

MEMORANDUM

DATE: July 9, 2018

TO:

Curtis Banks, AICP
Community Development Director
City of Foster City

FROM:

Carla Violet, Planning Manager
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RE: CEQA Compliance for the Proposed Amendment to the Pilgrim Triton Master Plan (SCH #2007012023)

A. EXECUTIVE SUMMARY

This memorandum, prepared pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15164, is an Addendum to the certified 2008 Pilgrim-Triton Master Plan Environmental Impact Report (2008 EIR), State Clearinghouse #2007012023. This Addendum evaluates changes to the Pilgrim Triton Master Plan and General Development Plan (GDP) that have been proposed since certification of the 2008 EIR. As discussed in this Addendum, the proposed changes to the project would not result in significant environmental effects beyond those identified in the 2008 EIR.

On August 14, 2015, Regis Homes Bay Area, LLC on behalf of Pilgrim Triton Phase II FC, LP ("PTPIII") submitted applications for: (1) an environmental assessment, (2) rezoning/GDP to change the zoning designation on the 3.66 acre parcel at 551-565 Pilgrim Drive from CM/PD (Commercial Mix/Planned Development) with a GDP allowing up to 172,943 square feet of retail/commercial use and 17 townhouse units to CM/PD with a new GDP to allow 68 for-sale townhouses, and (3) amendment to the Pilgrim Triton Master Development Agreement to change the allowed uses.¹

¹ On October 2, 2017, City Council adopted a resolution for a term sheet outlining the major business terms pursuant to which the City would acquire 22 workforce units in conjunction with development of Pilgrim Triton Phase C. The applicant is proposing to construct 70 market rate townhouse units and 22 workforce units in lieu of the 172,943 square feet of commercial uses currently entitled to be constructed on the Phase C site and the 58,000 square feet of commercial uses currently entitled on the Phase B commercial site (totaling 225,943 square feet, excluding the 5,000 square feet built to date).

On December 22, 2017, Sares Regis Group amended their project applications to include 70 for-sale townhouse units and 22 workforce apartment units on 4.78 acres including the property at 551-555 Pilgrim Drive and the property formerly occupied by 1159 Triton to replace the existing entitlement of 225,943² square feet of commercial office space and 17 townhouse units on 4.78 acres in the Pilgrim Triton Master Plan development. The applications are collectively referred to as the “2018 Project Modifications”.³

This Addendum is prepared pursuant to CEQA Guidelines Section 15164 which states: “The lead agency or a responsible agency shall prepare an Addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.” Section 15162 specifies that no subsequent EIR shall be prepared for a project unless:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions to the previous EIR or negative declaration due to the involved of new significant environmental effects of a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measures or alternative.

Urban Planning Partners reviewed the 2018 Project Modifications changing the allowed land use from the currently allowed 225,943 square feet of commercial uses and 17 housing units to up to 70 for-sale townhouses and 22 workforce housing units. Based on the analysis in this Addendum, Urban Planning Partners has concluded that there are no substantial project changes, no substantial changes in the project circumstances, and no new information of substantial importance which could not have been known with the exercise of reasonable diligence when the 2008 EIR was certified, that would result in any

² Comprised of 172,943 square feet of commercial uses currently entitled to be constructed on the Phase C site and the 58,000 square feet of commercial uses currently entitled on the Phase B commercial site (totaling 225,943 square feet, excluding the 5,000 square feet built to date at the Triton Apartments).

³ Foster City, 2018. Pilgrim Triton Phase C. Accessed January.

<http://www.fostercity.org/departmentsanddivisions/communitydevelopment/Features/Pilgrim-Triton-Phase-C.cfm>.

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new significant effects or any increase in the severity of a previously identified significant effect.
Therefore, under CEQA section 21166 and CEQA Guidelines sections 15162 and 15163, no further environmental review is required.

The 2008 EIR adequately addresses the environmental effects of the 2018 Project Modifications and the City does not need to prepare a Subsequent or Supplemental EIR to satisfy the environmental review requirements of CEQA for purposes of the 2018 Project Modifications. The 2018 Project Modifications constitute a refinement of the 2008 EIR project description and this refinement would not result in significant environmental effects beyond those already identified in the 2008 EIR.

The discussion below provides: (1) an overview of the Pilgrim Triton Master Plan approvals and 2008 EIR; (2) a discussion of the project changes resulting from the 2018 Project Modifications; and (3) an analysis concluding that the 2018 Project Modifications fall within the scope of the 2008 EIR and do not require preparation of subsequent or supplemental environmental review pursuant to CEQA Guidelines Section 15162 and 15163.

B. PRIOR PROJECT APPROVALS AND ENVIRONMENTAL REVIEW

On April 21, 2008, the City Council certified the 2008 EIR for the Pilgrim Triton Master Plan and adopted Findings regarding significant environmental impacts including a Statement of Overriding Considerations and adoption of a Mitigation and Monitoring and Reporting Program (MMRP).

The 2008 EIR prepared for the Pilgrim Triton Master Plan in accordance with CEQA concluded that, with the exception of one transportation and circulation impact, all other impacts would be mitigated to a less-than-significant level with implementation of the 2008 EIR's mitigation measures included in the MMRP. As discussed in Section V.G, Transportation and Circulation of the 2008 EIR, implementation of the Pilgrim Triton Master Plan would result in a significant and unavoidable impact (TRANS-1) as it would cause the intersection of Foster City Boulevard/Chess Drive to operate at an unacceptable level of service during the PM peak hour.

The four phases of the Pilgrim Triton Master Plan currently allow for the development of up to 730 residential units and 296,000 square feet of commercial space (office and retail). Table 1 shows the approved entitlements for each of the four phases, existing uses, current build out, remaining build out, proposed build out, and the net change.

C. PROJECT CHANGES

On August 14, 2015, PTPIII submitted applications for: (1) an environmental assessment, (2) rezoning/GDP to change the zoning designation on the parcel at 551-565 Pilgrim Drive from CM/PD (Commercial Mix/Planned Development) with a GDP allowing up to 172,943 square feet of retail/commercial use and 17 townhouse units to CM/PD with a new GDP to allow 68 for-sale townhouses (a net increase of 51 units), and (3) amendment to the Pilgrim Triton Master Development Agreement to change the allowed uses. During review of the proposal, staff identified that the 2018 Project Modifications would exceed the maximum number of units permitted by the GDP for the Pilgrim Triton Master Plan (as shown in Table 1).

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TABLE 1: PILGRIM TRITON MASTER PLAN APPROVED, CURRENT BUILD OUT, AND PROPOSED

	Approved Pilgrim Triton Master Plan ¹	Existing (Not Yet Redeveloped)	Current 2018 (Built To- Date)	Net Remaining	Proposed Master Plan with Amendment	Net Change
Phase A (Parcels E, F, The Plaza)						
Units	307	--	307	0	307	0
Commercial	10,057	--	10,057	0	10,057	0
Park (acres)	0.7	--	0.7	0	0.7	0
Phase B (Parcels A, B, The Triton/Waverly)						
Units	240	--	220	20	240	0
Commercial/Retail	58,000	--	5,000	53,000 ⁴	5,000	-53,000
Park (acres)	0.4	--	0	0.4	0.4	0
Phase C (Parcels C, D)						
Residential Units	17	--	0	17	70	53
Workforce Units	0	--	0	0	22	22
Commercial/Office	172,943	38,000 ²	0	134,943 ⁵	0	-172,943
Open Space (acres)	0.1	--	0	0.1	0.1	0.0
Phase D (Parcels G, H, I, 100 Grand)						
Units	166	--	166	0	166	0
Commercial	55,000	13,500 ³	6,000	35,500 ⁶	55,000	0
Park (acres)	0	--	0	0	0	0.0
Total Units	730	--	693	37	805	75
Total Commercial	296,000	51,500	21,057	223,443	70,057	-225,943
Total Open Space	1.2	--	0.7	0.5	1.2	0

¹ Includes transfer of units & commercial SF approved in 2012 between Phases A and C per Exhibit E dated 7-23-2012.

² Existing offices at 551-565 Pilgrim Drive, to be removed with development of Phase C.

³ Existing 13,500 SF offices at 550 Pilgrim Drive; Master Plan allows up to 43,000 SF.

⁴ Parcel C of Phase B (1059 Triton) is approved for up to 53,000 SF commercial. This parcel is proposed to be added to the Phase C site.

⁵ Net remaining SF under existing Master Plan: 172,943 approved-38,000 existing = 134,943 net new SF.

⁶ Remaining sites to be redeveloped in Phase D include 29,500 SF net new SF at 550 Pilgrim Drive and 6,000 SF on Parcel I.

Source: Foster City, 2018.

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On December 22, 2017, Sares Regis Group amended their project applications to include 70 for-sale townhouse units and 22 workforce apartment units on 4.78 acres including the property at 551-555 Pilgrim Drive and the property formerly occupied by 1159 Triton to replace the existing entitlement of 225,943 square feet of commercial office space and 17 townhouse units on 4.78 acres in the Pilgrim Triton Master Plan development.

The applicant's proposal is to change the allowed land use from the currently allowed 225,943 square feet of commercial use and 17 housing units to up to 70 for-sale townhouses, and 22 workforce housing units. The 70 for-sale townhouse units consist of 2, 3, and 4-bedroom plans, and range in size from about 1,220 square feet to about 2,050 square feet. The proposed maximum height would be 35-40 feet, significantly less than the currently allowed 95 feet. The 22 workforce housing units consist of 1 and 2-bedroom plans, and range in size from about 780 square feet to about 1,110 square feet. The proposed maximum height would be 40 feet.

As detailed in Table 1, the key project revisions considered in this analysis are whether (1) the elimination of office space in Phase C and the commercial portion of Phase B, which would result in a net decrease of 225,943 square feet of commercial for the overall Master Plan; and (2) the increase in residential units from 17 units to 92 units—a net increase of 75 units for the overall Master Plan, would result in any new or substantially greater impacts.

D. ANALYSIS AND CONCLUSION

Urban Planning Partners reviewed the 2018 Project Modifications and found that there: (1) are no substantial project changes, (2) are no substantial changes in the project circumstances, and (3) is no new information of substantial importance, which could not have been known with the exercise of reasonable diligence when the 2008 EIR was certified, that would require major revisions of the certified 2008 EIR because of a new significant effect or an increase in the severity of a previously identified significant effect. Under CEQA section 21166 and CEQA Guidelines sections 15162 and 15163, no further environmental review is required.

Each environmental topic assessed under CEQA and in the 2008 EIR were considered, including Land Use; Population, Employment, and Housing; Visual Quality; Geology, Soils, and Seismicity; Hazards and Hazardous Materials; Hydrology and Water Quality; Transportation and Circulation; Air Quality; Noise; Public Services and Utilities.

The 2018 Project Modifications will be required to comply with the 2008 EIR Mitigation Monitoring and Reporting Program as a Condition of Approval along with all the Conditions adopted as a part of Ordinance No. 546. As discussed below, there are no new impacts or more severe impacts not already identified and analyzed in the 2008 EIR that would result due to project changes, new information, or changed circumstances and therefore, no new or different mitigation measures would be required.

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A summary of the assessment prepared for Transportation and Circulation, Public Services, Utilities, and Water Supply/Demand findings is provided below as these are the topics most likely affected by project changes, changed circumstances, and/or new information. No further analysis is needed of impacts deemed “less than significant” in the 2008 EIR that would be further reduced, including but not limited to visual impacts (due to reduced building height) and construction noise (due to shorter construction time and smaller buildings).

1. TRANSPORTATION AND CIRCULATION

The 2008 EIR identified one significant impact related to transportation and circulation under the cumulative PM peak scenario at the Foster City Boulevard/Chess Drive intersection, the impact was significant and unavoidable because although several proposed mitigation measures were considered, each mitigation measure was found to be infeasible due to limited width of the public right-of-way and insufficient proximity of adjacent utilities and the inability to add a third left-turn lane because a triple left-turn lane configuration is considered unacceptable in Foster City.

A supplemental transportation impact analysis dated July 2018 was prepared by Kittelson & Associates, Inc. (KAI) for the 2018 Project Modifications and is provided as Attachment A.

In the 2008 EIR, the Pilgrim Triton Master Plan was estimated to generate 8,894 net new vehicle trips per day, 675 AM and 902 PM peak hour. Since the publication of the 2008 EIR, the Institute of Transportation Engineers (ITE) has published new trip generation rates. Therefore, trip generation for the existing entitlement for the Pilgrim Triton Master Plan was updated using trip generation rates published in the latest *ITE Trip Generation Manual, 9th Edition*. For office land use, a Foster City specific rate was used due to the travel characteristics of commutes in the San Francisco Bay Area. Given the level of congestion in the San Francisco Bay Area, particularly on US 101, many commuters choose to travel outside of the traditional AM and PM peak hours to avoid congestion and long commute. Instead of driving to work between 7 a.m. and 8 a.m., many Bay Area residents arrive at work anytime between 6 a.m. and 10 a.m. During the PM commute hours, instead of leaving work at 5 p.m. and 6 p.m., commuters would leave work anytime between 3 p.m. and 7 p.m. This unique phenomenon is known as “Peak Spreading”, and the AM and PM trip generation rates for office land use in Foster City should be lower than the ITE published rates to reflect this commute behavior.

Using updated trip generation rates and the Foster City specific rate for office land use, KAI estimated the existing Phase C entitlement would generate 3,210 daily vehicle trips, 212 AM peak hour vehicle trips, and 262 PM peak hour net new vehicle trips. However, the 2018 Project Modifications is forecast to generate only 281 daily trips, 10 AM peak hour trips and 18 PM peak hour trips. This is 2,929 fewer daily trips, 202 fewer AM peak hour trips, and 244 fewer PM peak hour trips than the trip generation by the existing entitlement as adopted in the 2008 EIR.

As a result, the 2018 Project Modifications would not result in any new significant transportation impacts or a substantial increase or severity of a previously identified significant transportation impact from those identified in the 2008 EIR, nor are new or different mitigation measures or alternatives warranted to address potential transportation impacts.

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The 2018 traffic analysis also analyzed cumulative conditions for probable future developments and select roadway improvements. KAI determined that most of the study intersections would operate at acceptable Level of Service (LOS) during the AM and PM peak hours, except for Vintage Park Drive/Metro Center Boulevard and SR 92 Eastbound Ramps/Metro Center Boulevard.

- Vintage Park Drive/Metro Center Boulevard intersection would operate at unacceptable LOS E during the AM peak hour under both Cumulative No Project and Cumulative plus Project Conditions.
- SR 92 Eastbound Ramps/Metro Center Boulevard would operate at unacceptable LOS F under during the PM peak hour under both Cumulative No Project and Cumulative plus Project Conditions.

Given both intersections would operate at unacceptable LOS under both Cumulative No Project and Cumulative plus Project Conditions, 2018 Project Modifications would not result in any new significant cumulative transportation impacts or a substantial increase or severity of a previously identified significant cumulative transportation impact from that identified in the 2008 EIR, nor are new or different mitigation measures or alternatives warranted to address potential cumulative transportation impacts.

2. PUBLIC SERVICES

a) Project Analysis

The 2008 EIR determined that the impacts related to fire and police protection, schools, and other public facilities would be less than significant. While the 2018 Project Modifications would have a different development program than analyzed within the 2008 EIR (75 more residential units and approximately 225,943 fewer square feet of commercial space), the development would occur in an urban area already served by public services and recreation facilities.

(1) Fire Protection

Foster City Fire Department's (FCFD) average response time since January 1, 2017 is 3 minutes and 52 seconds. Response times to project site are projected to be approximately 3 to 4 minutes based on current response times and further evaluation (since 2008) by Fire Chief Healy. Although this is longer than what was estimated in the 2008 EIR (1 to 2 minutes) the increase in response time would not result in any new or significantly greater significant impacts.^{4, 5}

(2) Police Services

Foster City Police Department's (FCPD) average response time for all call types in the City is 7 minutes and 40 seconds (7 minutes in the 2008 EIR). For emergency calls throughout the City, the average response time is 4 minutes and 58 seconds (less than 2 minutes in the 2008 EIR). The average response time to the project site is 6.33 minutes for non-emergency and 3.29 minutes for emergency calls (6 minutes for non-emergency calls and less than 2 minutes for emergency calls in the 2008 EIR). Patrols at the project site are consistent with other residential areas within the City.⁶

⁴ Healy, John, Foster City Fire Chief. 2017. Personal Communication with Urban Planning Partners. February.

⁵ Towns, Michael, Foster City Administrative Battalion Chief. 2018. Personal Communication with Urban Planning Partners. April.

⁶ Avelar, Tracy, Captain, Foster City Police Department. 2017. Personal Communication with Urban Planning Partners. February.

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The shift to more residential and less commercial will not compromise the FCFD's and FCPD's ability to meet existing performance standards or exceed the capabilities of the existing or planned staffing levels. The increase in development associated with the 2018 Project Modifications would result in an incremental increase in demand for fire and police services; however, this increase can be accommodated and existing conditions have not substantially changed. Additionally, the project site is located in an urban area already served by police and fire services, and would not require the construction of new facilities to serve the project site, as indicated by Police Chief Pierucci.⁷

(3) San Mateo-Foster City School District

Schools serving the project site include Audubon Elementary School and Bowditch Middle School.⁸ Foster City and Brewer Island Elementary Schools are operating exactly at capacity; Audubon and Bowditch are currently over capacity. Foster City, Bowditch, and Audubon all have portable classrooms to accommodate the overflow of students and the increasing enrollment over the past several years.⁹ The 2017-2018 actual and 2018-2019 projected enrollment for the San Mateo-Foster City School District is shown in Table 3. On November 3, 2016, the School Board of Trustees for the San Mateo-Foster City School District approved an agreement to purchase a fourth elementary school in Foster City on the Charter Square Shopping Center site. The new elementary school will be built to accommodate 400 to 600 students and will be open prior to the completion of the Phase C project.¹⁰

As of January 2018, the San Mateo-Foster City School District Demographer identified an average of 0.20 elementary and middle school students generated per unit in multi-family residential developments.¹¹

New development is required to provide necessary funding and/or capital facilities for the school system, as determined by applicable State-mandated development impact fees. The 2018 Project Modifications would be subject to a developer mitigation fee of \$3.79 per square foot for residential units and \$0.61 per additional square foot of commercial development.¹²

⁷ Pierucci, Joe, 2018. Foster City Police Chief. 2018 Personal Communication with Urban Planning Partners. April.

⁸ City of Foster City, 2015. District Map. Available online at: <http://www.smfcscd.net/assets/files/documents/smfcscd-map-2014-2015.pdf>. Accessed February 6.

⁹ Barton, Molly, Assistant Superintendent San Mateo-Foster City School District. 2018. Personal Communication with Urban Planning Partners. May.

¹⁰ San Mateo-Foster City School District, 2016. SMFCSD Successfully Negotiates to Purchase a Fourth Elementary School In Foster City. Available online at: <http://www.smfcscd.net/en/news/archives/2016/san-mateo-foster-city-school-district-announces-the-successful-culmination-of-negotiations-for-a-fourth-elementary-school-in-foster-city.html>. Accessed August, 2017.

¹¹ Barton, Molly, Assistant Superintendent San Mateo-Foster City School District. 2018. Personal Communication with Urban Planning Partners. June

¹² San Mateo Union High School District. 2018. Notice of Public Hearing and of Proposal for Implementing School Facilities Fees as Authorized by Education Code Section S 17620 and Government Codes 65995. June 21.

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TABLE 3 SAN MATEO- FOSTER CITY SCHOOL DISTRICT ENROLLMENT WITHIN FOSTER CITY¹

School	2017-2018 Actual	2018-2019 Projected²
Audubon Elementary	734	756
Foster City Elementary	870	866
Brewer Island Elementary	552	539
Bowditch Middle	1,025	1,018
Total	3,181	3,179

¹ The above enrollment numbers, in total, have a net outflow of 173 students to SMFCSD schools in the San Mateo part of the district.

² Projected amounts if net attending adjustments by school in 2017-18 continue in 2018-19.

Source: Barton, Molly, Assistant Superintendent San Mateo-Foster City School District. 2018. Personal Communication with Urban Planning Partners. May.

Based on the information above, the additional students generated by the increase in enrollment for the 2018 Project Modifications (0.20*92 units = approximately 19 elementary and middle school students) could be accommodated within the San Mateo-Foster City School District, a net increase of 15 elementary and middle school students over what was considered in the 2008 EIR for the Phase C site (0.20*17 units = 4 students). Furthermore, compliance with the project applicants' required contribution amount to school impact fees would offset any impacts to school facilities from the 2018 Project Modifications.¹³

(4) San Mateo Union High School District

High school age residents of the 2018 Project Modifications would attend Hillsdale High School in San Mateo. The current enrollment for Hillsdale High School is 1,534.¹⁴ The school is currently operating at capacity, but no portables have been needed. Enrollment for the 2018-2019 school year is projected to be 1,560 students, but a new building able to accommodate 400 students opened for the 2017-2018 school year. The high school is currently operating near capacity, but will be able to accommodate growth as capacity expands to 1,800 students by 2019.¹⁵ The San Mateo Union High School District has identified an average of 0.20 students generated per unit for multi-family residential developments. The additional 19 students (0.20*92 units) generated by the development for the 2018 Project Modifications could be accommodated within the San Mateo Union High School District.¹⁶ Furthermore, compliance with the project applicants' required contribution amount to school impact fees would offset any impacts to school facilities from the 2018 Project Modifications.

¹³ Barton, Molly, Assistant Superintendent San Mateo-Foster City School District. 2018. Personal Communication with Urban Planning Partners. May.

¹⁴ Chan, Bonnie, Student Services. Hillsdale High School. 2018. Personal Communication with Urban Planning Partners. January.

¹⁵ Laura Vogan-Castro, Student Data Analyst. Hillsdale High School. 2017. Personal Communication with Urban Planning Partners. February.

¹⁶ McManus, Elizabeth, Deputy Superintendent of the Business Services Department. San Mateo Union High School District. 2018. Personal Communication with Urban Planning Partners. June.

b) Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2008 EIR, implementation of the 2018 Project Modifications would not substantially increase the severity of significant impacts identified in the 2008 EIR nor would it result in new significant impacts related to the provision of public services that were not identified in the 2008 EIR. The 2008 EIR did not identify any mitigation measures related to public services, and none would be required for the 2018 Project Modifications.

3. UTILITIES AND SERVICE SYSTEMS

a) Project Analysis

(1) Water, Wastewater, and Stormwater

The 2008 EIR found less-than-significant impacts related to water, wastewater, and stormwater, with the exception of three significant impacts related to water and wastewater facilities, as described below. However, the 2008 EIR identified mitigation measures that reduce these impacts to a less-than-significant level.

- Impact UTL-1: Implementation of the proposed project could result in demand for potable water that would exceed the capacity of the existing water delivery infrastructure.
- Impact UTL-2: Implementation of the proposed project could result in wastewater generation that would exceed the collection system's capacity.
- Impact UTL-3: Implementation of the proposed project would require relocation of the existing 20-inch sewer force main along the northeast border of the project site.

Mitigation Measure UTL-3 requiring the applicant for Phase B to relocate an existing 20-inch sewer force main was implemented with a substitute Mitigation Measure that required soil testing, vibration monitoring, and other measures to protect the 20-inch sewer force main in its existing location.¹⁷

A Water Supply Assessment (2018 WSA) was conducted in 2018 for proposed major projects within the EMID service area (see attachment B) including the Pilgrim Triton Master Plan and 2018 Project Modifications for Phase C.

According to the 2018 WSA, the currently approved Pilgrim Triton Master Plan without 2018 Project Modifications is estimated to have a net project water demand of 126-acre feet of water per year (AFY). With 2018 Project Modifications, the net water demand would increase to 128 AFY. The 2 AFY increase in water demand would be within the anticipated supply range for the EMID and would not lead to insufficient water supplies for existing entitlements and resources or require new or expanded entitlements. Therefore, the 2018 Project Modifications would result in a less-than-significant impact upon the existing and anticipated potable water supply. The 2018 WSA estimated 128 AFY net water demand for the Pilgrim Triton Master Plan including the following estimates for each land use:

¹⁷ However, Mitigation Measures UTL 1a, 1b, 2a, and 2b would apply as Conditions of Approval for the 2018 Project Modifications.

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- 2.9 AFY for 70,057 square feet of office
- 0.6 AFY for one acre of park space
- 143.5 AFY for 783 residential units
- 2.1 AFY for the proposed 22 workforce units
- -21 AFY credit for existing buildings to be demolished

The workforce housing total water use per unit is lower than the townhouse water use per unit because the estimated average number of people living in a workforce housing unit is less than in a townhouse.

The EMID Water Shortage Contingency Plan (WSCP) was adopted in June 2016 in response to the Urban Water Management Planning Act, requiring all California urban water retailers supplying water to more than 3,000 customers, or supplying more than 3,000 AFY of water, to adopt a water shortage contingency plan as part of the Urban Water Management Plan. The objective of this legislation is to prompt every water agency to plan for droughts and to prepare a series of responses based upon the severity and length of drought. In the event of prolonged drought conditions, EMID would implement the WSCP, which would result in reduced water demand of up to 50 percent within the service area. The WSCP thus would ensure an adequate water supply within the EMID service area if the San Francisco Public Utility Commission (SFPUC) reduces water deliveries to EMID by 10 percent to 20 percent (as would occur during a prolonged drought).

The WSCP has five stages with each stage set to respond to increasingly more severe conditions. In 2018, EMID elected to refine its plan to more responsively save water sooner as dry conditions develop to achieve water savings of up to 15 percent rather than the previous 10 percent goal that was targeted in a Stage 2 Drought. Thus, even under a 5-year drought scenario starting in 2040, it is estimated that EMID could provide adequate water to all existing and anticipated development and maintain a water surplus of approximately 367 AFY.

Based on the assumptions above, with the proposed shift to more residential and less commercial, the 2018 Project Modifications would require approximately 128 AFY to meet the demand generated by the proposed increase in residential units (70 townhouses and 22 workforce housing units). Because the 2018 Project Modifications would not represent a significant increase in water demand (2 AFY total) and would be within the anticipated supply range for the City; it would not lead to insufficient water supplies in existing entitlements and resources, or require new or expanded entitlements. Therefore, the 2018 Project Modifications would not result in a new or more severe impact with respect to water supply/demand. The analysis concluded that the EMID projects listed in the 2018 WSA will be adding a total of 451 AFY and EMID will have sufficient water supply to serve all the proposed projects as well as existing customers in the 25-year time horizon.

(2) Solid Waste Services

As described in the 2008 EIR, impacts associated with solid waste would be less-than-significant and no mitigation measures were identified. The average waste generation for this analysis was 11.5 pounds of waste per 100 square feet for office uses and 5.31 pounds per unit per day for multi-family residential uses.¹⁸ Using these generation rates, the office portion of the approved project would result in 25,984

¹⁸ CalRecycle, 2018. Estimated Solid Waste Generation Rates. Available online at: <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates>. Accessed January.

pounds of waste per day (225,943 square feet of office/100 square feet *11.5 pounds per day), and the residential portion of the approved project would result in approximately 90 pounds of waste per day (17 units*5.31 pounds per unit per day). The total waste generated for the approved project would be 26,074 pounds of solid waste per day. As shown in Table 5, the 2018 Project Modifications would generate approximately 489 pounds of solid waste per day (92 units*5.31 pounds per unit per day). The 2018 Project Modifications would comply with existing solid waste reduction requirements and would not violate applicable federal, state, and local solid waste statutes and regulations. The impact regarding solid waste services would remain less-than-significant as identified in the 2008 EIR.

TABLE 5: SOLID WASTE GENERATION

Approved Project	Rate	Project Waste
225,943 sq. ft. Office	11.5 lbs./100 sq. ft.	25,984 lbs./day
17 Residential Units	5.31 lbs./unit	90 lbs./day
Total		26,074 lbs./day
2018 Project Modifications		
92 Residential Units	5.31 lbs./unit	489 lbs./day
Total		489 lbs./day
Net Difference		-25,585 lbs./day

Source: CalRecycle, 2018.

(3) Energy

The 2008 EIR found less-than-significant impacts related to energy. As discussed, the Pilgrim Triton Master Plan would be subject to Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings and would not violate applicable regulations related to energy standards. The 2018 Project Modifications would not require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects. Given the increase in the number of residential units, the 2018 Project Modifications may have an incremental increase in energy demand; however, it would result in a similar less-than-significant impact and would comply with the standards of Title 24 of the California Code of Regulations. The 2018 Project Modifications impact regarding energy would remain less than significant as identified in the 2008 EIR.

b) Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2008 EIR and 2018 WSA, implementation of the 2018 Project Modifications would not substantially increase the severity of significant impacts identified in the 2008 EIR nor would it result in new significant impacts related to the provision of utilities and service systems that were not identified in the 2008 EIR. The 2008 EIR did not identify any mitigation measures related to utilities and service systems, and none would be required for the 2018 Project Modifications.

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E. CONCLUSION

For the reasons set forth above, the 2018 Project Modifications do not trigger the need to prepare a subsequent or supplemental EIR under CEQA Section 21166 or CEQA Guidelines Sections 15162 and 15163. Specifically, there are no substantial changes proposed in or with respect to the circumstances under which the 2018 Project Modifications will be undertaken, and there is no other relevant new information of substantial importance, which will require any major revisions to the 2008 EIR. Thus, no further environmental review is required and in considering approval of the 2018 Project Modifications, the City should rely on the previously certified 2008 EIR. The following discussion summarizes the reasons why no supplemental or subsequent CEQA review is necessary pursuant to CEQA Guidelines Section 15162 and the City can rely on the previously certified EIR.

Substantial Changes to the Project. The proposed shift to more residential and less commercial in the Pilgrim Triton Master Plan proposed by the 2018 Project Modifications, would **not** result in new significant impacts or a substantial increase or severity of a previously identified significant impact from those identified in the 2008 EIR. As discussed above, the 2018 Project Modifications would result in net reduction in vehicle trips. While the 2018 Project Modifications may result in a slight increase in water demand (2 AFY), this increase can be met by the City's projected water supply even in drought conditions and it would not lead to insufficient water supplies in existing entitlements and resources, or require new or expanded entitlements. Therefore, the proposed changes included in 2018 Project Modifications are considered *minor* refinements, not *substantial* changes.

Project Circumstances. Since certification of the 2008 EIR, conditions in the Pilgrim Triton Master Plan area have not substantially changed and thus implementation of the 2018 Project Modifications would **not** result in new significant environmental effects or a substantial increase in the severity of environmental effects already identified in the 2008 EIR. No substantial changes in noise levels, air quality, traffic, or other conditions have occurred within and around the Pilgrim Triton Master Plan site since certification of the EIR.

New Information. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the 2008 EIR was certified, has been identified which is expected to result in: (1) new significant environmental effects or a substantial increase in the severity of environmental effects already identified in the EIR; or (2) mitigation measures or alternatives which were previously determined to be infeasible would in fact be feasible, or which are considerably different from those recommended in the 2008 EIR, and which would substantially reduce significant effects of the project, but the project applicant declines to adopt them.

Consequently, there are no substantial project changes, no substantial changes in the project circumstances, and no new information of substantial importance that would require major revisions to the certified 2008 EIR, because of a new significant effect or an increase in the severity of a previously identified significant effect. Under CEQA section 21166 and CEQA Guidelines sections 15162 and 15163, no further environmental review is required. Thus, in considering approval of the 2018 Project Modifications, the City should rely on the previously certified 2008 EIR.

Attachment A: Kittelson Traffic Impact Analysis dated July 2018
Attachment B: Updated Water Supply Assessment dated June 2018

Transportation Impact Analysis

Foster City Pilgrim Triton Master Plan Proposed Amendment to Phase C

Foster City, California

Final Report

July 2018

Transportation Impact Analysis

Foster City Pilgrim Triton Master Plan Proposed Amendment to Phase C

Foster City, California

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Project No. 20690

July 2018



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APPENDICES

Appendix A Intersection Level-of-Service Worksheets

Appendix B Freeway Level-of-Service Worksheets

Appendix C Background/Approved and Cumulative Project Trip Generation Calculations

Appendix D Office Land Use Trip Generation Rate Comparison Memorandum

Appendix E Trip Generation Comparison Tables

Section 1

Introduction

1 INTRODUCTION

In 2008, the *Pilgrim Triton Master Plan Environmental Impact Report (EIR)* was certified and the Master Plan was approved by the City of Foster City to redevelop a total of 20.75 acres of land as a mixed-used development. The entire Master Plan is located in the area bounded by State Route (SR) 92 to the northwest, the Foster City Lagoon to the northeast, East Hillsdale Boulevard to the southeast, and Foster City Boulevard to the southwest. In the EIR, the Master Plan area is comprised of ten parcels: A through J. Parcels A and B were to be developed first, followed by Parcels E and F, Parcels C and D, and then Parcels G, H, and I. Since the approval of the Master Plan and EIR, the Pilgrim Triton Project Master Plan area has undergone demolition and construction in phases, different from the order indicated in the Master Plan EIR. The ten parcels are now grouped into four phases:

- Phase A – The Plaza – Parcels E and F – construction was completed in May 2013.
- Phase B – The Triton (formerly the Waverly) – Parcels A and B – construction received temporary occupancy approval for 220 apartment units and 5,000 SF of commercial in Spring 2018. Parcel A is still under construction, while construction on Parcel B has not yet begun.
- Phase C – Parcels C and D – construction has not begun.
- Phase D – One Hundred Grand – Parcels G, H, I and J – construction was completed in July 2016 on 166 apartment units and 6,000 SF commercial on Parcel H.

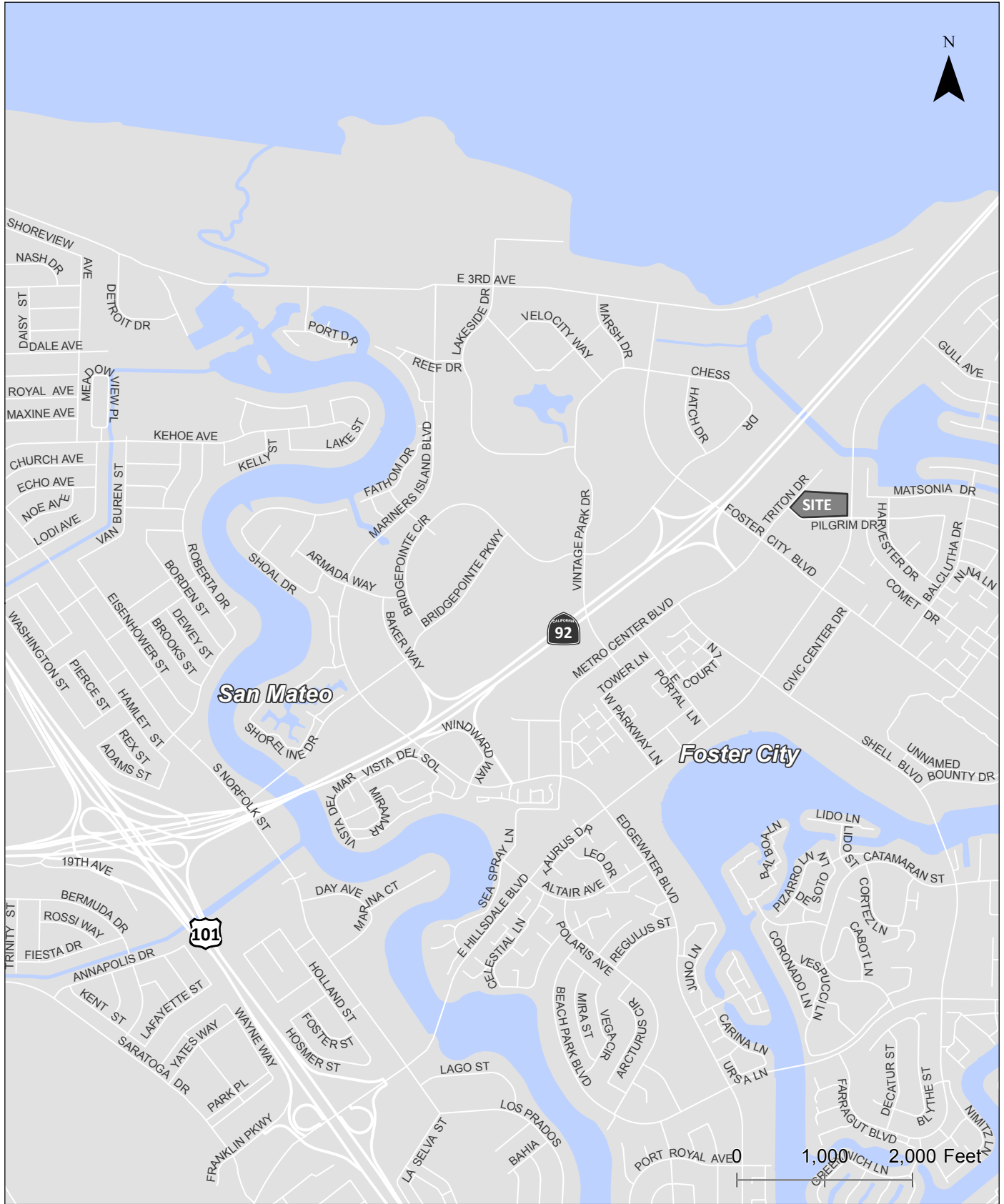
In July 2014, Sares Regis Group of Northern California (Regis Home) bought the land ownership of Phase C of the Pilgrim Triton Master Plan. Sares Regis has also proposed to add the 1.12-acre commercial parcel in Phase B to Phase C. Sares Regis is now proposing to change the allowed land use for enlarged Phase C of the Pilgrim Triton Master Plan. The purpose of this study is to assess the potential impacts resulting from the proposed amendment to Phase C and determine if the modified land uses would result in any new significant effects or increase in the severity of previously identified significant effects in the Master Plan EIR on the surrounding transportation system and to identify measures to mitigate any significant impacts. Based on the findings of this analysis and other studies being completed, the City will determine whether additional environmental review is necessary. If not, the City may prepare an Addendum to the Master Plan EIR.

1.1 PROJECT LOCATION

The Pilgrim Triton Master Plan area is located in the City of Foster City, California. Phase C of the Pilgrim Triton Master Plan is bounded by East Hillsdale Boulevard to the east, Triton Drive to the west, and Pilgrim Drive to the south. The north end of Phase C is adjacent to Phase B of the Pilgrim Triton Master Plan and will be divided by a proposed small roadway (Calypso Lane) as part of the

Phase C site plan. The project location is shown in the vicinity map on **Figure 1**. **Figure 2** presents the original Pilgrim Triton Master Plan parcel map, displaying ten parcels A through J. **Figure 3** shows the grouping of those same parcels into four phases. **Figure 4** presents the proposed site plan for the project.

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**Site Vicinity Map
Foster City, California**

**Figure
01**



Pilgrim Triton Master Plan Site Plan by Parcel
Foster City, CA

Figure
02

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Pilgrim Triton Master Plan Site Plan by Phases
Foster City, CA

Figure
03

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Proposed Project Site Plan
Foster City, CA

Figure
04

1.2 PROJECT DESCRIPTION

The Pilgrim Triton Master Plan area consists of 20.75 acres of mixed-use development and is split into multiple phases. Phases A and most of Phase D have been completed when the traffic counts were conducted. This report will analyze the proposed land use changes for Phase C of the Pilgrim Triton Master Plan.

	Master Plan Approved	Master Plan Proposed	Net Change
Residential Units on Parcel C of original Phase C	17	92	75
Commercial/Office on Parcels C, D of original Phase C	172,943	0	-172,943
Commercial/Office on Parcel C of Phase B	53,000	0	-53,000
Total	17 units + 225,943	92	+75 units; +225,943

Source: Foster City, 2017

The applicant is proposing to construct 70 market rate townhouse units and 22 workforce units in lieu of the 172,943 square feet of commercial uses currently entitled to be constructed on the Phase C site and the 58,000 square feet of commercial uses currently entitled on the Phase B commercial site (totaling 225,943 square feet, excluding the 5,000 square feet built to date).

Phase C project would have four driveways: one on the new Calypso Lane that would be constructed as part of the Phase C project, two on Pilgrim Drive west of the intersection of East Hillsdale Boulevard/Pilgrim Drive, and one on Argonaut Lane. The access on the Calypso Lane and the two access points on Pilgrim Drive would allow full access into and out of the development. The intersection of Calypso Lane /East Hillsdale Avenue would have right-in-right-out access to East Hillsdale Road while the intersection of East Hillsdale Avenue/Pilgrim Drive would be full access via a traffic signal. There would be an internal roadway within the project site that connects Calypso Lane and Pilgrim Drive. The remaining driveway will be off Argonaut Lane.

1.3 REGULATORY SETTINGS

This section summarizes applicable local and municipal plans and regulations that apply to the study area. This information provides a context for the impact discussion related to the project's consistency with applicable policies, plans, laws and regulations.

City of Foster City

With the exception of State freeways that are under Caltrans' jurisdiction, most streets in the study area are generally under the jurisdiction of the City of Foster City. The Land Use and Circulation Element of the City's General Plan¹ was adopted in February 2016. The Land Use and Circulation Element provides the policy framework for the regulation and development of transportation systems, balancing demands for moving people and goods within the city. The City's Land Use and Circulation Element goals include:

- 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.

To support this goal, the City has adopted the following policies that are applicable to the project:

- Policy LUC-E-1 Improvements to Existing Streets.** The City will maintain and improve the existing system of major and collector streets, including:
- East Hillsdale Boulevard, Edgewater Boulevard, Foster City Boulevard, Beach Park Boulevard, East Third Avenue (within the City limits), Metro Center Boulevard, Shell Boulevard, Chess Drive within the City limits) and Vintage Park shall be maintained as arterial (major) streets.
 - Collector streets, currently shown on Map GP-5, Street Network Map, shall be maintained as such.
 - Lengthen northbound left-turn lane on Foster City Boulevard at Chess Drive to 650 feet.
 - Lengthen westbound left turn lane on Chess Drive at Foster City Boulevard to 300 feet.

¹ Foster City General Plan, City of Foster City, 2016.

- e. Construct northbound right-turn lane from Foster City Boulevard to Chess Drive.
- f. Construct 2nd westbound through lane on Chess Drive east of Foster City Boulevard.

In addition, the following improvements are recommended for consideration to improve traffic operations and would be the responsibility of individual development projects to construct them and/or pay for their fair share costs:

- g. Lincoln Centre Drive/East Third Avenue – Signalize this intersection and include marked crosswalks with pedestrian signal heads and curb ramps on all approaches.
- h. Vintage Park Drive/Chess Drive – Restripe northbound Vintage Park Drive to replace the outside through lane with a shared through right-lane.
- i. Foster City Boulevard/Chess Drive/Metro Center Drive Interchange – Add a second right-turn lane on southbound Foster City Boulevard at Metro Center Drive and retime the traffic signal in the PM peak hour at Foster City Boulevard/Chess Drive to provide additional green time to the southbound approach by shifting time from the eastbound through movement. (Improvement subject to Caltrans approval.)
- j. Close driveway on the north side of Chess Drive/Westbound SR 92 Ramps Intersection.

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:
- a. Intelligent Transportation Systems (ITS)
 - b. Transportation Demand Management (TDM) for development projects

- c. Capital Improvement Program and coordination with federal, state, county and district funding programs for street and other transportation improvements.
- d. Developer payment of pro-rated fair share of traffic improvement costs for new developments.

Policy LUC-F-2 Traffic Reduction Programs. The City will work with existing employers and developers of new non-residential development to participate in traffic reduction programs.

Policy LUC-F-3 Employer-based Trip Reduction. The City will work with employers to implement employer-based trip reduction programs that get people to high-boarding destinations on the Peninsula and, if applicable, in the East Bay, such as employment centers and regional destinations, including:

- a. Coordinating with regional and local ridesharing organizations;
- b. Encouraging Caltrain/bus passes;
- c. Employer-based shuttles.

Policy LUC-G-1 Parking and Internal Circulation in Project Design. The City shall continue to incorporate parking and internal circulation design into its overall review of project design. The review shall include compliance with City off-street parking design standards and ratios.

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-G-4 Event Parking Policies. Reduce onsite parking demand and promote ride-sharing and public transit at large events

Policy LUC-G-5 Bicycle Parking. Secured bicycle parking shall be encouraged for all commercial and industrial buildings. The City will continue to allow required parking to be reduced where bicycle parking spaces are provided, per Chapter 17.62 of the Municipal Code.

City of San Mateo

The City of San Mateo updated its “Vision 2030” General Plan² in 2010. The applicable circulation goals, policies, and programs related to transportation impacts are:

Goal 2 Maintain a street and highway system which accommodates future growth while maintaining acceptable levels of service.

Policy C2.1 **Acceptable Levels of Service.** Maintain a Level of Service no worse than mid LOS D, average delay of 45.0 seconds, as the acceptable Level of Service for all intersections within the City.

Policy C2.7 **Exceeding the Acceptable Level of Service.** In addition to paying the transportation impact fee, a development project may be required to fund off-site circulation improvements which are needed as a result of project generated traffic, if:

- a. The Level of Service at the intersection drops below mid-level LOS D (average delay of more than 45 seconds) when the project traffic is added, and;
- b. An intersection that operates below its level of service standard under the base year conditions experiences an increase in delay of four or more seconds, and;
- c. The needed improvement of the intersection(s) is not funded in the applicable 5-year City Capital Improvement Program from the date of application approval.

City/County Association of Governments of San Mateo County

The City/County Association of Governments of San Mateo County (C/CAG) coordinates transportation planning efforts throughout San Mateo County and programs local, regional, state and federal funding for project implementation. It prepares the Congestion Management Program (CMP), a plan mandated by California law to describe the strategies to address congestion problems on the CMP network, which includes state highways and principal arterials. The CMP uses level of service standards to measure congestion and has established LOS standards to determine how local governments meet the standards of the CMP.

² San Mateo 2030 General Plan, City of San Mateo, 2010.

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. The LOS Standards for these facilities vary by roadway segment³:

- SR 92 from US 101 to Alameda County Line, LOS E
- US 101 from Peninsula Avenue to SR 92, LOS F
- US 101 from SR 92 to Whipple Road, LOS E

California Department of Transportation

Caltrans is responsible for planning, design, construction and maintenance of all interstate freeways and state routes. In the project vicinity, Interstate 101 and State Route 92 are freeways that are under Caltrans' jurisdiction. Caltrans requirements are described in their *Guide for Preparation of Traffic Impact Studies*⁴, which covers the information needed for Caltrans to review the impacts to State highway facilities; including freeway segments, on- and off-ramps, and signalized intersections. The City recognizes that "Caltrans endeavors to maintain a target LOS 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 LOS.

In addition, Caltrans states that for existing State highway facilities operating at less than the target LOS, the existing LOS should be maintained.

San Mateo County Transportation Authority

The San Mateo County Transportation Authority (TA) was formed in 1988. The TA administers the proceeds from Measure A, the voter approved half-cent sales tax, to fund a variety of transportation-related projects and programs. In the project vicinity, the projects that were funded by Measure A include the US 101 Auxiliary Lanes, State Route 92 Climbing Lanes, and Triton Drive Widening.

1.4 REPORT ORGANIZATION

This traffic impact analysis report is organized into the following sections:

³ *Final San Mateo County Congestion Management Program 2015*, C/CAG, Table 2 and Figure 4, November 2015.

⁴ *Guide for Preparation of Traffic Impact Studies*, California Department of Transportation (Caltrans), 2002.

- *Section 1 – Introduction:* Provides a description of the project’s location, details of the project itself, the regulatory settings, and the organization of this report.
- *Section 2 – Analysis:* Discusses the analysis approach, methodology, and applicable LOS criteria for this study. Provides the trip generation and distribution of the proposed project, and an evaluation of the proposed project in addition to the No Project scenario for intersection and freeway operations. Describes the potential transportation related impacts, and the mitigation measures recommended to mitigate identified impacts. Potential adverse impacts are identified by levels of significance, as follows: less-than-significant impact (LTS), significant impact (S), and significant and unavailable impact (SU). The significance of each impact is categorized before and after implementation of any recommended mitigation measure(s). Compares and discusses the trip generation and the potential impacts of the proposed project to what was identified in the *Final Pilgrim-Triton Master Plan EIR*.⁵
- *Section 3 – Other Transportation Issues:* Provides an evaluation of the proposed project for other transportation related issues, including CMP, pedestrian and bicycle facilities, transit facilities, parking assessment, site circulation, emergency access, air traffic, and construction. Describes the potential transportation related impacts, and the mitigation measures recommended to mitigate identified impacts. Potential adverse impacts are identified by levels of significance, as follows: less-than-significant impact, significant impact, and significant and unavailable impact. The significance of each impact is categorized before and after implantation of any recommended mitigation measure(s). Compares and discusses the potential impacts of the proposed project to what was identified in the *Final Pilgrim-Triton Master Plan EIR*.

⁵ *Final Pilgrim-Triton Master Plan Environmental Impact Report*, LSA, March 2008.

