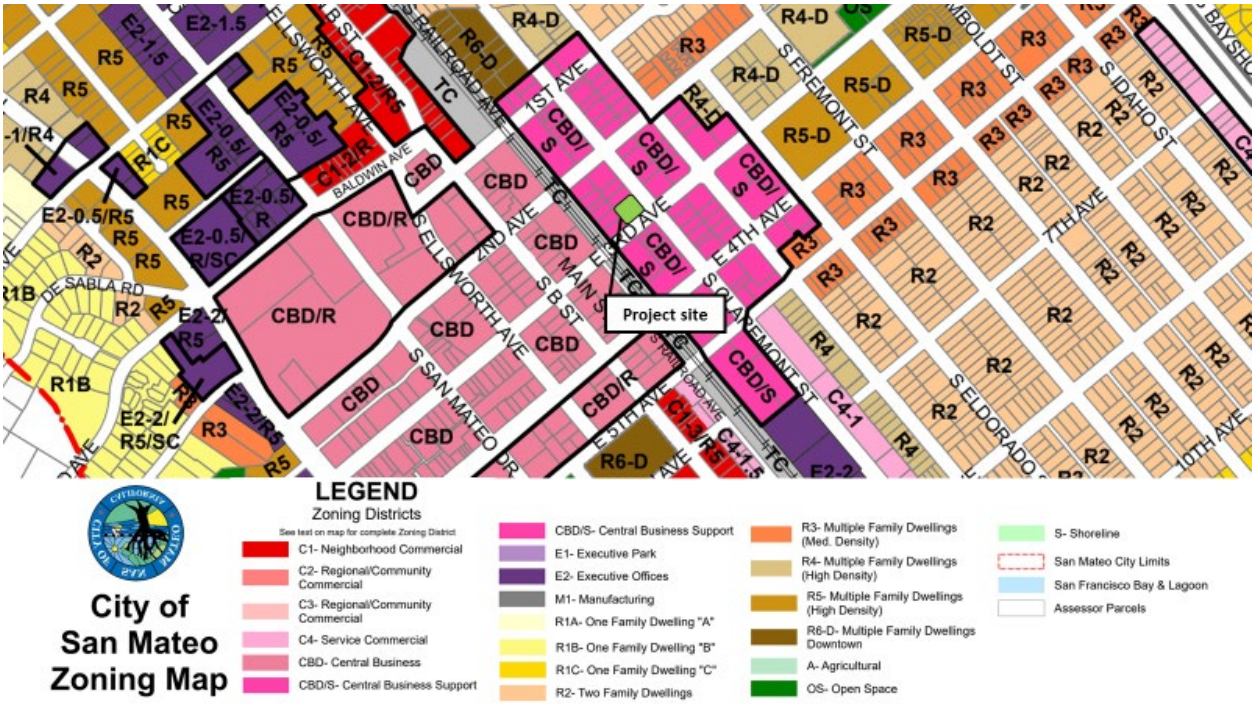
Project Description

The project site is located at the northwest corner of S. Claremont Street and E. 3rd Avenue and is also bounded by S. Railroad Avenue and 2nd Avenue in Central San Mateo within the 94401 Zip Code. This project involves the demolition of existing on-site structures to construct a five-story mixed-use development consisting of office uses and residential units. The project includes:

- 34,000 square feet of office space
- Five residential units
- No onsite parking

The site is a 10,980 sq. ft. (0.25-acre) city block zoned *CBD/S – Central Business District Support*. As shown in Figure 1, the areas immediately to the north, south, and west of the project site are also zoned CBD/S, while the area to the east of the site, Downtown San Mateo, is zoned *CBD – Central Business District*. The zoning in the area allows for high-density residential, retail, cultural, entertainment, and community service uses, which can generate congestion around the project site. The areas further to the north, east, and west mainly accommodate lower traffic generating uses such as Multiple Family Dwellings (High Density).

Figure 1. Zoning Map



Source: City of San Mateo

The project site allows a maximum FAR of 3.0 and an allowable height of 55 ft. The project proposes to pay CPID in-lieu fees for all required parking instead of providing on-site parking. The project will also be using the state density bonus to increase the FAR from 3.00 to 3.66. Table 1 compares details from the project site's current use and its proposed use.

Table 1. Proposed Project Attributes

	Current	Proposed
Description	2 single story buildings; industrial	One 5-story mixed-use building
Square Footage	1,175 sq. ft.	40,152 sq. ft.
Zoning Designation	CBD/S – Central Business District Support	CBD/S – Central Business District Support

As per the San Mateo Municipal Code (SMMC), the project requires a total of 72 parking spaces – 69 spaces for commercial office use and 3 spaces for residential use. The parking ratio recommended for the office use is 1.87 spaces per 1,000 ft^2 due to the increasing trend of hybrid and remote working schedules. For the residential units, the parking ratio will be 0.5 space per unit as allowed under the State Density Bonus Law. The project will provide 3 short-term bicycle parking spaces and 9 long-term bicycle parking spaces for residential and commercial use.

The office and residential community will be managed by a property manager once units are available for rent.

Demography and Travel Trends

The project site is located within census tract (residential area) 6063 and has a population of 4,110 people. The travel trends described in this section are based on 2019 data from the Census Bureau for the project's census tract.

Demographic Snapshot

About seventeen percent (17%) of the population currently located in the census tract is under the age of 18, with the median age and average household size being 39.2 and 2.2, respectively. This information suggests that the project site is in an area with young families that may add school or childcare trips into their scheduling, thereby generating more trips in the area. Forty-nine percent (49%) of the households in the census tract live in rental housing units.

Travel Trends

According to Census Reporter data from 2019, the majority (72%) of residents that live within the census tract drive alone to work. It is also reported that 21% of the population use sustainable modes of transportation to commute to work, such as public transit, carpooling, and walking, while another 5% of the population work from home. Of those that commute to work, the average travel time is 27.6 minutes. However, commuting patterns have been impacted by the pandemic, and post-pandemic scenarios might also produce new commuting patterns as more organizations implement hybrid and flexible working habits.

The residents within the census tract commute to a variety of locations for work. The most popular work location is the City of San Francisco, followed by the City of San Mateo, as shown in Table 2.

