APPENDIX A
NOTICE OF PREPARATION AND COMMENTS

NOTICE OF PREPARATION
of a Draft Program Environmental Impact Report (EIR) for the City of Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments

DATE: January 26, 2022

TO: State Clearinghouse, Responsible Agencies, Trustee Agencies, Federal Agencies, and other Interested Agencies, Interested Parties, and Organizations

SUBJECT: Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (EIR) for the City of Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments and Notice of Public Scoping Meeting (EA2021-0004) and Notice of Public Scoping Meeting

NOP COMMENT PERIOD: January 26, 2022 to February 25, 2022 by 5:00 p.m.

PUBLIC SCOPING MEETING: February 17, 2022 at 7:00 p.m. Zoom Webinar

LEAD AGENCY: City of Foster City Community Development Department
Marlene Subhashini, Community Development Director
610 Foster City Blvd.
Foster City, CA 94404
Phone: (650) 286-3239
Email: msubhashini@fostercity.org

NOTICE IS HEREBY GIVEN THAT The City of Foster City (lead agency) will prepare a Draft Program Environmental Impact Report (EIR) for the proposed City of Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments (collectively referred to as the "proposed project"). The Program EIR will address the environmental impacts associated with the adoption and implementation of the proposed project. This Notice of Preparation (NOP) is being distributed to applicable responsible agencies, trustee agencies, and interested parties as required by the California Environmental Quality Act (CEQA). Interested agencies are requested to comment on the scope and content of the descriptions of the significant environmental issues, mitigation measures (if needed), and reasonable alternatives to be explored in the Program EIR. Information regarding the project description, project location, public outreach process and topics to be addressed in the Program EIR is provided below.

30-DAY NOP COMMENT PERIOD: The City of Foster City solicits comments regarding the scope and content of the Program EIR from all interested parties, responsible agencies, agencies with jurisdiction by law, trustee agencies, and involved agencies. In accordance with the time limits established by CEQA, the NOP public review period will begin on January 26, 2022 and end on February 25, 2022. If no response or request for additional time is received by any Responsible or Trustee Agency by the end of the review period, the Lead Agency may presume that the Responsible Agency or Trustee Agency has no response

to make [CEQA Guidelines Section 15082(b)(2)]. Please send your written/typed comments (including name, affiliation, telephone number, and contact information) by 5:00 p.m. on February 25, 2022 to:

City of Foster City Community Development Department
Marlene Subhashini, Community Development Director
610 Foster City Blvd.
Foster City, CA 94404
Phone: (650) 286-3239
Email: msubhashini@fostercity.org

PUBLIC SCOPING MEETING: The City will hold an EIR Public Scoping Meeting to: 1) inform the public and interested agencies about the proposed Project; and 2) solicit public comment on the scope of the environmental issues to be addressed in the Program EIR as well as the range of practicable alternatives to be evaluated. Meeting details are provided below:

Thursday, February 17, 2022 at 7:00 p.m.
Please click the link below to join the webinar:
https://fostercity-org.zoom.us/j/83998928441
Or One tap mobile :
US: +16699006833,,83998928441# or +14086380968,,83998928441#
Or Telephone:
Dial (for higher quality, dial a number based on your current location):
US: +1 (669) 900-6833 or +1(408) 638-0968 or +1(346) 248-7799 or +1(253) 215-8782 or +1(312)626-6799 or +1(646)876-9923 or +1(301)715-8592
Webinar ID: 839 9892 8441
International numbers available: https://fostercity-org.zoom.us/u/kc6Qnwbn2c

As an alternative, the City will also stream video and audio of the public scoping meeting at the following webpage; however, the link below does not provide the ability to comment during the meeting: https://www.fostercity.org/community/page/fctv-live-stream.

PROJECT-RELATED DOCUMENTS: Foster City's existing General Plan documents (including the 2015-2023 Housing Element and 2016 Local Hazard Mitigation Plan/Safety Element) and materials for the proposed project and Program EIR are available at fostercity.org. More information specific to the Housing Element Update process is available at: https://www.fostercity.org/commdev/page/housing-element-update-cycle-6.

PROJECT LOCATION: The City of Foster City is located in central San Mateo County. The City is bordered by San Mateo to the west, Belmont to the southwest and Redwood City to the southeast, with the San Francisco Bay bordering the east and northeast. The General Plan Planning Area is the geographic extent for the environmental analysis, composed of approximately 12,345 acres. California State Route 92, which serves as a major east to west corridor in the Bay Area, intersects Foster City, which includes the western terminal of the San Mateo Bridge. Route 101, a major north-south highway runs along the west side of the City boundary which connects Foster City to San Francisco to the north and San Jose to the south.

The City Boundaries and regional location of Foster City are shown in **Figure 1-1**.

PROJECT BACKGROUND: The City of Foster City's comprehensive General Plan establishes a consistent direction for future development and contains elements covering State-mandated topics. The Foster City General Plan Elements are: Land Use and Circulation, Housing, Parks and Open Space, Noise, Local Hazard Mitigation Plan & Safety, and Conservation. The City of Foster City adopted its General Plan elements at various times and has updated one or two elements at a time based on State requirements. In accordance with State law, the new planning period, also known as the "6th Cycle", for the updated Housing Element will extend from January 31, 2023 to January 31, 2031. Revision of the Housing Element also

triggers review and update of the Safety Element (SB 1035, 2018). Through this update process, the City may need to amend other elements to ensure internal consistency between the various General Plan elements.

KEY COMPONENTS OF HOUSING ELEMENT: Through the Housing Element update process, the City is required to demonstrate that it has the regulatory and land use policies to accommodate its assigned Regional Housing Needs Allocation (RHNA). Local governments are not required to build the housing; rather, the actual development of housing is anticipated to be constructed by developers. However, the Housing Element is required to identify potential sites where housing can be accommodated to meet all the income levels of a jurisdiction's RHNA. Identification of potential sites and related site housing capacity does not guarantee that construction will occur on that site. If there are insufficient sites and capacity to meet the RHNA allocation, the Housing Element is required to identify a rezoning program to accommodate the required capacity. If there is insufficient infrastructure capacity to support the RHNA allocation, the Housing Element is required to include a program that ensures access and availability to infrastructure. If the City does not identify capacity for its RHNA allocation, the City could be deemed out of compliance and risk losing important sources of funding currently provided by the State as well as face legal challenges including loss of local control.

The Key Components of the housing element are:

1. Housing Needs Assessment: Examine demographic, employment, and housing trends and conditions and identify existing and projected housing needs of the community, with attention paid to special housing needs (e.g., large families, persons with disabilities).
2. Evaluation of Past Performance: Review the prior Housing Element to measure progress in implementing policies and programs.
3. Housing Sites Inventory: Identify locations of available sites for housing development or redevelopment to ensure there is enough land zoned for housing to meet the future need at all income levels and potentially rezone areas, if necessary.
4. Affirmatively Furthering Fair Housing (AFFH): Facilitate deliberate action to explicitly address, combat, and relieve disparities resulting from past patterns of segregation to foster more inclusive communities, in compliance with Assembly Bill 686 (2018).
5. Community Engagement: Implement a robust community engagement program, reaching out to all economic segments of the community plus traditionally underrepresented groups.
6. Constraints Analysis: Analyze and recommend remedies for existing and potential governmental and nongovernmental barriers to housing development.
7. Policies and Programs: Establish policies and programs to be carried out during the 2023-2031 planning period to fulfill the identified housing needs.

REGIONAL HOUSING NEEDS ALLOCATION (RHNA): In addition to including goals, policies, and implementation strategies regarding housing, housing elements must include a list of housing sites that can accommodate the amount of housing units assigned to the City by the Association of Bay Area Governments (ABAG). This assignment is referred to as a RHNA. Along with the amount of RHNA units currently assigned to the City (see Table 1), the City needs to provide a buffer (extra housing sites) to ensure there is capacity to ensure an ongoing supply of sites at each income level for housing during the eight-year-cycle of the Housing Element. Without the buffer, the City could be obliged to identify new sites and amend the Housing Element prior to the end of the cycle if an identified site were developed with a non-housing project or developed at a density less than that anticipated in the Housing Element or developed at affordability levels higher than that anticipated in the Housing Element.

The need for a buffer is even more important during this cycle because of new rules in the Housing Accountability Act's "no net loss" provisions. SB 166 (2017) requires that the land inventory and site identification programs in the Housing Element always include sufficient sites to accommodate the unmet RHNA. This means that if a site identified in the Element as having the potential for housing development to accommodate the lower-income portion of the RHNA is actually developed for a higher income level, the locality must either: 1) identify and rezone, if necessary, an adequate substitute site; or 2) demonstrate that

the land inventory already contains an adequate substitute site. An adequate buffer will be critical to ensuring that the City remains compliant with the requirements.

Table 1 City of Foster City RHNA

INCOME LEVEL	RHNA
Very-Low-Income (0-50 percent of AMI) *	520
Low-income (50-80 percent of AMI)	299
Moderate-income (80-120 percent of AMI)	300
Above moderate-income (120 percent or more of AMI)	777
TOTAL	1,896

*Area Median Income

PROPOSED HOUSING SITES INVENTORY: The Housing Element Update will include a housing sites inventory with sufficient existing and new housing sites at appropriate densities to meet the City's RHNA requirement plus a buffer. To determine where these potential housing sties will be and what densities will be required, the City will seek community input and feedback by engaging with the community online and at public meetings/study sessions to identify parcels in the City where housing sites could potentially be located. In addition to these sites, the City anticipates accessory dwelling units spread throughout the City.

SAFETY ELEMENT: The goal of the Safety Element is to reduce the negative impacts caused by natural phenomena such as fires, floods, droughts, earthquakes, and landslides. This goal is achieved by identifying policies and programs that reduce the risks faced by residents. In recent years, State requirements have expanded the Safety Element's scope to include climate change vulnerability and adaptation and greater attention to evacuation routes. Jurisdictions are required to complete a vulnerability assessment, develop adaptation and resilience goals, policies, and objectives, and develop a set of feasible implementation measures addressing climate change adaptation and resiliency (SB 379, 2015). Jurisdictions must review and update these portions of the Safety Element upon each revision of the Housing Element or Local Hazard Mitigation Plan (LHMP), but not less than once every eight (8) years. (SB 1035, 2018).

PROGRAM EIR ANALYSIS: The City of Foster City, as the Lead Agency, will prepare a Program EIR for the proposed project in accordance with CEQA, implementing the CEQA Guidelines, relevant case law, and City procedures. The Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments is considered a "project" under CEQA and is therefore subject to CEQA review. As policy documents, the proposed project provides guidance and sets standards for several areas of mandatory environmental review for later "projects" that would be undertaken by local government and the private sector.

The Program EIR will evaluate potential environmental impacts associated with adoption and implementation of the proposed project. The Program EIR will disclose potential impacts of the proposed project, propose mitigation measures to avoid and/or reduce impacts deemed potentially significant, identify reasonable alternatives, and compare the environmental impacts of the alternatives to the proposed project's impacts. Pursuant to Section 15063(a) of the CEQA Guidelines, no Initial Study will be prepared. The Program EIR will evaluate the full range of environmental issues contemplated under CEQA and the CEQA Guidelines.

At this time, it is anticipated that the following issues/technical sections will be addressed in the EIR:

- Aesthetics
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning

- Noise
- Population and Housing
- Public Services, Recreation, and Utilities
- Transportation

The Project, as currently understood, does not have the potential for significant impacts on the following environmental factors, and, as a result, these environmental factors will receive limited analysis in this EIR:

- Biological Resources
- Cultural Resources
- Geology and Soils
- Hydrology and Water Quality
- Mineral Resources
- Tribal Cultural Resources

The Program EIR will also discuss the cumulative impacts of the project in combination with other closely related past, present, and reasonably foreseeable probable future projects in the vicinity.

The Program EIR will describe and evaluate the comparative merits of a reasonable range of alternatives to the project that could reasonably accomplish most of the basic project objectives and could avoid or substantially lessen one or more of the significant impacts. The Program EIR will also analyze the "No Project Alternative" and will identify the environmentally superior alternative. The Program EIR will briefly describe and explain any alternatives that were eliminated from detailed consideration. The alternatives to be analyzed will be developed during the environmental review process and will consider input received during the public scoping process.

THE PURPOSE OF THIS NOTICE: In accordance with the State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15082), the City has prepared this NOP to inform agencies and interested parties that an EIR will be prepared for the Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments. The purpose of an NOP is to provide sufficient information about the proposed project to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed (State CEQA Guidelines 14 CCR Section 15082[b]).

ENVIRONMENTAL REVIEW PROCESS: Following completion of the 30-day NOP public review period, the City will incorporate relevant information into the Draft Program EIR, including results of public scoping and technical studies. Subsequently, the Draft Program EIR will be circulated for public review and comment for a 45-day public review period. The City requests that any potential Responsible or Trustee Agency responding to this notice do so in a manner consistent with CEQA Guidelines Section 15082(b). All interested parties that have submitted their names and email or mailing addresses will be notified throughout the CEQA review process.

A copy of the NOP can be found on the project website at www.fostercity.org and on file at the City of Foster City Community Development Department (610 Foster City Blvd., Foster City, CA 94404). If you wish to be placed on the mailing list or need additional information, please contact Marlene Subhashini, Community Development Director, City of Foster City, at (650) 286-3239 or msubhashini@fostercity.org.

Attachments:
Figure 1-1, Regional Location

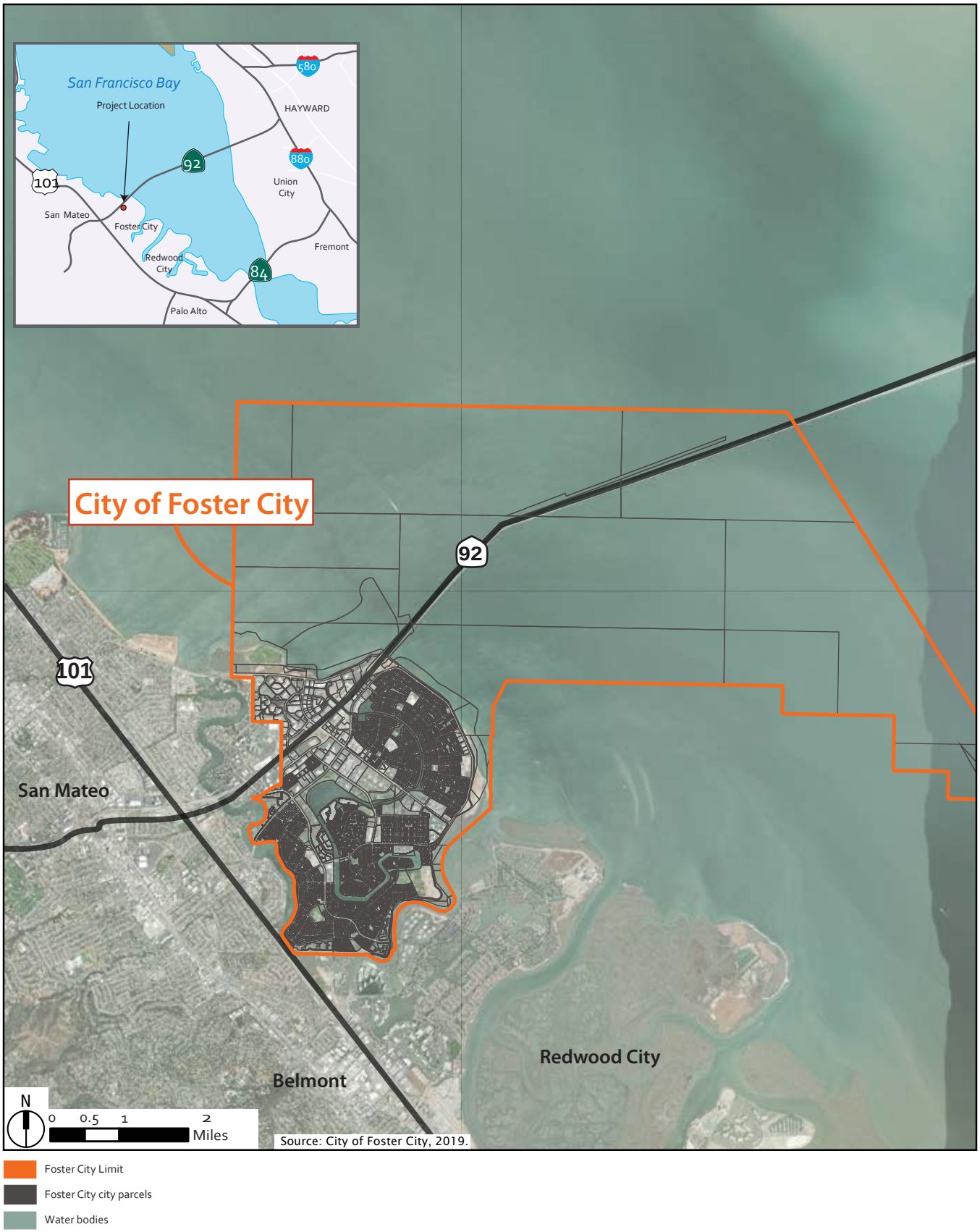


Figure 1-1
Regional Location

California Department of Transportation

DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

February 23, 2022

SCH #: 2022010509
GTS #: 04-SM-2022-00421
GTS ID: 25405
Co/Rt/Pm: SM/92/13.65

Marlene Subhashini, Director
Community Development Department
City of Foster City
610 Foster City Boulevard
Foster City, CA 94404

Re: City of Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments Notice of Preparation (NOP)

Dear Marlene Subhashini:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the City of Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments Project (project). We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the January 2022 NOP.

Project Understanding

The project includes the update of the Housing Element, Safety Element, and all affected Zoning elements. In addition, the City of Foster City (City) will prepare a Draft Program Environmental Impact Report (DEIR) for the project. The DEIR will address the environmental impacts associated with the adoption and implementation of the proposed project. The Housing Element Update will include a housing sites inventory with sufficient existing and new housing sites at appropriate densities to meet the City's Regional Housing Needs Assessment (RHNA) requirements and a buffer. The Safety Element Update will include a vulnerability assessment; development of an adaptation and resilience goals, policies, and objectives; and development of a set of feasible implementation measures addressing climate change adaptation and resiliency. The project encompasses the entire City and is located along segments of State Route (SR)-92 which passes through the City in a northeast-southwest direction.

Travel Demand Analysis
With the enactment of Senate Bill (SB) 743, Caltrans is focused on maximizing efficient development patterns, innovative travel demand reduction strategies, and multimodal improvements. For more information on how Caltrans assesses Transportation Impact Studies, please review Caltrans' Transportation Impact Study Guide (TISG, *link*). Please note that current and future land use projects proposed near and adjacent to the State Transportation Network (STN) shall be assessed, in part, through the TISG.

Transportation Impact Fees
We encourage a sufficient allocation of fair share contributions toward multimodal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT. Caltrans welcomes the opportunity to work with the City and local partners to secure the funding for needed mitigation. Traffic mitigation- or cooperative agreements are examples of such measures.

Lead Agency
As the Lead Agency, the City of Foster City is responsible for all project mitigation, including any needed improvements to the State Transportation Network (STN). The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Equitable Access
If any Caltrans facilities are impacted by projects within the City, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, or for future notifications and requests for review of new projects, please email LDR-D4@dot.ca.gov.

Sincerely,

MARK LEONG
District Branch Chief
Local Development Review

c: State Clearinghouse

February 8, 2022

Marlene Subhashini
City of Foster City
610 Foster City Boulevard
Foster City, CA 94404

Re: 2022010509, Program EIR for the City of Foster City 6th Cycle Housing Element Update, and Associated Zoning Amendments Project, San Mateo County

Dear Ms. Subhashini:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.

b. The lead agency contact information.

c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).

d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.

b. Recommended mitigation measures.

c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.

b. Significance of the tribal cultural resources.

c. Significance of the project's impacts on tribal cultural resources.

d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

From: Susan Lessin <susanlessin@comcast.net>
Sent: Thursday, February 24, 2022 11:05 AM
To: Marlene Subhashini <msubhashini@fostercity.org>
Subject: NOP Draft EIR Foster City 6TH Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments

Dear Director Subhashini,

Thank you for allowing me to comment on the NOP.

I want any new housing structures in Foster City to be all electric with rooftop solar, have adequate charging stations for electric vehicles, and be constructed with climate friendly building materials.

I urge the members of the Foster City City Council and Planning Commission to reach out to Peninsula Clean Energy regarding recommendations for renewable energy in the construction of new housing structures.

I urge the members of the Foster City City Council and Planning Commission to contact local transit agencies and local employers to increase public transit options and private employer sponsored shuttles.

I discourage the reduction of open space and parks in Foster City to accommodate new housing.

Thank you,

Susan Lessin

A concerned resident of Foster City

APPENDIX B
NON-CEQA TECHNICAL MEMORANDUM

FEHR PEERS

Memorandum

Date: February 15, 2023

To: Marlene Subhashini and Thai-Chau Le, City of Foster City

From: Matt Goyne, P.E., Mike Hawkins, P.E., Alex Murray, and Kevin Zamzow-Pollock

Subject: Foster City Housing Element EIR Traffic Analysis Supplemental Memorandum

SF22-1230

Introduction

Passed in 2013, California Senate Bill (SB) 743 changed the focus of CEQA transportation impact analysis from measuring impacts to drivers to measuring the impact of driving. The change was made by replacing level of service (LOS), a measure of automobile delay, with a vehicle miles travelled (VMT) approach, which measures the amount of driving that occurs within a community. This shift means that CEQA environmental documents, including the Foster City Housing and Safety Elements Update Environmental Impact Report (EIR), cannot use automobile delay as a significance criterion. However, local agencies can still use LOS for other purposes, including to determine if plans and policies remain consistent with a general plan.