Section 2

Analysis

2 ANALYSIS

2.1 ANALYSIS APPROACH

The analyses assessed the Phase C project's potential effects on vehicular traffic, transit operations, bicycle and pedestrian circulation, emergency access, parking, and air traffic. This report also included the potential traffic impacts during construction.

Analysis Scenarios

A traffic operations analysis was performed to assess the performance of the circulation system for the weekday AM (6:00 AM – 9:00 AM) and PM peak periods (4:00 PM - 7:00 PM) for the project and the following scenarios were analyzed:

- **Existing (2017) Conditions** – Existing traffic volumes as collected in October 2017. At the time the traffic counts were collected, the project site was occupied by 38,000 square feet of industrial park land use.
- **Existing Plus Project Conditions** – Existing traffic volumes plus net new traffic generated by the project.
- **Background No Project Conditions** – Existing traffic volumes plus traffic projections from approved, but not yet constructed, developments in the project vicinity.
- **Background Plus Project Conditions** – Background volumes plus net new traffic generated by the project.
- **Cumulative (2040) Conditions** – Projected conditions in Year 2040, including traffic generated by approved and probably future development projects.
- **Cumulative (2040) plus Project Conditions** – Cumulative volumes plus net new traffic generated by the project.

Study Locations

A set of intersections and freeway mainline segments were selected for analysis based upon the anticipated volumes and distributional patterns of anticipated project traffic. The study locations generally coincided to the those analyzed under the *Pilgrim Triton Master Plan EIR*. The intersection and freeway segment locations are listed below and are illustrated in **Figure 5**.

Study Intersections

The following twenty (20) study intersections were selected based on the land use and circulation conditions in the project site vicinity:

1. Mariners Island Boulevard/ East Third Avenue

2. Foster City Boulevard/East Third Avenue
3. Foster City Boulevard/Vintage Park Drive
4. SR 92 Westbound Ramps/Fashion Island Boulevard
5. Vintage Park Drive/Chess Drive
6. SR 92 Westbound Ramps/Chess Drive
7. Foster City Boulevard/Chess Drive
8. SR 92 Eastbound Ramps/Edgewater Boulevard
9. Metro Center Boulevard/Edgewater Boulevard
10. Vintage Park Drive/Metro Center Boulevard
11. Shell Boulevard/Metro Center Boulevard
12. SR 92 Eastbound Ramps/Metro Center Boulevard
13. Foster City Boulevard/Triton Drive/Metro Center Boulevard
14. South Norfolk Street/East Hillsdale Boulevard
15. Altair Avenue/East Hillsdale Boulevard
16. Edgewater Boulevard East/Hillsdale Boulevard
17. Shell Boulevard/East Hillsdale Boulevard
18. Foster City Boulevard/East Hillsdale Boulevard
19. Pilgrim Drive/East Hillsdale Boulevard
20. Pilgrim Drive/Triton Drive

Freeway Analysis

Freeway Mainline

1. US 101, North of East Third Avenue
2. US 101, between East Third Avenue and SR 92
3. US 101, between SR 92 and East Hillsdale Boulevard
4. US 101, South of East Hillsdale Boulevard
5. SR 92, between US 101 and Edgewater Boulevard
6. SR 92, between Edgewater Boulevard and Foster City Boulevard
7. SR 92, between Foster City Boulevard and County Line

Freeway On-Ramp Merge

1. US 101 Northbound on-ramp from East Third Avenue
2. US 101 Northbound on-ramp from Kehoe Avenue
3. US 101 Northbound on-ramp from Westbound SR 92/Fashion Island Boulevard
4. US 101 Northbound on-ramp from Eastbound SR 92
5. US 101 Northbound on-ramp from Eastbound East Hillsdale Boulevard
6. US 101 Southbound on-ramp from Third Avenue

7. US 101 Southbound on-ramp from Westbound SR 92
8. US 101 Southbound on-ramp from Fashion Island Boulevard
9. US 101 Southbound on-ramp from Westbound East Hillsdale Boulevard
10. US 101 Southbound on-ramp from Eastbound East Hillsdale Boulevard
11. SR 92 Eastbound on-ramp from US 101
12. SR 92 Eastbound on-ramp from Metro Center Boulevard

Freeway Off-Ramp Diverge

1. US 101 Northbound off-ramp to East Third Avenue
2. US 101 Northbound off-ramp to Kehoe Avenue
3. US 101 Northbound off-ramp to East Hillsdale Boulevard
4. US 101 Southbound off-ramp to East Third Avenue
5. US 101 Southbound off-ramp to SR 92
6. SR 92 Eastbound off-ramp to Mariners Island Boulevard/Edgewater Boulevard
7. SR 92 Westbound off-ramp to Chess Drive

Freeway Weaving

1. US 101 Northbound between on-ramp from Westbound East Hillsdale Boulevard and off-ramp to SR 92
2. US 101 Southbound between on-ramp from Eastbound SR 92 and off-ramp to East Hillsdale Boulevard
3. SR 92 Eastbound between on-ramp from Mariners Island Boulevard and off-ramp to Metro Center Boulevard
4. SR 92 Westbound between on-ramp from Chess Drive and off-ramp to Fashion Island Boulevard
5. SR 92 Westbound between on-ramp from Fashion Island Boulevard and off-ramp to US 101 Northbound

Queuing Analysis at Freeway Off-Ramp

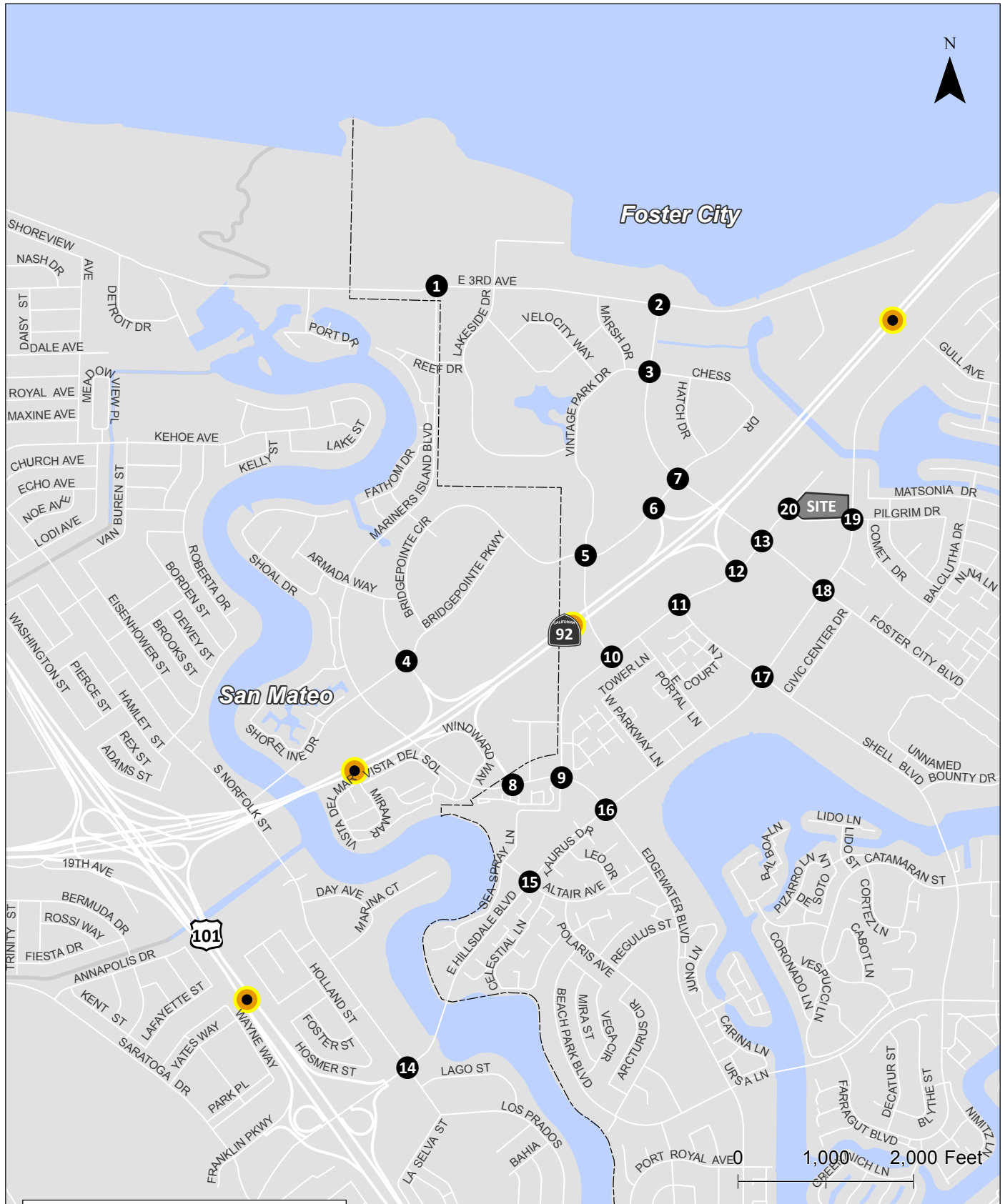
4. SR 92 Westbound off-ramp to Fashion Island Boulevard
6. SR 92 Westbound off-ramp to Chess Drive
8. SR 92 Eastbound off-ramp to Mariners Island Boulevard
12. SR 92 Eastbound off-ramp to Metro Center Boulevard

The queuing analysis at the freeway off-ramps were based on the average queue lengths estimated in Traffix and Vissim.

Congestion Management Program Compliance

As the Congestion Management Agency (CMA) for San Mateo County, C/CAG is responsible for maintaining the performance and standards of the CMP roadway network. The CMP requires new development projected to add 100 or more peak hour trips to the CMP roadway network to implement Travel Demand Management (TDM) measures that would reduce project impacts. Near the project site, facilities that are part of the CMP network include US 101 and SR 92. The freeway mainline segments listed above are analyzed for CMP compliance.

H:\20120690 - Foster City Pilgrim Triton EIR Addendum\GIS\02 Study Intersections & Freeway Segments.mxd - jamarillas - 9:02 AM 6/15/2018



- Freeway Study Segments
- Study Intersections

Study Intersections & Freeway Segments Foster City, California

Figure
05

2.1.1 Methodology

This section presents the methodology used to determine the transportation conditions for each scenario described above. It includes the descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, previous traffic studies, and information provided by the City of Foster City, City of San Mateo and California Department of Transportation (Caltrans). The following data were collected from these sources:

- Existing AM and PM peak periods intersection traffic counts
- Existing intersection lane configurations
- Existing intersection signal timing and phasing
- Existing freeway mainline, on-ramp and off-ramp traffic counts for AM and PM peak periods

For the study intersections, new traffic counts were collected on two typical mid-week days, Wednesday, October 25th, 2017 and Thursday, October 26th, 2017. Freeway mainline and ramp volumes were compiled from Caltrans' California Freeway Performance Measurement System⁶ (PeMS) and Caltrans' Traffic Volumes.⁷

Analysis Methodologies and Level of Service Standards

"Levels of service" describes the operating conditions experienced by users of a facility. Level of service (LOS) is a qualitative measure of the effect of several factors, including speed, travel time, traffic interruptions, freedom to maneuver, driving comfort and convenience. Levels of service are designated using a grade "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Level of Service "A" through "E" generally represents traffic volumes at less than roadway capacity, while LOS "F" represents over-capacity and/or forced-flow conditions. In general, LOS "D" or better is considered acceptable (based on the City's standard as discussed later) while LOS "E" or LOS "F" is not.

⁶ 2016 Traffic Volumes, California Department of Transportation (Caltrans) <http://pems.dot.ca.gov/>

⁷ 2016 Traffic Volumes, California Department of Transportation (Caltrans) <http://traffic-counts.dot.ca.gov/>

Intersection Analysis

Intersection analysis for both signalized and unsignalized intersections were conducted using the operational methodology outlined in the 2000 *Highway Capacity Manual*⁸ (HCM). Sixteen (16) of the twenty (20) study intersections were analyzed using the Traffix Version 8.0 software⁹ package, which evaluates the operations of the intersections that function independently. The intersections in the SR 92/Foster City Boulevard interchange complex, including the intersections on Chess Drive and on Metro Center Boulevard with Foster City Boulevard and the SR 92 eastbound and westbound ramps, interact with each other as vehicle-queues often extend between the intersections and affect the operations at adjacent intersections. These four (4) intersections were analyzed using the Vissim¹⁰ micro-simulation software analysis tool. The following summarizes the HCM methodologies for signalized and unsignalized intersections, respectively.

Signalized intersections. The method as described in Chapter 16 of the 2000 HCM calculates a weighted average stop delay in seconds per vehicle at a signalized intersection and assigns a level of service designation based on the delay. When intersections are influenced by upstream or downstream intersections, the Chapter 16 HCM method would not be appropriate. In this case, the intersections would be analyzed using a simulation tool, and the resultant average delay in seconds per vehicle would be obtained. The four signalized intersections that were analyzed using the Vissim micro-simulation modeling software are:

6. SR 92 Westbound Ramps/Chess Drive
7. Foster City Boulevard/Chess Drive
12. SR 92 Eastbound Ramps/Metro Center Boulevard
13. Foster City Boulevard/Triton Drive/Metro Center Boulevard

Unsignalized intersections. For “all-way stop-controlled” intersections, the HCM methodology calculates a weighted average stop delay in seconds per vehicle for each controlled intersection leg and for the entire intersection. A level of service designation is based upon the weighted average control delay for all intersection legs, similar to the level of service designation for signalized intersections. For “two-way stop-controlled” intersections, the HCM methodology provides an LOS for each controlled turn movement, but does not report an overall average LOS for the entire intersection. For Foster City, an average LOS is reported since the Foster City significance criteria are

⁸ *Highway Capacity Manual*, Transportation Research Board, Washington, D.C., 2000.

⁹ Traffix 8.0 Software developed by Dowling Associates, Inc. (1998)

¹⁰ Vissim Software developed by PTV America (2010)

based on the weighted average control delay for all approaches. The LOS for the worst movement is also provided for informational purposes only.

Table 1 presents the relationship of average delay to level of service for both signalized and unsignalized intersections.

Table 1: Signalized & Unsignalized Intersection Level of Service Definitions

Signalized Intersection			Unsignalized Intersection
Average Delay Per Vehicle (Seconds)	LOS	Description of Traffic Conditions	Average Delay Per Vehicle (Seconds)
≤10.0	A	Free flowing. Most vehicles do not have to stop.	≤10.0
>10.0 and ≤20.0	B	Minimal delays. Some vehicles must stop, although waits are not bothersome.	>10.0 and ≤15.0
>20.0 and ≤35.0	C	Acceptable delays. Significant numbers of vehicles must stop because of steady, high traffic volumes. Still, many vehicles pass without stopping.	>15.0 and ≤25.0
>35.0 and ≤55.0	D	Tolerable delays. Many vehicles must stop. Drivers are aware of heavier traffic. Cars may have to wait through more than one red light. Queues begin to form, often on more than one approach.	>25.0 and ≤35.0
>55.0 and ≤80.0	E	Significant delays. Cars may have to wait through more than one red light. Long queues form, sometimes on several approaches.	>35.0 and ≤50.0
>80.0	F	Excessive delays. Intersection is jammed. Many cars must wait through more than one red light, or more than 60 seconds. Traffic may back up into “up-stream” intersections.	>50.0

Source: Transportation Research Board, *Highway Capacity Manual*, Washington, D.C., 2000.

Freeway Mainline Segment Analysis

For the circulation system performance analyses, the methodology outlined in the *2010 Highway Capacity Manual* (HCM) as implemented by the Highway Capacity Software (HCS) tool were used to measure the freeway mainline congestion and to determine the LOS threshold from A to F.

Table 2 shows the relationship of freeway mainline congestion to level of service (also referred to as density).

Table 2: Level of Service Definition for Freeway Mainline Segment

Level of Service	Density (passenger vehicles per mile per lane)
A	≤11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45 Demand exceeds capacity

Source: Transportation Research Board, *Highway Capacity Manual*, Washington, D.C., 2010, Exhibit 11-5.

Freeway Weaving Analysis

For the weaving analysis, the HCM 2010 methodology as implemented by the HCS software tool was used. A freeway weaving section is a freeway segment where vehicles entering or exiting the freeway are required to execute one or more lane changes to merge or diverge. The conditions of a freeway weaving section are dependent upon traffic volumes, the distance between the interchanges, lane configurations, and free-flow speed of the freeway segment. A weaving analysis is typically applicable for freeway segments where the distance between an on-ramp and a downstream off-ramp is less than 2,500 feet.

Table 3 shows the level of service criteria for freeway weaving segments.

Table 3: Level of Service Definition for Freeway Weaving Segments

Level of Service	Density (passenger vehicles per mile per lane)
A	≤10
B	>10-20
C	>20-28
D	>28-35
E	>35
F	Demand exceeds capacity

Source: Transportation Research Board, *Highway Capacity Manual*, Washington, D.C., 2010, Exhibit 12-10.

Freeway Merge and Diverge Analysis

For the freeway merge and diverge analysis, the HCM 2010 methodology as implemented by the HCS¹¹ software tool was used. Freeway merge and diverge conditions are dependent upon traffic volumes on the mainline and on the ramp, lane configurations, and free-flow speed of the freeway segment.

Table 4 shows the level of service criteria for freeway merge and diverge segments.

Table 4: Level of Service Definition for Freeway Merge and Diverge Segments

Level of Service	Density (passenger vehicles per mile per lane)
A	≤10
B	>10-20
C	>20-28
D	>28-35
E	>35
F	Demand exceeds capacity

Source: Transportation Research Board, Highway Capacity Manual, Washington, D.C., 2010, Exhibit 13-2.

Off-Ramp Queuing Analysis

Off-ramp queues were analyzed using the Traffix software tool for the intersection which controls the off-ramp. Queue length is calculated based on the amount of vehicles and red time stopping vehicles at the traffic signal and other factors. For the intersections of Chess Drive/SR 92 Westbound Ramps and Metro Center Boulevard/SR 92 Eastbound Ramps, the off-ramp queues were analyzed using Vissim.

Congestion Management Program (CMP) Compliance

The CMP road facilities within the project vicinity were evaluated using the 1994 HCM volume-to-capacity ratio method, per C/CAG guidelines as presented in Table B-1 of the appendices of the 2015 CMP for San Mateo County. The level of service descriptions and the maximum volume-to-capacity ratio (v/c) for each LOS designation are presented in **Table 5**.

¹¹ HCS software developed by the McTrans Center, University of Florida

Table 5: Level of Service Definition for C/CAG CMP Compliance

Level of Service ¹	Description	Maximum Volume-to-Capacity Ratio
A	Free flow operations with average operating speeds at, or above, the speed limit. Vehicles are unimpeded in their ability to maneuver.	0.28
B	Free flow operations with average operating speeds at the speed limit. Ability to maneuver is slightly restricted. Minor incidents cause some local deterioration in operations.	0.46
C	Stable operations with average operating speeds near the speed limit. Freedom to maneuver is noticeably restricted. Minor incidents cause substantial local deterioration in service.	0.67
D	Speeds begin to decline slightly with increasing flows. Freedom to maneuver is more noticeably restricted. Minor incidents create queuing.	0.85
E	Operations at capacity. Vehicle spacing causes little room to maneuver but speeds exceed 50 miles per hour (mph). Any disruption to the traffic stream can cause a wave of delay that propagates throughout the upstream traffic flow. Minor incidents cause serious breakdown of service with extensive queuing. Maneuverability is extremely limited.	1.00
F	Operations with breakdowns in vehicle flow. Volumes exceed capacity causing bottlenecks and queue formation.	N/A

1. Freeway mainline LOS is based on a 65-mph free-flow speed per Table B-1 of the 2015 CMP.

Source: Transportation Research Board, *Highway Capacity Manual*, 1994.

2.1.2 Applicable LOS Criteria

Based on the state and local laws, regulations, and ordinances presented above, acceptable LOS thresholds were determined for the purpose of this study. As shown in **Table 6**, the City of Foster City seeks to achieve traffic LOS “D” or better at all study intersections during peak traffic hours; the City of San Mateo seeks to achieve a mid-range LOS “D” or better (defined as an average of 45 seconds of delay per vehicle). Policy LUC-F-1 states that it will be necessary to accept LOS “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 Drive intersections due to their role as access points to the freeway system. Therefore, an increase in vehicular traffic delay at each of the study intersections will be considered significant if it causes the peak hour level of service to drop to LOS “E” or LOS “F”, or if the intersection is already operating at LOS “E” or LOS “F” and causes an increase of 4 or more seconds of average delay (except at the intersections noted in LUC-F-1). C/CAG developed thresholds for acceptable freeway operations as part of their CMP. The CMP threshold for most of the freeway segments in the study area is LOS “E”. The threshold for US 101 north of SR 92 to Peninsula Avenue is LOS “F” due to pre-existing congestion levels.

Table 6: Intersection and Freeway Segment LOS Criteria

Jurisdiction	Facility Type	Worst Acceptable LOS	Maximum Acceptable Average Vehicular Delay or v/c Ratio or Density
City of Foster City	Signalized Intersections	LOS D ¹	55 seconds/vehicle ²
City of Foster City	Unsignalized Intersections	LOS D	35 seconds/vehicle ²
City of San Mateo	Signalized Intersections	Mid-range LOS D	45 seconds/vehicle ²
Caltrans	Freeway Merge/Diverge/Weaving	LOS D ⁴	35 passenger vehicle/mi/ln ³
C/CAG	Freeway Mainlines	LOS E or F ⁵	v/c = 1.00

1. The 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 the following intersections: Chess Drive/SR 92 Ramps, Foster City Boulevard/Triton Boulevard/Metro Center Boulevard, Vintage Park Drive/Chess Drive, and Foster City Boulevard/Chess Drive.

2. Based on 2000 *Highway Capacity Manual* (HCM).

3. Based on 2010 *Highway Capacity Manual* (HCM).

4. The Worst Acceptable LOS as defined by C/CAG would be used for freeway mainlines, instead of Caltrans Standards; for all other freeway analyses, the Caltrans LOS criteria is used.

5. LOS F is considered acceptable on US 101 north of SR 92 to Peninsula Avenue due to existing congestion levels.

Source: *City of Foster City General Plan*, *City of San Mateo General Plan*.

2.2 WITHOUT PROJECT CONDITIONS

2.2.1 Existing Conditions

The existing roadway, transit, bicycling, and walking components of the transportation system within the study area are described below.

Roadway Network

The existing roadway network in the study area is comprised of the freeway system that serves San Mateo County and an extensive street system made up of arterial and local roads.

Freeway

State Route 92 (SR 92) is a six to eight-lane freeway near the site property and has a posted speed limit of 55 miles per hour. It is an east-west freeway that connects Half Moon Bay to the San Mateo Bridge at Foster City and eventually to the City of Hayward on the east side of San Francisco Bay. It also provides access to the greater freeway network with direct connections to Interstates 280 and 880, US Highway 101, and State Routes 1, 35, 82, and 238. The project site is served by a full

interchange with the intersections of Foster City Boulevard/Chess Drive and Foster City Boulevard/Triton Drive/Metro Center Boulevard. The average daily traffic on SR 92 in the vicinity of the project ranges between 107,000 and 153,000 vehicles per day¹². Bicycling and walking are not allowed on this facility.

U.S. Highway 101 (US 101) is an eight-lane highway near the project and has a posted speed limit of 65 miles per hour. The north-south highway serves as a connection for many cities including San Francisco and San Jose. The section of Route 101, which is located west of the site property, provides access to SR 92 and has interchanges at SR 92 and East Hillsdale Boulevard. The average daily traffic in the vicinity of the project ranges between 241,000 and 265,000 vehicles per day¹³. Bicycling and walking are not allowed on this facility.

Arterials

Foster City Boulevard is a north-south arterial that has a six-lane cross section. It extends from East Third Street to Beach Park Boulevard and has a posted speed limit of 35 to 40 miles per hour. There are raised medians and street lights that line the outer edge of the sidewalks on each side of the roadway. Sidewalks are located along the east and west sides of Foster City Boulevard, except for the overpass between Metro Center Boulevard and Chess Drive, where there are sidewalks only on the east side of the roadway. There are no designated bike lanes along this corridor.

East Hillsdale Boulevard is a four to six-lane, east-west arterial with a posted speed limit of 35 to 40 miles per hour. It spans from SR 92 to Gull Avenue, where it becomes Beach Park Boulevard. There are raised medians with street lights located in the center. Sidewalks are provided on both sides of the street in the study area. There are no designated bike lanes along this corridor, although there is a separate Class I bike path between Shell Boulevard and the Marina Lagoon on the north side of the street.

Metro Center Boulevard is a four-lane, east-west arterial with a posted speed limit of 35 miles per hour. It extends from Edgewater Boulevard to Foster City Boulevard, where it becomes Triton Drive. It provides access to eastbound SR 92, just west of Foster City Boulevard. There are raised medians with street lights located in the center. Sidewalks are provided on both sides of the street in the study area, with the exception of Shell Boulevard to Foster City Boulevard, where there are sidewalks only on the east side of the roadway. There are no designated bike lanes along this corridor, although there is a separate Class I bike path on the south side between Shell Boulevard and Edgewater Boulevard.

¹² 2016 Traffic Volumes, California Department of Transportation (Caltrans)

<http://www.dot.ca.gov/trafficops/census/>

¹³ 2016 Traffic Volumes, California Department of Transportation (Caltrans)

<http://www.dot.ca.gov/trafficops/census/>

Chess Drive is a four-lane, east-west arterial with a posted speed limit of 30 miles per hour. It extends from Bridgepointe Parkway to Foster City Boulevard. It provides access to westbound SR 92, just west of Foster City Boulevard. There are raised medians from Bridgepointe Parkway to the SR 92 off ramp with street lights located in the center. On-street parking is allowed along Chess Drive from the northern intersection of Chess Drive/Hatch Drive to the southern intersection of Chess Drive/Hatch Drive. Sidewalks are provided on both sides of the roadway, with the exception from a SR 92 off-ramp to Foster City Boulevard, where there are sidewalks only on the west side of the roadway. There are no designated bike lanes along this corridor.

Edgewater Boulevard is a four to five-lane, north-south arterial with a posted speed limit of 35 to 40 miles per hour. It extends from Cutwater Lane to Emerald Bay Lane, where it becomes Mariners Island Boulevard. There are raised medians throughout the entire corridor with street lights located in the center. Sidewalks are provided on both sides of the street in the study area and parking is allowed along certain sections on both sides of Edgewater Boulevard south of East Hillsdale Boulevard. There are five-foot designated bike lanes, on each side of Edgewater Boulevard, that are striped adjacent to the on-street parking from Emerald Bay Lane to Beach Park Boulevard.

Collectors

Pilgrim Drive is a two-lane, north-south collector street with a striped center two-way left turn lane. The posted speed is 25 miles per hour. Pilgrim Drive provides access to the project site, as well as to the various buildings in Phases A, B and D of the Pilgrim Triton Master Plan area. There are sidewalks on both sides of the roadway. Parking is not permitted on the street to the west of Hillsdale Boulevard near the site property.

Local Streets

Triton Drive is a two-lane, east-west local street with a posted speed limit of 25 miles per hour. Triton Drive provides access to the project site and to the various buildings in Phases A, B and D of the Pilgrim Triton Master Plan area. East of Pilgrim Drive, it will become a private street where Phase C is developed and the Park Plaza is completed, as it provides internal access to the various properties that are a part of the Pilgrim Triton Master Plan area. There are sidewalks on both sides of the roadway, and there are marked parking spaces on the north side of the road near the Plaza Apartments.

Transit Facilities

The transit system in the study area includes bus services provided by San Mateo County Transit District (SamTrans), Alameda-Contra Costa Transit District (AC Transit), and shuttle services provided by Commute.Org (also known as the Peninsula Traffic Congestion Relief Alliance), connecting to Bay Area Rapid Transit (BART) and Caltrain stations.

SamTrans

SamTrans provides the principal bus service in San Mateo County. It operates local and school buses, as well as express routes to San Francisco. It is also a service provider for paratransit. All scheduled buses are equipped with front-loading racks that can hold up to two bicycles. SamTrans operates Routes 54, 57, 251, and 256 in the project vicinity. Route 54 runs on school-days only in the morning and in the afternoon before and after school hours. It only serves the project site in the afternoon when school is in session with the nearest stop at East Hillsdale Boulevard near Pilgrim Drive. Route 57 also runs on school-days with one bus in the morning and two in the afternoon. The closest stop to the project site is 0.67 miles away at East Hillsdale Boulevard and Edgewater Boulevard. Route 251 runs between the Hillsdale Shopping Center and Hillsdale Caltrain station in San Mateo to the Bridgepointe Shopping Center in Foster City. The nearest Route 251 stop to the project site is located on East Hillsdale Boulevard at Pilgrim Drive. Route 256 operates along the same route as Route 251, but in the opposite direction for the loop within Foster City.

AC Transit

AC Transit operates the Transbay M line, which serves between Hayward BART Station and Hillsdale Shopping Center in San Mateo via the San Mateo Bridge (SR 92). The nearest Route M stop to the site property is located on East Hillsdale Boulevard at Foster City Boulevard. It only operates during morning and afternoon commute hours on weekdays.

The existing transit routes serving the vicinity of the project site are summarized in Table 7 and are illustrated in Figure 6.

Table 7: Existing Bus Service in the Study Area

Service Provider	Route	Service Descriptions	Schedule	Hours of Operation	Frequency
SamTrans	54	Foster City Neighborhoods	School Days	2 p.m. to 3:30 p.m.	80 min
SamTrans	57	Foster City Neighborhoods	School Days	6:50 a.m. to 8 p.m. and 3:30 PM	120 min
SamTrans	251/256	Foster City neighborhoods to Hillsdale Shopping Center/Hillsdale Caltrain Station	Weekday	6:30 a.m. to 8 p.m.	60 min
			Saturday	7:30 a.m. to 8:30 p.m.	120 min
AC Transit	M	Transbay Service: Hayward BART Station to Hillsdale Shopping Center	Weekday	7 a.m. to 7 p.m. (Commute Hours Only)	30 min

Sources:

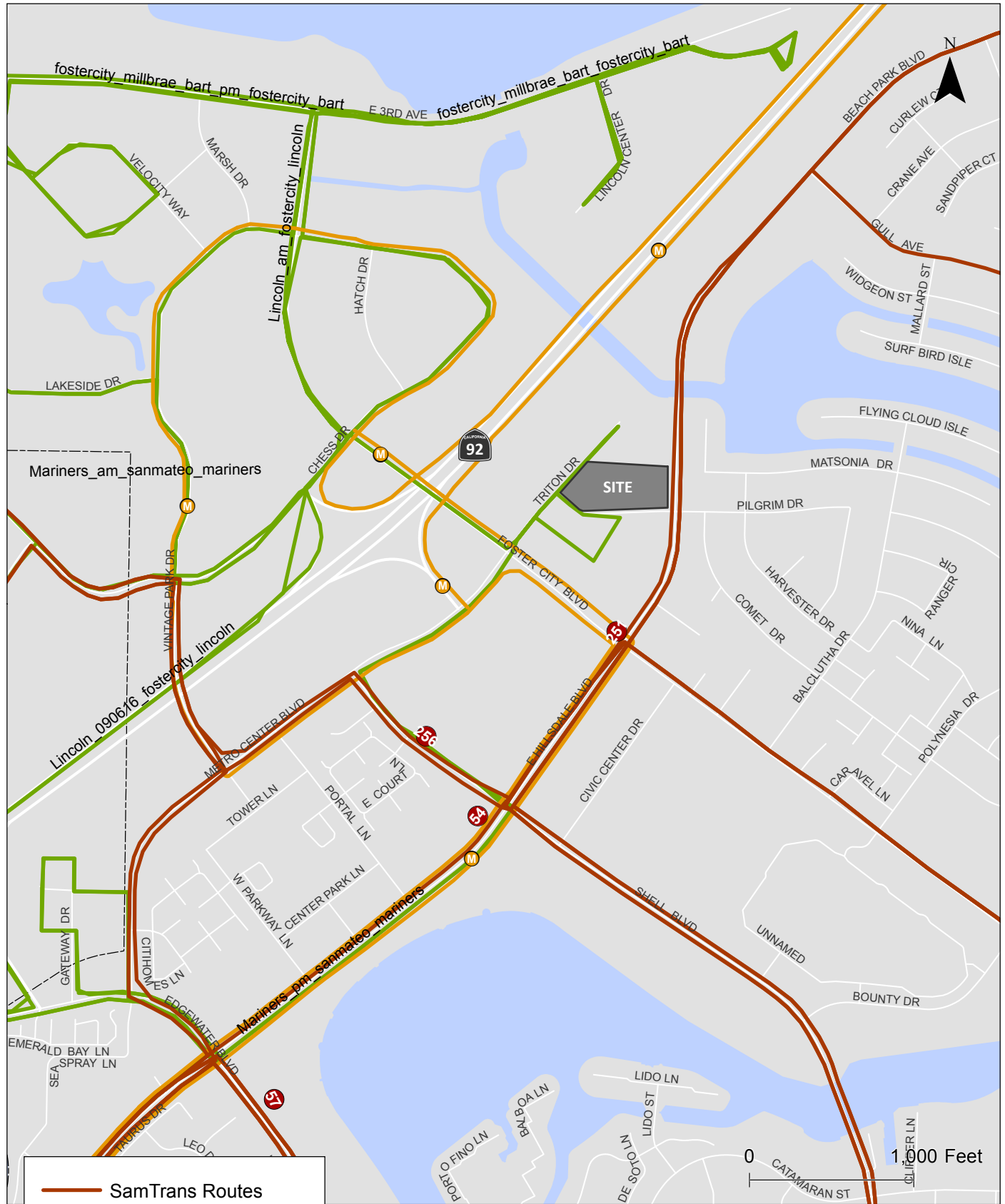
SamTrans website, www.samtrans.com, accessed June 18, 2018

AC Transit website, www.actransit.org, accessed June 27, 2017

Kittelton & Associates, Inc., 2017

Shuttles

The Peninsula Traffic Congestion Relief Alliance provides free shuttles connecting to Bay Area Rapid Transit (BART) and Caltrain stations. The Mariners' Island Caltrain shuttle provides service from the project area to the Hillsdale Caltrain station. There are two shuttle stops near the site: one stop is located at The Plaza at Triton Park, northeast of Phase C along Triton Drive; the other stop is located on One Hundred Grand Lane, near Pilgrim Drive. The shuttle provides service during the AM and PM commute hours, with a frequency of every 45 minutes.



**Existing Transit Network
Foster City, California**

**Figure
06**

Bicycle and Pedestrian Facilities

Bicycling and pedestrian facilities are important components of the transportation network in the study area. They not only offer non-vehicular opportunities for both commute and recreational trips, but also provide connections to bus stations to allow access to the region's transit network.

Existing Bicycling Facilities

Bicycle routes and paths are defined by the following three classes¹⁴:

- **Class I** – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- **Class II** – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.
- **Class III** – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

The existing bicycle facilities in the project vicinity are shown in **Figure 7**. According to the *City of Foster City General Plan*, many of the bicycle facilities in Foster City are Class III bike routes. Class III bicycle routes are located on Foster City Boulevard, East Hillsdale Boulevard and Shell Boulevard.

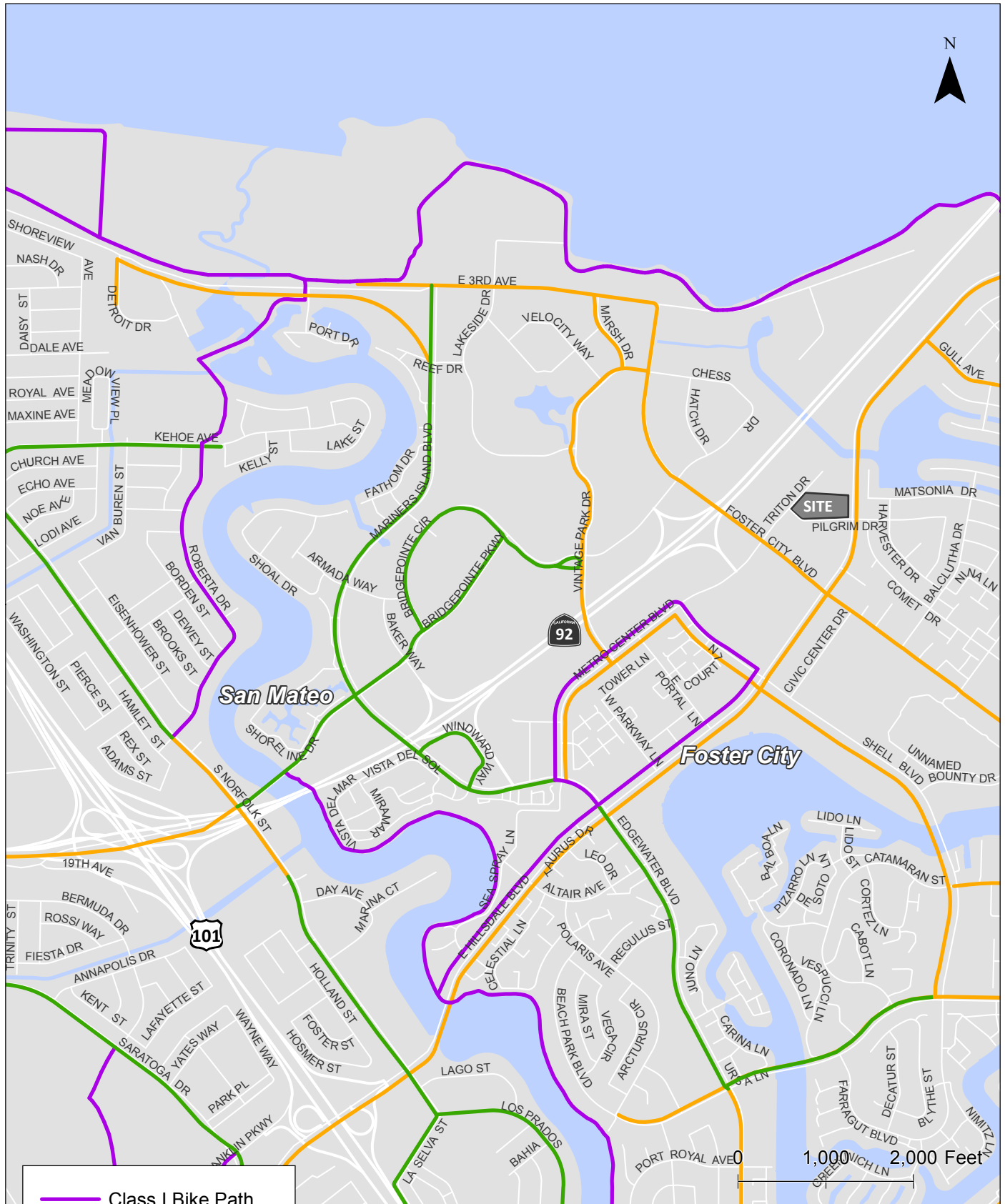
There are no Class II bikes lanes adjacent to the site property, but there are several in the transportation network within the study area. There are marked Class II bike lanes on:

- Edgewater Boulevard/Mariners Island Boulevard between Beach Park Boulevard and Third Avenue;
- Fashion Island Boulevard/Bridgepoint Parkway between Norfolk Street and Vintage Park Drive;
- Bridgepoint Circle; and
- Norfolk Avenue, between Los Prados Street and Fashion Island Boulevard.

There is also a Class I bike path along the north side of East Hillsdale Boulevard and the south side of Metro Center Boulevard, between Shell Boulevard and Edgewater Boulevard. The other Class I bike paths are trails along the San Francisco Bay, Marina Lagoon Seal Slough/Joinville Park (City of San Mateo), and Vintage Park.

¹⁴ As detailed in Chapter 1000 of the California Department of Transportation's (Caltrans) *Highway Design Manual*

H:\20120690 - Foster City Pilgrim Triton EIR Addendum\gis\04 Existing Bicycle Routes.mxd - jamarillas - 10:02 AM 6/15/2018



**Existing Bicycle Routes
Foster City, California**

**Figure
07**

Pedestrian Facilities

Currently, there are five-foot wide pedestrian sidewalks surrounding the project site, as well as along the major arterials near the proposed development. The signalized intersection of East Hillsdale Boulevard/Pilgrim Drive has pedestrian call buttons, marked crosswalks and existing curb ramps on all approaches. The intersection of Pilgrim Drive/Triton Drive has existing curb ramps at all four corners of the intersection, but has marked crosswalks only on the east and west legs.

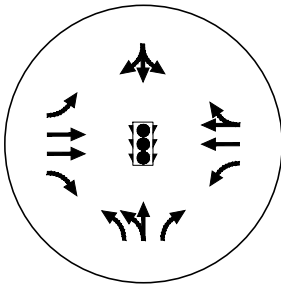
Existing Traffic Conditions

The existing operations of the study intersections and freeway facilities were assessed for the weekday AM peak hour (the peak hour of the morning commute period) and weekday PM peak hour (the peak hour of the afternoon commute peak period). The analysis was based on count data collected at the study intersections during two typical weekday morning peak periods (6:00 a.m. to 9:00 a.m.) and afternoon peak periods (4:00 p.m. to 7:00 p.m.) on October 25, 2017 and October 26, 2017. Based on a discussion with the City of Foster City, the highest peak hour volumes collected at the study intersections during those two days were used for the existing traffic condition analysis.

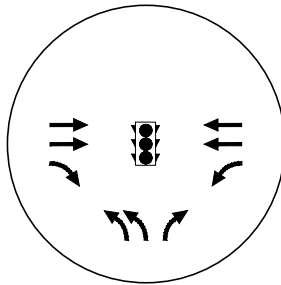
Conversely, freeway mainline and ramp volumes were compiled from Caltrans' PeMS and Caltrans' Traffic Volumes.

The existing lane configurations for the study intersections are shown graphically in **Figure 8**, and the AM and PM peak hour intersection turning volumes are shown in **Figure 9** and **Figure 10**, respectively.