Figure 2: Transportation Mode Share

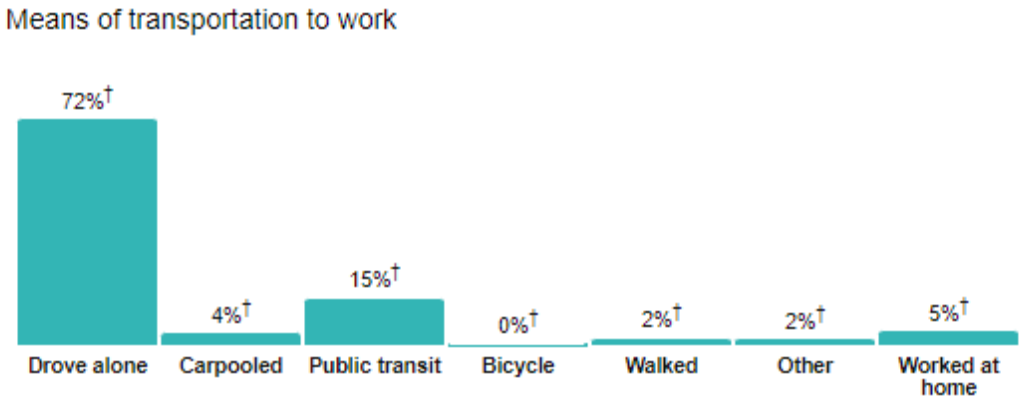
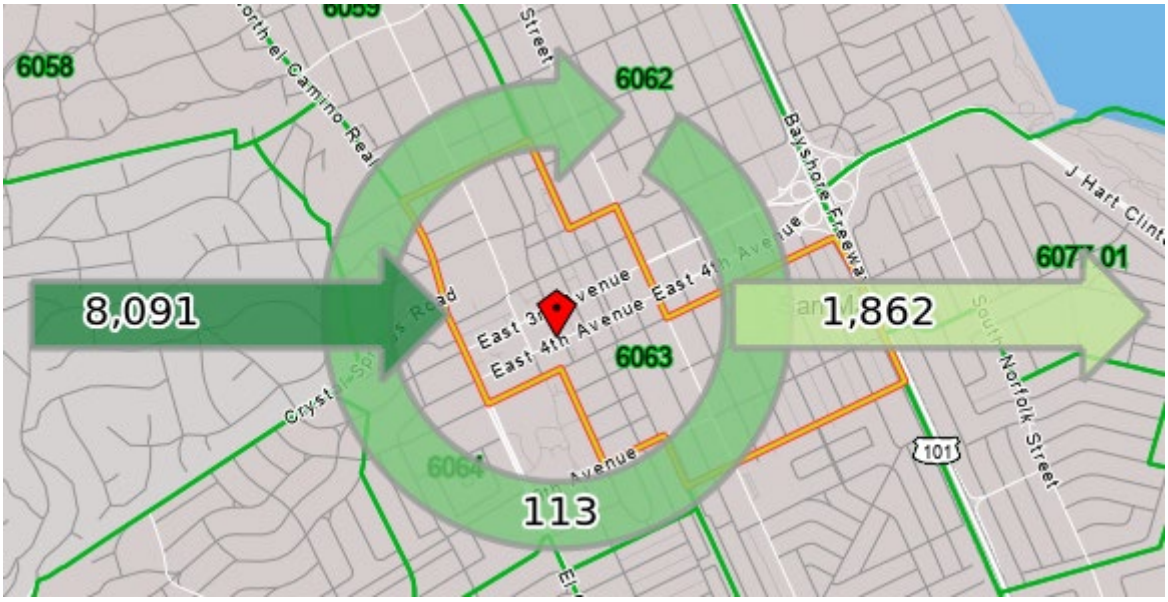


Table 2: Where People Work

Job Locations	Count	Share
San Francisco, CA	407	20.6%
San Mateo, CA	305	15.4%
Redwood City, CA	134	6.8%
Palo Alto, CA	115	5.8%
South San Francisco, CA	83	4.2%
Burlingame, CA	69	3.5%
Foster City, CA	62	3.1%
San Jose, CA	53	2.7%
San Carlos, CA	50	2.5%
Menlo Park, CA	47	2.4%
All Other Locations	650	32.9%
All Places (Cities, CDPs, etc.)	**1,975**	**100%**

Inflow/Outflow analysis of the census tract, as shown in Figure 3, depicts those 1,862 individuals who commute out of the area and the 8,091 people who commute into the area for work on a daily basis. A total of 113 individuals both live and work inside the census tract.

Figure 3: Census Tract Inflow and Outflow



2 Site Assessment

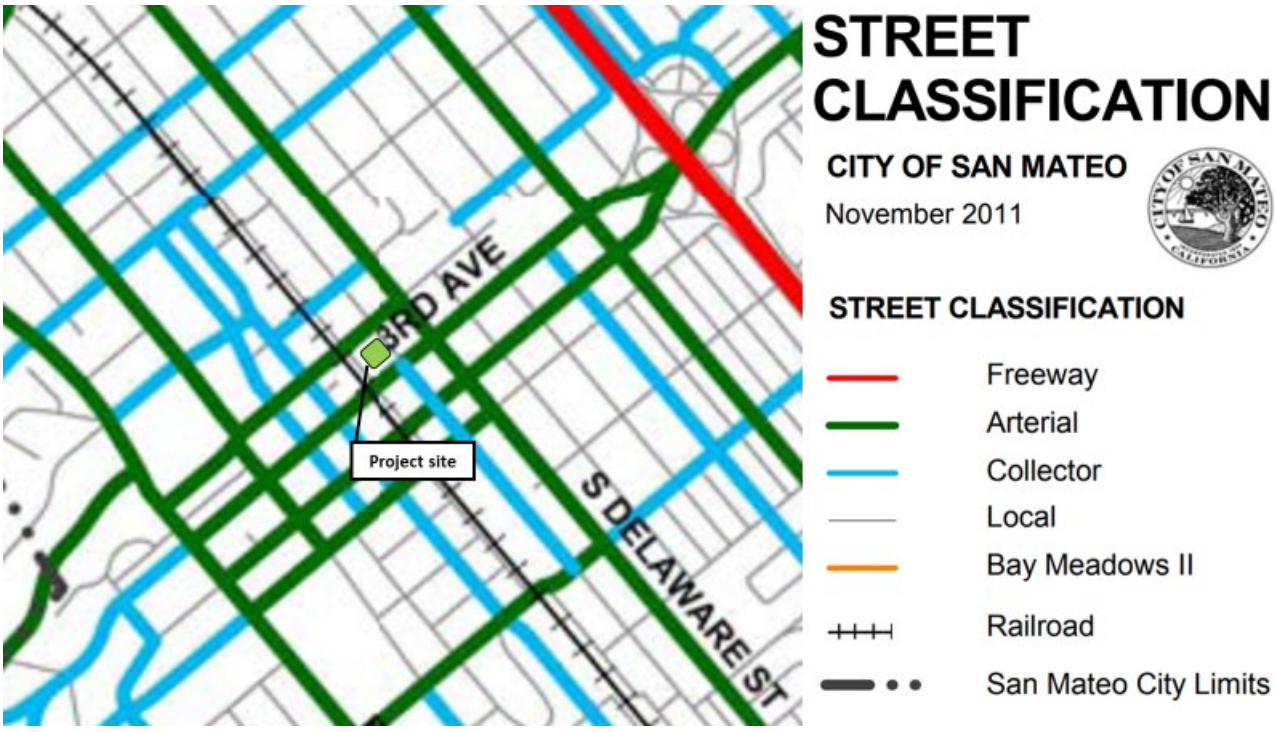
A site assessment was conducted as part of the TDM Plan development process. The site assessment included a description of the site's geography and road network, pedestrian and bicycle infrastructure, transit services, nearby attractions, and existing TDM services. For the complete assessment, please refer to Appendix B. Key findings from the site assessment are provided below.

