APPENDIX C

TRANSPORTATION IMPACT STUDY

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388 Vintage Park Drive Transportation Impact Assessment

Prepared for:
The City of Foster City

December 14, 2021

SF21-1167

FEHR PEERS

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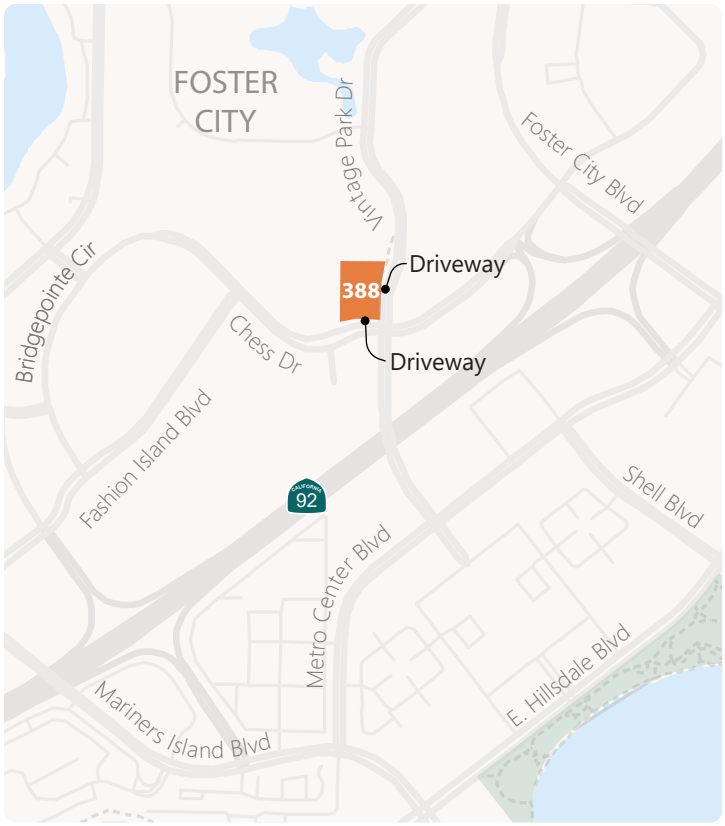
Project Overview



This summary depicts the transportation impact analysis findings for **388 Vintage Park Drive** ("the Project"), a new 96,000 sq. ft. life sciences office development in Foster City. Findings for vehicle miles traveled (VMT) and vehicle trips are discussed below.

Project Site Access

TRANSIT

» SamTrans
251 Foster City - Caltrain
256 Hillsdale Mall - Foster City

» AC Transit
Line M - Hayward BART - Hillsdale Mall *(Suspended)*

» Commute.org
Mariners' Island > Belmont Caltrain
North Foster City > Millbrae BART/Caltrain
Lincoln Centre > Belmont Caltrain

BIKE

» Project includes **20** indoor bike parking spaces.

» Bicyclists can access the project site via a bike lane on Vintage Park Drive and a bike route on Chess Drive.

CAR

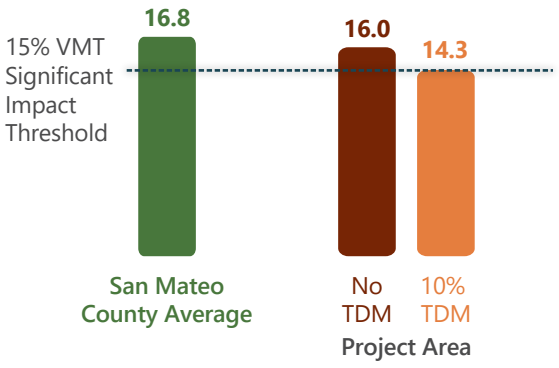
» The Project proposes to provide **210 parking spaces** for an expected daily employee population of **213 people**. This would accommodate peak parking demand.

Transportion Impacts

Vehicle Mile Traveled (VMT)

The Project has proposed a transportation demand management plan that would be effective at reducing 10% of VMT. With its TDM plan, the Project would generate **14.3 VMT per employee** - 10% below the average for San Mateo County and at its significant impact threshold. With this TDM plan, the Project would not have a significant impact on VMT.

Home-Based Work VMT per Employee by Location

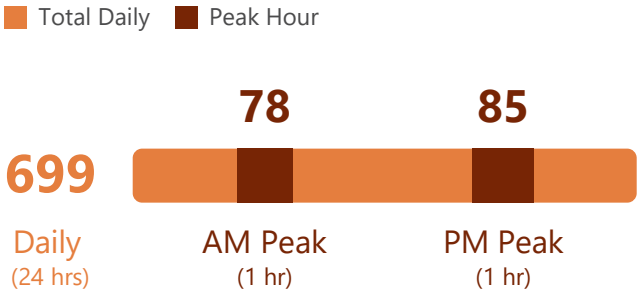


Sources: C/CAG-VTA Bi-County Transportation Demand Model, 2021; Fehr & Peers, 2021

Vehicle Trips

The project would generate an average of **699 vehicle trips** per day. Of those trips, **11%** would occur during the AM peak hour and **12%** would occur during the PM peak hour.

Average Weekday Vehicle Trips



Sources: Fehr & Peers, 2021; ITE Trip Generation Manual, 10th Edition.

Introduction

This transportation impact assessment (TIA) reviews transportation conditions at and adjacent to 388 Vintage Park Drive in the City of Foster City. Conditions are evaluated for the current site without the proposed project, for plus project near-term conditions, and for cumulative 2040 conditions with and without the proposed project. The topics presented herein are intended to disclose the transportation related CEQA impacts and the local transportation effects of the project. These topics include an assessment of vehicle miles traveled, site access and circulation, driveway site distance and vehicle queuing, parking, and hazards and emergency vehicle access. Additionally, an assessment of vehicle level of service is included for informational purposes for consistency with General Plan Policy LUC-F-1. Finally, this TIA presents a summary of the impacts and mitigation measures based on the relevant significance criteria.

Methodology

The study area includes Foster City Boulevard to Mariners Island Boulevard from the east to west and East Third Avenue to East Hillsdale Boulevard from the north to south. Study intersections include the Chess Drive / State Route 92 (SR-92) Westbound Ramps, Chess Drive / Foster City Boulevard, Foster City Boulevard / Metro Center Boulevard, and the Metro Center Boulevard / SR-92 Eastbound Ramps.

Transportation conditions were evaluated for the weekday peak periods of 7:00 to 9:00 AM and 4:00 to 6:00 PM. Due to decreases in commute travel associated with COVID-19, traffic counts are currently lower during the AM and PM peak hour commute periods and traditional field intersection counts are not representative of typical traffic volumes. Therefore, intersection turning movement counts from the Metro Center Hotel Project EIR[1] were used to establish existing conditions representative for a return to pre-COVID-19 travel. This data was collected for morning and evening peak periods in May 2019 on non-holiday weekdays, when local area schools were in normal session. These were supplemented with qualitative notes from a field visit in August 2021.

Descriptions of existing transit service are based on service levels prior to COVID-19 and include descriptions of long-range plans for future service changes like Reimagine SamTrans or the San Mateo County Transit District Shuttle Study. Many service operators continue to run reduced schedules due to the COVID-19 pandemic and have yet to announce firm timelines for the return of pre-COVID service levels.

Based on recent changes to the California Environmental Quality Act (CEQA) guidelines with the implementation of SB 743 and guidance from the OPR, VMT is recommended as the appropriate measure of transportation impacts under CEQA. LOS and other similar vehicle delay or capacity metrics can no longer serve as transportation impact metrics for CEQA analysis. However, per General Plan Policy LUC-F-1, the City of Foster City continues to evaluate LOS analysis for land use development projects through the non-CEQA local transportation analysis.

[1] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.

Project Description

The 388 Vintage Park Drive Project (herein described as "the Project") proposed to construct a 4-story life science office building with a ground-level parking garage. The Project site, as seen in **Figure 1,** is located at 388 Vintage Park Drive in the City of Foster City.

The Project is located on a 2.2 acre parcel with an existing 10,120 square foot vacant commercial building. The Project proposed to demolish the existing building and construct a 95,931 square foot office building. The Project is anticipated to have a daily employee population of 213 people. The Project would include approximately 28,000 square feet of open space and 210 vehicle parking spaces. The site will be accessed via a driveway at the northeast corner of the Project site along Vintage Park Drive and another driveway at the southwest corner of the site along Chess Drive.

The Project has proposed a transportation demand management (TDM) plan that would include transit or ridesharing passes or subsidies, pre-tax transportation benefits, participating in Commute.org (a transportation demand management agency for the County of San Mateo), a carpool or vanpool program, secure bicycle storage, and showers and changing rooms for bicyclists. This plan is described in greater detail in **Appendix C:**.

Study Intersections

Project Site

Figure 1

Project Site & Study Intersections

Existing Transportation Conditions

Transportation topics are discussed in the following order: roadway network, pedestrian facilities, bicycle facilities, transit service, vehicle volumes and lane configurations, intersection level of service, and parking conditions. The Project site and study intersections are shown in **Figure 1**.

Existing Roadway Network

Regional access to the Project site is provided by SR-92 and U.S. 101. Access to SR-92 is provided via interchanges at Chess Drive / Foster City Boulevard / Metro Center Boulevard and Edgewater Boulevard / Mariners Island Boulevard / Fashion Island Boulevard. Access to US 101 is provided via interchanges at East 3rd Avenue and East Hillsdale Boulevard, and with SR-92. Key city streets used for local access include Vintage Park Drive, Chess Drive, Metro Center Boulevard, Foster City Boulevard, Fashion Island Boulevard, Bridgepoint Parkway, Shell Boulevard, East 3rd Avenue, and Mariners Island Boulevard. Speed limits on roadways in the study area range from 25 miles per hour (mph) on local streets to 35–45 mph on arterials. The speed limit is 55 miles per hour on SR-92 and 65 miles per hour on US 101. On-street parking is not allowed on the local roadways within the study area except where noted in the roadway descriptions below.

Regional Highways

SR-92 is a State highway that runs in an east-west direction from Half Moon Bay, near the coast, to Hayward on the east side of San Francisco Bay via the San Mateo Bridge. SR-92 has partial interchanges (hook ramps) with Chess Drive / Foster City Boulevard / Metro Center Boulevard and Edgewater Boulevard / Mariners Island Boulevard / Fashion Island Boulevard. It generally has three travel lanes in each direction east of US 101 and two travel lanes in each direction west of US 101, with auxiliary lanes between interchanges. In 2019, average daily volumes on SR-92 through the study area range from 147,000 vehicles between US 101 and Mariners Island Boulevard to 98,000 vehicles at the San Mateo Bridge.

US 101 is an Interstate freeway that provides regional north-south access along the San Francisco Peninsula. In the vicinity of Foster City, US 101 typically has four travel lanes in each direction with an auxiliary lane between interchanges. Although US 101 does not run directly through Foster City, it provides the primary north-south regional access to the study area via interchanges at SR-92, East Hillsdale Boulevard, and East 3rd Avenue in the City of San Mateo. In 2019, average daily traffic volumes on US 101 through Foster City range from 233,000 vehicles at East Hillsdale Avenue to 263,000 vehicles north of SR-92.

Local Roadways

Vintage Park Drive is four-lane, north-south arterial that extends from Foster City Boulevard to Metro Center Boulevard. It fronts the Project site to the east and provides driveway access to the Project. The speed limit on Vintage Park Drive is 30 miles per hour.

Chess Drive is an arterial that extends eastward from Bridgepointe Parkway past Foster City Boulevard and then curves around to the north and west to intersect with Foster City Boulevard at Vintage Park Drive. Access to westbound SR-92 is provided via hook ramps just west of Foster City Boulevard. Chess Drive is four lanes wide west of Foster City Boulevard and two lanes wide to the east. On-street parking is allowed along Chess Drive to the east of Hatch Drive. It fronts the Project site to the south and provides driveway access to the Project. The speed limit is 30 miles per hour from the San Mateo city limit to Foster City Boulevard, after which the speed limit is 25 miles per hour.

Metro Center Boulevard is a four-lane, east-west arterial that runs parallel to SR-92 south and extends between Edgewater Boulevard and Foster City Boulevard where it becomes Triton Drive. Access to eastbound SR-92 is provided by hook ramps just west of Foster City Boulevard. The speed limit is 35 miles per hour.

Foster City Boulevard is a four- to six-lane arterial that extends from East 3rd Avenue, across SR-92, to Beach Park Boulevard. It is a major north-south arterial in Foster City. On-street parking is allowed along northbound Foster City Boulevard between Bounty Drive and approximately 450 feet south of East Hillsdale Boulevard. The speed limit is 35 miles per hour, except for the segment between East Hillsdale Boulevard and Bounty Drive, where the speed limit is 40 miles per hour.

Fashion Island Boulevard is a four-lane, east-west collector that connects Bridgepoint Circle to 19th Avenue to the west. It has a full access interchange with US 101 in the City of San Mateo. At Bridgepoint Circle, Fashion Island Boulevard continues as Bridgepoint Parkway to the east. The speed limit is 35 miles on Fashion Island Boulevard and is 30 miles per hour on Bridgepoint Parkway.

Shell Boulevard is a four-lane arterial that runs north-south from Metro Center Boulevard to Beach Park Boulevard. The speed limit is 35 miles per hour.

East 3rd Avenue is a four-lane divided arterial that runs in an east-west direction along the San Francisco Bay shoreline north of SR-92. It has a full access interchange with US 101 in the City of San Mateo. The speed limit is 45 miles per hour west of Foster City Boulevard, and 40 miles per hour east of Foster City Boulevard.

Mariners Island Boulevard connects Edgewater Boulevard and SR-92 eastbound ramps on the south end and E 3rd Avenue on the north end. It is a 4-lane collector with raised medians. On-street parking is allowed on the west side of Mariners Island Boulevard between 3rd Avenue and Armada Way. The speed limit is 35 miles per hour.

Existing Pedestrian Facilities

Pedestrian facilities comprise sidewalks, off-street pathways, marked and enhanced crosswalks (mid-block and at intersections), curb ramps, median refuges, and pedestrian-scale lighting. Pedestrian facilities were assessed during a site visit in August 2021. Sidewalks are provided along both sides of all roadways around the Project site, with marked crosswalks and curb ramps at all intersections. Pedestrian signals with pedestrian-activated push buttons are provided at signalized intersections. Medians are often present on the wide boulevards, but median refuge islands are rarely provided for pedestrians.

Figure 2. Sidewalks Adjacent to the Project Site

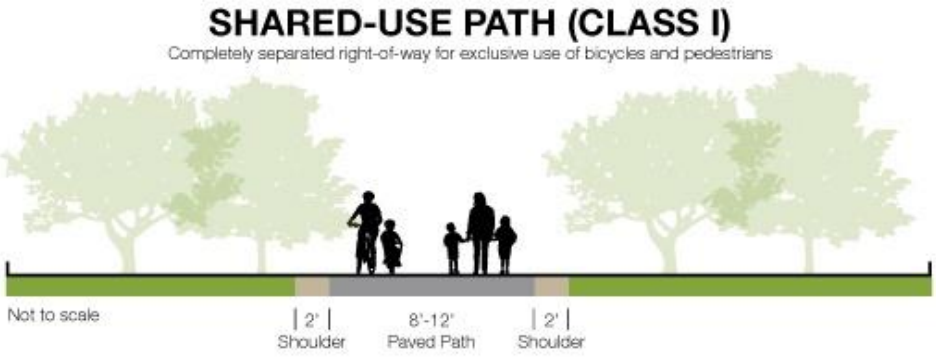
Left: Sidewalks Chess Drive, directly south of the Project site. Right: Sidewalks on Vintage Park Drive facing Chess Drive, to the east of the Project site.

Source: Fehr & Peers, 2021

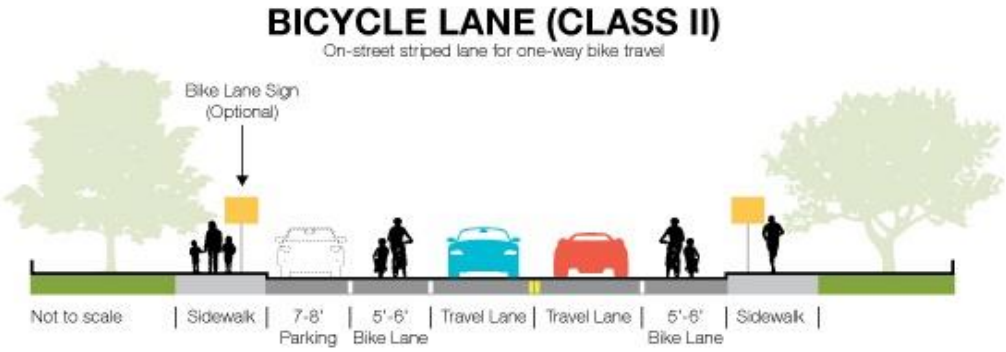
Existing Bicycle Facilities

Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the *Highway Design Manual* (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary types of bikeway facilities: Class I, Class II, Class III, and Class IV. These facilities types are described below.

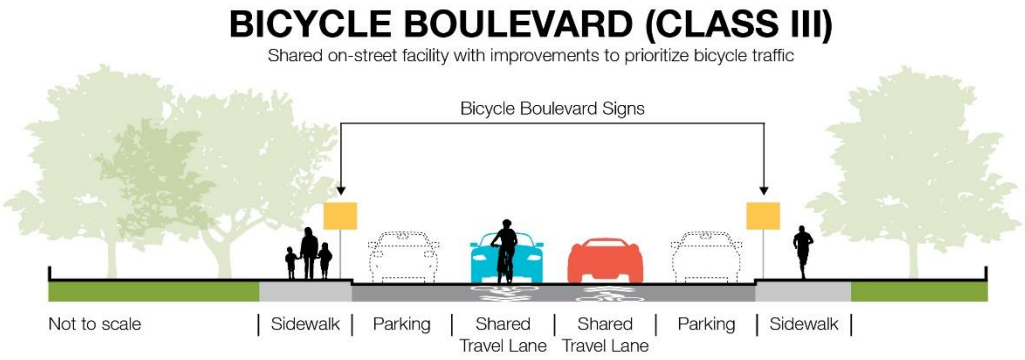
- *Class I Bikeway (Bike Path)* provides a completely separate right-of-way, is designated for the exclusive use of bicycles and pedestrians and minimizes vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed.



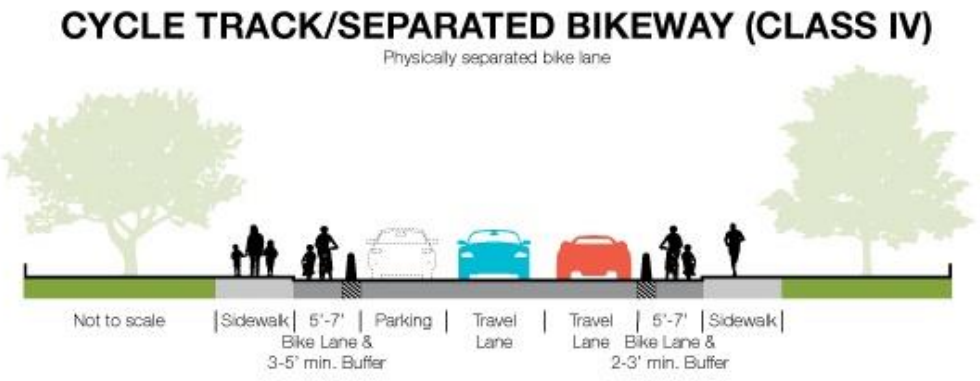
- *Class II Bikeways (Bike Lanes)* are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally five feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. Note that when grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separate Bikeways.



- *Class III Bikeway (Bicycle Routes/Bicycle Boulevards)* are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to a) provide continuity to other bicycle facilities, or b) designate preferred routes through high demand corridors. Bicycle routes are implemented on low-speed (less than 25 mph) and low-volume (less than 3,000 vehicles/day) streets.