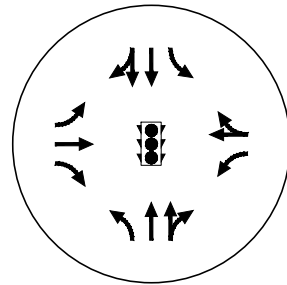
1 Mariners Island Blvd/E Third Ave



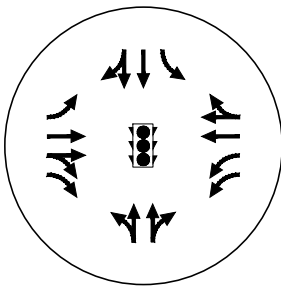
2 Foster City Blvd/E Third Ave



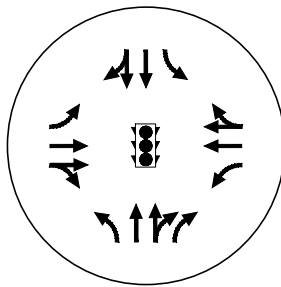
3 Foster City Blvd/Vintage Park Dr



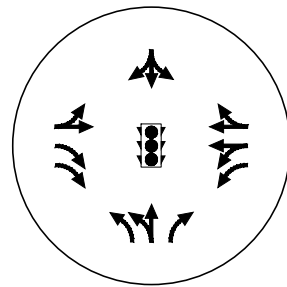
4 SR 92 WB Ramps/Fashion Island Blvd



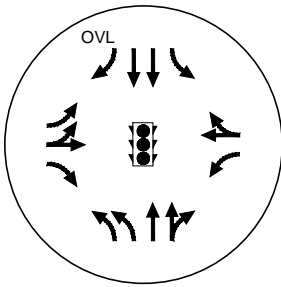
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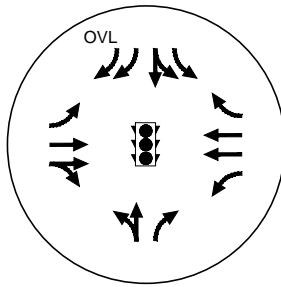
6 SR 92 WB Ramps/Chess Dr



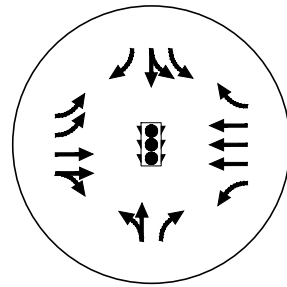
7 Foster City Blvd/Chess Dr



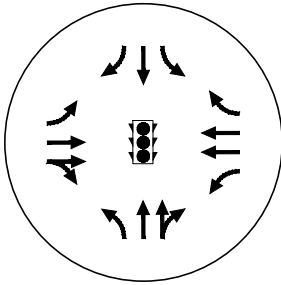
8 SR 92 EB Ramps/Edgewater Blvd



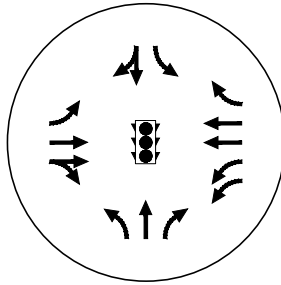
9 Metro Center Blvd/Edgewater Blvd



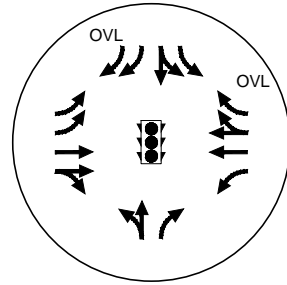
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd



Street Name (North/South)/Street Name (East/West)

OVL - OVERLAP

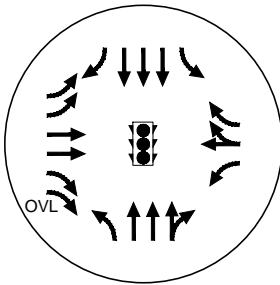
STOP SIGN

TRAFFIC SIGNAL

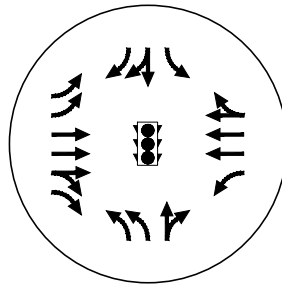
Existing Intersection Lane Configuration Foster City, CA

Figure
8A

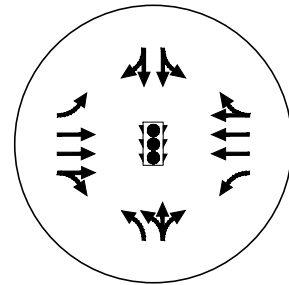
13 Foster City Blvd/Triton Dr/Metro Center Blvd



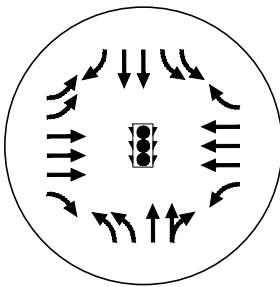
14 S Norfolk St/E Hillsdale Blvd



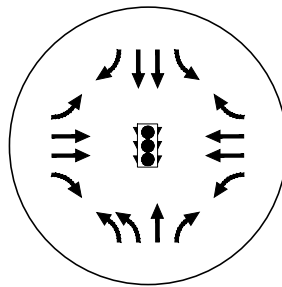
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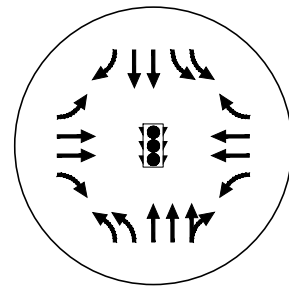
16 Edgewater Blvd/E Hillsdale Blvd



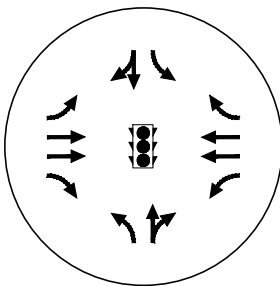
17 Shell Blvd/E Hillsdale Blvd



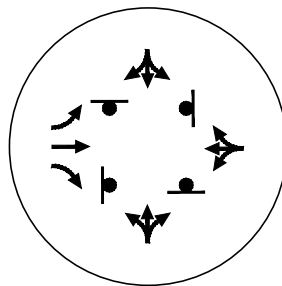
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

OVL - OVERLAP

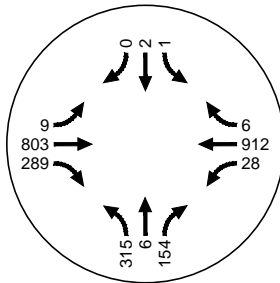
STOP SIGN

TRAFFIC SIGNAL

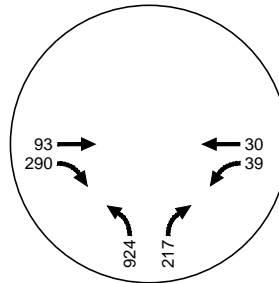
Existing Intersection Lane Configuration Foster City, CA

Figure
8B

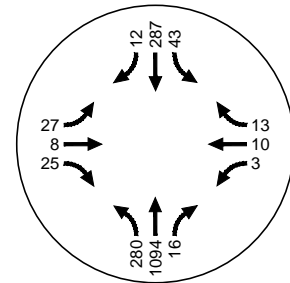
1 Mariners Island Blvd/E Third Ave



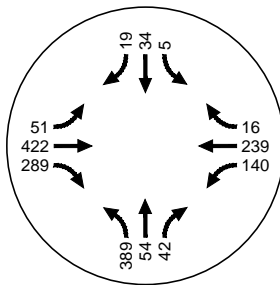
2 Foster City Blvd/E Third Ave



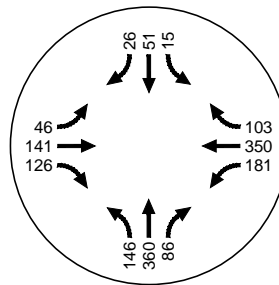
3 Foster City Blvd/Vintage Park Dr



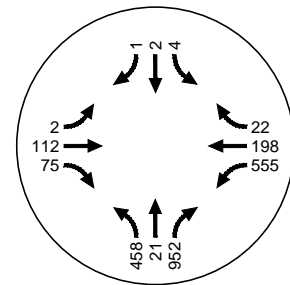
4 SR 92 WB Ramps/Fashion Island Blvd



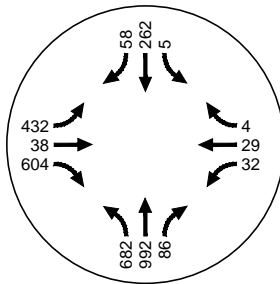
5 Vintage Park Dr/Chess Dr



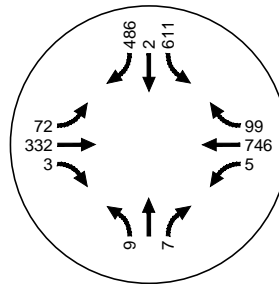
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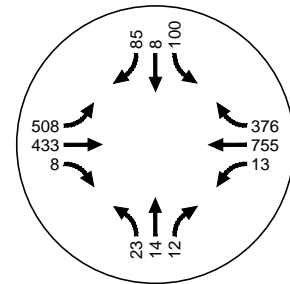
7 Foster City Blvd/Chess Dr



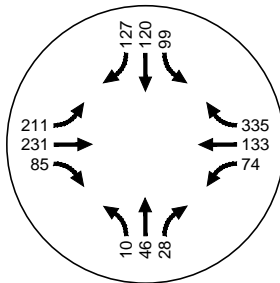
8 SR 92 EB Ramps/Edgewater Blvd



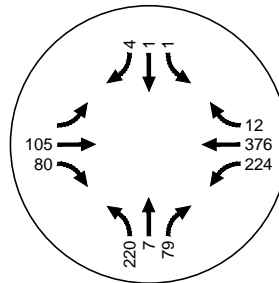
9 Metro Center Blvd/Edgewater Blvd



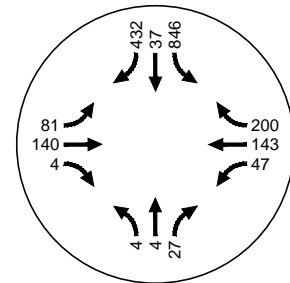
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11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

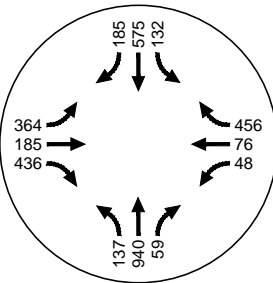


Street Name (North/South)/Street Name (East/West)

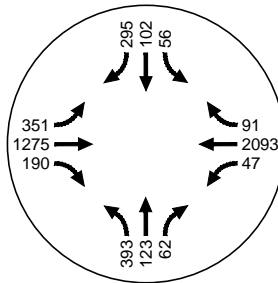
Existing AM Peak Hour Volumes
Foster City, CA

Figure
9A

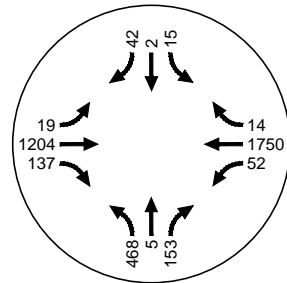
13 Foster City Blvd/Triton Dr/Metro Center Blvd



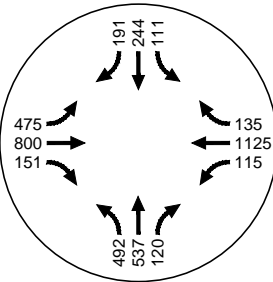
14 S Norfolk St/E Hillsdale Blvd



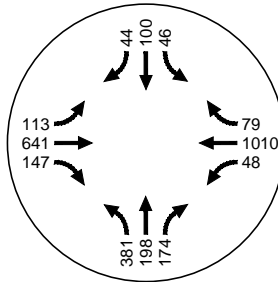
15 Altair Ave/E Hillsdale Blvd



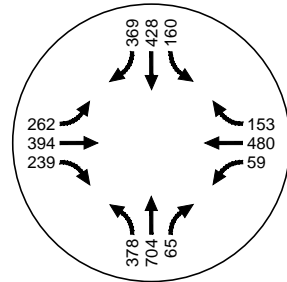
16 Edgewater Blvd/E Hillsdale Blvd



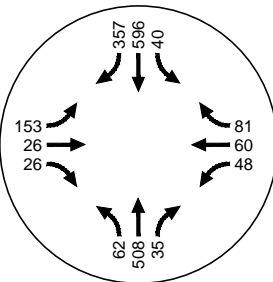
17 Shell Blvd/E Hillsdale Blvd



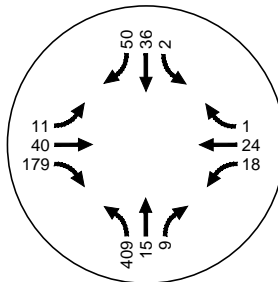
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr

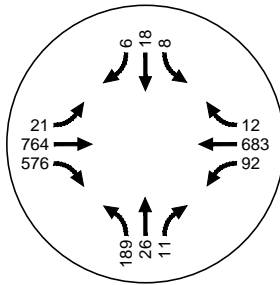


Street Name (North/South)/Street Name (East/West)

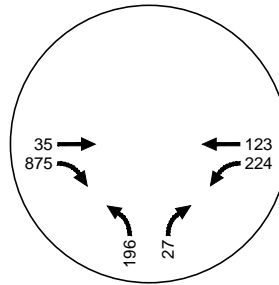
Existing AM Peak Hour Volumes
Foster City, CA

Figure
9B

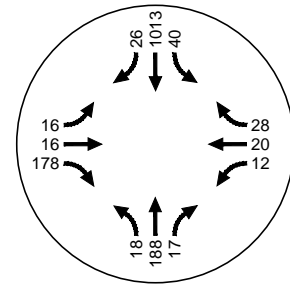
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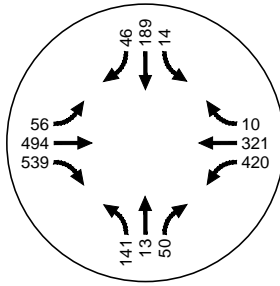
2 Foster City Blvd/E Third Ave



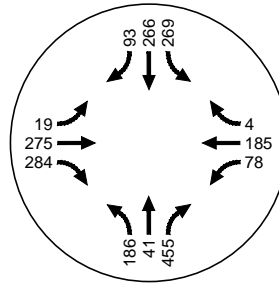
3 Foster City Blvd/Vintage Park Dr



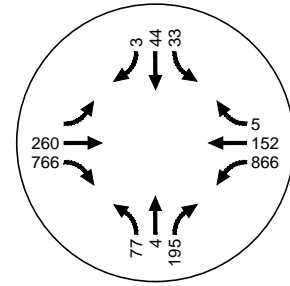
4 SR 92 WB Ramps/Fashion Island Blvd



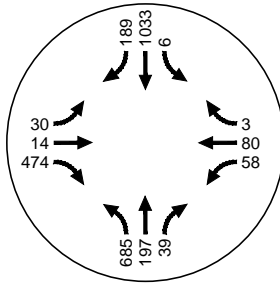
5 Vintage Park Dr/Chess Dr



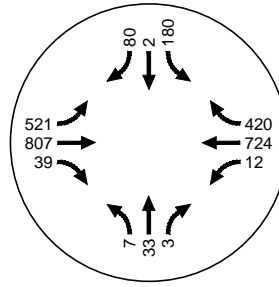
6 SR 92 WB Ramps/Chess Dr



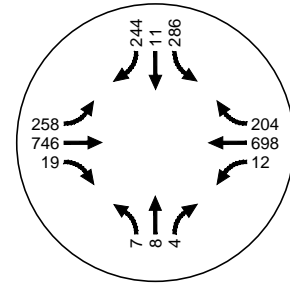
7 Foster City Blvd/Chess Dr



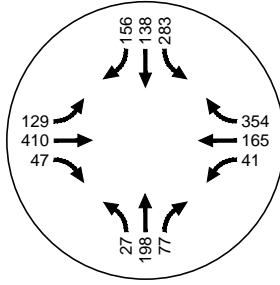
8 SR 92 EB Ramps/Edgewater Blvd



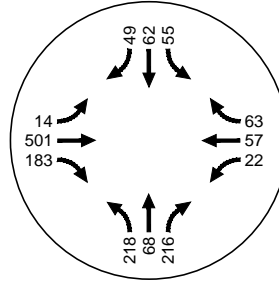
9 Metro Center Blvd/Edgewater Blvd



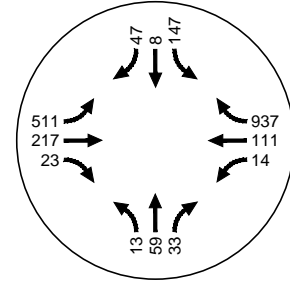
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

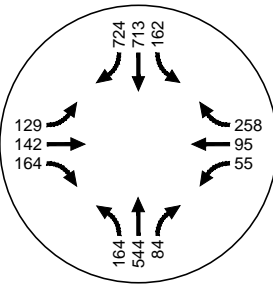


Street Name (North/South)/Street Name (East/West)

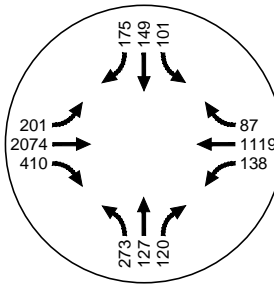
Existing PM Peak Hour Volumes
Foster City, CA

Figure
10A

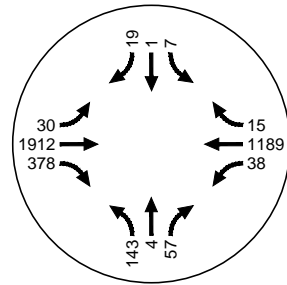
13 Foster City Blvd/Triton Dr/Metro Center Blvd



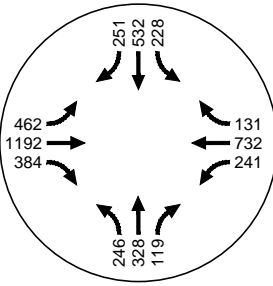
14 S Norfolk St/E Hillsdale Blvd



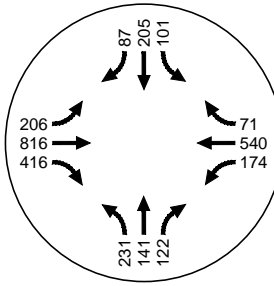
15 Altair Ave/E Hillsdale Blvd



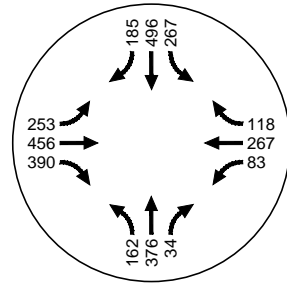
16 Edgewater Blvd/E Hillsdale Blvd



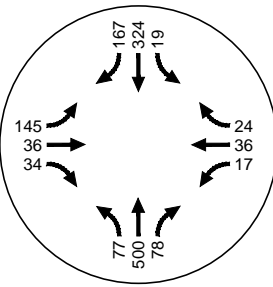
17 Shell Blvd/E Hillsdale Blvd



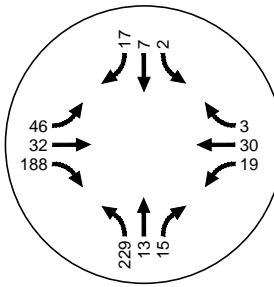
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

Existing PM Peak Hour Volumes
Foster City, CA

Figure
10B

Intersection Analysis

Intersection Levels of Service

Intersection turning movement volumes, lane configurations, and traffic control were used to calculate the level of service at the study intersections. Sixteen intersections were analyzed using Traffix software and four intersections were analyzed using Vissim micro-simulation modeling software.

As shown in **Table 8**, most of the study intersections operate at LOS “D” or better under Existing Conditions during both the weekday AM and PM peak hours except for intersection #7, Foster City Boulevard/Chess Drive and intersection #13, Foster City Boulevard/Triton Drive/Metro Center Boulevard which operate in the PM peak hour at LOS “F” and LOS “E”, respectively. Even though these intersections do not provide direct access to SR 92, the operations at these locations are significantly affected by the congestion levels on the SR 92 eastbound mainline and the Metro Center Boulevard on-ramp onto SR 92.

While Intersection #10, Vintage Park Drive/Metro Center Boulevard was observed to have higher westbound right-turn volumes compared to the counts collected during the 2007 development of General Plan (likely due to traffic growth associated with the Gilead Sciences Development and increase in freeway pass-by traffic), the intersection LOS results do not exceed the City standard after Kittelson modified the LOS analysis to account for right-turn on red (RTOR) on the westbound right turn lane at the Vintage Park Drive/Metro Center Boulevard intersection. The analysis documented in the General Plan was overly conservative by not allowing any right-turn on red at this location.

A Vissim model was developed for the following four intersections:

- Intersection 5 - Vintage Park Drive/Chess Drive
- Intersection 7 - Foster City Boulevard/Chess Drive
- Intersection 12 - SR 92 Eastbound Ramps/Metro Center Boulevard
- Intersection 13 - Foster City Boulevard/Triton Drive/Metro Center Boulevard

The Vissim model included the mainline and ramps of SR 92. Consequently, the intersection LOS results for these intersections are impacted by the operations on SR 92 and the queue lengths extending among the intersections.

The intersection LOS calculation sheets are included in Appendix A.

Signal Warrant Analysis

Since the intersection of Pilgrim Drive/Triton Drive would operate at LOS “D” or better during both the AM and PM peak hours, peak hour signal warrants, as outlined in the *Manual of Uniform Traffic Control Devices* (MUTCD)¹⁵, were not analyzed for Existing Conditions.

¹⁵ *Manual of Uniform Traffic Control Devices* (MUTCD), 2003 Edition.

Table 8: Existing Conditions Intersection Level of Service

	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	20.1	C	18.5	B
2	Foster City Boulevard/East Third Avenue	Signalized	9.2	A	14.3	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	15.9	B	24.4	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	19.4	B	20.6	C
5 ³	Vintage Park Drive/Chess Drive	Signalized	31.1	C	40.8	D
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	19.7	B	34.3	C
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	23.4	C	86.0	F
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	27.6	C	29.8	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	27.7	C	31.1	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	32.4	C	34.1	C
11	Shell Boulevard/Metro Center Boulevard	Signalized	31.2	C	33.1	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	18.1	B	44.5	D
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	27.8	C	55.7	E
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	36.0	D	28.6	C
15	Altair Avenue/East Hillsdale Boulevard	Signalized	13.1	B	5.0	A
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	32.3	C	33.0	C
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	19.0	B	23.2	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	36.6	D	29.7	C
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	29.2	C	15.7	B
20	Pilgrim Drive/Triton Drive	AWSC	14.3	B	9.4	A

Source: Kittelson & Associates, Inc. 2018.

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Text in **BOLD** indicates LOS exceeding standard

Freeway Levels of Service

Table 9 to Table 12 present the level of service on the freeway facilities under Existing Conditions.

Freeway Mainline

Most of the freeway mainline study segments operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Southbound US 101 between East Third Avenue and SR 92 - PM peak hour
- Eastbound SR 92 between Foster City Boulevard and County Line - PM peak hour

Freeway On-Ramp Merge

The freeway on-ramps operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 from Fashion Island Boulevard/SR 92 Westbound Ramps – AM and PM peak hours
- Southbound US 101 all on-ramps from East Hillsdale Boulevard to East Third Avenue ramps – AM and PM peak hours
- Eastbound SR 92 from Metro Center Boulevard – PM peak hour

Freeway Off-Ramp Diverge

The freeway off-ramps operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 at East Hillsdale Boulevard and East Third Avenue – AM and PM peak hours
- Southbound US 101 all off-ramps from East Third Avenue to Hillsdale Boulevard – AM and PM peak hours

Freeway Weaving

The freeway weaving study segments operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Northbound US 101 between westbound East Hillsdale Boulevard and SR 92 - AM and PM peak hours
- Southbound US 101 between eastbound SR 92 and East Hillsdale Boulevard - AM and PM peak hours
- Westbound SR 92 between Chess Drive and Fashion Island Boulevard - AM peak hour

The freeway analysis calculation sheets are included in Appendix B.

Table 9: Existing Conditions Freeway Mainline Level of Service

Location	Criteria	AM Peak Hour			PM Peak Hour		
		Volume ¹	v/c ²	LOS ³	Volume ¹	v/c ²	LOS ³
US 101 Northbound							
North of East Third Avenue	F	10,669	0.97	E	10,041	0.91	E
Between SR 92 and East Third Avenue	F	9,662	0.88	E	9,362	0.85	E
Between East Hillsdale Boulevard and SR 92	E	8,539	0.78	D	8,742	0.79	D
South of East Hillsdale Boulevard	E	8,598	0.78	D	9,385	0.85	E
US 101 Southbound							
North of East Third Avenue	F	9,417	0.86	E	11,271	0.98	E
Between East Third Avenue and SR 92	F	9,556	0.87	E	11,564	1.01	F
Between SR 92 and East Hillsdale Boulevard	E	9,298	0.85	D	10,963	1.00	E
South of East Hillsdale Boulevard	E	10,830	0.98	E	11,627	0.99	E
SR 92 Eastbound							
Between US 101 and Edgewater Boulevard	E	4,688	0.71	D	5,021	0.76	D
Between Edgewater Boulevard and Foster City Boulevard	E	3,760	0.57	C	5,733	0.87	E
Between Foster City Boulevard and County Line	E	2,730	0.41	B	7,038	1.07	F
SR 92 Westbound							
Between US 101 and Edgewater Boulevard	E	4,388	0.66	C	5,452	0.83	D
Between Edgewater Boulevard and Foster City Boulevard	E	4,410	0.67	C	4,508	0.68	D
Between Foster City Boulevard and County Line	E	5,209	0.79	D	3,108	0.47	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. v/c = Volume/Capacity Ratio

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates that demand exceeds capacity

Table 10: Existing Conditions Freeway On-Ramp Merge Level of Service

Location	AM Peak Hour			PM Peak Hour		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
From East Third Avenue	Lane addition at on-ramp; analyzed as Basic Freeway Segment					
From Kehoe Avenue	9,808	30.2	D	9,582	29.7	D
From Westbound SR 92/Fashion Island Boulevard	10,061	Demand > Capacity	F	9,627	Demand > Capacity	F
From Eastbound SR 92	6,891	29.4	D	6,983	30.7	D
From Eastbound East Hillsdale Boulevard	7,917	34.1	D	8,278	35.4	E
US 101 Southbound						
From East Third Avenue	Lane addition at on-ramp; analyzed as Basic Freeway Segment					
From Westbound SR 92	7,478	34.2	D	9,408	Demand > Capacity	F
From Fashion Island Boulevard	8,109	35.0	E	9,849	Demand > Capacity	F
From Westbound East Hillsdale Boulevard	9,047	Demand > Capacity	F	10,345	Demand > Capacity	F
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; analyzed as Basic Freeway Segment					
SR 92 Eastbound						
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁴					
From Metro Center Boulevard	2,730	11.1	B	7,038	Demand > Capacity	F

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Text in **BOLD** indicates that demand exceeds capacity

Table 11: Existing Conditions Freeway Off-Ramp Diverge Level of Service

Location	AM Peak Hour			PM Peak Hour		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
To East Third Avenue	9,808	Demand > Capacity	F	9,582	Demand > Capacity	F
To Kehoe Avenue	10,061	37.5	E	9,627	35.4	E
To East Hillsdale Boulevard	8,598	10.7	B	9,385	Demand > Capacity	F
US 101 Southbound						
To East Third Avenue	9,417	Demand > Capacity	F	11,271	Demand > Capacity	F
To SR 92	9,556	Demand > Capacity	F	11,564	Demand > Capacity	F
SR 92 Eastbound						
To Mariners Island Boulevard/Edgewater Boulevard	4,688	33.4	D	5,021	32.1	D
SR 92 Westbound						
To Chess Drive	5,209	24.4	C	3,108	11.9	B

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates that demand exceeds capacity

Table 12: Existing Conditions Freeway Weaving Level of Service

Location	AM Peak Hour			PM Peak Hour		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
Between Westbound East Hillsdale Boulevard and SR 92	8,539	Demand > Capacity	F	8,742	Demand > Capacity	F
US 101 Southbound						
Between Eastbound SR 92 and East Hillsdale Boulevard	9,298	Demand > Capacity	F	10,963	Demand > Capacity	F
SR 92 Eastbound						
Mariners Island Boulevard and Metro Center Boulevard	3,760	16.1	B	5,733	28.7	D
SR 92 Westbound						
Chess Drive and Fashion Island Boulevard	4,410	23.2	C	4,508	25.7	C
Fashion Island Boulevard and Northbound US 101	4,388	Demand > Capacity	F	5,452	Demand > Capacity	F

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates that demand exceeds capacity

Queuing Analysis at Freeway Off-Ramp Intersections

A queuing analysis for the freeway off-ramp intersections was performed to determine the impacts on state highways using the Traffix analysis software program and the Vissim micro-simulation modeling software. The queuing analysis assessed whether the queue length at the off-ramp's approach to the controlling intersection would extend beyond available storage on each analysis off-ramp. This analysis was done using the average queue length. **Table 13** summarizes the queuing analysis for the Existing Conditions. As shown in Table 13, all freeway off-ramps were found to have sufficient storage to accommodate the off-ramp queues during both the AM and PM peak hours under the Existing Conditions.

Table 13: Existing Conditions Freeway Off-Ramp Queue Analysis

Freeway Off-Ramp	Queue Lengths (ft)	Existing					
		NBL	NBT	NBR	SBL	SBT	SBR
AM Peak Hour							
SR 92 Westbound off-ramp to Fashion Island Boulevard	Storage Length (ft)	1,650					
	Average Queue Length	175					
SR 92 Westbound off-ramp to Chess Drive	Storage Length (ft)	1,575	500				
	Average Queue Length	200	0				
SR 92 Eastbound off-ramp to Mariners Island Boulevard	Storage Length (ft)			1,960	800		
	Average Queue Length			250	200		
SR 92 Eastbound off-ramp to Metro Center Boulevard	Storage Length (ft)			1,750	1,750		
	Average Queue Length			250	100		
PM Peak Hour							
SR 92 Westbound off-ramp to Fashion Island Boulevard	Storage Length (ft)	1,650					
	Average Queue Length	100					
SR 92 Westbound off-ramp to Chess Drive	Storage Length (ft)	1,575	500				
	Average Queue Length	50	0				
SR 92 Eastbound off-ramp to Mariners Island Boulevard	Storage Length (ft)			1,960	800		
	Average Queue Length			150	25		
SR 92 Eastbound off-ramp to Metro Center Boulevard	Storage Length (ft)			1,750	1,750		
	Average Queue Length			100	25		

Source: Kittelson & Associates, Inc., 2018.

Storage length based on distance to the off-ramp gore point.

2.2.2 Background No Project Conditions

This chapter presents a summary of the traffic conditions that would occur under the Background No Project Conditions. It includes descriptions of the procedure used to estimate traffic volumes associated with Background No Project Conditions, as well as the intersection and freeway LOS results.

Transportation Network

Figure 3.6 of the *City of Foster City General Plan* illustrated a series of roadway improvements to accommodate future proposed developments. These planned roadway improvements are summarized in **Table 14**.

Table 14: Background and Cumulative Planned Roadway Improvements

Planned Roadway Improvements	
1	Lengthen northbound left-turn lane on Foster City Boulevard at Chess Drive
2	Lengthen westbound left-turn lane on Chess Drive at Foster City Boulevard
3	Construct northbound right-turn lane from Foster City Boulevard at Chess Drive
4	Construct a 2 nd westbound through-lane on Chess Drive at Foster City Boulevard
5	Signalize the intersection of Lincoln Centre Drive at East Third Avenue - <i>Completed March 2018</i>
6	Restripe northbound Vintage Park Drive at Chess Drive to replace the outside through-lane with a shared through/right-turn lane - <i>Completed October 2017</i>
7	Add a second right-turn lane on southbound Foster City Boulevard at Metro Center Drive
8	Close the driveway on the north side of the intersection of Chess Drive / Westbound SR 92 Ramps

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

Traffic Volumes

Background No Project Conditions include existing traffic plus traffic generated by approved projects, under-construction developments, and built, but not yet occupied developments within the project vicinity. The list of projects included under the Background No Project Conditions is summarized in **Table 15** and are shown in **Figure 11**. In the situation where a portion of an approved project was occupied when the counts were collected, the portion occupied was determined to be part of existing conditions and the remaining portion of the project was considered as an approved project, which would have been included in Table 15. The trip generation estimates by the developments as listed in Table 15 were determined by applying the trip generation rates and equations as presented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*.¹⁶ For Gilead Integrated Master Plan and Illumina Phase 1, a special trip generation rate as derived for the Gilead Integrated Master Plan was used for office and laboratory land uses. For mixed-use developments, a trip reduction was applied to account for internalization (i.e. trips that would go from one land use to another within the project site without having to leave the site), and pass-by reductions were applied to retail uses to account for trips that are already on

¹⁶ Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition, 2012.

the roadway network and would shop at the project site, and therefore are not considered to be new trips. The pass-by reduction rates were derived from ITE's *Trip Generation Handbook*¹⁷. Since the pass-by reduction rates indicated by the *Trip Generation Handbook* are relatively high for similarly-sized retail establishments, to be conservative, a maximum PM pass-by percentage of 40 percent was used. Pass-by reduction rates of 20 percent and 10 percent were used for daily and AM peak hour trips, respectively. Trips generated by existing uses were subtracted from trips generated by the proposed land uses, providing the net number of trips added to the surrounding roadway system, where appropriate. **Table 16** provides a summary of trip generation estimates by the developments to be included in the Background No Project Conditions. Overall, the approved developments are projected to add 15,261 daily trips, 1,639 AM peak hour trips and 1,453 PM peak hour trips. Background/Approved Project Trip Generation Calculations are provided in Appendix C.

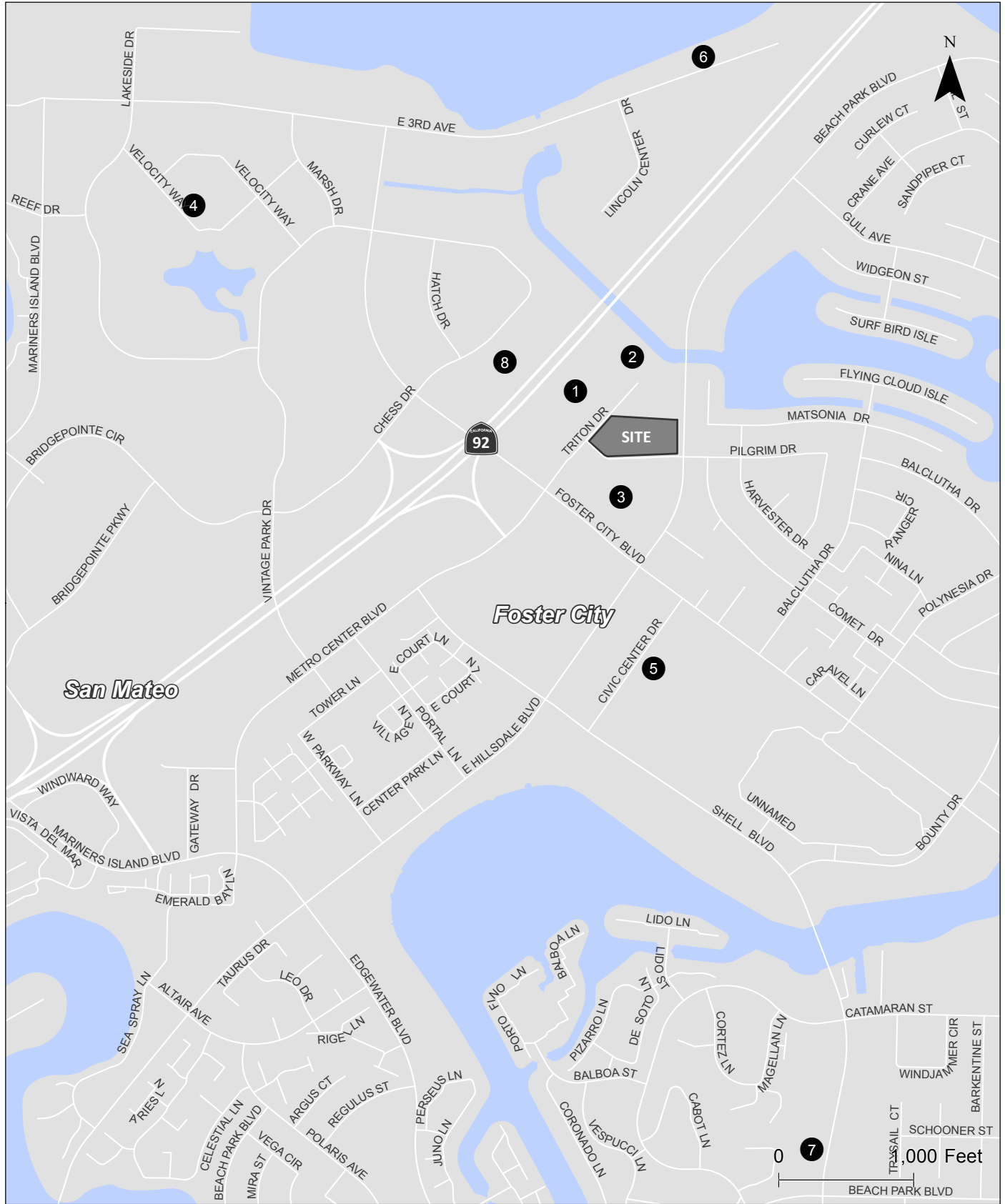
Table 15: Developments included in Background No Project Conditions

Project No.	Project Name	Existing Land Uses ¹	Proposed Land Use (Replaces Existing Land Uses)
1	Pilgrim Triton Phase A	-- ²	2,500 sq. ft. retail
2	Pilgrim Triton Phase B	-- ²	220 apartment units 20 townhouses 5,000 sq. ft. retail
3	Pilgrim Triton Phase D	-- ³	2,500 sq. ft. retail 5,061 sq. ft. medical office ⁶
4	Gilead Sciences Corporate Campus Master Plan	-- ⁴	588,000 sq. ft. office
5	Foster Square	-- ⁵	152 units senior housing 66 units congregate care facility 24 bed assisted living facility 30,000 sq. ft. retail
6	Illumina Phase 1 (Lincoln Centre)	--	221,532 sq. ft. office 94,942 sq. ft. laboratory
7	Charter Square School	58,479 sq. ft. retail	600 students

Source: Kittelson & Associates, Inc., 2018.

- Existing trip credit is applied for land uses that are currently occupied and would be replaced by the proposed land uses in the future.
- Parcel A is partially built; no construction underway on Parcel B.
- Partially vacant/ partially built, but not yet occupied.
- Partially occupied.
- 48 senior housing units occupied and 50% of congregate care facility occupied.
- This Traffic Analysis was conservative as it analyzed up to 9,400 sq. ft. of office space.

¹⁷ Institute of Transportation Engineers (ITE) *Trip Generation Handbook*, 2nd Edition, 2004.



● Projects

**Background and Cumulative Project Locations
Foster City, California**

**Figure
11**

Table 16: Trips Generated by Background Projects

Project No.	Project Name	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1	Pilgrim Triton Phase A	457	9	6	15	16	19	35
2	Pilgrim Triton Phase B	2,352	38	100	138	126	84	210
3	Pilgrim Triton Phase D	797	27	10	37	26	43	69
4	Gilead Sciences Corporate Campus Master Plan	6,474	664	93	757	106	653	759
5	Foster Square	3,046	56	47	103	118	118	236
6	Illumina Phase 1 (Lincoln Centre)	3,209	272	44	310	52	278	330
7	Charter Square School	-1,074	144	129	273	-105	-81	-186
Total		15,261	1,210	429	1,639	339	1,114	1,453

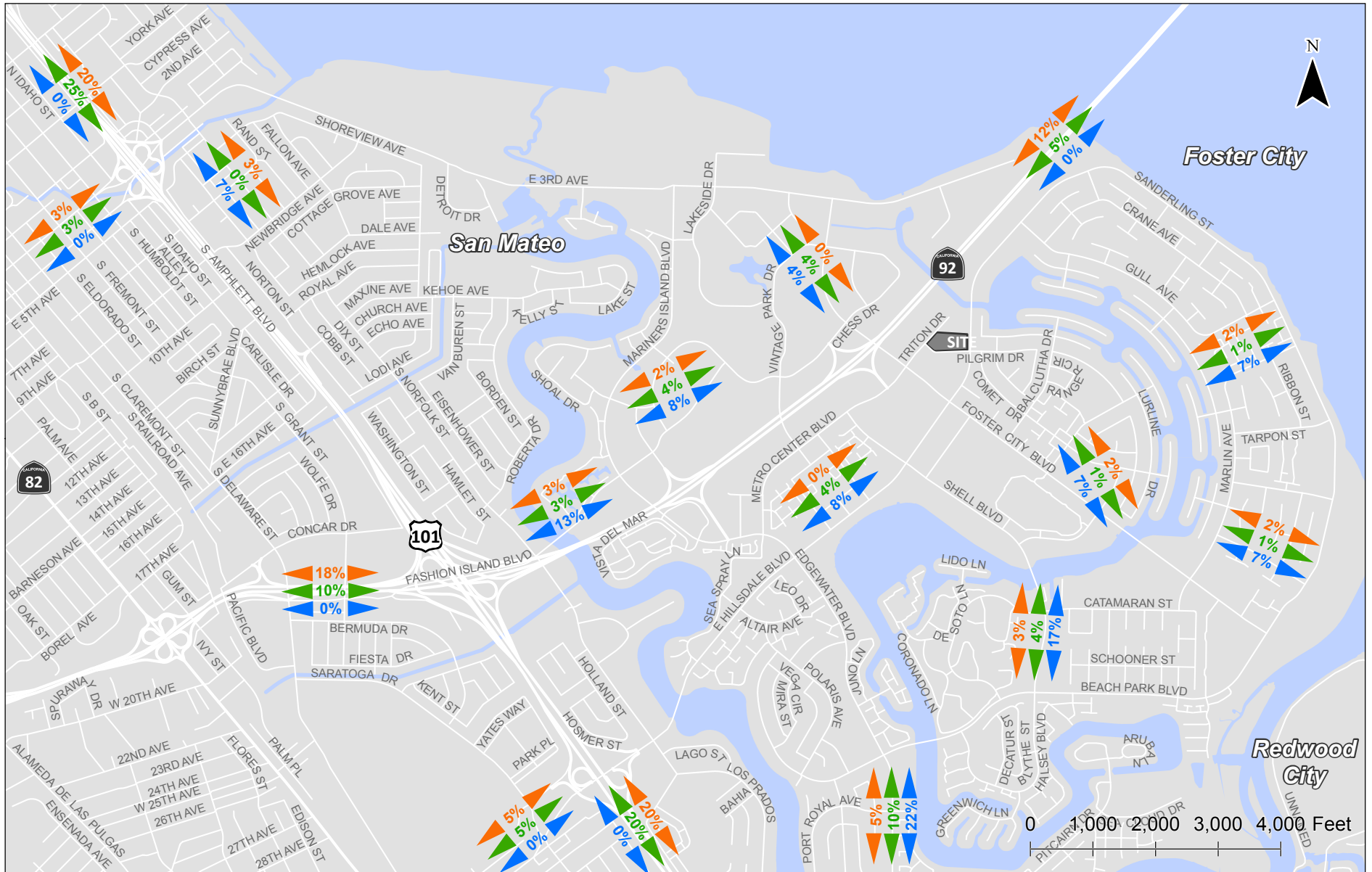
Note: Trips shown have already taken into account the trip reduction for internalization and pass-by trips.

Charter Square School peak hour trips are based on data provided in the Charter Square School TIA.

Source: Kittelson & Associates, Inc., 2018.

The AM and PM peak hour trips for the Background Projects were assigned to the roadway network based on the trip distribution patterns as shown in **Figure 12**, which was obtained from Figure 4 of the *Foster City Multi-Project Traffic Analysis*.¹⁸ As presented in Figure 12, the trip distribution patterns for the three major land use categories were included: residential, office/business park/research & development, and retail. Intersection turning movement volumes for the Background No Project Conditions were developed by adding the Background project trips to the existing counts and are shown in **Figure 13** and **Figure 14**.

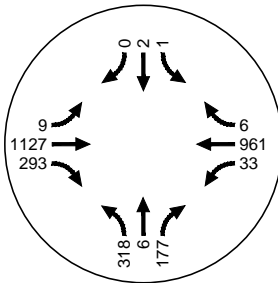
¹⁸ *Multi-Project Traffic Analysis*, Fehr & Peers, December 2, 2008.



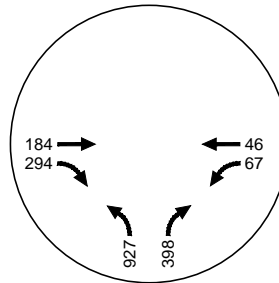
**Trip Distribution
Foster City, California**

**Figure
12**

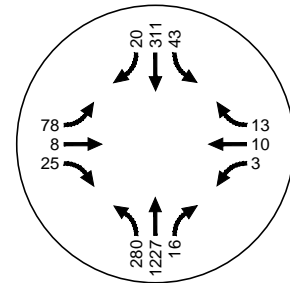
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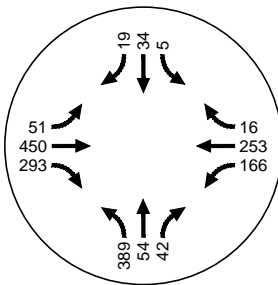
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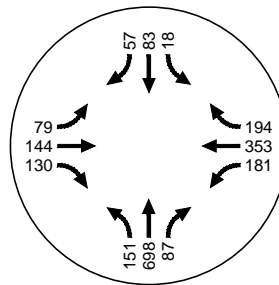
3 Foster City Blvd/Vintage Park Dr



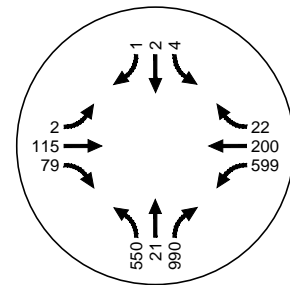
4 SR 92 WB Ramps/Fashion Island Blvd



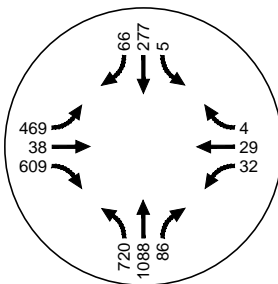
5 Vintage Park Dr/Chess Dr



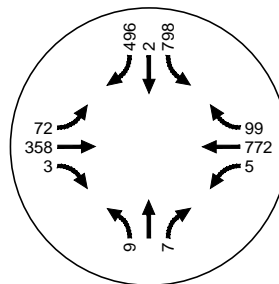
6 SR 92 WB Ramps/Chess Dr



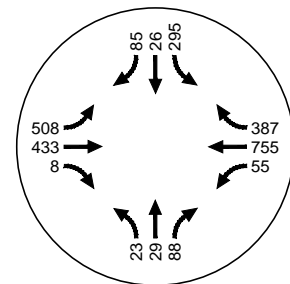
7 Foster City Blvd/Chess Dr



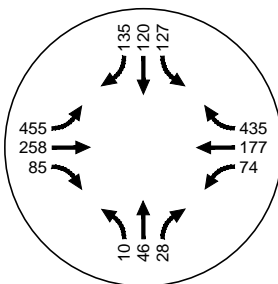
8 SR 92 EB Ramps/Edgewater Blvd



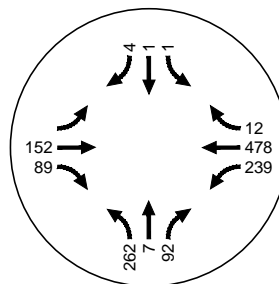
9 Metro Center Blvd/Edgewater Blvd



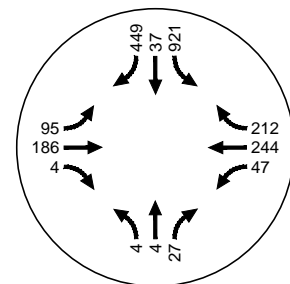
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11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

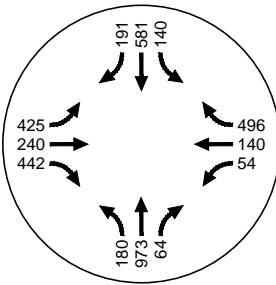


Street Name (North/South)/Street Name (East/West)

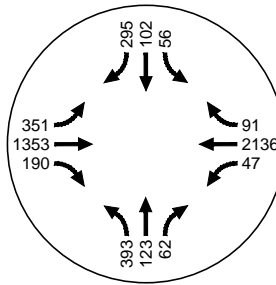
Background No Project AM Peak Hour Volumes
Foster City, CA

Figure
13A

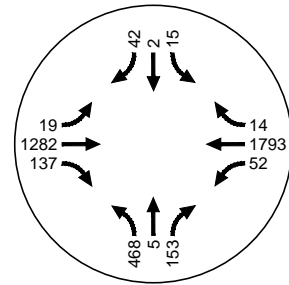
13 Foster City Blvd/Triton Dr/Metro Center Blvd



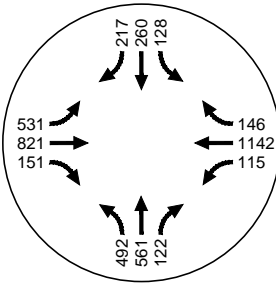
14 S Norfolk St/E Hillsdale Blvd



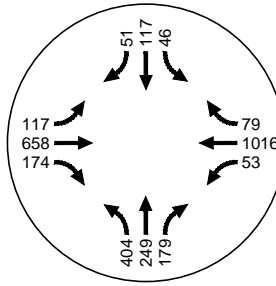
15 Altair Ave/E Hillsdale Blvd



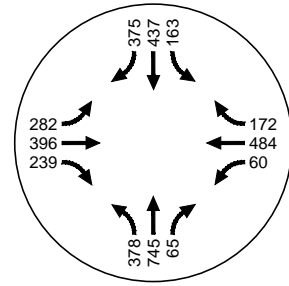
16 Edgewater Blvd/E Hillsdale Blvd



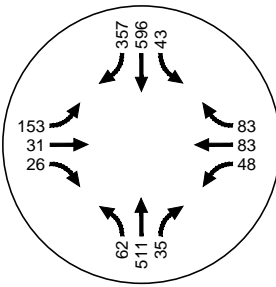
17 Shell Blvd/E Hillsdale Blvd



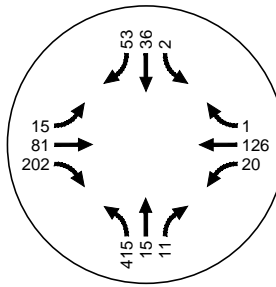
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr

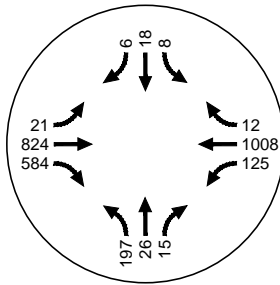


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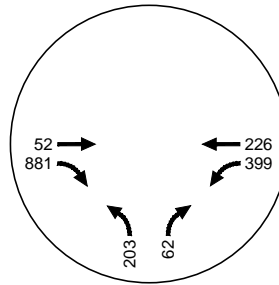
Background No Project AM Peak Hour Volumes
Foster City, CA

Figure
13B

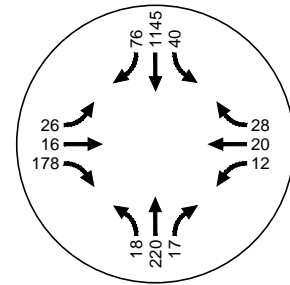
1 Mariners Island Blvd/E Third Ave



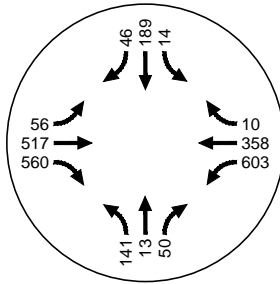
2 Foster City Blvd/E Third Ave



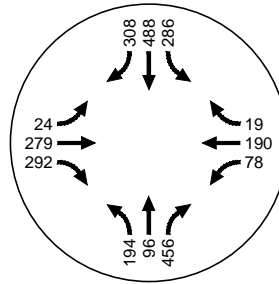
3 Foster City Blvd/Vintage Park Dr



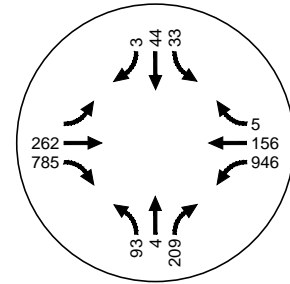
4 SR 92 WB Ramps/Fashion Island Blvd



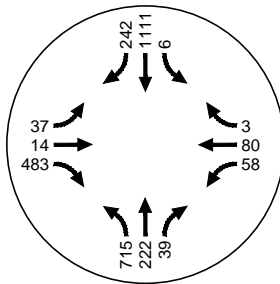
5 Vintage Park Dr/Chess Dr



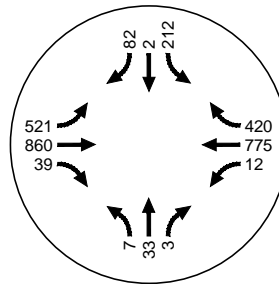
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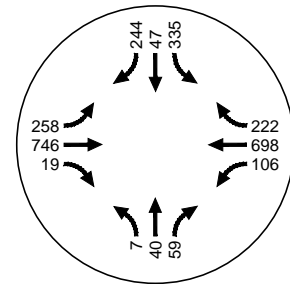
7 Foster City Blvd/Chess Dr



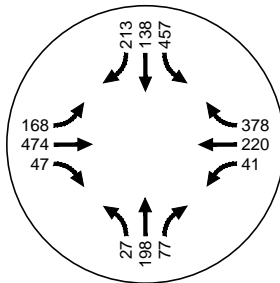
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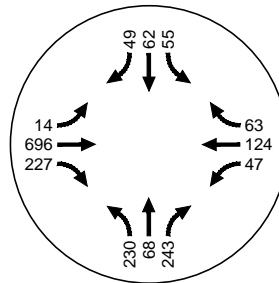
9 Metro Center Blvd/Edgewater Blvd



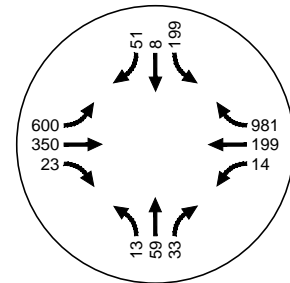
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11 Shell Blvd/Metro Center Blvd



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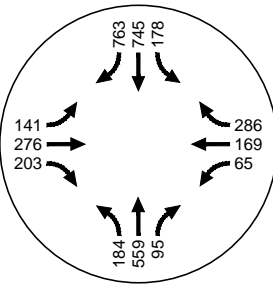


Street Name (North/South)/Street Name (East/West)

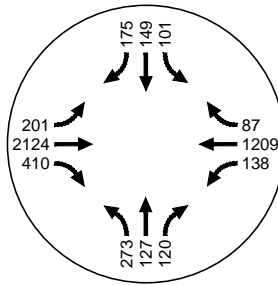
Background No Project PM Peak Hour Volumes
Foster City, CA

Figure
14A

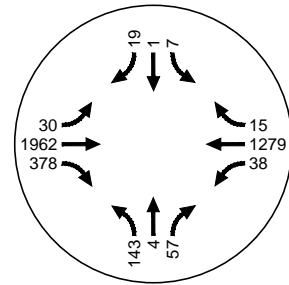
13 Foster City Blvd/Triton Dr/Metro Center Blvd



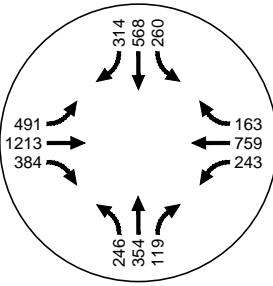
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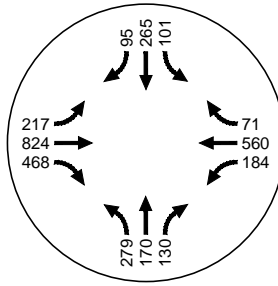
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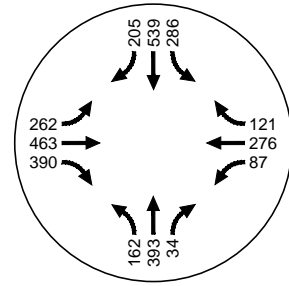
16 Edgewater Blvd/E Hillsdale Blvd



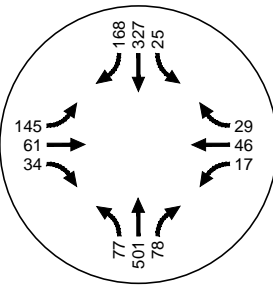
17 Shell Blvd/E Hillsdale Blvd



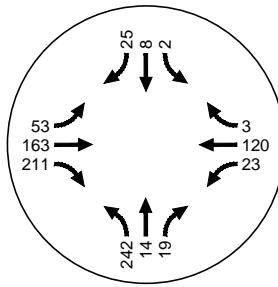
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

Background No Project PM Peak Hour Volumes
Foster City, CA

Figure
14B

Intersection Analysis

Intersection Levels of Service

- The results of the intersection LOS analysis under the Background No Project Conditions are summarized in **Table 17** and **Table 18**, for the AM and PM peak hours, respectively. The results indicate that most of the study intersections would operate at acceptable levels of service during both peak hours, except for: Intersection 12 - SR 92 Eastbound Ramps/Metro Center Boulevard

This intersection is anticipated to operate at LOS “E” during the PM peak hour due to the expected operations on SR 92.