City of Foster City staff have asked for a non-CEQA traffic analysis to accompany the Housing and Safety Elements Update EIR. The City of Foster City General Plan Land Use and Circulation Element outlines traffic LOS standards that the City shall seek to achieve during peak traffic hours. The purpose of this non-CEQA traffic analysis is to help determine if the Housing Element Update is consistent with General Plan policies, and to inform decision makers and residents of the relationship between traffic and housing development in Foster City. This memorandum presents the methodologies used to analyze traffic conditions, the data collected and used for this analysis, and estimates the effect of new housing development on the roadway system in Foster City.

In addition to this memorandum, **a companion website** was created to further explore the state of traffic conditions in Foster City and how it may change in the future with Foster City's Housing Element Update. The website is intended for policymakers, residents, and employees of Foster City to better understand the city's transportation challenges and possibilities now and into the future.

Methodology

This memorandum relies on several methods to provide a holistic overview of traffic conditions throughout Foster City. This includes a combination of traffic count data from several data sources and traffic analysis at representative locations throughout the city. The Housing Element is a planning document and does not propose specific residential developments; therefore, the study locations were selected to represent typical traffic conditions on different roadway facility types or at bottleneck locations near areas of the city most likely to experience growth. The following sections describe the data collected and the methodology for the analysis of traffic conditions and travel patterns in Foster City.

Data Collection

The data collection for this study includes traditional intersection, roadway, and driveway counts to inform an assessment of the traffic conditions at representative locations and anonymized cell phone travel pattern data to determine how people travel through Foster City. This study focuses on daily and evening peak (4:00 – 6:00 PM) time periods. Based on previous studies in Foster City, PM peak period traffic congestion is more severe than AM conditions with vehicle volumes approximately ten percent higher.

Intersection Turning Movement Counts

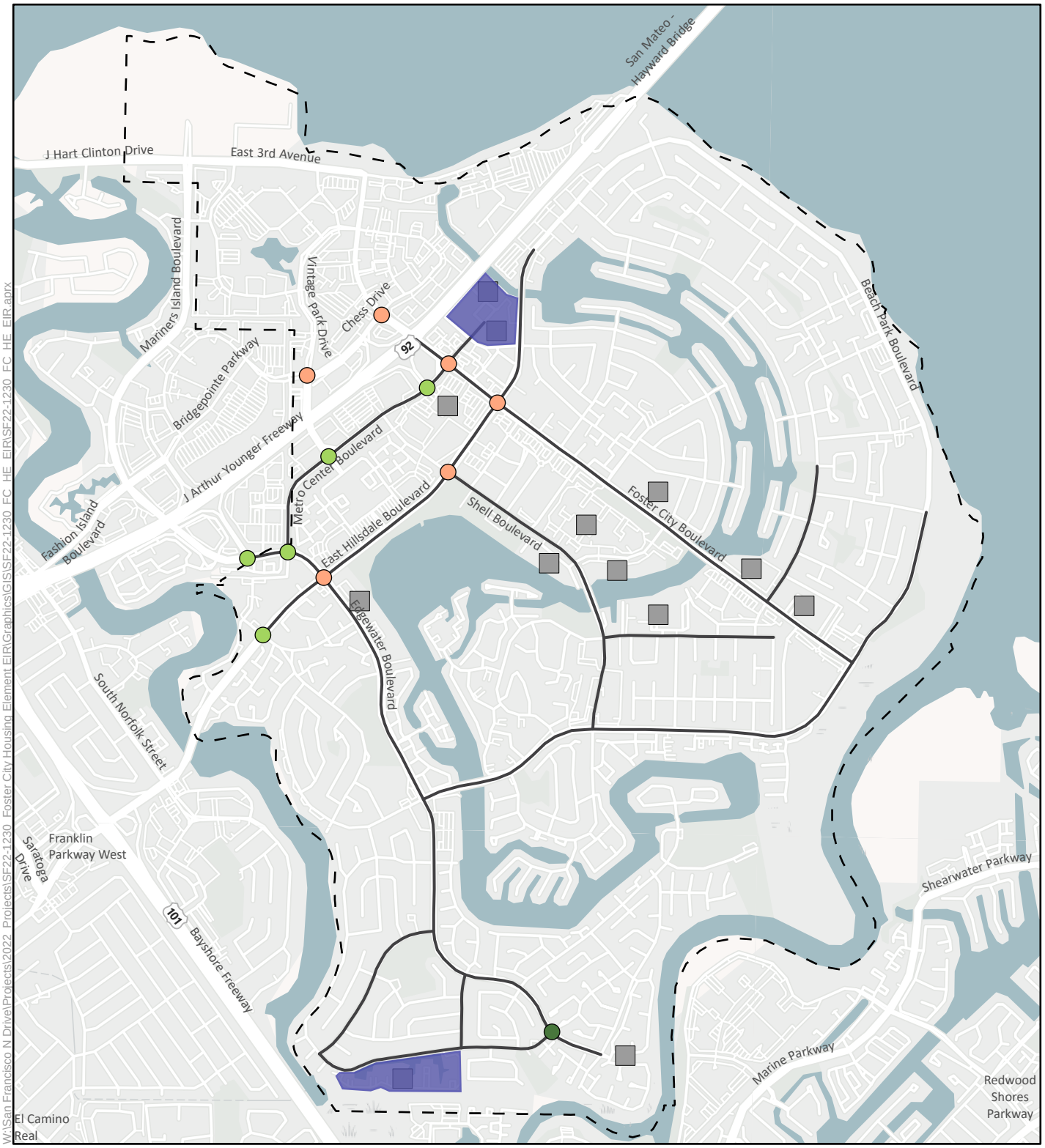
Intersection turning movement counts were collected during the evening peak period (4:00 – 6:00 PM) at 12 representative study intersections presented in **Figure 1**. These counts were collected in February 2019 and July 2022 on weekdays, in weeks with no holidays, and in good weather conditions. The raw intersection counts and a comparison of the count volumes between years are available in **Appendix A**. Overall, the intersection turning movement counts collected in 2022 indicate that traffic volumes were 17 percent lower in 2022 when compared to 2019, indicating that peak hour traffic levels have not returned to pre-pandemic conditions due to the continuation of work from home and hybrid work trends.

Average Daily Traffic Counts

Average daily traffic (ADT) counts were compiled from previous sources at 68 representative segments presented in **Figure 1**. These counts were collected by Foster City in 2015 and were previously used in analysis for the Foster City Levee DEIR. A summary of ADT counts is included in **Appendix A**.

Driveway Counts

Driveway counts were collected in July 2022 at all entry points into the two representative residential sites – Pilgrim-Triton and Lantern Cove (as shown on **Figure 1**) – to compare actual site trip generation to estimates included in the Institute of Transportation Engineers (ITE) *Trip*



Intersection Turning Movements (by collection year)

- 2019
- 2022
- 2022 & 2019

- Average Daily Traffic (ADT) Locations
- Housing Element Housing Sites
- Foster City City Limit
- Representative Residential Sites (Driveway Counts)

Figure 1

Foster City Traffic Count Locations

Generation Manual, a national trip generation database commonly used by transportation professionals. The raw driveway counts and a comparison summary are included in **Appendix A**.

Travel Pattern Data

StreetLight Data is a databased platform that provides estimated vehicle volumes through anonymized location-based services (LBS) data from cell phone apps. All LBS data provided to StreetLight has been stripped of personally identifiable information and StreetLight aggregates this data into a final product that cannot be traced back to any individual device or person. StreetLight uses a proprietary algorithm to convert LBS data into vehicle volumes.

StreetLight outputs from both May 2019 and April 2022 were collected and compared to analyze traffic conditions before the COVID-19 pandemic, to analyze traffic volumes on local roadway segments, to determine the levels of cut-through traffic in Foster City, and to estimate the effect of residential development in the area. April 2022 data is the most recently available data from StreetLight. The StreetLight data was calibrated using the intersection and roadway counts collected in 2019 and 2022 to ensure StreetLight's outputs were in line with the specific conditions in Foster City.

The following StreetLight products were used to generate useful metrics on driving behavior in and around Foster City:

- The Top Routes for Zones analysis provides routes to and from a given location in the form of vehicle volumes on nearby road segments, from which one can infer specific routing. This product was used to understand how existing Foster City residents travel.
- The Top Routes between Origins and Destinations analysis is similar to Top Routes for Zones except that it provides routes between one location and another location. This product was used to analyze traffic to and from the San Mateo Bridge for the Cut-through Traffic Analysis.
- The Origin-Destination analysis provides the total vehicle volume between two or more locations. This product was used to estimate the volumes between intersection legs to provide a suitable comparison for the Top Routes analysis.
- The Zone Activity analysis provides the number of vehicle trips that pass along a given road segment, as well as simple metrics for these trips, such as trip length, duration, and speed. This product was used to calibrate roadway volumes and to estimate trip lengths.

Traffic Analysis Approach

LOS analyzes the typical delay experienced by automobiles at select intersections during peak travel periods. LOS is useful for estimating the typical delay experienced by automobiles at representative intersections, but it does not provide information on the travel patterns of people driving to destinations within Foster City or driving through the City. Foster City has historically

experienced a substantial amount of cut-through traffic on City arterials given its location at the base of the San Mateo Bridge. Therefore, the traffic analysis includes an analysis of a combination of traditional LOS metrics and three types of travel pattern data, as described below.

Intersection Traffic Operations

The evaluation of traffic conditions on local streets involves an analysis of intersection operations, as intersections represent locations where roadway capacity is the most constrained. Intersections are typically evaluated using LOS calculations. LOS is a qualitative description of traffic operations that assigns a letter grade to an intersection or roadway, based on vehicle delay. LOS ranges from LOS A, where the roadway has excess capacity and vehicles experience little or no delay, to LOS F, where the volume of vehicles exceeds the capacity of the roadway, resulting in long queues and excessive delays for drivers. Drivers waiting at a signalized intersection operating at LOS F may need to wait through multiple signal cycles before proceeding through the intersection.

Land Use and Circulation Policy LUC-F-1 of the Foster City General Plan seeks to maintain acceptable traffic operating conditions on the City's roadway network. The General Plan defines acceptable operations as 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 State Route 92 (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.

Table 1 presents the representative study intersections used for this LOS analysis, the dates that the intersection traffic counts were collected, and the tool used for the analysis. The Vistro and Synchro software packages incorporate standard LOS calculation methods included in Chapter 16 and Chapter 17 of the *Highway Capacity Manual* (HCM). Vistro and Synchro both evaluate intersections on an individual basis, and do not account for the potential effect of spillover queuing from other nearby intersections. The VISSIM micro-simulation software package was used to analyze this dynamic at four key intersections in Foster City that have historically experienced spillover queues. Where 2019 and 2022 traffic counts were available, the 2019 traffic counts were higher, and therefore were used to represent conditions if commute patterns and traffic conditions return to pre-pandemic levels.

Table 1: Intersection Turning Movement Count Locations

	Intersection	Control Type	Count Data Period	Analysis Method
1	SR-29 WB Ramps / Chess Drive	Signalized	2019	VISSIM
2	Foster City Boulevard / Chess Drive	Signalized	2019 and 2022	VISSIM
3	Foster City Boulevard / Triton Boulevard / Metro Center Boulevard	Signalized	2019 and 2022	VISSIM
4	SR-29 EB Ramps / Metro Center Boulevard	Signalized	2019	VISSIM
5	Metro Center Boulevard / Vintage Park Dr	Signalized	2019	Vistro/Synchro
6	Metro Center Boulevard / Edgewater Boulevard	Signalized	2019	Vistro/Synchro
7	Edgewater Boulevard / SR-29 EB Ramps	Signalized	2019	Vistro/Synchro
8	Hillsdale Boulevard / Edgewater Boulevard	Signalized	2022 & 2019	Vistro/Synchro
9	Hillsdale Boulevard / Shell Boulevard	Signalized	2022 & 2019	Vistro/Synchro
10	Hillsdale Boulevard / Foster City Boulevard	Signalized	2022 & 2019	Vistro/Synchro

Cut-through Traffic Analysis

StreetLight Data was used to identify road segments with substantial cut-through traffic headed to and from the San Mateo Bridge during the PM peak period (4:00 PM – 6:00 PM). The origin and destination of these trips were captured through screenlines on US-101, both north and south of Foster City, on SR 92 east of El Camino Real, and in three areas of the City of San Mateo to capture trips that may be missed by the other screenline locations.

Analysis of Household Travel Patterns

StreetLight Data was used to determine the contribution of residential development to congestion in Foster City. Two residential sites were selected for this analysis: the Pilgrim-Triton site near Foster City Boulevard and East Hillsdale Boulevard, and the Lantern Cove Site, located off Port Royal Avenue. These two locations were selected in coordination with City staff as they are representative of the types of residential projects that would be consistent with the Housing Element.

Pilgrim-Triton was used to represent a more recent and higher density residential development located near the center of Foster City. This area has relatively higher access to transit, commercial services, and employment opportunities. Lantern Cove was selected to represent an established residential development near the periphery of Foster City, with relatively lower access to transit, commercial services, and employment opportunities. These sites were selected to illustrate how future, similar residential development might affect traffic congestion in the City, rather than any specific changes at these sites.

Driveway counts were collected in July 2022 at all entry points into the two representative residential sites – Pilgrim-Triton and Lantern Cove – to compare actual site trip generation to estimates included in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, a national trip generation database commonly used by transportation professionals.

Trip Length Analysis

StreetLight Data was used to determine the distance traveled by trips to and from Foster City, both in 2019 and 2022. Trip lengths illustrate how far people travel for work, school, shopping, recreation, or other services. Higher trip lengths are correlated with higher vehicle miles traveled, and traffic congestion on the roadway network as individual drivers use more roadway space. This comparison illustrates whether the types of trips being made to and from Foster City have changed due to the COVID-19 pandemic.

Analysis Results

Intersection Traffic Operations

Table 2 summarizes existing and cumulative PM peak hour intersection LOS results for key study intersections. As previously stated, 2022 intersection volumes were approximately 17 percent lower compared to 2019 volumes. For this reason, the 2019 intersection LOS results are presented as a more conservative approach, representing a return to the pre-pandemic commute and regional traffic patterns through Foster City. Full LOS calculations are included in **Appendix A**. Observations from 2019 verified that queues spilled back to adjacent intersections where LOS results showed volumes were at or above capacity (LOS E and F), especially at key freeway ramp intersections. Observations in 2022 confirmed that the congestion and queuing at these same intersections were not as substantial, with few queues extending between intersections.

Cumulative (2040) conditions represent a scenario where construction of reasonably foreseeable development projects and transportation network changes are realized. Specific cumulative development projects include the Gilead Master Plan, Foster Square, Lincoln Centre, and the Chess Hatch Master Plan, among others. Specific roadway improvements include geometry changes at the Foster City Boulevard / Chess Drive intersection. Under cumulative conditions, several study intersections would degrade to LOS E or F due to the addition of traffic generated by this land use growth being added to 2019 pre-pandemic traffic conditions, while one additional intersection would operate at unacceptable levels compared to existing conditions.

In addition to the Cumulative (2040) conditions, **Table 2** also displays the forecasted growth in traffic volumes with the buildout of the Draft Foster City Housing Element Update. This scenario accounts for the development projects included in the Cumulative (2040) conditions scenario and adds the growth associated with the Housing Element. These future traffic volumes were estimated using the City/County Association of Governments of San Mateo County (C/CAG)

Travel Demand Model. Under the Plus Housing Element conditions, most of the study intersections would see modest traffic growth at a level below the average daily fluctuation of traffic volumes, which is typically 5 to 10 percent.[1] Traffic volume changes within this range are typically imperceptible to the average driver.

Table 2: PM Peak Hour Intersection LOS Results

Intersection		Existing		Cumulative		Traffic Growth Associated with Housing Element
		Delay	LOS	Delay	LOS	
1	SR-29 WB Ramps / Chess Drive*	43	D	>80	F	7%
2	Foster City Boulevard / Chess Drive*	>80	F	>80	F	4%
3	Foster City Boulevard / Triton Boulevard / Metro Center Boulevard*	66	E	>80	F	6%
4	SR-29 EB Ramps / Metro Center Boulevard	**>80**	**F**	**>80**	**F**	3%
5	Metro Center Boulevard / Vintage Park Dr	43	D	**76**	**E**	4%
6	Metro Center Boulevard / Edgewater Boulevard	31	C	53	D	<1%
7	Edgewater Boulevard / SR-29 EB Ramps	31	C	33	C	3%
8	E. Hillsdale Boulevard / Edgewater Boulevard	43	D	52	D	6%
9	E. Hillsdale Boulevard / Shell Boulevard	29	C	53	D	18%
10	E. Hillsdale Boulevard / Foster City Boulevard	42	D	**76**	**E**	17%

Bold indicates unacceptable operations; some locations operate at LOS E or F but are considered acceptable, per General Plan policy LUC-F-1 (as denoted with a *)
Source: *Metro Center Hotel Project DEIR*, Fehr & Peers, 2019

One location - SR-29 EB Ramps / Metro Center Boulevard – would degrade to unacceptable conditions with a small contribution from the housing element of less than five percent to total traffic volumes. The degradation of operations at this location is primarily due to the addition of regional and local employment growth to the 2019 pre-pandemic vehicle queues trying to reach the San Mateo Bridge during the peak commute hour.

Two of the study intersections – East Hillsdale Boulevard / Shell Boulevard and East Hillsdale Boulevard / Foster City Boulevard – see traffic growth greater than 10 percent. The increase in

[1] *Variability in Traffic Monitoring Data Final Summary Report*; Center for Transportation Analysis of Oak Ridge National Laboratory for the Federal Highway Administration; August 1997

volumes associated with the Housing Element at E. Hillsdale Boulevard / Shell Boulevard would not cause the intersection operations to degrade to an unacceptable level. However, the increase in volume at E. Hillsdale Boulevard / Foster City Boulevard would cause the intersection to degrade to LOS E, which is considered unacceptable. The majority of added delay would be to the eastbound approach, where a combination of signal timing changes and the addition of a second left-turn pocket could improve operations to acceptable LOS D. However, building a second left-turn pocket would increase the intersection footprint, create a longer crossing distance for pedestrians, and would conflict with City policies related to pedestrian safety. Further, as previously noted and as shown in **Appendix A**, traffic volumes have not recovered to the pre-pandemic conditions due to the reduction in commute and regional cut-through traffic. Eastbound approach volumes at this intersection in 2022 were 34 percent lower than 2019 volumes, and eastbound left-turning volumes (where the majority of delay is expected to be added under cumulative conditions) showed a 27 percent reduction compared to 2019 volumes.

The mitigation measures listed in section 4.B.3.d of the Housing Element EIR, such as the requirement of transportation demand management measures by C/CAG and Foster City, would reduce the amount of traffic generated by the residential development consistent with the housing element, improving traffic operations at E. Hillsdale Boulevard / Foster City Boulevard. The City should continue to monitor conditions at this location to determine whether traffic volumes do return to pre-pandemic conditions as the City's General Plan and Housing Element are built out and assess whether other programmatic measures or less-capital intensive physical measures (such as additional turn-restrictions) could successfully deter cut-through traffic in order to improve traffic operations to acceptable levels. These features should be considered before capacity enhancing changes to this intersection given the conflicts with other General Plan policies and the potential unintended effects of inducing additional regional cut-through traffic through this intersection.

Cut-through Traffic Analysis

StreetLight Data was used to identify road segments with substantial cut-through traffic headed to and from the San Mateo Bridge during the PM peak period (4:00 PM – 6:00 PM). For the eight intersections analyzed, the percent of total intersection traffic due to cut-through activity was determined. The top three intersections were all located near CA-92 freeway on-ramps: Mariners Island Boulevard/Edgewater Boulevard & CA-92 Eastbound (26% of intersection traffic), Foster City Boulevard & Metro Center Boulevard/Triton Drive (20%), and Foster City Boulevard & Chess Drive (18%). The other five intersections, located farther away from freeway on-ramps, indicate cut-through activity of 3-8%; these findings are presented in **Table 3**. Overall, the primary corridors used by cut-through traffic are Hillsdale Boulevard, Third Avenue, Metro Center Boulevard, Foster City Boulevard, Mariners Island Boulevard, and Chess Drive.

StreetLight Data for this analysis was collected in May 2019, approximately three months after the Foster City City Council approved and implemented a Traffic Relief Pilot Program which prohibited left turns from East Hillsdale Boulevard onto Edgewater Boulevard and Shell Boulevard during the weekday evening commute period to try to reduce cut-through traffic at those locations.

Table 3. Cut-Through Traffic (To and From the San Mateo Bridge) Analysis Results

	Origin/Destination of Trips				
Intersection Name	**US-101 North**	**US-101 South**	**CA-92 West**	**San Mateo local**	**Total**
E. Hillsdale / Edgewater	0%	6%	0%	2%	**8%**
Shell Blvd / E. Hillsdale	0%	3%	0%	2%	**4%**
Foster City / E. Hillsdale	0%	2%	0%	1%	**3%**
Foster City / Metro Center	11%	2%	0%	6%	**20%**
Vintage Park / Chess	0%	0%	0%	5%	**6%**
Foster City / Chess	11%	1%	0%	6%	**18%**
Metro Center / Vintage Park	0%	3%	0%	3%	**6%**
Mariners Island / Edgewater	13%	3%	0%	10%	**26%**

Source: StreetLight Data, 2019

While most cut-through traffic is isolated to specific corridors and intersections near the CA-92 freeway, these same corridors and intersections are essential for Foster City residents and employees to access the freeway and other destinations.