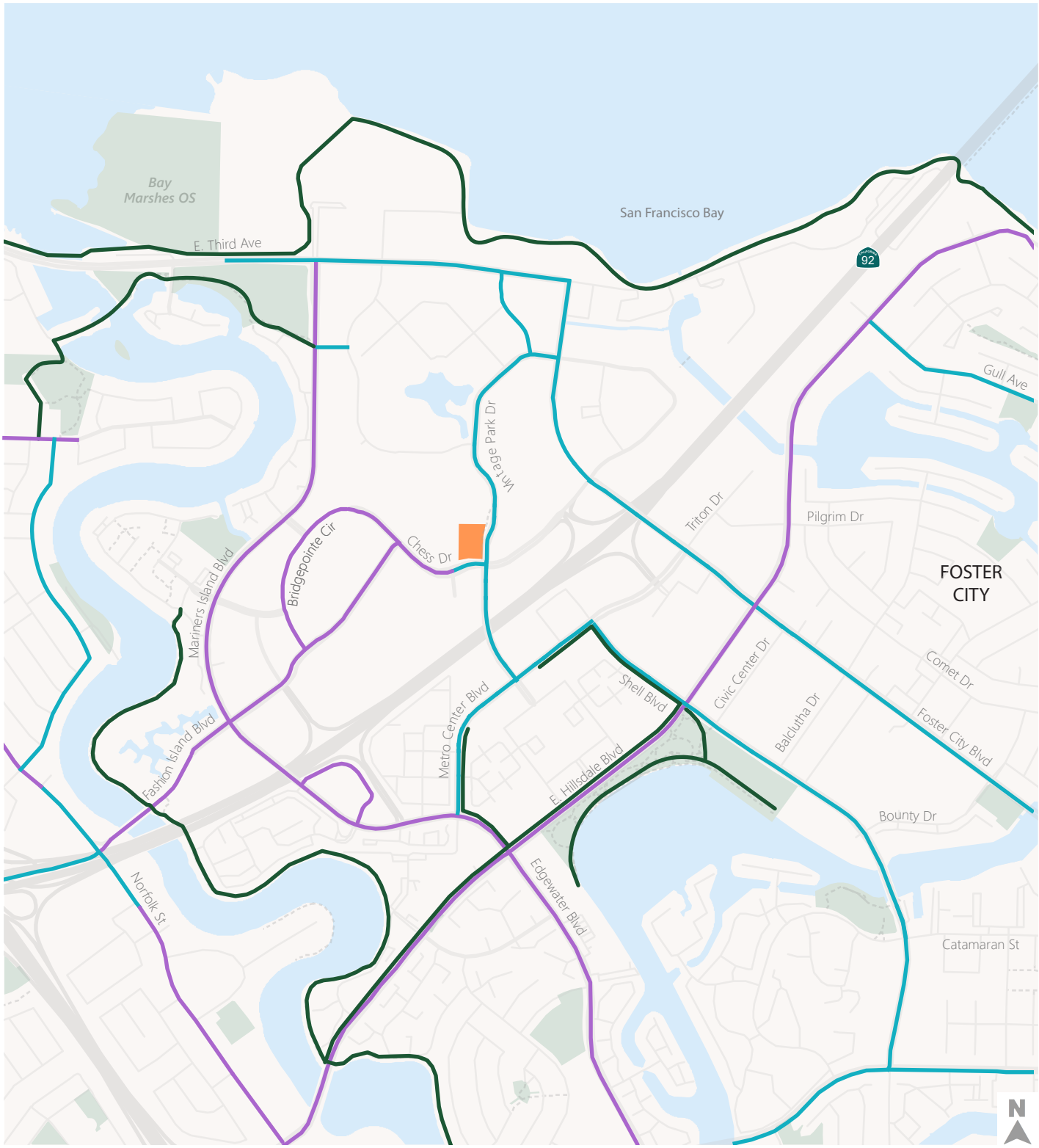


Class IV Bikeway, also known as "cycle tracks" or "protected bike lanes," provide a right-of-way designated exclusively for bicycle travel within a roadway and which are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts, inflexible physical barriers, or parked cars.



Current bicycle facilities near the Project are shown in **Figure 3**.[2] One bicycle facility provides direct access to the project site: a Class III bike route marked with green sharrows on Vintage Park Drive. Class II bike lanes on Chess Drive in San Mateo to the west of the project site also provide connections to other Class II bike lanes in the study area, including on Bridgepointe Circle, Fashion Island Drive, and Mariners Island Boulevard. Additional Class III bike routes are located on East Third Avenue, Foster City Boulevard, Shell Boulevard, and East Hillsdale Boulevard.

[2] There are currently no unbuilt proposed bicycle facilities in the Project vicinity.



Bicycle Facilites

- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route

Project Site

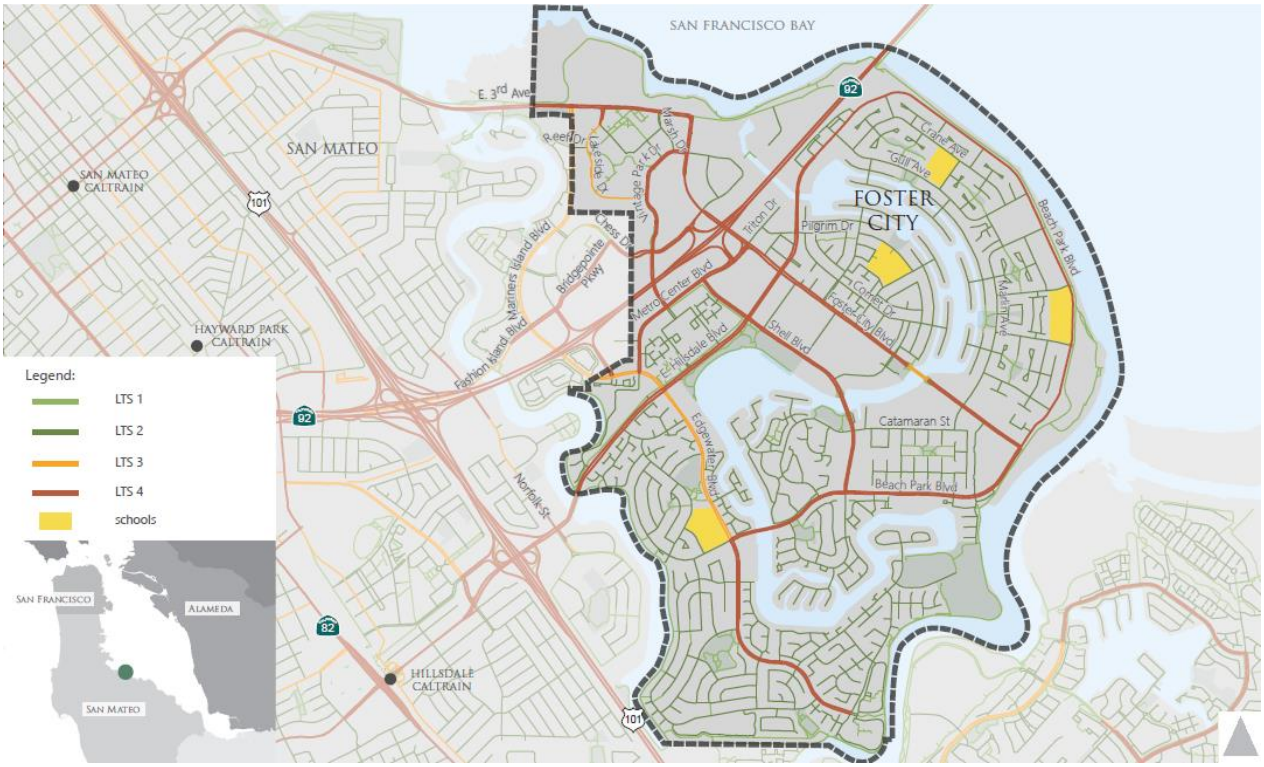
Figure 3

Existing Bicycle Network

However, these bicycle facilities would be ranked as a having a high "Level of Traffic Stress" (LTS).[3] LTS measures bicycling comfort based on roadway characteristics. Low stress bikeways are comfortable for everyone to ride on, including people who would be categorized as "interested but concerned". In contrast, high stress bikeways are only tolerated by a few: primarily those who could be described as "strong and fearless" – those comfortable riding under any conditions (about 7% of the population). Class II or Class II bicycle facilities on roadways with multiple lanes of vehicle traffic and speed limits above 25 miles per hour would be categorized as high stress bikeways.

The bicycle facilities adjacent to the Project site would be categorized as high stress (LTS 4, as shown on **Figure 4**). As such, it would be unlikely that any but the most confident and fearless bicyclists would feel comfortable bicycling to the Project site.

Figure 4. Bicycle Level of Traffic Stress (2017)



Roads rated as LTS 3 or 4 are high level of traffic stress and would feel unsafe for bicycling for most people. The above map represents bicycling conditions in Foster City in 2017, prior to implementation of several recent improvements, such as bike lanes on East Hillsdale Boulevard.

Source: Foster City Bicycle Network Assessment, 2017.

[3] The LTS Methodology was developed by Muerkuria, Furth, and Nixon in *Low Stress Bicycling and Network Connectivity* (2012).

Existing Transit Service

Transit service within Foster City near the Project site is provided by several agencies. San Mateo County Transit District (SamTrans). SamTrans is the primary regional and local transit provider within San Mateo County, serving all rail stations within the County and major transit transfer points for Santa Clara, Alameda, and San Francisco counties. The Bay Area Rapid Transit (BART) and Caltrain rail systems provide regional connections to San Francisco in the north and Santa Clara County in the south. The Peninsula Traffic Congestion Relief Alliance (Commute.org) operates shuttle routes connecting to BART and Caltrain stations. Additionally, Alameda-Contra Costa Transit District (AC Transit) provides bus service from San Mateo County to Alameda County.

Transit service from each of these agencies is described below in **Table 1** and depicted in **Figure 5**. Many service operators continue to run reduced schedules due to the COVID-19 pandemic. The schedule and service information described below reflects pre-COVID-19 timetables, which SamTrans plans to resume when workers resume in-person work.

Several transit agencies are considering major service changes that could alter transit service to Foster City over the next few years. First, SamTrans is currently conducting a comprehensive service revisioning process, named "Reimagine SamTrans". As of August 2021, SamTrans has developed three new potential bus system alternatives and is soliciting community feedback to inform the final proposal. Additionally, the San Mateo County Transit District Shuttle Study is undertaking a comprehensive and holistic analysis of the publicly available first/last mile shuttles serving San Mateo and Santa Clara Counties and includes recommendations for how the shuttle program might be restructured. This could eventually change the shuttle routes operated by Commute.org, which are partially funded through this program.

Table 1: Existing Transit Service

Service Provider	Name/Description	Hours of Operation (Headways) (Pre-COVID-19)	Service Status (July 2021)
SamTrans	251 – Caltrain Connection	11:30 AM – 8:17 PM Weekdays (60 min.) 8:30 AM – 7:20 PM Saturdays (120 min.)	Reduced service
	256 – Caltrain Connection	6:34 AM – 5:25 PM Weekdays (60 min.) 7:30 AM – 8:18 PM Saturdays (120 min.)	Same service
	54 – School Service	7:39 AM – 8:05 AM Weekdays (one bus) 1:50 PM – 3:40 PM Weekdays (six buses)	Suspended
	57 – School Service	6:50 AM – 7:20 AM Weekdays (one bus) 2:10 PM – 4:02 PM Weekdays (two buses)	Suspended
	FCX – Foster City Commuter Express	6:00 AM – 8:00 AM Weekdays (30 min.) 3:30 PM – 6:00 PM Weekdays (30 min.)	Same service
AC Transit	M – Transbay Service	5:57 AM – 6:53 PM Weekdays (40 min.)	Suspended
Commute.org	NFC – North Foster City – Millbrae BART/Caltrain	6:35 AM – 10:02 AM Weekday (30 min.) 4:04 PM – 7:18 PM Weekday (30 min.)	Reduced service
	LC – Foster City – Lincoln Centre Caltrain	7:00 AM – 9:40 AM Weekday (45 min.) 3:08 PM – 7:05 PM Weekday (40 min.)	Reduced service
	MAR – Mariners Island Caltrain	7:00 AM – 10:25 AM Weekday (45 min.) 3:12 PM – 6:39 PM Weekday (45 min.)	Reduced service

Source: Fehr & Peers, 2021.

SamTrans

SamTrans operates Route 251, Route 256, Route 54, Route 57, and Route FCX in Foster City. Route 251 provides a connection between the Hillsdale Shopping Center and Hillsdale Caltrain station in San Mateo, Foster City, and the Bridgepointe Shopping Center in San Mateo. Route 256 operates along the same route as Route 251, but in the opposite direction for the loop within Foster City. Routes 54 and 57 serve the weekday morning and afternoon school commute to/from Bowditch Middle School and Hillsdale High School in San Mateo and Foster City, respectively. Route FCX (Foster City Commuter Express) operates weekday morning service from Foster City to San Francisco and evening service from San Francisco to Foster City. A bus stop on Chess Drive directly south of the Project site serves Routes 251 and 256 traveling in the westbound direction. A bus stop at 3000 Bridgepointe Parkway (500 feet as the crow flies from the Project site, or 0.4 miles walking) serves Routes 251 and 256 traveling in the eastbound direction.

In addition to its traditional bus routes, SamTrans runs paratransit service for persons with disabilities through its Redi-Wheels program. The Foster City Parks & Recreation Department's Senior Express Shuttle also operates on-demand service for Foster City residents who are 50 years of age and above.

AC Transit

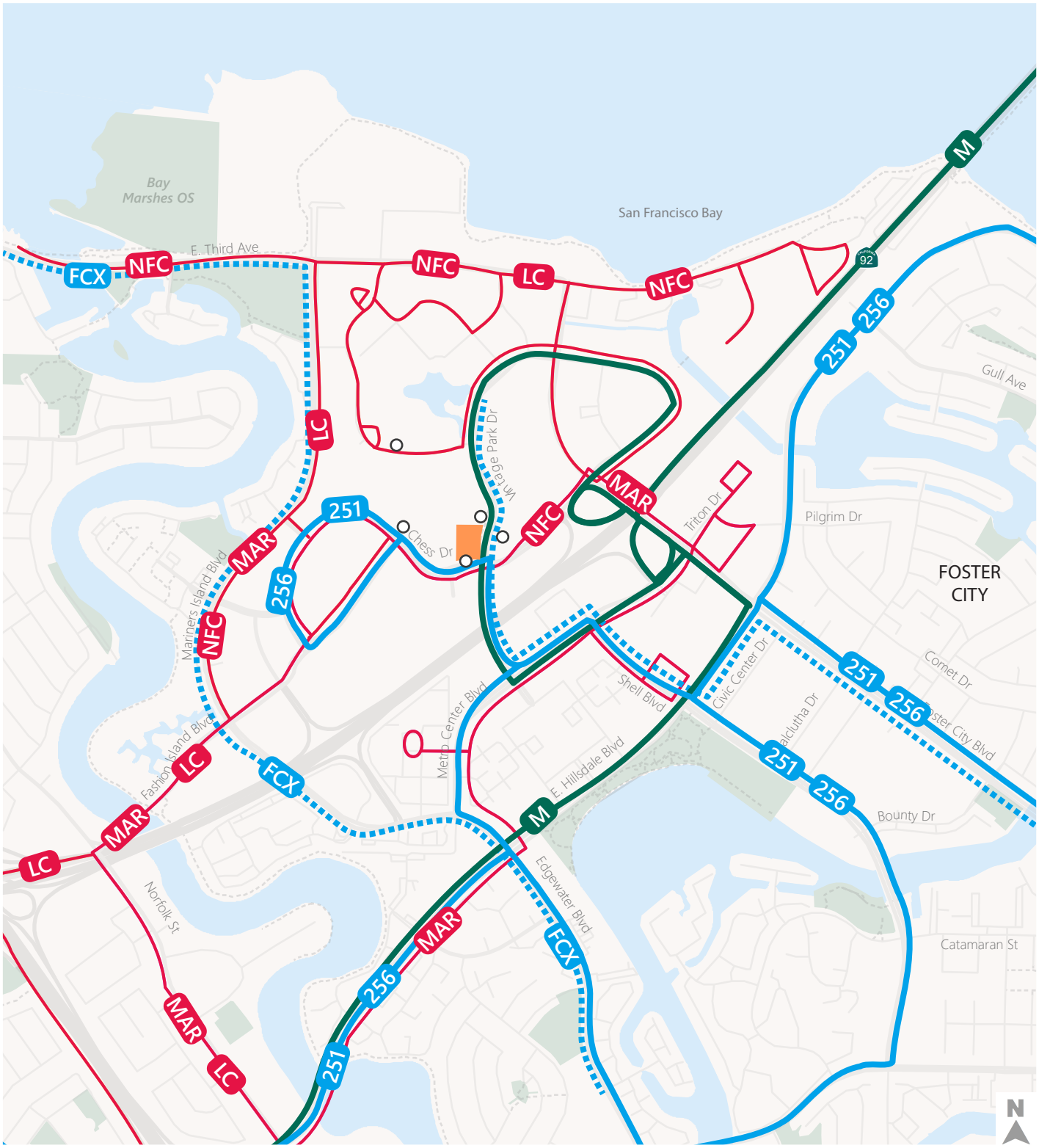
AC Transit provides Transbay service between Hayward and San Mateo. Line M operates across the San Mateo Bridge/SR-92 and travels on Foster City Boulevard, Chess Drive, Vintage Park Drive, Metro Center Boulevard, and East Hillsdale Boulevard in Foster City. A bus stop on Vintage Park Drive serves Line M for westbound AM and eastbound PM trips and is located approximately 500 feet north of the Project site. As of June 13, 2021, AC Transit has temporarily suspended the Transbay service Line M in response to the COVID-19 pandemic. The timeline for service return is unknown.

Commute.org Shuttles

The Mariners Island Shuttle provides service between the Hillsdale Caltrain Station and businesses in the San Mateo and Foster City border areas during commute hours, Monday through Friday. The nearest Mariners Island Shuttle stop to the Project site is located about 400 feet east of the Project site.

The North Foster City Shuttle and Lincoln Centre Shuttle also operate in Foster City. The North Foster City Shuttle provides service between the Millbrae Intermodal Station (with BART and Caltrain service) and businesses and office buildings in the North Foster City Area during commute hours, Monday through Friday. The Lincoln Centre Shuttle runs between the Belmont Caltrain Station and businesses in the Lincoln Centre Area in North Foster City. The nearest shuttle stop for both routes is located at Bridgepoint Circle and Bridgepoint Parkway, about 0.2 miles to the west of the Project site.

Both shuttles are currently operated with reduced service relative to pre-COVID service levels. At the present, there is no clear plan for when shuttles will return to pre-COVID service levels.



- Bus or Shuttle Stop
- SamTrans Route
- SamTrans Express Route
- AC Transit Route
- Commute.org Route
- Project Site

Figure 5

Existing Traffic Conditions

Due to decreases in commute travel associated with COVID-19, traffic counts are currently lower during the AM and PM peak hour commute periods and traditional field intersection counts would not be representative of typical peak hour traffic volumes.[4] Therefore, this analysis relies on intersection turning movement counts (including vehicles, bicycles, and pedestrians) as part of the Metro Center Hotel Project EIR[5] to establish existing conditions representative for a return to pre-COVID-19 travel. This data was collected for morning and evening peak periods (7:00 to 9:00 AM and 4:00 to 6:00 PM) in May 2019 on non-holiday weekdays, when local area schools were in normal session. Vehicle volumes were studied for the following intersections:

1. Chess Drive / SR-92 Westbound Ramps
2. Chess Drive / Foster City Boulevard
3. Foster City Boulevard / Metro Center Boulevard
4. Metro Center Boulevard / SR-92 Eastbound Ramps

Traffic Operations Analysis Methodology

The evaluation of traffic conditions on local streets involves an analysis of intersection operations, as intersections represent the locations where the roadway capacity is most constrained. Intersection and freeway mainline segment operations were evaluated with level of service (LOS) calculations. Level of service is a qualitative description of operations ranging from LOS A, when the roadway facility has excess capacity and vehicles experience little or no delay, to LOS F, where the volume of vehicles exceeds the capacity resulting in long queues and excessive delays. Typically, LOS E represents "at-capacity" conditions and LOS F represents "over-capacity" conditions. At signalized intersections operating at LOS F, for example, drivers may have to wait through multiple signal cycles prior to making intended traffic movements. LOS criteria and average delay are summarized in **Table 2**.

[4] A site visit to the Project site and study intersections in early August 2021 found that traffic conditions were still at reduced levels compared to May 2019.

[5] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.

Table 2: Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 and ≤ 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 and ≤ 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 and ≤ 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55 and ≤ 80
F	Operation with delays unacceptable to most drivers occurring due to over saturation poor progression, or very long cycle lengths.	> 80

Source: Transportation Research Board, 2016. Highway Capacity Manual 6th Edition

The four study intersections were selected based on a review of the traffic operations prepared for recent transportation studies, including the Metro Center Hotel Project EIR.[6] The selected study intersections represent the primary bottlenecks for traffic entering and exiting Foster City from SR 92 during the peak hours of traffic generated by employment land uses such as those proposed by the Project. The four intersections are closely spaced together and vehicle queues often extend between intersections and affect operations at the adjacent intersections. These four intersections were evaluated using the VISSIM micro-simulation software package to account for these interactions. A description of the methodology is included in the Foster City General Plan Update EIR.[7] As presented in the Metro Center Hotel Project EIR, which generated a similar number of vehicle trips to the proposed Project, all other intersections in the study area are anticipated to operate acceptably under all analysis scenarios, and therefore were not studied for compliance with the Foster City General Plan Land Use and Circulation Policy LUC-F-1 within this TIA.

[6] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.
[7] City of Foster City, 2015. Foster City General Plan Update EIR.

Existing Intersection Level of Service

The existing LOS analysis results for the study intersections are shown in **Table 3**, vehicle volumes are depicted in **Appendix D:** and detailed LOS and queuing results are in **Appendix E:**. The existing LOS results are based on recently collected turning movement volumes (from 2019), existing lane configurations, and traffic control. The level of service analysis results for the four study intersections are based on simulation results from the VISSIM micro-simulation model.