The LOS calculation sheets are included in Appendix A.

Signal Warrant Analysis

Since the intersection of Pilgrim Drive/Triton Drive would operate at LOS “D” or better during both the AM and PM peak hour, peak hour signal warrants were not analyzed under the Background No Project Conditions.

Table 17: Background No Project Conditions Intersection Level of Service – AM Peak Hour

	Intersection	Control	Existing		Background	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	20.1	C	20.7	C
2	Foster City Boulevard/East Third Avenue	Signalized	9.2	A	13.0	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	15.9	B	19.0	B
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	19.4	B	19.7	B
5 ³	Vintage Park Drive/Chess Drive	Signalized	31.1	C	32.3	C
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	19.7	B	21.8	C
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	23.4	C	24.2	C
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	27.6	C	28.4	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	27.7	C	31.9	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	32.4	C	42.8	D
11	Shell Boulevard/Metro Center Boulevard	Signalized	31.2	C	31.9	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	18.1	B	20.3	C
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	27.8	C	32.2	C
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	36.0	D	36.9	D
15	Altair Avenue/East Hillsdale Boulevard	Signalized	13.1	B	12.9	B
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	32.3	C	34.1	C
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	19.0	B	20.3	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	36.6	D	37.5	D
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	29.2	C	29.7	C
20	Pilgrim Drive/Triton Drive	AWSC	14.3	B	17.5	C

Source: Kittelson & Associates, Inc. 2018.

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Text in **BOLD** indicates LOS exceeding standard

Table 18: Background No Project Conditions Intersection Level of Service – PM Peak Hour

	Intersection	Control	Existing		Background	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	18.5	B	19.4	B
2	Foster City Boulevard/East Third Avenue	Signalized	14.3	B	14.3	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	24.4	C	23.9	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	20.6	C	22.7	C
5 ³	Vintage Park Drive/Chess Drive	Signalized	40.8	D	43.3	D
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	34.3	C	79.9	E
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	86.0	F	158.1	F
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	29.8	C	30.7	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	31.1	C	33.2	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	34.1	C	36.0	D
11	Shell Boulevard/Metro Center Boulevard	Signalized	33.1	C	34.1	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	44.5	D	69.8	E
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	55.7	E	79.0	E
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	28.6	C	28.8	C
15	Altair Avenue/East Hillsdale Boulevard	Signalized	5.0	A	4.9	A
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	33.0	C	35.7	D
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	23.2	C	25.4	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	29.7	C	30.4	C
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	15.7	B	16.3	B
20	Pilgrim Drive/Triton Drive	AWSC	9.4	A	10.6	B

Source: Kittelson & Associates, Inc. 2018.

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Text in **BOLD** indicates LOS exceeding standard

Freeway Analysis

Table 19 and **Table 20** present the level of service on the study freeway facilities under Background No Project Conditions for the AM and PM peak hours.

Freeway Mainline

The freeway mainline study segments would operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Southbound US 101 between East Third Avenue and SR 92 – PM peak hour
- Southbound US 101 between SR 92 and East Hillsdale Boulevard – PM peak hour
- Southbound US 101 south of East Hillsdale Boulevard – PM peak hour
- Eastbound SR 92 between Foster City Boulevard and County Line – PM peak hour

Freeway On-Ramp Merge

As shown in **Table 21** and **Table 22**, the freeway on-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 from Fashion Island Boulevard/SR 92 Westbound Ramps – AM and PM peak hours
- Southbound US 101 all on-ramps from East Hillsdale Boulevard to East Third Avenue Ramps – AM and PM peak hours
- Eastbound SR 92 from Metro Center Boulevard – PM peak hour

Freeway Off-Ramp Diverge

As shown in **Table 23** and **Table 24**, the freeway off-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 at East Hillsdale Boulevard and East Third Avenue – AM and PM peak hours
- Southbound US 101 all off-ramps from East Third Avenue to Hillsdale Boulevard – AM and PM peak hours

Freeway Weaving

As shown in **Table 25** and **Table 26**, the freeway weaving study segments would operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Northbound US 101 between westbound East Hillsdale Boulevard and SR 92 - AM and PM peak hours
- Southbound US 101 between eastbound SR 92 and East Hillsdale Boulevard - AM and PM peak hours

- Westbound SR 92 between Fashion Island Boulevard and US 101 - AM and PM peak hours

The freeway analysis calculation sheets are included in Appendix B.

Table 19: Background No Project Conditions Freeway Mainline Level of Service – AM Peak Hour

Location	Criteria	Existing			Background		
		Volume ¹	v/c ²	LOS ³	Volume ¹	v/c ²	LOS ³
US 101 Northbound							
North of East Third Avenue	F	10,669	0.97	E	10,728	0.98	E
Between SR 92 and East Third Avenue	F	9,662	0.88	E	9,758	0.89	E
Between East Hillsdale Boulevard and SR 92	E	8,539	0.78	D	8,712	0.79	D
South of East Hillsdale Boulevard	E	8,598	0.78	D	8,796	0.80	D
US 101 Southbound							
North of East Third Avenue	F	9,417	0.86	E	9,630	0.88	E
Between East Third Avenue and SR 92	F	9,556	0.87	E	9,578	0.87	E
Between SR 92 and East Hillsdale Boulevard	E	9,298	0.85	D	9,325	0.85	D
South of East Hillsdale Boulevard	E	10,830	0.98	E	10,880	0.99	E
SR 92 Eastbound							
Between US 101 and Edgewater Boulevard	E	4,688	0.71	D	4,976	0.75	D
Between Edgewater Boulevard and Foster City Boulevard	E	3,760	0.57	C	3,851	0.58	C
Between Foster City Boulevard and County Line	E	2,730	0.41	B	2,755	0.42	B
SR 92 Westbound							
Between US 101 and Edgewater Boulevard	E	4,388	0.66	C	4,466	0.68	D
Between Edgewater Boulevard and Foster City Boulevard	E	4,410	0.67	C	4,458	0.68	D
Between Foster City Boulevard and County Line	E	5,209	0.79	D	5,339	0.81	D

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. v/c = Volume/Capacity Ratio

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 20: Background No Project Conditions Freeway Mainline Level of Service – PM Peak Hour

Location	Criteria	Existing			Background		
		Volume ¹	v/c ²	LOS ³	Volume ¹	v/c ²	LOS ³
US 101 Northbound							
North of East Third Avenue	F	10,041	0.91	E	10,263	0.93	E
Between SR 92 and East Third Avenue	F	9,362	0.85	E	9,395	0.85	E
Between East Hillsdale Boulevard and SR 92	E	8,742	0.79	D	8,774	0.80	D
South of East Hillsdale Boulevard	E	9,385	0.85	E	9,443	0.86	E
US 101 Southbound							
North of East Third Avenue	F	11,271	0.98	E	11,338	0.99	E
Between East Third Avenue and SR 92	F	11,564	1.01	F	11,662	1.01	F
Between SR 92 and East Hillsdale Boulevard	E	10,963	1.00	E	11,136	1.01	F
South of East Hillsdale Boulevard	E	11,627	0.99	E	11,831	1.01	F
SR 92 Eastbound							
Between US 101 and Edgewater Boulevard	E	5,021	0.76	D	5,110	0.77	D
Between Edgewater Boulevard and Foster City Boulevard	E	5,733	0.87	E	5,788	0.88	E
Between Foster City Boulevard and County Line	E	7,038	1.07	F	7,170	1.09	F
SR 92 Westbound							
Between US 101 and Edgewater Boulevard	E	5,452	0.83	D	5,753	0.87	E
Between Edgewater Boulevard and Foster City Boulevard	E	4,508	0.68	D	4,605	0.70	D
Between Foster City Boulevard and County Line	E	3,108	0.47	C	3,136	0.48	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. v/c = Volume/Capacity Ratio

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 21: Background No Project Conditions Freeway On-Ramp Merge Level of Service – AM Peak Hour

Location	Existing			Background		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
From Kehoe Avenue	9,808	30.2	D	9,904	30.5	D
From Westbound SR 92/Fashion Island Boulevard	10,061	Demand > Capacity	F	10,157	Demand > Capacity	F
From Eastbound SR 92	6,891	29.4	D	6,961	29.7	D
From Eastbound East Hillsdale Boulevard	7,917	34.1	D	8,086	34.7	D
US 101 Southbound						
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
From Westbound SR 92	7,478	34.2	D	7,505	34.3	D
From Fashion Island Boulevard	8,109	35.0	E	8,136	35.1	E
From Westbound East Hillsdale Boulevard	9,047	Demand > Capacity	F	9,097	Demand > Capacity	F
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
SR 92 Eastbound						
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁴					
From Metro Center Boulevard	2,730	11.1	B	2,755	11.3	B
SR 92 Westbound						
From Chess Drive	4,410	23.2	C	4,458	23.6	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Text in **BOLD** indicates LOS exceeding standard

Table 22: Background No Project Conditions Freeway On-Ramp Merge Level of Service – PM Peak Hour

Location	Existing			Background		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
From East Third Avenue	Lane addition at on-ramp; analyzed as Basic Freeway Segment					
From Kehoe Avenue	9,582	29.7	D	9,615	29.9	D
From Westbound SR 92/Fashion Island Boulevard	9,627	Demand > Capacity	F	9,660	Demand > Capacity	F
From Eastbound SR 92	6,983	30.7	D	6,997	30.7	D
From Eastbound East Hillsdale Boulevard	8,278	35.4	E	8,306	35.5	E
US 101 Southbound						
From East Third Avenue	Lane addition at on-ramp; analyzed as Basic Freeway Segment					
From Westbound SR 92	9,408	Demand > Capacity	F	9,581	Demand > Capacity	F
From Fashion Island Boulevard	9,849	Demand > Capacity	F	10,022	Demand > Capacity	F
From Westbound East Hillsdale Boulevard	10,345	Demand > Capacity	F	10,549	Demand > Capacity	F
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; analyzed as Basic Freeway Segment					
SR 92 Eastbound						
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁴					
From Metro Center Boulevard	7,038	Demand > Capacity	F	7,170	Demand > Capacity	F
SR 92 Westbound						
From Chess Drive	4,508	25.7	C	4,605	26.6	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Text in **BOLD** indicates LOS exceeding standard

Table 23: Background No Project Conditions Freeway Off-Ramp Diverge Level of Service – AM Peak Hour

Location	Existing			Background		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
To East Third Avenue	9,808	Demand > Capacity	F	9,904	Demand > Capacity	F
To Kehoe Avenue	10,061	37.5	E	10,157	37.8	E
To East Hillsdale Boulevard	8,598	10.7	B	8,796	Demand > Capacity	F
US 101 Southbound						
To East Third Avenue	9,417	Demand > Capacity	F	9,630	Demand > Capacity	F
To SR 92	9,556	Demand > Capacity	F	9,578	Demand > Capacity	F
SR 92 Eastbound						
To Mariners Island Boulevard/Edgewater Boulevard	4,688	33.4	D	4,976	33.8	D
SR 92 Westbound						
To Chess Drive	5,209	24.4	C	5,339	25.3	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 24: Background No Project Conditions Freeway Off-Ramp Diverge Level of Service – PM Peak Hour

Location	Existing			Background		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
To East Third Avenue	9,582	Demand > Capacity	F	9,615	Demand > Capacity	F
To Kehoe Avenue	9,627	35.4	E	9,660	35.5	E
To East Hillsdale Boulevard	9,385	Demand > Capacity	F	9,443	Demand > Capacity	F
US 101 Southbound						
To East Third Avenue	11,271	Demand > Capacity	F	11,338	Demand > Capacity	F
To SR 92	11,564	Demand > Capacity	F	11,662	Demand > Capacity	F
SR 92 Eastbound						
To Mariners Island Boulevard/Edgewater Boulevard	5,021	32.1	D	5,110	32.5	D
SR 92 Westbound						
To Chess Drive	3,108	11.9	B	3,136	12.1	B

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 25: Background No Project Conditions Freeway Weaving Level of Service – AM Peak Hour

Location	Existing			Background		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
Between Westbound East Hillsdale Boulevard and SR 92	8,539	Demand > Capacity	F	8,712	Demand > Capacity	F
US 101 Southbound						
Between Eastbound SR 92 and East Hillsdale Boulevard	9,298	Demand > Capacity	F	9,325	Demand > Capacity	F
SR 92 Eastbound						
Mariners Island Boulevard and Metro Center Boulevard	3,760	16.1	B	3,851	16.5	B
SR 92 Westbound						
Chess Drive and Fashion Island Boulevard	4,410	23.2	C	4,458	23.6	C
Fashion Island Boulevard and Northbound US 101	4,388	Demand > Capacity	F	4,466	Demand > Capacity	F

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 26: Background No Project Conditions Freeway Weaving Level of Service – PM Peak Hour

Location	Existing			Background		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
Between Westbound East Hillsdale Boulevard and SR 92	8,742	Demand > Capacity	F	8,774	Demand > Capacity	F
US 101 Southbound						
Between Eastbound SR 92 and East Hillsdale Boulevard	10,963	Demand > Capacity	F	11,136	Demand > Capacity	F
SR 92 Eastbound						
Mariners Island Boulevard and Metro Center Boulevard	5,733	28.7	D	5,788	29.2	D
SR 92 Westbound						
Chess Drive and Fashion Island Boulevard	4,508	25.7	C	4,605	26.6	C
Fashion Island Boulevard and Northbound US 101	5,452	Demand > Capacity	F	5,753	Demand > Capacity	F

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Queuing Analysis at Freeway Off-Ramp Intersections

Table 27 presents the queuing analysis at freeway off-ramp intersections for the Background No Project Conditions. The results indicate that all freeway off-ramps would have sufficient storage to accommodate the off-ramp queues during both the AM and PM peak hours.

Table 27: Background No Project Conditions Freeway Off-Ramp Queue Analysis

Freeway Off-Ramp	Queue Lengths (ft)	Background					
		NBL	NBT	NBR	SBL	SBT	SBR
AM Peak Hour							
4. SR 92 Westbound off-ramp to Fashion Island Boulevard	Storage Length (ft)	1,650					
	Average Queue Length	175					
6. SR 92 Westbound off-ramp to Chess Drive	Storage Length (ft)	1,575	500				
	Average Queue Length	225	0				
8. SR 92 Eastbound off-ramp to Mariners Island Boulevard	Storage Length (ft)			1,960	800		
	Average Queue Length			325	175		
12. SR 92 Eastbound off-ramp to Metro Center Boulevard	Storage Length (ft)			1,750	1,750		
	Average Queue Length			275	100		
PM Peak Hour							
4. SR 92 Westbound off-ramp to Fashion Island Boulevard	Storage Length (ft)	1,650					
	Average Queue Length	125					
6. SR 92 Westbound off-ramp to Chess Drive	Storage Length (ft)	1,575	500				
	Average Queue Length	50	0				
8. SR 92 Eastbound off-ramp to Mariners Island Boulevard	Storage Length (ft)			1,960	800		
	Average Queue Length			175	25		
12. SR 92 Eastbound off-ramp to Metro Center Boulevard	Storage Length (ft)			1,750	1,750		
	Average Queue Length			125	25		

Source: Kittelson & Associates, Inc., 2018.

Storage length based on distance to the off-ramp gore point.

2.2.3 Cumulative No Project Conditions

This chapter presents a summary of the traffic conditions that would occur under the Cumulative (2040) No Project Conditions. It includes descriptions of the procedure used to estimate traffic volumes associated with Cumulative No Project Conditions, as well as the intersection and freeway level of service results.

Transportation Network

Under the Cumulative No Project Conditions, the roadway improvements as included in Figure 3.6 of the *City of Foster City General Plan* are assumed to be built in order to accommodate for future proposed developments. These planned roadway improvements are summarized in Table 14.

Traffic Volumes

The Cumulative No Project Conditions represent projected Year 2040 conditions, including traffic estimates from the Approved developments, as well as all the probable future developments, which are presented in **Table 28**. Trip generation methodology for the cumulative developments is the same as for the background developments.

Table 29 summarizes the trip generation from the cumulative developments. Overall, the future probable developments are projected to add 12,551 daily trips, 1,665 AM peak hour trips, and 1,675 PM peak hour trips. Cumulative Project Trip Generation calculations are provided in Appendix C.

Table 28: Developments included in Cumulative No Project Conditions

Project No.	Project Name	Existing Land Uses ¹	Proposed Land Use (Replaces Existing Land Uses)
Background Developments (from Table 15)			
1	Pilgrim Triton Phase A	-- ²	2,500 sq. ft. retail
2	Pilgrim Triton Phase B	-- ²	220 apartment units 20 townhouses 5,000 sq. ft. retail
3	Pilgrim Triton Phase D	-- ³	2,500 sq. ft. retail 5,061 sq. ft. medical office ⁶
4	Gilead Sciences Corporate Campus Master Plan	-- ⁴	588,000 sq. ft. office
5	Foster Square	-- ⁵	152 units senior housing 66 units congregate care facility 24 bed assisted living facility 30,000 sq. ft. retail
6	Illumina Phase 1 (Lincoln Centre)	--	221,532 sq. ft. office 94,942 sq. ft. laboratory
7	Charter Square School	58,479 sq. ft. retail	600 students
Cumulative Developments			
3b	Pilgrim Triton Phase D	--	29,500 sq. ft. office
4b	Gilead Sciences Corporate Campus Master Plan	--	456,000 sq. ft. office
6b	Illumina Phase 2 (Lincoln Centre)	--	166,425 sq. ft. office 71,325 sq. ft. laboratory
8	Chess Hatch Master Plan	190,000 sq. ft. office	800,000 sq. ft. office

Source: Kittelson & Associates, Inc., 2018.

1. Existing trip credit is applied for land uses that are currently occupied and would be replaced by the proposed land uses in the future.

2. Built, but not yet occupied.

3. Partially vacant/ partially built, but not yet occupied.

4. Partially occupied.

5. 48 senior housing units occupied and 50% of congregate care facility occupied.

6. This Traffic Analysis was conservative as it analyzed 9,400 sq. ft. of office space.

Table 29: Trip Generated by Cumulative Probable Projects

Project No.	Project Name	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
3b	Pilgrim Triton Phase D	691	86	11	97	22	105	127
4b	Gilead Sciences Corporate Campus Master Plan	5,021	514	72	586	82	506	588
6b	Illumina Phase 2 (Lincoln Centre)	3,196	205	32	237	39	209	248
8	Chess Hatch Master Plan	3,643	664	81	745	97	615	712
Total		12,551	1,468	196	1,665	240	1,435	1,675

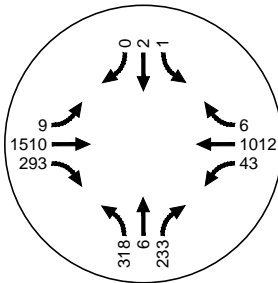
Source: Kittelson & Associates, Inc., 2018.

Trips shown have already taken into account the trip reduction for internalization and pass-by trips.

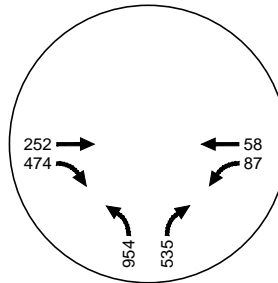
The AM and PM peak hour trips for the Cumulative Probable Projects were assigned to the roadway network based on the trip distribution patterns as shown in Figure 12, which was obtained from Figure 4 of the *Foster City Multi-Project Traffic Analysis*. As presented in Figure 12, the trip distribution patterns for the three major land use categories were included: residential, office/business park/research & development, and retail. Intersection turning movement volumes for the Cumulative No Project Conditions were developed by adding the Cumulative Probable project trips to the Background No Project Conditions volumes and are shown in **Figure 15** and **Figure 16**.

Cumulative Year 2040 traffic projections on US 101 and SR 92 were developed by using the C/CAG travel demand forecasting model based on ABAG Plan Bay Area Projections. The current C/CAG travel demand model is maintained by Santa Clara Valley Transportation Authority (VTA) staff. To ensure model land uses were adequately represented in the study area, the base year (2013) and future year (2040) model files were reviewed to ensure land uses in Foster City matched the proposed build out of the Foster City General Plan Update. The resultant forecasted Year 2040 volumes would include the traffic projections for approved and pending development projects, as well as any regional growth. The future year freeway forecasts were derived using the annual growth rate for traffic volumes between Year 2013 and Year 2040, as developed by the C/CAG travel demand forecasting model, and then applied to the existing 2016 freeway volumes.

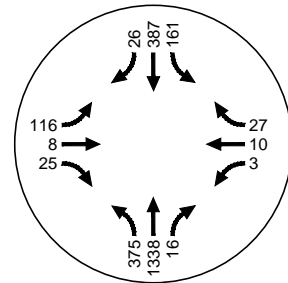
1 Mariners Island Blvd/E Third Ave



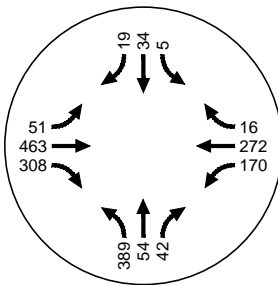
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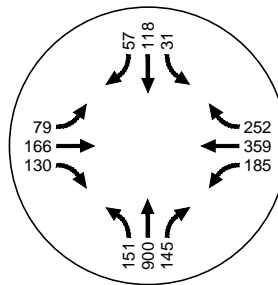
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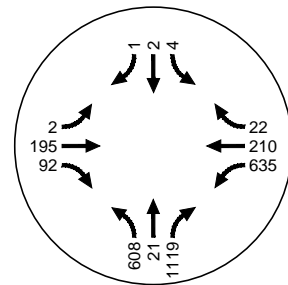
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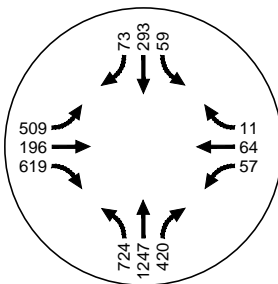
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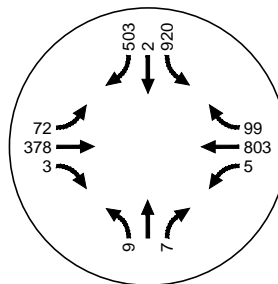
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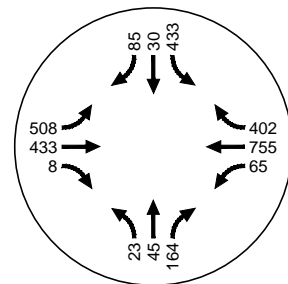
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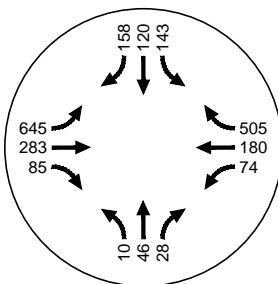
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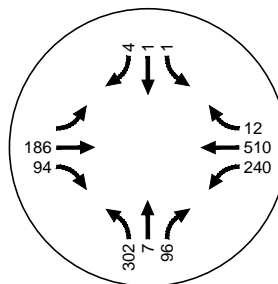
9 Metro Center Blvd/Edgewater Blvd



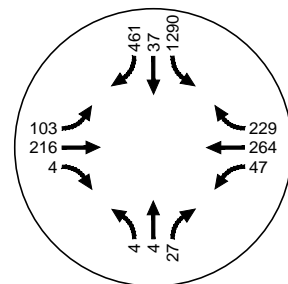
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

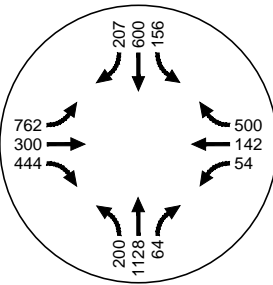


Street Name (North/South)/Street Name (East/West)

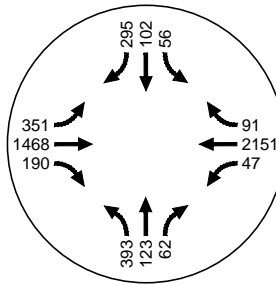
Cumulative No Project AM Peak Hour Volumes
Foster City, CA

Figure
15A

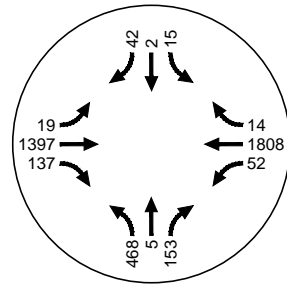
13 Foster City Blvd/Triton Dr/Metro Center Blvd



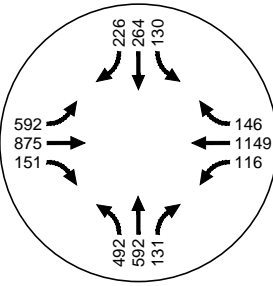
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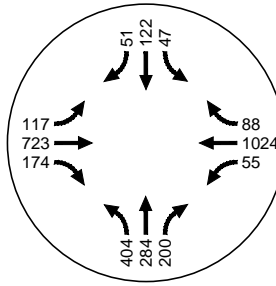
15 Altair Ave/E Hillsdale Blvd



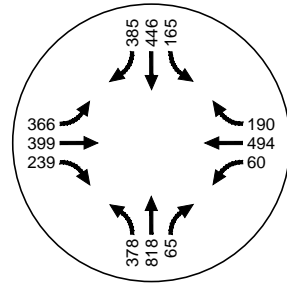
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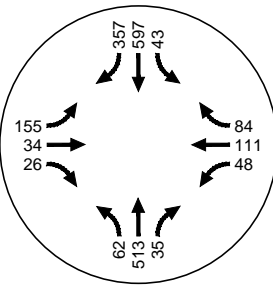
17 Shell Blvd/E Hillsdale Blvd



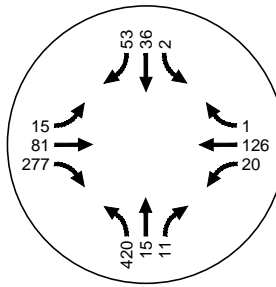
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr

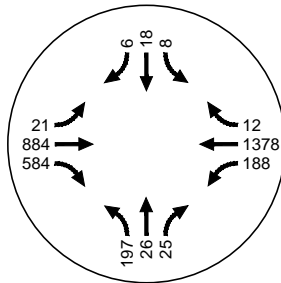


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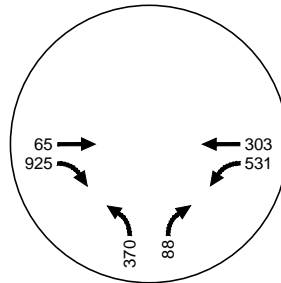
Cumulative No Project AM Peak Hour Volumes
Foster City, CA

Figure
15B

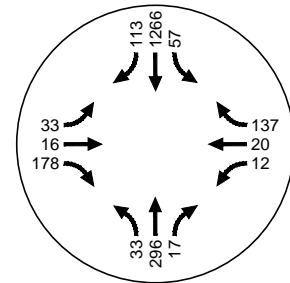
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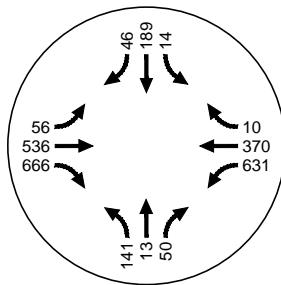
2 Foster City Blvd/E Third Ave



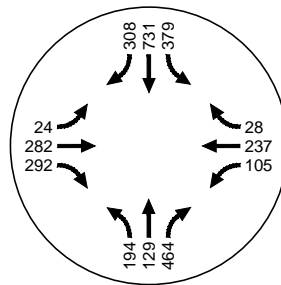
3 Foster City Blvd/Vintage Park Dr



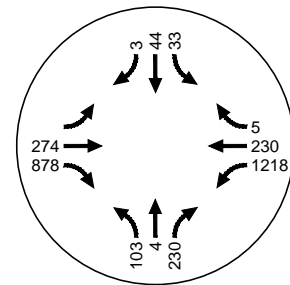
4 SR 92 WB Ramps/Fashion Island Blvd



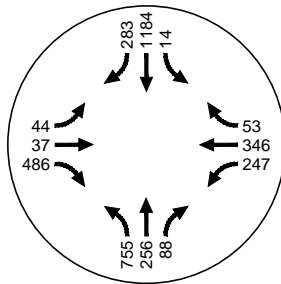
5 Vintage Park Dr/Chess Dr



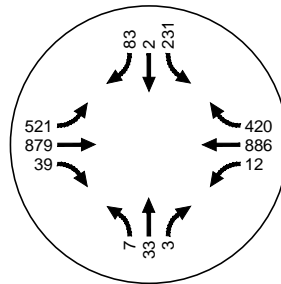
6 SR 92 WB Ramps/Chess Dr



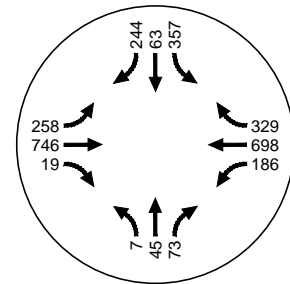
7 Foster City Blvd/Chess Dr



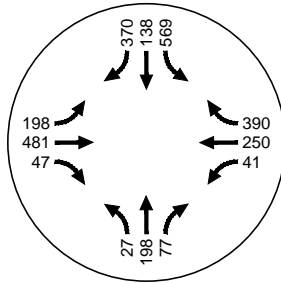
8 SR 92 EB Ramps/Edgewater Blvd



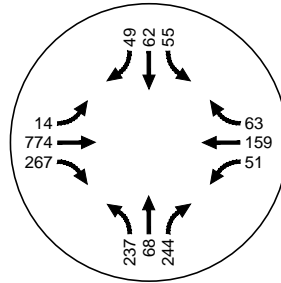
9 Metro Center Blvd/Edgewater Blvd



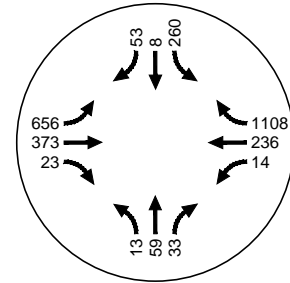
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

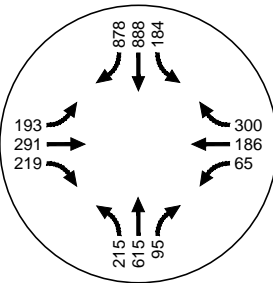


Street Name (North/South)/Street Name (East/West)

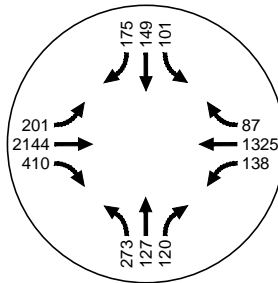
Cumulative No Project PM Peak Hour Volumes
Foster City, CA

Figure
16A

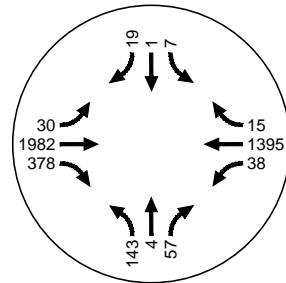
13 Foster City Blvd/Triton Dr/Metro Center Blvd



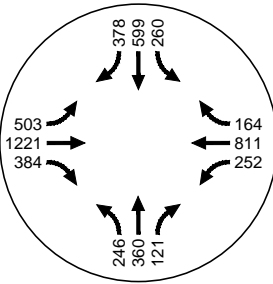
14 S Norfolk St/E Hillsdale Blvd



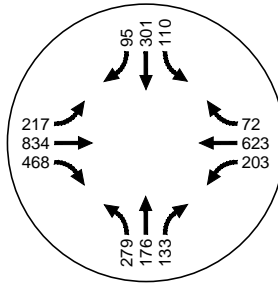
15 Altair Ave/E Hillsdale Blvd



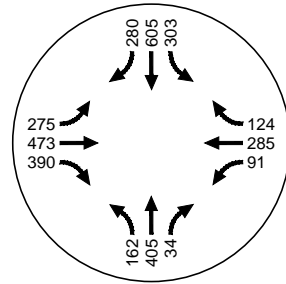
16 Edgewater Blvd/E Hillsdale Blvd



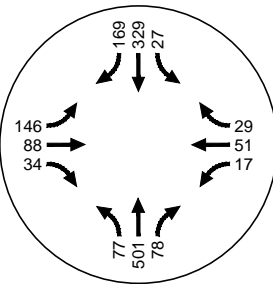
17 Shell Blvd/E Hillsdale Blvd



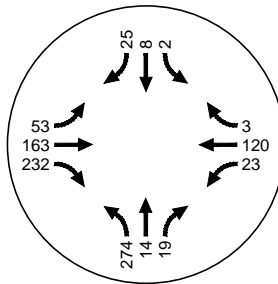
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

Cumulative No Project PM Peak Hour Volumes
Foster City, CA

Figure
16B

Intersection Analysis

Intersection Levels of Service

The results of the intersection LOS analysis under the Cumulative No Project Conditions are summarized in **Table 30** and **Table 31**, for the AM and PM peak hours, respectively. The results indicate that most of the study intersections are operating at acceptable LOS during both peak hours, except for the following:

AM Peak Hour

- Intersection 10 – Vintage Park Drive/Metro Center Boulevard is forecast to operate at LOS “E”

PM Peak Hour

- Intersection 12 – SR 92 Eastbound Ramps/Metro Center Boulevard is forecast to operate at LOS “F”

The LOS calculation sheets are included in Appendix A.

Signal Warrant Analysis

Since the intersection of Pilgrim Drive/Triton Drive would operate at LOS “D” or better during both the AM and PM peak hour, peak hour signal warrants were not analyzed under the Cumulative No Project Conditions.

Table 30: Cumulative No Project Conditions Intersection Level of Service – AM Peak Hour

	Intersection	Control	Existing		Cumulative	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	20.1	C	26.5	C
2	Foster City Boulevard/East Third Avenue	Signalized	9.2	A	16.6	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	15.9	B	29.6	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	19.4	B	19.8	B
5 ³	Vintage Park Drive/Chess Drive	Signalized	31.1	C	33.1	C
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	19.7	B	57.0	E
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	23.4	C	36.8	D
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	27.6	C	29.1	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	27.7	C	35.2	D
10	Vintage Park Drive/Metro Center Boulevard	Signalized	32.4	C	72.8	E
11	Shell Boulevard/Metro Center Boulevard	Signalized	31.2	C	32.6	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	18.1	B	26.6	C
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	27.8	C	45.0	D
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	36.0	D	36.9	D
15	Altair Avenue/East Hillsdale Boulevard	Signalized	13.1	B	12.8	B
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	32.3	C	35.4	D
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	19.0	B	20.2	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	36.6	D	41.8	D
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	29.2	C	30.6	C
20	Pilgrim Drive/Triton Drive	AWSC	14.3	B	19.9	C

Source: Kittelson & Associates, Inc. 2018.

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Text in **BOLD** indicates LOS exceeding standard

Table 31: Cumulative No Project Conditions Intersection Level of Service – PM Peak Hour

	Intersection	Control	Existing		Cumulative	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	18.5	B	21.9	C
2	Foster City Boulevard/East Third Avenue	Signalized	14.3	B	22.1	C
3	Foster City Boulevard/Vintage Park Drive	Signalized	24.4	C	34.8	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	20.6	C	24.2	C
5 ³	Vintage Park Drive/Chess Drive	Signalized	40.8	D	53.8	D
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	34.3	C	137.7	F
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	86.0	F	191.1	F
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	29.8	C	32.0	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	31.1	C	34.2	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	34.1	C	37.6	D
11	Shell Boulevard/Metro Center Boulevard	Signalized	33.1	C	34.8	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	44.5	D	84.0	F
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	55.7	E	93.2	F
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	28.6	C	28.8	C
15	Altair Avenue/East Hillsdale Boulevard	Signalized	5.0	A	4.8	A
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	33.0	C	39.1	D
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	23.2	C	26.5	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	29.7	C	31.4	C
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	15.7	B	16.9	B
20	Pilgrim Drive/Triton Drive	AWSC	9.4	A	11.2	B

Source: Kittelson & Associates, Inc. 2018.

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Text in **BOLD** indicates LOS exceeding standard

Freeway Analysis

Table 32 and **Table 33** present the level of service on the study freeway facilities under Cumulative No Project Conditions for the AM and PM peak hours.

Freeway Mainline

The freeway mainline study segments would operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Southbound US 101 between East Third Avenue and SR 92 – PM peak hour
- Southbound US 101 between SR 92 and East Hillsdale Boulevard – PM peak hour
- Southbound US 101 south of East Hillsdale Boulevard – PM peak hour
- Eastbound SR 92 between Foster City Boulevard and County Line – PM peak hour

Freeway On-Ramp Merge

As shown in **Table 34** and **Table 35**, the freeway on-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 from Fashion Island Boulevard/SR 92 Westbound Ramps – AM and PM peak hours
- Southbound US 101 all on-ramps from East Hillsdale Boulevard to East Third Avenue Ramps – AM and PM peak hours
- Eastbound SR 92 from Metro Center Boulevard – PM peak hour

Freeway Off-Ramp Diverge

As shown in **Table 36** and **Table 37**, the freeway off-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 at East Hillsdale Boulevard and East Third Avenue – AM and PM peak hours
- Southbound US 101 all off-ramps from East Third Avenue to Hillsdale Boulevard – AM and PM peak hours

Freeway Weaving

As shown in **Table 38** and **Table 39**, the freeway weaving study segments would operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Northbound US 101 between westbound East Hillsdale Boulevard and SR 92 - AM and PM peak hours

- Southbound US 101 between eastbound SR 92 and East Hillsdale Boulevard - AM and PM peak hours
- Westbound SR 92 between Chess Drive and Fashion Island Boulevard - PM peak hour
- Westbound SR 92 between Fashion Island Boulevard and US 101 - AM and PM peak hours

The freeway analysis calculation sheets are included in Appendix B.

Table 32: Cumulative No Project Conditions Freeway Mainline Level of Service – AM Peak Hour

Location	Criteria	Existing			Cumulative		
		Volume ¹	v/c ²	LOS ³	Volume ¹	v/c ²	LOS ³
US 101 Northbound							
North of East Third Avenue	F	10,669	0.97	E	10,767	0.98	E
Between SR 92 and East Third Avenue	F	9,662	0.88	E	9,781	0.89	E
Between East Hillsdale Boulevard and SR 92	E	8,539	0.78	D	8,963	0.81	D
South of East Hillsdale Boulevard	E	8,598	0.78	D	9,089	0.83	D
US 101 Southbound							
North of East Third Avenue	F	9,417	0.86	E	9,924	0.90	E
Between East Third Avenue and SR 92	F	9,556	0.87	E	9,598	0.87	E
Between SR 92 and East Hillsdale Boulevard	E	9,298	0.85	D	9,359	0.85	E
South of East Hillsdale Boulevard	E	10,830	0.98	E	10,920	0.99	E
SR 92 Eastbound							
Between US 101 and Edgewater Boulevard	E	4,688	0.71	D	5,488	0.83	D
Between Edgewater Boulevard and Foster City Boulevard	E	3,760	0.57	C	4,234	0.64	C
Between Foster City Boulevard and County Line	E	2,730	0.41	B	2,782	0.42	B
SR 92 Westbound							
Between US 101 and Edgewater Boulevard	E	4,388	0.66	C	4,534	0.69	D
Between Edgewater Boulevard and Foster City Boulevard	E	4,410	0.67	C	4,507	0.68	D
Between Foster City Boulevard and County Line	E	5,209	0.79	D	5,526	0.84	D

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. v/c = Volume/Capacity Ratio

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 33: Cumulative No Project Conditions Freeway Mainline Level of Service – PM Peak Hour

Location	Criteria	Existing			Cumulative		
		Volume ¹	v/c ²	LOS ³	Volume ¹	v/c ²	LOS ³
US 101 Northbound							
North of East Third Avenue	F	10,041	0.91	E	10,550	0.96	E
Between SR 92 and East Third Avenue	F	9,362	0.85	E	9,419	0.86	E
Between East Hillsdale Boulevard and SR 92	E	8,742	0.79	D	8,813	0.80	D
South of East Hillsdale Boulevard	E	9,385	0.85	E	9,491	0.86	E
US 101 Southbound							
North of East Third Avenue	F	11,271	0.98	E	11,386	0.99	E
Between East Third Avenue and SR 92	F	11,564	1.01	F	11,688	1.02	F
Between SR 92 and East Hillsdale Boulevard	E	10,963	1.00	E	11,378	1.03	F
South of East Hillsdale Boulevard	E	11,627	0.99	E	12,119	1.03	F
SR 92 Eastbound							
Between US 101 and Edgewater Boulevard	E	5,021	0.76	D	5,193	0.79	D
Between Edgewater Boulevard and Foster City Boulevard	E	5,733	0.87	E	5,851	0.89	E
Between Foster City Boulevard and County Line	E	7,038	1.07	F	7,353	1.11	F
SR 92 Westbound							
Between US 101 and Edgewater Boulevard	E	5,452	0.83	D	6,252	0.95	E
Between Edgewater Boulevard and Foster City Boulevard	E	4,508	0.68	D	4,970	0.75	D
Between Foster City Boulevard and County Line	E	3,108	0.47	C	3,167	0.48	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. v/c = Volume/Capacity Ratio

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 34: Cumulative No Project Conditions Freeway On-Ramp Merge Level of Service – AM Peak Hour

Location	Existing			Cumulative		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
From Kehoe Avenue	9,808	30.2	D	9,927	30.6	D
From Westbound SR 92/Fashion Island Boulevard	10,061	Demand > Capacity	F	10,180	Demand > Capacity	F
From Eastbound SR 92	6,891	29.4	D	6,982	29.8	D
From Eastbound East Hillsdale Boulevard	7,917	34.1	D	8,337	35.6	E
US 101 Southbound						
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
From Westbound SR 92	7,478	34.2	D	7,539	34.6	D
From Fashion Island Boulevard	8,109	35.0	E	8,170	35.3	E
From Westbound East Hillsdale Boulevard	9,047	Demand > Capacity	F	9,137	Demand > Capacity	F
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
SR 92 Eastbound						
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁴					
From Metro Center Boulevard	2,730	11.1	B	2,782	11.5	B
SR 92 Westbound						
From Chess Drive	4,410	23.2	C	4,507	24.0	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Text in **BOLD** indicates LOS exceeding standard

Table 35: Cumulative No Project Conditions Freeway On-Ramp Merge Level of Service – PM Peak Hour

Location	Existing			Cumulative		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
From Kehoe Avenue	9,582	29.7	D	9,639	29.9	D
From Westbound SR 92/Fashion Island Boulevard	9,627	Demand > Capacity	F	9,684	Demand > Capacity	F
From Eastbound SR 92	6,983	30.7	D	7,000	30.7	D
From Eastbound East Hillsdale Boulevard	8,278	35.4	E	8,345	35.6	E
US 101 Southbound						
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment					
From Westbound SR 92	9,408	Demand > Capacity	F	9,823	Demand > Capacity	F
From Fashion Island Boulevard	9,849	Demand > Capacity	F	10,264	Demand > Capacity	F
From Westbound East Hillsdale Boulevard	10,345	Demand > Capacity	F	10,837	Demand > Capacity	F
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; analyzed as Basic Freeway Segment					
SR 92 Eastbound						
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁴					
From Metro Center Boulevard	7,038	Demand > Capacity	F	7,353	Demand > Capacity	F
SR 92 Westbound						
From Chess Drive	4,508	25.7	C	4,970	Demand > Capacity	F

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Text in **BOLD** indicates LOS exceeding standard

Table 36: Cumulative No Project Conditions Freeway Off-Ramp Diverge Level of Service – AM Peak Hour

Location	Existing			Cumulative		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
To East Third Avenue	9,808	Demand > Capacity	F	9,927	Demand > Capacity	F
To Kehoe Avenue	10,061	37.5	E	10,180	37.9	E
To East Hillsdale Boulevard	8,598	10.7	B	9,089	Demand > Capacity	F
US 101 Southbound						
To East Third Avenue	9,417	Demand > Capacity	F	9,924	Demand > Capacity	F
To SR 92	9,556	Demand > Capacity	F	9,598	Demand > Capacity	F
SR 92 Eastbound						
To Mariners Island Boulevard/Edgewater Boulevard	4,688	33.4	D	5,488	36.3	E
SR 92 Westbound						
To Chess Drive	5,209	24.4	C	5,526	26.5	C

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 37: Cumulative No Project Conditions Freeway Off-Ramp Diverge Level of Service – PM Peak Hour

Location	Existing			Cumulative		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
To East Third Avenue	9,582	Demand > Capacity	F	9,639	Demand > Capacity	F
To Kehoe Avenue	9,627	35.4	E	9,684	35.6	E
To East Hillsdale Boulevard	9,385	Demand > Capacity	F	9,491	Demand > Capacity	F
US 101 Southbound						
To East Third Avenue	11,271	Demand > Capacity	F	11,386	Demand > Capacity	F
To SR 92	11,564	Demand > Capacity	F	11,688	Demand > Capacity	F
SR 92 Eastbound						
To Mariners Island Boulevard/Edgewater Boulevard	5,021	32.1	D	5,193	32.9	D
SR 92 Westbound						
To Chess Drive	3,108	11.9	B	3,167	12.3	B

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 38: Cumulative No Project Conditions Freeway Weaving Level of Service – AM Peak Hour

Location	Existing			Cumulative		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
Between Westbound East Hillsdale Boulevard and SR 92	8,539	Demand > Capacity	F	8,963	Demand > Capacity	F
US 101 Southbound						
Between Eastbound SR 92 and East Hillsdale Boulevard	9,298	Demand > Capacity	F	9,359	Demand > Capacity	F
SR 92 Eastbound						
Mariners Island Boulevard and Metro Center Boulevard	3,760	16.1	B	4,234	18.3	B
SR 92 Westbound						
Chess Drive and Fashion Island Boulevard	4,410	23.2	C	4,507	24.0	C
Fashion Island Boulevard and Northbound US 101	4,388	Demand > Capacity	F	4,534	Demand > Capacity	F

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Table 39: Cumulative No Project Conditions Freeway Weaving Level of Service – PM Peak Hour

Location	Existing			Cumulative		
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³
US 101 Northbound						
Between Westbound East Hillsdale Boulevard and SR 92	8,742	Demand > Capacity	F	8,813	Demand > Capacity	F
US 101 Southbound						
Between Eastbound SR 92 and East Hillsdale Boulevard	10,963	Demand > Capacity	F	11,378	Demand > Capacity	F
SR 92 Eastbound						
Mariners Island Boulevard and Metro Center Boulevard	5,733	28.7	D	5,851	29.8	D
SR 92 Westbound						
Chess Drive and Fashion Island Boulevard	4,508	25.7	C	4,970	Demand > Capacity	F
Fashion Island Boulevard and Northbound US 101	5,452	Demand > Capacity	F	6,252	Demand > Capacity	F

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

Text in **BOLD** indicates LOS exceeding standard

Queuing Analysis at Freeway Off-Ramp Intersections

Table 40 presents the queuing analysis at freeway off-ramp intersections for the Cumulative No Project Conditions. The results indicate that all freeway off-ramps would have sufficient storage to accommodate the off-ramp queues during both the AM and PM peak hours.