Site Geography and Road Network

The project site is on the southeast corner of the city block bound by 2nd Avenue to the north, Claremont Avenue to the east, E. 3rd Avenue to the south, and Railroad Avenue to the west. The site has access to:

- Arterial Streets such as 2nd Avenue and 3rd Avenue
- San Mateo Caltrain station, north of project site
- Restaurants and commercial facilities on S. Claremont and 3rd Avenue.

Figure 4: Street Network



Source: City of San Mateo Public Works

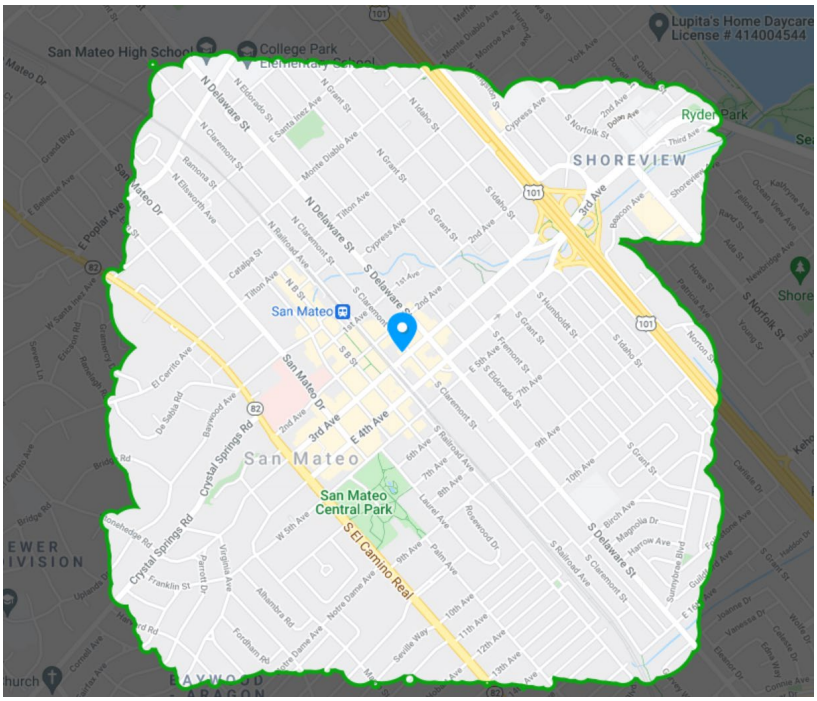
To access areas outside of San Mateo, such as the East Bay, East 3rd Avenue can be used as a connection to J. Hart Clinton Drive which provides access to the San Mateo-Hayward Bridge. East 3rd Avenue also connects to US 101, providing drivers access to destinations as far as San Francisco, Palo Alto, and Mountain View within 20 minutes.

Pedestrian and Bicycle Infrastructure

The site's location in Downtown San Mateo and access to transit make it conducive to pedestrian and bicycle travel. The walkability website Walkscore.com gives the site a 99/100 score for walking, which they describe as a "Walker's Paradise – Daily errands do not require a car". The walkshed for the project area is seen in Figure 5.

Currently, S. Claremont Street serves as the closest bike route to the project site. The S. Claremont Street bike route (a Class III route) connects to the San Mateo Caltrain station and to the bike lane network that encompasses S. Delaware Street, creating multiple access opportunities for cyclists (as shown in Figure 6). Improvements to Claremont Street are proposed in the 2020 San Mateo Bike Master Plan as a high priority bikeway project.

Figure 5: 20-minute pedestrian shed for 435 E. 3rd Avenue



Source: WalkScore.com

Figure 6: Existing Bicycle Network

Source: City of San Mateo 2020 Bicycle Master Plan

2nd Avenue, E. 3rd Avenue, E. 4th Avenue, and S. Delaware Street experience enough traffic to classify as "High Stress" streets in the April 2020 San Mateo Bicycle Master Plan, leaving them more suited to experienced cyclists. However, the streets are still in a high bicycle connectivity area which makes cycling appealing. Claremont Street is classified as "Low Stress" and offers connections to other bicycle routes.

Figure 7: Level of Stress for Cyclists

Source: City of San Mateo 2020 Bicycle Master Plan

Nearby amenities include bike lockers and repair stations. BikeLink operates 24 on-demand bike lockers at the San Mateo Caltrain Station. BikeLink allows cyclists to securely store their bikes in lockers using a stored-value card that can be purchased online or from nearby vendors. Additionally, there are two free-to-use public bike repair stations within one mile of the project site, located at the San Mateo Caltrain Station and San Mateo Public Library.

City of San Mateo Bicycle Master Plan

The City of San Mateo 2020 Bicycle Master Plan was adopted by the City Council on April 6, 2020 and serves as a blueprint for expanding and improving the San Mateo bicycle and mobility network in the coming years. The Plan includes eight recommendations related to the 435 E. 3rd Avenue project site. Five of those recommendations (numbers 1-5 below) are designated as "high priority" projects by the Plan:

1. Bicycle boulevard along S. Claremont Street between State Street and 9th Avenue,
2. Class II buffered bike lane along B Street between 5th Avenue and 16th Avenue,
3. Class IV separated bike lane along Delaware St. between 3rd Avenue and 4th Avenue,
4. Class IV separated bike lane along 4th Ave. between Delaware Street and Humboldt Street,
5. Bike boulevard on 5th Ave. between Delaware Street. and Amphlett Boulevard,
6. Class II bike lane on 5th Ave. between Virginia Avenue and El Camino Real,
7. Class IV separated bike lane along 3rd Avenue between El Camino Real and Humboldt Street, and

Transit Services

The project site is located a 0.2-mile walk of the Downtown San Mateo Caltrain Station. The project site is also served by eight San Mateo County Transit District (SamTrans) routes.