Most study intersections operate at an acceptable LOS D or better during the AM peak as outlined in **Table 3**. However, during the PM peak, three of the four intersections operate at LOS E (Foster City Boulevard / Metro Center Boulevard) or F (Chess Drive / Foster City Boulevard and SR-92 Eastbound Ramps). These intersections connect westbound and eastbound SR-92 ramps via Foster City Boulevard. The poor level of service is primarily due to congestion at the SR-92 Eastbound On-ramp that spills back to block southbound traffic on Foster City Boulevard and eastbound Chess Drive. Foster City General Plan Land Use and Circulation Policy LUC-F-1 acknowledges these operations and limited improvement opportunities by stating that it will be necessary to accept LOS E or F at the following intersections: Chess Drive / SR-92 Ramps, Foster City Boulevard / Triton Boulevard / Metro Center Boulevard, and East Hillsdale Boulevard / Edgewater Boulevard.

Table 3: Existing LOS and Delay Results

Intersection	Peak Period	Existing	
		Delay (Seconds)	LOS
Chess Drive / SR-92 Westbound Ramps	AM	17	B
	PM	41	D
Chess Drive / Foster City Boulevard	AM	22	C
	PM	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	32	C
	PM	**66**	**E**
Metro Center Boulevard / SR-92 Eastbound Ramps	AM	17	B
	PM	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

As of August 2021, traffic congestion is much lower at all the study locations compared to 2019 pre-pandemic conditions. Mainline congestion on SR 92 and regional cut-through traffic attempting to bypass congestion on SR 92 and US 101 has not returned to pre-pandemic levels, which was the primary source of congestion on local Foster City roadways near the Project site in 2019. During the evening peak hour site visit, no vehicle queues were observed to extend between the study intersections and all vehicles cleared the signal each cycle. These conditions represent acceptable LOS D conditions or better.

Existing Parking Conditions

On-street parking on roadways adjacent to the Project Site is generally not permitted. Parking is prohibited on Vintage Park Drive and Chess Drive, the two streets adjacent to the Project site. No other streets within 1,000 feet of the Project site (as the crow flies) have on-street parking permitted. The existing surface parking lot for the existing vacant commercial building at the Project site would be replaced by the parking structure for the proposed Project.

Regulatory Setting and Significance Criteria

State and local laws, regulations, and orders that pertain to transportation and traffic resources in the Project area are presented below.

California Senate Bill 743

California Senate Bill 743 (SB 743) was signed into law in 2013 and fundamentally changes the way transportation impacts under CEQA are analyzed. It required the Office of Planning and Research (OPR) to "prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the [CEQA] guidelines …establishing criteria for determining the significance of transportation impacts of projects" in order to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

On December 28, 2018, the Natural Resources Agency adopted CEQA Guidelines Section 15064.3 which establishes specific criteria for evaluating a project's transportation impacts and states that "vehicle miles traveled is the most appropriate measure of transportation impacts". It gives agencies the "discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure" provided that "[a]ny assumptions used to estimate vehicle miles traveled… should be documented and explained in the environmental document prepared for the project." Section 15064.3 further states that except for certain transportation projects, "a project's effect on automobile delay shall not constitute a significant environmental impact." See *Citizens for Positive Growth & Preservation v. City of Sacramento* (2019) 43 Cal. App. 5th 609, 626 (holding that a general plan's impact on level of service (LOS) which effectively measures automobile delay can no longer constitute a significant environmental impact).

Additionally, OPR issued a technical advisory memorandum in December 2018 that includes general guidance and information for lead agencies to use in implementing SB 743, including choosing vehicle miles traveled (VMT) methodology and establishing VMT thresholds. Lead agencies have until July 1, 2020 to implement methodologies and thresholds related to VMT to comply fully with SB 743. Since Foster City has not yet adopted citywide generally applicable VMT thresholds for impact determination (pursuant to 14 Cal. Code Regs 15064(b) and because LOS analysis can no longer be used to make impact determinations , a project-specific (or ad hoc) VMT threshold is used for this analysis as allowed under CEQA and as explained in further detail in other sections.

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area (Bay Area). It is responsible for developing

the regional transportation plan and prioritizing regional transportation projects for State and federal funding.

City/County Association of Governments of San Mateo County

The City/County Association of Governments of San Mateo County (C/CAG) is the County's Congestion Management Agency. It prepares a Congestion Management Plan (CMP), which identifies improvements and strategies to relieve congestion on regional transportation facilities and sets funding priorities. The CMP is required to be consistent with the MTC planning process and projects for the Regional Transportation Improvement Program. C/CAG also provides guidelines for the analysis of land use projects and their effects on the designated CMP roadway system. These include requirements for TDM plans that have the capacity to fully reduce the demand for new peak-hour trips to reduce the burden of additional development on the roadway network.

The San Mateo County CMP roadway system comprises 53 roadway segments and 16 intersections. The CMP facilities in Foster City include US 101 and SR-92.

Caltrans

Caltrans is responsible for the maintenance and operation of State routes and highways. In Foster City, Caltrans facilities include SR-92 and US 101. Caltrans maintains a volume monitoring program and reviews local agencies planning documents (such as this EIR) to assist in its forecasting of future volumes and congestion points. The Guide for the Preparation of Traffic Impacts Studies published by Caltrans[8] is intended to provide a consistent basis for evaluating traffic impacts to State facilities. The City recognizes that "Caltrans endeavors to maintain a target level of service at the transition between LOS C and LOS D on State highway facilities;" however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target level of service. Caltrans states that, for existing State highway facilities operating at less than the target level of service, the existing level of service should be maintained.

Caltrans released a VMT-Focused Transportation Impact Study Guide (May 20, 2020) that recommends use of the OPR recommendations for land use projects and plans. For transportation projects, Caltrans has suggested that any increase in VMT would constitute a significant impact for transportation projects. This has been referred to as the "Net Zero VMT threshold."

San Mateo County Transportation Authority

The San Mateo County Transportation Authority was formed in 1988. The authority administers the proceeds from Measure A, the voter approved half-cent sales tax, to fund a variety of transportation-related projects and programs. San Mateo County Transportation Authority projects in the vicinity of Foster City include construction of new auxiliary lanes on US 101.

[8] Caltrans, 2002. Guide for the Preparation of Traffic Impacts Studies, December.

Foster City General Plan

All cities in California are required to prepare and adopt a General Plan. The General Plan presents the community's long-range view regarding its physical development. Specifically, it contains goals, policies, and programs addressing the development and redevelopment of land, preservation of parks and open spaces, provision of housing, conservation of natural resources, improvement of the transportation system, control of noise, and protection from hazards.

The Land Use and Circulation Element of the Foster City General Plan was adopted in February 2016. The applicable circulation goals, policies, and programs related to transportation impacts related to the construction of the project are included below. Foster City's City Council recently adopted amendments to the General Plan[9] to include reference to the recently adopted Green Infrastructure Plan[10] which encourages all street design and development to incorporate green streets and green infrastructure best practices.

- **Goal LUC-E: Provide for Diversified Circulation Needs.** Develop, improve and maintain a circulation system which provides efficient and safe access for private vehicles, commercial vehicles, public transit, emergency vehicles, bicycles and pedestrians.
- **Goal LUC-F: Maintain Acceptable Operating Conditions on the City's Road Network.** Maintain acceptable operating conditions on the City's road network at or above LOS D, or equivalent measurement, and encourage the maximum effective use of public and private vehicles, reduce the growth in peak hour traffic volumes and reduce single passenger trips.
- **Goal LUC-G: Provide Adequate Parking.** Ensure that adequate off-street parking is incorporated into new and modified projects and designed for safe and effective circulation.
- **Goal LUC-H: Foster a More Sustainable Community.** Strive to be a community that meets the needs of the present without compromising the ability of future generations to meet their own needs by promoting land use strategies that decrease reliance on automobile use, increase the use of alternative modes of transportation, maximize efficiency provision of services and reduce emissions of GHGs.
- **Goal LUC-L: Provide Adequate Services and Facilities.** Ensure that new and existing developments can be adequately served by municipal services and facilities.
- **Policy LUC-E-1:** Improvements to Existing Streets. The City will maintain and improve the existing system of major and collector streets.

[9] General Plan amendments include changes to the following Land Use and Circulation Element goals and policies: LUC-D-4, LUC-D-8, LUC-E, LUC-E1, LUC-E-2, LUC-E-2-a, LUC-E-2-b, LUC-E-2-d, LUC-E-2-e, LUC-E-3, LUC-E-4, LUC-E-7, LUC-E-7-a, LUC-E-8-b, LUC-F-1-d, LUC-H-6, LUC-H-6-a, LUC-K-2, and LUC-L-10. (https://fostercityca.civicclerk.com/Web/GenFile.aspx?ad=12742)

[10] Foster City Green Infrastructure Plan, approved by the City Council of the City of Foster City August 19, 2019 (Resolution No. 2019-83) (https://www.fostercity.org/publicworks/page/foster-city-green-infrastructure-plan)

- **Policy LUC-E-2: Complete Streets.** The City will plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel.
- **Policy LUC-E-3: Streets in Residential Neighborhoods.** Residential neighborhoods shall be protected from through traffic by maintaining the system of narrower collector and local streets and minimizing the number of through streets. To accomplish this, the City may consider other traffic calming techniques.
- **Policy LUC-E-4: Private Streets and Public Loop or Cul-de-Sac Streets.** The City will enforce design standards for private streets and public loop or cul-de-sac streets to ensure that they meet minimum requirements for two-way traffic, parking, and emergency access. Private streets and public loop or cul-de-sac streets may be approved with narrower than standard widths, provided that emergency access and parking can be safely accommodated. They are not intended to provide curbside parking, and the roads are designed to serve only those residences on that street or within that development.
- **Policy LUC-E-5: Access to New Commercial and Industrial Projects.** New commercial and industrial developments shall be designed so that, wherever necessary and possible, entrance to the projects can be gained by way of left- or right-turn only lanes. Only the minimum number of entrance or exit points shall be allowed as are needed to ensure safe and efficient internal traffic flow and to reduce through traffic delays on public roads serving the project.
- **Policy LUC-E-6: Create Opportunities for Transit Access.** Create opportunities to improve transit and access to regional transit with new or modified development, as appropriate.
- **Policy LUC-E-7:** Coordination with Transit Agencies that Serve San Mateo County. The City shall work with SamTrans, Alameda-Contra Costa Transit District (AC Transit), the Peninsula Traffic Congestion Relief Alliance, RIDES and other agencies that serve San Mateo County in defining new transit routes and improving the public transit and transportation system.
- **Policy LUC-E-8 Pedestrian, Bicycle and Neighborhood Electric Vehicle (NEV) Friendly Design.** Encourage bicycling, walking and use of NEVs instead of driving automobiles to reduce greenhouse gas emissions, save money on fuel and maintenance, and foster a healthier population. Prioritize pedestrian and bicycle-friendly improvements including bike lanes on main streets, an urban bike-trail system, bike parking, pedestrian crossings, and associated master plans with new or modified development, as appropriate.
- **Policy LUC-E-9: Bicycle Routes and Pedestrian Paths.** Maintain a system of bicycle routes and pedestrian paths, which will include separate bicycle lanes and posted bicycle routes. Pedestrian pathways and easements shall be maintained, either by the City, or, in the case of private ownership, according to a maintenance agreement or landscaping district agreement applicable to the pathway/easement.
- **Policy LUC-F-1:** Traffic Level of Service Standards. The City shall seek to achieve a traffic service level of "C" or better on City streets and level of "D" or better during peak traffic hours, although it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive, the Foster City Boulevard / Metro Center Boulevard /Triton Drive, Vintage Park Drive / Chess Drive, and the Foster City Boulevard / Chess intersections due to their role as access points

to the freeway system. The level of service standard will be maintained through the following means:

  - Intelligent Transportation Systems (ITS).
  - Transportation Demand Management (TDM) for development projects.
  - Capital Improvement Program and coordination with federal, state, county and district funding programs for street and other transportation improvements.
  - Developer payment of pro rata fair share of traffic improvement costs for new developments.

- **Policy LUC-G-2:** Preferred Parking/Electric Plug-in. Encourage businesses, developers, and property managers to create preferred parking for electric and alternative fuel vehicles and study the installation of electric charging stations for plug-in vehicles.
- **Policy LUC-G-3:** Off-Street Parking Requirements. The City shall maintain off-street parking requirements based on use permits of record, the historical parking patterns of residential and non-residential projects, and related information developed by the Urban Land Institute, Institute of Traffic Engineers, or other reliable sources.
- **Policy LUC-H-2:** Reduce GHG Emissions. The City will strive to reduce GHG emissions by reducing vehicle miles traveled by supporting trip reduction programs and encouraging the use of alternative fuels and transportation technologies.

Significance Criteria

The criteria for evaluating the significance of a project's environmental impacts are based on the CEQA Guidelines Appendix G checklist, the City's Environmental Review Guidelines, and applicable standards recognized by C/CAG. For this analysis, transportation impacts would be considered significant if the project would:

1. Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b), concerning VMT;
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
4. Result in inadequate emergency access.

Thresholds of Significance

To apply the significance criteria listed above, the analysis in this section uses the following significance thresholds, which are based on federal, State, and local regulations.

Circulation System Consistency Thresholds (Criterion 1)

Transit. Based on General Plan Goals LUC-E and LUC-H and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to transit would be considered significant if the project would:

a. Disrupt existing transit services or facilities. This includes disruptions caused by project access points or staging areas near streets used by transit and transit stops/shelters; or
b. Interfere with planned transit services or facilities; or
c. Conflict or create inconsistencies with adopted transit system plans, guidelines, policies, or standards.

Roadway System. Per SB 743, transportation impacts related to vehicle delay or level of service are no longer considered significant environmental impacts. The criteria listed below related to intersection and freeway segments are discussed for consistency with General Plan Goal LUC-F.

Intersection effects would be inconsistent with the standards set forth in the General Plan if the project would:

a. Cause a signalized intersection operating at an acceptable level of service (LOS A-D) to deteriorate to an unacceptable level (LOS E-F) with the addition of project trips; or
b. Increase average delay by four or more seconds at an intersection that is already operating at an unacceptable level (LOS E-F) without the project.

However, the Foster City General Plan Land Use and Circulation Policy LUC-F states that it will be necessary to accept LOS E or F at the following intersections: Chess Drive / SR-92 Ramps, Foster City Boulevard / Triton Boulevard / Metro Center Boulevard, and East Hillsdale Boulevard/ Edgewater Boulevard.

Bicycle and Pedestrian Facilities. Based on General Plan Goals LUC-E and LUC-H and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to bicycle and pedestrian facilities would be considered significant if the project would:

a. Disrupt existing or planned bicycle or pedestrian facilities (e.g. San Mateo County Bike Plan, Foster City Bicycle Master Plan); or
b. Create inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards.

VMT Thresholds (Criterion 2)

VMT. Based on California Air Resources Board (ARB)[11] recommended thresholds, impacts related to VMT would be considered significant if the project would:

[11] California Air Resources Board, January 2019. 2017 Scoping Plan-Identified VMT Reductions and Relationships to State Climate Goals.

a. Generate VMT/service population greater than 16.8 percent below the regional average.

As noted above, Foster City has not yet adopted generally applicable VMT thresholds for impact determination. Foster City is currently working with C/CAG to identify citywide VMT thresholds. The project-specific threshold used for analysis in this document is based on recommendations published by OPR, which is the most current available for Foster City at the time of preparation of this TIA. Additional information related to VMT thresholds is included in other sections.

Hazards Thresholds (Criterion 3)

Hazards. Based on General Plan Goal LUC-E and the City's interpretation of CEQA Appendix G, impacts related to hazards would be considered significant if the project would:

a. Substantially increase hazards due to a geometric design feature; or
b. Result in an incompatible land use.

Emergency Access Thresholds (Criterion 4)

Emergency access. Based on General Plan Goal LUC-E and the City's interpretation of CEQA Appendix G, impacts related to emergency access would be considered significant if the project would:

a. Limit emergency vehicle access routes or roadway facilities; or
b. Create a project site that is inaccessible to emergency vehicles.

Existing Plus Project Conditions

The Project proposes a 95,931 square-foot life sciences office with a surface parking garage accessed via Chess Drive and Vintage Park Drive. The Project would have a daily employee population of 213 people. This section presents the traffic conditions with the Project, including Vehicle Miles Traveled and LOS, while site access and circulation issues and other related topics are evaluated within the Additional Transportation Analysis sections.

Project Trip Generation and Distribution

Trip Generation

Trip generation rates were determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*. The ITE rate for General Office Building was used to determine Project trip generation. The Project would have a lower employee density than a typical office due to the lab space allocated to life sciences uses compared to traditional office buildings. Based on the total number of employees at the site, the Project would have an employee density of 1 employee per 450 square feet. The ITE rate for General Office Building would have an approximate average employee density of 1 per 340 square feet. To reflect the effects of having a lower employee density associated with a life science use, trip generation rates per employee were used instead of trip rates per square feet of office. See **Appendix B:** for further discussion of the trip generation methodology. Trip generation results are shown in **Table 4** below.

Table 4: Project Vehicle Trip Generation

Land Use	Units	ITE Code	Vehicle Trips							
			Daily	AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total
Proposed General Office Building	213 employees	710	699	65	13	78	17	68	85

Sources: Fehr & Peers, 2021; ITE Trip Generation Manual, 10th Edition. Calculated using the ITE rate for peak hour of adjacent street traffic.

Trip Distribution

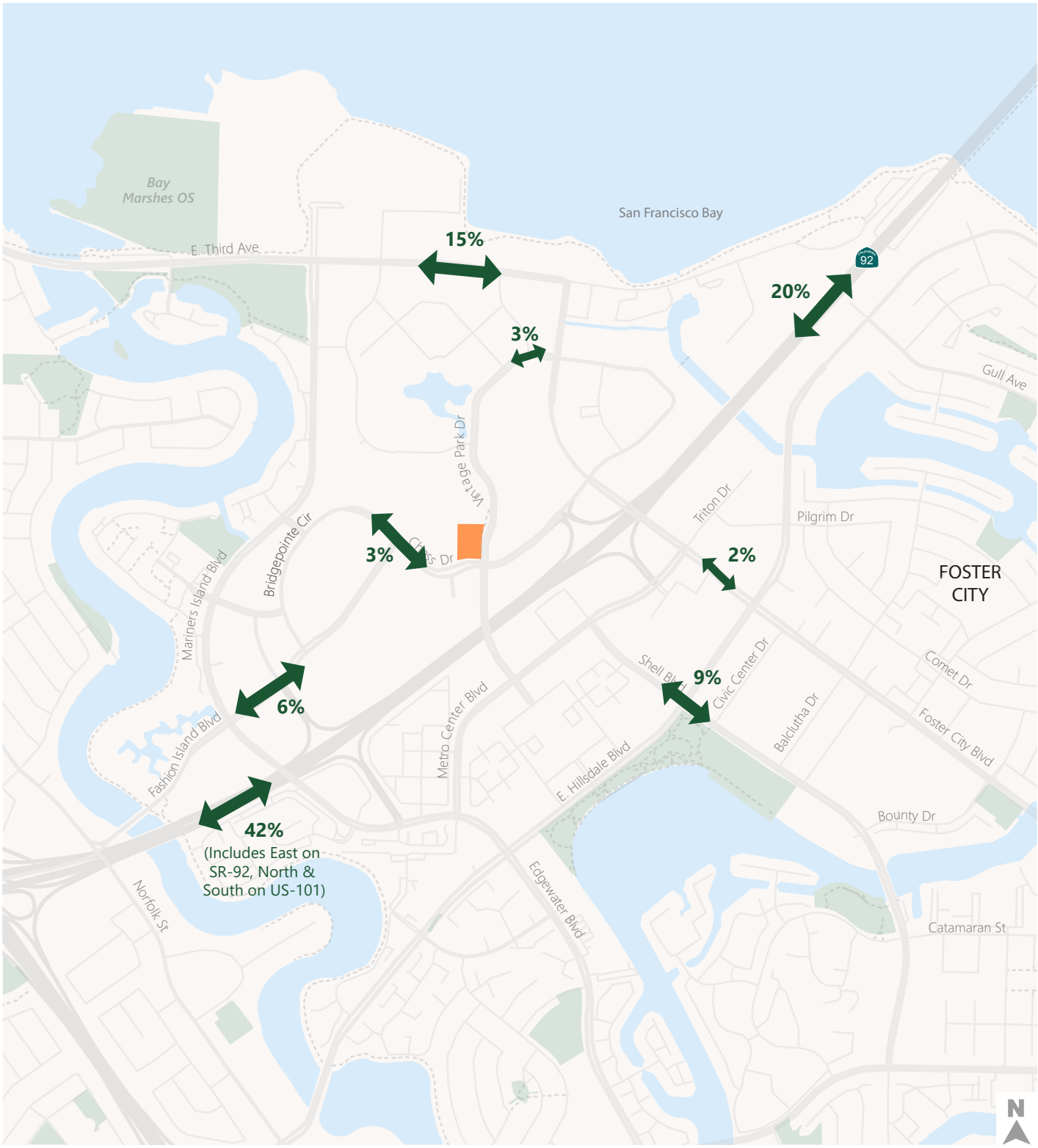
Trip distribution refers to the directions the vehicle trips generated by the Project would use to approach and depart the site and the percentage of traffic using each direction. The geographic distribution and trip percentages are shown on **Figure 6**.