Table 40: Cumulative No Project Conditions Freeway Off-Ramp Queue Analysis

Freeway Off-Ramp	Queue Lengths (ft)	Cumulative					
		NBL	NBT	NBR	SBL	SBT	SBR
AM Peak Hour							
4. SR 92 Westbound off-ramp to Fashion Island Boulevard	Storage Length (ft)	1,650					
	Average Queue Length	175					
6. SR 92 Westbound off-ramp to Chess Drive	Storage Length (ft)	1,575	500				
	Average Queue Length	275	0				
8. SR 92 Eastbound off-ramp to Mariners Island Boulevard	Storage Length (ft)			1,960	800		
	Average Queue Length			375	175		
12. SR 92 Eastbound off-ramp to Metro Center Boulevard	Storage Length (ft)			1,750	1,750		
	Average Queue Length			425	100		
PM Peak Hour							
4. SR 92 Westbound off-ramp to Fashion Island Boulevard	Storage Length (ft)	1,650					
	Average Queue Length	125					
6. SR 92 Westbound off-ramp to Chess Drive	Storage Length (ft)	1,575	500				
	Average Queue Length	75	0				
8. SR 92 Eastbound off-ramp to Mariners Island Boulevard	Storage Length (ft)			1,960	800		
	Average Queue Length			175	25		
12. SR 92 Eastbound off-ramp to Metro Center Boulevard	Storage Length (ft)			1,750	1,750		
	Average Queue Length			175	25		

Source: Kittelson & Associates, Inc., 2018.

Storage length based on distance to the off-ramp gore point.

2.3 PROJECT TRAVEL DEMAND

This chapter provides an estimate of the travel demand (trip generation, mode split, average vehicle occupancy, trip distribution and assignment) that would be generated by the project for Phase C of the Pilgrim Triton Master Plan. The trips generated for the entire Pilgrim Triton Master Plan as evaluated in the *2008 Pilgrim Triton Master Plan EIR* would also be compared to the Master Plan land use program with the entitled land use in Phase C to be replaced with an updated site plan.

A detailed analysis of how trip generation rates have been updated since the Pilgrim Triton Master Plan is described in Appendix D.

The trip generation by the Pilgrim Triton Master Plan as included and approved in the 2008 Pilgrim Triton Master Plan EIR (Table V.G-10) is included for context in Appendix E.

Under the Pilgrim Triton Master Plan EIR, 172,943 square feet of commercial land use and 17 housing units had been approved as Phase C of the Master Plan and 53,000 square feet of commercial on Parcel C of Phase B that is proposed to be added to the Phase C site. The project would construct 70 market rate townhouse units and 22 workforce units in lieu of the 172,943 square feet of commercial uses currently entitled to be constructed on the Phase C site and the 58,000 square feet of commercial uses currently entitled on the Phase B commercial site (totaling 225,943 square feet, excluding the 5,000 square feet built to date).

Prior to the construction of Phase C, 38,000 square feet of industrial park would be removed. This removal of the industrial park was included as a part of the existing entitlement. The development site is planned to have two site access driveways on Pilgrim Drive, one site access driveway on Calypso Lane, and one site access driveway on Argonaut Lane. **Table 41** summarizes the land use assumed for Phase C of the Master Plan under the existing entitlement and the project.

Table 41: Pilgrim Triton Master Plan Phase C Land Use Comparison

Land Use	ITE Code	Existing Entitlement		Proposed Project	
		Size	Unit	Size	Unit
Existing Land Uses (to be removed)					
Industrial Park	130	38	KSF	38	KSF
Proposed Land Uses					
Condo/Townhouses	230	17	Dwelling Units	70	Dwelling Units
Affordable Workforce Housing Units	220	0	Dwelling Units	22	Dwelling Units
Office	Foster City Specific Rate	225.9	KSF	0.0	KSF

Source: Kittelson & Associates, Inc., 2018.

The number of trips estimated to be generated by the project and how these trips would be distributed and assigned onto the transportation network are discussed in this section.

2.3.1 Trip Generation

In the 2008 Pilgrim Triton Master Plan EIR, the trip generation for the Master Plan was developed based on the *ITE Trip Generation Manual, 7th Edition*¹⁹, which was the most current version at the time of the study. Error! Reference source not found.

To further analyze if the project will impact the surrounding transportation system, trip generation estimates are summarized in Table 42. The project would generate a net of about 293 daily trips, 11 AM peak hour trips, and 18 PM peak hour trips.

¹⁹ Institute of Transportation Engineers (ITE) *Trip Generation Manual, 7th Edition*, 2003.

Table 42: Project Trip Generation (Phase C Only)

Land Use	ITE Code	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Existing Land Uses (to be removed)										
Industrial Park	130	38	KSF	260	25	6	31	7	25	32
Existing Entitlement										
Condo/Townhouses - Phase C	230	17	Unit	99	1	6	7	6	3	9
Office (General) - Phase C	N/A ¹	172.9	KSF	2,019	143	23	166	13	162	175
General Retail - Phase B	820	6.3	KSF	807	15	10	25	30	33	63
Office (General) - Phase B	N/A ¹	46.7	KSF	545	39	6	45	4	43	47
Net New Trips with Existing Entitlement				3,210			212			262
Proposed Land Uses										
Condo/Townhouses	230	70	DU	395	5	25	30	24	12	36
Workforce Housing Units	220	22	DU	146	2	9	11	9	5	14
Net New Trips with Proposed Land Uses				281	-18	28	10	26	-8	18

Notes: ¹Specific Foster City Rate

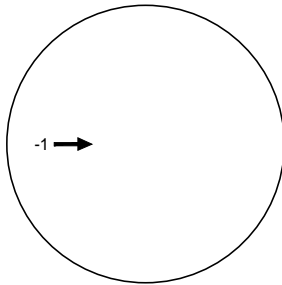
Source: Institute of Transportation Engineers *Trip Generation Manual*, 9th Edition

Kittelson & Associates, Inc., 2018.

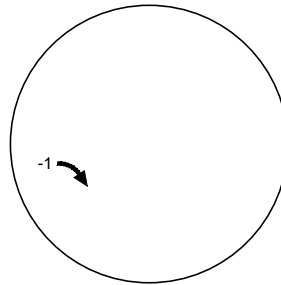
2.3.2 Trip Distribution and Assignment

The AM and PM peak hour trips for the proposed development were assigned to the roadway network based on the trip distribution patterns as shown in Figure 12, which was obtained from Figure 4 of the *Foster City Multi-Project Traffic Analysis*. The resultant project trips are shown in **Figure 17** and **Figure 18** for AM and PM peak hour, respectively.

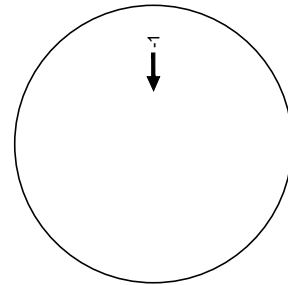
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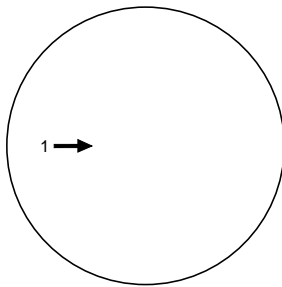
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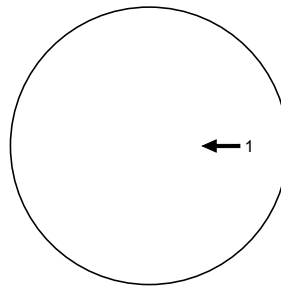
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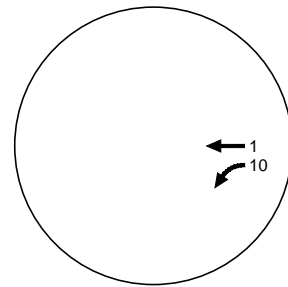
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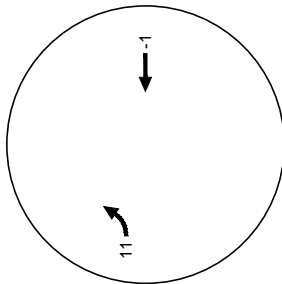
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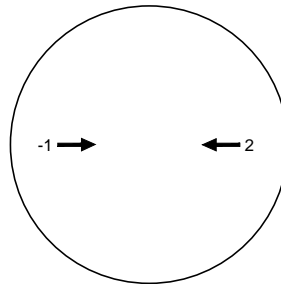
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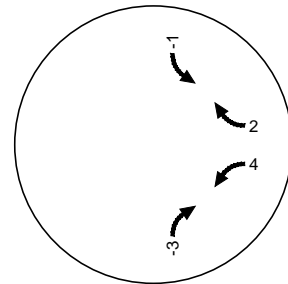
7 Foster City Blvd/Chess Dr



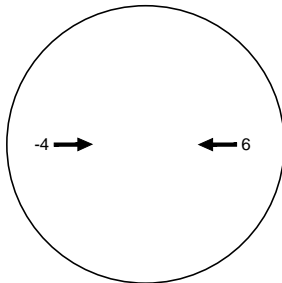
8 SR 92 EB Ramps/Edgewater Blvd



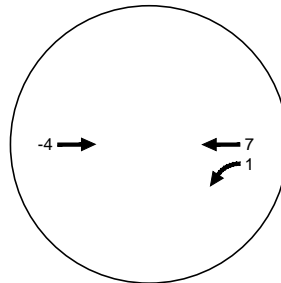
9 Metro Center Blvd/Edgewater Blvd



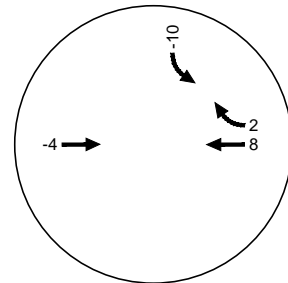
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

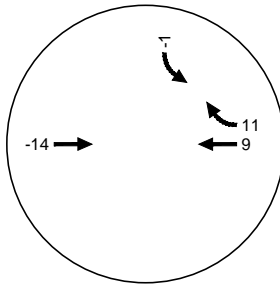


Street Name (North/South)/Street Name (East/West)

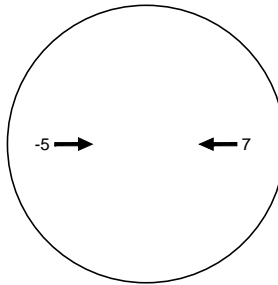
Proposed Project AM Peak Hour Trip Assignment
Foster City, CA

Figure
17A

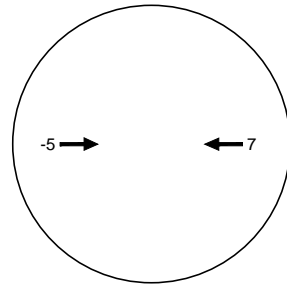
13 Foster City Blvd/Triton Dr/Metro Center Blvd



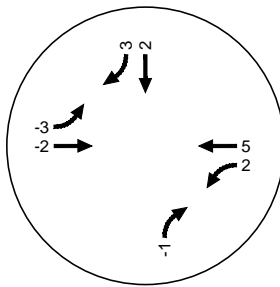
14 S Norfolk St/E Hillsdale Blvd



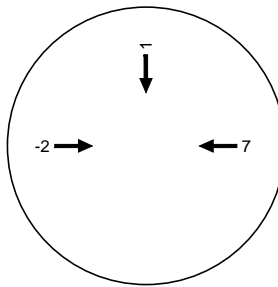
15 Altair Ave/E Hillsdale Blvd



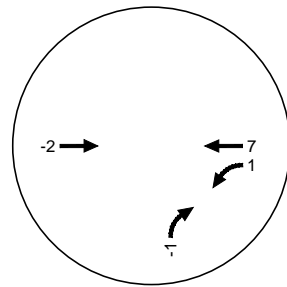
16 Edgewater Blvd/E Hillsdale Blvd



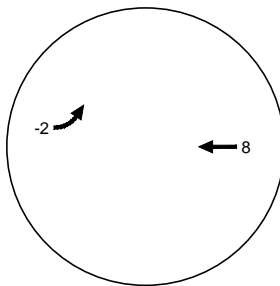
17 Shell Blvd/E Hillsdale Blvd



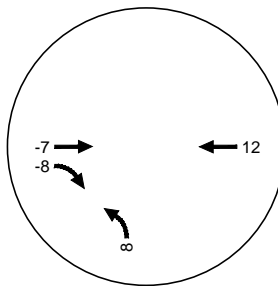
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr

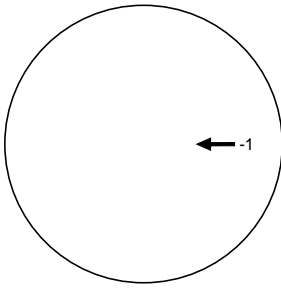


Street Name (North/South)/Street Name (East/West)

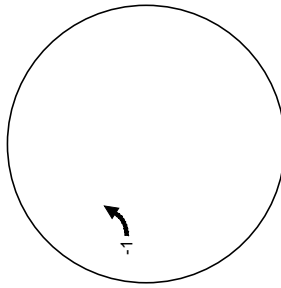
Proposed Project AM Peak Hour Trip Assignment
Foster City, CA

Figure
17B

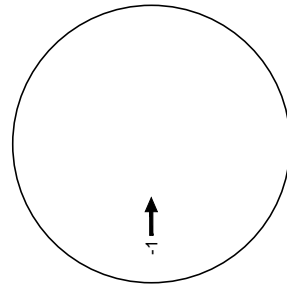
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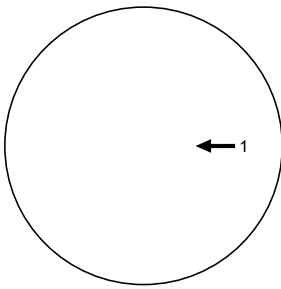
2 Foster City Blvd/E Third Ave



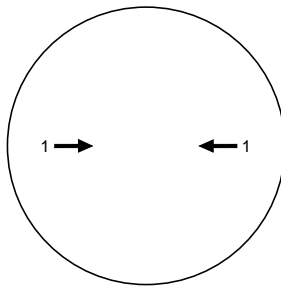
3 Foster City Blvd/Vintage Park Dr



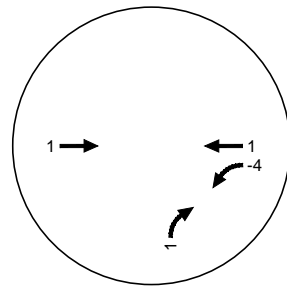
4 SR 92 WB Ramps/Fashion Island Blvd



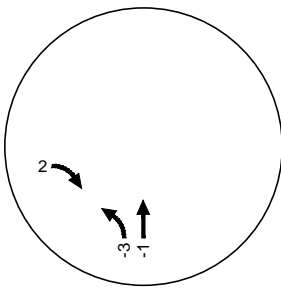
5 Vintage Park Dr/Chess Dr



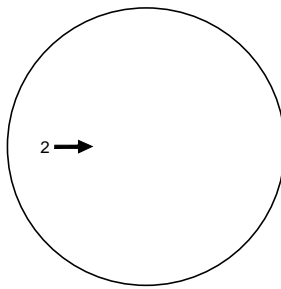
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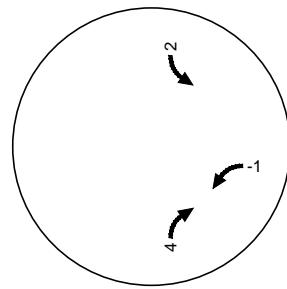
7 Foster City Blvd/Chess Dr



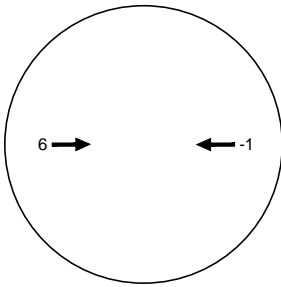
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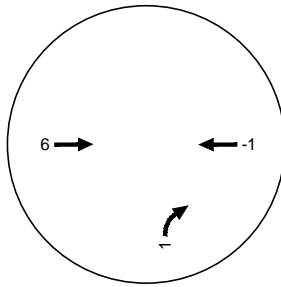
9 Metro Center Blvd/Edgewater Blvd



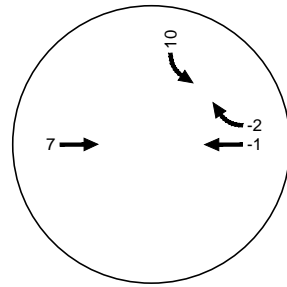
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

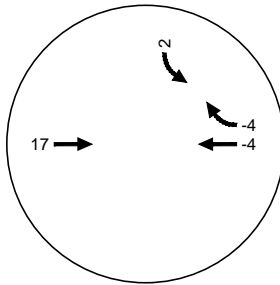


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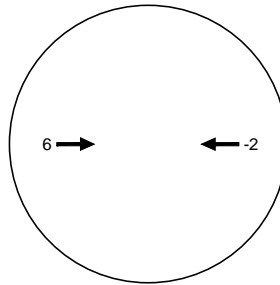
Proposed Project PM Peak Hour Trip Assignment
Foster City, CA

Figure
18A

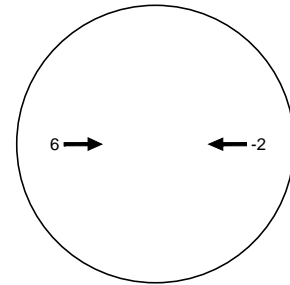
13 Foster City Blvd/Triton Dr/Metro Center Blvd



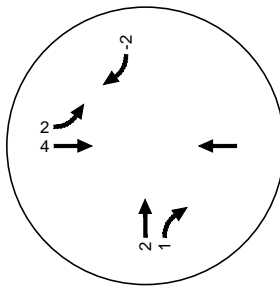
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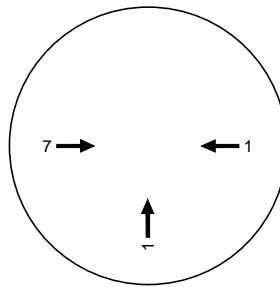
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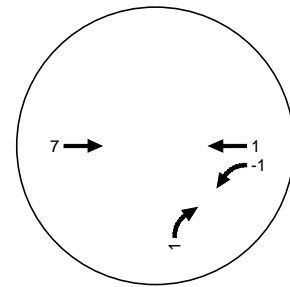
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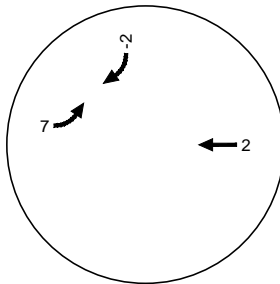
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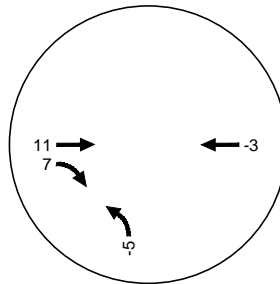
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

Proposed Project PM Peak Hour Trip Assignment
Foster City, CA

Figure
18B

2.4 PROJECT IMPACT ANALYSIS

The transportation impact analysis assesses how the study area's transportation system would operate with the implementation of the project. The potential impacts were identified based on a set of significance criteria based on the California Environmental Quality Act (CEQA) guidelines and set forth by the City of Foster City, the City of San Mateo, Caltrans, and C/CAG. These criteria are presented below.

2.4.1 Impact Thresholds

The project impact is considered to be significant if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, freeways, highways, pedestrian and bicycle paths, and mass transit.

Intersection Operations:

- City of Foster City: Foster City's General Plan contains level of service standards for intersection operations, whether an intersection is signalized or not. According to Policy LUC-F-1, the minimum acceptable level of service is LOS "D" during peak traffic hours, except for the following intersections, where the minimum acceptable LOS is E or F, due to their role as access points to the freeway system:
 - Intersection 5. Vintage Park Drive/Chess Drive
 - Intersection 6. SR 92 Westbound Ramps/Chess Drive
 - Intersection 7. Foster City Boulevard/Chess Drive
 - Intersection 13. Foster City Boulevard/Triton Drive/Metro Center Boulevard

City of San Mateo: The intersection of South Norfolk Street/ East Hillsdale Boulevard (intersection 14) is in the City of San Mateo and, therefore, San Mateo's significance criteria was applied at this location. San Mateo's General Plan uses LOS "D" as the standard according to Policy C2.7.

Caltrans: Four of the study intersections are under Caltrans' jurisdiction. As stated in the Caltrans' *Guide for The Preparation of Traffic Impact Studies*²⁰ (TIS), "Caltrans endeavors to

²⁰ *Guide for The Preparation of Traffic Impact Studies* (TIS), Caltrans, December 2002.

maintain a target LOS at the transition between LOS 'C' and LOS 'D' on State highway facilities." Since this significance criterion is lower than Foster City's significance criterion, the Foster City's significance criterion was used instead. A project is considered to have an impact at a study intersection if:

- The project will cause an intersection operating acceptably without the project to exceed the applicable LOS threshold; or
- The project will increase the average intersection delay by 4 seconds per vehicle or more at an intersection exceeding its' LOS threshold without the project (like C/CAG requirements).

Freeway Operations:

- As stated in the Caltrans TIS Guide, "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating at less than the appropriate target LOS, the existing Measure of Effectiveness (MOE) should be maintained."

C/CAG Congestion Management Program:

- Conflict with C/CAG CMP, including, but not limited to level of service standards and travel demand measures, or other standards established by C/CAG for designed roadways or highways.

The San Mateo County Congestion Management Plan Appendix L "Traffic Impact Analysis (TIA) Policy," establishes the following criteria for evaluating impacts on CMP facilities:

- Freeway segments currently in compliance with the adopted LOS standard:
 - A project is considered to have a CMP impact if the project will cause the freeway segment to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
 - A project is considered to have a CMP impact if the cumulative analysis indicates that the combination of the project and future cumulative traffic demand will result in the freeway segment to operate at a level of service that violates the standard adopted in the current CMP and the project increases traffic demand on the freeway segment by an amount equal to one percent or more of the segment capacity, or causes the freeway segment volume-to-capacity (v/c) ratio to increase by one percent.
- Freeway segments currently not in compliance with the adopted LOS standard:

- A project is considered to have a CMP impact if the project will add traffic demand equal to one percent or more of the segment capacity or causes the freeway segment volume-to-capacity (v/c) ratio to increase by one percent.

Transit Operations:

- The project is considered to have a transit impact if the project would:
 - Disrupt existing transit services or facilities. This includes disruptions caused by proposed driveways on streets used by transit, impacts to transit stops/shelters, and impacts to transit operations from traffic improvements proposed or resulting from the project;
 - Interfere with planned transit services or facilities;
 - Create demand for public transit services above the level provided or planned; and
 - Create conflicts or inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards.

Bicycle and Pedestrian Facilities:

- The project is considered to have a bicycle or pedestrian impact if the project would:
 - Disrupt existing or planned bicycle or pedestrian facilities; or
 - Create inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards.

Site Access, Internal Circulation, or Parking:

- Fail to meet industry standard design guidelines for on-site circulation, access and parking areas.
- Provide an insufficient quantity of on-site parking for vehicles.
- Increase in off-site parking demand what is provided in the immediate project area.
- Result in inadequate emergency access.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

2.4.2 Existing Plus Project Conditions

This chapter describes the Existing Conditions with the addition of the traffic that would be generated by the project. Existing Plus Project Conditions were evaluated relative to Existing

Conditions to determine the potential project impacts on the existing transportation network attributable by the project.

Transportation Network

It is assumed in this analysis that the transportation network under Existing Plus Project Conditions would be the same as described under Existing Conditions.

Traffic Volumes

Project trips, as represented in **Figure 17** and **Figure 18**, were added to the Existing traffic volumes to obtain the Existing Plus Project traffic volumes. The AM and PM peak hours Existing plus Project intersection traffic volumes for the project are shown in **Figure 19** and **Figure 20**.

For the freeway, the Existing Plus Project traffic volumes were estimated by adding the trips generated by the project to the existing freeway mainline and ramp volumes.

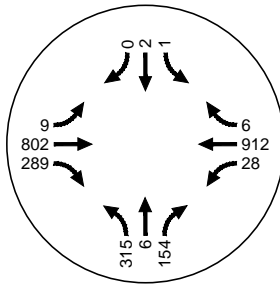
Intersection Analysis

Intersection Levels of Service

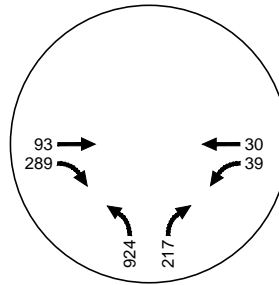
The results of the intersection LOS analysis under the Existing Plus Project Conditions are summarized in **Table 43** and **Table 44**, for AM and PM peak hours, respectively. The results indicate that the majority of the study intersections would operate at LOS “D” or better during both the AM and PM peak hours except for the intersection of Foster City Boulevard/Chess Drive (intersection #7) which is anticipated to operate at LOS “F.” Note that LOS “F” is only anticipated for the PM peak hours and is consistent with the LOS calculated for existing (without project) conditions. The removal of the existing land use (Industrial Park) and addition of a new land use (residential) creates a different project trip distribution which results in slightly lower delays for some intersections.

The LOS calculation sheets are included in Appendix A.

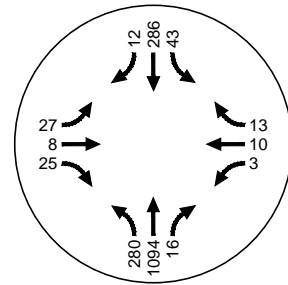
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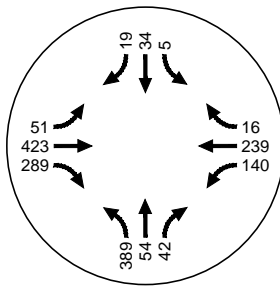
2 Foster City Blvd/E Third Ave



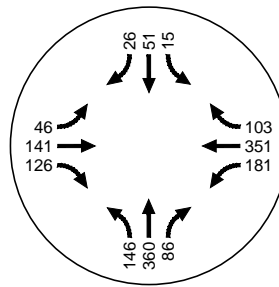
3 Foster City Blvd/Vintage Park Dr



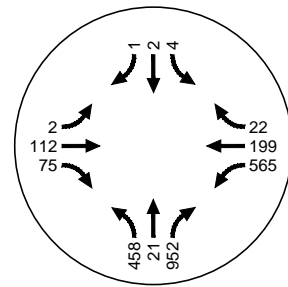
4 SR 92 WB Ramps/Fashion Island Blvd



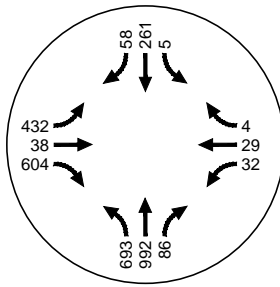
5 Vintage Park Dr/Chess Dr



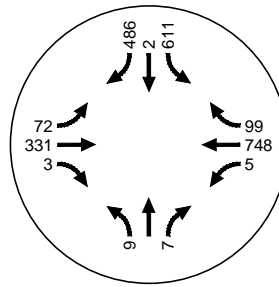
6 SR 92 WB Ramps/Chess Dr



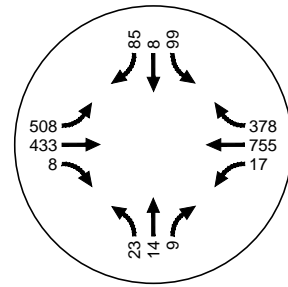
7 Foster City Blvd/Chess Dr



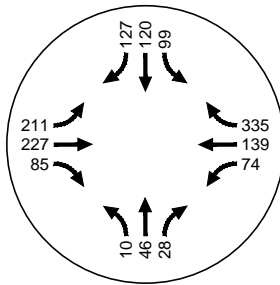
8 SR 92 EB Ramps/Edgewater Blvd



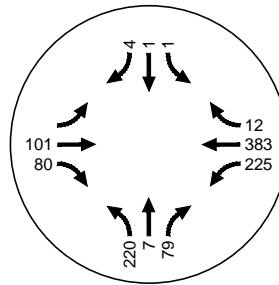
9 Metro Center Blvd/Edgewater Blvd



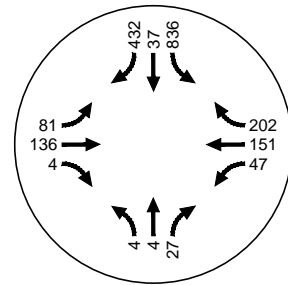
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

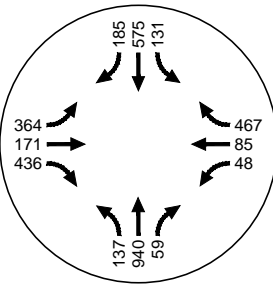


Street Name (North/South)/Street Name (East/West)

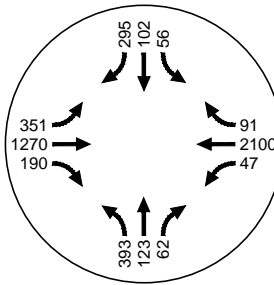
Existing Plus Proposed Project AM Peak Hour Volumes
Foster City, CA

Figure
19A

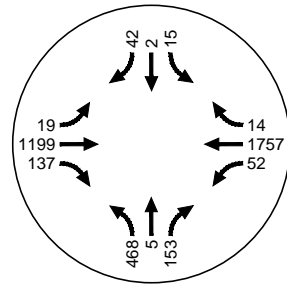
13 Foster City Blvd/Triton Dr/Metro Center Blvd



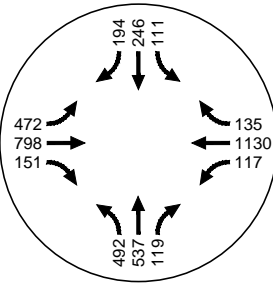
14 S Norfolk St/E Hillsdale Blvd



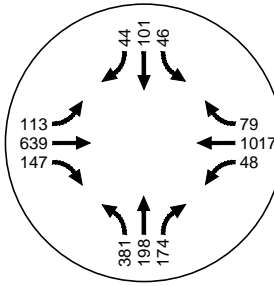
15 Altair Ave/E Hillsdale Blvd



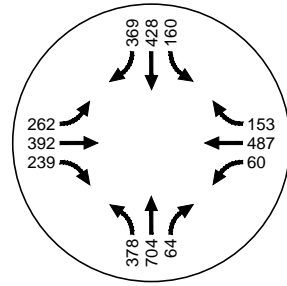
16 Edgewater Blvd/E Hillsdale Blvd



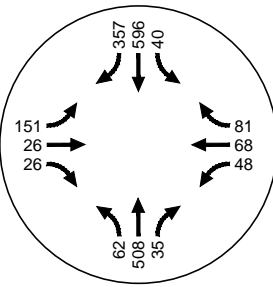
17 Shell Blvd/E Hillsdale Blvd



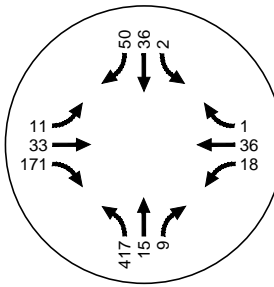
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr

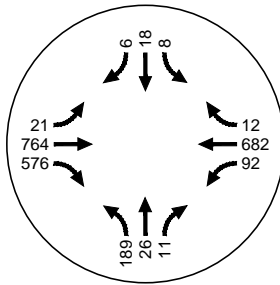


Street Name (North/South)/Street Name (East/West)

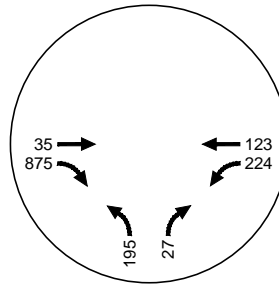
Existing Plus Proposed Project AM Peak Hour Volumes
Foster City, CA

Figure
19B

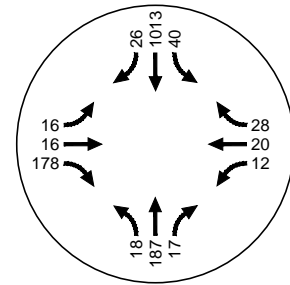
1 Mariners Island Blvd/E Third Ave



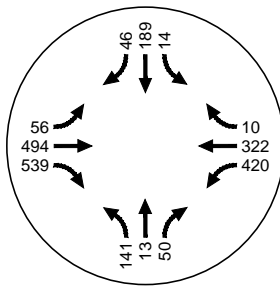
2 Foster City Blvd/E Third Ave



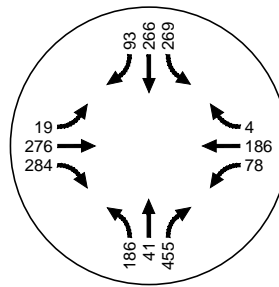
3 Foster City Blvd/Vintage Park Dr



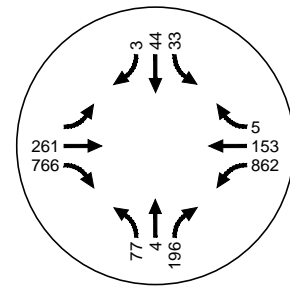
4 SR 92 WB Ramps/Fashion Island Blvd



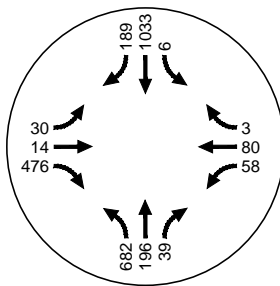
5 Vintage Park Dr/Chess Dr



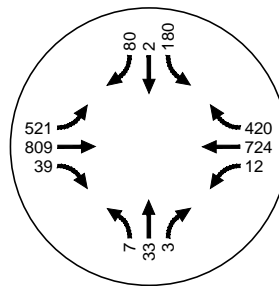
6 SR 92 WB Ramps/Chess Dr



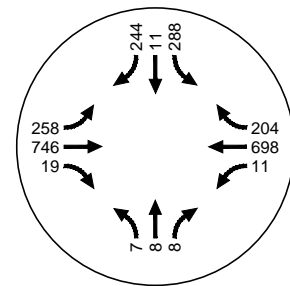
7 Foster City Blvd/Chess Dr



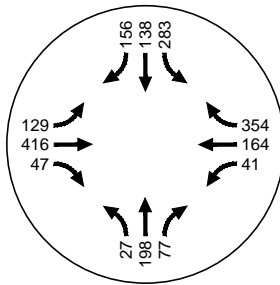
8 SR 92 EB Ramps/Edgewater Blvd



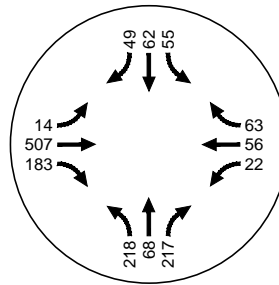
9 Metro Center Blvd/Edgewater Blvd



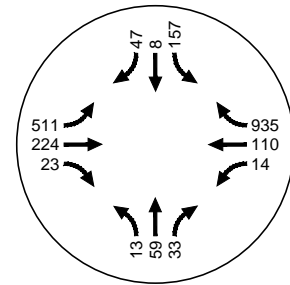
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

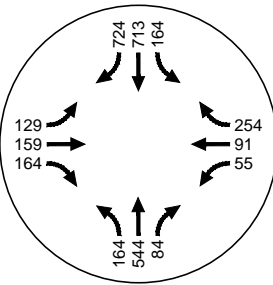


Street Name (North/South)/Street Name (East/West)

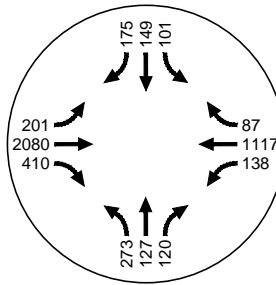
Existing Plus Proposed Project PM Peak Hour Volumes
Foster City, CA

Figure
20A

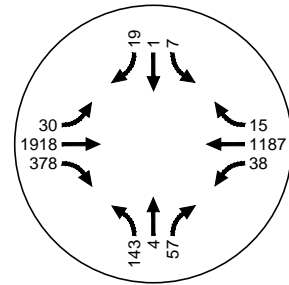
13 Foster City Blvd/Triton Dr/Metro Center Blvd



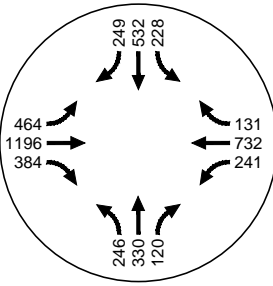
14 S Norfolk St/E Hillsdale Blvd



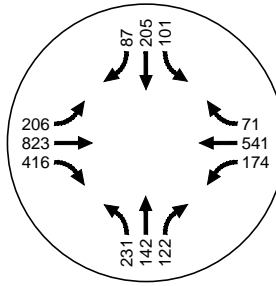
15 Altair Ave/E Hillsdale Blvd



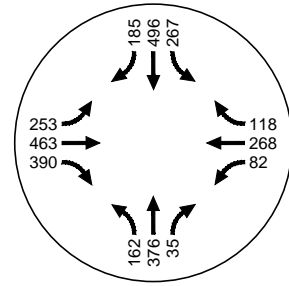
16 Edgewater Blvd/E Hillsdale Blvd



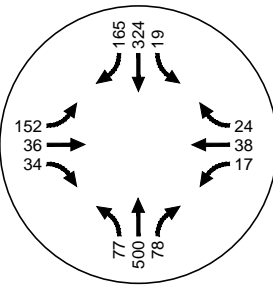
17 Shell Blvd/E Hillsdale Blvd



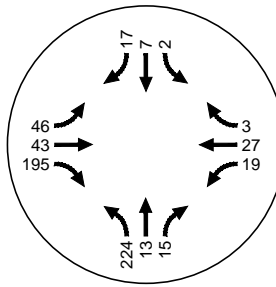
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

Existing Plus Proposed Project PM Peak Hour Volumes
Foster City, CA

Figure
20B

Table 43: Existing Plus Project Conditions Intersection Level of Service – AM Peak Hour

	Intersection	Control	Existing		Existing Plus Project	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	20.1	C	20.1	C
2	Foster City Boulevard/East Third Avenue	Signalized	9.2	A	9.2	A
3	Foster City Boulevard/Vintage Park Drive	Signalized	15.9	B	15.9	B
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	19.4	B	19.4	B
5 ³	Vintage Park Drive/Chess Drive	Signalized	31.1	C	31.1	C
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	19.7	B	19.4	B
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	23.4	C	23.3	C
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	27.6	C	27.6	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	27.7	C	27.7	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	32.4	C	32.4	C
11	Shell Boulevard/Metro Center Boulevard	Signalized	31.2	C	31.2	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	18.1	B	18.0	B
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	27.8	C	28.0	C
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	36.0	D	36.2	D
15	Altair Avenue/East Hillsdale Boulevard	Signalized	13.1	B	13.1	B
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	32.3	C	32.4	C
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	19.0	B	19.0	B
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	36.6	D	36.6	D
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	29.2	C	29.0	C
20	Pilgrim Drive/Triton Drive	AWSC	14.3	B	14.7	B

Source: Kittelson & Associates, Inc. 2018.

Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact*

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Table 44: Existing Plus Project Conditions Intersection Level of Service – PM Peak Hour

	Intersection	Control	Existing		Existing Plus Project	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	18.5	B	18.5	B
2	Foster City Boulevard/East Third Avenue	Signalized	14.3	B	14.3	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	24.4	C	24.4	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	20.6	C	20.6	C
5 ³	Vintage Park Drive/Chess Drive	Signalized	40.8	D	40.8	D
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	34.3	C	35.5	D
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	86.0	F	82.1	F
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	29.8	C	29.8	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	31.1	C	31.1	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	34.1	C	34.1	C
11	Shell Boulevard/Metro Center Boulevard	Signalized	33.1	C	33.1	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	44.5	D	48.9	D
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	55.7	E	59.2	E
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	28.6	C	28.6	C
15	Altair Avenue/East Hillsdale Boulevard	Signalized	5.0	A	5.0	A
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	33.0	C	33.0	C
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	23.2	C	23.1	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	29.7	C	29.7	C
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	15.7	B	16.1	B
20	Pilgrim Drive/Triton Drive	AWSC	9.4	A	9.4	A

Source: Kittelson & Associates, Inc. 2018.

Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact*

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Signal Warrant Analysis

Since the intersection of Triton Drive/Pilgrim Drive would operate at LOS “D” or better during both the AM and PM peak hour, peak hour signal warrant was not analyzed under the Existing Plus Project Conditions. Implementation of the project would not result in new or more significant impacts to the study intersections than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Existing Plus Project Conditions.

Freeway Analysis

Table 45 to Table 52 present the level of service on the study freeway facilities under Existing Plus Project Conditions for the AM and PM peak hours.

Freeway Mainline

Most of the freeway mainline study segments would operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Southbound US 101 between East Third Avenue and SR 92 - PM peak hour
- Eastbound SR 92 between Foster City Boulevard and County Line - PM peak hour

The project would not cause the v/c ratio for these segments to increase by more than one percent. Therefore, the project would not have a significant impact on the freeway mainlines.

Freeway On-Ramp Merge

The freeway on-ramps are forecast to operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Northbound US 101 on-ramp merge from Fashion Island Boulevard/ Westbound SR 92 would operate at LOS F during the AM and PM peak hours under both Existing No Project and Existing Plus Project Conditions - the site development would add traffic to this on-ramp in the AM peak hour, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity; the project would not add traffic to this on-ramp during the PM peak hour. Therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 on-ramp merge from Westbound SR 92 would operate at LOS F during the PM peak hour under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this on-ramp. Therefore, the project would not have a significant impact on this study segment.
- Southbound US 101 on-ramp merge from Fashion Island Boulevard would operate at LOS F during the PM peak hour under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this on-ramp. Therefore, the project would not have a significant impact on this study segment.
- Southbound US 101 on-ramp merge from East Hillsdale Boulevard would operate at LOS F during both the AM and PM peak hours under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this on-ramp. Therefore, the project would not have a significant impact on this study segment.
- Eastbound SR 92 on-ramp merge from Metro Center Boulevard would operate at LOS F during the PM peak hour under both Existing No Project and Existing Plus Project Conditions

- the site development is not forecast to add traffic to this on-ramp merge study segment, therefore, the project would not result in significant impact on this study segment.

Freeway Off-Ramp Diverge

The freeway off-ramps are forecast to operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Northbound US 101 off-ramp diverge to East Third Avenue would operate at congested levels (LOS F is identified by a volume to capacity ratio $v/c > 1$) during the AM and PM peak hours under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this off-ramp diverge study segment, therefore, the project would not result in significant impact on this study segment.
- Northbound US 101 off-ramp diverge to East Hillsdale Boulevard would operate at congested levels (LOS F) during the PM peak hour under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this off-ramp diverge study segment, therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 off-ramp diverge to East Third Avenue would operate at congested levels (LOS F) during the AM and PM peak hours under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this off-ramp diverge study segment, therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 off-ramp diverge to SR 92 would operate at congested levels (LOS F) during the AM and PM peak hours under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this off-ramp diverge study segment, therefore, the project would not result in significant impact on this study segment.

Freeway Weaving

The freeway weaving study segments are forecast to operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Northbound US 101 between Westbound East Hillsdale Boulevard and SR 92 would operate at congested levels (LOS F) during both the AM and PM peak hours under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add traffic to this weaving study segment, therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 between Eastbound SR 92 and East Hillsdale Boulevard would operate at congested levels (LOS F) during both the AM and PM peak hours under both Existing No Project and Existing Plus Project Conditions - the site development is not forecast to add

traffic to this weaving study segment, therefore, the project would not result in significant impact on this study segment.

- Westbound SR 92 between Fashion Island Boulevard and Northbound US 101 would operate at congested levels (LOS F) during both the AM and PM peak hours under both Existing no Project and Existing plus Project Conditions - the site development would add traffic to this weaving study segment during the AM peak hour, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity; the project would not add traffic to this weaving study segment during the PM peak hour. Therefore, the project would not result in significant impact on this study segment.

Implementation of the project would not result in new or more significant impacts to the study freeway facilities than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Existing Plus Project Conditions.

The freeway analysis calculation sheets are included in Appendix B.

Table 45: Existing Plus Project Conditions Freeway Mainline Level of Service – AM Peak Hour

Location	Crit ¹	Cap ²	Existing			Existing plus Project			
			Vol ³	v/c ⁴	LOS ⁵	Vol ³	v/c ⁴	LOS ⁵	Impact ⁶
US 101 Northbound									
North of East Third Avenue	F	11,000	10,669	0.97	E	10,677	0.97	E	No
Between SR 92 and East Third Avenue	F	11,000	9,662	0.88	E	9,671	0.88	E	No
Between East Hillsdale Boulevard and SR 92	E	11,000	8,539	0.78	D	8,540	0.78	D	No
South of East Hillsdale Boulevard	E	11,000	8,598	0.78	D	8,595	0.78	D	No
US 101 Southbound									
North of East Third Avenue	F	11,000	9,417	0.86	E	9,414	0.86	E	No
Between East Third Avenue and SR 92	F	11,000	9,556	0.87	E	9,553	0.87	E	No
Between SR 92 and East Hillsdale Boulevard	E	11,000	9,298	0.85	D	9,299	0.85	D	No
South of East Hillsdale Boulevard	E	11,000	10,830	0.98	E	10,837	0.99	E	No
SR 92 Eastbound									
Between US 101 and Edgewater Boulevard	E	6,600	4,688	0.71	D	4,680	0.71	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	3,760	0.57	C	3,752	0.57	C	No
Between Foster City Boulevard and County Line	E	6,600	2,730	0.41	B	2,722	0.41	B	No
SR 92 Westbound									
Between US 101 and Edgewater Boulevard	E	6,600	4,388	0.66	C	4,398	0.67	C	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	4,410	0.67	C	4,420	0.67	C	No
Between Foster City Boulevard and County Line	E	6,600	5,209	0.79	D	5,209	0.79	D	No

Source: Kittelson & Associates, Inc., 2018.

1. Crit = LOS Criteria per C/CAG CMP

2. Cap = Capacity (vph)

3. Vol = Volume, vehicles per hour (vph)

4. v/c = Volume/Capacity Ratio

5. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

6. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 46: Existing Plus Project Conditions Freeway Mainline Level of Service – PM Peak Hour

Location	Crit ¹	Cap ²	Existing			Existing plus Project			
			Vol ³	v/c ⁴	LOS ⁵	Vol ³	v/c ⁴	LOS ⁵	Impact ⁶
US 101 Northbound									
North of East Third Avenue	F	11,000	10,041	0.91	E	10,040	0.91	E	No
Between SR 92 and East Third Avenue	F	11,000	9,362	0.85	E	9,361	0.85	E	No
Between East Hillsdale Boulevard and SR 92	E	11,000	8,742	0.79	D	8,742	0.79	D	No
South of East Hillsdale Boulevard	E	11,000	9,385	0.85	E	9,390	0.85	E	No
US 101 Southbound									
North of East Third Avenue	F	11,000	11,271	0.98	E	11,278	0.98	E	No
Between East Third Avenue and SR 92	F	11,000	11,564	1.01	F	11,572	1.01	F	No
Between SR 92 and East Hillsdale Boulevard	E	11,000	10,963	1.00	E	10,964	1.00	E	No
South of East Hillsdale Boulevard	E	11,000	11,627	0.99	E	11,626	0.99	E	No
SR 92 Eastbound									
Between US 101 and Edgewater Boulevard	E	6,600	5,021	0.76	D	5,030	0.76	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	5,733	0.87	E	5,742	0.87	E	No
Between Foster City Boulevard and County Line	E	6,600	7,038	1.07	F	7,047	1.07	F	No
SR 92 Westbound									
Between US 101 and Edgewater Boulevard	E	6,600	5,452	0.83	D	5,448	0.83	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	4,508	0.68	D	4,504	0.68	D	No
Between Foster City Boulevard and County Line	E	6,600	3,108	0.47	C	3,109	0.47	C	No

Source: Kittelson & Associates, Inc., 2018.