Table 3: Transit Services and Frequency

Transit Service	Hours of Operation	Frequency	Closest Stop	Distance to Closest Stop	Cost (Adult Age 19 through 64)
SamTrans Route 53	School Drop Off/Pick Up Hours Only	-	Delaware Street and 2nd Avenue	0.1 mile	$2.05 Clipper
SamTrans Route 55	School Drop Off/Pick Up Hours Only	-	El Camino and 4th Avenue	0.5 mile	$2.05 Clipper
SamTrans Route 59	School Drop Off/Pick Up Hours Only	-	Delaware Street and 4th Avenue	0.2. mile	$2.05 Clipper
SamTrans Route 250	Weekdays: 5:40 AM – 11:40 PM; Saturdays: 7:00 AM – 8:40 PM	Weekday: 30 minutes Weekend: 60 minutes	Claremont Street and 2nd Avenue	400 ft.	$2.05 Clipper
SamTrans Route 295	Weekdays: 6:20 AM – 6:40 PM	Weekday: 120 minutes	B Street and 1st Avenue	0.2 mile	$2.05 Clipper
SamTrans Route 292	Weekdays and Saturdays: 4:00 AM – 2:30 AM	Weekday: 20 minutes Weekend: 60 minutes	Delaware Street and 2nd Avenue	0.2 mile	$2.05 Clipper
SamTrans Route 397	Weekdays and Saturdays: Early AM hours (12:30 AM – 5:00 AM)	Weekday: 60 minutes Weekend: 60 minutes	El Camino Real and 2nd Avenue	0.5 mile	$2.05 Clipper
SamTrans ECR	All day	Weekday: 15-20 minutes Weekend: 30 minutes	El Camino Real and 2nd Avenue	0.5 mile	$4.00 Clipper
Caltrain	Weekdays: 4:30 AM – 1:40 AM; Weekends: 7:00 AM – 2:00 AM	Weekday: 30 minutes Weekend: 60 minutes	San Mateo Station	0.2 mile	$3.75 + $2.25 per zone

***Depending on distance*

Nearby Destinations

Key destinations near the project site include:

- Nine shopping centers and a walkable downtown center within three miles of the project site that offer access to retail shops, restaurants, grocery stores, banks, pharmacies, and gyms
- Over five restaurants within one mile of the project site
- Over two dozen childcare facilities within two miles of the project site
- Three parks within one mile walking distance of the project site
- Over a dozen schools within 3.5 miles of the project site

Table 4: Assigned Schools to Project Site

Nearby Schools	Travel distance (miles)
San Mateo High School	0.9
Laurel Elementary School	3.1
Abbott Middle School	3.4

Available TDM Services

Commute.org Incentives

Commute.org is San Mateo County's Transportation Demand Management Agency. Their resources are available to all residents and employees in the County. As such, the residents and employees of the project site will be able to take advantage of TDM resources curated for those commuting within the County and in the surrounding areas. The Commute.org website serves as a regional clearinghouse for all transportation and commuting-related information. They also provide the following services:

- **Try Transit Incentives:** Commute.org provides a 'try transit' program that allows individuals to request free tickets for the transit option that works best for them.
- **Vanpool Incentives:** Drivers of a new vanpool can earn a $500 reward, and vanpool riders can be reimbursed $100/month of their costs for up to three months.
- **Bike Education:** Free bike safety workshops and bike marketing materials are available to residents and commuters. These are scheduled upon request and are available to employers and other sites, including residential properties, within San Mateo County.
- **Bike Incentives:** Commute.org currently provides commuters who live or work in San Mateo County with incentives worth between $25 to $100 for biking to work. To participate in the program, bike commuters must track their work commutes using the Strava app. The rides are then recorded in the STAR platform, Commute.org's incentive delivery platform, where commuters can access their incentives

3 Project TDM Measures

The TDM strategies in this section are effective and appropriate TDM measures based on the project's size, location, and land use. They provide guidelines for implementation, cost estimates, and expected timelines, and indicate the anticipated responsible party for each recommended measure. It is understood that the property management team will be the 'responsible party' for most TDM measures outlined below.

A City of San Mateo guideline based on the Sustainable Streets Final Plan (SSP) (accepted by City Council in February 2015), recommends that all new developments within the Downtown core submit a TDM plan with a trip reduction target of 25 percent. However, the SSP has not been formally adopted and is therefore a guideline, not a formal requirement. This section aims to estimate the percentage of trips that each strategy can reduce for the property based on an estimated 309 daily trips generated by the property. It is important to note that many of the TDM strategies in this section are scalable and can easily be expanded by increasing the amount of resources allocated. The remaining TDM strategies play a supportive role in increasing the impact of the other strategies listed.

C/CAG TDM Program

As of January 1, 2022, the C/CAG TDM Policy requires that local jurisdictions in San Mateo County notify C/CAG of any new development within their purview that is estimated to generate at least 100 Average Daily Trips. Applicants then are required to submit a TDM Checklist alongside their development application acknowledging that their projects will achieve a target trip reduction. Based on their guidelines, the 435 E 3rd Avenue project is required to demonstrate a 25% trip reduction through TDM measures utilizing C/CAG's worksheet calculations. The TDM Measures laid out in this plan will allow the Applicant to achieve that required reduction.

TDM Coordinator

A TDM coordinator would help develop, implement, and report on the TDM strategies implemented at the project site. This person would be responsible for coordinating and marketing the selected TDM strategies as well as maintaining working relationships with the City and nearby developments.

Windy Hill also owns two existing buildings and one project in its planning application stage that are located within a few blocks of the 435 E. 3rd Avenue project site. The TDM coordinator could be a joint resource across these local projects, including their existing projects at 406 E. 3rd Avenue, 405 E. 4th Avenue and their new one at 500 E. 3rd Avenue. Maintaining the same TDM Coordinator across these developments could also reduce cost for the developer.

Implementation Guidelines

An individual from the property management team will be assigned the role of TDM Coordinator to plan and implement the TDM program. The TDM Coordinator should aim to spend about five hours a month on the following activities:

- **Annual Monitoring:** Survey the residents and employees to compile a monitoring report for submission to the City of San Mateo annually.
- **TDM Program Coordination and Outreach:** Organize and promote sustainable travel options through building communications such as emails, newsletters, and social media.

Estimated timeframe	Ongoing
Estimated cost	$2,000 per year
Responsible party	Property Management team
Estimated daily VMT reduced	23 to 46
Percent of daily vehicle trips reduced	Spending 5 hours per month organizing TDM programs will lead to a 0.9% to 1.6% decrease in vehicle trips (can be reduced further with an increased commitment in time and TDM strategies)

New Hire/Resident Packets

Individuals are most likely to make a change in their transportation behavior alongside other life changes. This means that providing new residents or new tenant employees with a packet that offers them all their transportation options would increase the likelihood for them to choose options other than driving alone.