Trip distribution was based on a review of prior studies conducted in Foster City,[12] which were based on the travel demand model maintained by C/CAG, the distribution of home locations for employees that currently work in Foster City (from Longitudinal Employer-Household Dynamics, or LEHD, data from 2018), and local knowledge of travel patterns.

The largest share of Project trips would travel from the west to the Project site via SR-92, which would include trips traveling from the west as well as trips originating in the north or south on US 101. Approximately 20 percent of trips would also travel from the east via SR-92 from the East Bay to represent commuters traveling into Foster City from home locations in the East Bay. Some trips would use local roads, including a those traveling from the north on East Third Avenue and from the south on Foster City Boulevard, Shell Boulevard, or other Foster City arterials.

Project trip assignment refers to assigning trips to the roadway network via specific turning movements at study intersections. It can vary between the peak AM and PM hours, but many of the assignments are the same. Project trip assignment assumes that vehicles accessing the Project site would use a full access driveway on Chess Drive or a right-in, right-out driveway on Vintage Park Drive. Project trip assignment and resulting Project Volumes are shown in **Appendix D:.**

[12] Lincoln Centre Life Sciences Research Campus Draft Environmental Impact Report, April 2015, State Clearinghouse No 2014092049.



Trip Distribution

Project Site

Figure 6

Trip Distribution

Plus Project VMT

The purpose of this section is to introduce vehicle miles traveled (VMT) and evaluate whether the Project fulfills the screening criteria presented in the TIA Guidelines. VMT is a measurement of the amount and distance that a person drives, accounting for the number of passengers within a vehicle. Many interdependent factors affect the amount and distance a person might drive. In particular, the type of built environment affects how many places a person can access within a given distance, time, and cost, using different ways of travel (e.g., private vehicle, public transit, bicycling, walking, etc.). Typically, low-density development located at great distances from other land uses and in areas with few alternatives to the private vehicle provides less access than a location with high density, mix of land uses, and numerous ways of travel. Therefore, low-density development typically generates more VMT per capita compared to a similarly sized development located in urban areas. In general, higher VMT areas are associated with more air pollution, including greenhouse gas emissions, and energy usage than lower VMT areas. VMT is calculated by multiplying the number of trips generated by a Project by the total distance of each of those trips.

VMT Analysis

Since the City has not yet adopted a VMT threshold, and interim Project threshold was developed based on the metrics and methods described in **Appendix A:**. The Office of Planning and Research (OPR) recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold.

A significant impact would occur should existing home-based work (HBW) VMT per employee in the travel demand analysis zone (TAZ) that encompasses the Project result in greater than 14.3 VMT per employee under existing conditions. This is based on the threshold of 15 percent below the existing county-wide average of 16.8 VMT per employee.

Table 5: Home-Based Work VMT per Employee, by Location (2015 Estimates)

Location	HBW VMT per Employee
Threshold Geography Average (County of San Mateo)	16.8
Foster City Project Area	16.0
Foster City Project Area with 10% TDM Reduction	14.3
Percent Difference	**-15%**
Expected Project Impact on VMT?	**No**

Source: Fehr & Peers, 2021; C/CAG-VTA Bi-County Transportation Demand Model, 2021.

Plus Project Vehicle Volumes and Level of Service

Plus project trips were added to the existing volumes to create Existing Plus Project volumes. **Table 6** below presents Existing Plus Project LOS and intersection delay in seconds for the study intersection. All study intersections operate at the same LOS under existing plus project conditions as compared to existing conditions, except the intersection of Chess Drive / SR-92 Westbound Ramps during the PM peak hour which would degrade from LOS D to LOS F. At other intersections, Project trips result in very minor increases to delay that are imperceptible to drivers. Vehicle volumes are shown in **Appendix D:** and detailed LOS results are described in **Appendix E:**.

Table 6: Plus Project LOS and Delay Results

Intersection	Peak Period	Existing		Existing Plus Project	
		Delay (Seconds)	LOS	Delay (Seconds)	LOS
Chess Drive / SR-92 Westbound Ramps	AM	17	B	18	B
	PM	41	D	**>80**	**F**
Chess Drive / Foster City Boulevard	AM	22	C	23	C
	PM	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	32	C	33	C
	PM	**66**	**E**	**66**	**E**
Metro Center Boulevard / SR-92 Eastbound Ramps	AM	17	B	17	B
	PM	**>80**	**F**	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

The LOS at Chess Drive / SR-92 Westbound Ramps would increase from LOS D to LOS F due to the addition of Project-generated vehicle trips to the eastbound through movement on Chess Drive, which operates at capacity under existing conditions. Although the number of Project trips to this movement is relatively small compared to the overall traffic volumes at this intersection, the additional delay incurred by each additional driver is very high due to the long intersection signal length and the short phase length for the eastbound through movement. Adjusting the signal timing by transferring an additional three seconds to the eastbound through movement from the westbound approach would reduce the average delay at this intersection to an acceptable LOS D as presented in **Table 7**.

Changes to LOS are not considered an environmental impact as noted in the Regulatory Setting section. The City of Foster City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive. Therefore, the potential for Project vehicle trips to increase delay at this location would not conflict with the City's adopted policies and no action on the part of the Project is required. Further, this analysis result relies on conservative assumptions for the Project trip assignment, where all vehicles traveling to traveling north to East Third Avenue or south on Foster City

Boulevard would travel through the study intersections on Chess Drive by exiting to Vintage Park Drive and turning southbound left. Under congested conditions along Chess Drive, these drivers would choose to take other, less congested routes. As for many destinations, there are multiple routes that a driver could take to reach or depart the Project site, and the Project-generated vehicle trips would disperse across the roadway network and generate less of an affect compared to what is presented in this analysis. The City of Foster City will continue to monitor roadway conditions and signal operations as a part of routine maintenance and would adjust signal timings in the future as traffic conditions warrant.

Table 7: Plus Project LOS and Delay Results – With Signal Timing Change

Intersection	Existing		Existing Plus Project (with Signal Timing Change)	
	Delay (Seconds)	LOS	Delay (Seconds)	LOS
Chess Drive / SR-92 Westbound Ramps	41	D	52	D
Chess Drive / Foster City Boulevard	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	**66**	**E**	**67**	**E**
Metro Center Boulevard / SR-92 Eastbound Ramps	**>80**	**F**	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

Cumulative Conditions

This section presents a summary of the Cumulative (2040) Conditions. It includes a description of Projects and transportation network changes that are assumed to be include under future Cumulative Conditions and the methodologies used to calculate future year volumes. It also presents the impacts associated with transportation that would results from the Project for Cumulative Plus Project Conditions. Cumulative No Project Conditions form the baseline against which the Cumulative Plus Project scenario is compared.

Cumulative Projects

The Cumulative (2040) No Project Conditions include construction of reasonably foreseeable development projects in the area. **Table 8** summarizes the projects in Foster City that are considered reasonable and foreseeable and which are included under Cumulative Conditions.

Table 8: Cumulative Development

Project	Proposed Land Use[1]
Pilgrim Triton	332 DUs 10 KSF Retail 35 KSF Office
Gilead Campus Master Plan	1,044 KSF Office
Foster Square	152 Senior DUs 90 Assisted Living DUs 30 KSF Retail
Lincoln Centre	388 KSF Office 166 KSF Lab
Charter Square School	600 Students[2]
Chess Hatch Master Plan	800 KSF Office[3]
Metro Center Hotel	83 KSF Hotel

Notes:
1. DU = Dwelling Unit; KSF = thousand square feet.
2. Project replaces 58 KSF retail.
3. Project replaces 190 KSF office.
Source: Fehr & Peers, 2021.

Cumulative Transportation Network Changes

Figure 3.6 of the City of Foster City General Plan includes future roadway improvements that are assumed to be needed to accommodate future proposed development and background growth. Of the improvements included in General Plan Figure 3.6, several improvements have already been constructed and are therefore included under Existing Conditions. One of the planned roadway improvements

identified in the General Plan is no longer under consideration by the City. **Table 9** summarizes all of the future roadway improvements included under Cumulative Conditions.

Table 9: Cumulative Roadway Improvements

Intersection	Geometry Change
Foster City Boulevard / Chess Drive	Construct northbound right-turn lane
	Construct second westbound through lane
	Lengthen northbound left-turn lane
	Lengthen westbound left-turn lane

Source: Source: Foster City General Plan Figure 3.6, 2016.

Cumulative Volumes

Cumulative (2040) No Project traffic volumes include traffic estimates from the cumulative development projects summarized in **Table 8** as well as additional background growth associated with probable future development. Cumulative No Project volumes are based on trip generation for future development projects and distribution patterns included in the Foster City Multi-Project Traffic Analysis and as described in the Metro Center Hotel Project EIR[13] Cumulative No Project volumes are based on Cumulative Plus Project volumes reported in the Metro Center Hotel Project EIR to include the effects of this reasonably foreseeable project. Cumulative Plus Project volumes in this study represent Cumulative No Project volumes plus project trips as described above. Cumulative No Project and Cumulative Plus Project peak-hour intersection turning movement volumes are summarized in **Appendix D:**. Detailed results and a queuing summary are described in **Appendix E:**.

Cumulative Intersection Level of Service

Cumulative Intersection LOS results are depicted in **Table 10**. With the addition of Project-generated trips, all intersections would operate at the same level of service as under Cumulative No Project Conditions. During the AM peak hour, two study intersections would continue to operate at unacceptable LOS E or F with the addition of Project trips – the SR-92 Westbound Ramps and the Foster City / Metro Center intersection. During the PM peak hour, all four intersections would continue to operate at unacceptable LOS F with the addition of Project trips. However, average delay would not increase significantly with the addition of Project trips at any intersection already operating unacceptably. Only the Foster City / Chess Drive intersection in the PM peak hour would increase delay by more than 10 seconds with the addition of Project trips for similar reasons described under Existing Plus Project conditions. Similar to Existing Plus Project conditions, changes to LOS are not considered an environmental impact and the City of Foster City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive. Therefore, the potential for Project vehicle trips to increase delay at this

[13] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.

location would not conflict with the City's adopted policies and no action on the part of the Project is required.

Table 10: Cumulative Level of Service

Intersection	Peak Period	Existing		Cumulative (2040)		Cumulative Plus Project (2040)	
		Delay	LOS	Delay	LOS	Delay	LOS
Chess Drive / SR-92 Westbound Ramps	AM	17	B	**69**	**E**	**72**	**E**
Chess Drive / Foster City Boulevard	PM	41	D	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	22	C	33	C	33	C
	PM	**>80**	**F**	**>80**	**F**	**>80**	**F**
Chess Drive / SR-92 Westbound Ramps	AM	32	C	**59**	**E**	**58**	**E**
Chess Drive / Foster City Boulevard	PM	**66**	**E**	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	17	B	48	D	52	D
	PM	**>80**	**F**	**>80**	**F**	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

Additional Transportation Analysis

This section presents an analysis of other transportation issues associated with the Project site, including:

- Impacts to vehicle, pedestrian & bicycle site access and circulation
- Driveway sight distance and vehicle queuing
- Parking
- Hazards and emergency vehicle access

The analysis in this section is based on professional judgment in accordance with the standards and traffic engineering standard practices.

Vehicle Access and Circulation

Access Configurations

Motor vehicle access is provided to the Project site via two driveways, each with bidirectional vehicle access. One 26-foot-wide driveway is proposed on the Project's Chess Drive frontage approximately 160-feet west of the Chess Drive / Vintage Park intersection. The second driveway is 26-feet wide and is located on the Project's Vintage Park Drive frontage approximately 300-feet north of the Chess Drive / Vintage Park Drive intersection. The location of both driveways is generally unchanged from existing conditions and several landscape medians restrict or potentially impede movements in all directions.

A continuous landscape median along the Project's Vintage Park Drive frontage restricts movements at the Project driveway to only inbound and outbound right turns. In contrast, the Chess Drive landscape median is punctuated by an approximately 85-foot-long two-way-left turn lane that begins approximately 150-feet west of the Chess Drive / Vintage Park Drive intersection. This opening allows both Project stie access in all directions and provides westbound left turn access to a neighboring commercial use. However, the outbound left turn movement from the Project driveway is potentially problematic due to the curvature of Chess Drive and the potential for conflicts with vehicles approaching the neighboring hotel/restaurant site.

On-Site Auto Circulation

A series of 90-degree parking stalls and drive aisles provide continuous two-way vehicle circulation throughout the Project site and between the Project's two access driveways. Plans provided by the Project Sponsor indicate the drive aisle that connects the Chess Drive and Vintage Park Drive driveways would provide emergency vehicle access.

Commercial Vehicle Circulation

The Project's freight loading dock is located on the building's west elevation. Commercial vehicles would access the loading dock via Chess Drive and depart to Vintage Park Drive. Truck turning exhibits prepared by the Project sponsor indicate a medium semitrailer truck would have adequate maneuvering area to complete this movement.

Pedestrian Bicycle Site Access and Circulation

A new 15-foot-wide on-site pathway would provide direct, barrier-free non-motorized access to both the Project's main building entrance and secure bicycle parking facility which is approximately 80-feet south of the main entrance. Secondary pedestrian access is provided between Chess Drive and the building's south elevation via a five-foot-wide pathway. Although project designs do not currently show accessible curb ramps at the north corner of the driveway that intersects Vintage Park Drive, these improvements would be required during the design process to fulfill the City's accessibility standards.

The building's main entrance and overall site layout is generally pedestrian-oriented: building entrances are visible from and directly accessible from the public street while parking and vehicle driveways are located to the sides and rear of the site. As noted in the existing conditions section, the Project site is served by existing public sidewalks and city-designated Class III bicycle routes along both Vintage Park and Chess Drive frontages. The lack of dedicated bicycle facilities along both streets requires bicyclists to share the roadway with vehicles to access the Project site.

Recommended Improvement

The two proposed driveways on Chess Drive and Vintage Park Drive are at street grade, which requires pedestrians traveling along the sidewalk to ramp down when crossing the driveways. Instead, it is preferable to maintain the sidewalk elevation through the driveway, requiring vehicles to ramp up and over the sidewalk. This feature emphasizes pedestrian right-of-way and slows vehicle speeds, reducing the potential for pedestrian-vehicle conflicts. Plans should be revised to use a sidewalk-grade driveway per Foster City Standards. In absence of an applicable City standard plan, Caltrans Standard Plan A87A or driveway plans from neighboring jurisdictions (City of San Mateo Plan 3-1-148; Redwood City Standard Detail C-2) may be used with authorization from Foster City staff.

Transit Access and Circulation

The Project site is served by three existing on-street transit stops, all of which are approximately 500 feet from the building's primary entrance. Existing pedestrian facilities including sidewalks and crosswalks provide continuous pedestrian connectivity between all transit stops and the building's access points. The vehicle trips generated by the Project are not anticipated to substantially affect existing transit service operations.

Driveway Sight Distance

As shown in **Figure 8**, the stopping sight distance at both driveways appears clear of vertical obstructions that would otherwise block visibility between drivers departing the sight and those approaching on the intersecting street. Prior to building permit issuance, City staff or other qualified individuals should review plans to ensure clear sight distance is maintained and free of obstructions such as building monument signs and excessive vegetation.

Parking & Loading Conditions

Parking Supply

Foster City Municipal Code (FCMC) Chapter 17.62 requires new developments to provide off-street loading and automobile, bicycle, and motorcycle parking facilities. The relevant parking minimums are shown in **Table 11**. Based on FCMC Chapter 17.62, the Project would be required to provide a minimum of 320 automobile parking stalls or an adjusted minimum of 256 stalls. The adjusted minimum accounts for two reductions permitted under the zoning code. First, a maximum 15% reduction is permitted with approval of a TDM plan that meets the conditions identified in FCMC Chapter 17.62.060(D)(3). Second, an additional 5% reduction is permitted based on credits for providing bicycle and motorcycle spaces as required in FCMC Chapter 17.62.060(D)(4). The Project proposes 210 parking stalls which is 110 stalls fewer than the 320-stall minimum or 46 stalls fewer than the adjusted minimum. The Project may have to obtain a variance or increase the proposed parking supply to provide fewer than 256 stalls.

Parking generation rates from the ITE Parking Generation Manual, 5th Edition, were used to estimate weekday parking demand at the Project by time of day. The Parking Generation Manual collects data on parking occupancy at different sites to estimate the average parking generation rate by land use category by time of day. Using the per employee parking generation rates for General Office (710), the Project would be expected to generate a peak hour demand of 179 parking stalls.[14] Based on this analysis, peak parking demand is anticipated to be less than the proposed parking supply.

[14] This includes employee and visitor parking demand.

Table 11: Off-Street Parking Requirements

Parking Standard		Required Parking	Proposed Parking
Automobile Parking			
Research & Development Facilities	1 space per 300 square feet of gross floor area	320	210[1]
	Minimum number of stalls with all available adjustments	256	
Motorcycle Parking			
All Commercial/Nonresidential Uses	1% of the total number of parking stalls provided	2	14
Bicycle Parking			
Short-Term	None Required	0	0
Long-Term	None Required	0	20

Notes:
1. Foster City Planning code provides a credit for the provision of motorcycle and bicycle parking. Including 10 stalls associated with this credit, the project would provide the equivalent of 220 parking spaces, or a ratio of 2.3 stalls per 1,000 square feet.
Source: Foster City Municipal Code Chapter 17.62

Parking Design

The ground level of the proposed building would include a garage that would contain 102 parking spaces and would be accessed from a driveway at the northwest corner of the proposed building. An additional 108 surface parking spaces would be provided along the northern and western boundaries of the project site, for a total of 210 parking spaces. 75 stalls would be provided within stackers in the garage and 57 stalls or approximately 27 percent of the total supply are compact spaces. The number of compact stalls exceeds the five percent maximum identified in FCMC Chapter 17.62.060(C)(4). However, this code section authorizes the Community Development Director to approve up to 30 percent of all stalls as compact stalls for "unusual circumstances." The Project sponsor will therefore need the Community Development Director confirm the site characteristics, such as the unique shape and other code requirements, meet the intent of the code. As noted in the Urban Land Institute's Dimensions of Parking, 5th Edition, compact spaces are most appropriate for parking stalls with low turnover and regular users, such as for employees of the proposed Project.

Loading Space Requirements

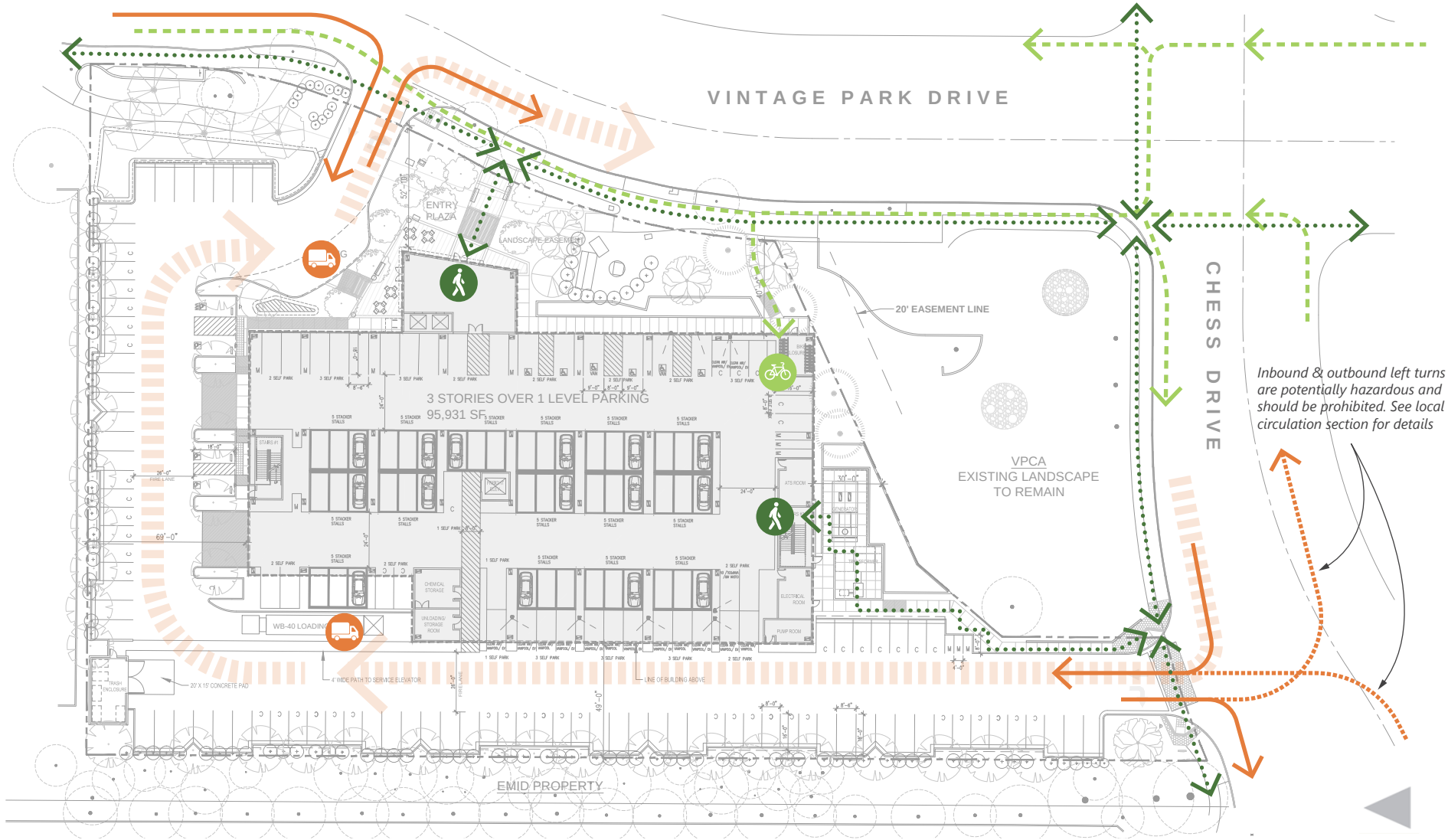
Foster City Municipal Code (FCMC) Chapter 17.62.090(A) requires one off-street loading space per each 50,000 square feet of gross leasable area while FCMC 17.62.080 requires that each loading space be a minimum of 12-feet wide by 35-feet long with 14-feet vertical clearance. The Project provides two loading spaces which meet the minimum number of spaces required. One space is provided at a loading dock

along the building's west edge and the second is provided near the Vintage Park Drive access point. Both spaces meet the minimum dimensions specified in the City's code.