Analysis of Household Travel Patterns

StreetLight Data was used to assess the contribution of two example residential developments to traffic at eight intersections in Foster City, shown in **Table 4**. As shown, neither development contributes more than four percent to any one study intersection in 2019 and no more than two percent in 2022. As expected, intersections experiencing the highest contribution (Hillsdale / Edgewater for Lantern Cove and Foster City / Metro Center for Pilgrim-Triton) are immediately adjacent to the residential sites.

While Pilgrim-Triton shows a slightly higher contribution towards most study intersections, this is due to its proximity to those intersections and the size of the development itself. While Pilgrim-Triton generates more absolute trips than Lantern Cove, it actually generates fewer trips per dwelling unit, as described below.

Table 4. Residential Site Trip Analysis Results

Intersection Name	2019		2022	
	Lantern Cove	Pilgrim-Triton	Lantern Cove	Pilgrim-Triton
E. Hillsdale / Edgewater	1.1%	0.9%	0.4%	0.8%
Shell Blvd / E. Hillsdale	0.2%	1.4%	0.1%	1.3%
Foster City / E. Hillsdale	0.2%	2.1%	0.0%	1.5%
Foster City / Metro Center	0.1%	3.4%	0.0%	1.8%
Vintage Park / Chess	0.0%	1.0%	0.0%	0.7%
Foster City / Chess	0.1%	1.7%	0.0%	1.7%
Metro Center / Vintage Park	0.1%	1.0%	0.0%	0.4%
Mariners Island / Edgewater	0.5%	0.3%	0.3%	0.3%

Source: StreetLight Data, 2019-2022

Driveway counts were collected in July 2022 to assess the actual number of trips generated by two representative housing sites – Pilgrim-Triton and Lantern Cove – and to compare to each other and national averages. As shown in **Table 5**, vehicle trip generation rates at Pilgrim-Triton (located close to the city center) are approximately 20-30 percent lower than those at Lantern Cove (located on the periphery of Foster City) and approximately 15-30 percent lower than those collected for the Institute of Transportation Engineers national database (ITE Trip Generation 11th Edition). This is consistent with extensive state and national research that indicate that people living in multi-family housing and closer to transit, parks, schools, stores, or other amenities drive less.[2] The full trip generation comparison is included in **Appendix A**. Additionally, ITE trip generation rates for multi-family housing sites are on average approximately 30-50 percent lower than rates for single family detached housing.[3]

[2] California Air Pollution Control Officers Association's (CAPCOA) Handbook, December 2021. Available at: https://www.airquality.org/ClimateChange/Documents/Final%20Handbook_AB434.pdf.

[3] ITE *Trip Generation Manual, 11th Edition*, 2021: land use categories 210 (single family detached) and 220 (multi-family low-rise)

Table 5. Trip Generation Rate Comparison

Time Period	Lantern Cove			Pilgrim-Triton			Pilgrim-Triton – Lantern Cove Change
	Driveway[1]	ITE[1,2]	Reduction from ITE	Driveway[1]	ITE[1,2,3]	Reduction from ITE	
AM	0.37	0.40	8%	0.26	0.37	29%	-28%
PM	0.46	0.51	10%	0.33	0.39	15%	-28%
Daily	4.78	6.74	29%	3.91	4.54	14%	-18%

Notes:
1. Trip generation rates are expressed in vehicles per dwelling unit
2. ITE land use codes 220 (multi-family low-rise) and 221 (multi-family mid-rise) used for Lantern Cove and Pilgrim Triton, respectively
3. Commercial and retail component of Pilgrim-Triton site conservatively excluded from ITE trip generation

Source: Fehr & Peers, 2022; ITE *Trip Generation Manual, 11th Edition*, 2021

Trip Length Analysis

StreetLight Data was used to determine the distance traveled by trips to and from Foster City in both 2019 and 2022. **Table 6** shows the average trip length of trips leaving from and coming to Foster City both at the daily level and the PM peak period (4:00 PM – 6:00 PM). Daily inbound and outbound trip lengths would be expected to be very similar and are within the margin of error for StreetLight data (10.0 to 9.9 in 2019 and 9.2 and 9.3 in 2022). Trips leaving Foster City in the PM peak period have dropped substantially since 2019 (11.7 to 9.6), reflecting the fact that fewer Foster City employees are traveling long distances home after working in Foster City. Trips with destinations in Foster City are shorter than those leaving Foster City, indicating the relatively lower trip lengths of residents in Foster City (who are making local trips or returning home during this period) compared to employees in Foster City (who leave the City to travel home during this period). **Appendix A** includes a full distribution by trip length of the trips entering and exiting the City in 2019 versus 2022.

Table 6. Trip Length Analysis Results

Direction	2019		2022	
	Weekday Daily	Weekday PM Peak Period	Weekday Daily	Weekday PM Peak Period
Trips Leaving Foster City	10.0	11.7	9.2	9.6
Trips Coming to Foster City	9.9	8.1	9.3	8.5

Source: StreetLight Data, 2019-2022

Conclusion

SB 743 has changed the focus of CEQA transportation impact analysis from measuring impacts to drivers to measuring the impact of driving on the environment through the shift in metrics from LOS to VMT. This analysis, along with the **companion website**, were developed to help inform Foster City decision makers, residents, and employees of the relationship between traffic and housing development associated with the Foster City Housing Element Update.

As described in this memorandum, roadway volumes in 2022 were lower than volumes in 2019 and in turn, intersection delay is lower than in 2019. Foster City's General Plan acknowledges and accepts higher LOS at certain intersections located near SR 92 ramps due to the effects of regional cut-through traffic. Further, cut-through traffic accounted for up to 26 percent of traffic at key intersection near SR 92 ramps in 2019 after some measures were put in place to address cut-through traffic (Foster City's Traffic Relief Pilot Program). Due to the commute pattern changes since the COVID-19 pandemic, the number of commuters traveling through Foster City each day have not returned to 2019 levels and it is uncertain when or if these traffic volumes will return. **While the Housing Element Update is expected to result in a modest increase in traffic volumes in Foster City, most of these increases will be imperceptible to the average driver. Cut-through traffic will continue to have the largest effect on whether traffic conditions exceed Foster City standards for LOS.** The intersection of E. Hillsdale Boulevard / Foster City Boulevard is expected to degrade to an unacceptable LOS, however the majority of added delay would be to the eastbound approach, which saw a considerable decrease in volumes since 2019 with the change in commute patterns and reduction in regional cut-through traffic. The City should continue to monitor conditions at this location to determine whether traffic volumes do return to pre-pandemic conditions and evaluate programmatic and physical infrastructure to reduce cut-through traffic as the City's General Plan and Housing Element are built out.

Existing multi-family residential complexes represent a relatively small percentage of overall traffic at key intersections, especially when the residential developments include higher than average density and are located nearer to the City's center. The Housing Element Update includes 13 residential sites, many of which are proposed to either build new, higher density housing or increase density at existing residential sites. Many sites are also located closer to the City's center as opposed to along the periphery of the City, resulting in a lower trip generation and a lower contribution to traffic congestion. **Additionally, all projects associated with the Housing Element Update will be required to implement a Transportation Demand Management (TDM) Plan which will further reduce the projects' trip generation and further reduce the effect on Foster City's transportation network.**

Appendix A

Foster City Housing Element EIR Traffic Analysis Supplemental Memorandum

February 2, 2023

SF22-1230

FEHR PEERS

Intersection Counts

Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 1 FINAL
Site Code : 00000001
Start Date : 2/28/2019
Page No : 1

Groups Printed- Vehicles

	FOSTER CITY BLVD Southbound					E HILLSDALE BLVD Westbound					FOSTER CITY BLVD Northbound					E HILLSDALE BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	38	71	49	10	168	24	61	22	6	113	8	121	33	4	166	91	85	93	3	272	719
04:15 PM	26	85	40	4	155	19	39	12	5	75	8	97	42	3	150	86	106	96	1	289	669
04:30 PM	37	82	39	3	161	22	44	25	4	95	6	103	38	3	150	83	89	99	0	271	677
04:45 PM	39	103	46	3	191	27	60	21	3	111	7	91	33	0	131	65	131	78	7	281	714
Total	140	341	174	20	675	92	204	80	18	394	29	412	146	10	597	325	411	366	11	1113	2779
05:00 PM	35	101	56	8	200	25	56	20	3	104	10	102	37	5	154	96	121	85	16	318	776
05:15 PM	51	128	55	7	241	25	82	16	3	126	6	92	49	0	147	90	126	77	0	293	807
05:30 PM	32	133	53	2	220	16	73	17	2	108	3	116	42	3	164	96	129	91	5	321	813
05:45 PM	35	136	71	6	248	24	46	18	3	91	14	101	46	5	166	111	119	80	1	311	816
Total	153	498	235	23	909	90	257	71	11	429	33	411	174	13	631	393	495	333	22	1243	3212
06:00 PM	30	133	52	4	219	26	43	19	3	91	7	98	41	0	146	78	143	86	1	308	764
06:15 PM	33	132	56	0	221	13	53	8	1	75	7	97	32	0	136	102	107	75	0	284	716
06:30 PM	40	139	55	7	241	28	49	10	2	89	11	79	38	1	129	103	102	87	2	294	753
06:45 PM	32	107	50	3	192	20	46	16	1	83	8	88	35	1	132	88	84	80	1	253	660
Total	135	511	213	14	873	87	191	53	7	338	33	362	146	2	543	371	436	328	4	1139	2893
Grand Total	428	1350	622	57	2457	269	652	204	36	1161	95	1185	466	25	1771	1089	1342	1027	37	3495	8884
Apprch %	17.4	54.9	25.3	2.3		23.2	56.2	17.6	3.1		5.4	66.9	26.3	1.4		31.2	38.4	29.4	1.1		
Total %	4.8	15.2	7	0.6	27.7	3	7.3	2.3	0.4	13.1	1.1	13.3	5.2	0.3	19.9	12.3	15.1	11.6	0.4	39.3	

	FOSTER CITY BLVD Southbound				E HILLSDALE BLVD Westbound				FOSTER CITY BLVD Northbound				E HILLSDALE BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	**51**	128	55	234	25	**82**	16	**123**	6	92	**49**	147	90	126	77	293	797
05:30 PM	32	133	53	218	16	73	17	106	3	**116**	42	**161**	96	129	**91**	**316**	**801**
05:45 PM	35	**136**	**71**	**242**	24	46	18	88	**14**	101	46	161	**111**	119	80	310	801
06:00 PM	30	133	52	215	**26**	43	**19**	88	7	98	41	146	78	**143**	86	307	756
Total Volume	148	530	231	909	91	244	70	405	30	407	178	615	375	517	334	1226	3155
% App. Total	16.3	58.3	25.4		22.5	60.2	17.3		4.9	66.2	28.9		30.6	42.2	27.2		
PHF	.725	.974	.813	.939	.875	.744	.921	.823	.536	.877	.908	.955	.845	.904	.918	.970	.985

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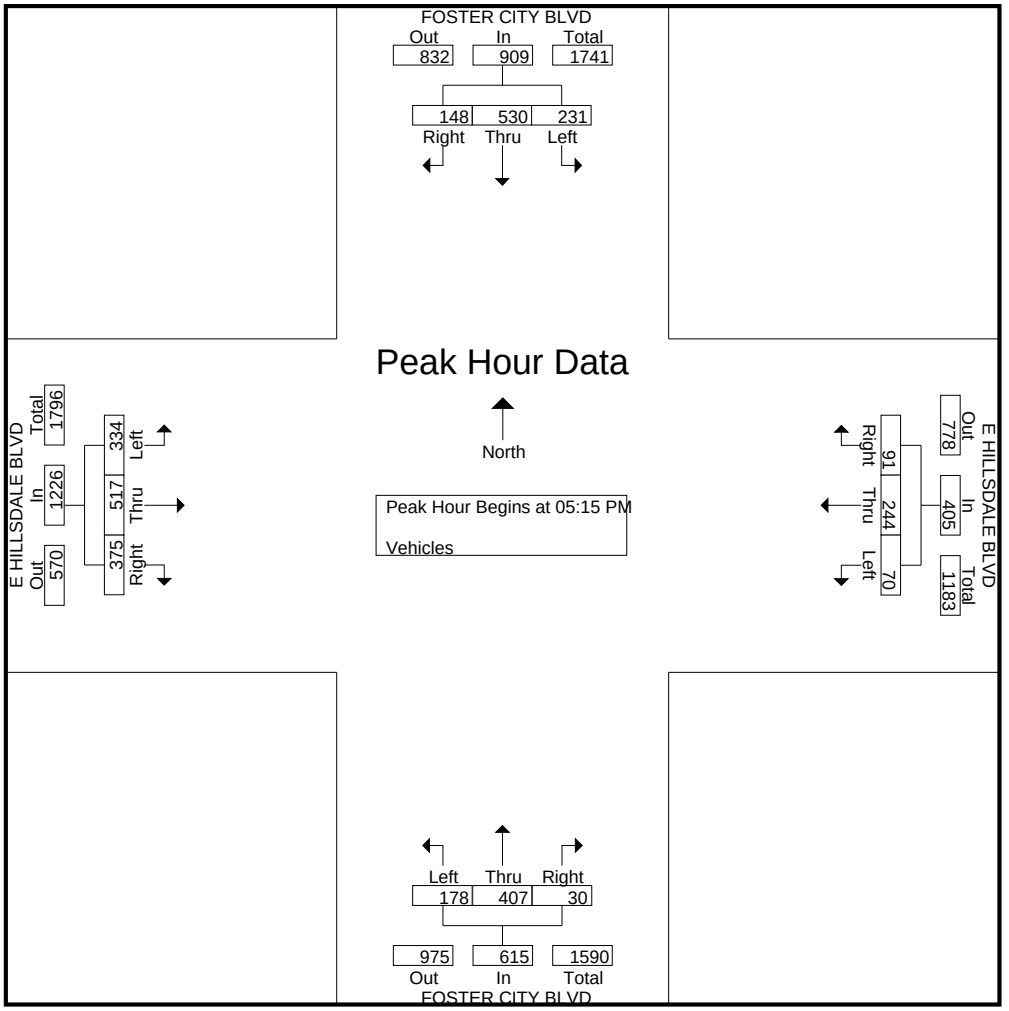

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Groups Printed- Vehicles

	SHELL BLVD Southbound					E HILLSDALE BLVD Westbound					SHELL BLVD Northbound					E HILLSDALE BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	17	26	17	4	64	14	117	17	3	151	22	41	60	6	129	82	211	20	3	316	660
04:15 PM	13	28	7	18	66	31	97	15	2	145	14	35	50	4	103	90	273	1	1	365	679
04:30 PM	20	29	26	5	80	21	105	14	2	142	9	44	54	7	114	97	256	0	5	358	694
04:45 PM	20	26	22	15	83	19	100	24	12	155	21	49	58	9	137	106	238	2	4	350	725
Total	70	109	72	42	293	85	419	70	19	593	66	169	222	26	483	375	978	23	13	1389	2758
05:00 PM	23	50	25	5	103	15	126	21	2	164	27	61	81	8	177	98	244	0	6	348	792
05:15 PM	14	59	25	4	102	22	147	39	3	211	23	41	58	5	127	128	251	0	12	391	831
05:30 PM	17	50	37	11	115	17	134	25	4	180	25	49	75	3	152	117	254	0	5	376	823
05:45 PM	16	50	22	5	93	11	117	25	4	157	34	42	52	2	130	120	254	1	1	376	756
Total	70	209	109	25	413	65	524	110	13	712	109	193	266	18	586	463	1003	1	24	1491	3202
06:00 PM	14	62	30	4	110	13	91	19	2	125	25	52	59	1	137	101	233	0	6	340	712
06:15 PM	9	47	18	3	77	13	110	20	1	144	15	33	38	2	88	106	249	0	1	356	665
06:30 PM	12	45	27	3	87	15	102	16	5	138	16	33	47	0	96	117	236	0	1	354	675
06:45 PM	12	38	16	1	67	8	96	27	1	132	12	17	40	2	71	101	231	0	3	335	605
Total	47	192	91	11	341	49	399	82	9	539	68	135	184	5	392	425	949	0	11	1385	2657
Grand Total	187	510	272	78	1047	199	1342	262	41	1844	243	497	672	49	1461	1263	2930	24	48	4265	8617
Apprch %	17.9	48.7	26	7.4		10.8	72.8	14.2	2.2		16.6	34	46	3.4		29.6	68.7	0.6	1.1		
Total %	2.2	5.9	3.2	0.9	12.2	2.3	15.6	3	0.5	21.4	2.8	5.8	7.8	0.6	17	14.7	34	0.3	0.6	49.5	

	SHELL BLVD Southbound				E HILLSDALE BLVD Westbound				SHELL BLVD Northbound				E HILLSDALE BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**23**	50	25	98	15	126	21	162	27	**61**	**81**	**169**	98	244	0	342	771
05:15 PM	14	**59**	25	98	**22**	**147**	**39**	**208**	23	41	58	122	**128**	251	0	**379**	**807**
05:30 PM	17	50	**37**	**104**	17	134	25	176	25	49	75	149	117	**254**	0	371	800
05:45 PM	16	50	22	88	11	117	25	153	**34**	42	52	128	120	254	**1**	375	744
Total Volume	70	209	109	388	65	524	110	699	109	193	266	568	463	1003	1	1467	3122
% App. Total	18	53.9	28.1		9.3	75	15.7		19.2	34	46.8		31.6	68.4	0.1		
PHF	.761	.886	.736	.933	.739	.891	.705	.840	.801	.791	.821	.840	.904	.987	.250	.968	.967

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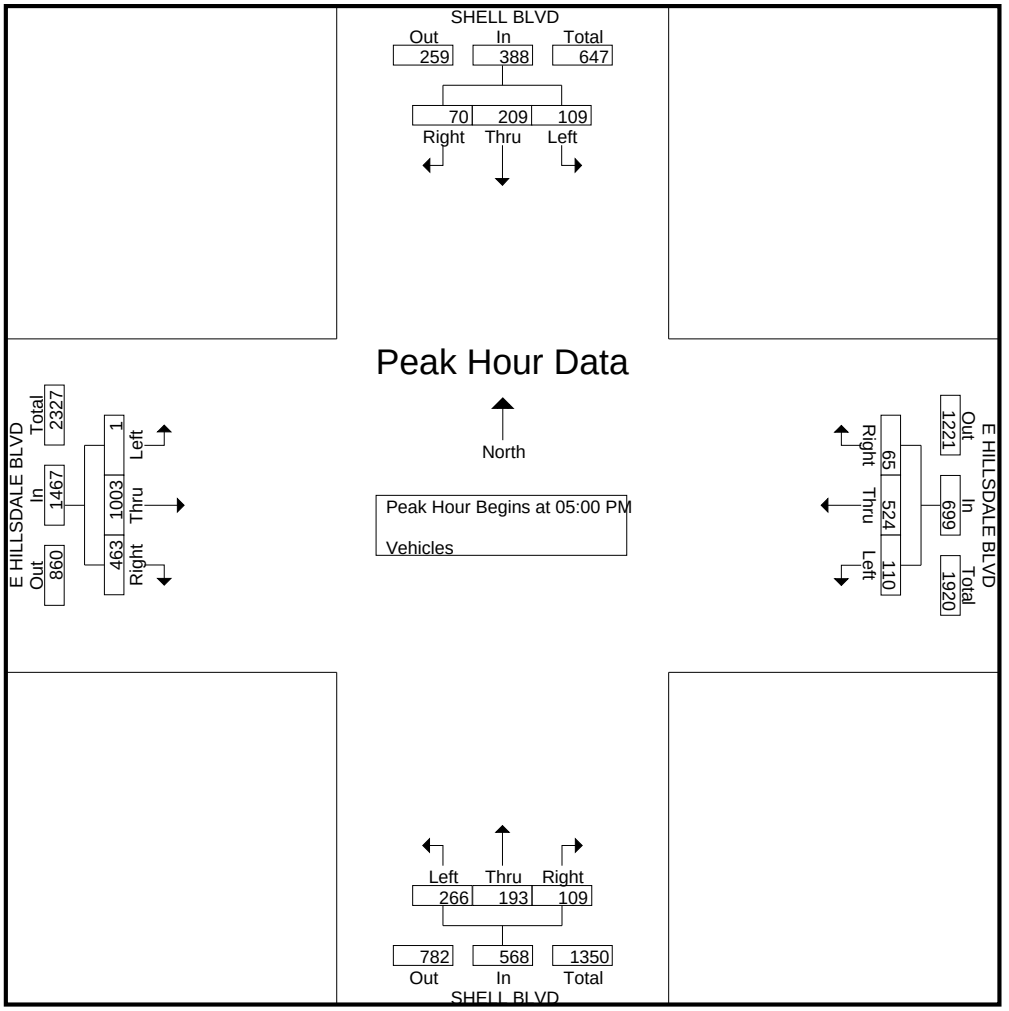