1. Crit = LOS Criteria per C/CAG CMP

2. Cap = Capacity (vph)

3. Vol = Volume, vehicles per hour (vph)

4. v/c = Volume/Capacity Ratio

5. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

6. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 47: Existing Plus Project Conditions Freeway On-Ramp Merge Level of Service – AM Peak Hour

Location	Existing			Existing Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ⁴
US 101 Northbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Kehoe Avenue	9,808	30.2	D	9,817	30.2	D	No
From Westbound SR 92/Fashion Island Boulevard	10,061	Demand > Capacity	F	10,070	Demand > Capacity	F	No
From Eastbound SR 92	6,891	29.4	D	6,892	29.5	D	No
From Eastbound East Hillsdale Boulevard	7,917	34.1	D	7,918	34.2	D	No
US 101 Southbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Westbound SR 92	7,478	34.2	D	7,479	34.2	D	No
From Fashion Island Boulevard	8,109	35.0	E	8,110	35.0	E	No
From Westbound East Hillsdale Boulevard	9,047	Demand > Capacity	F	9,054	Demand > Capacity	F	No
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
SR 92 Eastbound							
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁵						
From Metro Center Boulevard	2,730	11.1	B	2,722	11.1	B	No
SR 92 Westbound							
From Chess Drive	4,410	23.2	C	4,420	23.3	C	No

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

5. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Table 48: Existing Plus Project Conditions Freeway On-Ramp Merge Level of Service – PM Peak Hour

Location	Existing			Existing Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ⁴
US 101 Northbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Kehoe Avenue	9,582	29.7	D	9,581	29.7	D	No
From Westbound SR 92/Fashion Island Boulevard	9,627	Demand > Capacity	F	9,626	Demand > Capacity	F	No
From Eastbound SR 92	6,983	30.7	D	6,983	30.7	D	No
From Eastbound East Hillsdale Boulevard	8,278	35.4	E	8,278	35.4	E	No
US 101 Southbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Westbound SR 92	9,408	Demand > Capacity	F	9,409	Demand > Capacity	F	No
From Fashion Island Boulevard	9,849	Demand > Capacity	F	9,850	Demand > Capacity	F	No
From Westbound East Hillsdale Boulevard	10,345	Demand > Capacity	F	10,344	Demand > Capacity	F	No
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
SR 92 Eastbound							
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁵						
From Metro Center Boulevard	7,038	Demand > Capacity	F	7,047	Demand > Capacity	F	No
SR 92 Westbound							
From Chess Drive	4,508	25.7	C	4,504	25.7	C	No

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

5. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Table 49: Existing Plus Project Conditions Freeway Off-Ramp Diverge Level of Service – AM Peak Hour

Location	Existing			Existing Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ⁴
US 101 Northbound							
To East Third Avenue	9,808	Demand > Capacity	F	9,817	Demand > Capacity	F	No
To Kehoe Avenue	10,061	37.5	E	10,070	37.5	E	No
To E. Hillsdale Boulevard	8,598	10.7	B	8,595	10.6	B	No
US 101 Southbound							
To East Third Avenue	9,417	Demand > Capacity	F	9,414	Demand > Capacity	F	No
To SR 92	9,556	Demand > Capacity	F	9,553	Demand > Capacity	F	No
SR 92 Eastbound							
To Mariners Island Blvd./Edgewater Boulevard	4,688	33.4	D	4,680	33.4	D	No
SR 92 Westbound							
To Chess Drive	5,209	24.4	C	5,209	24.4	C	No

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in GREY indicate *Significant Impact* (increase in total traffic > 1%)

Table 50: Existing Plus Project Conditions Freeway Off-Ramp Diverge Level of Service – PM Peak Hour

Location	Existing			Existing Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ⁴
US 101 Northbound							
To East Third Avenue	9,582	Demand > Capacity	F	9,581	Demand > Capacity	F	No
To Kehoe Avenue	9,627	35.4	E	9,626	35.4	E	No
To E. Hillsdale Boulevard	9,385	Demand > Capacity	F	9,390	Demand > Capacity	F	No
US 101 Southbound							
To East Third Avenue	11,271	Demand > Capacity	F	11,278	Demand > Capacity	F	No
To SR 92	11,564	Demand > Capacity	F	11,572	Demand > Capacity	F	No
SR 92 Eastbound							
To Mariners Island Blvd./Edgewater Boulevard	5,021	32.1	D	5,030	32.1	D	No
SR 92 Westbound							
To Chess Drive	3,108	11.9	B	3,109	11.9	B	No

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 51: Existing Plus Project Conditions Freeway Weaving Level of Service – AM Peak Hour

Location	Existing			Existing Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ⁴
US 101 Northbound							
Between WB East Hillsdale Boulevard and SR 92	8,539	Demand > Capacity	F	8,540	Demand > Capacity	F	No
US 101 Southbound							
Between EB SR 92 and East Hillsdale Boulevard	9,298	Demand > Capacity	F	9,299	Demand > Capacity	F	No
SR 92 Eastbound							
Mariners Island Boulevard and Metro Center Boulevard	3,760	16.1	B	3,752	16.1	B	No
SR 92 Westbound							
Chess Drive and Fashion Island Boulevard	4,410	23.2	C	4,420	23.3	C	No
Fashion Island Boulevard and NB US 101	4,388	Demand > Capacity	F	4,398	Demand > Capacity	F	No

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 52: Existing Plus Project Conditions Freeway Weaving Level of Service – PM Peak Hour

Location	Existing			Existing Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ⁴
US 101 Northbound							
Between WB East Hillsdale Boulevard and SR 92	8,742	Demand > Capacity	F	8,742	Demand > Capacity	F	No
US 101 Southbound							
Between EB SR 92 and East Hillsdale Boulevard	10,963	Demand > Capacity	F	10,964	Demand > Capacity	F	No
SR 92 Eastbound							
Mariners Island Boulevard and Metro Center Boulevard	5,733	28.7	D	5,742	28.8	D	No
SR 92 Westbound							
Chess Drive and Fashion Island Boulevard	4,508	25.7	C	4,504	25.7	C	No
Fashion Island Boulevard and NB US 101	5,452	Demand > Capacity	F	5,448	Demand > Capacity	F	No

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Queuing Analysis at Freeway Off-Ramp Intersections

Table 53 and **Table 54** present the queuing analysis at freeway off-ramp intersections for the Existing Plus Project Conditions. The results indicate that all freeway off-ramps would have sufficient storage to accommodate the off-ramp queues during both the AM and PM peak hours.

Implementation of the project for would not result in new or more significant impacts to the queuing at freeway off-ramp intersections than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Existing Plus Project Conditions.

Table 53: Existing Plus Project Conditions Freeway Off-Ramp Queue Analysis – AM Peak Hour

Freeway Off-Ramp	Queue Lengths (ft)		NBL	NBT	NBR	SBL	SBT	SBR		
4. SR 92 WB off-ramp to Fashion Island Boulevard	Storage Length		1,650							
	Average Queue Length	Existing	175							
		Existing Plus Project	175							
6. SR 92 WB off-ramp to Chess Drive	Storage Length		1,575		500					
	Average Queue Length	Existing	200		0					
		Existing Plus Project	200		0					
8. SR 92 EB off-ramp to Mariners Island Boulevard	Storage Length					1,960	800			
	Average Queue Length	Existing				250	200			
		Existing Plus Project				250	200			
12. SR 92 EB off-ramp to Metro Center Boulevard	Storage Length								1,750	1,750
	Average Queue Length	Existing							250	100
		Existing Plus Project							250	100

Source: Kittelson & Associates, Inc., 2018.

Storage length based on distance to the off-ramp gore point.

Table 54: Existing Plus Project Conditions Freeway Off-Ramp Queue Analysis – PM Peak Hour

Freeway Off-Ramp		Queue Lengths (ft)		NBL	NBT	NBR	SBL	SBT	SBR			
4.	SR 92 WB off-ramp to Fashion Island Boulevard	Storage Length		1,650								
		Average Queue Length	Existing	100								
			Existing Plus Project	100								
6.	SR 92 WB off-ramp to Chess Drive	Storage Length		1,575						500		
		Average Queue Length	Existing	50						0		
			Existing Plus Project	50						0		
8.	SR 92 EB off-ramp to Mariners Island Boulevard	Storage Length					1,960		800			
		Average Queue Length	Existing				150		25			
			Existing Plus Project				150		25			
12.	SR 92 EB off-ramp to Metro Center Boulevard	Storage Length								1,750		1,750
		Average Queue Length	Existing							100		25
			Existing Plus Project							100		25

Source: Kittelson & Associates, Inc., 2018.

Storage length based on distance to the off-ramp gore point.

2.4.3 Background Plus Project Conditions

This chapter describes the Background Conditions with the addition of the traffic that would be generated by Phase C development. The Background Plus Project Conditions were evaluated relative to Background No Project Conditions to determine potential impacts on the background transportation network attributable to the project.

Transportation Network

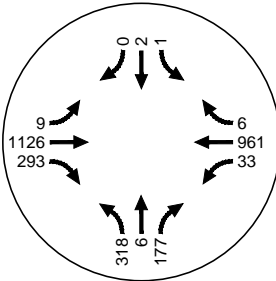
It is assumed in this analysis that the transportation network under Background Plus Project Conditions would be the same as described under Background No Project Conditions.

Traffic Volumes

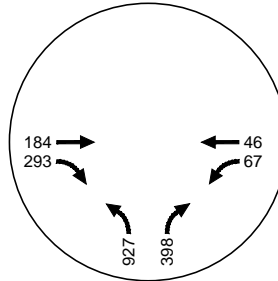
Project trips, as represented in Figure 17 and Figure 18 were added to the Background No Project traffic volumes to obtain the Background Plus Project traffic volumes. The AM and PM peak hours Background Plus Project intersection traffic volumes for the proposed development are shown in **Figure 21** and **Figure 22**.

For the freeway, the Background Plus Project traffic volumes were estimated by adding the trips generated by the project to the Background No Project freeway mainline and ramp volumes.

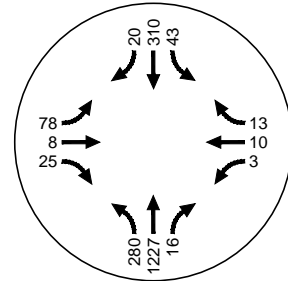
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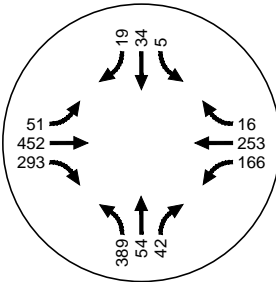
2 Foster City Blvd/E Third Ave



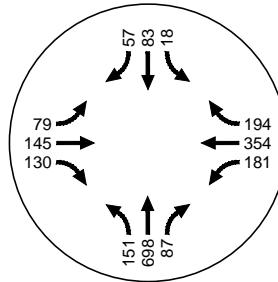
3 Foster City Blvd/Vintage Park Dr



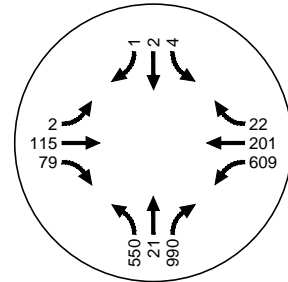
4 SR 92 WB Ramps/Fashion Island Blvd



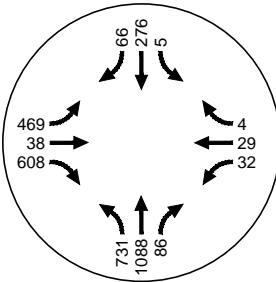
5 Vintage Park Dr/Chess Dr



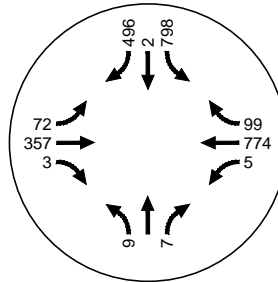
6 SR 92 WB Ramps/Chess Dr



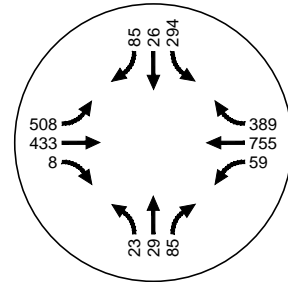
7 Foster City Blvd/Chess Dr



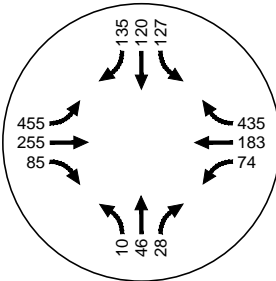
8 SR 92 EB Ramps/Edgewater Blvd



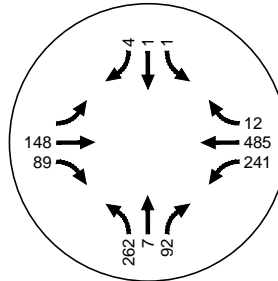
9 Metro Center Blvd/Edgewater Blvd



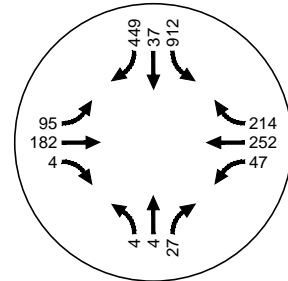
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

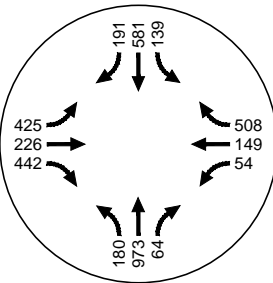


Street Name (North/South)/Street Name (East/West)

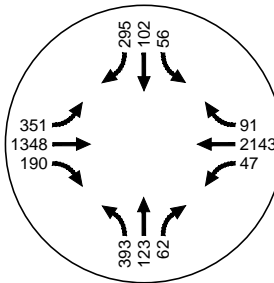
Background Plus Proposed Project AM Peak Hour Volumes
Foster City, CA

Figure
21A

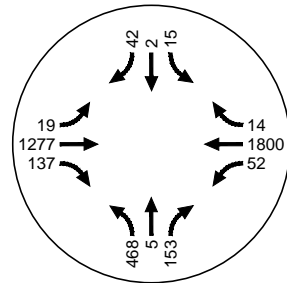
13 Foster City Blvd/Triton Dr/Metro Center Blvd



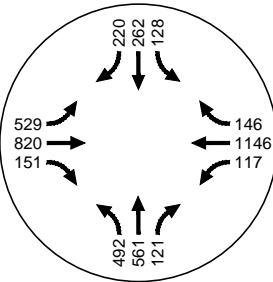
14 S Norfolk St/E Hillsdale Blvd



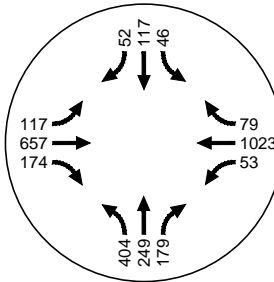
15 Altair Ave/E Hillsdale Blvd



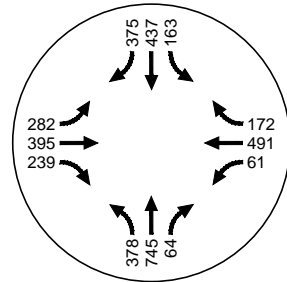
16 Edgewater Blvd/E Hillsdale Blvd



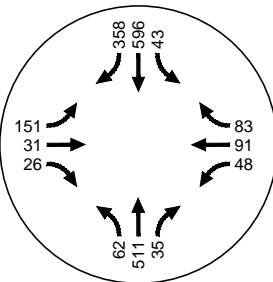
17 Shell Blvd/E Hillsdale Blvd



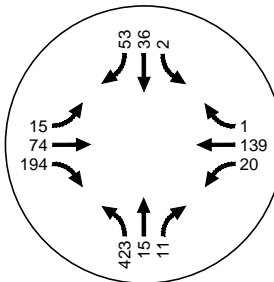
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr

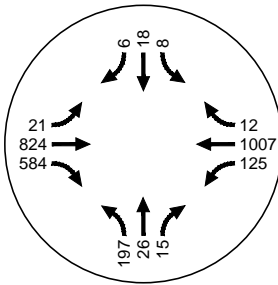


Street Name (North/South)/Street Name (East/West)

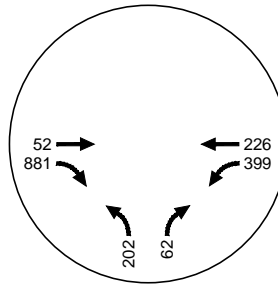
Background Plus Proposed Project AM Peak Hour Volumes
Foster City, CA

Figure
21B

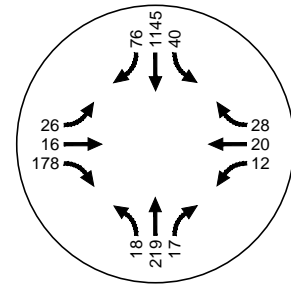
1 Mariners Island Blvd/E Third Ave



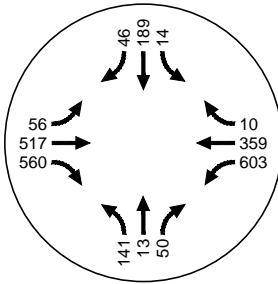
2 Foster City Blvd/E Third Ave



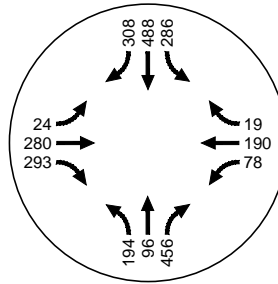
3 Foster City Blvd/Vintage Park Dr



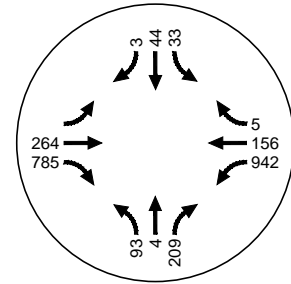
4 SR 92 WB Ramps/Fashion Island Blvd



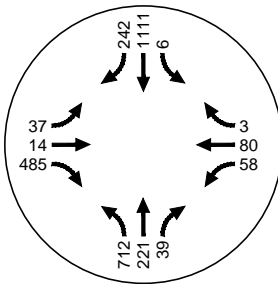
5 Vintage Park Dr/Chess Dr



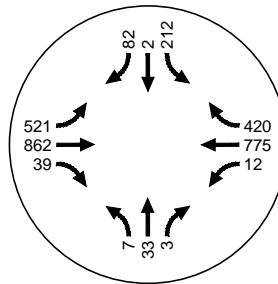
6 SR 92 WB Ramps/Chess Dr



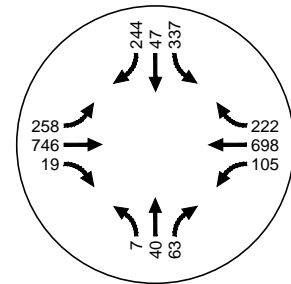
7 Foster City Blvd/Chess Dr



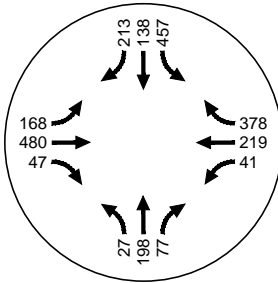
8 SR 92 EB Ramps/Edgewater Blvd



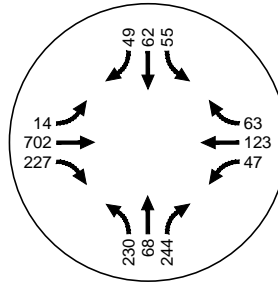
9 Metro Center Blvd/Edgewater Blvd



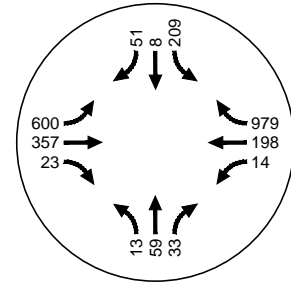
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

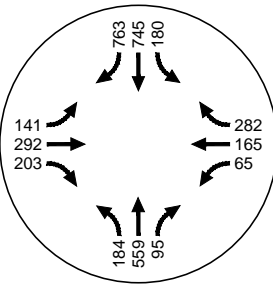


Street Name (North/South)/Street Name (East/West)

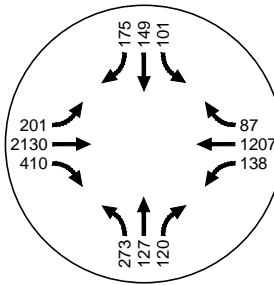
Background Plus Proposed Project PM Peak Hour Volumes
Foster City, CA

Figure
22A

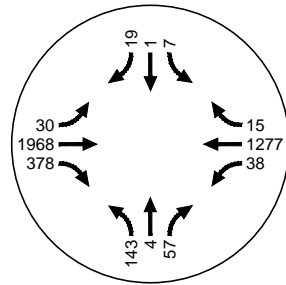
13 Foster City Blvd/Triton Dr/Metro Center Blvd



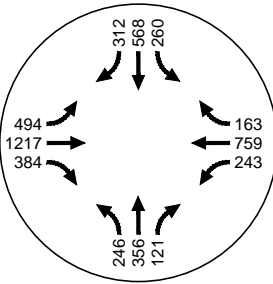
14 S Norfolk St/E Hillsdale Blvd



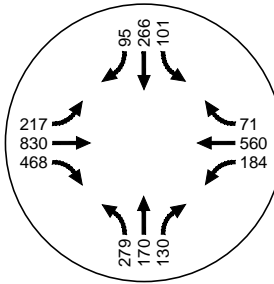
15 Altair Ave/E Hillsdale Blvd



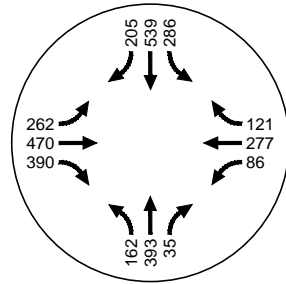
16 Edgewater Blvd/E Hillsdale Blvd



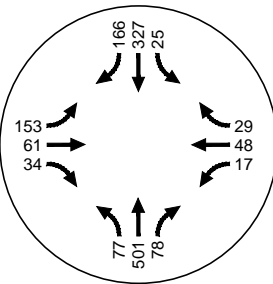
17 Shell Blvd/E Hillsdale Blvd



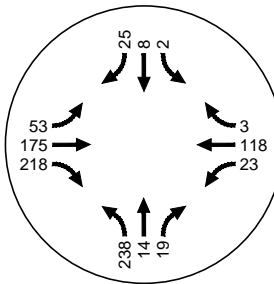
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

Background Plus Proposed Project PM Peak Hour Volumes
Foster City, CA

Figure
22B

Intersection Analysis

Intersection Levels of Service

The results of the intersection LOS analysis under the Background Plus Project Conditions are summarized in **Table 55** and **Table 56**, for both AM and PM peak hours. The results indicate that most of the study intersections are forecast to operate at acceptable levels of service, except for the following intersection anticipated to operate at LOS “E”:

- Intersection 12 - SR 92 Eastbound Ramps/Metro Center Boulevard during the PM peak hour

With the inclusion of the project trips, the intersection average delay is forecast to remain very similar to the estimated for the background conditions. Therefore, the project would not result in a significant impact at this intersection.

Note: Some intersections improve with the project compared to the no project scenario. This is caused by the removal of some existing land use (industrial park) and addition of a new land use (residential) which creates a directionally different project trip distribution resulting in slightly lower delays for some intersections with the project compared to the no project scenario.

The LOS calculation sheets are included in Appendix A.

Signal Warrant Analysis

Since the intersection of Triton Drive/Pilgrim Drive would operate at LOS “D” or better during both the AM and PM peak hours, a peak hour signal warrant was not analyzed under the Background Plus Project Conditions.

Implementation of the project would not result in new or more significant impacts to the study intersections than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Background Plus Project Conditions.

Table 55: Background Plus Project Conditions Intersection Level of Service – AM Peak Hour

	Intersection	Control	Background		Background Plus Project	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	20.7	C	20.7	C
2	Foster City Boulevard/East Third Avenue	Signalized	13.0	B	13.0	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	19.0	B	19.0	B
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	19.7	B	19.7	B
5 ³	Vintage Park Drive/Chess Drive	Signalized	32.3	C	32.3	C
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	21.8	C	21.7	C
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	24.2	C	24.1	C
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	28.4	C	28.4	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	31.9	C	31.9	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	42.8	D	42.8	D
11	Shell Boulevard/Metro Center Boulevard	Signalized	31.9	C	31.9	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	20.3	C	20.3	C
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	32.2	C	32.3	C
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	36.9	D	37.1	D
15	Altair Avenue/East Hillsdale Boulevard	Signalized	12.9	B	12.9	B
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	34.1	C	34.3	C
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	20.3	C	20.3	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	37.5	D	37.6	D
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	29.7	C	29.6	C
20	Pilgrim Drive/Triton Drive	AWSC	17.5	C	18.3	C

Source: Kittelson & Associates, Inc. 2018.

Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact*

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Table 56: Background Plus Project Conditions Intersection Level of Service – PM Peak Hour

	Intersection	Control	Background		Background Plus Project	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	19.4	B	19.4	B
2	Foster City Boulevard/East Third Avenue	Signalized	14.3	B	14.3	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	23.9	C	23.9	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	22.7	C	22.7	C
5 ³	Vintage Park Drive/Chess Drive	Signalized	43.3	D	43.4	D
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	79.9	E	75.9	E
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	158.1	F	157.5	F
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	30.7	C	30.7	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	33.2	C	33.1	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	36.0	D	36.1	D
11	Shell Boulevard/Metro Center Boulevard	Signalized	34.1	C	34.1	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	69.8	E	64.7	E
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	79.0	E	77.6	E
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	28.8	C	28.8	C
15	Altair Avenue/East Hillsdale Boulevard	Signalized	4.9	A	4.9	A
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	35.7	D	35.6	D
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	25.4	C	25.4	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	30.4	C	30.3	C
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	16.3	B	16.7	B
20	Pilgrim Drive/Triton Drive	AWSC	10.6	B	10.6	B

Source: Kittelson & Associates, Inc. 2018.

Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact*

1. Intersection under City of San Mateo Jurisdiction

2. Intersection analyzed using Vissim micro-simulation modeling package

3. The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Freeway Analysis

Table 57 to **Table 64** present the level of service on the study freeway facilities under Background Plus Project Conditions for the AM and PM peak hours.

Freeway Mainline

The freeway mainline study segments would operate within the significance criteria as defined by C/CAG CMP under the Background Plus Project Conditions, except for the following segments where demand is expected to exceed capacity:

- Southbound US 101 between East Third Avenue and SR 92 is forecast to operate at congested levels (LOS F) during the PM peak hour under both Background No Project and Background Plus Project Conditions - the project development would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 between SR 92 and East Hillsdale Boulevard is forecast to operate at congested levels (LOS F) during the PM peak hour under both Background No Project and Background Plus Project Conditions - the project development would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 south of East Hillsdale Boulevard is forecast to operate at congested levels (LOS F) during the PM peak hour under both Background No Project and Background Plus Project Conditions - the project development would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.
- Eastbound SR 92 between Foster City Boulevard and County Line is forecast to operate at congested levels (LOS F) during the PM peak hour under both Background No Project and Background Plus Project Conditions - the project development would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.

Freeway On-Ramp Merge

The freeway on-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 on-ramp merge from Westbound SR 92/Fashion Island Boulevard is forecast to operate at congested levels (LOS F) during the AM and PM peak hours under both Background No Project and Background Plus Project Conditions - the project development would add traffic to this on-ramp merge study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 on-ramps from East Hillsdale Boulevard (westbound) in the AM peak hour; and from Westbound SR 92, Fashion Island Boulevard and East Hillsdale Boulevard (westbound) in the PM peak hour are forecast to operate at congested levels (LOS F) under both Background No Project and Background Plus Project Conditions - the project development would add traffic to some of these on-ramps, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.
- Eastbound SR 92 on-ramp merge from Metro Center Boulevard is forecast to operate at congested levels (LOS F) during the PM peak hour under both Background No Project and Background Plus Project Conditions - the project development would not add traffic to this on-ramp merge study segment. Therefore, the project would not result in significant impact on this study segment.

Freeway Off-Ramp Diverge

The freeway off-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- Northbound US 101 off-ramps at East Third Avenue and East Hillsdale Boulevard are forecast to operate at congested levels (LOS F) during the AM and PM peak hours under both Background No Project and Background Plus Project Conditions - the project development would not add traffic to this off-ramp diverge study segment. Therefore, the site would not result in significant impact on this study segment.
- Southbound US 101 off-ramps at East Third Avenue and East Hillsdale Boulevard are forecast to operate at congested levels (LOS F) during the AM and PM peak hours under both Background No Project and Background Plus Project Conditions - the project

development would not add traffic to this off-ramp diverge study segment. Therefore, the site would not result in significant impact on this study segment.

Freeway Weaving

The freeway weaving study segments would operate within the significance criteria as defined by C/CAG CMP except for the following segments where demand exceeds capacity:

- Northbound US 101 between westbound East Hillsdale Boulevard and SR 92 is forecast to operate at congested levels (LOS F) during both the AM and PM peak hours under both Background No Project and Background Plus Project Conditions - the site developments would not add traffic to this weaving study segment. Therefore, the project would not result in significant impact on this study segment.
- Southbound US 101 between eastbound SR 92 and East Hillsdale Boulevard is forecast to operate at congested levels (LOS F) during both the AM and PM peak hours under both Background No Project and Background Plus Project Conditions - the site development would not add traffic to this weaving study segment. Therefore, the project would not result in significant impact on this study segment.
- Westbound SR 92 between Fashion Island Boulevard and Northbound US 101 is forecast to operate at congested levels (LOS F) during the AM and PM peak hours under both Background No Project and Background Plus Project Conditions - the site development would add traffic to this weaving study segment during the PM peak hour, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity; the project would not add traffic to this weaving study segment during the PM peak hour. Therefore, the project would not result in significant impact on this study segment.

Implementation of the project would not result in new or more significant impacts to the study freeway facilities than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Background Plus Project Conditions.

The freeway analysis calculation sheets are included in Appendix B.

Table 57: Background Plus Project Conditions Freeway Mainline Level of Service – AM Peak Hour

Location	Crit ¹	Cap ²	Background			Background Plus Project			
			Vol ³	v/c ⁴	LOS ⁵	Vol ³	v/c ⁴	LOS ⁵	Impact ⁶
US 101 Northbound									
North of East Third Avenue	F	11,000	10,728	0.98	E	10,736	0.98	E	No
Between SR 92 and East Third Avenue	F	11,000	9,758	0.89	E	9,767	0.89	E	No
Between East Hillsdale Boulevard and SR 92	E	11,000	8,712	0.79	D	8,713	0.79	D	No
South of East Hillsdale Boulevard	E	11,000	8,796	0.80	D	8,793	0.80	D	No
US 101 Southbound									
North of East Third Avenue	F	11,000	9,630	0.88	E	9,627	0.88	E	No
Between East Third Avenue and SR 92	F	11,000	9,578	0.87	E	9,575	0.87	E	No
Between SR 92 and East Hillsdale Boulevard	E	11,000	9,325	0.85	D	9,326	0.85	D	No
South of East Hillsdale Boulevard	E	11,000	10,880	0.99	E	10,887	0.99	E	No
SR 92 Eastbound									
Between US 101 and Edgewater Boulevard	E	6,600	4,976	0.75	D	4,968	0.75	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	3,851	0.58	C	3,843	0.58	C	No
Between Foster City Boulevard and County Line	E	6,600	2,755	0.42	B	2,747	0.42	B	No
SR 92 Westbound									
Between US 101 and Edgewater Boulevard	E	6,600	4,466	0.68	D	4,476	0.68	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	4,458	0.68	D	4,468	0.68	D	No
Between Foster City Boulevard and County Line	E	6,600	5,339	0.81	D	5,339	0.81	D	No

Source: Kittelson & Associates, Inc., 2018.

1. Crit = LOS Criteria per C/CAG CMP
2. Cap = Capacity (vph)
3. Vol = Volume, vehicles per hour (vph)
4. v/c = Volume/Capacity Ratio
5. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)
6. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 58: Background Plus Project Conditions Freeway Mainline Level of Service – PM Peak Hour

Location	Crit ¹	Cap ²	Background			Background Plus Project			
			Vol ³	v/c ⁴	LOS ⁵	Vol ³	v/c ⁴	LOS ⁵	Impact ⁶
US 101 Northbound									
North of East Third Avenue	F	11,000	10,263	0.93	E	10,262	0.93	E	No
Between SR 92 and East Third Avenue	F	11,000	9,395	0.85	E	9,394	0.85	E	No
Between East Hillsdale Boulevard and SR 92	E	11,000	8,774	0.80	D	8,774	0.80	D	No
South of East Hillsdale Boulevard	E	11,000	9,443	0.86	E	9,448	0.86	E	No
US 101 Southbound									
North of East Third Avenue	F	11,000	11,338	0.99	E	11,345	0.99	E	No
Between East Third Avenue and SR 92	F	11,000	11,662	1.01	F	11,670	1.01	F	No
Between SR 92 and East Hillsdale Boulevard	E	11,000	11,136	1.01	F	11,137	1.01	F	No
South of East Hillsdale Boulevard	E	11,000	11,831	1.01	F	11,830	1.01	F	No
SR 92 Eastbound									
Between US 101 and Edgewater Boulevard	E	6,600	5,110	0.77	D	5,119	0.78	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	5,788	0.88	E	5,797	0.88	E	No
Between Foster City Boulevard and County Line	E	6,600	7,170	1.09	F	7,179	1.09	F	No
SR 92 Westbound									
Between US 101 and Edgewater Boulevard	E	6,600	5,753	0.87	E	5,749	0.87	E	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	4,605	0.70	D	4,601	0.70	D	No
Between Foster City Boulevard and County Line	E	6,600	3,136	0.48	C	3,137	0.48	C	No

Source: Kittelson & Associates, Inc., 2018.

1. Crit = LOS Criteria per C/CAG CMP
2. Cap = Capacity (vph)
3. Vol = Volume, vehicles per hour (vph)
4. v/c = Volume/Capacity Ratio
5. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)
6. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 59: Background Plus Project Conditions Freeway On-Ramp Merge Level of Service – AM Peak Hour

Location	Background			Background Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ⁴
US 101 Northbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Kehoe Avenue	9,904	30.5	D	9,913	30.5	D	No
From Westbound SR 92/Fashion Island Boulevard	10,157	Demand > Capacity	F	10,166	Demand > Capacity	F	No
From Eastbound SR 92	6,961	29.7	D	6,962	29.7	D	No
From Eastbound East Hillsdale Boulevard	8,086	34.7	D	8,087	34.7	D	No
US 101 Southbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Westbound SR 92	7,505	34.3	D	7,506	34.4	D	No
From Fashion Island Boulevard	8,136	35.1	E	8,137	35.1	E	No
From Westbound East Hillsdale Boulevard	9,097	Demand > Capacity	F	9,104	Demand > Capacity	F	No
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
SR 92 Eastbound							
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁵						
From Metro Center Boulevard	2,755	11.3	B	2,763	11.3	B	No
SR 92 Westbound							
From Chess Drive	4,458	23.6	C	4,468	23.7	C	No

Source: Kittelson & Associates, Inc., 2018.

1. Volume = vehicles per hour (vph)

2. Density = passenger car per mile per lane (pc/m/ln)

3. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

4. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

5. Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Table 60: Background Plus Project Conditions Freeway On-Ramp Merge Level of Service – PM Peak Hour

Location	Background			Background Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Kehoe Avenue	9,615	29.9	D	9,614	29.8	D	No
From Westbound SR 92/Fashion Island Boulevard	9,660	Demand > Capacity	F	9,659	Demand > Capacity	F	No
From Eastbound SR 92	6,997	30.7	D	6,997	30.7	D	No
From Eastbound East Hillsdale Boulevard	8,306	35.5	E	8,306	35.5	E	No
US 101 Southbound							
From East Third Avenue	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Westbound SR 92	9,581	Demand > Capacity	F	9,582	Demand > Capacity	F	No
From Fashion Island Boulevard	10,022	Demand > Capacity	F	10,023	Demand > Capacity	F	No
From Westbound East Hillsdale Boulevard	10,549	Demand > Capacity	F	10,548	Demand > Capacity	F	No
From Eastbound East Hillsdale Boulevard	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
SR 92 Eastbound							
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁵						
From Metro Center Boulevard	7,170	Demand > Capacity	F	7,179	Demand > Capacity	F	No
SR 92 Westbound							
From Chess Drive	4,605	26.6	C	4,601	26.5	C	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

⁵ Per HCM 2010 pages 13-26, LOS cannot be determined for major merge areas.

Table 61: Background Plus Project Conditions Freeway Off-Ramp Diverge Level of Service – AM Peak Hour

Location	Background			Background Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
To East Third Ave.	9,904	Demand > Capacity	F	9,913	Demand > Capacity	F	No
To Kehoe Ave.	10,157	37.8	E	10,166	37.8	E	No
To E. Hillsdale Blvd.	8,796	Demand > Capacity	F	8,793	Demand > Capacity	F	No
US 101 Southbound							
To East Third Ave.	9,630	Demand > Capacity	F	9,627	Demand > Capacity	F	No
To SR 92	9,578	Demand > Capacity	F	9,575	Demand > Capacity	F	No
SR 92 Eastbound							
To Mariners Island Blvd./Edgewater Blvd.	4,976	33.8	D	4,968	33.8	D	No
SR 92 Westbound							
To Chess Dr.	5,339	25.3	C	5,339	25.3	C	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in GREY indicate *Significant Impact* (increase in total traffic > 1%)

Table 62: Background Plus Project Conditions Freeway Off-Ramp Diverge Level of Service – PM Peak Hour

Location	Background			Background Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
To East Third Ave.	9,615	Demand > Capacity	F	9,614	Demand > Capacity	F	No
To Kehoe Ave.	9,660	35.5	E	9,659	35.5	E	No
To E. Hillsdale Blvd.	9,443	Demand > Capacity	F	9,448	Demand > Capacity	F	No
US 101 Southbound							
To East Third Ave.	11,338	Demand > Capacity	F	11,345	Demand > Capacity	F	No
To SR 92	11,662	Demand > Capacity	F	11,670	Demand > Capacity	F	No
SR 92 Eastbound							
To Mariners Island Blvd./Edgewater Blvd.	5,110	32.5	D	5,119	32.6	D	No
SR 92 Westbound							
To Chess Dr.	3,136	12.1	B	3,137	12.1	B	306

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 63: Background Plus Project Conditions Freeway Weaving Level of Service – AM Peak Hour

Location	Background			Background Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
Between WB E. Hillsdale Blvd. and SR 92	8,712	Demand > Capacity	F	8,713	Demand > Capacity	F	No
US 101 Southbound							
Between EB SR 92 and E. Hillsdale Blvd.	9,325	Demand > Capacity	F	9,326	Demand > Capacity	F	No
SR 92 Eastbound							
Mariners Island Blvd. and Metro Center Blvd.	3,851	16.5	B	3,843	16.5	B	No
SR 92 Westbound							
Chess Dr. and Fashion Island Blvd.	4,458	23.6	C	4,468	23.7	C	No
Fashion Island Blvd. and NB US 101	4,466	Demand > Capacity	F	4,476	Demand > Capacity	F	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in GREY indicate *Significant Impact* (increase in total traffic > 1%)

Table 64: Background Plus Project Conditions Freeway Weaving Level of Service – PM Peak Hour

Location	Background			Background Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
Between WB E. Hillsdale Blvd. and SR 92	8,774	Demand > Capacity	F	8,774	Demand > Capacity	F	No
US 101 Southbound							
Between EB SR 92 and E. Hillsdale Blvd.	11,136	Demand > Capacity	F	11,137	Demand > Capacity	F	No
SR 92 Eastbound							
Mariners Island Blvd. and Metro Center Blvd.	5,788	29.2	D	5,797	29.3	D	No
SR 92 Westbound							
Chess Dr. and Fashion Island Blvd.	4,605	26.6	C	4,601	26.5	C	No
Fashion Island Blvd. and NB US 101	5,753	Demand > Capacity	F	5,749	Demand > Capacity	F	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in GREY indicate *Significant Impact* (increase in total traffic > 1%)

Queuing Analysis at Freeway Off-Ramp Intersections

Table 65 and **Table 66** present the queuing analysis at freeway off-ramp intersections for the Background plus Project Conditions. The results indicate that all freeway off-ramps would have sufficient storage to accommodate the off-ramp queues during both the AM and PM peak hours.

Implementation of the project would not result in new or more significant impacts to the queuing at freeway off-ramp intersections than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Background plus Project Conditions.

Table 65: Background Plus Project Conditions Freeway Off-Ramp Queue Analysis – AM Peak Hour

Freeway Off-Ramp	Queue Lengths (ft)		NBL	NBT	NBR	SBL	SBT	SBR		
4. SR 92 WB off-ramp to Fashion Island Blvd.	Storage Length		1,650							
	95 th Percentile Queue	Background	175							
		Background Plus Project	175							
6. SR 92 WB off-ramp to Chess Dr.	Storage Length		1,575		500					
	95 th Percentile Queue	Background	225		0					
		Background Plus Project	225		0					
8. SR 92 EB off-ramp to Mariners Island Blvd.	Storage Length					1,960	800			
	95 th Percentile Queue	Background				325	175			
		Background Plus Project				325	175			
12. SR 92 EB off-ramp to Metro Center Blvd.	Storage Length								1,750	1,750
	95 th Percentile Queue	Background							275	100
		Background Plus Project							275	100

Source: Kittelson & Associates, Inc., 2017.

Storage length based on distance to the off-ramp gore point.

Table 66: Background Plus Project Conditions Freeway Off-Ramp Queue Analysis – PM Peak Hour

Freeway Off-Ramp	Queue Lengths (ft)		NBL	NBT	NBR	SBL	SBT	SBR
4. SR 92 WB off-ramp to Fashion Island Blvd.	Storage Length		1,650					
	95 th Percentile Queue	Background	125					
		Background Plus Project	125					
6. SR 92 WB off-ramp to Chess Dr.	Storage Length		1,575		500			
	95 th Percentile Queue	Background	50		0			
		Background Plus Project	50		0			
8. SR 92 EB off-ramp to Mariners Island Blvd.	Storage Length					1,960	800	
	95 th Percentile Queue	Background				175	25	
		Background Plus Project				175	25	
12. SR 92 EB off-ramp to Metro Center Blvd.	Storage Length					1,750	1,750	
	95 th Percentile Queue	Background				125	25	
		Background Plus Project				150	25	

Source: Kittelson & Associates, Inc., 2017.

Storage length based on distance to the off-ramp gore point.

2.4.4 Cumulative Plus Project Conditions

This chapter describes the Cumulative Conditions with the addition of the traffic that would be generated by the project. Cumulative plus Project Conditions were evaluated relative to Cumulative No Project Conditions to determine potential project impacts on the Cumulative transportation network attributable to the project only.

Transportation Network

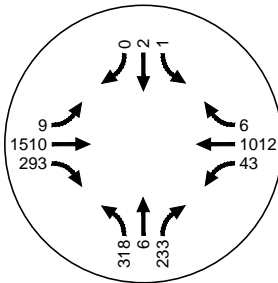
It is assumed in this analysis that the transportation network under Cumulative plus Project Conditions would be the same as described under Cumulative No Project Conditions.

Traffic Volumes

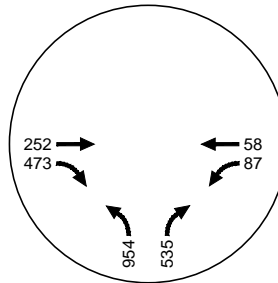
Project trips, as represented in Figure 17 and Figure 18, were added to the Cumulative No Project traffic volumes to obtain the Cumulative plus Project traffic volumes. The AM and PM peak hours Cumulative plus Project intersection traffic volumes for the project are shown in **Figure 23** and **Figure 24**.

For the freeway, the Cumulative plus Project traffic volumes were estimated by adding the trips generated by the project to the Cumulative No Project freeway mainline and ramp volumes.