New residents and employees will be provided with welcome packets that include a transit pass, customized transportation information about nearby transit routes, bus stops, bike maps and routes and other TDM initiatives undertaken by the property. The welcome packets should also include the contact information of the property's TDM Coordinator. Figure 8 offers an example of a welcome packet distributed to new residents in Santa Monica, CA.

Figure 8: New Resident Packet distributed in Santa Monica

Implementation Guidelines:

Design a New Hire/Resident Packet for the property that provides information on all transportation modes available as well as services that may make choosing sustainable travel easier. The TDM Coordinator can work directly with Commute.org, who can assist the property in purchasing Clipper Cards as well as provide supportive materials, commuter incentives, and advice. The packet should include:

- A GO Pass and/or Way2Go Pass (optional)
- Map depicting a 10- and 20-minute walk and bicycle radius
- Information about the transit options available (SamTrans and Caltrain) and how to connect to them including Park and Ride options
- Information about all the transportation related amenities offered by the property
- Information about Commute.org services and resources
- Information about Guaranteed Ride Home and how to register

Estimated timeframe	Ongoing
Estimated cost	$2,000 per year to develop packet, then up to $3 per packet to print and distribute. **Approximately $2,500 total** *With the optional inclusion of Way2GO/GO pass: $75/$342 per person, approximately 29 new employees (see Table A.5 in appendix) per $12,093. Total cost is approximately $14,593*
Responsible party	Property Management team
Estimated daily VMT reduced	109 to 122
Percent of daily vehicle trips reduced	3.8% to 4.2%

TDM Communications

To encourage individuals to choose sustainable travel options, it is critical to provide them with the information needed to do so. Having a communications plan that outlines what information to share and how would set clear expectations for the TDM Coordinator.

Communicating Transportation Information:

- **Website -** Having all transportation-related information and resources available in one virtual location makes it easy and convenient for residents and employees to learn about their travel options. The webpage should provide information about relevant special offers and programs from outside agencies (such as the Peninsula Clean Energy e-bike subsidy while there is funding), nearby transit routes and schedules, bike and pedestrian paths, services offered by Commute.org, and other amenities. This is especially helpful for residents new to the neighborhood or employees coming from outside of the City who are unaware of the transportation options available to them.
- **Resident and Employee Bulletin Boards** – Include TDM messaging in residents bulletin boards or other visible locations such as elevator screens on a regular basis to inform and update residents of sustainable travel options, upcoming events, and activities. Commute.org sends out regularly scheduled newsletters that provide up-to-date transportation information to utilize on boards or screens.
- **Newsletters and Social Media Posts** – Promote transportation options and updates via the apartment website and social media channels such as Facebook, Instagram, and Nextdoor, and include transportation information in newsletters or other communication distributed to tenants.
- **Transit Screen**- Transportation screens that provide real-time transit departures and arrivals to the property.

Transportation Options to Promote:

- All **TDM incentives and services** offered by the property to 435 East 3rd E. Avenue residents and employees
- **Resources for trip planning**, including Transit app, Google Maps or Citymapper offer excellent smartphone-based trip planning options
- **Commute.org** information about the resources available to residents and employees, especially information regarding the mode-specific resources and subsidies offered.
- Information about the **Guaranteed Ride Home (GRH) or Emergency Ride Home (ERH)** programs offered by the surrounding counties (e.g., Commute.org's GRH program for commuters who work in San Mateo County, Alameda County's GRH program, Marin County's ERH program, etc.).
- Information about **Safe Routes to School** programs
- **Locally accessible transit information** including Information about bikes on board Caltrain, secure bike parking, and Park and Ride lots and at the Downtown San Mateo Station and Hayward Park Station
- Information about **biking,** including links to local bike maps and cycling resources

Implementation Guidelines:

Create a webpage that lives on or is linked from the property's resident/tenant facing website and includes all the above listed information, at a minimum. Commute.org offers a comprehensive transportation resources website free of charge that provides much of the above information.

Develop a regular schedule for newsletters and social media posts and promote relevant transportation information regularly through employee and resident bulletin boards.

Estimated timeframe	Ongoing
Estimated cost	$1000 per year assuming it shares TDM communications strategy with surrounding buildings
Responsible party	Property Management
Estimated daily VMT reduced	3 to 6
Estimated daily vehicle trips reduced	0.3% to 0.7%

Sustainable Transportation Incentive

Providing incentives for alternative modes of transportation other than transit can help incentivize people to try new modes. This will be provided to individuals who use a sustainable mode of transportation other than transit at least 3 days per week. This provides individuals with the flexibility of using different modes of transportation such as cycling, walking and carpooling.

Implementation Guide:

Provide $100 vouchers to employees who use a sustainable mode of transportation to work other than transit. This can take the form of a gas card for those who carpool or vanpool, gift cards to local bike shops for those who ride bicycles, or just a cash/gift card distribution.

Estimated timeframe	**Monthly**
Estimated cost	$100 per tenant per month (employees and residents), costing approximately $5,000 per month. Cost estimate is based on 50 individuals participating in the program.
Responsible party	Applicant/Property Management
Estimated daily VMT reduced	565 to 628
Estimated of daily vehicle trips reduced	16.8 to 18.8%

Bicycle Support Facilities

Some commuters are interested in walking or cycling to work because of the exercise it provides but are discouraged by the idea of arriving to a worksite without a place to refresh, particularly in

hot weather. Provision of showers and lockers allows them to do so in a clean and comfortable environment before they start their workdays.

Implementation Guidelines

The applicant has provided plans for locker rooms, including showers, on the ground floor of the 435 E. 3rd Ave. development. Property management should ensure locker rooms and shower facilities are kept clean and usable.

Estimated timeframe	**Facility construction at development phase, maintenance ongoing**
Estimated cost	$0 as already included in applicant plan
Responsible party	Applicant/Property Management
Estimated daily VMT reduced	7 to 16
Estimated of daily vehicle trips reduced	0.32% to 0.65%

Please note the calculations for the bicycle support strategy includes Interior Bicycle Parking, refer to section to Interior Parking in chapter 4

4 Optional TDM Measures

Institutionalizing TDM

It is important that the TDM program is implemented as the site becomes occupied, and that it can be updated as needs change due to tenant turnover or introduction of new options in transportation and technology. Therefore, the TDM Plan should become institutionalized as part of the property's organizational structure to ensure the program remains in place and new tenants are aware of its existence.

Implementation Guidelines:

Institutionalize the TDM Program through the apartment and office tenant leases**.** Describe the TDM infrastructure, amenities, programs available to residents and employees, and how they will be made available to the tenants.