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Groups Printed- Vehicles

	PARK CENTER DR Southbound					E HILLSDALE BLVD Westbound					Northbound					E HILLSDALE BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	20	0	53	1	74	21	164	0	15	200	0	0	0	0	0	0	284	91	6	381	655
04:15 PM	17	0	35	4	56	11	153	0	11	175	0	0	0	0	0	0	337	108	7	452	683
04:30 PM	8	0	36	2	46	20	163	0	5	188	0	0	0	0	0	0	313	103	6	422	656
04:45 PM	23	0	53	1	77	14	142	0	6	162	0	0	0	0	0	0	302	90	10	402	641
Total	68	0	177	8	253	66	622	0	37	725	0	0	0	0	0	0	1236	392	29	1657	2635
05:00 PM	17	0	27	2	46	18	248	0	6	272	0	0	0	0	0	0	329	90	11	430	748
05:15 PM	30	0	56	1	87	17	193	0	6	216	0	0	0	0	0	0	331	119	11	461	764
05:30 PM	22	0	48	1	71	23	241	0	4	268	0	0	0	0	0	0	319	99	16	434	773
05:45 PM	21	0	62	0	83	14	167	0	4	185	0	0	0	0	0	0	326	100	9	435	703
Total	90	0	193	4	287	72	849	0	20	941	0	0	0	0	0	0	1305	408	47	1760	2988
06:00 PM	19	0	35	0	54	12	187	0	6	205	0	0	0	0	0	0	325	94	10	429	688
06:15 PM	16	0	46	0	62	12	152	0	1	165	0	0	0	0	0	0	334	40	9	383	610
06:30 PM	31	0	34	0	65	28	126	0	4	158	0	0	0	0	0	0	344	93	11	448	671
06:45 PM	25	0	34	0	59	11	133	0	2	146	0	0	0	0	0	0	271	64	5	340	545
Total	91	0	149	0	240	63	598	0	13	674	0	0	0	0	0	0	1274	291	35	1600	2514
Grand Total	249	0	519	12	780	201	2069	0	70	2340	0	0	0	0	0	0	3815	1091	111	5017	8137
Apprch %	31.9	0	66.5	1.5		8.6	88.4	0	3		0	0	0	0		0	76	21.7	2.2		
Total %	3.1	0	6.4	0.1	9.6	2.5	25.4	0	0.9	28.8	0	0	0	0	0	0	46.9	13.4	1.4	61.7	

	PARK CENTER DR Southbound				E HILLSDALE BLVD Westbound				Northbound				E HILLSDALE BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	17	0	27	44	18	**248**	0	**266**	0	0	0	0	0	329	90	419	729
05:15 PM	**30**	0	56	**86**	17	193	0	210	0	0	0	0	0	**331**	**119**	**450**	746
05:30 PM	22	0	48	70	**23**	241	0	264	0	0	0	0	0	319	99	418	**752**
05:45 PM	21	0	**62**	83	14	167	0	181	0	0	0	0	0	326	100	426	690
Total Volume	90	0	193	283	72	849	0	921	0	0	0	0	0	1305	408	1713	2917
% App. Total	31.8	0	68.2		7.8	92.2	0		0	0	0		0	76.2	23.8		
PHF	.750	.000	.778	.823	.783	.856	.000	.866	.000	.000	.000	.000	.000	.986	.857	.952	.970

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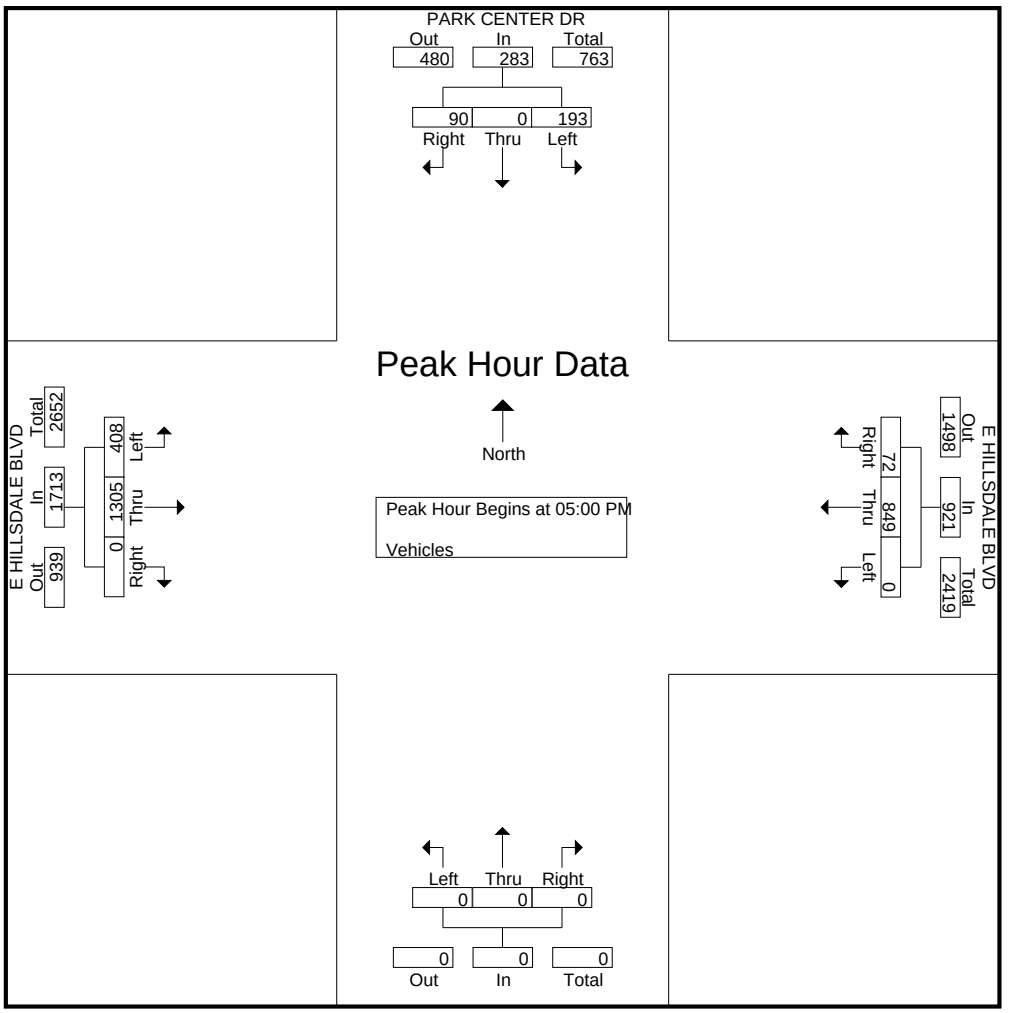

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Groups Printed- Vehicles

	EDGEWATER BLVD Southbound					E HILLSDALE BLVD Westbound					EDGEWATER BLVD Northbound					E HILLSDALE BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	52	86	54	1	193	48	142	41	0	231	23	84	77	4	188	95	314	12	0	421	1033
04:15 PM	51	108	36	1	196	62	149	28	2	241	20	127	62	5	214	97	367	1	1	466	1117
04:30 PM	46	97	53	3	199	54	133	36	6	229	17	134	53	3	207	103	346	0	1	450	1085
04:45 PM	69	118	49	3	239	54	153	46	3	256	9	113	47	1	170	100	338	2	0	440	1105
Total	218	409	192	8	827	218	577	151	11	957	69	458	239	13	779	395	1365	15	2	1777	4340
05:00 PM	61	107	55	8	231	55	185	48	8	296	18	102	69	10	199	93	368	0	2	463	1189
05:15 PM	73	163	34	1	271	53	216	47	1	317	29	88	65	8	190	98	373	0	1	472	1250
05:30 PM	63	150	41	1	255	71	172	67	7	317	20	101	86	4	211	100	334	0	3	437	1220
05:45 PM	68	134	56	3	261	40	167	59	0	266	18	81	64	2	165	109	350	6	0	465	1157
Total	265	554	186	13	1018	219	740	221	16	1196	85	372	284	24	765	400	1425	6	6	1837	4816
06:00 PM	62	149	39	1	251	50	145	45	0	240	22	104	61	2	189	119	356	0	3	478	1158
06:15 PM	50	119	61	0	230	35	133	45	0	213	14	108	83	6	211	125	299	1	2	427	1081
06:30 PM	40	132	47	1	220	38	115	43	2	198	24	97	86	3	210	123	327	0	1	451	1079
06:45 PM	47	122	24	0	193	34	100	44	2	180	15	68	61	0	144	107	294	0	0	401	918
Total	199	522	171	2	894	157	493	177	4	831	75	377	291	11	754	474	1276	1	6	1757	4236
Grand Total	682	1485	549	23	2739	594	1810	549	31	2984	229	1207	814	48	2298	1269	4066	22	14	5371	13392
Apprch %	24.9	54.2	20	0.8		19.9	60.7	18.4	1		10	52.5	35.4	2.1		23.6	75.7	0.4	0.3		
Total %	5.1	11.1	4.1	0.2	20.5	4.4	13.5	4.1	0.2	22.3	1.7	9	6.1	0.4	17.2	9.5	30.4	0.2	0.1	40.1	

	EDGEWATER BLVD Southbound				E HILLSDALE BLVD Westbound				EDGEWATER BLVD Northbound				E HILLSDALE BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	61	107	55	223	55	185	48	288	18	**102**	69	189	93	368	0	461	1161
05:15 PM	**73**	**163**	34	**270**	53	**216**	47	**316**	**29**	88	65	182	98	**373**	0	**471**	**1239**
05:30 PM	63	150	41	254	**71**	172	**67**	310	20	101	**86**	**207**	100	334	0	434	1205
05:45 PM	68	134	**56**	258	40	167	59	266	18	81	64	163	**109**	350	**6**	465	1152
Total Volume	265	554	186	1005	219	740	221	1180	85	372	284	741	400	1425	6	1831	4757
% App. Total	26.4	55.1	18.5		18.6	62.7	18.7		11.5	50.2	38.3		21.8	77.8	0.3		
PHF	.908	.850	.830	.931	.771	.856	.825	.934	.733	.912	.826	.895	.917	.955	.250	.972	.960

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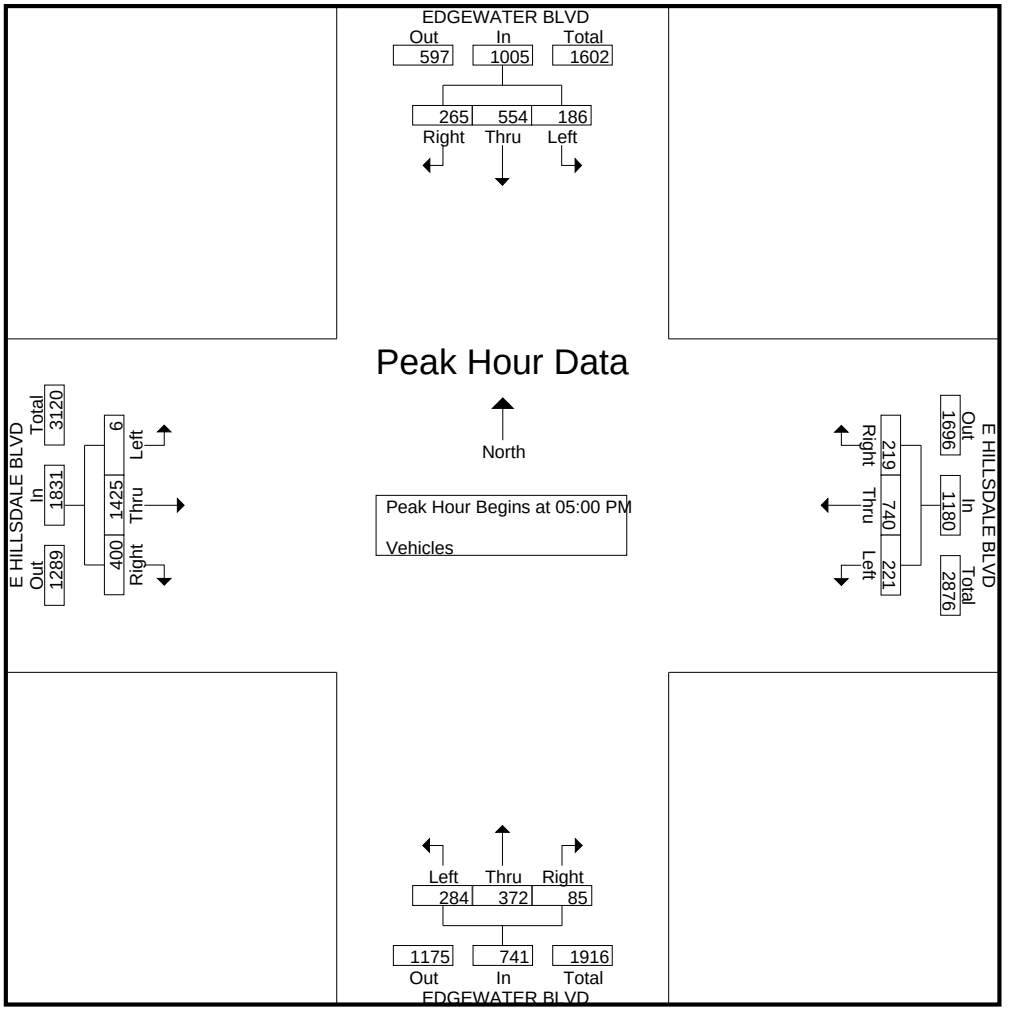

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Groups Printed- Vehicles

	SEA SPRAY LN Southbound					E HILLSDALE BLVD Westbound					ALTAIR AVE Northbound					E HILLSDALE BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	3	1	1	2	7	2	251	14	1	268	7	3	31	5	46	96	418	16	0	530	851
04:15 PM	6	0	0	2	8	2	240	10	0	252	8	0	35	6	49	119	475	14	0	608	917
04:30 PM	1	1	0	0	2	1	218	4	0	223	4	0	30	2	36	116	458	20	0	594	855
04:45 PM	0	3	2	2	7	1	248	14	0	263	7	0	31	0	38	128	424	18	0	570	878
Total	10	5	3	6	24	6	957	42	1	1006	26	3	127	13	169	459	1775	68	0	2302	3501
05:00 PM	6	2	0	3	11	5	313	9	1	328	6	1	24	5	36	165	443	27	1	636	1011
05:15 PM	5	1	0	12	18	5	337	10	0	352	6	2	51	4	63	166	482	18	2	668	1101
05:30 PM	3	0	1	2	6	2	317	16	0	335	7	2	31	2	42	133	466	17	0	616	999
05:45 PM	6	1	0	4	11	4	283	7	0	294	11	2	48	4	65	143	447	13	1	604	974
Total	20	4	1	21	46	16	1250	42	1	1309	30	7	154	15	206	607	1838	75	4	2524	4085
06:00 PM	2	2	4	3	11	3	282	8	0	293	14	0	44	0	58	145	429	19	0	593	955
06:15 PM	2	0	2	1	5	3	238	16	0	257	7	3	50	0	60	124	405	10	0	539	861
06:30 PM	4	0	0	2	6	3	260	9	2	274	12	3	30	2	47	111	396	16	0	523	850
06:45 PM	6	1	8	5	20	3	201	4	1	209	10	2	33	0	45	83	325	22	1	431	705
Total	14	3	14	11	42	12	981	37	3	1033	43	8	157	2	210	463	1555	67	1	2086	3371
Grand Total	44	12	18	38	112	34	3188	121	5	3348	99	18	438	30	585	1529	5168	210	5	6912	10957
Apprch %	39.3	10.7	16.1	33.9		1	95.2	3.6	0.1		16.9	3.1	74.9	5.1		22.1	74.8	3	0.1		
Total %	0.4	0.1	0.2	0.3	1	0.3	29.1	1.1	0	30.6	0.9	0.2	4	0.3	5.3	14	47.2	1.9	0	63.1	

	SEA SPRAY LN Southbound				E HILLSDALE BLVD Westbound				ALTAIR AVE Northbound				E HILLSDALE BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**6**	**2**	0	**8**	**5**	313	9	327	6	1	24	31	165	443	**27**	635	1001
05:15 PM	5	1	0	6	5	**337**	10	**352**	6	**2**	**51**	59	**166**	**482**	18	**666**	**1083**
05:30 PM	3	0	**1**	4	2	317	**16**	335	7	2	31	40	133	466	17	616	995
05:45 PM	6	1	0	7	4	283	7	294	**11**	2	48	**61**	143	447	13	603	965
Total Volume	20	4	1	25	16	1250	42	1308	30	7	154	191	607	1838	75	2520	4044
% App. Total	80	16	4		1.2	95.6	3.2		15.7	3.7	80.6		24.1	72.9	3		
PHF	.833	.500	.250	.781	.800	.927	.656	.929	.682	.875	.755	.783	.914	.953	.694	.946	.934

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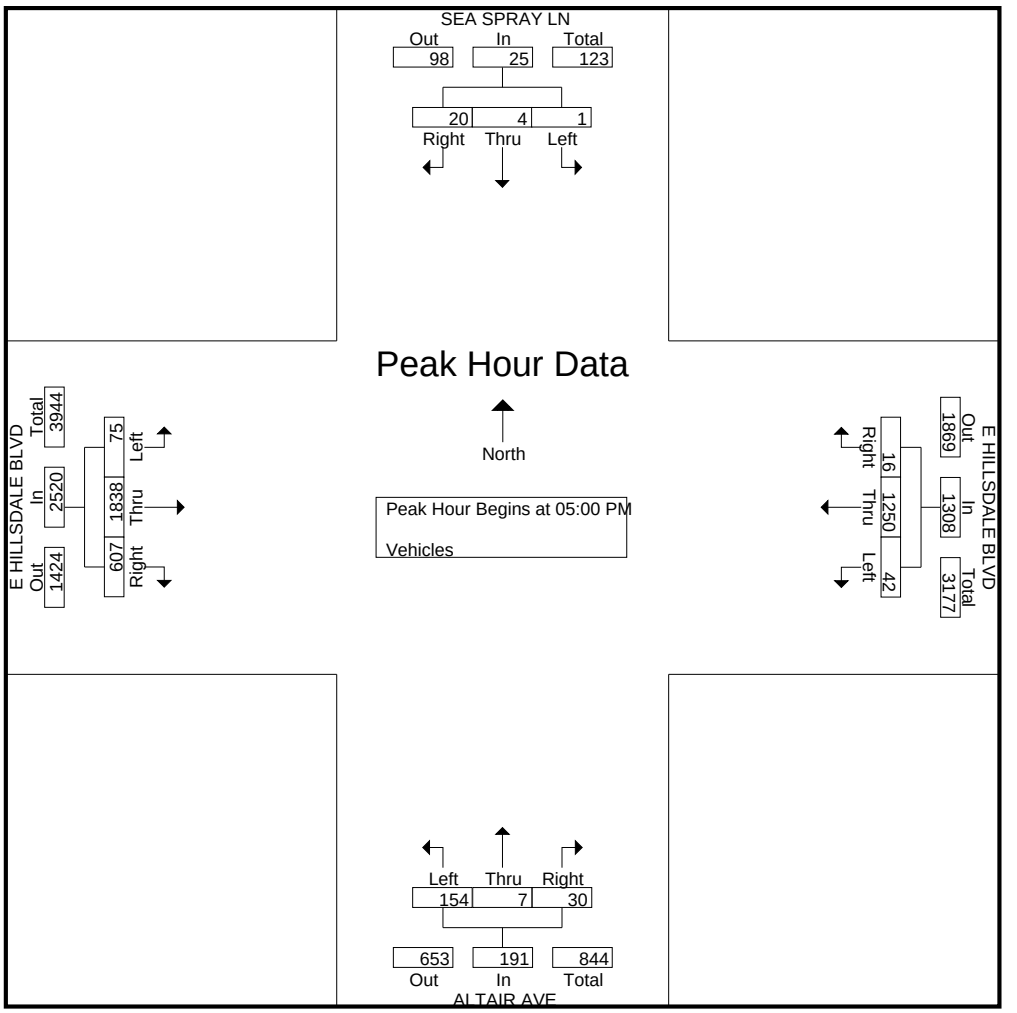

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Groups Printed- Vehicles

	SR 92 RAMPS Southbound					METRO CENTER BLVD Westbound					DRIVEWAY Northbound					METRO CENTER BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	10	3	45	0	58	264	23	2	0	289	2	2	0	0	4	0	37	119	0	156	507
04:15 PM	8	0	26	0	34	274	24	2	0	300	4	11	2	0	17	2	62	107	0	171	522
04:30 PM	9	0	18	0	27	262	26	3	0	291	3	17	4	0	24	1	47	118	0	166	508
04:45 PM	10	1	37	0	48	244	18	3	0	265	5	28	0	0	33	1	49	132	0	182	528
Total	37	4	126	0	167	1044	91	10	0	1145	14	58	6	0	78	4	195	476	0	675	2065
05:00 PM	3	1	19	0	23	236	24	1	0	261	7	13	4	3	27	0	60	144	0	204	515
05:15 PM	12	1	30	0	43	260	23	6	0	289	7	10	0	0	17	0	67	107	0	174	523
05:30 PM	11	0	30	0	41	251	33	2	0	286	6	4	1	3	14	0	51	110	0	161	502
05:45 PM	18	2	47	0	67	232	30	5	0	267	6	2	0	5	13	0	58	99	0	157	504
Total	44	4	126	0	174	979	110	14	0	1103	26	29	5	11	71	0	236	460	0	696	2044
06:00 PM	26	0	60	0	86	261	33	3	0	297	3	5	0	1	9	0	69	107	0	176	568
06:15 PM	28	2	53	0	83	224	31	0	0	255	3	1	0	1	5	0	49	67	0	116	459
06:30 PM	28	0	92	0	120	242	28	4	0	274	3	0	0	0	3	0	51	98	0	149	546
06:45 PM	27	0	101	1	129	155	44	0	0	199	0	0	0	1	1	0	37	47	0	84	413
Total	109	2	306	1	418	882	136	7	0	1025	9	6	0	3	18	0	206	319	0	525	1986
Grand Total	190	10	558	1	759	2905	337	31	0	3273	49	93	11	14	167	4	637	1255	0	1896	6095
Apprch %	25	1.3	73.5	0.1		88.8	10.3	0.9	0		29.3	55.7	6.6	8.4		0.2	33.6	66.2	0		
Total %	3.1	0.2	9.2	0	12.5	47.7	5.5	0.5	0	53.7	0.8	1.5	0.2	0.2	2.7	0.1	10.5	20.6	0	31.1	