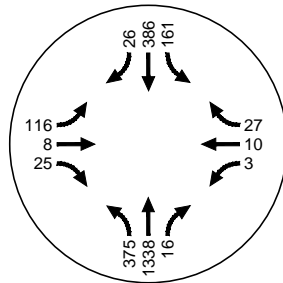
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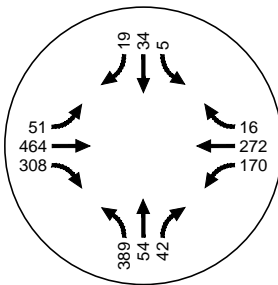
2 Foster City Blvd/E Third Ave



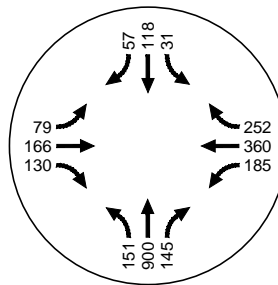
3 Foster City Blvd/Vintage Park Dr



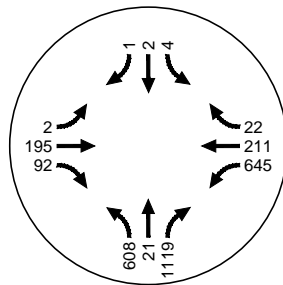
4 SR 92 WB Ramps/Fashion Island Blvd



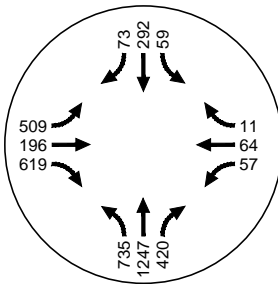
5 Vintage Park Dr/Chess Dr



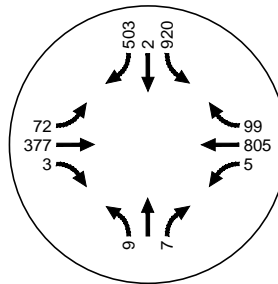
6 SR 92 WB Ramps/Chess Dr



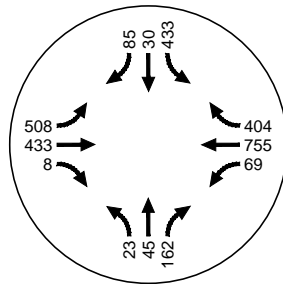
7 Foster City Blvd/Chess Dr



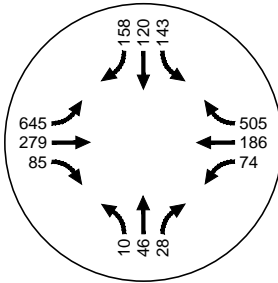
8 SR 92 EB Ramps/Edgewater Blvd



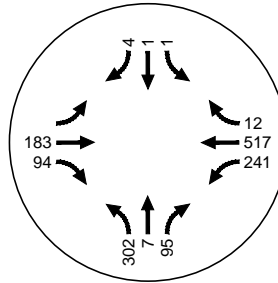
9 Metro Center Blvd/Edgewater Blvd



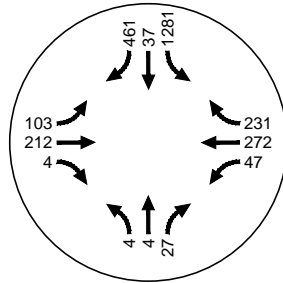
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

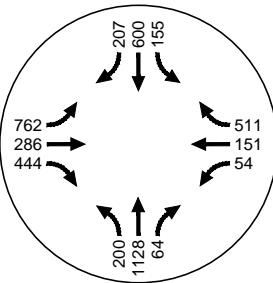


Street Name (North/South)/Street Name (East/West)

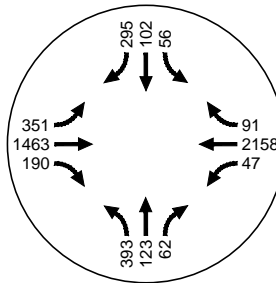
Cumulative Plus Proposed Project AM Peak Hour Volumes
Foster City, CA

Figure
23A

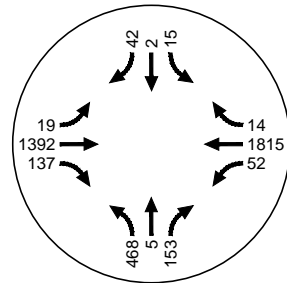
13 Foster City Blvd/Triton Dr/Metro Center Blvd



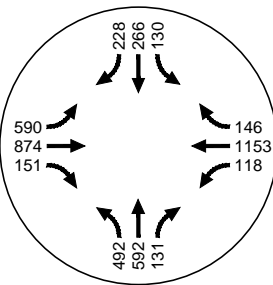
14 S Norfolk St/E Hillsdale Blvd



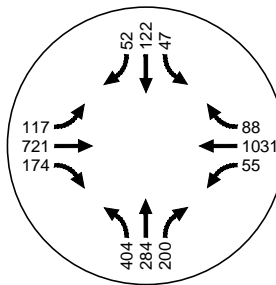
15 Altair Ave/E Hillsdale Blvd



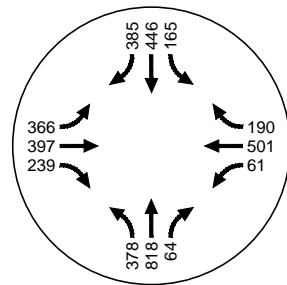
16 Edgewater Blvd/E Hillsdale Blvd



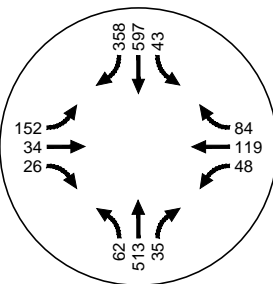
17 Shell Blvd/E Hillsdale Blvd



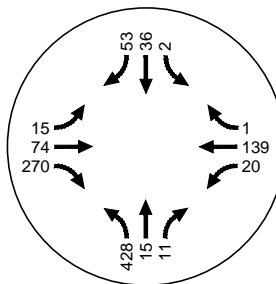
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr

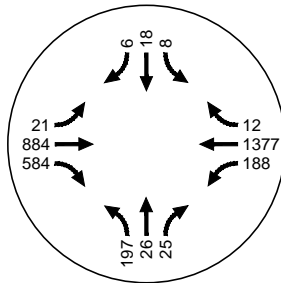


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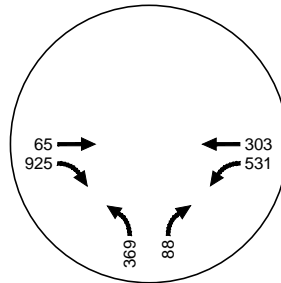
Cumulative Plus Proposed Project AM Peak Hour Volumes
Foster City, CA

Figure
23B

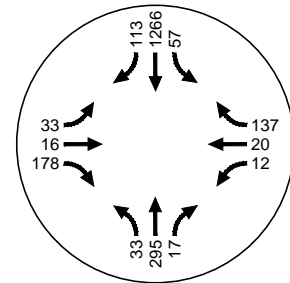
1 Mariners Island Blvd/E Third Ave



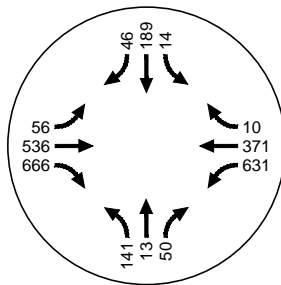
2 Foster City Blvd/E Third Ave



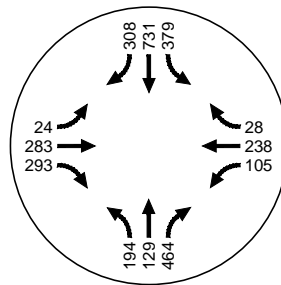
3 Foster City Blvd/Vintage Park Dr



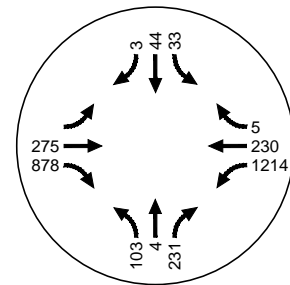
4 SR 92 WB Ramps/Fashion Island Blvd



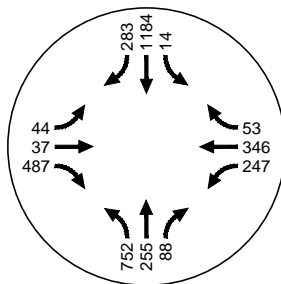
5 Vintage Park Dr/Chess Dr



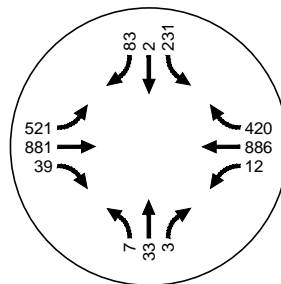
6 SR 92 WB Ramps/Chess Dr



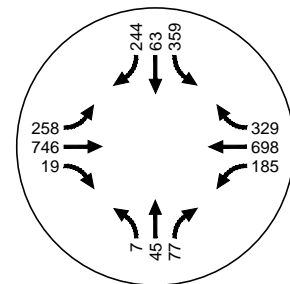
7 Foster City Blvd/Chess Dr



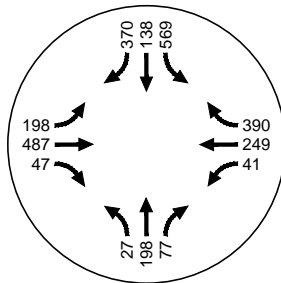
8 SR 92 EB Ramps/Edgewater Blvd



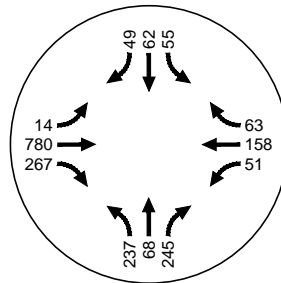
9 Metro Center Blvd/Edgewater Blvd



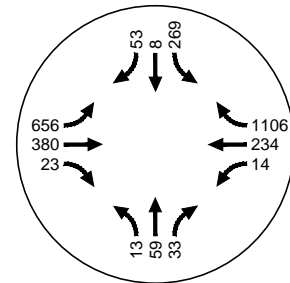
10 Vintage Park Dr/Metro Center Blvd



11 Shell Blvd/Metro Center Blvd



12 SR 92 EB Ramps/Metro Center Blvd

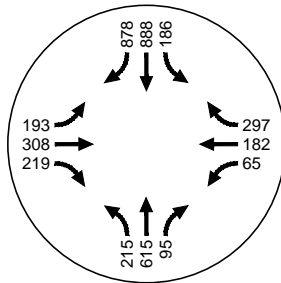


Street Name (North/South)/Street Name (East/West)

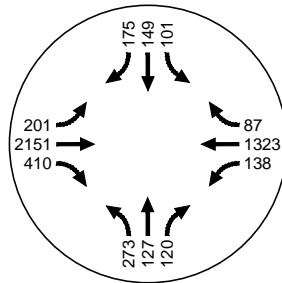
Cumulative Plus Proposed Project PM Peak Hour Volumes
Foster City, CA

Figure
24A

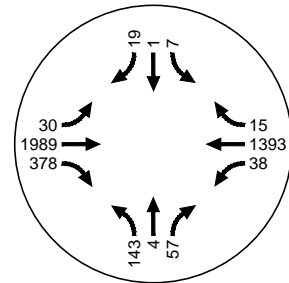
13 Foster City Blvd/Triton Dr/Metro Center Blvd



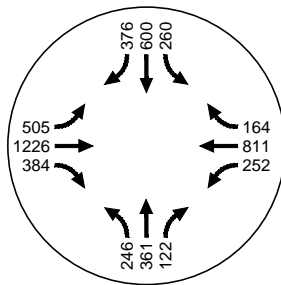
14 S Norfolk St/E Hillsdale Blvd



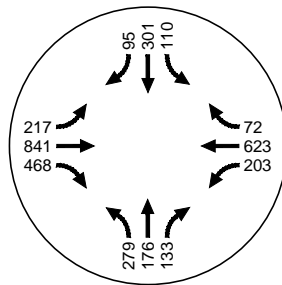
15 Altair Ave/E Hillsdale Blvd



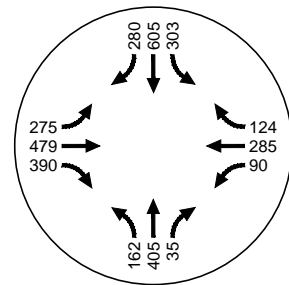
16 Edgewater Blvd/E Hillsdale Blvd



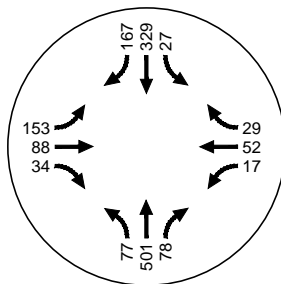
17 Shell Blvd/E Hillsdale Blvd



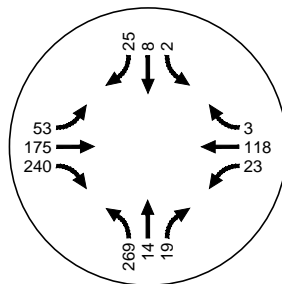
18 Foster City Blvd/E Hillsdale Blvd



19 Pilgrim Dr/E Hillsdale Blvd



20 Pilgrim Dr/Triton Dr



Street Name (North/South)/Street Name (East/West)

Cumulative Plus Proposed Project PM Peak Hour Volumes
Foster City, CA

Figure
24B

Intersection Analysis

Intersection Levels of Service

The results of the intersection LOS analysis under the Cumulative plus Project Conditions are summarized in **Table 67** and **Table 68**, for AM and PM peak hour, respectively. The results indicate that most of the study intersections would operate at acceptable LOS during both peak hours, except for the following:

- Intersection 10 - Vintage Park Drive/Metro Center Boulevard would operate at unacceptable LOS E during the AM peak hour under both Cumulative No Project and Cumulative plus Project Conditions. The addition of project trips would not increase vehicle delay at this intersection beyond the standard, therefore, the impact at this intersection is considered *less-than-significant*.
- Intersection 12 – SR 92 Eastbound Ramps/Metro Center Boulevard would operate at unacceptable LOS F under both Cumulative No Project and Cumulative plus Project Conditions during the PM peak hour. The addition of project trips would not increase the vehicle delay at this intersection beyond the standard; therefore, the impact at this intersection is considered *less-than-significant*.

Note: Some intersections improve with the project compared to the no project scenario. This is caused by the removal of some existing land use (industrial park) and addition of a new land use (residential) which creates a directionally different project trip distribution resulting in slightly lower delays for some intersections with the project compared to the no project scenario.

Note 2: In addition, some intersections experience worse LOS and delay compared to the findings from the General Plan. This is caused by the higher traffic counts observed during the 9-year period when the General Plan analysis was conducted.

The LOS calculation sheets are included in Appendix A.

Table 67: Cumulative Plus Project Conditions Intersection Level of Service – AM Peak Hour

	Intersection	Control	Cumulative		Cumulative Plus Project	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	26.5	C	26.5	C
2	Foster City Boulevard/East Third Avenue	Signalized	16.6	B	16.6	B
3	Foster City Boulevard/Vintage Park Drive	Signalized	29.6	C	29.5	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	19.8	B	19.8	B
5 ³	Vintage Park Drive/Chess Drive	Signalized	33.1	C	33.2	C
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	57.0	E	57.9	E
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	36.8	D	36.7	D
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	29.1	C	29.1	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	35.2	D	35.2	D
10	Vintage Park Drive/Metro Center Boulevard	Signalized	72.8	E	72.8	E
11	Shell Boulevard/Metro Center Boulevard	Signalized	32.6	C	32.6	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	26.6	C	25.9	C
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	45.0	D	44.4	D
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	36.9	D	37.1	D
15	Altair Avenue/East Hillsdale Boulevard	Signalized	12.8	B	12.8	B
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	35.4	D	35.5	D
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	20.2	C	20.3	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	41.8	D	42.0	D
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	30.6	C	30.4	C
20	Pilgrim Drive/Triton Drive	AWSC	19.9	C	20.8	C

Source: Kittelson & Associates, Inc. 2017.

Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact*

¹ Intersection under City of San Mateo Jurisdiction

² Intersection analyzed using Vissim micro-simulation modeling package

³ The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Table 68: Cumulative Plus Project Conditions Intersection Level of Service – PM Peak Hour

	Intersection	Control	Cumulative		Cumulative Plus Project	
			Delay	LOS	Delay	LOS
1	Mariners Island Boulevard/East Third Avenue	Signalized	21.9	C	21.9	C
2	Foster City Boulevard/East Third Avenue	Signalized	22.1	C	22.0	C
3	Foster City Boulevard/Vintage Park Drive	Signalized	34.8	C	34.8	C
4	SR 92 Westbound Ramps/Fashion Island Boulevard	Signalized	24.2	C	24.2	C
5 ³	Vintage Park Drive/Chess Drive	Signalized	53.8	D	54.0	D
6 ^{2,3}	SR 92 Westbound Ramps/Chess Drive	Signalized	137.8	F	133.8	F
7 ^{2,3}	Foster City Boulevard/Chess Drive	Signalized	191.1	F	187.2	F
8	SR 92 Eastbound Ramps/Edgewater Boulevard	Signalized	32.0	C	32.0	C
9	Metro Center Boulevard/Edgewater Boulevard	Signalized	34.2	C	34.2	C
10	Vintage Park Drive/Metro Center Boulevard	Signalized	37.6	D	37.6	D
11	Shell Boulevard/Metro Center Boulevard	Signalized	34.8	C	34.9	C
12 ²	SR 92 Eastbound Ramps/Metro Center Boulevard	Signalized	84.0	F	83.8	F
13 ^{2,3}	Foster City Blvd/Triton Drive/Metro Center Blvd	Signalized	93.2	F	89.8	F
14 ¹	South Norfolk Street/East Hillsdale Boulevard	Signalized	28.8	C	28.9	C
15	Altair Avenue/East Hillsdale Boulevard	Signalized	4.8	A	4.8	A
16	Edgewater Boulevard/East Hillsdale Boulevard	Signalized	39.1	D	39.0	D
17	Shell Boulevard/East Hillsdale Boulevard	Signalized	26.5	C	26.4	C
18	Foster City Boulevard/East Hillsdale Boulevard	Signalized	31.4	C	31.3	C
19	Pilgrim Drive East/Hillsdale Boulevard	Signalized	16.9	B	17.2	B
20	Pilgrim Drive/Triton Drive	AWSC	11.2	B	11.2	B

Source: Kittelson & Associates, Inc. 2017.

Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact*

¹ Intersection under City of San Mateo Jurisdiction

² Intersection analyzed using Vissim micro-simulation modeling package

³ The minimum acceptable LOS is E or F due to their role to access points to the freeway system

Signal Warrant Analysis

Since the intersection of Pilgrim Drive/Triton Drive would operate at LOS “D” or better during both the AM and PM peak hours, a peak hour signal warrant was not analyzed under the Cumulative plus Project Conditions.

Implementation of the project would not result in new or more significant impacts to the study intersections than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Cumulative plus Project Conditions.

Freeway Analysis

Table 69 to **Table 76** present the level of service on the study freeway facilities under Cumulative plus Project Conditions for the AM and PM peak hours.

Freeway Mainline

Most freeway mainline study segments would operate within the significance criteria as defined by C/CAG CMP under the Cumulative plus Project Conditions, except for the following segments where demand exceeds capacity:

- US 101 Southbound between East Third Avenue and SR 92 would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound between SR 92 and East Hillsdale Boulevard would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound south of East Hillsdale Boulevard would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.

- SR 92 Eastbound between Foster City Boulevard and the San Mateo/Alameda County Line would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would add traffic to this freeway mainline study segment, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity. Therefore, the project would not result in significant impact on this study segment.

Freeway On-Ramp Merge

The freeway on-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- US 101 Northbound on-ramp merge from Westbound SR 92 / Fashion Island Boulevard would operate at congested levels (LOS F) during the both the AM and PM peak hours under both Cumulative no Project and Cumulative plus Project Conditions - the project would add traffic to this on-ramp merge study segment during the AM peak hour, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity; the project would not add traffic to this on-ramp merge study segment during the PM peak hour. Therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound on-ramp merge from Westbound SR 92 would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would not add traffic to this on-ramp merge study segment, therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound on-ramp merge from Fashion Island Boulevard would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would not add traffic to this on-ramp merge study segment, therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound on-ramp merge from westbound East Hillsdale Boulevard would operate at congested levels (LOS F) during the AM and PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would not add traffic to this on-ramp merge study segment, therefore, the project would not result in significant impact on this study segment.
- SR 92 Eastbound on-ramp merge from Metro Center Boulevard would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative

plus Project Conditions - the project would not add traffic to this on-ramp merge study segment, therefore, the project would not result in significant impact on this study segment.

Freeway Off-Ramp Diverge

The freeway off-ramps would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- US 101 Northbound off-ramp to East Third Avenue would operate at congested levels (LOS F) during both the AM and PM peak hours under both Cumulative No Project and Cumulative plus Project Conditions – the project would not add traffic to this off-ramp diverge study segment during the PM peak hour, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity; the project would not add traffic to this off-ramp diverge study segment during the AM peak hour. Therefore, the project would not result in significant impact on this study segment.
- US 101 Northbound off-ramp diverge to East Hillsdale Boulevard would operate at congested levels (LOS F) during both the AM and PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would add traffic to this off-ramp diverge merge study segment during the PM peak hour, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity; the project would not add traffic to this off-ramp diverge study segment during the AM peak hour. Therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound off-ramp diverge to East Third Avenue would operate at congested levels (LOS F) during both the AM and PM peak hours under both Cumulative no Project and Cumulative plus Project Conditions - the project would not add traffic to this off-ramp diverge study segment. Therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound off-ramp to SR 92 would operate at congested levels (LOS F) during both the AM and PM peak hour under both Cumulative No Project and Cumulative plus Project Conditions – the project would not add traffic to this off-ramp diverge study segment during the AM peak hour nor the PM peak hour. Therefore, the project would not result in significant impact on this study segment.

Freeway Weaving

The freeway weaving study segments would operate within the significance criteria as defined by C/CAG CMP except for the following ramps where demand exceeds capacity:

- US 101 Northbound between Westbound East Hillsdale Boulevard and SR 92 would operate at congested levels (LOS F) during both the AM and PM peak hours under both Cumulative no Project and Cumulative plus Project Conditions - the project would not add traffic to this weaving study segment, therefore, the project would not result in significant impact on this study segment.
- US 101 Southbound between Eastbound SR 92 and East Hillsdale Boulevard would operate at congested levels (LOS F) during both the AM and PM peak hours under both Cumulative no Project and Cumulative plus Project Conditions - the project would not add traffic to this weaving study segment, therefore, the project would not result in significant impact on this study segment.
- SR 92 Westbound between Chess Drive and Fashion Island Boulevard would operate at congested levels (LOS F) during the PM peak hour under both Cumulative no Project and Cumulative plus Project Conditions - the project would not add traffic to this weaving study segment. Therefore, the project would not result in significant impact on this study segment.
- SR 92 Westbound between Fashion Island Boulevard and Northbound US 101 would operate at congested levels (LOS F) during both the AM and PM peak hours under both Cumulative no Project and Cumulative plus Project Conditions - the project would add traffic to this weaving study segment during the AM peak hour, however, based on the C/CAG CMP significance criteria, the project would not add one percent or more to the traffic volume to the segment capacity; the project would not add traffic to this weaving study segment during the PM peak hour. Therefore, the project would not result in significant impact on this study segment.

Implementation of the project for would not result in new or more significant impacts to the study freeway facilities than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Cumulative plus Project Conditions.

The freeway analysis calculation sheets are included in Appendix B.

Table 69: Cumulative Plus Project Conditions Freeway Mainline Level of Service – AM Peak Hour

Location	Crit ¹	Cap ²	Cumulative			Cumulative Plus Project			
			Vol ³	v/c ⁴	LOS ⁵	Vol ³	v/c ⁴	LOS ⁵	Impact ⁶
US 101 Northbound									
North of East Third Avenue	F	11,000	10,767	0.98	E	10,775	0.98	E	No
Between SR 92 and East Third Avenue	F	11,000	9,781	0.89	E	9,790	0.89	E	No
Between East Hillsdale Boulevard and SR 92	E	11,000	8,963	0.81	D	8,964	0.81	D	No
South of East Hillsdale Boulevard	E	11,000	9,089	0.83	D	9,086	0.83	D	No
US 101 Southbound									
North of East Third Avenue	F	11,000	9,924	0.90	E	9,921	0.90	E	No
Between East Third Avenue and SR 92	F	11,000	9,598	0.87	E	9,595	0.87	E	No
Between SR 92 and East Hillsdale Boulevard	E	11,000	9,359	0.85	E	9,360	0.85	E	No
South of East Hillsdale Boulevard	E	11,000	10,920	0.99	E	10,927	0.99	E	No
SR 92 Eastbound									
Between US 101 and Edgewater Boulevard	E	6,600	5,488	0.83	D	5,480	0.83	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	4,234	0.64	C	4,226	0.64	C	No
Between Foster City Boulevard and County Line	E	6,600	2,782	0.42	B	2,774	0.42	B	No
SR 92 Westbound									
Between US 101 and Edgewater Boulevard	E	6,600	4,534	0.69	D	4,544	0.69	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	4,507	0.68	D	4,517	0.68	D	No
Between Foster City Boulevard and County Line	E	6,600	5,526	0.84	D	5,526	0.84	D	No

Source: Kittelson & Associates, Inc., 2017.

¹ Crit = LOS Criteria per C/CAG CMP

² Cap = Capacity (vph)

³ Vol = Volume, vehicles per hour (vph)

⁴ D = Density, passenger car per mile per lane (pc/m/ln)

⁵ v/c = Volume/Capacity Ratio; only calculated if LOS exceeds Significance Criteria

⁶ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁷ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (change in v/c > 1%)

Table 70: Cumulative Plus Project Conditions Freeway Mainline Level of Service – PM Peak Hour

Location	Crit ¹	Cap ²	Cumulative			Cumulative Plus Project			
			Vol ³	v/c ⁴	LOS ⁵	Vol ³	v/c ⁴	LOS ⁵	Impact ⁶
US 101 Northbound									
North of East Third Avenue	F	11,000	10,550	0.96	E	10,549	0.96	E	No
Between SR 92 and East Third Avenue	F	11,000	9,419	0.86	E	9,418	0.86	E	No
Between East Hillsdale Boulevard and SR 92	E	11,000	8,813	0.80	D	8,813	0.80	D	No
South of East Hillsdale Boulevard	E	11,000	9,491	0.86	E	9,496	0.86	E	No
US 101 Southbound									
North of East Third Avenue	F	11,000	11,386	0.99	E	11,393	0.99	E	No
Between East Third Avenue and SR 92	F	11,000	11,688	1.02	F	11,696	1.02	F	No
Between SR 92 and East Hillsdale Boulevard	E	11,000	11,378	1.03	F	11,379	1.03	F	No
South of East Hillsdale Boulevard	E	11,000	12,119	1.03	F	12,118	1.03	F	No
SR 92 Eastbound									
Between US 101 and Edgewater Boulevard	E	6,600	5,193	0.79	D	5,202	0.79	D	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	5,851	0.89	E	5,860	0.89	E	No
Between Foster City Boulevard and County Line	E	6,600	7,353	1.11	F	7,362	1.12	F	No
SR 92 Westbound									
Between US 101 and Edgewater Boulevard	E	6,600	6,252	0.95	E	6,248	0.95	E	No
Between Edgewater Boulevard and Foster City Boulevard	E	6,600	4,970	0.75	D	4,966	0.75	D	No
Between Foster City Boulevard and County Line	E	6,600	3,167	0.48	C	3,168	0.48	C	No

Source: Kittelson & Associates, Inc., 2017.

1. Crit = LOS Criteria per C/CAG CMP
2. Cap = Capacity (vph)
3. Vol = Volume, vehicles per hour (vph)
4. v/c = Volume/Capacity Ratio
5. LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)
6. Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 71: Cumulative Plus Project Conditions Freeway On-Ramp Merge Level of Service – AM Peak Hour

Location	Cumulative			Cumulative Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
From East Third Ave.	Lane addition at on-ramp; analyzed as Basic Freeway Segment						
From Kehoe Ave.	9,927	30.6	D	9,936	30.6	D	No
From Westbound SR 92/Fashion Island Blvd.	10,180	Demand > Capacity	F	10,189	Demand > Capacity	F	No
From Eastbound SR 92	6,982	29.8	D	6,983	29.8	D	No
From Eastbound E. Hillsdale Blvd.	8,337	35.6	E	8,338	35.6	E	No
US 101 Southbound							
From East Third Ave.	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Westbound SR 92	7,539	34.6	D	7,540	34.6	D	No
From Fashion Island Blvd.	8,170	35.3	E	8,171	35.3	E	No
From Westbound E. Hillsdale Blvd.	9,137	Demand > Capacity	F	9,144	Demand > Capacity	F	No
From Eastbound E. Hillsdale Blvd.	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
SR 92 Eastbound							
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁴						
From Metro Center Blvd.	2,782	11.5	B	2,774	11.5	B	No
SR 92 Westbound							
From Chess Drive	4,507	24.0	C	4,517	24.1	C	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

⁵ Per HCM2010 Page 13-26, LOS cannot be determined for major merge areas.

Table 72: Cumulative Plus Project Conditions Freeway On-Ramp Merge Level of Service – PM Peak Hour

Location	Cumulative			Cumulative Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
From East Third Ave.	Lane addition at on-ramp; analyzed as Basic Freeway Segment						
From Kehoe Ave.	9,639	29.9	D	9,638	29.9	D	No
From Westbound SR 92/Fashion Island Blvd.	9,684	Demand > Capacity	F	9,683	Demand > Capacity	F	No
From Eastbound SR 92	7,000	30.7	D	7,000	30.7	D	No
From Eastbound E. Hillsdale Blvd.	8,345	35.6	E	8,345	35.6	E	No
US 101 Southbound							
From East Third Ave.	Lane addition at on-ramp; Analyzed as Basic Freeway Segment						
From Westbound SR 92	9,823	Demand > Capacity	F	9,824	Demand > Capacity	F	No
From Fashion Island Blvd.	10,264	Demand > Capacity	F	10,265	Demand > Capacity	F	No
From Westbound E. Hillsdale Blvd.	10,837	Demand > Capacity	F	10,836	Demand > Capacity	F	No
From Eastbound E. Hillsdale Blvd.	Lane addition at on-ramp; analyzed as Basic Freeway Segment						
SR 92 Eastbound							
From US 101	Major merge area; LOS cannot be determined; Analyzed as Basic Freeway Segment ⁴						
From Metro Center Blvd.	7,353	Demand > Capacity	F	7,362	Demand > Capacity	F	No
SR 92 Westbound							
From Chess Drive	4,970	Demand > Capacity	F	4,966	Demand > Capacity	F	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

⁵ Per HCM2010 Page 13-26, LOS cannot be determined for major merge areas.

Table 73: Cumulative Plus Project Conditions Freeway Off-Ramp Diverge Level of Service – AM Peak Hour

Location	Cumulative			Cumulative Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
To East Third Ave.	9,927	Demand > Capacity	F	9,936	Demand > Capacity	F	No
To Kehoe Ave.	10,180	37.9	E	10,189	37.9	E	No
To E. Hillsdale Blvd.	9,089	Demand > Capacity	F	9,086	Demand > Capacity	F	No
US 101 Southbound							
To East Third Ave.	9,924	Demand > Capacity	F	9,921	Demand > Capacity	F	No
To SR 92	9,598	Demand > Capacity	F	9,595	Demand > Capacity	F	No
SR 92 Eastbound							
To Mariners Island Blvd./Edgewater Blvd.	5,488	36.3	E	5,480	36.2	E	No
SR 92 Westbound							
To Chess Dr.	5,526	26.5	C	5,526	26.5	C	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in GREY indicate *Significant Impact* (increase in total traffic > 1%)

Table 74: Cumulative Plus Project Conditions Freeway Off-Ramp Diverge Level of Service – PM Peak Hour

Location	Cumulative			Cumulative Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
To East Third Ave.	9,639	Demand > Capacity	F	9,638	Demand > Capacity	F	No
To Kehoe Ave.	9,684	35.6	E	9,683	35.6	E	No
To E. Hillsdale Blvd.	9,491	Demand > Capacity	F	9,496	Demand > Capacity	F	No
US 101 Southbound							
To East Third Ave.	11,386	Demand > Capacity	F	11,393	Demand > Capacity	F	No
To SR 92	11,688	Demand > Capacity	F	11,696	Demand > Capacity	F	No
SR 92 Eastbound							
To Mariners Island Blvd./Edgewater Blvd.	5,193	32.9	D	5,202	33.0	D	No
SR 92 Westbound							
To Chess Dr.	3,167	12.3	B	3,168	12.3	B	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in **GREY** indicate *Significant Impact* (increase in total traffic > 1%)

Table 75: Cumulative Plus Project Conditions Freeway Weaving Level of Service – AM Peak Hour

Location	Cumulative			Cumulative Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
Between WB E. Hillsdale Blvd. and SR 92	8,963	Demand > Capacity	F	8,964	Demand > Capacity	F	No
US 101 Southbound							
Between EB SR 92 and E. Hillsdale Blvd.	9,359	Demand > Capacity	F	9,360	Demand > Capacity	F	No
SR 92 Eastbound							
Mariners Island Blvd. and Metro Center Blvd.	4,234	18.3	B	4,226	18.2	B	No
SR 92 Westbound							
Chess Dr. and Fashion Island Blvd.	4,507	24.0	C	4,517	24.1	C	No
Fashion Island Blvd. and NB US 101	4,534	Demand > Capacity	F	4,544	Demand > Capacity	F	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in GREY indicate *Significant Impact* (increase in total traffic > 1%)

Table 76: Cumulative Plus Project Conditions Freeway Weaving Level of Service – PM Peak Hour

Location	Cumulative			Cumulative Plus Project			
	Volume ¹	Density ²	LOS ³	Volume ¹	Density ²	LOS ³	Impact ? ⁴
US 101 Northbound							
Between WB E. Hillsdale Blvd. and SR 92	8,813	Demand > Capacity	F	8,813	Demand > Capacity	F	No
US 101 Southbound							
Between EB SR 92 and E. Hillsdale Blvd.	11,378	Demand > Capacity	F	11,379	Demand > Capacity	F	No
SR 92 Eastbound							
Mariners Island Blvd. and Metro Center Blvd.	5,851	29.8	D	5,860	29.9	D	No
SR 92 Westbound							
Chess Dr. and Fashion Island Blvd.	4,970	Demand > Capacity	F	4,966	Demand > Capacity	F	No
Fashion Island Blvd. and NB US 101	6,252	Demand > Capacity	F	6,248	Demand > Capacity	F	No

Source: Kittelson & Associates, Inc., 2017.

¹ Volume = vehicles per hour (vph)

² Density = passenger car per mile per lane (pc/m/ln)

³ LOS = Level of Service based on 2010 *Highway Capacity Manual* (HCM)

⁴ Text in **BOLD** indicates LOS exceeding standard; Cells shaded in GREY indicate *Significant Impact* (increase in total traffic > 1%)

Queuing Analysis at Freeway Off-Ramp Intersections

Table 77 and Table 78 present the queuing analysis at freeway off-ramp intersections for the Cumulative plus Project Conditions. The results indicate that all freeway off-ramps would have sufficient storage to accommodate the off-ramp queues during both the AM and PM peak hours.

Implementation of the project would not result in new or more significant impacts to the queuing at freeway off-ramp intersections than those addressed in the *2008 Pilgrim Triton Master Plan EIR* under the Cumulative plus Project Conditions.

Table 77: Cumulative Plus Project Conditions Freeway Off-Ramp Queue Analysis – AM Peak Hour

Freeway Off-Ramp	Queue Lengths (ft)		NBL	NBT	NBR	SBL	SBT	SBR		
4. SR 92 WB off-ramp to Fashion Island Blvd.	Storage Length		1,650							
	Average Queue Length	Cumulative	175							
		Cumulative Plus Project	175							
6. SR 92 WB off-ramp to Chess Dr.	Storage Length		1,575		500					
	Average Queue Length	Cumulative	275		0					
		Cumulative Plus Project	275		0					
8. SR 92 EB off-ramp to Mariners Island Blvd.	Storage Length					1,960	800			
	Average Queue Length	Cumulative				375	175			
		Cumulative Plus Project				375	175			
12. SR 92 EB off-ramp to Metro Center Blvd.	Storage Length								1,750	1,750
	Average Queue Length	Cumulative							425	100
		Cumulative Plus Project							425	100

Source: Kittelson & Associates, Inc., 2017.

Storage length based on distance to the off-ramp gore point.

Table 78: Cumulative Plus Project Conditions Freeway Off-Ramp Queue Analysis – PM Peak Hour

Freeway Off-Ramp	Queue Lengths (ft)		NBL	NBT	NBR	SBL	SBT	SBR		
4. SR 92 WB off-ramp to Fashion Island Blvd.	Storage Length		1,650							
	Average Queue Length	Cumulative	125							
		Cumulative Plus Project	125							
6. SR 92 WB off-ramp to Chess Dr.	Storage Length		1,575		500					
	Average Queue Length	Cumulative	75		0					
		Cumulative Plus Project	75		0					
8. SR 92 EB off-ramp to Mariners Island Blvd.	Storage Length					1,960	800			
	Average Queue Length	Cumulative				175	25			
		Cumulative Plus Project				175	25			
12. SR 92 EB off-ramp to Metro Center Blvd.	Storage Length								1,750	1,750
	Average Queue Length	Cumulative							175	25
		Cumulative Plus Project							175	25

Source: Kittelson & Associates, Inc., 2017.

Storage length based on distance to the off-ramp gore point.

Section 3

Other Transportation Issues

3 OTHER TRANSPORTATION ISSUES

In addition to analyzing the operations of the study intersections and freeway facilities, site access, Congestion Management Program analysis, pedestrian and bicycle facilities, transit facilities, parking on-site circulation, emergency access, air traffic and construction impacts were also analyzed.

3.1 CONGESTION MANAGEMENT PROGRAM

To comply with C/CAG's CMP requirement, a CMP analysis was conducted on the San Mateo County CMP roadway system in the vicinity of the project, which include the freeway facilities of US 101 and SR 92. The project's impact on these facilities was discussed in the previous sections based on the CMP significance criteria.

The CMP analysis did not find any regional impacts to the CMP roadways for the Existing, Background and Cumulative Conditions for the project. Therefore, it is expected that the project would not result in new or more significant impacts to the CMP roadway segments than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

3.2 PEDESTRIAN AND BICYCLE FACILITIES

A qualitative assessment was conducted to determine the project's potential impacts on pedestrians, pedestrian facilities, bicyclists and bicycle facilities. The project would result in increased pedestrian and bicycle activity due to residents and visitors in the project vicinity. As shown in Figure 4, there are planned sidewalks on the perimeter of the project site, as well as pedestrian walkways within the project site. There are also planned Class II bike lanes which are anticipated to be implemented along East Hillsdale Boulevard, pending approval.

Off-site pedestrian destinations include SamTrans bus stops located on East Hillsdale Boulevard at Pilgrim Drive, AC Transit Transbay bus stop located to the west of the project site on East Hillsdale Boulevard at Foster City Boulevard, and Shuttle stops: one located to the north of the project site at The Plaza at Triton Park, and one located on Pilgrim Drive south of the project site. There are crosswalks installed on all the streets leading to the bus stops from the project site.

Bicycle access to the project site is provided through several City of Foster City designated Class III bicycle routes, including Foster City Boulevard and East Hillsdale Boulevard.

The existing pedestrian and bicycle access to the project site, along with the proposed facilities to be built as part of the project, provide adequate pedestrian and bicyclist access the project site. Overall, the project would have a *less-than-significant impact* to the pedestrian and bicycle

facilities. Implementation of the project would not result in new or more significant impacts to pedestrian and bicycle facilities than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

3.3 TRANSIT FACILITIES

As discussed previously, there are several bus stops and shuttle stops that are located in the project vicinity, which are all within a 0.5-mile radius. However, as stated in the *City of Foster City General Plan* Land Use and Circulation Element, the physical location of the City does not warrant great transit ridership because Foster City is not located on the main transit corridor. From the 2006-2008 *American Community Survey*²¹, about 3.5% of City of Foster City residents take transit to work. The increase in transit ridership due to the project would not be significant, and it would not lead to any significant impacts to the transit facilities in the project vicinity. Implementation of the project would not result in new or more significant impacts to the transit facilities than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

3.4 PARKING ASSESSMENT

The project will provide an attached two-car parking garage for each of the 70 proposed townhome units, resulting in a total of 140 spaces for the new townhouse residents. In addition, there are 30 guest parking spaces. The project will also provide one parking spaces for each of the 22 proposed workforce units, resulting in a total of 22 spaces and an additional 19 guest spaces. This parking analysis assessed the adequacy of the proposed number of parking spaces based on the City's parking requirements as well as the parking demand estimation according to *ITE Parking Generation*²².

In general, on-street parking must conform to all City guidelines and standards for sight-visibility and red curb adherence. These items should be addressed at the Plan Review stage when the final project site plans are developed.

In addition, all project parking, on-street and off-street, must comply with all City parking requirements so proper enforcement can be conducted.

²¹ *City of Foster City General Plan*, Chapter 3 Land Use and Circulation Element, page 3-31, February 1, 2016.

²² Institute of Transportation Engineers (ITE) *Parking Generation*, 4th Edition, 2010.

Proposed Land Uses

A review of the parking requirements and estimated parking demand for the proposed land uses is shown in Table 82.

City Parking Requirement

Table 79 summarizes the number of parking spaces required based on the City of Foster City's Municipal Code²³ for the project. The townhome portion of the project requires two (2) parking spaces per townhouse unit in a garage that is located within two hundred feet of an entrance of the unit it is designed to serve, and 0.5 off-street uncovered parking stalls per residential unit for visitor parking, for a total of 140 off-street parking spaces and 35 off-street parking spaces for visitor parking. The plan set (dated May 17, 2018) identified that the development will provide 140 covered parking spaces (2 spaces per residential (townhouse) unit), as well as 30 guest parking spaces.

The workforce apartment portion of the project requires 1.5 parking spaces per one-bedroom unit and two (2) parking spaces per two-bedroom unit, and 0.7 off-street uncovered parking stalls per residential unit for visitor parking, for a total of 37.5 off-street parking spaces and 15.4 off-street parking spaces for visitor parking. The plan set identified that the development will provide 10 covered and 12 uncovered stalls for the 22 residential (workforce) units, as well as 19 guest parking spaces.

Section 17.36.060 of the Foster City Municipal Code allows the Planning Commission to grant up to a ten-percent (10%) deviation from the parking requirements in PD, Planned Development Districts.

According to Clause 2.1.6 in the *Pilgrim Triton Master Development Agreement*:

Parking. Each Specific Development Plan/Use Permit will establish the number of locations of parking spaces applicable to the development that is the subject of the Developer's application. Developers shall include street parking where streets are to be owned and maintained privately by the Master Property Owners' Association. Street parking provided on private streets within the Master Plan shall be counted towards parking requirements. In addition, City shall allow the approximately ten (10) to fifteen (15) street parking spaces located along the public section of Triton Drive that is intended to become privatized during the long term build out of the Property to be counted towards the project's parking requirements.

²³ City of Foster City Municipal Code, Section 17.62.020

<http://www.codepublishing.com/CA/FosterCity/html/FosterCity17/FosterCity1762.html#17.62.060>

Within the Pilgrim Triton Master Plan, Pilgrim Drive will remain as public streets, whereas Triton Drive and Calypso Lane will be private. With the 10% deviation from the City's parking requirements (see Section 17.36.060), the project will meet the City's parking requirement for the proposed land use for both the residents and the visitors.

Table 79: Parking Generation and Requirements for Project

Land Use Category	Amount	Parking Spaces Provided	Source	ITE Parking Demand		City's Parking Requirement		Meet City's Requirement ?
				Rate	Spaces	Rate	Spaces	
Townhouse 2+ Bedroom Unit	70 dwelling units	140 (garage parking)	ITE 230	1.38	97	2/unit (off-street parking)	140	Yes
		30 ¹ (guest parking)				0.5/unit (guest/visitor parking)	35	No
Workforce Units	22 dwelling units	22 ² (garage parking)	ITE 221	1.23	27	Varies ³	37.5	No
		19 ² (guest parking)				0.7/unit (guest/visitor parking)	15.4	Yes

Source: *ITE Parking Generation Manual 4th Edition*; City of Foster City Municipal Code; Kittelson & Associates, Inc., 2017.

¹The townhouse portion of the project will provide 30 guest parking spaces, including 9 on-street parking spaces on Starfish Lane, and 21 on-street parking spaces on Calypso Lane. In addition, the project will provide 17 on-street parking spaces on Pilgrim Drive, but because Pilgrim Drive is a public road, the parking spaces along Pilgrim Drive could not be used to satisfy the City's Parking Requirements.

²The workforce apartment portion of the project will provide 10 covered and 12 uncovered stalls plus 19 stalls on Triton Drive for a total of 41 stalls.

³The workforce apartments has 9 one-bedroom units (1.5/unit), 4 one-bedroom with den units (1.5/unit), and 9 two-bedroom units (2/unit).

Parking Demand

Parking demand for the project was estimated by using the parking generation rates provided in the ITE's *Parking Generation Manual*. Similar to the trip generation, these rates were applied to the land uses for the project. A summary of the parking demand estimate for the project is shown in **Table 79**. As shown in the table, there would be sufficient parking provided by the project to meet the estimated parking demand associated with the project.

As a result, implementation of the project would not result in new or more significant impacts to the parking shortfalls than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

3.5 SITE CIRCULATION

The project would have four driveways: one on the new Calypso Lane that would be constructed as part of the project, two on Pilgrim Drive just west of East Hillsdale Avenue, and one on Argonaut Lane. The intersection of Calypso Lane/East Hillsdale Avenue would be a right-in-right-out access; and the intersection of East Hillsdale Avenue/Pilgrim Drive would be a full access intersection. There would be an internal roadway within the project site that connects Calypso Lane and Pilgrim Drive. Therefore, the project would not result in site circulation impacts. Implementation of the project would not result in new or more significant impacts to the site circulation than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

Two-way left turn lane (TWLTL) on Pilgrim Drive

The Pilgrim Triton Master Plan had proposed to remove the two-way left turn lane (TWLTL) on Pilgrim Drive. This is associated with the right-of-way reduction to accommodate pedestrian bulbouts at the project driveways on Pilgrim Drive. Project traffic turning left at the driveways may now have to queue up to find a gap before turning left into and out of the driveways. This may result in some queuing along Pilgrim Drive, but no new impacts are associated with this configuration change that were not addressed in the *2008 Pilgrim Triton Master Plan EIR*.

3.6 EMERGENCY ACCESS

Emergency vehicles (EVA) would be able to use the surrounding roadways to access the project site, and they would have full site access within site. In addition, there are multiple access points for EVA's to the project site, therefore, the project would not result in emergency vehicle access impacts. Implementation of the project would not result in new or more significant impacts to the emergency vehicle access than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

3.7 AIR TRAFFIC

Additional residents associated with the project would not contribute substantially to the demand for commercial flights because most new residents would be expected to live on-site as a permanent residency. Therefore, the project would not substantially increase flight operations. In addition, no buildings or features would be constructed on-site that would interfere with flight operations at local airports. Implementation of the project would not result in new or more significant impacts to the air traffic than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

3.8 CONSTRUCTION

Project related construction would result in a temporary short-term impact to off-site circulation due to increased truck traffic to and from the project site. Construction would also disrupt off-site travel due to the potential closure of sidewalks and blockage of bicycle facilities during construction along the project site boundary. Bus stops that currently stop on East Hillsdale Boulevard along the project frontage would be temporarily relocated, if necessary, but the relocation would not lead to disruption in service.

Section 4

Appendices

Appendix A
Intersection Level-of-Service
Worksheets

Appendix B
Freeway Level-of-Service
Worksheets

Appendix C
Background/Approved and
Cumulative
Project Trip Generation Calculations

Appendix D
Office Land Use
Trip Generation Rate
Comparison Memorandum

Appendix E
Trip Generation Comparison Tables

The trip generation by the Pilgrim Triton Master Plan as included and approved in the 2008 Pilgrim Triton Master Plan EIR (Table V.G-10) is provided in tables below for reference.

Table E-1 presents the trip generation by the Pilgrim Triton Master Plan as included and approved in the 2008 Pilgrim Triton Master Plan EIR (Table V.G-10). The Pilgrim Triton Master Plan EIR was estimated to generate 8,894 vehicles per day, 675 AM peak hour vehicle trips, and 902 PM peak hour net new vehicle trips.

Table E-1: Pilgrim Triton Master Plan Trip Generation – Existing Entitlement

Land Use	ITE Code	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Existing Land Uses (to be removed)										
Industrial Park	130	107.1	KSF	745	74	16	90	19	73	92
Office	710	0.7	KSF	29	4	0	4	1	3	4
Total				774	78	16	94	20	76	96
Existing Land Uses (Unoccupied)										
Industrial Park	130	172.9	KSF	1,204	119	26	145	31	118	149
Existing Entitlement										
Condo /Townhouses	230	730	DU	3,478	43	210	253	206	101	307
Office	710	266	KSF	2,834	361	49	410	64	313	377
Industrial Park	130	38	KSF	251	25	5	30	21	10	31
Retail	820	30	KSF	3,105	46	30	76	136	147	283
Total				9,668	475	294	769	427	571	998
Net New Trips				8,894	397	278	675	407	495	902

Source: Institute of Transportation Engineers *Trip Generation Manual, 7th Edition*
Pilgrim-Triton Master Plan EIR, LSA, 2008
Kittelson & Associates, Inc., 2018.

Since the publication of the EIR, there have been updates to the ITE trip generation data. Therefore, trip generation for the existing entitlement for the Pilgrim Triton Master Plan was updated using the trip generation rates published in the latest *ITE Trip Generation Manual, 9th Edition*. However, for the office land use, a Foster City specific rate was used. Given the level of congestion in the San Francisco Bay Area, particularly on US 101, many commuters choose to travel outside of the traditional AM and PM peak hours to avoid congestion and long commute. Instead of driving to work between 7 a.m. - 8 a.m., many Bay Area residents arrive at work anytime between 6 a.m. and 10 a.m. During the PM commute hours, instead of leaving work at 5 p.m. - 6 p.m., commuters would leave work anytime between 3 p.m. and 7 p.m. This phenomenon is known as “Peak Spreading”. Given this unique

characteristic, the AM and PM trip generation rates for office land use in Foster City should be lower than the ITE published rates to reflect this commute behavior. KAI has prepared an *Office Land Use Trip Generation Rate Comparison Memorandum*²⁴ for the City of Foster City, comparing the trip generation rates for Office land use based on three different sources:

1. ITE Published Trip Generation Rates
2. San Diego Trip Generation Manual²⁵
3. Inbound and outbound counts collected at office buildings in Foster City

In the memorandum, KAI recommended a trip generation rate for office land use, specifically for Foster City due to the unique travel characteristics caused by congestion. The memorandum can be found in Appendix D.

Table E-2 presents the trip generation by the Pilgrim Triton Master Plan as included in the 2008 Pilgrim Triton Master Plan EIR with the updated *ITE Trip Generation Manual, 9th Edition* trip generation rates, and the Foster City specific rate for office land use. The Pilgrim Triton Master Plan is estimated to generate 8,132 daily vehicle trips, 546 AM peak hour vehicle trips, and 698 PM peak hour net new vehicle trips.

²⁴ *City of Foster City - Office Land Use Trip Generation Rate Comparison Memorandum*, Kittelson & Associates, April 2017.

²⁵ *San Diego Municipal Code Land Development Code – Trip Generation Manual*, City of San Diego, May 2003.

Table E-2: Pilgrim Triton Master Plan Trip Generation – Existing Entitlement (with Updated Rates)

Land Use	ITE Code	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Existing Land Uses (to be removed)										
Industrial Park	130*	107.1	KSF	732	72	16	88	19	72	91
Office	n/a**	0.7	KSF	8	1	0	1	0	1	1
Total				740	73	16	89	19	73	92
Existing Land Uses (Unoccupied)										
Industrial Park	130	172.9	KSF	1,204	119	26	145	31	118	149
Existing Entitlement										
Condo /Townhouses	230	730	DU	4,241	55	266	321	254	125	379
Office	n/a*	266	KSF	3,104	220	35	255	19	250	269
Industrial Park	130	38	KSF	246	25	5	30	6	25	31
Retail	820	30	KSF	1,281	18	11	29	53	58	111
Total				8,872	318	317	635	332	458	790
Net New Trips				8,132	245	301	546	313	385	698

* Developed using updated rates

**Developed using Foster City specific rate.

Source: Institute of Transportation Engineers *Trip Generation Manual*, 9th Edition
Kittelson & Associates, Inc., 2018.

Using the updated trip generation rates, the trip generation for Phase C developments is summarized in **Table E-3**. Phase C development, as allocated in the Pilgrim Triton Master Plan, is forecast to generate 4,760 daily trips, 333 AM peak hour trips and 397 PM peak hour trips. The project would generate about 3,372 fewer daily trips, 213 fewer AM peak hour trips, and 301 fewer PM peak hour trips than the trip generation by the existing entitlement as adopted in the *2008 Pilgrim Triton Master Plan EIR*. Based on the trip generation comparison, the project would not result in new or more significant impacts to the transportation system than those addressed in the *2008 Pilgrim Triton Master Plan EIR*.

Table E-3: Pilgrim Triton Master Plan Trip Generation –Project (with Updated Rates)

Land Use	ITE Code	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Existing Land Uses (to be removed)										
Industrial Park	130	107.1	KSF	732	72	16	88	19	72	91
Office	n/a*	0.7	KSF	8	1	0	1	0	1	1
Total				740	73	16	89	19	73	92
Existing Land Uses (Unoccupied)										
Industrial Park	130	172.9	KSF	1,204	119	26	145	31	118	149
Proposed Land Uses										
Condo /Townhouses	230	805	DU	4,677	61	293	354	280	138	418
Office	n/a*	70.057	KSF	824	59	9	68	4	67	71
Total				5,501	120	302	422	284	205	489
Net New Project Trips				4,760	47	286	333	265	132	397
Land Use Evaluated in the 2008 EIR				8,132	245	301	546	313	385	698
Net Difference				-3,372	-198	-15	-213	-48	-253	-301

Note: *Developed using Foster City specific rate.

Source: Institute of Transportation Engineers *Trip Generation Manual*, 9th Edition

Kittelson & Associates, Inc., 2018.

ATTACHMENT B: WATER SUPPLY ASSESSMENT

A. EXECUTIVE SUMMARY

The Water Supply Assessment (WSA) will provide information for use in the California Environmental Quality Act (CEQA) analysis for the proposed projects. The requirements for the WSA are described in the California Water Code Sections 10910 through 10915, amended by the enactment of Senate Bill 610 (SB 610) in 2002. SB 610 requires an assessment of whether available water supplies are sufficient to serve the demand generated by the new projects, as well as the reasonably foreseeable cumulative demand during normal year, single dry year, and multiple dry year conditions over the next 25 years.

This WSA builds on previous water demand projections created as part of the Bay Area Water Supply and Conservation Agency (BAWSCA) Regional Demand and Conservation Projections completed in September 2014. The new demands from the BAWSCA study were approved by Estero Municipal Improvement District (EMID) and were used as a basis for the 2015 Urban Water Management Plan (UWMP) submitted by EMID in June 2016.