Estimated timeframe	During the drafting of lease language and ongoing
Estimated cost	$0 – it is likely that this cost will already be undertaken by the property management in order to establish the details of the lease agreement, so including TDM in this effort will likely come at no additional cost.
Responsible party	Property Management
Estimated daily VMT reduced	0
Percent of daily vehicle trips reduced	0%

Multimodal Wayfinding

The developer might want to provide multimodal wayfinding signage at entry and exit points of the property. Wayfinding can help people visualize the time to nearby amenities using sustainable travel options. Examples of wayfinding window decals used in the City of Tulsa, Oklahoma are shown in Figure 6.

Figure 9: Multimodal Wayfinding Decals used in Tulsa

Implementation Guidelines:

Using consistent and legible design guidelines, create and post a network of pedestrian-scale signage at key entry and exit points of the property. The signs should point users to relevant destinations and give them estimates for how far away they are by walking and/or biking. For example

- 4 minute walk to San Mateo Station
- 9 minute walk to San Mateo Central Park
- 15 minute-bike ride to Hillsdale Shopping Center

Be sure to evaluate the signage regularly to take into consideration any infrastructural or service changes that may impact options.

Estimated timeframe	Pre-occupancy
Estimated cost	$500 -$2,500 per year depending on technology
Responsible party	Property Management
Estimated daily VMT reduced	1 to 2
Estimated daily vehicle trips reduced	0%

Bike Education and Promotion

The property could partner with local bike advocacy groups, bike shops, or Commute.org to host bike safety workshops, educate residents and employees on the basics of biking, and share educational resources such as maps of nearby bike amenities like BikeLink lockers at train stations.

Implementation Guidelines:

Partner with Commute.org or a local bike advocacy organization to organize a bicycle safety training webinar or workshop annually. Commute.org offers free bike training workshops to employers and residential properties within San Mateo County.

Promote the workshop or webinar along with additional resources on the property's dedicated website, resident or employee newsletter/bulletin board, and social media. Some additional resources to share with residents and employees include:

- Bike Safety and Rules of the Road
- Family Biking - How to Bike Safely with Adults and Kids of Any Age
- Biking maps and trails

Estimated timeframe	75% occupancy, annually
Estimated cost	$500 per year
Responsible party	Property management to coordinate
Estimated daily VMT reduced	2 to 5
Estimated daily vehicle trips reduced	0.3% to 0.6%

Interior Bicycle Parking

Allowing residents and employees to bring bicycles to their desks and residences helps prevent theft that may occur at outdoor parking locations.

Implementation Guidelines

In addition to the 3 short-term bicycle spaces and 9 long-term spaces provided by the developer in their site plan, ensure that residents and employees are able to bring their bicycles into their residences and offices. This may include making sure elevators and doorways can accommodate bicycles and providing office space with ample room for storage.

Estimated timeframe	Ongoing
Estimated cost	$0
Responsible party	Property Management
Estimated daily VMT reduced	VMT reductions have been accounted for in the "bicycle support facilities" strategy
Estimated daily vehicle trips reduced	Trips reductions have been accounted for in the "bicycle support facilities" strategy

GO Pass and Way2Go Pass Provision/Transit Subsidy

Providing subsidized transit passes can help increase transit ridership. Discounted transit passes can be used as a strategy to encourage individuals to use public transit. This provides increased flexibility for those who might still opt to drive occasionally.

Implementation Guide:

Partner with Caltrain and SamTrans to provide free transit options to employees and residents:

Estimated timeframe	Monthly
Estimated cost	Approximately $342/employee for GO pass, $75/employee for Way2Go. Based on an estimate of 136 employees, employee cost estimate is $56,712 annually. Based on an estimate of 11 residents and Way2GO pricing of $40/resident and $342/resident, residential cost estimate is approximately $4,202 Total cost estimate is $60,914 annually
Responsible party	Property Management
Estimated daily VMT reduced	467 to 519
Percent of daily vehicle trips reduced	18.1% to 20.1%

Shared Mobility Support

Providing shared bikes and scooters to tenants, particularly residents, is an excellent way to further encourage bike ridership. Biking could easily replace driving for short trips and local errands under three miles. Use of e-bikes can increase the bike-shed even further, to around seven miles.

Implementation Guidelines:

If and when private shared mobility options are provided in San Mateo, work with locally operating vendor to provide discounted access to residents and employees. This could include monthly passes, if that is an option available from the provider, or set discounts per ride.

Estimated timeframe	Ongoing
Estimated cost	$10,000 to $15,000 per year depending on cost and number of bikes, ongoing maintenance. Administrative costs will vary based on program structure
Responsible party	Property management to coordinate
Estimated daily VMT reduced	1 to 2
Estimated daily vehicle trips reduced	0%

Promotional Programs

Contests, promotions and prizes can be used as a strategy to provide awareness about transportation options available to employees, residents, and visitors. This can be in the form of

short-term or long-term commute challenges and events that encourage the trail use of a new modes of commuting.

Implementation Guidelines:

Promote monthly or quarterly commute challenges that encourage individuals to try new modes of transportation, promotion can be done via the TDM communication's webpage. As incentives, include prizes in the form of gift cards, rewards points and transit subsidies.

Estimated timeframe	Ongoing
Estimated cost	$2,000-5,000 per year depending on the number of participants
Responsible party	Property Management
Estimated daily VMT reduced	8 to 17
Percent of daily vehicle trips reduced	0.32% to 0.65%

5 Impact of TDM Measures

If implemented correctly and consistently, the TDM program outlined in Chapters 3 and 4 is forecasted to result in a daily reduction of over 700 vehicle miles traveled (VMT), which would lead to a reduction in over 200 kilograms of carbon dioxide every day. The proposed TDM program also complies with the C/CAG's TDM requirements by incorporating each of the measures required and, according to the checklist provided by C/CAG, exceeding the trip reduction target of 25%, with an overall reduction of 26.5%.

Beyond the C/CAG checklist, which provides flat percentage reduction estimates for each strategy, this TDM Plan utilizes the TDM Return on Investment (ROI) Calculator, a tool owned by Mobility Lab and developed by university and governmental partners. The TDM ROI Calculator helps practitioners and policy makers understand the benefits of their investment in TDM strategies and programs by calculating estimated vehicle trips, VMT, hours of congestion delay, and emissions reduced, with more specific consideration given to number of expected users, daily trips taken, and average trip distances for each strategy. Based on the ROI calculator, the package of TDM measures will reduce daily vehicle trips by an estimated 22-25%. More information about the TDM ROI Calculator and assumptions made to calculate estimated impacts are included in Appendix A.

Program Impacts

TDM Program for 435 East 3rd Avenue

Table 5 outlines the total estimated VMT and congestion hours reduced with the recommended TDM program for the project site.