	SR 92 RAMPS Southbound				METRO CENTER BLVD Westbound				DRIVEWAY Northbound				METRO CENTER BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	12	1	30	43	260	23	**6**	289	**7**	**10**	0	**17**	0	67	107	174	523
05:30 PM	11	0	30	41	251	**33**	2	286	6	4	**1**	11	0	51	**110**	161	499
05:45 PM	18	**2**	47	67	232	30	5	267	6	2	0	8	0	58	99	157	499
06:00 PM	**26**	0	**60**	**86**	**261**	33	3	**297**	3	5	0	8	0	**69**	107	**176**	**567**
Total Volume	67	3	167	237	1004	119	16	1139	22	21	1	44	0	245	423	668	2088
% App. Total	28.3	1.3	70.5		88.1	10.4	1.4		50	47.7	2.3		0	36.7	63.3		
PHF	.644	.375	.696	.689	.962	.902	.667	.959	.786	.525	.250	.647	.000	.888	.961	.949	.921

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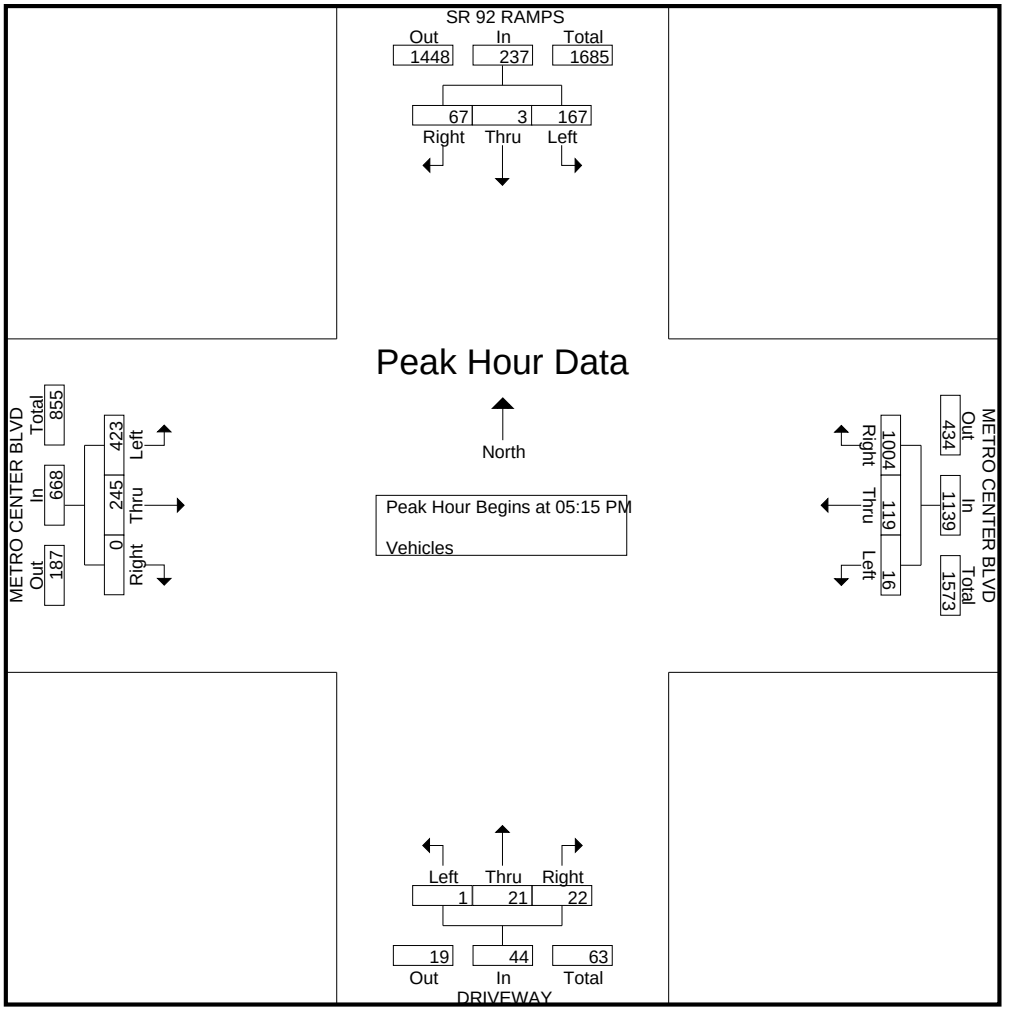

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Groups Printed- Vehicles

	VINTAGE PARK DR Southbound					METRO CENTER BLVD Westbound					VINTAGE PARK DR Northbound					METRO CENTER BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	25	24	58	30	137	92	39	4	26	161	20	42	5	32	99	8	88	19	45	160	557
04:15 PM	28	21	78	18	145	80	27	8	56	171	19	46	1	36	102	2	55	35	36	128	546
04:30 PM	46	21	64	34	165	84	45	7	32	168	15	42	6	30	93	2	81	29	40	152	578
04:45 PM	42	26	76	25	169	81	25	9	19	134	26	50	2	13	91	3	90	38	24	155	549
Total	141	92	276	107	616	337	136	28	133	634	80	180	14	111	385	15	314	121	145	595	2230
05:00 PM	43	49	72	38	202	87	27	4	33	151	27	63	8	37	135	11	85	32	48	176	664
05:15 PM	43	42	74	6	165	85	44	9	12	150	26	51	4	19	100	7	90	27	14	138	553
05:30 PM	49	35	64	3	151	73	33	10	11	127	18	70	3	14	105	3	84	22	9	118	501
05:45 PM	54	23	71	4	152	86	39	9	5	139	29	50	5	4	88	12	82	14	12	120	499
Total	189	149	281	51	670	331	143	32	61	567	100	234	20	74	428	33	341	95	83	552	2217
06:00 PM	50	20	62	6	138	79	38	10	5	132	26	41	3	9	79	8	87	23	7	125	474
06:15 PM	28	16	43	6	93	89	33	5	8	135	23	37	6	7	73	8	67	23	4	102	403
06:30 PM	18	17	47	2	84	58	23	8	5	94	17	29	2	6	54	9	59	23	6	97	329
06:45 PM	24	14	38	3	79	61	34	7	5	107	21	29	2	3	55	8	29	21	5	63	304
Total	120	67	190	17	394	287	128	30	23	468	87	136	13	25	261	33	242	90	22	387	1510
Grand Total	450	308	747	175	1680	955	407	90	217	1669	267	550	47	210	1074	81	897	306	250	1534	5957
Apprch %	26.8	18.3	44.5	10.4		57.2	24.4	5.4	13		24.9	51.2	4.4	19.6		5.3	58.5	19.9	16.3		
Total %	7.6	5.2	12.5	2.9	28.2	16	6.8	1.5	3.6	28	4.5	9.2	0.8	3.5	18	1.4	15.1	5.1	4.2	25.8	

	VINTAGE PARK DR Southbound				METRO CENTER BLVD Westbound				VINTAGE PARK DR Northbound				METRO CENTER BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	43	**49**	72	**164**	**87**	27	4	118	27	63	**8**	**98**	11	85	**32**	**128**	**508**
05:15 PM	43	42	**74**	159	85	**44**	9	**138**	26	51	4	81	7	**90**	27	124	502
05:30 PM	49	35	64	148	73	33	**10**	116	18	**70**	3	91	3	84	22	109	464
05:45 PM	**54**	23	71	148	86	39	9	134	**29**	50	5	84	**12**	82	14	108	474
Total Volume	189	149	281	619	331	143	32	506	100	234	20	354	33	341	95	469	1948
% App. Total	30.5	24.1	45.4		65.4	28.3	6.3		28.2	66.1	5.6		7	72.7	20.3		
PHF	.875	.760	.949	.944	.951	.813	.800	.917	.862	.836	.625	.903	.688	.947	.742	.916	.959

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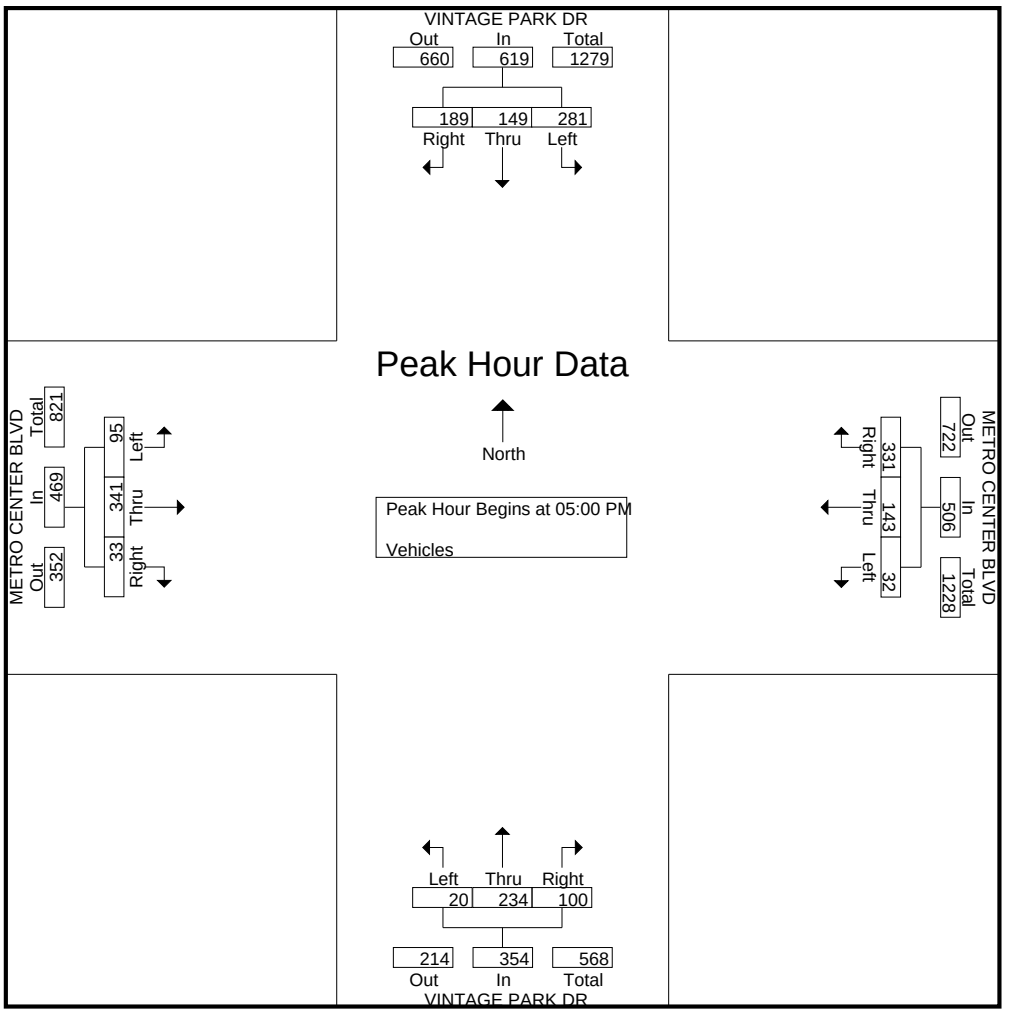

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File Name : 8 FINAL
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Groups Printed- Vehicles

	METRO CENTER BLVD Southbound					EDGEWATER BLVD Westbound					SEA SPRAY LN Northbound					EDGEWATER BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	48	3	48	0	99	29	130	7	1	167	4	3	5	0	12	2	142	52	0	196	474
04:15 PM	38	1	43	0	82	33	178	7	0	218	2	7	7	0	16	4	128	49	0	181	497
04:30 PM	61	1	66	2	130	41	158	5	1	205	2	2	8	0	12	2	137	38	0	177	524
04:45 PM	58	2	83	1	144	34	143	4	4	185	0	6	10	0	16	3	165	63	1	232	577
Total	205	7	240	3	455	137	609	23	6	775	8	18	30	0	56	11	572	202	1	786	2072
05:00 PM	56	2	81	3	142	27	156	10	3	196	1	9	10	0	20	6	149	31	2	188	546
05:15 PM	57	0	74	0	131	33	125	2	3	163	4	8	8	3	23	3	179	50	1	233	550
05:30 PM	51	4	96	0	151	38	147	4	3	192	4	4	2	1	11	4	166	42	2	214	568
05:45 PM	44	4	70	4	122	32	108	9	1	150	1	7	2	0	10	4	162	66	0	232	514
Total	208	10	321	7	546	130	536	25	10	701	10	28	22	4	64	17	656	189	5	867	2178
06:00 PM	38	6	74	0	118	38	132	4	1	175	1	9	2	0	12	4	196	43	1	244	549
06:15 PM	33	4	48	1	86	25	126	4	0	155	1	7	0	0	8	3	163	45	0	211	460
06:30 PM	25	4	38	0	67	35	100	4	1	140	4	6	5	0	15	5	166	47	0	218	440
06:45 PM	19	3	53	3	78	15	81	5	2	103	3	5	2	1	11	1	138	39	1	179	371
Total	115	17	213	4	349	113	439	17	4	573	9	27	9	1	46	13	663	174	2	852	1820
Grand Total	528	34	774	14	1350	380	1584	65	20	2049	27	73	61	5	166	41	1891	565	8	2505	6070
Apprch %	39.1	2.5	57.3	1		18.5	77.3	3.2	1		16.3	44	36.7	3		1.6	75.5	22.6	0.3		
Total %	8.7	0.6	12.8	0.2	22.2	6.3	26.1	1.1	0.3	33.8	0.4	1.2	1	0.1	2.7	0.7	31.2	9.3	0.1	41.3	

	METRO CENTER BLVD Southbound				EDGEWATER BLVD Westbound				SEA SPRAY LN Northbound				EDGEWATER BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**58**	2	83	143	34	143	4	181	0	6	**10**	16	3	165	**63**	231	**571**
05:00 PM	56	2	81	139	27	**156**	**10**	**193**	1	**9**	10	**20**	**6**	149	31	186	538
05:15 PM	57	0	74	131	33	125	2	160	**4**	8	8	20	3	**179**	50	**232**	543
05:30 PM	51	**4**	**96**	**151**	**38**	147	4	189	4	4	2	10	4	166	42	212	562
Total Volume	222	8	334	564	132	571	20	723	9	27	30	66	16	659	186	861	2214
% App. Total	39.4	1.4	59.2		18.3	79	2.8		13.6	40.9	45.5		1.9	76.5	21.6		
PHF	.957	.500	.870	.934	.868	.915	.500	.937	.563	.750	.750	.825	.667	.920	.738	.928	.969

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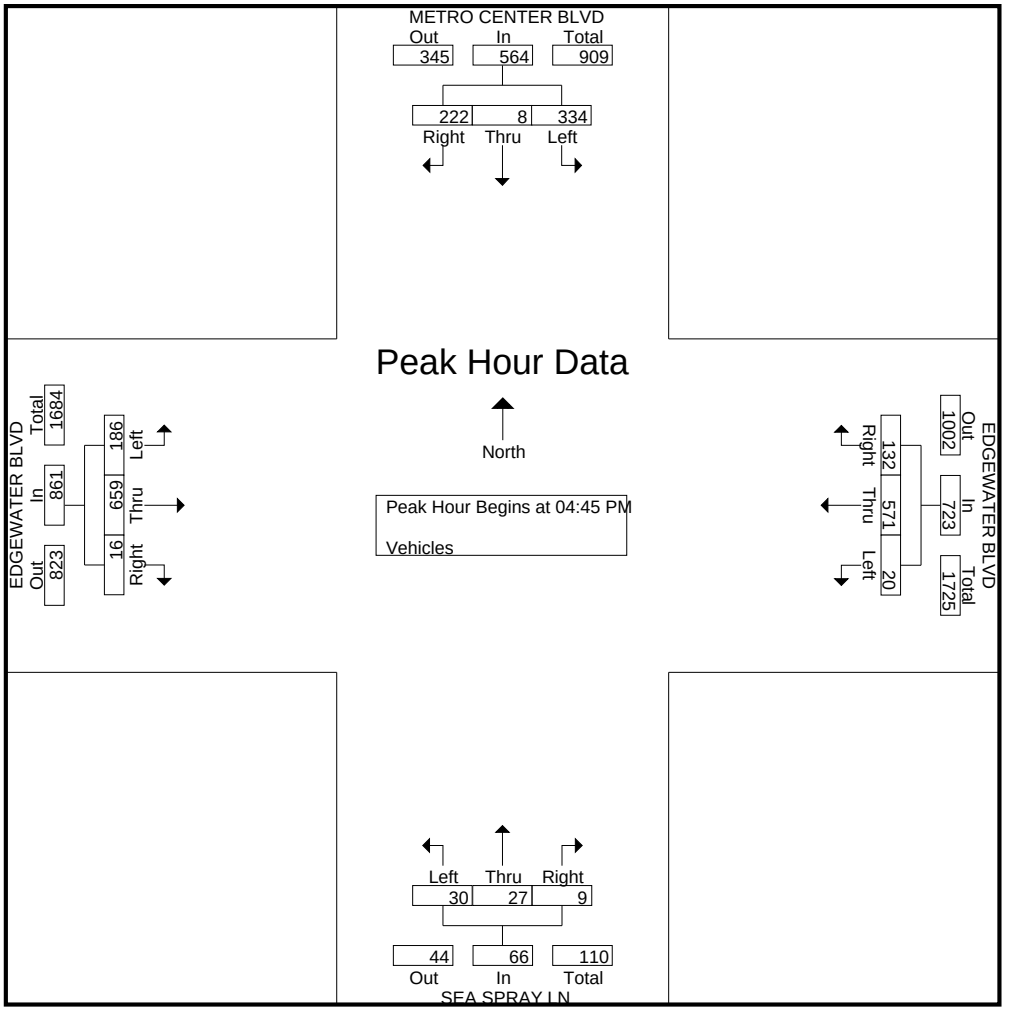

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File Name : 9 FINAL (RESET)
Site Code : 00000009
Start Date : 3/5/2019
Page No : 1

Groups Printed- Vehicles

	SR 92 RAMPS Southbound					EDGEWATER BLVD Westbound					EMERALD BAY LN Northbound					MARINERS ISLAND BLVD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	53	0	97	1	151	46	117	3	1	167	1	0	1	1	3	0	94	50	0	144	465
04:15 PM	46	0	78	0	124	62	156	2	0	220	1	0	0	2	3	0	102	65	0	167	514
04:30 PM	39	0	70	0	109	61	147	0	0	208	0	0	0	0	0	0	121	112	0	233	550
04:45 PM	30	0	83	0	113	88	166	1	0	255	2	0	0	0	2	2	137	109	0	248	618
Total	168	0	328	1	497	257	586	6	1	850	4	0	1	3	8	2	454	336	0	792	2147
05:00 PM	30	0	61	2	93	72	169	2	0	243	1	0	2	2	5	2	156	78	0	236	577
05:15 PM	30	4	56	0	90	52	193	4	0	249	0	0	2	0	2	4	167	122	0	293	634
05:30 PM	20	1	59	0	80	37	161	4	0	202	0	0	1	0	1	3	188	88	0	279	562
05:45 PM	23	2	62	0	87	42	160	1	0	203	1	0	3	0	4	0	188	86	0	274	568
Total	103	7	238	2	350	203	683	11	0	897	2	0	8	2	12	9	699	374	0	1082	2341
06:00 PM	32	0	59	0	91	25	133	5	0	163	0	0	0	0	0	0	190	101	0	291	545
06:15 PM	21	0	51	0	72	30	137	3	0	170	2	1	0	0	3	3	203	102	0	308	553
06:30 PM	53	0	79	1	133	27	117	1	0	145	2	0	3	2	7	0	123	51	0	174	459
06:45 PM	72	0	106	0	178	21	81	0	0	102	3	1	1	0	5	4	101	36	0	141	426
Total	178	0	295	1	474	103	468	9	0	580	7	2	4	2	15	7	617	290	0	914	1983
Grand Total	449	7	861	4	1321	563	1737	26	1	2327	13	2	13	7	35	18	1770	1000	0	2788	6471
Apprch %	34	0.5	65.2	0.3		24.2	74.6	1.1	0		37.1	5.7	37.1	20		0.6	63.5	35.9	0		
Total %	6.9	0.1	13.3	0.1	20.4	8.7	26.8	0.4	0	36	0.2	0	0.2	0.1	0.5	0.3	27.4	15.5	0	43.1	

	SR 92 RAMPS Southbound				EDGEWATER BLVD Westbound				EMERALD BAY LN Northbound				MARINERS ISLAND BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**30**	0	**83**	**113**	**88**	166	1	**255**	**2**	0	0	2	2	137	109	248	618
05:00 PM	30	0	61	91	72	169	2	243	1	0	**2**	**3**	2	156	78	236	573
05:15 PM	30	**4**	56	90	52	**193**	**4**	249	0	0	2	2	**4**	167	**122**	**293**	**634**
05:30 PM	20	1	59	80	37	161	4	202	0	0	1	1	3	**188**	88	279	562
Total Volume	110	5	259	374	249	689	11	949	3	0	5	8	11	648	397	1056	2387
% App. Total	29.4	1.3	69.3		26.2	72.6	1.2		37.5	0	62.5		1	61.4	37.6		
PHF	.917	.313	.780	.827	.707	.892	.688	.930	.375	.000	.625	.667	.688	.862	.814	.901	.941