Hazards and Emergency Vehicle Access

Drivers turning left from the Project driveway to eastbound Chess Drive may be unable to see eastbound vehicles approaching on Chess Drive due to roadway curvature, vegetation, and an electric transmission tower. Furthermore, this movement would conflict with westbound left turns from Chess Drive to the neighboring hotel and commercial uses on the south frontage of Chess Drive. This constitutes a potential hazard. The mitigations section notes that to reduce this impact to less-than-significant levels either the outbound left turn movement from the Chess Drive driveway shall be prohibited at all times or installation of suitable left turn lane channelization to minimize opposing inbound left turn conflicts. Suggested left turn channelization is depicted in **Figure 9**. The Vintage Park Drive driveway will adequately serve outbound drivers headed toward SR-92 and the east.

Project plans include fire truck turn templates that indicate that adequate clearance is provided for the "Foster City Fire Truck" design vehicle to enter and exit the site from both driveways and traverse the Project's surface parking lot without turning around. New vehicle trips from the Project are not anticipated to substantially worsen emergency vehicle response times.



Circulation Pathways

- Bicycle
- Pedestrian
- Commercial Vehicle
- Auto

Access Points

- Long-Term Bicycle Parking
- Pedestrian Building Entrances
- Loading Spaces

Figure 7

Site Circulation
388 Vintage Park Drive

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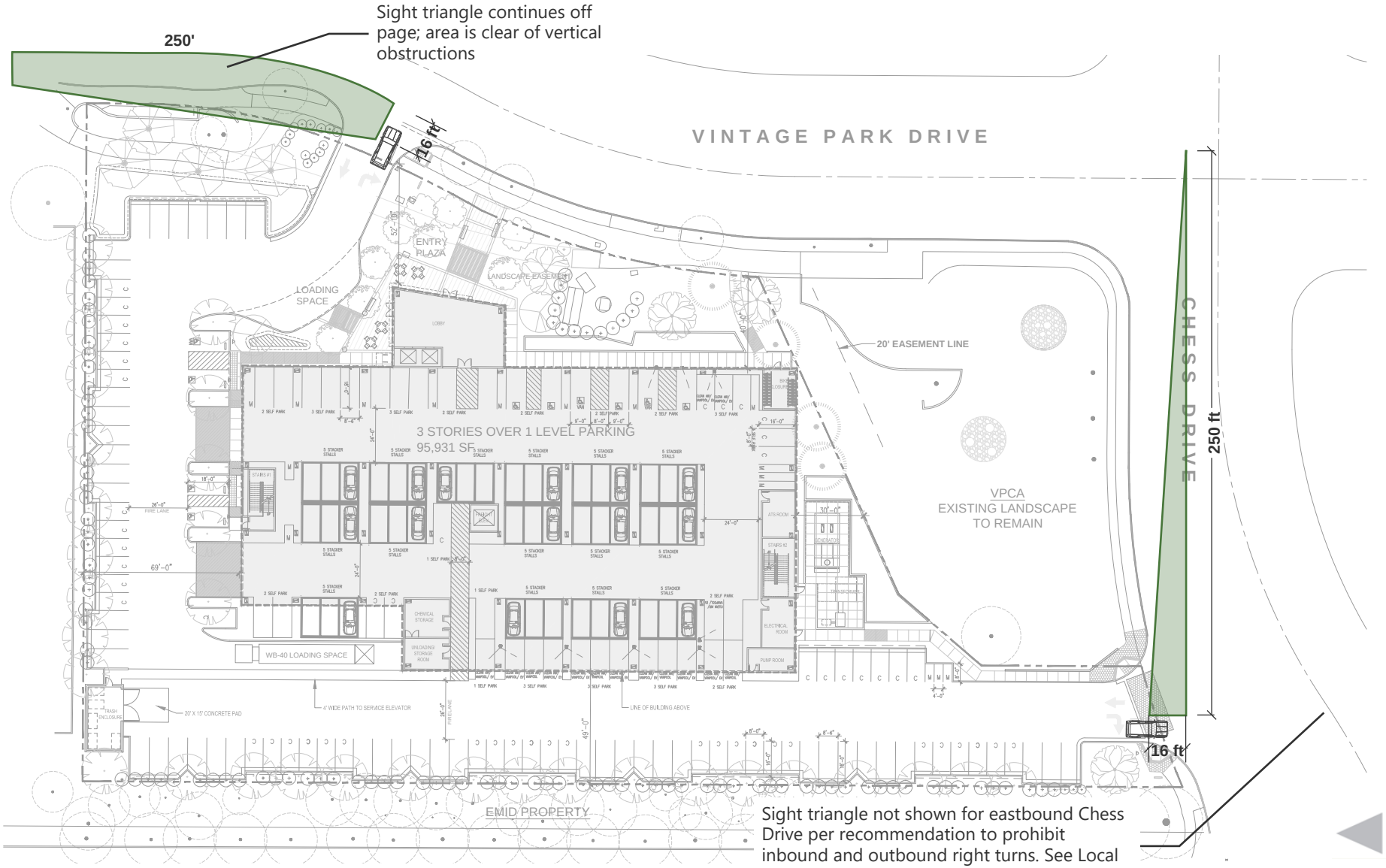

Note: 35mph stopping sight distance shown.

N:\Projects\2021_Projects\SF21-1167_Vintage Park Drive TIS\Graphics\AI\Figure8

Figure 8

Driveway Sight Distance
388 Vintage Park Drive

Impacts and Mitigations

This section includes the evaluation of the Project's potential impacts and improvement or mitigation measures. Where applicable, the Project's contribution to cumulative conditions is presented alongside the Project's effect on existing conditions.

Circulation System Consistency (Criterion 1)

Development of the proposed Project would not create a significant impact on the circulation system, as described below. However, one measure is recommended to improve pedestrian circulation adjacent to the Project site.

Transit Facilities

The Project would generate vehicle trips in the vicinity of existing transit services and would generate some new transit trips to existing routes. AC Transit, SamTrans, and Commute.org shuttles travel along the Project's frontage. The addition of 85 vehicle trips during the PM peak hour, or one to two new vehicles per minute, would not create a disruption to transit service surrounding the Project site. Project-added vehicle trips represent less than two percent of entering volumes at study intersections during the PM peak hour. Most people are expected to arrive by automobile to the Project as documented in the Project travel demand section, and the Project is not expected to generate a substantial number of new transit trips that would cause any transit route to require additional capacity. The Project would not include features that would disrupt existing or planned transit routes or facilities. The Project's driveways would not cause disruptions to existing or planned transit service or transit stops. The Project would not conflict with any adopted transit system plans, guidelines, policies, or standards. Therefore, impacts to transit facilities are anticipated to be less than significant.

Although traffic volumes would increase somewhat under cumulative conditions because of the cumulative projects, they would not include features that would disrupt existing or planned transit routes or facilities. They would not cause disruptions to existing or planned transit service or transit stops. The Project, in combination with other cumulative projects would not conflict with any adopted transit system plans, guidelines, policies, or standards. As such, there would be no cumulative impacts to transit.

Roadway Facilities

With the addition of Project trips, the intersections of Chess Drive/Foster City Boulevard, Chess Drive/SR-92 westbound ramps, Foster City Boulevard/Metro Center Boulevard, and Metro Center Boulevard/SR-92 eastbound ramps would continue to operate at an acceptable level of service with Project-added trips during the AM peak hour. During the PM peak hour, all intersections operate at the same level of service as under Existing Conditions, except the intersection of Chess Drive/SR-92 Westbound Ramps during the PM peak hour which would degrade from LOS D to LOS F. Adjusting the signal timing by transferring an additional three seconds to the eastbound through movement from the westbound approach would

reduce the average delay at this intersection to an acceptable LOS D. However, the City of Foster City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive. Therefore, the potential for Project vehicle trips to increase delay at this location would not conflict with the City's adopted policies and no action on the part of the Project is required. The City should monitor roadway conditions and signal operations as a part of routine maintenance and would adjust signal timings in the future as traffic conditions warrant. The intersections of Chess Drive/Foster City Boulevard, Foster City Boulevard/Metro Center Boulevard, and Metro Center Boulevard/SR-92 eastbound ramps continue to operate at unacceptable LOS E or F with the addition of Project trips, similar to existing conditions. Therefore, intersection operations under Existing Plus Project Conditions are anticipated to be consistent with standards set forth in the General Plan.

With the addition of Project-generated trips, all intersections would operate at the same level of service as under Cumulative No Project Conditions. During the AM peak hour, two study intersections would continue to operate at unacceptable LOS E or F with the addition of Project trips. During the PM peak hour, all four intersections would continue to operate at unacceptable LOS E or F with the addition of Project trips. Foster City General Plan Land Use and Circulation Policy LUC-F-1 states that it will be necessary to accept LOS E or F at this location. Therefore, intersection operations under Cumulative Plus Project Conditions are anticipated to be consistent with standards set forth in the General Plan.

Pedestrian and Bicycle Facilities

As noted in the Local Circulation section, the Project should, at minimum, upgrade all existing curb ramps at the site driveways to meet the City's accessibility standards. Best practice designs for pedestrian access recommend that the driveways be reconfigured from street-grade to sidewalk-grade driveways as a means to control motorist speed when crossing the sidewalk. The Project sponsor should evaluate this design with City staff to determine the feasibility and applicability. Although traffic volumes would increase somewhat under cumulative conditions because of the cumulative Projects, this would not create new hazards or interfere with accessibility for people walking or biking around the Project site. The Project, in combination with other cumulative Projects would not conflict with any adopted bicycle or pedestrian plans or policies. As such, there would be no cumulative impacts to pedestrian or bicycle facilities.

Parking and Loading

The Project would provide adequate loading spaces to meet City requirements. While the Project does not meet the City's parking requirements, the number of parking spaces would be adequate for the parking demand and therefore the Project is not anticipated to create a parking shortfall.

Vehicle Miles Traveled Impacts (Criterion 2)

As documented in the **Plus Project VMT** section, with the implementation of the proposed TDM plan, the Project would generate approximately 14.3 VMT per employee under existing conditions, which at the

significance threshold of 14.3 (based on a VMT rate of 15% below the county average of 16.8 HBW VMT per employee). Therefore, the Project would not have a significant impact on VMT.

Hazards (Criterion 3)

Impact TRANS-1: Development of the proposed Project has the potential to worsen an existing geometric design feature that could cause hazards. (Potentially *Significant; Less than Significant with Mitigation*)

The Project proposes two driveways that are approximately in the same location as the existing driveways (Chess Drive and Vintage Park Drive) and no roadway geometry changes are proposed along adjacent roadways. As shown on **Figure 8**, sight distance at the proposed driveways is expected to be adequate for drivers turning right out of both driveways provided that vegetation within the sight triangles is pruned to maintain clear sight lines. However, both inbound and outbound left turns at the Chess Drive driveway are potentially hazardous due to roadway curvature and conflicts with vehicles entering the neighboring commercial uses. Both inbound and outbound left turns should be prohibited to minimize potential conflicts. Except for the potentially hazardous inbound and outbound movement at the Chess Drive driveway, the Project is not expected to result in a substantial increase to hazards.

Improvement Measures:

During the project's design review process, the applicant and City of Foster City should evaluate the conversion of the Project's Chess Driveway to right-out only. This would match the driveway across the street and reduce conflicting movements in a substandard two-way left turn lane. Vehicles heading east on Chess Drive or south on Vintage Park can exit from the Vintage Park driveway.

Alternatively, constructing roadway improvements as shown in **Figure 9** would lessen potential conflicts and respond to the conditions described above. Improvements consist of side-by-side left turn lanes that are separated a hardscape median. The hardscape median lessens potential for conflicts from the opposing inbound left-turn movements while prohibiting outbound left turns from both driveways. Modification to the existing median include removing a tree and relocating a streetlight.

Implementing either of the above improvement measure would further reduce the potential impacts associated with hazards to less than significant hazards. The design of the improvements shall be completed by a qualified professional and approved by City official prior to permit issuance.

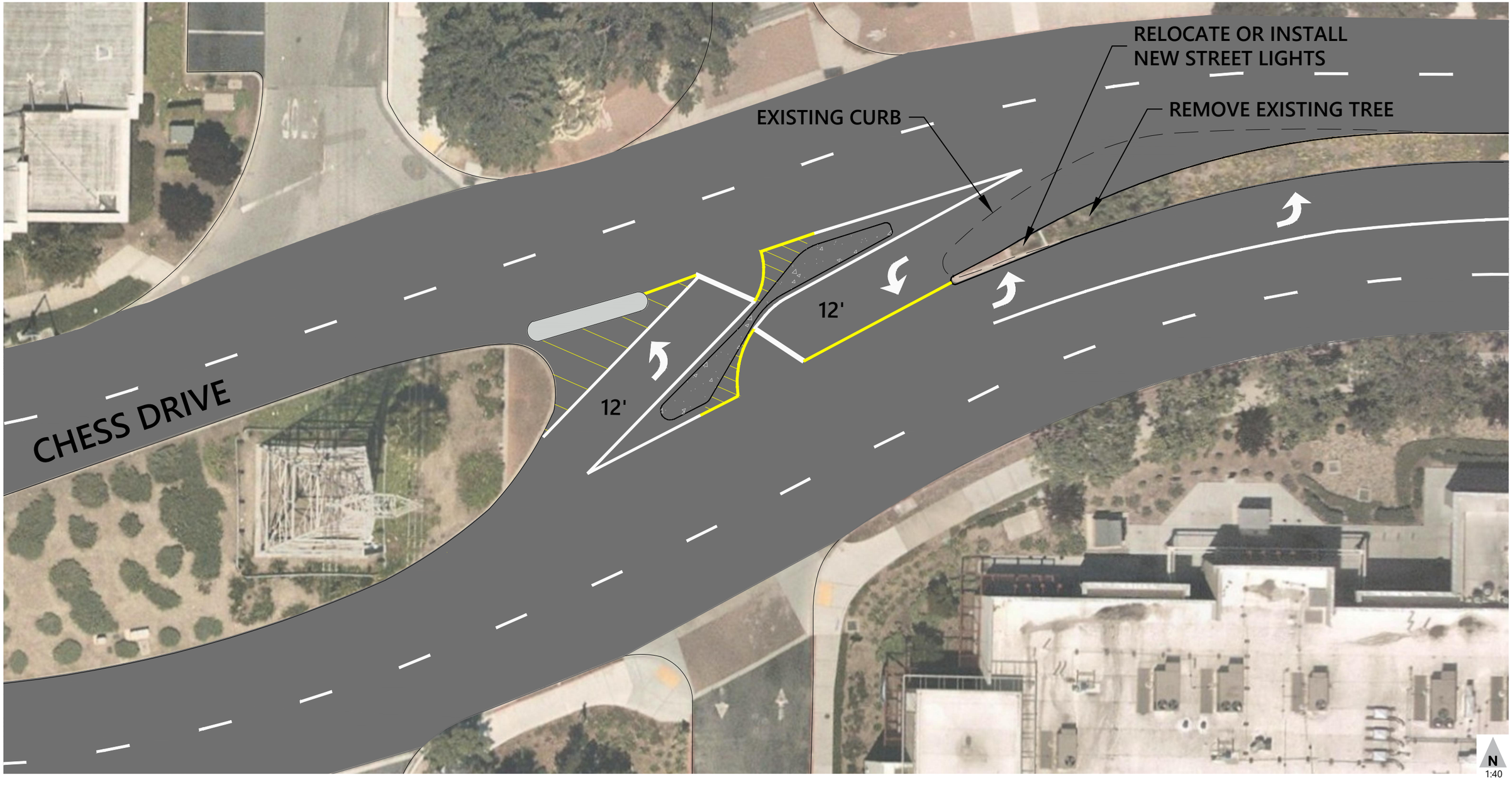

Figure 9

Turn Lane Concept Design
388 Vintage Park Drive

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Emergency Access (Criterion 4)

Vehicle trips generated by the Project would represent a very small percentage of overall daily and peak hour traffic on roadways and freeways in Foster City. During the PM peak hour, the Project generates 85 vehicle trips which are distributed to study intersections. Project-added vehicle trips represent less than two percent of entering volumes at study intersections during the PM peak hour. The Project does not include features that would alter emergency vehicle access routes or roadway facilities; fire and police vehicles would continue to have access to all facilities around the entire city. Upon construction, emergency vehicles would have full access to the Project site. Therefore, the Project is expected not to result in inadequate emergency access and impacts to emergency vehicle access are anticipated to be less than significant.

Appendices

Appendix A: VMT Threshold and Analysis Methods Memorandum

FEHR PEERS

Memorandum

Date: October 8, 2021

To: Sofia Mangalam, Planning Manager, City of Foster City

From: Katelyn Stangl and Matt Goyne, Fehr & Peers

Subject: VMT Threshold and Analysis Methods for the 388 Vintage Park Drive EIR

SF21-1167

California Senate Bill 743 (SB 743) requires California Environmental Quality Act (CEQA) assessment of a project's impact on vehicle miles traveled (VMT) in relation to state greenhouse gas (GHG) reduction planning goals, multimodal transportation, and land use diversity. Additionally, the California Governor's Office of Planning and Research (OPR) issued a technical advisory memorandum in December 2018 that includes general guidance and information for lead agencies to use in implementing SB 743. This memo describes a preliminary conceptual approach for assessing VMT under CEQA for 388 Vintage Park Drive (the project), establishes an ad hoc / interim VMT impact threshold, and analyzes the project's VMT per capita. Initial analysis of the project is then presented and assessed for VMT-based impacts.

Summary

Fehr & Peers has developed the following approach to assess VMT for 388 Vintage Park Drive under CEQA, and for use in analysis and assessment of impacts prior to the City's adoption of a general VMT impact threshold:

1. Determine if the project could potentially be screened from detailed VMT analysis based on relevant criteria identified in the OPR Technical Advisory.
2. Identify the existing average work-based VMT per employee in the nine-county Bay Area region and in San Mateo County using baseline year (2015) model runs of the C/CAG-VTA Bi-County Regional Travel Demand Model (C/CAG Model).
3. Establish an interim work-based VMT per employee threshold of 15 or 16.8 percent less than the existing work-based VMT per employee average for the nine-county Bay Area or for the County of San Mateo based on the C/CAG model. **The threshold and the geography are the two primary decisions required by Foster City.**

4. Assess the project's likely average VMT per employee using data from the C/CAG model for average work-based VMT per employee of existing development in the Vintage Park area of Foster City adjacent to the project site.
5. Compare the project's rate of home-based VMT per employee to the VMT threshold established in Step 3 of this process.

This approach would not involve developing a forecast for project VMT or the project's effect on VMT, but rather uses available VMT per employee data for existing employment uses in Foster City area as a proxy for the project.

The rationale behind the assumptions embedded in this preliminary conceptual approach is provided below. There are other approaches to VMT assessment — this is a new and evolving part of CEQA compliance. The advantages and disadvantages of this approach and other approaches are also discussed below.

This preliminary conceptual approach has been developed only for potential use for the evaluation of VMT for the 388 Vintage Park Drive EIR and is not intended to be used directly as a general endorsement of VMT evaluation methodology or thresholds for other projects in the City of Foster City.

This preliminary conceptual approach represents a potential path forward for the City's consideration and does not constitute legal advice on behalf of LSA or Fehr & Peers. The City is advised to consult legal counsel to obtain such legal advice.

Screening Approaches

The OPR Technical Guidance (2018) lists two screening approaches:

Location in an area of lower VMT: The OPR guidance lists a map-based screening approach articulating that residential and office projects located in areas with low VMT and that incorporate similar features (i.e., density, mix of uses, transit accessibility) will tend to exhibit similarly low VMT. This approach requires a VMT threshold to determine what is "low," but OPR says this approach may not need a detailed VMT analysis if the project is determined to be in a "low VMT" area.