Table 5: Cumulative TDM Strategies

435 E 3rd Avenue	Annual VMT Reduced		Annual Vehicle Trips Reduced		% of trips reduced		Daily Congestion Reduced		Carbon Dioxide Reduced (kg)	
	Low Est.	High Est.	Low Est.	High Est.	Low Est	High Est.	Low Est.	High Est.	Low Est.	High Est.
Project TDM Measures	174,629	202,046	16,769	19,513	22.0%	25.6%	22,230	26,182	67,678	78,052
Optional Strategies	118,313	134,615	14,326	16,302	18.8%	21.4%	15,067	16,796	45,695	52,117
Project TDM Measures and Optional TDM Measures	292,942	336,661	31,122	35,815	40.8%	46.9%	32,297	42,978	113,373	130,169

Individual Strategies

Strategy	Daily VMT Reduced		Daily Vehicle Trips Reduced		% Of Daily Trip Reduced		Daily Congestion Reduced (hours of delay)		Daily Carbon Dioxide Reduced (kg)	
	Low Est.	High Est.	Low Est.	High Est.	Low Est.	High Est.	Low Est.	High Est.	Low Est.	High Est.
Combined TDM Coordinator	23	46	3	5	0.97%	1.62%	3	7	9	18
New Resident + New Employee Packet	109	122	12	13	3.88%	4.21%	14	16	42	47
TDM Communications	3	6	0	1	0.00%	0.32%	0	1	1	2
Sustainable Transport Incentive	565	628	52	58	16.8%	18.8%	73	82	219	243
Bike Support and Internal Bike Parking	7	16	1	2	0.32%	0.65%	0	0	3	6
Institutionalizing TDM at the Property	0	0	0	0	0.00%	0.00%	0	0	0	0
Multimodal Support	1	2	0	0	0.00%	0.00%	0	0	0	1
Bike Education and Promotion	2	5	1	2	0.32%	0.65%	0	1	1	2
Shared Micromobility support	1	2	0	0	0.00%	0.00%	0	0	0	1
GO Pass and Way2Go provision	467	519	56	62	18.1%	20.1%	61	67	181	201
Wayfinding to outside building (signs/stickers)	1	2	0	0	0.00%	0.00%	0	0	0	1
Promotional Programs	8	17	1	2	0.32%	0.65%	0	1	3	6

6 Monitoring

The City of San Mateo will require the site to perform annual monitoring and reporting. Ongoing monitoring will help the project site track the impact of their TDM programs, as well as provide a regular schedule for evaluating programming and identifying gaps and opportunities. The results will help the project adjust programs to better meet the needs of their residents and employees.

The City of San Mateo's general conditions for approval stipulate that all new developments must submit a Trip Reduction and Parking Management Plan and submit an annual monitoring report.

Annual Survey

The City of San Mateo requires an annual letter to the Public Works Director or designee that outlines the TDM measures implemented and information from a mode split survey.

To comply with City requirements, the TDM Coordinator will conduct an annual resident and employee survey to understand commute patterns and the modes by which they commute. During the first year of occupancy, an initial survey should be conducted to establish a baseline to which future surveys will be compared.

The baseline survey and the subsequent annual surveys should ask questions to understand how residents and employees travel for different types of trips and understand barriers to sustainable travel. To gain an insight into the resident's and employee's travel characteristics and attitudes, the survey should identify the following key topics:

- Mode of travel by trip purpose (work, school, leisure, etc.)
- Work location
- Business travel requirements, if applicable
- Daycare or school pick-up/drop-off location, if applicable
- Flexible working arrangements, if applicable
- Improvements to the main mode of travel
- Current barriers to walking/biking
- Ideas for how the property could encourage walking, biking, carpooling and transit
- Car ownership
- Level of awareness of the property's TDM amenities
- Feedback on amenities and services currently available to the residents
- Other services or amenities that are not currently offered which would encourage residents to try a different mode of travel

The survey results allow the property to not only track program progress but also identify ways to adjust the program and further shift travel behavior towards more sustainable modes (transit, bike, walk, and carpool) over time. The TDM Coordinator could use the data to understand which

amenities are popular and should remain, which are not effective and should be adjusted, and identify additional measures to implement in their place.

Appendices

A TDM ROI Calculator

The Transportation Demand Management (TDM) Return on Investment-(ROI) Calculator is a tool owned by Mobility Lab, an Arlington County, Virginia, funded transportation behavior and policy research center. It was developed in partnership with university and governmental partners, with funding from the Federal Highway Administration, to provide TDM program staff, transportation planners, and others involved in implementing TDM services a quantifiable way to estimate the ROI for TDM services.

According to the TDM ROI Calculator User Manual, the model calculates impacts for individual TDM services then combines the individual impacts, with discounts to account for overlap between services, to determine the cumulative impact of all services. [1]

The calculator performs the following functions:

- Estimates TDM travel impacts, defined as reductions in commute vehicle trips and vehicle miles travelled (VMT), from a user-defined package of TDM services
- Converts vehicle trip and VMT reductions into societal benefits, such as reduction in hours of travel time delay and gallons of gasoline saved
- Calculates the societal cost savings from each benefit and the overall cost saving from all benefits combined
- Compares the societal cost saving to the TDM program "investment" cost to estimate ROI

As most TDM programs do not have detailed VMT and trip reduction data, the ROI Calculator instead asks for user participation numbers and program costs as the inputs for its calculations. The model then uses four calculation factors derived from TDM service user surveys along with pre-set regional inputs and national environmental data to estimate the number of participants who will shift behavior and the number of daily vehicle trips, VMT and hours of congestion that their behavior shift will reduce. If more detailed regional and national data are known, they can be input to override the preset data used for calculation.

The inputs used for calculating the VMT and vehicle trip reductions for the 435 East 3rd Avenue plan are outlined below so that the results can be duplicated with ease.

[1] Mobility Lab.(2019).TDM ROI Calculator User Manual Retrieved from **https://mobilitylab.org/calculators/**

A1 Regional Inputs

At the outset in Section A (Your Region, Service Area Type and Transit Availability), the TDM ROI Calculator asks users to make a series of selections to determine geographic and transit characteristics of the area being examined. The options selected for the 435 East 3RD Avenue TDM Plan are displayed in **Table A.1** as follows:

Table A.1: Selections made for region, service area type and transit availability

Questions in the ROI Calculator	Option Selected for the TDM Plan
Metropolitan Region	San Francisco-Oakland-Hayward, CA
Primary land use density and development pattern	Moderate density
Primary focus of TDM program outreach	Primarily to commuters at worksites/through employers
Percentage of commuters within 1/2 mi of bus/train stop in the service area	76% to 100% of commuters are within 1/2 mile of a bus or train stop
Average public transit frequency in the service area in the morning peak period (Select ONLY ONE option)	Moderate-Average rush hour frequency for most routes is 16-30 minutes

With the above inputs selected, the model determines the classifications for the project site as follows in **Table A.2**:

Table A.2: Project site TDM service area and transit availability classifications

Your TDM Service Area classification is:	Suburban/Small city
Your Transit Availability classification is:	High Transit

A2 Regional Travel, Environmental and Cost Benefit Factors

The final section of the ROI Calculator (Section F - Additional Regional/Service Area Data Environmental Inputs) shows the default numbers used for regional travel, environmental and cost benefit factors. Users have the option to override these defaults by inputting values into the "User Defined" cells if specific local factors are known. Table A.3 shows the defaults assumed by the model and indicates if the defaults were overridden, and which values were used. The inputs defined in Table A.3 remained the same for all calculations for the 435 East 3RD Avenue plan.