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File Name : 9 FINAL (RESET)
Site Code : 00000009
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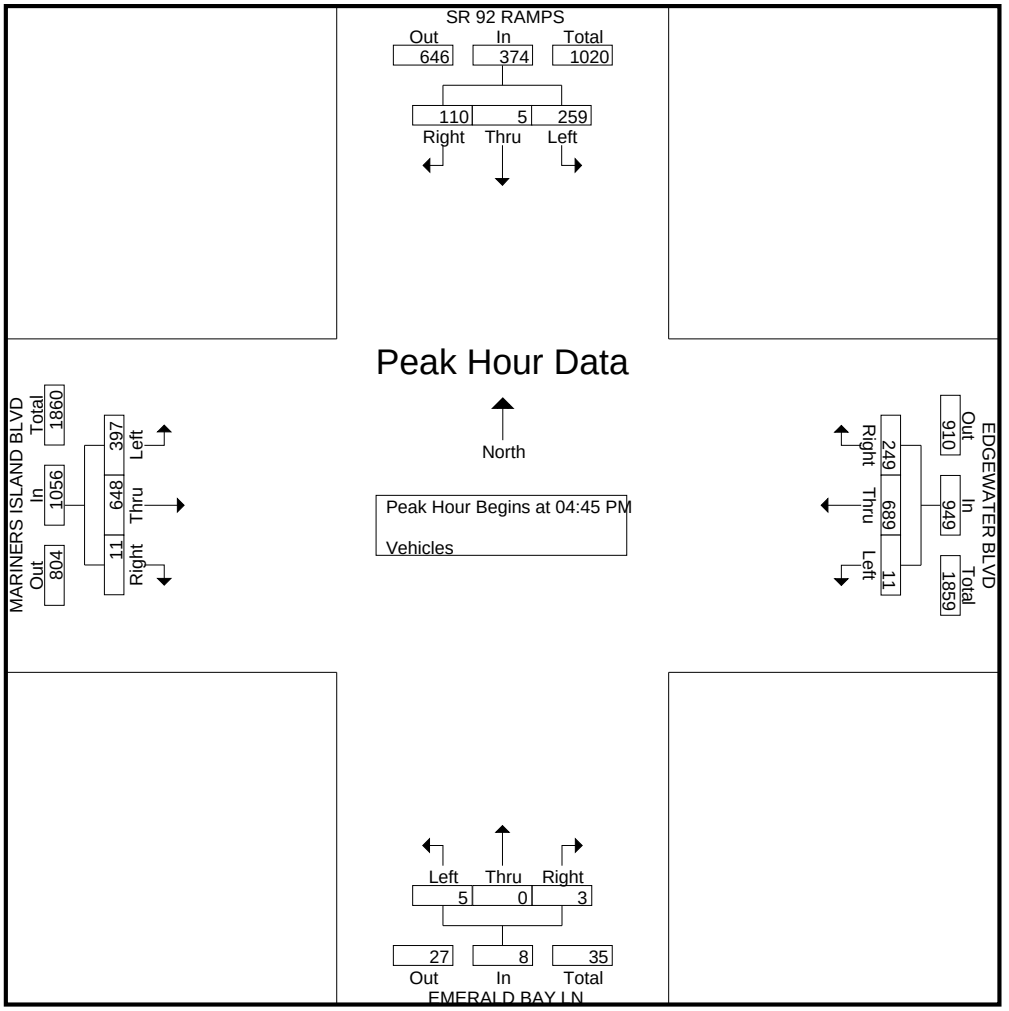
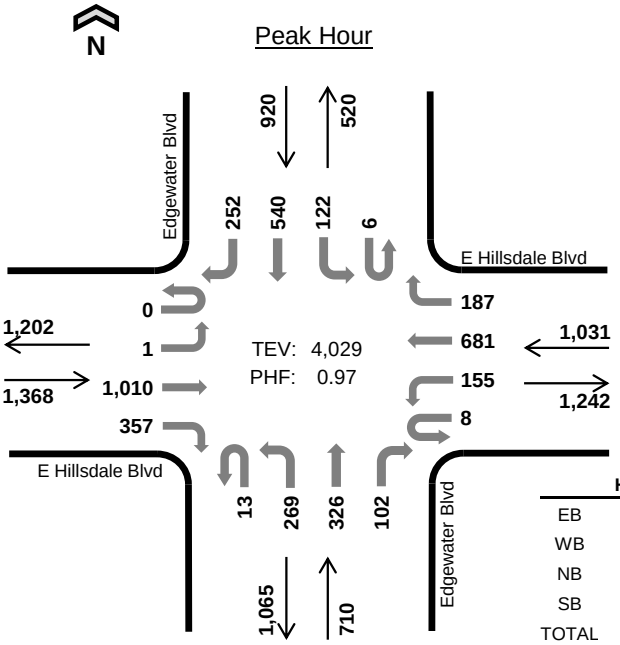
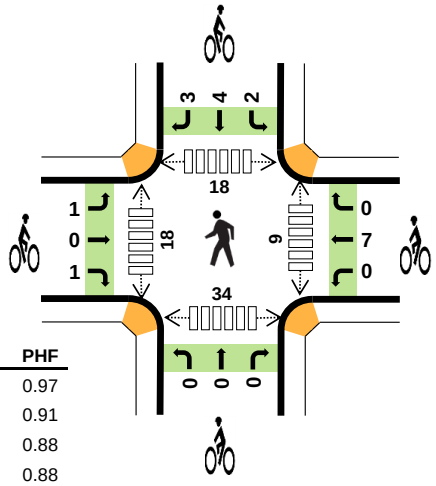


Edgewater Blvd
E Hillsdale Blvd

Date: 07/19/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	0.6%	0.97
WB	0.6%	0.91
NB	0.7%	0.88
SB	0.3%	0.88
TOTAL	0.5%	0.97



Two-Hour Count Summaries

Interval Start	E Hillsdale Blvd Eastbound				E Hillsdale Blvd Westbound				Edgewater Blvd Northbound				Edgewater Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	247	66	3	26	135	28	4	83	96	20	3	23	87	56	877	0
4:15 PM	0	0	277	84	5	26	141	44	0	64	83	21	6	33	116	45	945	0
4:30 PM	0	0	265	70	4	30	139	40	3	74	97	21	4	28	99	36	910	0
4:45 PM	0	0	226	79	2	36	147	37	1	48	79	21	1	37	116	47	877	3,609
5:00 PM	**0**	**1**	**247**	**102**	**2**	**32**	**197**	**51**	**2**	**64**	**78**	**32**	**4**	**32**	**116**	**56**	**1,016**	3,748
5:15 PM	**0**	**0**	**228**	**94**	**1**	**45**	**182**	**56**	**1**	**76**	**97**	**28**	**0**	**33**	**130**	**70**	**1,041**	3,844
5:30 PM	**0**	**0**	**259**	**85**	**1**	**43**	**151**	**37**	**5**	**77**	**74**	**25**	**1**	**32**	**162**	**67**	**1,019**	3,953
5:45 PM	**0**	**0**	**276**	**76**	**4**	**35**	**151**	**43**	**5**	**52**	**77**	**17**	**1**	**25**	**132**	**59**	**953**	**4,029**
Count Total	0	1	2,025	656	22	273	1,243	336	21	538	681	185	20	243	958	436	7,638	0
Peak Hour All	**0**	**1**	**1,010**	**357**	**8**	**155**	**681**	**187**	**13**	**269**	**326**	**102**	**6**	**122**	**540**	**252**	**4,029**	**0**
Peak Hour HV	**0**	**0**	**6**	**2**	**0**	**0**	**4**	**2**	**0**	**1**	**3**	**1**	**0**	**0**	**0**	**3**	**22**	**0**
Peak Hour HV%	**-**	**0%**	**1%**	**1%**	**0%**	**0%**	**1%**	**1%**	**0%**	**0%**	**1%**	**1%**	**0%**	**0%**	**0%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	2	1	1	*6*	0	1	0	0	*1*	3	3	1	6	*13*
4:15 PM	4	3	2	0	*9*	1	2	0	1	*4*	2	1	8	4	*15*
4:30 PM	4	3	0	0	*7*	0	1	0	2	*3*	0	4	8	2	*14*
4:45 PM	2	2	2	1	*7*	0	0	0	2	*2*	0	0	3	3	*6*
5:00 PM	**4**	**2**	**2**	**2**	***10***	**1**	**2**	**0**	**0**	***3***	**3**	**8**	**9**	**10**	*30*
5:15 PM	**0**	**2**	**1**	**1**	***4***	**0**	**1**	**0**	**3**	***4***	**1**	**2**	**5**	**7**	*15*
5:30 PM	**2**	**1**	**0**	**0**	***3***	**0**	**3**	**0**	**5**	***8***	**2**	**3**	**2**	**6**	*13*
5:45 PM	**2**	**1**	**2**	**0**	***5***	**1**	**1**	**0**	**1**	***3***	**3**	**5**	**2**	**11**	***21***
Count Total	20	16	10	5	*51*	3	11	0	14	*28*	14	26	38	49	*127*
Peak Hour	**8**	**6**	**5**	**3**	***22***	**2**	**7**	**0**	**9**	***18***	**9**	**18**	**18**	**34**	***79***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Hillsdale Blvd				E Hillsdale Blvd				Edgewater Blvd				Edgewater Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	1	0	0	2	0	0	0	1	0	0	0	0	1	6	0
4:15 PM	0	0	4	0	0	0	1	2	0	0	2	0	0	0	0	0	9	0
4:30 PM	0	0	3	1	0	0	3	0	0	0	0	0	0	0	0	0	7	0
4:45 PM	0	0	2	0	0	0	2	0	0	1	0	1	0	0	0	1	7	29
5:00 PM	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**10**	33
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**4**	28
5:30 PM	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	24
5:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**22**
Count Total	0	0	16	4	0	0	12	4	0	2	6	2	0	0	0	5	51	0
Peak Hour	**0**	**0**	**6**	**2**	**0**	**0**	**4**	**2**	**0**	**1**	**3**	**1**	**0**	**0**	**0**	**3**	**22**	**0**

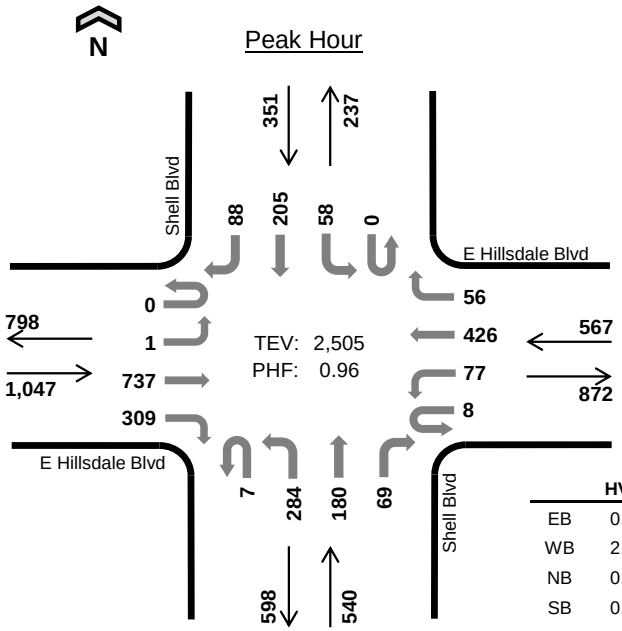
Two-Hour Count Summaries - Bikes

Interval Start	E Hillsdale Blvd			E Hillsdale Blvd			Edgewater Blvd			Edgewater Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:15 PM	0	1	0	1	1	0	0	0	0	0	1	0	4	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	1	1	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	10
5:00 PM	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	12
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**4**	12
5:30 PM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**8**	17
5:45 PM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**18**
Count Total	1	1	1	2	9	0	0	0	0	2	8	4	28	0
Peak Hour	**1**	**0**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**2**	**4**	**3**	**18**	**0**

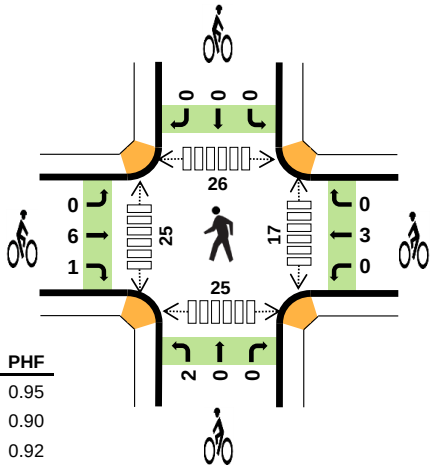
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Shell Blvd
E Hillsdale Blvd

Date: 07/19/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.7%	0.95
WB	2.1%	0.90
NB	0.4%	0.92
SB	0.9%	0.81
TOTAL	1.0%	0.96



Two-Hour Count Summaries

Interval Start	E Hillsdale Blvd Eastbound				E Hillsdale Blvd Westbound				Shell Blvd Northbound				Shell Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	189	55	6	10	99	13	5	65	38	18	0	10	33	17	561	0
4:15 PM	0	0	209	72	3	14	93	9	1	43	33	15	0	12	24	18	546	0
4:30 PM	0	0	198	81	4	14	100	10	1	39	38	15	0	19	41	11	571	0
4:45 PM	**0**	**1**	**186**	**75**	**3**	**14**	**80**	**11**	**2**	**64**	**47**	**15**	**0**	**8**	**46**	**22**	**574**	2,252
5:00 PM	**0**	**0**	**194**	**72**	**4**	**20**	**116**	**18**	**1**	**88**	**38**	**20**	**0**	**15**	**49**	**20**	**655**	2,346
5:15 PM	**0**	**0**	**164**	**80**	**0**	**21**	**116**	**11**	**3**	**71**	**51**	**20**	**0**	**25**	**61**	**22**	**645**	2,445
5:30 PM	**0**	**0**	**193**	**82**	**1**	**22**	**114**	**16**	**1**	**61**	**44**	**14**	**0**	**10**	**49**	**24**	**631**	**2,505**
5:45 PM	0	0	170	81	2	17	95	20	0	47	29	17	1	9	64	18	570	2,501
Count Total	0	4	1,503	598	23	132	813	108	14	478	318	134	1	108	367	152	4,753	0
Peak Hour All	**0**	**1**	**737**	**309**	**8**	**77**	**426**	**56**	**7**	**284**	**180**	**69**	**0**	**58**	**205**	**88**	**2,505**	**0**
Peak Hour HV	**0**	**0**	**6**	**1**	**1**	**0**	**5**	**6**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**24**	**0**
Peak Hour HV%	**-**	**0%**	**1%**	**0%**	**13%**	**0%**	**1%**	**11%**	**0%**	**0%**	**1%**	**1%**	**-**	**0%**	**0%**	**3%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	1	0	0	*2*	1	2	0	0	*3*	4	3	1	4	*12*
4:15 PM	3	0	1	2	*6*	0	1	0	1	*2*	2	8	4	9	*23*
4:30 PM	2	1	1	4	*8*	0	1	1	0	*2*	1	4	6	1	*12*
4:45 PM	**1**	**5**	**1**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**7**	**15**	**9**	**4**	*35*
5:00 PM	**5**	**4**	**0**	**1**	***10***	**0**	**2**	**1**	**0**	***3***	**2**	**2**	**5**	**4**	*13*
5:15 PM	**0**	**2**	**1**	**0**	***3***	**2**	**1**	**0**	**0**	***3***	**8**	**2**	**6**	**6**	*22*
5:30 PM	**1**	**1**	**0**	**1**	***3***	**5**	**0**	**1**	**0**	***6***	**0**	**6**	**6**	**11**	***23***
5:45 PM	1	2	1	0	*4*	0	2	0	0	*2*	2	8	9	6	*25*
Count Total	14	16	5	9	*44*	8	9	3	1	*21*	26	48	46	45	*165*
Peak Hour	**7**	**12**	**2**	**3**	***24***	**7**	**3**	**2**	**0**	***12***	**17**	**25**	**26**	**25**	***93***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Hillsdale Blvd Eastbound				E Hillsdale Blvd Westbound				Shell Blvd Northbound				Shell Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	2	6	0
4:30 PM	0	0	2	0	0	0	1	0	0	0	0	1	0	0	0	4	8	0
4:45 PM	**0**	**0**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**8**	24
5:00 PM	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	32
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	29
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**24**
5:45 PM	0	0	1	0	0	0	0	2	0	0	0	1	0	0	0	0	4	20
Count Total	0	0	13	1	1	0	7	8	0	1	1	3	0	0	0	9	44	0
Peak Hour	**0**	**0**	**6**	**1**	**1**	**0**	**5**	**6**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**24**	**0**

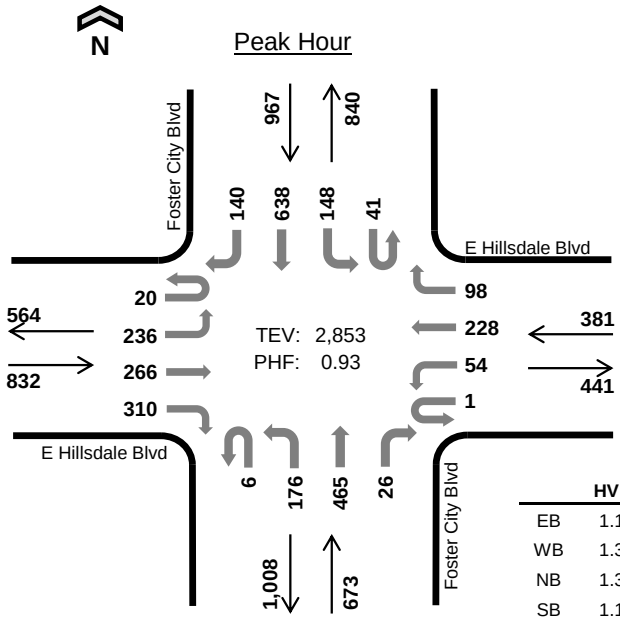
Two-Hour Count Summaries - Bikes

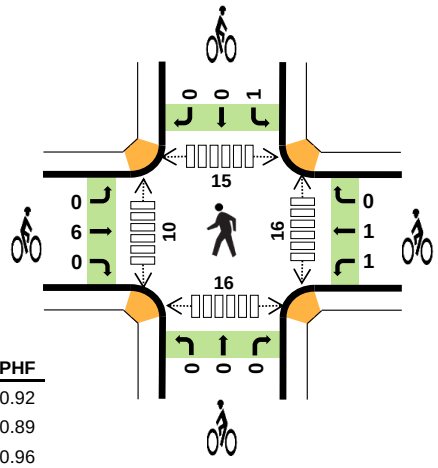
Interval Start	E Hillsdale Blvd Eastbound			E Hillsdale Blvd Westbound			Shell Blvd Northbound			Shell Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	1	0	0	2	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	0	0	1	0	0	0	0	1	0	0	2	0
4:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	2	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	7
5:00 PM	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	7
5:15 PM	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	8
5:30 PM	**0**	**4**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	**12**
5:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	14
Count Total	0	7	1	0	9	0	3	0	0	1	0	0	21	0
Peak Hour	**0**	**6**	**1**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**12**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Foster City Blvd
E Hillsdale Blvd

Date: 07/19/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	1.1%	0.92
WB	1.3%	0.89
NB	1.3%	0.96
SB	1.1%	0.91
TOTAL	1.2%	0.93

Two-Hour Count Summaries

Interval Start	E Hillsdale Blvd Eastbound				E Hillsdale Blvd Westbound				Foster City Blvd Northbound				Foster City Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	8	76	70	66	1	7	38	21	2	54	113	7	10	28	76	35	612	0
4:15 PM	6	67	77	68	0	7	41	21	1	47	100	6	4	27	113	27	612	0
4:30 PM	5	80	63	91	0	21	50	22	1	40	93	4	7	30	113	30	650	0
4:45 PM	**6**	**58**	**56**	**88**	**0**	**14**	**46**	**27**	**3**	**37**	**127**	**7**	**10**	**27**	**160**	**34**	**700**	2,574
5:00 PM	**2**	**62**	**75**	**73**	**0**	**14**	**55**	**20**	**1**	**47**	**104**	**5**	**14**	**39**	**137**	**31**	**679**	2,641
5:15 PM	**3**	**68**	**75**	**79**	**1**	**11**	**69**	**26**	**1**	**43**	**116**	**6**	**7**	**49**	**171**	**39**	**764**	2,793
5:30 PM	**9**	**48**	**60**	**70**	**0**	**15**	**58**	**25**	**1**	**49**	**118**	**8**	**10**	**33**	**170**	**36**	**710**	**2,853**
5:45 PM	7	71	64	87	0	12	46	21	0	38	95	5	7	36	150	43	682	2,835
Count Total	46	530	540	622	2	101	403	183	10	355	866	48	69	269	1,090	275	5,409	0
Peak Hour All	**20**	**236**	**266**	**310**	**1**	**54**	**228**	**98**	**6**	**176**	**465**	**26**	**41**	**148**	**638**	**140**	**2,853**	**0**
Peak Hour HV	**0**	**4**	**1**	**4**	**0**	**1**	**4**	**0**	**0**	**3**	**6**	**0**	**0**	**1**	**7**	**3**	**34**	**0**
Peak Hour HV%	**0%**	**2%**	**0%**	**1%**	**0%**	**2%**	**2%**	**0%**	**0%**	**2%**	**1%**	**0%**	**0%**	**1%**	**1%**	**2%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	3	0	6	0	*9*	0	1	0	0	*1*	4	1	3	0	*8*
4:15 PM	3	2	3	0	*8*	1	0	1	1	*3*	6	5	10	6	*27*
4:30 PM	6	0	1	3	*10*	0	0	3	0	*3*	4	0	5	7	*16*
4:45 PM	**2**	**4**	**3**	**2**	***11***	**0**	**1**	**0**	**0**	***1***	**5**	**0**	**3**	**5**	*13*
5:00 PM	**5**	**1**	**1**	**3**	***10***	**1**	**1**	**0**	**0**	***2***	**0**	**5**	**5**	**4**	*14*
5:15 PM	**1**	**0**	**3**	**4**	***8***	**2**	**0**	**0**	**1**	***3***	**6**	**1**	**3**	**4**	*14*
5:30 PM	**1**	**0**	**2**	**2**	***5***	**3**	**0**	**0**	**0**	***3***	**5**	**4**	**4**	**3**	***16***
5:45 PM	3	1	2	2	*8*	0	2	0	1	*3*	4	2	3	2	*11*
Count Total	24	8	21	16	*69*	7	5	4	3	*19*	34	18	36	31	*119*
Peak Hour	**9**	**5**	**9**	**11**	***34***	**6**	**2**	**0**	**1**	***9***	**16**	**10**	**15**	**16**	***57***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Hillsdale Blvd				E Hillsdale Blvd				Foster City Blvd				Foster City Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	0	0	0	0	0	0	0	2	4	0	0	0	0	0	9	0
4:15 PM	0	2	0	1	0	0	0	2	0	1	2	0	0	0	0	0	8	0
4:30 PM	0	5	0	1	0	0	0	0	0	0	1	0	0	1	2	0	10	0
4:45 PM	**0**	**0**	**1**	**1**	**0**	**1**	**3**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**2**	**0**	**11**	38
5:00 PM	**0**	**3**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**1**	**10**	39
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**1**	**8**	39
5:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**5**	**34**
5:45 PM	0	2	1	0	0	0	0	1	0	0	2	0	0	0	1	1	8	31
Count Total	0	16	2	6	0	1	4	3	0	6	15	0	0	2	10	4	69	0
Peak Hour	**0**	**4**	**1**	**4**	**0**	**1**	**4**	**0**	**0**	**3**	**6**	**0**	**0**	**1**	**7**	**3**	**34**	**0**