Assessment: Use a regional travel demand model (MTC or C/CAG) to determine existing VMT in the project area TAZ and compare to threshold derived per threshold methodology, as discussed below. If the project area TAZ has existing VMT below the VMT threshold identified, document the result in the CEQA document as well as the substantial evidence for the VMT threshold and its derivation; reference the OPR guidance that no detailed VMT analysis is necessary. At present, if a regional or countywide base is used as the geography for the VMT assessment, the TAZ VMT

would not be below the conceptual VMT threshold in this memorandum and a detailed VMT analysis will be necessary for 388 Vintage Park Drive.

Proximity to transit: CEQA Guidelines Section 15064.3, subdivision (b) (1), states that "generally, projects within ½ mile of an existing major transit stop[1] or a stop along an existing high quality transit corridor[2] should be presumed to cause less-than-significant transportation impact." OPR (2018) advises that the less than significant presumption would not apply, however, if project-specific or location-specific information indicates the project will still generate significant levels of VMT.

Assessment: The project site is located approximately one mile from the Hayward Park and Hillsdale Caltrain Stations as the crow flies. However, the walking distance to each station from the project site is more than two miles. As such, the project should not be presumed to have a less-than-significant impact on the basis of transit proximity.

VMT Assessment Approach

The following key parameters for establishing a VMT evaluation approach are described in more detail in the sections below. Project-based environmental analysis of VMT should:

- Be based in a local or regional context;
- Use VMT that is related to the project type;
- Account for VMT in a way that accurately represents the project's effect on VMT; and
- Analyze potential impacts using a threshold that is related to state GHG reduction targets or other key transportation goals, and supported by substantial evidence.

[1] A "major transit stop" means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

[2] A "high-quality transit corridor" means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

VMT Metric

OPR recommends office project VMT should be compared to a total work-based VMT/employee threshold. This metric helps compare the project's relative transportation efficiency to the regional average (i.e., all else being equal, does creating new employment in this area result in more or less VMT per employee than creating it in other areas?). Fehr & Peers recommends using home-based work VMT (HBW VMT)[3] per employee as the metric for analysis for this project.

Geographic Context

The geographic context could be a city, a county or an entire metropolitan region. OPR recommends using a regional or city geography for residential projects and a regional geography for an office project. For mixed-use projects, OPR recommends either evaluating each of the individual uses separately using the geography for each element, or only considering the project's dominant use. A metropolitan region would capture the full length of nearly all project trips; however, a highly diverse and large metropolitan region may be overly broad and may result in a comparison of a project to dissimilar regional aggregate land use conditions. A local city geography in a metropolitan region will not capture the full length of most project trips and may be too narrow to reflect a project's effect on VMT. A county level would be broader context than a city alone, but would not be as robust in evaluating the full interaction of a project in a regional setting; however, it would avoid comparison of a project to dissimilar regional aggregate land use conditions.

Conceptual Approach: Use the nine-county Bay Area region as the geography for the assessment or the County of San Mateo as the geography.

VMT Accounting Methodology

The VMT accounting method can be trip-based (based on project trips and lengths), tour-based (based on a chain of trips including multiple stops, not just outbound and inbound trips), or assess the project's effects on VMT by modifying a travel demand model to include the project's proposed land uses.

Conceptual Approach: OPR recommends the use of tour-based VMT accounting for residential and office projects and assessing the effect of a project on VMT for retail and transportation projects. However, this method would require the City to conduct a new model run using the MTC model, which is the sole tour-based travel demand model available for Foster City. The MTC model lacks the level of local detail for the roadway network and local land use present in the

[3] Home-based work VMT (HBW VMT) only accounts for commute trips and does not capture work-based other trips that may occur throughout the day (e.g., driving to lunch or to meetings during the middle of the day) due to differences in trip-based and tour-based models, as discussed in more detail under VMT Accounting Methodology. HBW VMT per employee is an appropriate metric to use since it is normalized and compared to similar baseline values.

C/CAG model; therefore, we recommend using work-based VMT per employee multiplied by the expected number of employees at the project site to reach an estimate of total VMT. The project's land use program is similar to existing land uses in the Vintage Park area, which allows for the use of existing per capita VMT data to reasonably assess project VMT.

VMT Impact Threshold

Lead agencies have the discretion to set their own thresholds of significance with the goals of the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold. OPR's guidance on thresholds is presented in the OPR Technical Advisory and the California Air Resources Board's (CARB) *2017 Scoping Plan – Identified VMT Reductions and Relationship to State Climate Goals*. The CARB analysis indicates that the VMT threshold would need to be 16.8 percent for automobile only VMT to achieve state GHG reduction goals. These points of reference are subject to change over time, however, depending on statewide forecasts of population and travel, as well as economic conditions (e.g. short-term and long-term effects of the COVID-19 pandemic).

Conceptual Approach: Use the threshold of 15 or 16.8 percent below the regional or countywide average, expressed as average work-based VMT per employee across the nine-county Bay Area.

VMT Analysis

The VMT analysis for this project is relatively straightforward, as the project has substantially similar land use characteristics and context to existing development in the Vintage Park area. The analysis presented below does not reflect a unique model run to assess the project; instead, it includes an estimate of HBW VMT per worker that uses rates at similar nearby developments.

The project will operate a transportation demand management (TDM) program to reduce driving by encouraging employees to commute by non-automotive forms of transportation. According to information provided by the project applicant, the project's TDM program will include strategies such as transit subsidies, participation in a transportation management association, carpooling and vanpooling incentives, and TDM marketing and coordination. Fehr & Peers conducted a preliminary assessment of the TDM plan and found it could be effective at reducing 10 percent of the project's VMT from employees commuting. Reductions from the TDM plan are included in the VMT analysis below.

Table 1 shows the average HBW VMT per employee based on the C/CAG model in the 2015 base year (the most recently available data). As shown, the Foster City area has an estimated HBW VMT per employee that is four percent higher than the regional average by five percent lower than the County average. After accounting for VMT reductions from the project's TDM plan, the project's

VMT per employee would be six percent lower than the Bay Area regional average and 15 percent lower than the County of San Mateo average. This would meet the goal of 15 percent below County of San Mateo threshold but would not meet the 15 or 16.8 percent below average thresholds discussed above.

Table 1: Home-Based Work VMT per Employee, by Location (2015 Estimates)

Location	Regional Threshold HBW VMT per Employee	County Threshold HBW VMT per Employee
Threshold Geography Average	15.4	16.8
Foster City Project Area	16.0	16.0
Foster City Project Area with 10% TDM Reduction	14.3	14.3
Percent Difference	**-6%**	**-15%**
Expected Project Impact on VMT?	**Yes**	**No**

Source: Fehr & Peers, 2021; C/CAG-VTA Bi-County Transportation Demand Model, 2021.

While the use of a travel demand model would most accurately assess the project's effect on regional VMT, an estimate of the project's effect on VMT (relative to employment growth in an "average" location) is shown in **Table 2**. The proposed project would result in approximately 213 new employees at the project site.[4] These 213 net new employees are expected to generate a weekday daily HBW VMT of 3,046 and a net decrease of 234 compared to if the employees were added in a theoretical Bay Area "average" location. In comparison to an "average" location in the County of San Mateo, the project would result in a net decrease of 533 VMT.

[4] The estimated number of employees is based on data provided by the project applicant.

Table 2: Home-Based Work VMT per Employee, by Location (2015 Estimates)

	Regional Threshold		County Threshold	
Location	**Average HBW VMT per Employee**	**HBW VMT for 213 New Employees**	**Average HBW VMT per Employee**	**HBW VMT for 213 New Employees**
Threshold Geography Average	15.4	3,280	16.8	3,578
Foster City Project Area with 10% TDM Reduction	14.3	3,046	14.3	3,046
Difference / Project's Effect on Regional HBW VMT		**- 234 average weekday HBW VMT**		**- 533 average weekday HBW VMT**

Source: Fehr & Peers, 2021; C/CAG-VTA Bi-County Transportation Demand Model, 2021.

Based on the above assessment, the project would be presumed to have a significant VMT impact with the Bay Area regional threshold and would not be presumed to have a significant VMT impact with a County of San Mateo threshold. Under the Bay Area regional threshold, the project would be required to implement various measures to reduce vehicle trip levels to the extent feasible. This would include measures extending beyond those included in the initial TDM plan and creating a monitoring program to ensure these measures are effective at reducing this impact to less-than-significant levels.

Appendix B: Trip Generation Methodology & Preliminary Results Memorandum

FEHR PEERS

Memorandum

Date: July 12, 2021

To: Sofia Mangalam, Planning Manager, City of Foster City

From: Katelyn Stangl and Matt Goyne, Fehr & Peers

Subject: Trip Generation Methodology & Preliminary Results for 388 Vintage Park Drive

SF21-1167

Trip Generation Methodology

The proposed project will consist of a 96,000 square foot life science/R&D office building. This land use is characterized by having a lower employee density than a typical office. A life science/R&D building would have an employee density near 1 per 450 square feet, while a typical office would have an employee density closer to 1 per 300 square feet. As life science/R&D offices have a lower employee density, they have a lower vehicle and person trip generation rate than a typical office. The proposed project description has included either 213 or 270 employees – this would lead to an employee density of 1 per 450 square feet (based on 213 employees on a typical day) or 1 per 360 square feet (based on 270 employees on a typical day).

To reflect the unique travel characteristics, business operations, and employment density associated with the proposed life science use, we compared trip generation rates from two sources: those included in the ITE *Trip Generation Manual* and local data collected from life science/R&D land uses along the San Francisco Peninsula. These sources included:

- ITE 710 General Office, per KSF. These trip generation rates reflect an employee density of roughly 1 per 340 square feet.
- ITE 710 General Office, per employee. Trip generation estimates were prepared with both 213 and 270 employees.
- Local trip generation rates based on three sample office and research and development (R&D) campus sites in the East of 101 area of South San Francisco that achieved a roughly 30 percent non-drive alone mode share. These sites had employee densities consistent with typical life science developments.

Preliminary Trip Generation Results

Trip generation rates and preliminary results are summarized in **Table 1**.

Table 1: Trip Generation Rates and Project Trips

Land Use	Trip Generation Unit	Project Size	Daily Rate	Daily Project Trips	AM Rate	AM Project Trips	PM Rate	PM Project Trips
ITE 710 General Office	Per KSF	96 KSF	9.74 per KSF	935	1.45 per KSF	139	1.50 per KSF	144
ITE 710 General Office	Per Employee	213 emp.	3.28 per emp.	699	0.37 per emp.	79	0.40 per emp.	85
ITE 710 General Office	Per Employee	270 emp.	3.28 per emp.	886	0.37 per emp.	100	0.40 per emp.	108
Local Life Sciences Data	Per KSF	96 KSF	5.08 per KSF	488	0.56 per KSF	54	0.50 per KSF	48

Source: Fehr & Peers, 2021.

Overall, using trip generation rates based on local data would result in the lowest trip generation rates, whereas using ITE General Office rates per KSF would result in the highest trip generation results. The most appropriate rate would depend on the final proposed employee density for the site and an estimate of the site's final mode share – if the site has a daily occupancy of 213 employees and a 70 percent drive alone share is feasible, then the local life sciences data would be the best match for the project site. Under the draft Transportation Demand Management (TDM) guidelines for San Mateo County, any large office project (more than 50,000 square feet) would be required to achieve a vehicle trip reduction of 35 percent, which would approximately equal the driving mode share at the local data sites. However, if the site has a higher daily density of employees (i.e., a daily occupancy of 270 employees) and it is infeasible to meet this lower driving mode share, the ITE trip generation rates would be more suitable for the site.

Appendix C: Transportation Demand Management Plan Evaluation

FEHR PEERS

Memorandum

Date: October 18, 2021

To: Sofia Mangalam, Planning Manager, City of Foster City

From: Katelyn Stangl and Matt Goyne, Fehr & Peers

Subject: Transportation Demand Management Plan Evaluation for 388 Vintage Park Drive

SF21-1167

New developments in the City of Foster City ("the City") are required to prepare transportation demand management (TDM) plans. These plans outline strategies and policies to reduce single-occupancy vehicle trips and vehicle miles traveled. This memo evaluates the proposed TDM plan for 388 Vintage Park Drive ("the Project"), a proposed new life sciences office development in the City, for CEQA and C/CAG CMP compliance purposes. This Project is required to reduce VMT by 10 percent to have a less than significant impact under SB 743. Based on this assessment, the Project's TDM plan could reduce 10 percent of Project home-based work VMT per employee, allowing it to reduce VMT to a less than significant level.

Policy Context

New developments are subject to SB 743, which requires California Environmental Quality Act (CEQA) assessment of a project's impact on vehicle miles traveled (VMT) in relation to state greenhouse gas (GHG) reduction planning goals, multimodal transportation, and land use diversity. TDM strategies can be used to reduce a project's VMT impacts.

Additionally, as of the summer of 2021, the City/County Association of Government of San Mateo County (C/CAG) is in the process of updating its Transportation Demand Management (TDM) guidelines (the TDM Policy Update). Under the new guidelines, a new office building larger than 50,000 square feet would be considered a "large" project and be required to provide TDM strategies to reduce at least 35 percent of vehicle trips. Large office developments would be required to implement a core set of TDM strategies and would be required to implement supplementary TDM strategies sufficient to meet the project's vehicle trip reduction goal. When adopted, these guidelines would apply to all C/CAG member jurisdictions for compliance with the

San Mateo County Congestion Management Plan (CMP), which is anticipated to occur during the EIR preparation process for the Project.

Project Background

The Project consists of a 95,913 square foot life sciences office with a daily employee population of 213 people and 180 parking spaces. The Project has prepared a TDM plan to reduce the number of vehicle trips and overall VMT generated by the Project.

The Project TDM plan includes the following measures:

- Free or preferential parking for carpools (14 spaces)
- Designated TDM coordinator
- Active participation in Commute.org, a Transportation Management Association (TMA) serving San Mateo County. Commute.org provides access to the following services: commute assistance and ride-matching, first/last mile shuttles, guaranteed ride home, and educational materials
- A carpool or vanpool program registered with Commute.org
- Transit passes, subsidized transit passes, or carpool/vanpool incentives equal in value to 30 percent of the monthly fare value or $50[1]
- Pre-tax transit program to allow employees to use pre-tax income to pay for commute costs
- Secure bicycle storage
- Showers and changing rooms for those walking or biking to work
- Reduced parking relative to parking minimums in the City

The Project site benefits from proximity to local shuttle service from Commute.org providing connections to regional rail such as BART and Caltrain. The Mariners' Island Shuttle connects to the Belmont Caltrain station and the North Foster City Shuttle connects to the Millbrae Intermodal Transit Station, with BART and Caltrain access. Additionally, nearby transit stops are serviced by two as two SamTrans bus routes (the 251 and 256) and the AC Transit M Line[2]. Access to these shuttle or bus service would be necessary for Project employees to travel to the site via regional transit, as the Project site is not walkable to the nearest regional rail stations (Hillsdale and Hayward Caltrain stations).

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[1] It is unspecified if $50 represents the maximum subsidy or the minimum subsidy – this distinction could affect the effectiveness of this TDM measure. The analysis presented below assumes that 30 percent of the commute costs would be subsidized.

[2] The M Line was suspended at the onset of the COVID-19 pandemic and service has not yet resumed. It is unclear if or when the M Line will return to service.

Evaluation

CEQA

Fehr & Peers evaluated the potential effectiveness of the proposed TDM measures using TDM+, a tool based on Quantifying Greenhouse Gas Mitigation Measures, a report for the California Air Pollution Control Officer's Association (CAPCOA) produced in 2021. These estimates are widely accepted as the best available information on how TDM measures can affect vehicle miles traveled, greenhouse gas emissions, and overall vehicle trips to or from a site.

To reduce the Project VMT impact to less than significant,[3] the Project would need to achieve a minimum reduction of 10 percent. Based on this assessment, the Project's TDM plan could reduce 10 percent[4] of Project home-based work VMT per employee, allowing it to reduce VMT to a less than significant level. VMT reduction per TDM measure and overall VMT reductions are depicted in ***Figure 1***.[6]

The amount of VMT generated by employees is related to the amount of parking provided. The project is located in a suburban setting where people expect that parking will be available and free at one's origin and destination, which makes driving a more attractive, convenient transportation option compared to other modes. Constraining the amount of on-site parking below the typical parking demand can reduce VMT by making driving less convenient and other modes more attractive. The Project will have sufficient parking for up to 85% of its 213 employees to commute by single-occupancy vehicle. This is higher than typical commute driving rates in the city – in the 2019 census, 72 percent of employees working in the City commuted by driving alone.[8] Additionally, parking generation was estimated using per employee parking generation rates from the ITE *Parking Generation Manual, 5th Edition* for General Office (710). Using those parking generation rates (0.84 per employee), the Project would generate a peak hour demand of 179 parking stalls.[9] Therefore, the amount of parking provided by the project would be in excess of the parking demand and is not anticipated to reduce the VMT generated by the project.

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[3] This is based on a threshold of producing VMT at 15 percent below the average VMT for the county of San Mateo. Without any TDM measures, the Project would generate VMT at a level of 5% below the county average.

[4] The Project applicant estimated that their TDM plan would be sufficient to reduce VMT by 16.9%. Their analysis was prepared using the CAPCOA Quantifying Greenhouse Gas Mitigation Measures report from 2010. VMT reductions in the new edition of the report have been updated to reflect new research on the impact of TDM measures.

[6] TDM+ provides a range of VMT reductions for each TDM measure. The lower estimate indicates a conservative estimate, suitable for use in environmental documents. The higher estimate indicates a potential upper limit to reductions and would require a very high level of support, marketing, and investment in most cases.

[8] American Community Survey, 2019.

[9] This accounts for parking demand from employees and visitors.

Figure 1. TDM+ VMT Reduction Summary Report

TDM Reduction Summary Report: 388 Vintage Park Drive TIA
Overall VMT Reduction: 10% to 34%

	VMT % Reduction by Land Use
Parking	
Parking1A: Increased Off-Street Fees	
Parking1B: Increased On-Street Fees	
Parking1D: Unbundled Parking	
Parking1E: Pay-as-you-Go Parking Rates	
Parking 2: Parking Supply	up to -3%
Transit	
Transit 1: Subsidies	
Transit 2A: Transit Frequency	
Transit 2B: Transit Coverage	
Transit 3A: Private Point-to-Point Shuttles	-
Transit 3B: Last Mile Shuttle	4% to 10%
Commute Programs	
Commute 1A: Commuter Incentives	up to 7%
Commute 2: Commute Marketing Program	4% to 13%
Commute 3: ERH	up to 2%
Commute 4: TNC Partnerships	
Bike and Walk	
BikeWalk1: Secure Parking	-
BikeWalk2: Showers & Lockers	-
BikeWalk3: End of Trip Repair Stations	
BikeWalk 4: Pedestrian-Oriented Design	
BikeWalk 5: Bikeshare System & Subsidies	
Rideshare	
Rideshare 1: Carpool/Vanpool Incentives	
Rideshare 2: Ridematch Program	2% to 10%
Rideshare 3: Carshare	
Rideshare 4: Carshare Subsidy	
Total	
Total of all Measures	10% to 34%

Prepared by Fehr Peers
using TDM+ 2019

Report generated on 10/8/2021

C/CAG CMP Compliance

Finally, Fehr & Peers evaluated the Project using C/CAG's TDM Policy Update guidelines. The table below lists the required and optional TDM measures for a new large office development as well as their potential for vehicle trip reduction. A new large office development must reduce at least 35% of vehicle trips.

Table 1: C/CAG Required and Optional TDM Measures under the Draft TDM Policy Update

TDM Measure	C/CAG's Vehicle Trip Reduction Value	Included in 388 Vintage Park Drive TDM Plan?
Required TDM Measures		
Free/Preferential Parking for Carpools	1.0%	**Yes**
TDM Coordinator/Contact Person	0.5%	**Yes**
Actively Participate in Commute.org, or Transportation Management Association (TMA) Equivalent	16.5%	**Yes**
Carpool or Vanpool Program	2.0%	**Yes**
Transit or Ridesharing Passes/Subsidies	10.0%	**Yes**
Pre-Tax Transportation Benefits	1.0%	**Yes**
Secure Bicycle Storage	1.0%	**Yes**
Showers, Lockers, and Changing Rooms for Cyclists	2.0%	**Yes**
Design Streets to Encourage Bike/Ped Access	1.0%	No[1]
Additional Recommended TDM Measures		
Flex Time, Compressed Work Week, Telecommute	5.0%	No
Paid Parking at Market Rate	25.0%	No
Short Term Daily Parking	2.0%	No
Reduced Parking	10.0%	**Yes**[2]
Developer TDM Fee / TDM Fund	4.0%	No
Car Share On-Site	1.0%	No
Land Dedication or Capital Improvements for Transit	4.0%	No
Shuttle Program/Shuttle Consortium/Fund Transit Service	10.0%	No
Bike/Scooter Share On-Site	1.0%	No
Active Transportation Subsidies	2.0%	No
Gap Closure	7.0%	No
Bike Repair Station	0.5%	No
Pedestrian Oriented Uses & Amenities on Ground Floor	3.0%	No

Table 1: C/CAG Required and Optional TDM Measures under the Draft TDM Policy Update

TDM Measure	C/CAG's Vehicle Trip Reduction Value	Included in 388 Vintage Park Drive TDM Plan?
Project Vehicle Trip Reduction Value	***44%[3]***	

Notes:
1. The Project sponsor indicated that the Project would qualify for this measure due to the proximity of a Class II bicycle lane within a half mile of the Project site. Of the two roadways adjacent to the Project, Vintage Park Drive is a designated Class III bike route and Chess Drive has a Class II bike lane. However, due to the number of lanes and vehicular speed limits, as noted in the Foster City Bicycle Network Assessment (2017), both roads would be classified as high stress (Level of Traffic Stress, or LTS, 4). High stress bikeways are only tolerated by a few: primarily those who could be described as "strong and fearless" – those comfortable riding under any conditions (about 7% of the population). Additionally, the C/CAG requirements note that other criteria could include direct pedestrian connections to transit and a front setback of less than 20 feet. The Project entrance is approximately 38 feet from the sidewalk.
2. Parking reductions qualify if the Project provides off-street private parking at least 10% below local zoning code required minimums, on a per unit or square foot basis. The Project would provide less parking than required under City parking requirements (256 required; 180 proposed).
3. These calculations differ from the CEQA VMT reductions described above as these calculations are based on planning-level vehicle trip reduction estimates for compliance purposes with San Mateo County's Congestion Management Plan and are not applicable for CEQA reductions.
Source: Fehr & Peers, 2021.