The supply information is based on the 2015 UWMP, approved by the EMID Board of Directors on June 6, 2016.

All the development projects are within the service area of EMID. It is important to note that though some projects were completed at the time this WSA was published (completed in the year 2016 or 2017), there was not enough actual historical water use data to create an accurate site demand estimate. In fact, some of the buildings were not fully occupied, landscape was not fully established and a full year of water use was not available to ascertain water use trends through the various seasons. The process of determining water demand for developing project sites is a dynamic one, and by the next WSA submittal there will be more actual site data available under non-dry year conditions. EMID has completed the WSA based on the land use proposed for the projects listed below.

1. Lincoln Centre will require approximately 120 acre-feet per year (AFY) of additional water demand. Phase 1, consisting of 360,000 square feet (approximately 58 percent), of this project was completed in early 2018. This project will be completed between years 2020 and 2025.
2. Gilead Integrated Corporate Campus Master Plan Project will require approximately 105 AFY of additional water demand. This project will be completed in various phases by 2030.

3. Pilgrim Triton Master Plan Project with the proposed change to Phase C will require approximately 128 AFY of additional water demand. This project will be completed in various phases by 2030.
4. Foster Square (formerly 15-Acres Project) will require approximately 56 AFY of additional water demand. This project is currently under construction and will be fully completed by year 2020.
5. Tidelands (400 Mariners Island Boulevard, City of San Mateo) residential project will require approximately 14 AFY of additional water demand. This project was completed in year 2017.
6. Town Place Suites (formerly Chess Hotel) will require approximately 11 AFY of additional water demand. This project was completed in year 2017.
7. Chess/Hatch Drive Offices Project will require approximately 15 AFY of additional water demand. This project will be completed between years 2025 and 2030.
8. 1297 Chess Drive (formerly Harry's Hofbrau) will require approximately 2 AFY of additional water demand. This project was completed in year 2017.

The analysis concluded that the EMID projects listed above will be adding a total of 451 AFY (these project and demand values are also summarized in Table G-7) and EMID will have sufficient water supply to serve all the proposed projects as well as existing customers in the 25-year time horizon.

Prior to issuance of a use permit, utility analyses shall be performed by the project developers to determine whether existing transmission/distribution infrastructure has adequate capacity to deliver the needed water to the project sites. The costs of the improvements shall be the responsibility of the developer. Furthermore, all future development projects are required to maximize the efficient use of water by installing water saving plumbing fixtures and drought tolerant landscaping to reduce water demand.

B. INTRODUCTION

1. Purpose and Authorization

The purpose of the Water Supply Assessment (WSA) is to determine whether there is adequate water supply to meet the water needs of the new proposed projects within the EMID service area. The WSA was developed by the collaborative efforts of the project team consisting of Urban Planning Partners, Maddaus Water Management Inc., and Foster City (EMID) Planning and Engineering Departments. Urban Planning Partners was the project manager, Maddaus Water Management provided estimating calculations for the water demand of the Pilgrim Triton Master Plan Project Phase C and assisted to compile the WSA report, and EMID provided information on all other development projects and demands contained in the report.

2. Scope of Investigation

This WSA focuses on the proposed change to Pilgrim Triton Master Plan Project Phase C, but also includes projects considered in the 2008 EIR, and projects proposed and in various planning stages after that report was approved on April 21, 2008 by the City Council.

3. Documents and Persons Consulted

Information in this report is supplemental information to EMID's 2007 CEQA Water Use Analysis conducted for the Pilgrim Triton Master Plan Project published by EMID in February 2007 and the Pilgrim Triton Master Plan EIR,¹ supplemented by information on other proposed projects prepared by Foster City staff from January 2017 to April 2018.

C. PROJECT DESCRIPTIONS INCLUDED IN WSA

The approved, not yet constructed, under construction, and proposed projects included in this WSA are described as follows. Key project features and phasing are listed in Table G-1.

Lincoln Centre Life Sciences Research Campus Project: The approved project is on approximately 20 acres of land located in Foster City. Access to the site is from Lincoln Centre Drive, which currently terminates within the project site. It was previously developed with seven one- and two-story office/warehouse buildings totaling approximately 280,000 square feet. All seven buildings were demolished by the current owner and project applicant. The approved project would contain up to 595,000 gross square feet of life sciences research facilities in a campus setting, including up to 555,000 gross square feet of laboratory and office uses and a 40,000-square-foot building to house amenities for employees and visitors. Phase 1 consists of 320,000 square feet in two lab/office buildings and 40,000 square feet in one amenities building and was completed in early 2018. The actual amount approved for development will be dependent upon traffic studies and traffic capacity. This project will be fully completed between years 2020 and 2025.

Gilead Integrated Corporate Campus Master Plan Project: The approved project is on approximately 72 acres of land located in Foster City, within the Vintage Park Master Planned Development, owned by Gilead Sciences, Inc. In February 2010, the City approved the expansion of the 40-acre Gilead campus to add about 570,000 net new square feet. of offices and labs. In 2013, the City Council approved an integrated Master Plan to incorporate land Gilead purchased from Electronics For Imaging. The resulting campus has a maximum build-out of 2,500,600 square feet and includes a mix of office buildings, laboratory buildings, cafeterias, manufacturing spaces,

¹ LSA Associates. *Pilgrim-Triton Master Plan Environmental Impact Report*, March 2008.

meeting spaces and a pilot lab. Two office/lab buildings (309 Velocity Way and 355 Lakeside Drive) and two parking garages within the approved integrated Master Plan have been completed since 2013. Additionally, two lab buildings, 324 and 357 Lakeside Drive, are under construction in 2018. This project will be completed in various phases by 2030.

Pilgrim Triton Master Plan Project: As shown in Table G-1, the approved project originally included 296,000 square feet of commercial/office space, a one-acre park, and 730 units of residential housing. The Project Phase C analyzed in this WSA proposes to increase the land use from the originally planned 17 residential units to a total of 92 housing units. With a net increase of 75 residential units for Pilgrim Triton Phase C, the total number of residential units for the entire Master Plan area with the amendment would increase from 730 units to 805 units. The total amount of commercial/office space for the entire Master Plan area with the amendment would decrease from 296,000 square feet to 70,057 square feet. Phase C, as proposed now, includes 70 for-sale townhouse units consisting of 2-, 3-, and 4-bedroom plans, and range in size from approximately 1,220 square feet to 2,050 square feet. As proposed, Phase C will also include 22 workforce housing units which will be 1- and 2-bedroom units and range in size from approximately 760 square feet to 1,110 square feet. This project will be completed in various phases by year 2030.

15-Acres Project (Foster Square): The approved project is on approximately 15 acres located in Neighborhood 1 adjacent to the Foster City Civic Center and the Peninsula Jewish Community Center. The approved project consists of the following: 200 market rate senior units, 131 assisted living units, 24 memory care beds, 66 affordable housing units, and 30,000 square feet of retail. The assisted living, memory care and affordable housing components were completed in late 2016. The remainder of the project is currently under construction and will be fully completed by year 2020.

Tidelands (400 Mariners Island Boulevard, City of San Mateo): The completed project consists of a 76-unit residential development on approximately 3 acres of property located at the southwest corner of E. Third Avenue and Mariners Island Boulevard in the City of San Mateo. EMID is responsible for providing water to the project site. This project was completed in year 2017.

Town Place Suites (formerly Chess Hotel): The completed project is on approximately 1.7 acres of land located in Foster City, within the Vintage Park Neighborhood. The project replaced a 9,385-square-foot, one-story, unoccupied restaurant with a new 69,222-square-foot, five-story, 115-room hotel. The project site is located off Vintage Park Drive and Chess Drive at 1299 Chess Drive. This project was completed in 2017.

TABLE G-1: PROPOSED PROJECT FEATURES AND PHASING FOR PILGRIM TRITON MASTER PLAN: APPROVED, CURRENT BUILD OUT AND PROPOSED

	Approved Master Plan ¹	Existing Not Yet Redeveloped	Current 2018 (Built-to-date)	Net Remaining	Proposed Master Plan with Amendment	Net Change
Phase A (The Plaza)						
Units	307		307		307	
Commercial	10,057		10,057		10,057	
Park	0.7		0.7		0.7	
Phase B (The Triton/Waverly)						
Units	240		220	20	240	
Commercial	58,000		5,000	53,000 ²	5,000	-53,000
Park	0.4		0.0	0.4	0.4	
Phase C						
Units	17		0	17	92	75
Commercial	172,943	38,000 ³	0	134,943 ⁵	0	-172,943
Open Space	0.1		0	0.1	0.1	
Phase D (100 Grand)						
Units	166		166	0	166	
Commercial	55,000	13,500 ⁴	6,000	35,500 ⁶	55,000	
Park	0		0		0	
Total Units	730	0	693	37	805	75
Total Commercial	296,000	51,500	21,057	223,443	70,057	-225,943
Total Open Space	1.2	0	0.7	0.5	1.2	0

¹ Includes transfer of units and commercial SF approved in 2012 between Phases A and C per Exhibit E dated 7-23-2012.

² Parcel C of Phase B (1159 Triton Drive) is approved for up to 53,000 SF commercial. This parcel is proposed to be added to the Phase C site.

³ Existing offices at 551-565 Pilgrim Drive, to be removed with development of Phase C.

⁴ Existing 13,500 SF offices at 550 Pilgrim Drive; Master Plan allows up to 43,000 SF.

⁵ Net remaining SF under existing Master Plan: 172,943 approved-38,000 existing = 134,943 net new SF.

⁶ Remaining sites to be redeveloped in Phase D include 29,500 SF net new SF at 550 Pilgrim Drive and 6,000 SF on Parcel I.

Chess/Hatch Drive Office Project: The approved project would redevelop approximately 190,000 square feet of low-scale one- and two-story commercial/industrial buildings on approximately 12 acres with up to 800,000 square feet of office space in three multi-story buildings up to 10 stories in height served by a combination of at-grade parking lots and a parking structure. The approved Master Plan would require the demolition of 11 existing buildings. This project will be completed between years 2025 and 2030.

1297 Chess Drive: The completed project redeveloped the former Harry's Hofbrau restaurant (approximately 8,841 square feet on a 1.5-acre site) located at 1297 Chess Drive in the Vintage Park neighborhood to a retail restaurant building of approximately 11,692 square feet and about 550 square feet of outdoor dining space. The restaurant space includes a Habit Burger at 2,555 square feet, a Mod Pizza at 2,600 square feet, and a Panera Bread at 4,643 square feet. The site also includes a FedEx at 1,894 square feet. This project was completed in 2017.

D. EMID AND ITS WATER SUPPLY SOURCE

1. EMID

EMID manages the distribution, operation, and maintenance of the City of Foster City's water supply system. The City's sources of water, water treatment facilities, and water distribution system are described below. EMID also supplies water to residents in part of the City of San Mateo (Mariner's Island area).

EMID purchases all its water from the San Francisco Public Utility Commission (SFPUC) as a contractual member of the Bay Area Water Supply and Conservation Agency (BAWSCA). The SFPUC's water system consists of three regional water supply and conveyance systems: the Hetch Hetchy system, the Alameda system, and the Peninsula system. The Hetch Hetchy system is supplied by runoff from the upper Tuolumne River watershed on the western slope of the central Sierra Nevada Mountains. The Alameda system includes conveyance facilities connecting the Hetch Hetchy aqueducts and the Alameda water sources to the Peninsula system. The Peninsula system includes water facilities that connect the EMID and other Peninsula customers to the SFPUC distribution system and the Bay Division Pipelines. EMID does not have any groundwater or recycled water sources to supplement its supply.

EMID receives the already treated water from SFPUC and distributes it to its customers. EMID has only one main source of water supply, a 24-inch transmission main that is connected to SFPUC's 54-inch Crystal Springs No. 2 line. The connection point is in the City of San Mateo on Crystal Springs Road. As a retailer, EMID has no direct control over its water supply and treatment.

EMID has 4 at-grade water storage tanks with a total capacity of 20 million gallons for emergencies and peak and fire flow demand. Booster pumps are necessary to pump

water from the storage tanks into the distribution system. The booster pump station has two electrical pumps and four engine drive pumps. The engine driven pumps are powered by natural gas with propane backup.

2. Supply Source and Contractual Provisions

In 1934, San Francisco combined the Hetch Hetchy system and the Spring Valley system to create the SFPUC system. The rights to local diversions were originally held by the Spring Valley Water Company, which was formed in 1862. The SFPUC is owned and operated by the City and County of San Francisco. EMID does not hold any existing water rights and all its water supply assurances come through the contract with SFPUC. In 1984, SFPUC executed a Settlement Agreement and Master Water Sales Contract (Contract) with the members of BAWSCA. The Contract is governed by the Master Sales Agreement (MSA), which expired in June 2009. In August of 2009, BAWSCA and its member agencies signed a new Water Supply Agreement and Individual Water Sales Contract with San Francisco. The Contract runs through June 30, 2034 and it guarantees a supply assurance of 184 million-gallons-per-day (MGD) to BAWSCA member agencies. The supply assurance to EMID is 5.9 MGD or 6,608 AFY.

In 2015, EMID purchased 4,459 AFY of water from SFPUC.² Compared to historical use, SFPUC purchases have declined due to a decrease in water demand and the recent California extreme drought.

3. Water Supply Improvement Program

To enhance the ability of the SFPUC's water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply, the SFPUC is undertaking a Water System Improvement Program (WSIP). The WSIP will deliver capital improvements aimed at enhancing the SFPUC's ability to meet its water service mission of providing high quality water to its customers in a reliable, affordable, and environmentally sustainable manner.

The origins of the WSIP are rooted in the "Water Supply Master Plan" dated April 2000. Planning efforts for the WSIP gained momentum in 2002 with the passage of San Francisco ballot measures Propositions A and E, which approved the financing for the water system improvements. Also in 2002, Governor Gray Davis signed Assembly Bill No. 1823, the Wholesale Regional Water System Security and Reliability Act. The AB 1823 imposed various state-mandated programs on the wholesale regional water systems. One of the mandates is for SFPUC to adopt the WSIP.

² Erler & Kalinowski, Inc. *2015 Urban Water Management Plan for the Estero Municipal Improvement District*, June 2016.

SFPUC's website describes the WSIP as follows:

"The Water System Improvement Program (WSIP) is a \$4.8 billion, multi-year capital program to upgrade the SFPUC's regional and local water systems. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to 2.6 million people in the greater Bay Area. The program consists of 83 projects – 35 local projects located within San Francisco and 48 regional projects, spread over seven counties from the Sierra foothills to San Francisco.

As of June 30, 2016, the WSIP is approximately 91 percent complete with construction finished on 35 local projects and 37 regional projects along the landmark Hetch Hetchy Regional Water System to ensure reliable water delivery to customers. Construction is in progress on eight regional projects valued at \$2.1 billion, while construction has been completed on 37 regional projects valued at \$1.6 billion."³

4. Emergency Connections

In addition to the 24-inch transmission main, EMID has two separate 12-inch emergency supply connections with California Water Service Company (which serves the City of San Mateo) and with Mid-Peninsula Water Agency (formerly called Belmont County Water District, which serves the City of Belmont, San Carlos, and part of Redwood City). EMID has agreements with both agencies that allow EMID to use these connections during emergency situations. Both the California Water Service Company and the Mid-Peninsula Water Agency are members of BAWSCA.

5. Service Area Information and Population and Employment Projections

EMID, currently serving a population of approximately 37,000, is located midway between San Francisco and San Jose. It is ten miles south of the San Francisco International Airport. The service area of EMID consists of the City of Foster City and the Mariner's Island area of the City of San Mateo. Most customers are residential users with a broad cross-section of offices, commercial businesses, and a small number of industrial businesses.

Today, the City of Foster City is almost built-out with several redevelopment projects in various stages of planning. At 100 percent buildout of the EMID service area, the population served by EMID is expected to be approximately 40,000 and employment is anticipated to grow to almost 36,000. Table G-2 shows the projected population

³ SFPUC website, accessed March 18, 2018. Online:
<http://www.sfwater.org/index.aspx?page=115>

and employment in 5-year increments anticipated until the year 2035. The percent increases for the population and employment growth are also shown in the table.

This WSA uses the population and employment projections contained in the EMID 2015 UWMP⁴.

**TABLE G-2 EMID CURRENT AND PROJECTED POPULATION AND EMPLOYMENT
PER 2015 UWMP**

	2015 ¹	2020	2025	2030	2035	2040
Service Area Population	36,231	37,200	37,800	38,400	39,000	39,600
Service Area Employment	23,533	28,488	29,744	32,749	34,805	35,910
% Population Increase		2.6	1.6	1.6	1.5	1.5
% Employment Increase		21.1	4.4	10.1	6.3	3.2

¹ 2015 data is based on actual numbers.

6. EMID Water Supply Projections

The SFPUC has the capacity to meet the demands of its retail and wholesale customers in wet and normal years. The Water Supply Agreement provides for a 184 MGD or 206,106 AFY supply assurance to BAWSCA member agencies. SFPUC's annual supply assurance to EMID, going forward, is 5.9 MGD or 6,608 AFY as shown in Table G-3. Although the Master Agreement and accompanying Water Supply Contract expire in 2034, the supply assurance (which quantifies San Francisco's obligation to supply water to its individual wholesale customers) survives their expiration and continues indefinitely.

TABLE G-3 ANNUAL SUPPLY ASSURANCE FROM SFPUC

Water Supply Source	2015 ¹	2020	2025	2030	2035	2040
SFPUC, MGD	4.0	5.9	5.9	5.9	5.9	5.9
SFPUC, AFY	4,463	6,608	6,608	6,608	6,608	6,608

¹ 2015 data is based on actual numbers.

According to SFPUC's Water System Improvement Program, this amount is subject to further reductions in the event of drought, water shortage, earthquake, rehabilitation, or maintenance of the system. Table G-4 shows SFPUC's projected deliveries to EMID for a single dry year and for five consecutive dry years, based on the 2015 UWMP

⁴ Erler & Kalinowski, Inc. *2015 Urban Water Management Plan for the Estero Municipal Improvement District*, Table 2-1 and Table 2-2, June 2016.

allocations. The SFPUC's plan calls for a 26 percent supply reduction of the normal year supply in the first year followed by 34 percent reductions of the normal year supply for the next 4 years. The percent reductions would be the same for any given five consecutive dry years. During the periods of supply reductions, EMID will have to implement the Water Shortage Contingency Plan to reduce demand. The EMID's Water Shortage Contingency Plan describes the triggering levels and actions to be considered for each stage of demand reduction. As detailed in the next section, *EMID Water Supply Shortage Contingency*, the plan has five stages with each stage set to respond to increasingly more severe conditions. Therefore, the system demand will decrease to meet the reduced allocations by SFPUC.

TABLE G-4 EMID PROJECTED ANNUAL SUPPLY ALLOCATIONS FOR A SINGLE AND MULTIPLE DRY YEARS

Water Supply Source	Normal Year	Single Year Year 1	Year 2	Year 3	Year 4	Year 5
SFPUC, AFY	6,614	4,888	4,394	4,394	4,394	4,394
% Reduction		26%	34%	34%	34%	34%

7. EMID Water Supply Shortage Contingency

The EMID Water Shortage Contingency Plan (WSCP) was adopted in June 2016 in response to the Urban Water Management Planning Act, requiring all California urban water retailers supplying water to more than 3,000 customers, or supplying more than 3,000 AFY of water, to adopt a water shortage contingency plan as part of the Urban Water Management Plan. The objective of this legislation is to prompt every water agency to plan for droughts and to prepare a series of responses based upon the severity and length of drought. EMID's Water Shortage Contingency Plan includes five (5) stages of increasingly restrictive actions that would be implemented in response to water supply reductions. As required by CWC Section 10632(a), this includes preparing and planning for up to a 50 percent supply reduction. In the amended WSCP adopted in 2018, EMID has elected to refine their Water Shortage Contingency Plan to more aggressively implement reductions in a Stage 2 Drought to achieve 15 percent water savings compared to the previous 10 percent targeted goal. This revised approach to Stage 2 will add to the reliability and resiliency of being more responsive to early dry year conditions as they start to increase above the normal monthly water demands in the EMID service area.

Stage I: This is the normal stage that includes mandatory prohibitions in force at all times with the intent to eliminate water waste. This stage is a continuing effort to conserve water regardless of water supply conditions. It includes actions such as: (a) the enforcement of current plumbing code regulations requiring the installation of

high efficiency fixtures in new construction; (b) ongoing public outreach; and (c) EMID's continued implementation of demand management measures.

Stage II: This stage is triggered by a declaration of the EMID Board of Directors in accordance with Chapters 8.59 and 8.60 of the EMID code, upon the determination that the SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 15 percent due to water supply shortages or an emergency. This stage includes actions such as: (a) reduction in the frequency of water main flushing where possible; (b) no more than three (3) days per week outdoor irrigation of ornamental landscapes or turf using potable water; (c) increased public outreach, including information regarding fines or penalties for non-compliance; and (d) free water use surveys to the top 20 percent of water users in each customer category.

Stage III: This stage is triggered by a declaration of the EMID Board and will result in mandatory water conservation with a goal of reducing water demand 16 to 20 percent due to water supply shortages or emergency. This stage involves actions that include: (a) increased public outreach; particularly to the top 10 percent water users in each category, including a dedicated customer service hotline; (b) scheduling staff for enforcement and customer service training with the potential to hire additional or temporary staff where necessary; (c) the implementation of a drought surcharge on water rates as legally permitted; (d) and a limit of two (2) days per week outdoor irrigation of ornamental landscapes or turf using potable water.

Stage IV: This stage is triggered by a declaration of the EMID Board and will result in mandatory water conservation with a goal of reducing water demand 21 percent to 30 percent due to water supply shortages or emergency. This stage involves actions that include: (a) expanding public outreach (e.g., hosting public events and workshops); (b) increasing enforcement and water waste patrols; (c) changing to monthly metering and billing; prohibiting vehicle washing except at facilities using recycled or recirculating water; (d) and limiting outdoor irrigation of ornamental landscapes or turf using potable water to one (1) day per week (unless an exception is granted). The routine flushing of water mains will be suspended during this stage except when necessary to address immediate health or safety concerns.

Stage V: This stage is triggered by a declaration of the EMID Board and will result in mandatory water conservation with a goal of reducing water demand 31 percent to 50 percent due to water supply shortages or emergency. This stage involves actions such as: (a) increased public outreach and development of water budgets for all accounts, including appropriate notice to those accounts, where water use shall not exceed these water budgets established by EMID for each customer; and (b) turf irrigation is always prohibited during this stage and existing irrigation systems shall not be expanded.

Table G-5 shows the 3-year estimated minimum water supply from SFPUC to EMID as a three-year worst-case supply projection (e.g., in a case of drought or other causes of reduced water supply) based on the 2015 Urban Water Management Plan allocation provided for EMID based on the BAWSCA Drought Implementation Plan.

TABLE G-5 PROJECTED DELIVERIES FOR THREE MULTIPLE DRY YEARS

	One Critical Dry Year	Current Deliveries During Multiple Dry Years		
		Year 1	Year 2	Year 3
SFPUC System-Wide Shortage ^a	10%	10%	22%	22%
Wholesale Allocation, MGD	152.6	152.6	132.5	132.5
EMID Allocation Factor ^b	2.9%	3%	3%	3%
EMID Allocation, AFY	4,888	4,888	4,394	4,394
EMID Allocation, MGD	4.36	4.36	3.92	3.92
Allocation as % of 5.9 MGD Assurance	74%	74%	66%	66%

Abbreviations:

EMID = Estero Municipal Improvement District

MGD = million gallons per day

SFPUC = San Francisco Public Utilities Commission

Notes:

(a) See Table 1 in Appendix H of the EMID 2015 Urban Water Management Plan.

(b) Water supply available to EMID during a normal year is assumed to be equal to EMID's Individual Supply Guarantee. The EMID's allocation factor and the supply available to EMID during dry year types were provided by BAWSCA Tier 2 Allocations (see Appendix H of EMID's 2015 Urban Water Management Plan). The values were obtained per application of the Tier 1 and Tier 2 allocation processes described in the City's Water Supply Agreement and the BAWSCA Drought Implementation Plan.

References:

- (1) SFPUC, 2016. Regional Water System Long-Term Supply Reliability 2015-2040, letter to BAWSCA, January 5, 2016.
- (2) BAWSCA, 2016. UWMP Tier 2 Drought Implementation Plan Scenarios, email message to BAWSCA member agencies, dated January 6, 2016.

E. WATER DEMAND PROJECTIONS

1. Future System Demand Projections

Table G-6 shows the future system demand projections and the difference (excess supply allocation) until 2040. As shown, available supplies are sufficient to meet system demand projections in a normal year.

TABLE G-6 FUTURE SYSTEM DEMAND PROJECTIONS (WITHOUT ADDITIONAL PROJECTS)¹

	2015 ²	2020	2025	2030	2035	2040
SFPUC Supply, AFY	6,610	6,610	6,610	6,610	6,610	6,610
Demand Projections with Passive and Active Conservation Savings, AFY	4,459	4,450	4,444	4,514	4,582	4,628

Annual Excess	2,151	2,160	2,166	2,096	2,028	1,982
Percent Excess	33%	33%	33%	32%	31%	30%

¹ Table values are consistent with the EMID 2015 UWMP.

² 2015 data is based on actual demand numbers found in the EMID 2015 UWMP.

2. Net Additional Demand from Proposed Projects

This section presents background information on the proposed projects in addition to their net additional demand. All the development projects are within the service area of EMID. It is important to note that though some projects were completed at the time this WSA was published (completed in the year 2016 or 2017), there was not enough actual historical water use data to create an accurate site demand estimate. In fact, some of the buildings were not fully occupied, landscape was not fully established, and a full year of water use was not available to ascertain water use trends through the various seasons. The process of determining water demand for developing project sites is a dynamic one, and by the next WSA submittal there will be more actual site data available under non-dry year conditions. EMID has completed the WSA based on the land use proposed for the projects listed below.

Lincoln Centre Life Sciences Research Campus Project: The project proposes that 70 percent of the gross square footage be developed for office uses and 30 percent be developed for laboratory uses. To ensure that maximum water demand is studied, the WSA analysis of water supply impacts also evaluated a variant that would be 30 percent office and 70 percent laboratory. The latter would require more water and was used to compute the net project demand for the proposed project to be 120 AFY. This project will be completed between years 2020 and 2025.

Gilead Integrated Corporate Campus Master Plan Project: EMID Staff has determined that the existing land use at 355 Lakeside Drive and 309 Velocity Way is similar to the land use for the proposed research and development (R&D) and office space buildings, respectively. Therefore, the historical consumption data for these sites were used as a basis to project water demand for the proposed R&D (laboratory) space and office space. The consumption data shows that 25 gallons of water per year (GPY) for each square foot of R&D space and 13 GPY for each square foot of office space is needed. Based on the calculations, approximately 74 AFY will be required for the R&D buildings and 63 AFY for the office space. The project also includes the demolition of 14 buildings, which will consume approximately 33 AFY. Therefore, the net project demand for the proposed project is Gilead Integrated Corporate Campus Master Plan Project is approximately 105 AFY. This project will be completed in various phases by 2030.

Pilgrim Triton Master Plan Project: The estimated water use for the 713 residential units (excluding the 17 townhouses already approved in Phase C) and the proposed 70 townhouses in Phase C is 164 gallons per day (GPD) per unit. The methodology

used to estimate the water use per townhouse and residential unit involves calculating a total estimated indoor use plus a total estimated outdoor use. The indoor use was calculated by first estimating the number of people living in a residence and then using the typical average indoor water use of 55 (GPD)_per person. The outdoor water use was calculated based on the estimated square footage of turf and shrubs and a standard watering factor for the planting types as well as a regional evapotranspiration rate. The evapotranspiration rate provides the number of inches of water needed to irrigate each planting type in inches of water per year. The evapotranspiration rate is then multiplied by the square footage of plantings to get a total estimated water use for the site. The outdoor water use was divided between all the residential units to get an estimated outdoor water use in GPD per unit. The indoor and outdoor estimates were added together to yield the total estimated water use per residential unit.

The workforce housing units will range in size from approximately 760 square feet to 1,110 square feet and are estimated to require a total of 2 AFY, based on 84 GPD per workforce housing unit. The estimated water use for the workforce housing units was calculated using the methodology described previously for townhouses with typical water use of 55 GPD per person for indoor use and the same evapotranspiration rates for outdoor use. The workforce housing total water use per unit (84 GPD) is lower than the townhouse water use per unit (164 GPD) because the estimated average number of people living in a workforce housing unit is less than in a townhouse. The office space will require approximately 3 AFY based on water use data from Gilead Sciences at 309 Velocity Way, where similar land uses estimate a demand use factor of 13 GPY per square foot. The park will require approximately 1 AFY. And according to the water consumption data for the existing buildings, approximately 21 AFY of water was consumed on the site (in non-drought year 2007).

The Pilgrim Triton Master Plan Approved as shown in Table G-1 would be 126 AFY. However, with the proposed shift to more residential and less commercial, MWM staff estimated the net project water demand for the proposed Pilgrim Triton Master Plan with Amendment project (as shown in Table G-1) to increase by 2 AFY. The total net water demand would increase to 128 AFY, including the following estimates for each land use:

- 2.9 AFY for 70,057 square feet of office
- 0.6 AFY for one acre of park space
- 143.5 AFY for 783 residential units
- 2.1 AFY for the proposed 22 workforce units
- -21 AFY credit for existing buildings to be demolished

This project will be completed in various phases by year 2030.

15-Acres Project (Foster Square): A demand factor of 93 GPD/unit, based on year 2016-2017 water use data from the Atria at 707 Thayer Lane in Foster City, yields a demand of 36.9 AFY for the 155 senior care housing (assisted living units) and 200 senior independent condominium units combined. The 66 affordable senior apartments, fully occupied since 2016, require approximately 12.8 AFY based on 173 GPD/ unit. The estimated water use factor of 173 GPD/unit was calculated using the methodology described previously for the Pilgrim Triton Master Plan Project, except a typical landscaping area was assumed as detailed landscaping plans were not available. The 30,000-square foot commercial space located below the senior apartments and assisted living facility will require 1.23 AFY based on the large office space with cooling tower water use factor of 13 GPY per square foot derived from the 2016-2017 water use data from Gilead Sciences 309 Velocity Way. An additional 10 percent of office and residential demand is assumed for irrigation. The 15-Acres Project will require approximately 56 AFY of additional water demand. This project is currently under construction and will be fully completed by year 2020.

Tidelands (400 Mariners Island Boulevard, City of San Mateo Residential Project): The water consumption for the 76 residential units is 12.8 AFY based on an estimated water use of 151 GPD/apartment. This estimate does not include irrigation and is based on the annual average water use of over 150 apartments from December 2012 through December 2016 for 3 Plaza View Lane in the Pilgrim Triton development. A 10 percent additional demand for outside landscaping, yield the total demand for the project at approximately 14 AFY. This project was completed in year 2017.

Town Place Suites (formerly Chess Hotel): This proposed 115-room hotel will require approximately 12.3 AFY based on a water demand factor of 77 GPD/room derived from 2012-2017 water use data from the Crowne Plaza Hotel at 1221 Chess Dr. The Crowne Plaza water use includes irrigation, 0.5 GPM faucet aerators, 50 percent 1.6 gallon per flush (GPF) toilets, 50 percent 1.28 GPF toilets, on-site laundry, and amenities like conference rooms and a pool. Since the Town Place Suites is unlikely to have on-site laundry and will have 100 percent low-flush toilets the demand factor was reduced by 20 percent. 1.2 AFY of demand based on 2009, 2010, and 2011 consumption for the Black Angus Restaurant which has been demolished is subtracted from the demand for proposed hotel to calculate net site demand of approximately 11 AFY. This project was completed in 2017.

Chess/Hatch Drive Office Project: Historical 2016-2017 consumption data from Gilead Sciences at 309 Velocity Way was used to calculate the projected demand for the project. Based on a large office space with a cooling tower, a water use factor of 13 GPY/square foot was applied to the proposed 800,000 square feet of office space. This factor includes landscape irrigation and yields a demand of 33 AFY for the proposed development. Consumption data for the existing buildings at 1155-1191 Chess Drive which will be demolished was used to determine the existing water

demand of approximately 18 AFY. Therefore, the net demand resulting from the proposed project is calculated by subtracting the existing consumption from the total demand, resulting in approximately 15 AFY of additional water demand. This project will be completed between years 2025 and 2030.

1297 Chess Drive: Water use estimates are based on the square footage of the proposed 2,555 square foot Habit Burger, a 2,600-square foot Mod Pizza, and a 4,643-square foot Panera Bread restaurant and the 1,894 square-foot FedEx for an additional water demand of approximately 2.4 AFY. A unit water use factor of 0.2 GPD/square foot was applied to the “fast casual” restaurants and a retail unit water use factor of 0.111 GPD/square foot was used for the FedEx space. Restaurant and retail unit water use factors were provided by Castaic Lake Water Agency based on their CII Demand Factor Study in December 2016. This project was completed in 2017.

Table G-7 shows the total projected annual additional demand generated from the various development projects that are under review by the City of Foster City. EMID has a first-come first-serve policy for serving new development projects and each new project requires a demand analysis. The water demand analysis for the Pilgrim Triton Master Plan Project was originally completed in February 2007. The calculations have been revised based on current information and are included in Table G-7 to show the cumulative demand.

TABLE G-7 ANNUAL ADDITIONAL FUTURE DEMANDS FROM VARIOUS PROJECTS (AFY)

Development Project	2020	2025	2030	2035	2040
Lincoln Centre Life Sciences Research Campus	69	120	120	120	120
Gilead Integrated Corporate Campus	70	87	105	105	105
Pilgrim Triton Master Plan Project ¹	27	92	128	128	128
15-Acres Project (Foster Square)	56	56	56	56	56
Tidelands (400 Mariner's Island Blvd)	14	14	14	14	14
Town Place Suites	11	11	11	11	11
Chess/Hatch Drive Offices Project	0	6	15	15	15
1297 Chess Drive	2	2	2	2	2
Subtotal Projects	250	389	451	451	451
2015 UWMP Demand Projection with Passive and Active Conservation Savings Annual Increase	0	6	(71)	(68)	(46)
Total	250	395	381	384	405

¹ The Approved Pilgrim Triton Master Plan Project Demand as shown in Table 1 without the Proposed Amendment development would be 126 AFY. The Pilgrim Triton Master Plan Project Demand with the Proposed Amendment development would be 128 AFY.

Table G-8 shows the total system demand projected for EMID including the demand from the proposed projects. The total system demand is calculated by adding the net

demand generated from the proposed projects from Table G-7 to the system demand projections.

TABLE G-8 TOTAL SYSTEM DEMAND WITH ADDED PROJECTS

System Demand, No Drought	2015¹	2020	2025	2030	2035	2040
Demand Projection for EMID, with Passive and Active Conservation, MGD	3.98	3.97	3.96	4.03	4.09	4.13
Demand Projection for EMID, with Passive and Active Conservation, AFY	4,459	4,449	4,444	4,514	4,582	4,628
Net Demand from Additional Projects, AFY	0	250	395	381	384	405
Total System Demand, AFY	4,459	4,700	4,839	4,895	4,966	5,033
SFPUC Supply Assurance, AFY	6,610	6,610	6,610	6,610	6,610	6,610
Estimated Remaining SFPUC Supply, AFY	2,151	1,910	1,772	1,715	1,645	1,577
Est. Remaining Supply Reliability, %	33%	29%	27%	26%	25%	24%

¹ 2015 data is based on actual numbers.

F. COMPARISON OF SUPPLY ALLOCATION VS. WATER DEMAND PROJECTIONS

1. Comparison of Supply Versus Demand

Table G-9 shows a comparison of the supply allocations from Table G-5 and projected total system demands from Table G-8, through the 25-year planning horizon as required by SB 610. As discussed in Table G-4, during a period of five consecutive dry years, the SFPUC's plan calls for 26 percent supply reduction of the normal year supply in the first year followed by a 34percent reduction of the normal year supply for the next four years. To meet the reductions, EMID will have to cut back its consumption in kind by implementing the Water Shortage Contingency Plan based on the severity of the drought. The EMID's Water Shortage Contingency Plan describes the triggering levels and actions to be considered for each stage of demand reduction. The plan has five stages with each stage set to respond to increasingly more severe conditions. In 2018, EMID elected to refine its Water Shortage Contingency Plan to achieve water savings of up to 15 percent rather than the previous 10 percent goal that was targeted in a Stage 2 Drought.

As shown in Table G-9, there will continue to be sufficient supplies to meet all projected demand, including the additional demand generated from the proposed projects in all conditions until year 2040. This conclusion is dependent on EMID implementing the mandatory demand reduction as outlined in the EMID Water Shortage Contingency Plan.

In the event of prolonged drought conditions, EMID would implement the Water Shortage Contingency Plan, which would result in reduced water demand of up to 50 percent within the service area. The Water Shortage Contingency Plan thus would ensure an adequate water supply within the EMID service area if the SFPUC reduces water deliveries to EMID by 10 percent to 20 percent (as would occur during a prolonged drought). For instance, a 20 percent reduction in water demand would reduce the overall demand during year 5 of a 5-year drought starting to approximately 4,027 AFY in 2040 with the new projects built out, as shown in Table G-9. The anticipated supply that year, considering a 22 percent reduction in water deliveries from the SFPUC, would be 4,394 AFY as shown in Table G-5. Thus, even under a 5-year drought scenario starting in 2040, EMID would be estimated to provide adequate water to all existing and anticipated development and maintain a water surplus of approximately 367 AFY.

**TABLE G-9 ANNUAL SUPPLY ALLOCATION VS. MULTIPLE DRY YEARS DEMAND (AFY) WITH DEMAND CUTBACKS IN DRY YEARS
CONSISTENT WITH THE 2018 REVISED WATER SHORTAGE CONTINGENCY PLAN**

Year		Normal Year	Single Dry Year	Year 2	Year 3	Year 4	Year 5
			Demand Reduction %				
			15%	15%	20%	20%	20%
2015	Allocation	6,613	4,887	4,394	4,394	4,394	4,394
	ACTUAL Demand	(4,459)	(3,790)	(3,790)	(3,567)	(3,567)	(3,567)
	Excess	2,154	1,097	604	827	827	827
2020	Maximum Allocation	6,613	4,887	4,394	4,394	4,394	4,394
	Demand (NOT including proposed projects)	(4,450)	(3,782)	(3,782)	(3,560)	(3,560)	(3,560)
	Demand (including proposed projects)	(4,700)	(3,995)	(3,995)	(3,760)	(3,760)	(3,760)
	Excess (NOT including proposed projects)	2,163	1,105	612	834	834	834
	Excess (including proposed projects)	1,913	892	399	634	634	634
2025	Maximum Allocation	6,613	4,887	4,394	4,394	4,394	4,394
	Demand (NOT including proposed projects)	(4,444)	(3,777)	(3,777)	(3,555)	(3,555)	(3,555)
	Demand (including proposed projects)	(4,839)	(4,113)	(4,113)	(3,871)	(3,871)	(3,871)
	Excess (NOT including proposed projects)	2,170	1,110	617	839	839	839
	Excess (including proposed projects)	1,775	774	281	523	523	523
2030	Maximum Allocation	6,613	4,887	4,394	4,394	4,394	4,394
	Demand (NOT including proposed projects)	(4,514)	(3,837)	(3,837)	(3,611)	(3,611)	(3,611)
	Demand (including proposed projects)	(4,895)	(4,161)	(4,161)	(3,916)	(3,916)	(3,916)
	Excess (NOT including proposed projects)	2,099	1,050	557	783	783	783
	Excess (including proposed projects)	1,718	726	233	478	478	478

**TABLE G-9 ANNUAL SUPPLY ALLOCATION VS. MULTIPLE DRY YEARS DEMAND (AFY) WITH DEMAND CUTBACKS IN DRY YEARS
CONSISTENT WITH THE 2018 REVISED WATER SHORTAGE CONTINGENCY PLAN**

Year		Normal Year	Single Dry Year	Year 2	Year 3	Year 4	Year 5
			Demand Reduction %				
			15%	15%	20%	20%	20%
2035	Maximum Allocation	6,613	4,887	4,394	4,394	4,394	4,394
	Demand (NOT including proposed projects)	(4,582)	(3,895)	(3,895)	(3,665)	(3,665)	(3,665)
	Demand (including proposed projects)	(4,966)	(4,221)	(4,221)	(3,973)	(3,973)	(3,973)
	Excess (NOT including proposed projects)	2,032	993	499	728	728	728
	Excess (including proposed projects)	1,648	666	173	421	421	421
2040	Maximum Allocation	6,613	4,887	4,394	4,394	4,394	4,394
	Demand (NOT including proposed projects)	(4,628)	(3,934)	(3,934)	(3,702)	(3,702)	(3,702)
	Demand (including proposed projects)	(5,033)	(4,278)	(4,278)	(4,027)	(4,027)	(4,027)
	Excess (NOT including proposed projects)	1,985	953	460	692	692	692
	Excess (including proposed projects)	1,580	609	116	367	367	367

¹ 2015 data is based on actual numbers

2. Supply and Demand Conclusion

In conclusion, the water demand associated with the Pilgrim Triton Water Master Plan project and all foreseeable development as of May 2018 could be accommodated during multiple dry years (such as those that could result from global climate change) through implementation of the mandatory demand reductions as outlined in the recently updated 2018 Water Shortage Contingency Plan.

The proposed Pilgrim Triton Master Plan project as a whole would generate a water demand of 128 AFY, which includes a 2 AFY increase for the proposed change in use for Phase C. The water demand would be within the anticipated supply range for EMID, and would not lead to insufficient water supplies in existing entitlements and resources, or require new or expanded entitlements. Therefore, the proposed project would result in a less-than-significant impact upon the existing and anticipated potable water supply.

G. DEMAND MANAGEMENT MEASURES

1. Description of Adopted Water Conservation Measures

Over the years, EMID has implemented demand management measures to reduce the overall demand for water. Water conservation helpful tips are available online and in brochures to educate customers. Every year during the National Public Works Week, local schools and teachers are invited to participate in water facility tours and activities to promote water conservation. Table G-10 presents the water conservation measures EMID is currently implementing or planning to implement.

TABLE G-10 EMID CURRENT AND PROPOSED CONSERVATION MEASURES

Measure Name	Description
Water Loss Control Program	<p>Maintain a thorough annual accounting of water production, sales by customer class and quantity of water produced but not sold (non-revenue water). In conjunction with system accounting, include audits that identify and quantify known legitimate uses of non-revenue water to determine remaining potential for reducing water losses. Goal is to lower the Infrastructure Leakage Index (ILI) and non-revenue water every year by a pre-determined amount based on cost-effectiveness. These programs typically pay for themselves based on savings in operational costs (and saved rate revenue can be directed more to system repairs/replacement and other costs). Specific goals and methods to be developed by Utility. May include accelerated main and service line replacement. Enhanced real loss reduction may include more ambitious main replacement and active leak detection. Capture water from water main flushing and hydrant flow testing for reuse.</p> <p>Measure start: Ongoing.</p>
Metering with Advanced Metering Infrastructure (AMI)	<p>Retrofit system with AMI meters and associated network capable of providing continuous consumption data to Utility offices. Improved identification of system and customer leaks is a major conservation benefit. Some of the costs of these systems are offset by operational efficiencies and reduced staffing, as regular meter reading and those for opening and closing accounts are accomplished without need for physical or drive-by meter reading. Also enables enhanced billing options and ability to monitor unauthorized usage (such as use/tampering with closed accounts or irrigation if time of day or days per week are regulated). Customer service is improved as staff can quickly access continuous usage records to address customer inquiries. Optional features include online customer access to their usage, which has been shown to improve accountability and reduce water use. A ten-year change-out would be a reasonable objective. Require that new customers install such AMI meters as described above and possibly purchase means of viewing daily consumption inside their home/business either through the Internet (if available) or separate device. The AMI system would, on demand, indicate to the customer and Utility where and how their water is used, facilitating water use reduction and prompting leak identification. This would require Utility to install an AMI system. Require that larger or irrigation customers install such AMI meters as described above and possibly purchase means of viewing daily consumption by landscape/property managers, or business either through the Internet (if available) or separate device.</p> <p>Measure start: 2013-Ongoing.</p>

TABLE G-10 EMID CURRENT AND PROPOSED CONSERVATION MEASURES

Measure Name	Description
Agency Public Information & Program Administration (added to BAWSCA)	Continue with a regional water conservation outreach campaign. May modify to be a general "Use Only What You Need" message like Denver Water's program or a "Beat the Peak" message media campaign like Cary, North Carolina or Tucson, Arizona: http://cms3.tucsonaz.gov/water/beatthepeak . Also considered a program with focused action like: "Take Control of your Controller" Campaign for a focused social media based campaign as a media campaign. Consider determining appropriate usage and media campaign message with marketing study/focus groups. Utility would sponsor bilingual training for managers and workers in landscape maintenance methods that will save irrigation water. Model after Green Gardener Program. Santa Barbara County Water Agency example: http://www.greengardener.org . With some of these programs, names of businesses that have obtained training are included in Utility publications and/or Web sites (as an incentive to participate). Measure start: Ongoing.
In-School Education	School assembly program, classroom presentations, and other options for school education. Measure based on the Resource Action Program Water Wise School Program. Measure start: Ongoing.
Single and Multi-Family Water Surveys	Indoor water surveys for existing single-family residential customers. Target those with high water use and provide a customized report to owner. May include give-away of efficient shower heads, aerators, and toilet devices. Usually combined with outdoor surveys (See Irrigation Measures). Indoor water surveys for existing multi-family residential customers (2 units or more). Target those with high water use and provide a customized report to owner. Usually combined with outdoor surveys (see Irrigation Measures) and sometimes with single-family surveys. Customer leaks can go uncorrected at properties where owners are least able to pay costs of repair. These programs may require that customer leaks be repaired, but either subsidize part of the repair and/or pay the cost with revolving funds that are paid back with water bills over time. May also include an option to replace inefficient plumbing fixtures at low-income residences. Provide incentive to install pressure regulating valve on existing properties with pressure exceeding 80 psi. Measure start: Ongoing.
WaterSense Fixtures Giveaway	Utility would buy showerheads and faucet aerators in bulk and give them away at Utility office or community events. Need to coordinate this program with the School Education measure on retrofit kit giveaways to the same customer categories. Measure start: Current-2020.
Ultra-High-Efficiency Toilet (UHET) Residential Rebates	Provide a rebate or voucher for the installation of an UHET. (Toilets flushing 1.28 GPF or less and include dual flush technology). Rebate amounts would reflect the incremental purchase cost. Measure start: Ongoing.

TABLE G-10 EMID CURRENT AND PROPOSED CONSERVATION MEASURES

Measure Name	Description
“Lawn Be Gone” Landscape Conversion/Turf Removal	Provide a per-square-foot incentive to remove turf and replace with low water use plants or permeable hardscape. Rebate based on dollars per square foot removed, and capped at an upper limit for single-family residence. Measure start: Ongoing.
Water Conserving Landscape & Codes (not including WBICs and turf removal) SF MF CII	Develop and enforce Water Efficient Landscape Design Standards. Standards specify that development projects subject to design review be landscaped according to climate appropriate principals, with appropriate turf ratios, plant selection, efficient irrigation systems, and smart irrigation controllers. There are many examples that have demonstrated significant water savings. The ordinance could require certification of landscape professionals. Measure start: Ongoing.
HET CII Rebates	Provide a rebate or voucher for the installation of a high efficiency toilet (HET). Toilets flushing 1.28 GPF or less and include dual flush technology. Rebate amounts would reflect the incremental purchase cost. Measure start: Current-2020.
Outdoor Water Audit – Large Landscape	Outdoor water audits offered for existing large landscape customers. Normally those with high water use are targeted and provided a customized report on how to save water. All large multi-family residential, CII, and public irrigators of large landscapes would be eligible for free landscape water audits upon request. Tied to the Waterfluence Budget Program. Measure start: Ongoing.
Landscape Water Budgets/Monitoring-Large Landscape Dedicated Meters & Mixed-Use Conversion	Website that provides feedback on irrigation water use (budget vs. actual). Current Waterfluence Program. May include the cost for dedicated meter conversion. Measure start: 2015.
“Lawn Be Gone” MF CII Large Landscape Conversion/Turf Removal	Provide a per-square-foot incentive to remove turf and replace with low water use plants or hardscape. Rebate is based on price per square foot removed, and capped at an upper limit for multi-family or commercial residence. Measure start: Ongoing.
Rotating Sprinkler Nozzle Incentive Program SF MF CII Large Landscape	Provide rebates to replace standard spray sprinkler nozzles with rotating nozzles that have lower application rates. Nozzles cost about \$6 and rebates have been on the order of \$4 with a minimum purchase of about 20 nozzles. Measure start: 2015.

Source: Bay Area Water Conservation and Supply Agency Regional Water Demand and Conservation Projections, Final Report, September 2014; updates provided in email on April 20, 2018 from Norm Dorais, EMID staff.