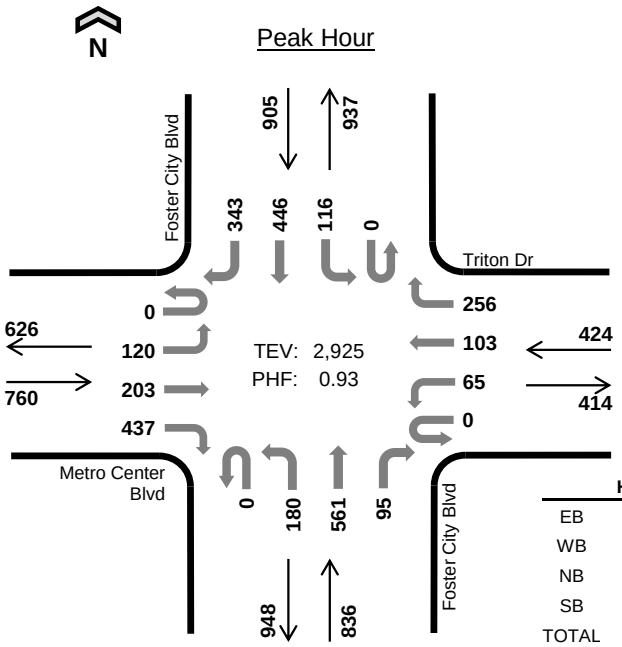
Two-Hour Count Summaries - Bikes

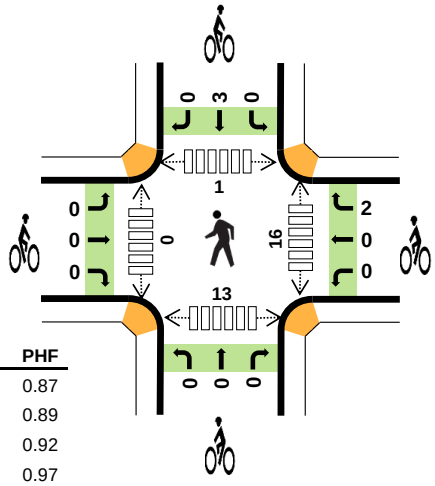
Interval Start	E Hillsdale Blvd			E Hillsdale Blvd			Foster City Blvd			Foster City Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:15 PM	0	1	0	0	0	0	0	1	0	0	0	1	3	0
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3	0
4:45 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	8
5:00 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	9
5:15 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	9
5:30 PM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**9**
5:45 PM	0	0	0	0	0	2	0	0	0	0	0	1	3	11
Count Total	0	7	0	1	2	2	0	4	0	1	0	2	19	0
Peak Hour	**0**	**6**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**9**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Foster City Blvd
Metro Center Blvd/Triton Dr

Date: 07/19/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	2.6%	0.87
WB	0.7%	0.89
NB	1.1%	0.92
SB	1.3%	0.97
TOTAL	1.5%	0.93

Two-Hour Count Summaries

Interval Start	Metro Center Blvd Eastbound				Triton Dr Westbound				Foster City Blvd Northbound				Foster City Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	21	36	56	0	13	22	63	0	59	146	11	1	27	90	138	683	0
4:15 PM	0	26	40	61	0	12	19	63	0	53	119	21	0	34	88	132	668	0
4:30 PM	0	24	50	77	0	10	21	52	0	49	134	15	0	32	95	110	669	0
4:45 PM	**0**	**30**	**46**	**106**	**0**	**17**	**23**	**59**	**0**	**47**	**156**	**23**	**0**	**31**	**98**	**88**	**724**	2,744
5:00 PM	**0**	**32**	**48**	**97**	**0**	**14**	**30**	**62**	**0**	**55**	**128**	**18**	**0**	**23**	**108**	**102**	**717**	2,778
5:15 PM	**0**	**33**	**60**	**125**	**0**	**17**	**30**	**72**	**0**	**43**	**142**	**31**	**0**	**37**	**121**	**73**	**784**	2,894
5:30 PM	**0**	**25**	**49**	**109**	**0**	**17**	**20**	**63**	**0**	**35**	**135**	**23**	**0**	**25**	**119**	**80**	**700**	**2,925**
5:45 PM	0	23	65	116	0	21	22	62	0	40	108	31	0	32	93	68	681	2,882
Count Total	0	214	394	747	0	121	187	496	0	381	1,068	173	1	241	812	791	5,626	0
Peak Hour All	**0**	**120**	**203**	**437**	**0**	**65**	**103**	**256**	**0**	**180**	**561**	**95**	**0**	**116**	**446**	**343**	**2,925**	**0**
Peak Hour HV	**0**	**8**	**4**	**8**	**0**	**1**	**2**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**6**	**6**	**44**	**0**
Peak Hour HV%	**-**	**7%**	**2%**	**2%**	**-**	**2%**	**2%**	**0%**	**-**	**0%**	**2%**	**0%**	**-**	**0%**	**1%**	**2%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	2	6	7	*17*	0	0	0	1	*1*	0	0	0	1	*1*
4:15 PM	0	3	6	5	*14*	0	0	0	1	*1*	3	0	0	0	*3*
4:30 PM	4	0	5	3	*12*	0	0	1	0	*1*	8	0	0	7	*15*
4:45 PM	**8**	**0**	**2**	**5**	***15***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**2**	*7*
5:00 PM	**5**	**0**	**3**	**3**	***11***	**0**	**2**	**0**	**2**	***4***	**4**	**0**	**1**	**7**	*12*
5:15 PM	**4**	**3**	**2**	**2**	***11***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**1**	*6*
5:30 PM	**3**	**0**	**2**	**2**	***7***	**0**	**0**	**0**	**1**	***1***	**2**	**0**	**0**	**3**	***5***
5:45 PM	2	0	3	2	*7*	0	0	0	1	*1*	3	1	0	4	*8*
Count Total	28	8	29	29	*94*	0	2	1	6	*9*	30	1	1	25	*57*
Peak Hour	**20**	**3**	**9**	**12**	***44***	**0**	**2**	**0**	**3**	***5***	**16**	**0**	**1**	**13**	***30***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Metro Center Blvd				Triton Dr				Foster City Blvd				Foster City Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	1	0	0	0	2	0	0	2	4	0	0	1	0	6	17	0
4:15 PM	0	0	0	0	0	0	1	2	0	0	5	1	0	1	0	4	14	0
4:30 PM	0	2	1	1	0	0	0	0	0	1	4	0	0	1	0	2	12	0
4:45 PM	**0**	**4**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**4**	**15**	58
5:00 PM	**0**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**1**	**11**	52
5:15 PM	**0**	**0**	**1**	**3**	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**11**	49
5:30 PM	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**7**	**44**
5:45 PM	0	1	0	1	0	0	0	0	0	1	2	0	0	0	2	0	7	36
Count Total	0	12	6	10	0	1	5	2	0	4	24	1	0	3	8	18	94	0
Peak Hour	**0**	**8**	**4**	**8**	**0**	**1**	**2**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**6**	**6**	**44**	**0**

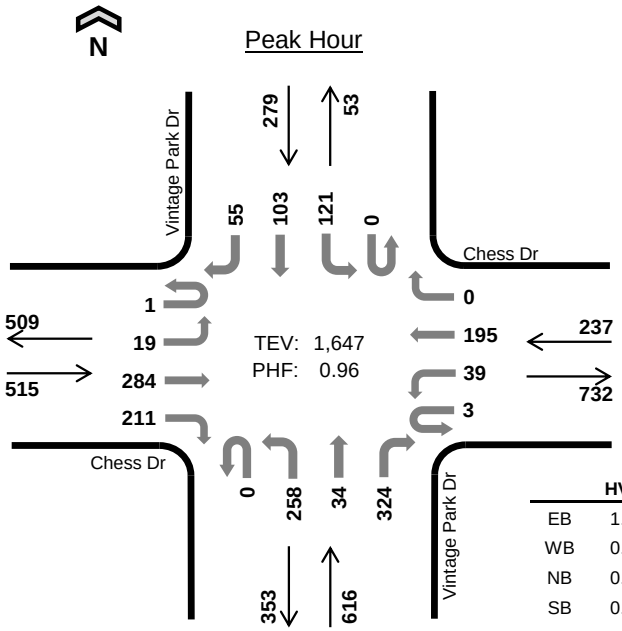
Two-Hour Count Summaries - Bikes

Interval Start	Metro Center Blvd			Triton Dr			Foster City Blvd			Foster City Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
5:00 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**4**	6
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**5**
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Count Total	0	0	0	0	0	2	0	1	0	1	5	0	9	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**0**	**5**	**0**

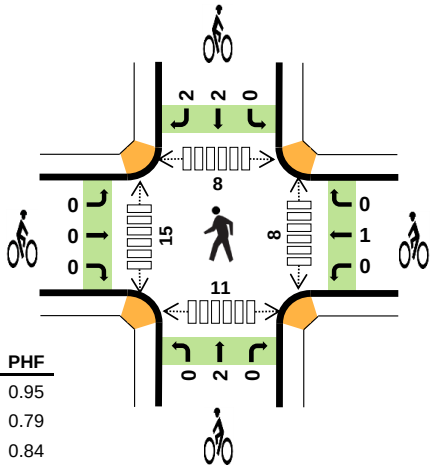
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Vintage Park Dr
Chess Dr

Date: 07/19/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	1.0%	0.95
WB	0.8%	0.79
NB	0.3%	0.84
SB	0.4%	0.97
TOTAL	0.6%	0.96



Two-Hour Count Summaries

Interval Start	Chess Dr Eastbound				Chess Dr Westbound				Vintage Park Dr Northbound				Vintage Park Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	3	4	73	56	2	5	33	2	0	44	5	71	0	37	19	6	360	0
4:15 PM	0	5	85	47	3	7	42	2	0	64	4	61	0	35	18	7	380	0
4:30 PM	0	4	68	60	0	5	44	0	0	61	4	87	0	34	17	15	399	0
4:45 PM	**0**	**4**	**79**	**43**	**0**	**11**	**50**	**0**	**0**	**71**	**8**	**75**	**0**	**36**	**26**	**10**	**413**	1,552
5:00 PM	**0**	**9**	**63**	**51**	**0**	**6**	**48**	**0**	**0**	**73**	**7**	**103**	**0**	**28**	**26**	**14**	**428**	1,620
5:15 PM	**1**	**4**	**69**	**56**	**1**	**8**	**38**	**0**	**0**	**64**	**6**	**63**	**0**	**29**	**22**	**21**	**382**	1,622
5:30 PM	**0**	**2**	**73**	**61**	**2**	**14**	**59**	**0**	**0**	**50**	**13**	**83**	**0**	**28**	**29**	**10**	**424**	**1,647**
5:45 PM	2	2	60	47	0	13	44	1	0	46	7	84	0	27	12	7	352	1,586
Count Total	6	34	570	421	8	69	358	5	0	473	54	627	0	254	169	90	3,138	0
Peak Hour All	**1**	**19**	**284**	**211**	**3**	**39**	**195**	**0**	**0**	**258**	**34**	**324**	**0**	**121**	**103**	**55**	**1,647**	**0**
Peak Hour HV	**0**	**1**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**10**	**0**
Peak Hour HV%	**0%**	**5%**	**1%**	**1%**	**0%**	**0%**	**1%**	**-**	**-**	**1%**	**0%**	**0%**	**-**	**1%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	1	1	0	*3*	0	0	1	0	*1*	0	1	1	2	*4*
4:15 PM	1	0	0	1	*2*	0	0	0	0	*0*	4	4	4	1	*13*
4:30 PM	1	0	0	0	*1*	0	0	1	0	*1*	1	2	1	0	*4*
4:45 PM	**1**	**0**	**1**	**0**	***2***	**0**	**0**	**1**	**0**	***1***	**0**	**2**	**2**	**1**	*5*
5:00 PM	**3**	**1**	**1**	**0**	***5***	**0**	**1**	**0**	**3**	***4***	**0**	**9**	**3**	**1**	*13*
5:15 PM	**1**	**1**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**1**	**3**	*6*
5:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**1**	***2***	**8**	**2**	**2**	**6**	***18***
5:45 PM	0	0	2	0	*2*	1	0	0	0	*1*	1	4	3	2	*10*
Count Total	8	3	5	2	*18*	1	1	4	4	*10*	14	26	17	16	*73*
Peak Hour	**5**	**2**	**2**	**1**	***10***	**0**	**1**	**2**	**4**	***7***	**8**	**15**	**8**	**11**	***42***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Chess Dr Eastbound				Chess Dr Westbound				Vintage Park Dr Northbound				Vintage Park Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	3	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	8
5:00 PM	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	10
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	11
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	10
Count Total	0	1	4	3	0	0	3	0	0	3	0	2	0	2	0	0	18	0
Peak Hour	**0**	**1**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**10**	**0**

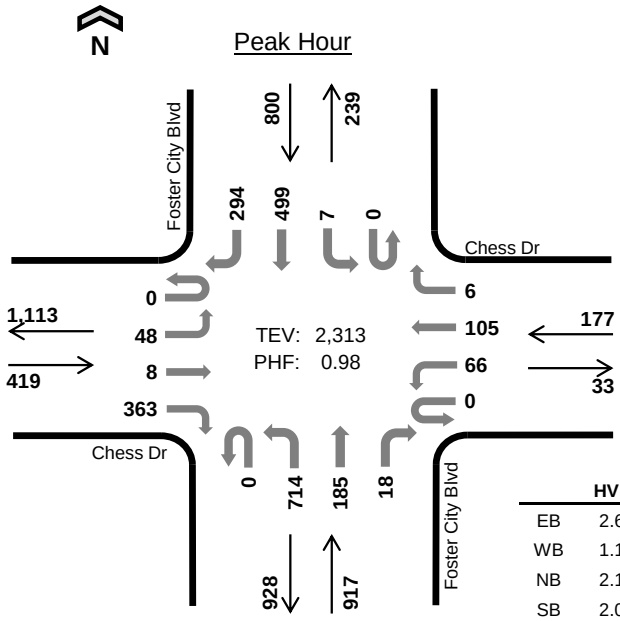
Two-Hour Count Summaries - Bikes

Interval Start	Chess Dr Eastbound			Chess Dr Westbound			Vintage Park Dr Northbound			Vintage Park Dr Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	3
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**4**	6
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	**7**
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	7
Count Total	0	1	0	0	1	0	2	2	0	0	2	2	10	0
Peak Hour	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**2**	**2**	**7**	**0**

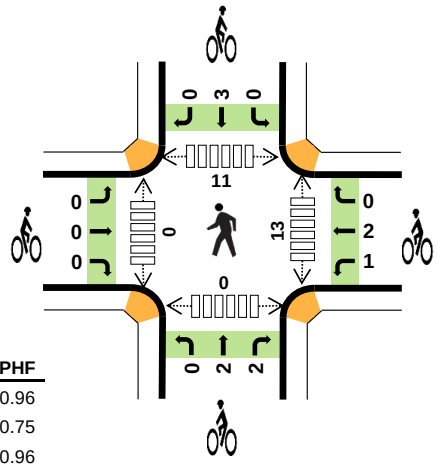
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Foster City Blvd
Chess Dr

Date: 07/19/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	2.6%	0.96
WB	1.1%	0.75
NB	2.1%	0.96
SB	2.0%	0.93
TOTAL	2.1%	0.98



Two-Hour Count Summaries

Interval Start	Chess Dr Eastbound				Chess Dr Westbound				Foster City Blvd Northbound				Foster City Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	6	2	82	0	11	25	2	0	190	44	7	0	2	156	56	583	0
4:15 PM	0	9	1	99	0	9	19	3	0	157	43	6	0	1	143	59	549	0
4:30 PM	**0**	**15**	**3**	**91**	**0**	**22**	**37**	**0**	**0**	**165**	**53**	**2**	**0**	**1**	**131**	**65**	**585**	0
4:45 PM	**0**	**10**	**2**	**97**	**0**	**6**	**17**	**1**	**0**	**173**	**46**	**6**	**0**	**2**	**123**	**70**	**553**	2,270
5:00 PM	**0**	**14**	**1**	**84**	**0**	**26**	**31**	**2**	**0**	**178**	**50**	**4**	**0**	**3**	**113**	**78**	**584**	2,271
5:15 PM	**0**	**9**	**2**	**91**	**0**	**12**	**20**	**3**	**0**	**198**	**36**	**6**	**0**	**1**	**132**	**81**	**591**	**2,313**
5:30 PM	0	6	0	105	0	8	33	1	0	193	34	2	0	1	100	67	550	2,278
5:45 PM	0	6	2	82	0	8	8	0	0	148	35	3	0	3	112	53	460	2,185
Count Total	0	75	13	731	0	102	190	12	0	1,402	341	36	0	14	1,010	529	4,455	0
Peak Hour All	**0**	**48**	**8**	**363**	**0**	**66**	**105**	**6**	**0**	**714**	**185**	**18**	**0**	**7**	**499**	**294**	**2,313**	**0**
Peak Hour HV	**0**	**2**	**5**	**4**	**0**	**1**	**1**	**0**	**0**	**6**	**10**	**3**	**0**	**3**	**8**	**5**	**48**	**0**
Peak Hour HV%	**-**	**4%**	**63%**	**1%**	**-**	**2%**	**1%**	**0%**	**-**	**1%**	**5%**	**17%**	**-**	**43%**	**2%**	**2%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	5	10	*15*	0	0	0	1	*1*	1	0	1	0	*2*
4:15 PM	2	1	7	6	*16*	1	1	0	1	*3*	0	0	1	0	*1*
4:30 PM	**3**	**0**	**6**	**3**	***12***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**4**	**0**	*9*
4:45 PM	**3**	**0**	**6**	**7**	***16***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**1**	**0**	*3*
5:00 PM	**2**	**2**	**5**	**3**	***12***	**0**	**2**	**4**	**2**	***8***	**4**	**0**	**5**	**0**	*9*
5:15 PM	**3**	**0**	**2**	**3**	***8***	**0**	**1**	**0**	**1**	***2***	**2**	**0**	**1**	**0**	***3***
5:30 PM	0	0	4	3	*7*	0	1	0	0	*1*	1	0	1	0	*2*
5:45 PM	0	0	3	2	*5*	1	1	0	0	*2*	5	0	2	0	*7*
Count Total	13	3	38	37	*91*	2	6	4	5	*17*	20	0	16	0	*36*
Peak Hour	**11**	**2**	**19**	**16**	***48***	**0**	**3**	**4**	**3**	***10***	**13**	**0**	**11**	**0**	***24***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Chess Dr Eastbound				Chess Dr Westbound				Foster City Blvd Northbound				Foster City Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	1	0	1	7	2	15	0
4:15 PM	0	0	1	1	0	1	0	0	0	5	2	0	0	1	3	2	16	0
4:30 PM	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**1**	**0**	**0**	**2**	**1**	**12**	0
4:45 PM	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**2**	**0**	**1**	**4**	**2**	**16**	59
5:00 PM	**0**	**0**	**1**	**1**	**0**	**1**	**1**	**0**	**0**	**3**	**2**	**0**	**0**	**1**	**1**	**1**	**12**	56
5:15 PM	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**1**	**1**	**8**	**48**
5:30 PM	0	0	0	0	0	0	0	0	0	2	1	1	0	0	2	1	7	43
5:45 PM	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	1	5	32
Count Total	0	2	6	5	0	2	1	0	0	18	14	6	0	6	20	11	91	0
Peak Hour	**0**	**2**	**5**	**4**	**0**	**1**	**1**	**0**	**0**	**6**	**10**	**3**	**0**	**3**	**8**	**5**	**48**	**0**