Overall, the TDM plan would reduce 44% of vehicle trips – more than its goal of 35%. Under the TDM Policy Update, the Project TDM plan would be adequate to satisfy its TDM requirements.

Conclusions

The TDM plan proposed by the Project would be sufficient to reduce Project VMT below its VMT impact threshold and would be adequate to meet the requirements under the C/CAG TDM Policy Update.

Appendix D: Vehicle Volumes for Existing and Cumulative Conditions

Table D-1: Existing Vehicle Volumes

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	389	35	731	2	16	5	1	130	122	708	192	11
Chess Drive/Foster City Blvd	819	893	194	3	299	67	322	61	480	19	25	4
Foster City Blvd/ Metro Center Blvd	131	955	66	137	467	194	457	183	446	52	85	494
Metro Center Blvd/ SR-92 Eastbound Ramps	2	2	21	942	48	441	61	123	4	37	177	196

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	389	35	731	2	16	5	1	130	122	708	192	11
Chess Drive/Foster City Blvd	819	893	194	3	299	67	322	61	480	19	25	4
Foster City Blvd/ Metro Center Blvd	131	955	66	137	467	194	457	183	446	52	85	494
Metro Center Blvd/ SR-92 Eastbound Ramps	2	2	21	942	48	441	61	123	4	37	177	196

Table D-2: Existing Plus Project Vehicle Volumes

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	389	35	744	2	16	5	1	135	128	708	203	11
Chess Drive/Foster City Blvd	820	893	194	3	299	77	324	61	483	19	25	4
Foster City Blvd/ Metro Center Blvd	131	956	66	137	467	197	457	183	446	52	85	494
Metro Center Blvd/ SR-92 Eastbound Ramps	2	2	21	942	48	441	61	123	31	37	177	199

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	77	2	200	10	20	4	0	287	809	912	178	1
Chess Drive/Foster City Blvd	692	207	19	2	1,026	238	48	13	433	107	161	4
Foster City Blvd/ Metro Center Blvd	228	547	64	198	616	752	103	130	153	62	115	268
Metro Center Blvd/ SR-92 Eastbound Ramps	2	49	21	108	4	44	504	257	13	8	101	986

Table D-3: Cumulative (2040) Vehicle Volumes

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	614	40	1,060	10	20	10	10	220	140	755	223	20
Chess Drive/Foster City Blvd	858	1,157	400	60	320	80	500	200	590	60	60	10
Foster City Blvd/ Metro Center Blvd	201	1,130	80	160	600	210	775	290	490	60	150	510
Metro Center Blvd/ SR-92 Eastbound Ramps	10	10	30	1,290	50	460	103	235	10	40	281	240

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	104	10	250	20	30	10	10	310	880	1,177	235	10
Chess Drive/Foster City Blvd	771	270	90	10	1,180	290	50	40	490	250	360	50
Foster City Blvd/ Metro Center Blvd	321	620	100	210	830	880	211	310	220	70	180	300
Metro Center Blvd/ SR-92 Eastbound Ramps	10	50	30	280	10	70	614	431	10	10	231	1,140

Table D-4: Cumulative Plus Project (2040)

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	614	40	1,073	10	20	10	10	225	146	755	234	20
Chess Drive/Foster City Blvd	859	1,157	400	60	320	90	502	200	593	60	60	10
Foster City Blvd/ Metro Center Blvd	201	1,131	80	160	600	213	775	290	490	60	150	510
Metro Center Blvd/ SR-92 Eastbound Ramps	10	10	30	1,290	50	460	103	235	37	40	281	243

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	104	10	253	20	30	10	10	335	909	1,177	238	10
Chess Drive/Foster City Blvd	771	270	90	10	1,180	293	60	40	505	250	360	50
Foster City Blvd/ Metro Center Blvd	321	620	100	210	831	894	211	310	220	70	180	300
Metro Center Blvd/ SR-92 Eastbound Ramps	10	50	30	280	10	70	614	431	17	10	231	1,154

Appendix E: Level of Service and Vehicle Queuing Results

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	389	392	100.8%	47.8	4.0	D
	Through	35	33	93.4%	53.3	10.7	D
	Right Turn	731	736	100.6%	2.7	0.7	A
	Subtotal	1,155	1,160	100.5%	20.1	2.4	C
SB	Left Turn	2	2	85.0%	24.6	42.7	C
	Through	16	17	107.5%	65.5	18.9	E
	Right Turn	5	4	84.0%	5.3	6.1	A
	Subtotal	23	23	100.4%	57.6	19.4	E
EB	Left Turn	1	1	110.0%	23.0	31.9	C
	Through	130	136	104.7%	62.1	8.8	E
	Right Turn	122	126	103.5%	25.5	3.4	C
	Subtotal	253	264	104.2%	45.0	4.9	D
WB	Left Turn	708	727	102.6%	6.4	1.4	A
	Through	192	194	101.1%	4.2	1.2	A
	Right Turn	11	11	100.9%	1.5	1.6	A
	Subtotal	911	932	102.3%	5.9	1.2	A
Total		2,342	2,379	101.6%	17.8	1.7	B

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	819	844	103.0%	25.1	3.5	C
	Through	893	908	101.6%	10.9	2.1	B
	Right Turn	194	200	102.9%	11.4	3.3	B
	Subtotal	1,906	1,951	102.4%	17.1	2.5	B
SB	Left Turn	3	4	116.7%	21.4	30.6	C
	Through	299	300	100.2%	51.7	4.8	D
	Right Turn	67	66	99.0%	29.9	7.1	C
	Subtotal	369	370	100.1%	47.4	3.9	D
EB	Left Turn	322	328	101.7%	42.0	4.8	D
	Through	61	61	100.3%	41.6	7.7	D
	Right Turn	480	486	101.2%	2.3	0.8	A
	Subtotal	863	875	101.3%	20.4	2.0	C
WB	Left Turn	19	18	92.6%	62.9	25.3	E
	Through	25	23	90.8%	51.3	14.8	D
	Right Turn	4	4	95.0%	4.9	4.9	A
	Subtotal	48	44	91.9%	51.8	14.9	D
Total		3,186	3,239	101.7%	22.2	1.5	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	95.0%	12.3	26.0	B
	Through	2	2	115.0%	28.9	38.2	C
	Right Turn	21	25	119.0%	10.5	1.2	B
	Subtotal	25	29	116.8%	15.7	8.5	B
SB	Left Turn	942	961	102.0%	11.5	1.0	B
	Through	48	47	98.8%	11.2	4.6	B
	Right Turn	441	445	101.0%	4.7	0.9	A
	Subtotal	1,431	1,453	101.5%	9.5	0.8	A
EB	Left Turn	61	64	104.9%	56.1	6.5	E
	Through	123	126	102.6%	48.0	4.3	D
	Right Turn	4	5	120.0%	17.0	29.9	B
	Subtotal	188	195	103.7%	50.3	4.8	D
WB	Left Turn	37	39	104.3%	58.3	7.9	E
	Through	177	181	102.1%	41.0	5.2	D
	Right Turn	196	194	99.1%	3.8	0.7	A
	Subtotal	410	414	100.9%	26.6	3.3	C
Total		2,054	2,091	101.8%	16.8	0.7	B

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	131	134	102.6%	63.8	12.1	E
	Through	955	980	102.6%	37.0	2.5	D
	Right Turn	66	66	100.2%	29.5	5.9	C
	Subtotal	1,152	1,180	102.5%	39.5	3.2	D
SB	Left Turn	137	135	98.8%	75.2	7.0	E
	Through	467	473	101.3%	18.1	3.5	B
	Right Turn	194	193	99.3%	4.3	1.6	A
	Subtotal	798	801	100.4%	24.4	2.0	C
EB	Left Turn	457	474	103.7%	35.3	4.3	D
	Through	183	185	101.0%	27.6	3.3	C
	Right Turn	446	453	101.5%	21.9	3.4	C
	Subtotal	1,086	1,111	102.3%	28.6	2.9	C
WB	Left Turn	52	48	93.1%	55.0	14.8	E
	Through	85	88	102.9%	58.8	19.5	E
	Right Turn	494	499	101.0%	29.0	9.9	C
	Subtotal	631	635	100.6%	35.0	11.0	C
Total		3,667	3,728	101.7%	32.4	2.3	C

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	77	76	99.1%	44.9	7.4	D
	Through	2	2	85.0%	7.2	18.0	A
	Right Turn	197	195	98.8%	30.4	35.0	C
	Subtotal	276	273	98.8%	35.6	24.7	D
SB	Left Turn	10	9	93.0%	55.8	33.8	E
	Through	20	22	111.0%	59.0	15.4	E
	Right Turn	4	5	120.0%	9.3	13.2	A
	Subtotal	34	36	106.8%	58.1	18.5	E
EB	Left Turn						
	Through	262	252	96.0%	143.6	92.0	F
	Right Turn	780	768	98.5%	51.8	19.8	D
	Subtotal	1,042	1,020	97.8%	73.9	34.7	E
WB	Left Turn	912	927	101.6%	11.6	2.1	B
	Through	175	174	99.5%	10.5	3.5	B
	Right Turn	1	2	160.0%	0.2	0.5	A
	Subtotal	1,088	1,103	101.4%	11.4	2.1	B
Total		2,440	2,431	99.6%	41.0	15.0	D

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	692	731	105.6%	45.7	6.9	D
	Through	207	213	102.8%	13.6	4.2	B
	Right Turn	19	20	107.4%	14.4	10.5	B
	Subtotal	918	964	105.0%	37.9	5.8	D
SB	Left Turn	2	2	85.0%	54.6	115.4	D
	Through	1,026	910	88.7%	372.2	67.3	F
	Right Turn	235	211	89.7%	228.0	30.3	F
	Subtotal	1,263	1,122	88.9%	343.0	60.7	F
EB	Left Turn	38	36	95.5%	50.9	14.1	D
	Through	13	14	104.6%	75.3	39.0	E
	Right Turn	418	383	91.7%	250.2	77.4	F
	Subtotal	469	433	92.4%	224.2	68.6	F
WB	Left Turn	107	97	90.7%	196.0	36.3	F
	Through	161	154	95.9%	44.9	9.5	D
	Right Turn	4	3	77.5%	12.0	18.4	B
	Subtotal	272	255	93.6%	103.5	20.5	F
Total		2,922	2,774	94.9%	197.8	33.1	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	100.0%	9.1	19.6	A
	Through	49	51	104.3%	87.7	11.1	F
	Right Turn	21	25	119.5%	9.8	1.8	A
	Subtotal	72	78	108.6%	59.1	12.4	E
SB	Left Turn	108	110	101.8%	30.2	4.2	C
	Through	4	4	87.5%	11.8	21.0	B
	Right Turn	44	51	116.8%	10.3	2.9	B
	Subtotal	156	165	105.6%	23.6	3.7	C
EB	Left Turn	504	479	95.1%	301.7	68.9	F
	Through	257	255	99.3%	62.8	46.0	E
	Right Turn	6	7	108.3%	43.1	77.9	D
	Subtotal	767	741	96.6%	221.3	57.7	F
WB	Left Turn	8	7	90.0%	50.9	38.5	D
	Through	101	94	93.0%	56.4	19.8	E
	Right Turn	972	923	94.9%	94.5	4.6	F
	Subtotal	1,081	1,024	94.7%	90.9	5.8	F
Total		2,076	2,007	96.7%	133.1	22.1	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	228	238	104.3%	73.2	8.8	E
	Through	547	576	105.4%	20.3	2.5	C
	Right Turn	64	63	98.8%	17.0	5.2	B
	Subtotal	839	878	104.6%	34.4	3.0	C
SB	Left Turn	198	174	87.8%	82.7	8.1	F
	Through	615	542	88.1%	51.6	11.0	D
	Right Turn	738	663	89.8%	150.3	18.6	F
	Subtotal	1,551	1,379	88.9%	103.8	10.0	F
EB	Left Turn	103	109	106.1%	46.2	7.8	D
	Through	130	129	99.2%	44.6	9.6	D
	Right Turn	153	151	98.6%	28.0	6.5	C
	Subtotal	386	389	100.8%	38.5	6.2	D
WB	Left Turn	62	62	99.4%	50.0	9.4	D
	Through	115	123	106.6%	77.5	6.2	E
	Right Turn	268	278	103.6%	15.7	2.6	B
	Subtotal	445	462	103.8%	36.8	4.3	D
Total		3,221	3,107	96.5%	66.2	4.1	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	614	603	98.2%	106.2	26.6	F
	Through	40	41	101.3%	122.3	39.6	F
	Right Turn	1,060	1,011	95.4%	49.2	13.6	D
	Subtotal	1,714	1,655	96.5%	72.4	16.5	E
SB	Left Turn	10	9	93.0%	59.7	30.1	E
	Through	20	21	106.0%	55.3	20.2	E
	Right Turn	10	13	133.0%	14.6	8.8	B
	Subtotal	40	44	109.5%	46.5	15.3	D
EB	Left Turn	10	8	83.0%	299.0	162.1	F
	Through	220	195	88.6%	353.2	51.2	F
	Right Turn	140	142	101.3%	22.7	5.2	C
	Subtotal	370	345	93.3%	219.1	27.8	F
WB	Left Turn	755	749	99.2%	7.2	2.3	A
	Through	223	217	97.4%	6.3	1.6	A
	Right Turn	20	21	102.5%	2.2	2.1	A
	Subtotal	998	987	98.9%	6.9	2.0	A
Total		3,122	3,030	97.1%	69.1	11.5	E

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	858	858	100.0%	28.8	6.7	C
	Through	1,157	1,117	96.6%	25.7	3.1	C
	Right Turn	400	399	99.8%	19.7	2.7	B
	Subtotal	2,415	2,374	98.3%	25.8	3.9	C
SB	Left Turn	60	63	104.5%	52.3	7.5	D
	Through	320	325	101.7%	51.2	4.3	D
	Right Turn	80	73	91.8%	27.3	7.0	C
	Subtotal	460	462	100.3%	47.5	2.6	D
EB	Left Turn	500	469	93.8%	57.5	4.2	E
	Through	200	188	93.9%	75.0	8.4	E
	Right Turn	590	552	93.6%	10.4	3.6	B
	Subtotal	1,290	1,209	93.7%	40.4	5.7	D
WB	Left Turn	60	54	89.8%	48.7	3.4	D
	Through	60	55	92.2%	52.1	11.6	D
	Right Turn	10	8	77.0%	12.2	7.8	B
	Subtotal	130	117	89.9%	47.5	6.5	D
Total		4,295	4,162	96.9%	33.2	2.9	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	101.0%	47.2	32.4	D
	Through	10	11	108.0%	62.1	23.4	E
	Right Turn	30	32	106.0%	9.7	0.7	A
	Subtotal	50	53	105.4%	34.2	7.0	C
SB	Left Turn	1,290	1,268	98.3%	60.9	37.6	E
	Through	50	49	98.2%	61.9	34.2	E
	Right Turn	460	451	98.0%	33.1	44.7	C
	Subtotal	1,800	1,768	98.2%	54.3	38.9	D
EB	Left Turn	103	102	98.9%	55.2	8.5	E
	Through	235	246	104.7%	44.7	6.3	D
	Right Turn	10	10	102.0%	16.5	10.8	B
	Subtotal	348	358	102.9%	46.9	5.5	D
WB	Left Turn	40	36	90.8%	57.4	11.5	E
	Through	281	261	93.0%	38.9	4.3	D
	Right Turn	240	231	96.3%	5.0	0.9	A
	Subtotal	561	529	94.3%	25.0	1.9	C
Total		2,759	2,708	98.1%	47.6	26.3	D

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	201	203	100.8%	141.7	89.9	F
	Through	1,130	1,144	101.3%	48.0	5.6	D
	Right Turn	80	83	103.3%	37.3	8.0	D
	Subtotal	1,411	1,430	101.3%	62.5	17.0	E
SB	Left Turn	160	154	96.1%	70.1	13.4	E
	Through	600	579	96.6%	34.8	3.2	C
	Right Turn	210	197	93.7%	9.7	3.1	A
	Subtotal	970	930	95.9%	36.3	3.4	D
EB	Left Turn	775	777	100.3%	56.9	11.1	E
	Through	290	281	96.8%	39.3	6.4	D
	Right Turn	490	489	99.8%	23.1	3.5	C
	Subtotal	1,555	1,547	99.5%	43.4	7.7	D
WB	Left Turn	60	48	80.5%	132.1	15.6	F
	Through	150	130	86.5%	145.2	12.7	F
	Right Turn	510	444	87.1%	120.4	8.5	F
	Subtotal	720	622	86.4%	126.5	8.9	F
Total		4,656	4,528	97.3%	58.7	6.1	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	104	101	96.7%	58.3	37.3	E
	Through	10	9	91.0%	167.8	180.0	F
	Right Turn	250	220	88.1%	277.2	165.0	F
	Subtotal	364	330	90.6%	213.4	121.3	F
SB	Left Turn	20	19	96.0%	91.9	38.4	F
	Through	30	32	107.7%	59.3	10.2	E
	Right Turn	10	13	131.0%	22.2	16.0	C
	Subtotal	60	65	107.7%	63.1	12.7	E
EB	Left Turn	10	6	60.0%	571.6	262.7	F
	Through	310	209	67.5%	585.5	112.5	F
	Right Turn	880	650	73.9%	416.7	81.1	F
	Subtotal	1,200	866	72.2%	459.9	91.2	F
WB	Left Turn	1,177	1,063	90.3%	14.5	1.2	B
	Through	235	215	91.4%	14.2	1.5	B
	Right Turn	10	9	86.0%	12.6	7.5	B
	Subtotal	1,422	1,287	90.5%	14.4	1.2	B
Total		3,046	2,547	83.6%	180.6	25.7	F

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	771	735	95.4%	85.6	33.4	F
	Through	270	258	95.6%	19.3	4.1	B
	Right Turn	90	88	97.4%	5.4	1.1	A
	Subtotal	1,131	1,081	95.6%	63.0	23.5	E
SB	Left Turn	10	8	75.0%	295.8	114.7	F
	Through	1,180	790	66.9%	458.8	57.9	F
	Right Turn	290	206	71.0%	263.8	24.1	F
	Subtotal	1,480	1,003	67.8%	414.3	48.6	F
EB	Left Turn	50	39	78.6%	59.5	17.4	E
	Through	40	30	75.5%	152.9	65.1	F
	Right Turn	490	335	68.3%	350.0	70.8	F
	Subtotal	580	404	69.7%	303.7	59.8	F
WB	Left Turn	250	198	79.3%	343.8	87.3	F
	Through	360	335	93.0%	55.7	9.4	E
	Right Turn	50	47	93.6%	36.3	13.3	D
	Subtotal	660	580	87.9%	159.1	32.7	F
Total		3,851	3,068	79.7%	227.4	29.1	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	89.0%	53.6	37.3	D
	Through	50	53	105.2%	97.9	14.0	F
	Right Turn	30	35	116.7%	9.7	1.7	A
	Subtotal	90	97	107.2%	62.6	18.3	E
SB	Left Turn	280	283	101.1%	33.4	2.5	C
	Through	10	12	119.0%	34.0	14.6	C
	Right Turn	70	75	107.0%	8.4	2.4	A
	Subtotal	360	370	102.8%	29.2	2.5	C
EB	Left Turn	614	513	83.6%	327.6	23.4	F
	Through	431	383	88.8%	112.4	9.3	F
	Right Turn	10	9	85.0%	81.3	66.2	F
	Subtotal	1,055	905	85.7%	241.7	15.2	F
WB	Left Turn	10	7	72.0%	50.9	33.3	D
	Through	231	182	78.7%	82.9	11.6	F
	Right Turn	1,140	872	76.5%	96.6	4.6	F
	Subtotal	1,381	1,061	76.9%	94.0	5.7	F
Total		2,886	2,432	84.3%	136.4	5.4	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	321	322	100.3%	106.3	33.0	F
	Through	620	637	102.8%	25.2	2.8	C
	Right Turn	100	104	104.4%	14.0	5.3	B
	Subtotal	1,041	1,064	102.2%	49.5	12.0	D
SB	Left Turn	210	146	69.4%	75.4	10.8	E
	Through	830	568	68.5%	64.6	10.3	E
	Right Turn	880	598	67.9%	177.5	23.5	F
	Subtotal	1,920	1,312	68.3%	117.4	15.8	F
EB	Left Turn	211	204	96.7%	49.8	6.7	D
	Through	310	293	94.4%	47.7	4.8	D
	Right Turn	220	202	92.0%	30.0	2.9	C
	Subtotal	741	699	94.3%	43.0	3.2	D
WB	Left Turn	70	52	74.3%	199.0	18.3	F
	Through	180	147	81.7%	235.0	19.9	F
	Right Turn	300	240	80.0%	172.6	19.0	F
	Subtotal	550	439	79.9%	196.9	17.6	F
Total		4,252	3,514	82.6%	91.1	6.1	F