Table A.3: Travel, vehicle pollutant emission, and benefit cost factor default and user defined values

Regional Travel Factors	Regional Default	User Defined
Average home-to-work commute miles for the region (one-way distance)	9.6	13.9[1]
Percentage of regional commuters who drive alone to work OR percentage of weekly commute trips made by driving alone	63.2%	72%[2]
Percentage of regional commuters who ride public transit to work OR percentage of weekly commute trips made by transit	17.6%	15%[2]
Regional Vehicle Pollutant Emission Factors	**National Default**	**User Defined**
Oxides of Nitrogen (NOx) emission rate in grams per mile of travel	0.445	0.171 [2]
Volatile Organic Compounds (VOC) emission rate in grams per mile of travel	0.075	0.035[4]
Greenhouse gas (Carbon Dioxide Equivalent) emission rate in grams per mile of travel	387.460	342.000[4]
Regional Benefit Cost Factors	**Regional Default**	**User Defined**
Median average wage rate for commuters in the service area or metropolitan region	$24.90	$49.71[1]
Estimated average annualized cost to build/maintain one lane-mile of major roadway (combination of Interstate and limited access roadway)	$165,000	N/A
Average pump price per gallon for regular unleaded gasoline	$3.36	$5.50[3]

[1] Source: San Mateo Economic Development Association's Labor Supply and Commute Patterns in San Mateo County Report, 2012.
[2] Source: ACS 2018 5-year for the Census Tract 6063, Census.gov
[3] Source: AAA Gas Prices
[4] Source: California Air Resources Board Emissions Factors (EMFAC) database

Assumptions

Resident Characteristics Assumptions

To estimate potential participation numbers, some assumptions about the number of individuals living at the property at 100% occupancy were made. These assumptions begin with the knowledge that there will be 5 units for rent. The assumptions and the basis for each are outlined in Table A.4.

Table A.4: 435 East 3rd Avenue resident and employee characteristics assumptions

Category	Assumption and Basis	Number
Total number of people residing at the property at full occupancy	ACS data indicates that there are 2.2 persons per household in the census tract 6063 and there will be 5 residential units	11
Children under 18	ACS data shows that 17% of the census tract's population is children	2
Adults	Subtracting children from the total population	9
Number of residential commuters	ACS data shows that 30.3% of people residing in the census tract are not in the labor force	7
Number of employee commuters	California building code prescribes a minimum 100 sq. ft. per occupant for office space and there will be 43,000 sq. ft. of office space.	136

ROI Calculator Participation and Calculation Factors Assumptions

In order to use the ROI calculator to calculate estimated impacts for the 435 East 3RD Avenue project, assumptions were made to estimate participation rate for each strategy. Additionally, if a strategy was not outlined as a direct input in the model, assumptions were made to estimate the calculation factors associated with it. Table A.5 outlines those assumptions.

Table A.5: 435 East 3RD Avenue Calculation Assumptions

Strategy	ROI Calc Input	Participation Assumption (per year)	Basis for Participation Assumption	Placement rate (%) Assumption	Vehicle Trip Reduction Factor Assumption	One-Way Commute Distance Assumption	Drive-Alone Access % Assumption
Combined TDM Coordinator	Comprehensive commute assistance	15	Organize all TDM activities on the property and assist 10% of residents and tenants with questions about transportation including one-on-one assistance when asked and promoting sustainable transportation options	40% Pre-set in mode	0.8 Pre-set in model	19.8 miles Pre-set in model	40% Pre-set in model
New Resident Packet	Alternative mode "try it" incentive	29	Each household on the property would receive a packet. At a minimum, the transit users (15%, 21) would take advantage of the cards and an additional 5% (8) will "try it" based on the transit mode split and ease of accessing the incentive	50% Pre-set in model	1 Pre-set in model	19.8 miles Pre-set in model	40% Pre-set in model
TDM Communications	Commute program website	50	10% of adults would access webpage for transportation info and incentives and approximately 25% would see the newsletter and social media communications, especially if they are included with communications regarding other property updates.	35% Pre-set in model	0.3 Pre-set in model	19.8 miles Pre-set in model	40% Pre-set in model
Sustainable Transportation Incentive	On-going Multimodal	96	About ¾ of the adult of the population will be eligible to participate in program (those that don't use transit subsidy benefit)	50% Preset in model	1.2 Preset in model	11.5 Preset in model	20% Preset in model
Bike Support +Internal Parking	Custom	10	3% of Commuters will use it and an additional 2 users will use it based on the placement rate	30%	1.2 Used the same pre-set for a	10.0 Average doable biking	40% Pre-set in model

					bike commute program	distance according to Mobility Lab [A1]	
Institutionalizing TDM at the Property	Targeted residential marketing	143	All residential and employee commuters at the property would see and sign the lease	1% Pre-set in model	0.5 Pre-set in model	19.8 miles Pre-set in model	40% Pre-set in model
Wayfinding to outside building (signs/stickers)	Targeted residential marketing	147	The decals would be visible to all residents, visitors and employees	1% Pre-set in model	0.5 Pre-set in model	19.8 miles Pre-set in model	40% Pre-set in model
Bike Education and Promotion	Custom	3	Approximately 3 individuals will attend the workshop based on cycling mode share from census tract.	20% Pre-set in model (for commute challenges/ events)	1.2 Used the same pre-set for a bike commute program	10 miles Average doable biking distance according to Mobility Lab [A1]	40% Pre-set in model
Shared Micro mobility Support	New Mode Options	7	5% of the population carpools and with an additional incentive more people could be motivated to carpool	40% Preset in model	1.2 Preset in model	4.5 Preset in model	0% Preset in model
GOPass and Way2Go Provision/Transit Subsidy	On-going transit incentive	147	Transit passes will be provided for the total population aged 5+	35% Preset in model	1.2 Preset in model	8.6 Preset in model	10% Preset in model
Promotional Programs	Commute Challenges/Events	37	Transit users at a minimum will take advantage of promotional programs, and an additional 15% of tenants will “try it” based on incentives	Preset in model 20%	Preset in model 0.3	Preset in model 19.8	Preset in model 40%

B Background Assessment

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