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	389	393	101.1%	50.2	4.7	D
	Through	35	35	99.7%	48.4	10.9	D
	Right Turn	744	755	101.5%	2.4	0.6	A
	Subtotal	1,168	1,183	101.3%	20.2	2.1	C
SB	Left Turn	2	2	75.0%	29.0	41.4	C
	Through	16	15	95.0%	65.9	25.0	E
	Right Turn	5	5	96.0%	10.8	16.0	B
	Subtotal	23	22	93.5%	53.1	17.3	D
EB	Left Turn	1	1	90.0%	3.5	11.0	A
	Through	135	141	104.4%	62.2	12.2	E
	Right Turn	128	132	102.9%	30.0	6.7	C
	Subtotal	264	274	103.6%	45.8	6.6	D
WB	Left Turn	708	714	100.8%	6.2	1.3	A
	Through	203	208	102.4%	5.2	2.7	A
	Right Turn	11	11	98.2%	5.5	6.2	A
	Subtotal	922	933	101.2%	6.0	1.2	A
Total		2,377	2,411	101.4%	18.4	1.3	B

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	820	828	101.0%	24.7	3.0	C
	Through	893	896	100.3%	12.2	2.5	B
	Right Turn	194	201	103.7%	14.0	4.4	B
	Subtotal	1,907	1,924	100.9%	17.8	2.4	B
SB	Left Turn	3	4	130.0%	49.7	42.3	D
	Through	299	292	97.5%	50.5	3.4	D
	Right Turn	77	79	102.3%	26.2	2.5	C
	Subtotal	379	374	98.8%	45.5	3.7	D
EB	Left Turn	324	331	102.2%	43.2	3.8	D
	Through	61	69	113.6%	45.5	8.6	D
	Right Turn	483	498	103.2%	2.2	0.5	A
	Subtotal	868	899	103.5%	21.3	1.8	C
WB	Left Turn	19	18	94.7%	48.3	25.0	D
	Through	25	26	103.6%	55.3	13.8	E
	Right Turn	4	5	117.5%	8.4	10.2	A
	Subtotal	48	49	101.3%	50.9	11.9	D
Total		3,202	3,246	101.4%	22.6	1.3	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	85.0%	18.9	29.0	B
	Through	2	2	95.0%	17.1	28.9	B
	Right Turn	21	22	103.3%	9.8	1.2	A
	Subtotal	25	25	101.2%	14.1	5.7	B
SB	Left Turn	942	970	102.9%	11.7	1.5	B
	Through	48	47	98.1%	11.0	5.0	B
	Right Turn	441	437	99.1%	5.0	1.5	A
	Subtotal	1,431	1,454	101.6%	9.7	1.3	A
EB	Left Turn	61	61	100.7%	52.7	8.0	D
	Through	123	128	103.8%	48.1	5.0	D
	Right Turn	31	31	100.0%	23.0	8.6	C
	Subtotal	215	220	102.4%	45.4	3.9	D
WB	Left Turn	37	38	101.4%	54.7	18.2	D
	Through	177	177	100.0%	40.1	5.9	D
	Right Turn	199	198	99.6%	3.9	0.8	A
	Subtotal	413	413	100.0%	24.7	4.5	C
Total		2,084	2,112	101.3%	16.7	1.1	B

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	131	133	101.8%	61.0	8.2	E
	Through	956	955	99.9%	36.4	2.4	D
	Right Turn	66	67	102.0%	28.9	7.7	C
	Subtotal	1,153	1,155	100.2%	39.0	2.1	D
SB	Left Turn	137	142	103.3%	74.3	8.6	E
	Through	467	469	100.4%	20.8	2.4	C
	Right Turn	197	197	100.2%	4.6	1.8	A
	Subtotal	801	808	100.9%	25.9	1.9	C
EB	Left Turn	457	471	103.0%	37.7	3.7	D
	Through	183	191	104.2%	30.6	3.0	C
	Right Turn	446	452	101.3%	22.0	4.3	C
	Subtotal	1,086	1,114	102.5%	30.3	3.0	C
WB	Left Turn	52	51	97.5%	52.2	9.1	D
	Through	85	83	97.8%	55.7	12.0	E
	Right Turn	494	494	100.1%	30.2	9.1	C
	Subtotal	631	628	99.6%	35.4	9.3	D
Total		3,671	3,705	100.9%	33.0	2.1	C

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	77	76	98.1%	45.9	9.2	D
	Through	2	2	80.0%	12.9	29.4	B
	Right Turn	200	195	97.4%	24.5	19.5	C
	Subtotal	279	272	97.5%	30.0	14.8	C
SB	Left Turn	10	9	92.0%	71.7	28.1	E
	Through	20	23	115.0%	55.8	16.1	E
	Right Turn	4	5	132.5%	23.9	28.7	C
	Subtotal	34	38	110.3%	58.6	17.6	E
EB	Left Turn						
	Through	287	275	95.7%	190.3	117.5	F
	Right Turn	809	793	98.0%	61.2	34.2	E
	Subtotal	1,096	1,067	97.4%	93.9	51.1	F
WB	Left Turn	912	929	101.9%	13.8	1.1	B
	Through	178	180	101.2%	14.2	3.9	B
	Right Turn	1	1	80.0%	0.1	0.2	A
	Subtotal	1,091	1,110	101.7%	13.8	1.4	B
Total		2,500	2,487	99.5%	51.5	23.4	D

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	692	734	106.0%	45.8	4.6	D
	Through	207	211	101.9%	14.1	3.5	B
	Right Turn	19	22	116.8%	10.8	6.3	B
	Subtotal	918	967	105.3%	38.0	3.7	D
SB	Left Turn	2	2	75.0%	32.9	104.2	C
	Through	1,026	903	88.0%	366.1	78.8	F
	Right Turn	238	213	89.5%	214.0	57.3	F
	Subtotal	1,266	1,118	88.3%	334.9	75.3	F
EB	Left Turn	48	48	100.0%	54.9	12.4	D
	Through	13	11	86.2%	115.4	72.6	F
	Right Turn	433	390	90.0%	263.4	70.1	F
	Subtotal	494	449	90.8%	235.3	62.0	F
WB	Left Turn	107	97	90.7%	219.9	68.0	F
	Through	161	156	97.0%	46.3	13.8	D
	Right Turn	4	3	82.5%	27.4	28.6	C
	Subtotal	272	257	94.3%	116.1	38.1	F
Total		2,950	2,790	94.6%	198.2	38.8	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	90.0%	8.6	19.7	A
	Through	49	52	105.7%	85.4	11.6	F
	Right Turn	21	25	120.0%	9.5	1.5	A
	Subtotal	72	79	109.4%	57.7	13.2	E
SB	Left Turn	108	110	101.7%	29.9	4.1	C
	Through	4	4	97.5%	16.2	25.0	B
	Right Turn	44	51	116.1%	9.8	2.7	A
	Subtotal	156	165	105.6%	23.5	3.7	C
EB	Left Turn	504	483	95.8%	275.6	79.5	F
	Through	257	260	101.1%	57.5	49.6	E
	Right Turn	13	13	102.3%	57.6	69.3	E
	Subtotal	774	756	97.6%	203.3	68.8	F
WB	Left Turn	8	7	91.3%	61.4	39.8	E
	Through	101	93	92.5%	57.2	5.4	E
	Right Turn	986	920	93.3%	92.7	2.7	F
	Subtotal	1,095	1,021	93.2%	89.2	2.7	F
Total		2,097	2,020	96.3%	124.8	24.3	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	228	235	103.2%	75.2	11.0	E
	Through	547	577	105.5%	20.8	4.0	C
	Right Turn	64	64	99.5%	14.3	4.3	B
	Subtotal	839	876	104.4%	35.9	4.0	D
SB	Left Turn	198	175	88.2%	72.8	13.5	E
	Through	616	538	87.3%	52.1	15.6	D
	Right Turn	752	665	88.4%	164.5	17.1	F
	Subtotal	1,566	1,377	88.0%	107.9	15.3	F
EB	Left Turn	103	112	108.3%	47.4	8.7	D
	Through	130	130	100.3%	45.0	6.9	D
	Right Turn	153	153	100.0%	25.8	2.9	C
	Subtotal	386	395	102.3%	38.4	3.7	D
WB	Left Turn	62	61	98.7%	48.7	9.1	D
	Through	115	120	104.4%	78.0	9.1	E
	Right Turn	268	277	103.4%	17.1	2.9	B
	Subtotal	445	458	103.0%	37.2	5.3	D
Total		3,236	3,107	96.0%	67.3	6.3	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	614	589	95.9%	109.7	17.3	F
	Through	40	40	99.0%	142.4	29.1	F
	Right Turn	1,073	1,020	95.1%	51.9	22.5	D
	Subtotal	1,727	1,649	95.5%	75.5	18.5	E
SB	Left Turn	10	9	93.0%	62.0	31.3	E
	Through	20	21	105.0%	49.5	20.3	D
	Right Turn	10	12	117.0%	21.5	13.3	C
	Subtotal	40	42	105.0%	46.2	14.4	D
EB	Left Turn	10	7	67.0%	291.3	198.9	F
	Through	225	198	88.1%	357.0	98.7	F
	Right Turn	146	147	100.5%	41.0	27.1	D
	Subtotal	381	352	92.3%	226.4	66.3	F
WB	Left Turn	755	743	98.3%	7.0	1.5	A
	Through	234	225	96.2%	7.1	3.4	A
	Right Turn	20	22	108.5%	1.4	1.3	A
	Subtotal	1,009	989	98.0%	6.9	1.7	A
Total		3,157	3,032	96.0%	72.2	13.3	E

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	859	849	98.8%	28.6	2.8	C
	Through	1,157	1,108	95.8%	29.1	3.8	C
	Right Turn	400	394	98.5%	22.8	3.5	C
	Subtotal	2,416	2,351	97.3%	28.0	2.9	C
SB	Left Turn	60	60	99.2%	55.4	6.2	E
	Through	320	326	101.9%	51.1	4.7	D
	Right Turn	90	81	89.7%	25.8	5.1	C
	Subtotal	470	466	99.2%	47.2	3.6	D
EB	Left Turn	502	465	92.6%	54.2	2.9	D
	Through	200	193	96.3%	70.1	6.4	E
	Right Turn	593	565	95.3%	9.8	2.3	A
	Subtotal	1,295	1,222	94.4%	35.7	3.2	D
WB	Left Turn	60	58	96.5%	52.3	9.0	D
	Through	60	56	93.3%	46.6	11.8	D
	Right Turn	10	9	88.0%	23.9	23.3	C
	Subtotal	130	123	94.4%	47.6	8.6	D
Total		4,311	4,163	96.6%	33.0	2.1	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	94.0%	52.5	19.1	D
	Through	10	10	102.0%	55.8	30.0	E
	Right Turn	30	32	107.7%	9.6	1.0	A
	Subtotal	50	52	103.8%	30.5	7.6	C
SB	Left Turn	1,290	1,255	97.3%	64.8	47.1	E
	Through	50	48	95.2%	69.1	43.9	E
	Right Turn	460	458	99.5%	49.1	54.1	D
	Subtotal	1,800	1,760	97.8%	61.2	48.6	E
EB	Left Turn	103	100	97.2%	54.3	6.0	D
	Through	235	242	102.8%	47.3	2.6	D
	Right Turn	37	38	101.6%	23.9	10.8	C
	Subtotal	375	379	101.1%	46.7	2.1	D
WB	Left Turn	40	38	95.3%	64.2	11.9	E
	Through	281	263	93.7%	39.7	2.4	D
	Right Turn	243	228	94.0%	5.0	1.1	A
	Subtotal	564	530	93.9%	25.8	2.1	C
Total		2,789	2,721	97.6%	52.3	32.2	D

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	201	201	100.0%	120.1	67.3	F
	Through	1,131	1,139	100.7%	44.8	2.8	D
	Right Turn	80	83	104.1%	34.6	4.5	C
	Subtotal	1,412	1,423	100.8%	56.5	11.9	E
SB	Left Turn	160	153	95.6%	67.5	9.3	E
	Through	600	592	98.7%	37.2	2.8	D
	Right Turn	213	202	95.0%	11.0	1.6	B
	Subtotal	973	948	97.4%	37.4	2.6	D
EB	Left Turn	775	768	99.1%	58.4	17.3	E
	Through	290	281	96.7%	36.8	7.4	D
	Right Turn	490	486	99.1%	23.3	3.1	C
	Subtotal	1,555	1,534	98.6%	43.4	10.7	D
WB	Left Turn	60	50	82.8%	139.0	10.7	F
	Through	150	126	84.1%	156.8	14.1	F
	Right Turn	510	435	85.2%	127.3	7.5	F
	Subtotal	720	611	84.8%	134.1	7.7	F
Total		4,660	4,515	96.9%	57.5	4.5	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	104	100	95.7%	72.5	74.6	E
	Through	10	9	91.0%	137.9	132.8	F
	Right Turn	253	214	84.7%	341.1	133.9	F
	Subtotal	367	323	88.0%	252.9	108.1	F
SB	Left Turn	20	20	99.0%	87.4	35.2	F
	Through	30	30	99.7%	53.4	16.5	D
	Right Turn	10	12	122.0%	26.3	14.2	C
	Subtotal	60	62	103.2%	58.3	15.1	E
EB	Left Turn	10	5	52.0%	342.1	391.0	F
	Through	335	190	56.8%	743.4	146.7	F
	Right Turn	909	615	67.7%	483.5	74.0	F
	Subtotal	1,254	811	64.6%	553.8	91.1	F
WB	Left Turn	1,177	1,059	90.0%	11.4	1.0	B
	Through	238	212	88.9%	9.8	1.8	A
	Right Turn	10	8	76.0%	6.2	7.2	A
	Subtotal	1,425	1,278	89.7%	11.1	1.0	B
Total		3,106	2,474	79.6%	199.4	29.2	F

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	771	731	94.8%	98.3	49.6	F
	Through	270	255	94.6%	19.3	3.2	B
	Right Turn	90	83	91.8%	5.8	1.2	A
	Subtotal	1,131	1,069	94.5%	72.5	35.4	E
SB	Left Turn	10	7	69.0%	265.0	141.0	F
	Through	1,180	785	66.5%	487.3	65.4	F
	Right Turn	293	201	68.7%	273.4	30.2	F
	Subtotal	1,483	993	67.0%	447.0	56.9	F
EB	Left Turn	60	42	69.2%	71.0	18.4	E
	Through	40	29	72.0%	180.6	47.3	F
	Right Turn	505	309	61.1%	431.3	92.4	F
	Subtotal	605	379	62.6%	375.1	76.6	F
WB	Left Turn	250	195	78.0%	377.8	95.4	F
	Through	360	335	93.0%	59.7	12.1	E
	Right Turn	50	50	99.0%	37.3	11.7	D
	Subtotal	660	580	87.8%	167.0	42.1	F
Total		3,879	3,020	77.9%	245.4	21.7	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	98.0%	62.1	33.6	E
	Through	50	54	107.6%	94.4	9.9	F
	Right Turn	30	35	116.3%	9.3	1.5	A
	Subtotal	90	99	109.4%	62.3	13.9	E
SB	Left Turn	280	280	99.9%	33.3	3.3	C
	Through	10	10	99.0%	37.1	23.7	D
	Right Turn	70	72	102.4%	8.1	2.1	A
	Subtotal	360	361	100.3%	28.9	3.1	C
EB	Left Turn	614	507	82.5%	340.3	28.8	F
	Through	431	376	87.3%	115.5	13.0	F
	Right Turn	17	15	90.0%	101.0	22.1	F
	Subtotal	1,062	898	84.6%	246.6	23.6	F
WB	Left Turn	10	7	71.0%	56.4	38.7	E
	Through	231	172	74.5%	71.2	10.2	E
	Right Turn	1,154	879	76.1%	95.0	4.8	F
	Subtotal	1,395	1,058	75.8%	91.0	5.0	F
Total		2,907	2,416	83.1%	136.8	9.5	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	321	326	101.5%	100.3	30.5	F
	Through	620	632	101.9%	25.3	5.1	C
	Right Turn	100	99	99.1%	13.9	3.8	B
	Subtotal	1,041	1,057	101.5%	47.0	11.0	D
SB	Left Turn	210	138	65.8%	82.7	19.1	F
	Through	831	549	66.1%	70.7	11.5	E
	Right Turn	894	588	65.8%	182.8	23.7	F
	Subtotal	1,935	1,275	65.9%	124.5	15.4	F
EB	Left Turn	211	204	96.4%	48.7	8.0	D
	Through	310	288	93.0%	46.2	6.9	D
	Right Turn	220	199	90.4%	30.7	2.4	C
	Subtotal	741	691	93.2%	42.3	4.6	D
WB	Left Turn	70	50	70.9%	198.7	14.3	F
	Through	180	146	81.3%	236.1	21.1	F
	Right Turn	300	240	80.0%	172.1	19.0	F
	Subtotal	550	436	79.2%	197.4	18.8	F
Total		4,267	3,459	81.1%	93.0	4.8	F

Average Queue Lengths

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
2	**Driveway/SR92WB Ramp/Chess Dr**											
		LT	1090	75	75	25	25	1090	425	450	125	175
	NB	TH	470	75	75	25	25	470	425	450	125	175
		RT	515	25	25	25	25	515	275	300	75	125
		LT										
	SB	TH										
		RT										
		LT	340	50	75	0	0	340	400	400	725	800
	EB	TH	340	50	75	225	250	340	400	400	725	800
		RT	320	50	50	200	225	320	350	375	700	775
		LT	335	25	25	50	50	335	25	25	75	75
	WB	TH	335	25	25	50	50	335	25	25	75	75
		RT	335	25	25	75	75	335	50	50	75	75

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
3	**Foster City Blvd/Chess Dr**											
		LT	520	75	75	100	100	845	100	100	175	225
	NB	TH	1090	50	50	25	25	845	150	150	25	25
		RT	1090	50	50	25	25	155	50	50	25	25
		LT	115	25	25	25	25	115	25	25	25	125
	SB	TH	1230	75	75	925	925	1230	75	75	1075	1100
		RT	175	25	25	275	375	175	25	25	575	675
		LT	325	75	75	125	150	325	275	275	300	350
	EB	TH	335	75	75	125	150	335	275	275	300	350
		RT	295	25	25	50	50	295	125	125	150	200
		LT	100	25	25	50	75	265	25	25	200	225
	WB	TH	350	25	25	50	50	360	25	25	75	100
		RT	350	25	25	50	75	360	50	50	100	125

Average Queue Lengths

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
5	**Metro Center Blvd/SR92 EB Ramp**											
		LT										
	NB	TH										
		RT										
		LT	865	50	50	25	25	865	275	275	50	50
	SB	TH	595	50	50	25	25	595	275	275	50	50
		RT	835	25	25	25	25	835	25	50	25	25
		LT	285	25	25	450	425	285	50	25	650	700
	EB	TH	630	50	50	25	25	630	50	50	75	50
		RT	630	50	50	50	50	630	75	75	75	75
		LT	95	25	25	25	25	95	25	25	25	25
	WB	TH	275	50	50	250	250	275	50	50	275	275
		RT	275	50	50	250	250	275	50	50	275	275

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
6	**Foster City Blvd/Metro Center Blvd**											
		LT	230	50	50	100	100	230	200	175	150	150
	NB	TH	785	100	100	50	50	785	175	150	75	75
		RT	785	100	100	50	50	785	175	150	75	50
		LT	215	75	75	700	775	215	75	75	750	775
	SB	TH	965	50	50	1025	1075	965	75	75	1150	1200
		RT	1045	0	0	1125	1175	1045	25	25	1250	1275
		LT	335	75	75	50	50	335	200	200	75	75
	EB	TH	145	75	75	50	50	145	200	200	75	75
		RT	250	50	50	25	25	250	50	50	25	25
		LT	50	25	25	25	25	50	125	125	250	225
	WB	TH	175	75	75	75	75	175	525	525	575	575
		RT	175	75	75	75	75	175	525	525	575	575