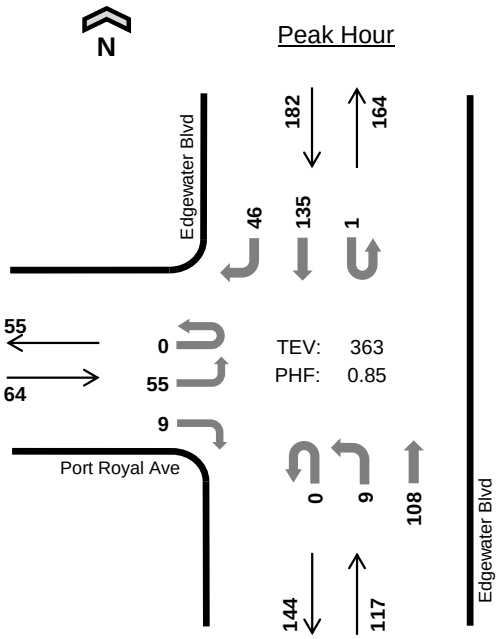
Two-Hour Count Summaries - Bikes

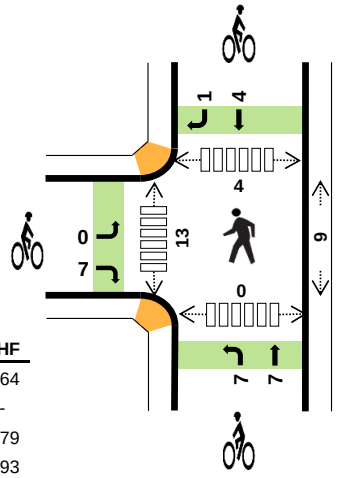
Interval Start	Chess Dr Eastbound			Chess Dr Westbound			Foster City Blvd Northbound			Foster City Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	1	0	0	1	0	0	0	0	0	0	1	0	3	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
5:00 PM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**2**	**0**	**2**	**0**	**8**	11
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**10**
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	11
5:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	2	13
Count Total	1	1	0	4	2	0	0	2	2	0	5	0	17	0
Peak Hour	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**2**	**2**	**0**	**3**	**0**	**10**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Edgewater Blvd
Port Royal Ave

Date: 10/12/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV %:	PHF
EB	3.1%	0.64
WB	-	-
NB	0.9%	0.79
SB	0.0%	0.93
TOTAL	0.8%	0.85

Two-Hour Count Summaries

Interval Start	Port Royal Ave Eastbound				N/A Westbound				Edgewater Blvd Northbound				Edgewater Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	17	0	5	0	0	0	0	0	1	11	0	0	0	16	6	56	0
4:15 PM	0	4	0	5	0	0	0	0	0	1	21	0	1	0	23	5	60	0
4:30 PM	0	8	0	2	0	0	0	0	2	1	26	0	0	0	20	3	62	0
4:45 PM	0	1	0	4	0	0	0	0	0	3	21	0	0	0	37	5	71	249
5:00 PM	**0**	**18**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**35**	**0**	**0**	**0**	**25**	**24**	**107**	300
5:15 PM	**0**	**23**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**24**	**0**	**1**	**0**	**33**	**11**	**96**	336
5:30 PM	**0**	**12**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**5**	**25**	**0**	**0**	**0**	**34**	**6**	**85**	359
5:45 PM	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**0**	**0**	**43**	**5**	**75**	**363**
Count Total	0	85	0	25	0	0	0	0	2	15	187	0	2	0	231	65	612	0
Peak Hour All	**0**	**55**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**9**	**108**	**0**	**1**	**0**	**135**	**46**	**363**	**0**
Peak Hour HV	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**
Peak Hour HV%	**-**	**2%**	**-**	**11%**	**-**	**-**	**-**	**-**	**-**	**11%**	**0%**	**-**	**0%**	**-**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	2	0	0	0	*2*	1	0	2	1	*4*	1	1	3	0	*5*
4:15 PM	0	0	1	0	*1*	0	0	1	1	*2*	0	0	0	0	*0*
4:30 PM	1	0	1	0	*2*	2	0	0	2	*4*	0	0	0	0	*0*
4:45 PM	1	0	0	1	*2*	1	0	3	3	*7*	2	3	0	0	*5*
5:00 PM	**2**	**0**	**1**	**0**	***3***	**2**	**0**	**5**	**3**	***10***	**1**	**0**	**1**	**0**	*2*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**2**	**0**	***4***	**4**	**2**	**3**	**0**	*9*
5:30 PM	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**4**	**0**	***5***	**2**	**7**	**0**	**0**	*9*
5:45 PM	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**3**	**2**	***7***	**2**	**4**	**0**	**0**	***6***
Count Total	6	0	3	1	*10*	11	0	20	12	*43*	12	17	7	0	*36*
Peak Hr	**2**	**0**	**1**	**0**	***3***	**7**	**0**	**14**	**5**	***26***	**9**	**13**	**4**	**0**	***26***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Port Royal Ave				N/A				Edgewater Blvd				Edgewater Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	7
5:00 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	8
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	7
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
Count Total	0	1	0	5	0	0	0	0	0	2	1	0	0	0	0	1	10	0
Peak Hour	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Port Royal Ave			N/A			Edgewater Blvd			Edgewater Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	2	0	0	1	0	4	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0
4:30 PM	1	0	1	0	0	0	0	0	0	0	2	0	4	0
4:45 PM	0	0	1	0	0	0	1	2	0	0	2	1	7	17
5:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**2**	**0**	**0**	**3**	**0**	**10**	23
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**4**	25
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**5**	26
5:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**1**	**7**	**26**
Count Total	1	0	10	0	0	0	8	12	0	0	10	2	43	0
Peak Hour	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**7**	**0**	**0**	**4**	**1**	**26**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Counts are from a one hour peak period (5-6pm)

Intersection Number	Intersection Name	Count Period	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
1	Hillsdale/Edgewater	May-19	289	544	102	203	542	273	3	1340	501	221	827	206	5051
1	Hillsdale/Edgewater	Jul-22	269	326	102	122	540	252	1	1010	357	155	681	187	4002
		Percent Change	-7%	-40%	0%	-40%	0%	-8%	-67%	-25%	-29%	-30%	-18%	-9%	-21%
2	Shell/Hillsdale	May-19	265	193	92	115	206	81	0	1055	497	100	478	76	3158
2	Shell/Hillsdale	Jul-22	284	180	69	58	205	88	1	737	309	77	426	56	2490
		Percent Change	7%	-7%	-25%	-50%	0%	9%	0%	-30%	-38%	-23%	-11%	-26%	-21%
3	Foster City/Hillsdale	May-19	144	383	34	143	471	152	323	461	440	66	256	77	2950
3	Foster City/Hillsdale	Jul-22	176	465	26	148	638	140	236	266	310	54	228	98	2785
		Percent Change	22%	21%	-24%	3%	35%	-8%	-27%	-42%	-30%	-18%	-11%	27%	-6%
4	Foster City/Metro Center	May-19	297	535	63	179	471	881	97	123	151	59	92	263	3211
4	Foster City/Metro Center	Jul-22	180	561	95	116	446	343	120	203	437	65	103	256	2925
		Percent Change	-39%	5%	51%	-35%	-5%	-61%	24%	65%	189%	10%	12%	-3%	-9%
5	Vintage Park/Chess	May-19	186	53	489	273	295	90	29	276	286	65	176	11	2229
5	Vintage Park/Chess	Jul-22	258	34	324	121	103	55	19	284	211	39	195	0	1643
		Percent Change	39%	-36%	-34%	-56%	-65%	-39%	-34%	3%	-26%	-40%	11%	-100%	-26%
6	Foster City/Chess	May-19	699	200	21	1	1001	211	37	13	412	113	149	6	2863
6	Foster City/Chess	Jul-22	714	185	18	7	499	294	48	8	363	66	105	6	2313
		Percent Change	2%	-8%	-14%	600%	-50%	39%	30%	-38%	-12%	-42%	-30%	0%	-19%

2019 Total	2022 Total	Percent Change
19462	16158	-17%

ADT Counts

Location	Street to be Measured	Direction	Reference Street	ADT (NB)	ADT (SB)	ADT(EB)	ADT(WB)
1	East Third Avenue	West of	Mariners Island Blvd			6708	7451
2	East Third Avenue	Between	Marsh Drive and Lakeside Drive			4130	4548
3	East Third Avenue	Between	Marsh Drive and Foster City Blvd			3575	4482
4	East Third Avenue	East of	Foster City Blvd			3762	3752
5	Foster City Blvd	South of	East Third Avenue	6634	6256		
6	Foster City Blvd	Between	**Chess Drive and [Chess - Vintage Park Drive]**	6803	7808		
7	Foster City Blvd	Between	Chess Drive and Metro Center Blvd (bridge)	17500	11700		
8	Foster City Blvd	Between	Metro Center Blvd and E. Hillsdale Blvd	13569	12232		
9	Foster City Blvd	Between	E. Hillsdale Blvd and Balclutha Dr	9631	10284		
10	Foster City Blvd	Between	Polynesia Dr and Bounty Dr	6242	7052		
11	Foster City Blvd	Between	Bounty Dr and Marlin Ave (bridge)	6627	6407		
12	Foster City Blvd	Between	Marlin Ave and Beach Park Blvd	1209	1556		
13	E. Hillsdale Blvd	Between	S Norfolk St and Altair Ave (bridge)			16966	20555
14	E. Hillsdale Blvd	Between	Altair Ave and Edgewater Blvd			14180	16845
15	E. Hillsdale Blvd	Between	Edgewater Blvd and Center Park Ln(not on map)			11978	12726
16	E. Hillsdale Blvd	Between	Center Park Ln and Shell Blvd			10999	10016
17	E. Hillsdale Blvd	Between	Shell Blvd and Foster City Blvd			8690	9380
18	E. Hillsdale Blvd	Between	Foster City Blvd and Pilgrim Dr			6524	6103
19	E. Hillsdale Blvd	North of	Pilgrim Dr			7040	7080
20	E. Hillsdale Blvd	Southwest of	Gull Ave			6621	6118
21	Beach Park Blvd	Northeast of	Gull Ave	2119	2683		
22	Beach Park Blvd	Between	Egret Ct and Sanderling St	1817	1722		
23	Beach Park Blvd	Between	Gull Ave and Marlin Ave	1662	1854		
24	Beach Park Blvd	Between	Tarpon St and Swordfish St	1414	1727		
25	Beach Park Blvd	Between	Halibut St and Foster City Blvd	1823	2069		
26	Beach Park Blvd	Between	Foster City Blvd and Cutter St			3104	2683
27	Beach Park Blvd	Between	Barkentine St and Shell Blvd			3365	3509
28	Beach Park Blvd	Between	Shell Blvd and Catamaran St			4789	4827
29	Beach Park Blvd	Between	Farragut Blvd and Edgewater Blvd (bridge)			6911	6995
30	Beach Park Blvd	Between	Edgewater Blvd and Castor St			1203	1805
31	Shell Blvd	South of	Halsey Blvd			-	-
32	Shell Blvd	Between	Beach Park Blvd and Catamaran St	3634	3440		
33	Shell Blvd	Between	Civic Center Dr and E. Hillsdale Blvd	7356	8079		
34	Shell Blvd	Between	E. Hillsdale Blvd and Metro Center Blvd	5528	5117		

Source: City of Foster City, 2015

Location	Street to be Measured	Direction	Reference Street	ADT (NB)	ADT (SB)	ADT(EB)	ADT(WB)
35	Triton Drive	North of	Foster City Blvd	8379	6150		
36	Metro Center Blvd	Between	Foster City Blvd and CA-92 On-Off Ramp			17715	6851
37	Metro Center Blvd	Between	CA-92 On-Off Ramp and Shell Blvd			4928	8262
38	Metro Center Blvd	Between	Shell Blvd and Vintage Park Dr			4365	6601
39	Metro Center Blvd	Between	Vintage Park Dr and Gateway Dr			6051	3971
40	Metro Center Blvd	Between	Gateway Dr and Edgewater Blvd			6203	4270
41	Edgewater Blvd	West of	CA-92 On-Off Ramp and Emerald Bay	15759	7070		
42	Edgewater Blvd	Between	CA-92 On-Off Ramp and Metro Center Blvd			14133	9823
43	Edgewater Blvd	Between	Metro Center Blvd and E. Hillsdale Blvd	10741	10208		
44	Edgewater Blvd	Between	E. Hillsdale Blvd and Altair Ave	11842	7109		
45	Edgewater Blvd	Between	Dorado Ln and Beach Park Blvd	12486	12004		
46	Edgewater Blvd	Between	Beach Park Blvd and Port Royal Ave (North)	9066	9724		
47	Edgewater Blvd	Between	Port Royal Ave (North) and Boothbay Ave	6953	6006		
48	Edgewater Blvd	Between	Monterey Ave and Pitcairn Dr	4662	4139		
49	Edgewater Blvd	Between	Port Royal Ave (South) and Baffin St	1441	1477		
50	Baffin St	Between	Edgewater Blvd and Melbourne St	542	442		
51	Pitcairn Dr	Between	Edgewater Blvd and Melbourne St			2428	2436
52	Boothbay Ave	Between	Edgewater Blvd and Pensacola St			974	1133
53	Altair Ave	Between	E. Hillsdale Blvd and Polaris Ave			3577	5051
54	Altair Ave	Between	Polaris Ave and Edgewater Blvd			1710	2091
55	Chess Dr	West of	Vintage Park Dr			6357	6415
56	Chess Dr	Between	Vintage Park Dr and CA-92 On-Off Ramp			9135	4148
57	Chess Dr	Between	CA-92 On-Off Ramp and Foster City Blvd			7680	17919
58	Chess Dr	Between	Foster City Blvd and Hatch Dr			3171	2987
59	Vintage Park Dr	Between	Lakeside Dr and Chess Dr	2445	2356		
60	Vintage Park Dr	Between	Chess Dr and Metro Center Blvd (Bridge)	9420	4107		
61	Marlin Ave	Between	Ribbon St and Beach Park Blvd	505	730		
62	Marlin Ave	Between	Foster City Blvd and Halibut St	4392	2590		
63	Bounty Dr	South of	Foster City Blvd			1414	1026
64	Bounty Dr	Between	Foster City Blvd and Lurline Dr			834	1253
65	Polynesia Dr	Between	Foster City Blvd and Comet Dr			1689	1399
66	Balclutha Dr	Between	Foster City Blvd and Comet Dr			1294	1297
67	Gull Ave	Between	Beach Park Blvd and Crane Ave			1895	4454
68	Gull Ave	Between	Crane Ave and Beach Park Blvd			479	361

Source: City of Foster City, 2015

Driveway Counts

Location: Foster City Blvd S-O Metro Center Blvd
Date Range: 7/19/2022 - 7/25/2022
Site Code: 01

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	40	52	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	52	92
1:00 AM	39	51	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	51	90
2:00 AM	26	25	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	25	51
3:00 AM	20	20	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	20	40
4:00 AM	41	35	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	35	76
5:00 AM	121	64	185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121	64	185
6:00 AM	292	181	473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	292	181	473
7:00 AM	572	351	923	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	572	351	923
8:00 AM	**774**	**623**	**1,397**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**774**	**623**	**1,397**
9:00 AM	653	593	1,246	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	653	593	1,246
10:00 AM	585	566	1,151	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	585	566	1,151
11:00 AM	650	547	1,197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	650	547	1,197
12:00 PM	697	715	1,412	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	697	715	1,412
1:00 PM	651	576	1,227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	651	576	1,227
2:00 PM	629	609	1,238	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	629	609	1,238
3:00 PM	653	573	1,226	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	653	573	1,226
4:00 PM	**800**	654	1,454	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**800**	654	1,454
5:00 PM	761	**882**	**1,643**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	761	**882**	**1,643**
6:00 PM	661	751	1,412	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	661	751	1,412
7:00 PM	467	622	1,089	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	467	622	1,089
8:00 PM	455	481	936	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	455	481	936
9:00 PM	300	350	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	350	650
10:00 PM	166	227	393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166	227	393
11:00 PM	79	117	196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	117	196
Total	10,132	9,665	19,797	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10,132	9,665	19,797
Percent	51%	49%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51%	49%	-
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	774	623	1,397	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	774	623	1,397
PM Peak	16:00	17:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	17:00	17:00
Vol.	800	882	1,643	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	800	882	1,643

1. Mid-week average includes data between Tuesday and Thursday.

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Location: Metro Center Blvd W-O Shell Blvd
Date Range: 7/19/2022 - 7/19/2022
Site Code: 02 - Metro Center Blvd W-O Shell Blvd

	Tuesday			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!			Mid-Week Average		
	7/19/2022			-			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	8	14	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
1:00 AM	8	7	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
2:00 AM	11	8	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
3:00 AM	10	10	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
4:00 AM	7	27	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
5:00 AM	16	58	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
6:00 AM	65	132	197	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
7:00 AM	98	286	384	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
8:00 AM	189	402	591	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
9:00 AM	196	438	634	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
10:00 AM	217	377	594	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
11:00 AM	274	377	651	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
12:00 PM	399	434	833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
1:00 PM	318	376	694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
2:00 PM	351	354	705	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
3:00 PM	503	316	819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
4:00 PM	718	356	1,074	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
5:00 PM	697	345	1,042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
6:00 PM	450	318	768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
7:00 PM	354	292	646	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
8:00 PM	233	239	472	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
9:00 PM	101	120	221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
10:00 PM	54	69	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
11:00 PM	37	30	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	#####
Total	**5,314**	**5,385**	**10,699**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	#####
Percent	**50%**	**50%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1. Mid-week average includes data between Tuesday and Thursday.

Location: Edgewater Blvd S-O E Hillsdale Blvd
Date Range: 7/19/2022 - 7/25/2022
Site Code: 03

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	21	47	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	47	68
1:00 AM	11	28	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	28	39
2:00 AM	16	21	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	21	37
3:00 AM	6	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	12
4:00 AM	24	16	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	16	40
5:00 AM	71	34	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	34	105
6:00 AM	288	93	381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	288	93	381
7:00 AM	575	231	806	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	575	231	806
8:00 AM	**883**	418	**1,301**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**883**	418	**1,301**
9:00 AM	702	491	1,193	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	702	491	1,193
10:00 AM	552	394	946	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	552	394	946
11:00 AM	606	**529**	1,135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	606	**529**	1,135
12:00 PM	657	653	1,310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	657	653	1,310
1:00 PM	556	528	1,084	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	556	528	1,084
2:00 PM	576	556	1,132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	576	556	1,132
3:00 PM	556	675	1,231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	556	675	1,231
4:00 PM	**707**	795	1,502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**707**	795	1,502
5:00 PM	698	**969**	**1,667**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	698	**969**	**1,667**
6:00 PM	572	825	1,397	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	572	825	1,397
7:00 PM	443	616	1,059	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	443	616	1,059
8:00 PM	384	462	846	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	384	462	846
9:00 PM	216	305	521	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	216	305	521
10:00 PM	109	174	283	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109	174	283
11:00 PM	52	107	159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	107	159
Total	9,281	8,973	18,254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,281	8,973	18,254
Percent	51%	49%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51%	49%	-
AM Peak	08:00	11:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	11:00	08:00
Vol.	883	529	1,301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	883	529	1,301
PM Peak	16:00	17:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	17:00	17:00
Vol.	707	969	1,667	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	707	969	1,667

1. Mid-week average includes data between Tuesday and Thursday.

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Location: E Hillsdale Blvd BTWN Altair Ave & Promontory Point Ln
Date Range: 7/19/2022 - 7/25/2022
Site Code: 04

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	73	84	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	84	157
1:00 AM	36	43	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	43	79
2:00 AM	17	37	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	37	54
3:00 AM	20	27	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	27	47
4:00 AM	36	58	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	58	94
5:00 AM	93	164	257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	164	257
6:00 AM	217	475	692	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	217	475	692
7:00 AM	507	861	1,368	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	507	861	1,368
8:00 AM	**863**	**1,335**	**2,198**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**863**	**1,335**	**2,198**
9:00 AM	767	1,155	1,922	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	767	1,155	1,922
10:00 AM	685	923	1,608	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	685	923	1,608
11:00 AM	676	930	1,606	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	676	930	1,606
12:00 PM	871	951	1,822	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	871	951	1,822
1:00 PM	800	951	1,751	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	800	951	1,751
2:00 PM	882	933	1,815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	882	933	1,815
3:00 PM	1,170	965	2,135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,170	965	2,135
4:00 PM	1,339	1,044	2,383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,339	1,044	2,383
5:00 PM	**1,363**	**1,147**	**2,510**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1,363**	**1,147**	**2,510**
6:00 PM	1,189	958	2,147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,189	958	2,147
7:00 PM	827	790	1,617	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	827	790	1,617
8:00 PM	712	703	1,415	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	712	703	1,415
9:00 PM	447	460	907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	447	460	907
10:00 PM	287	283	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	287	283	570
11:00 PM	153	118	271	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	153	118	271
Total	14,030	15,395	29,425	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,030	15,395	29,425
Percent	48%	52%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48%	52%	-
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	863	1,335	2,198	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	863	1,335	2,198
PM Peak	17:00	17:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17:00	17:00	17:00
Vol.	1,363	1,147	2,510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,363	1,147	2,510

1. Mid-week average includes data between Tuesday and Thursday.

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Location: Calypso Ln W-O E Hillsdale Blvd
Date Range: 7/19/2022 - 7/25/2022
Site Code: 05

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
1:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
2:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
3:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
5:00 AM	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
6:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
7:00 AM	3	**3**	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	**3**	6
8:00 AM	**11**	0	**11**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**11**	0	**11**
9:00 AM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
10:00 AM	6	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	8
11:00 AM	7	1	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1	8
12:00 PM	7	1	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1	8
1:00 PM	**9**	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**9**	0	9
2:00 PM	6	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	6
3:00 PM	**9**	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**9**	0	9
4:00 PM	**9**	1	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**9**	1	**10**
5:00 PM	**9**	1	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**9**	1	**10**
6:00 PM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
7:00 PM	6	1	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	1	7
8:00 PM	5	**2**	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	**2**	7
9:00 PM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
10:00 PM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
11:00 PM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
Total	104	13	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	13	117
Percent	89%	11%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89%	11%	-
AM Peak	08:00	07:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	07:00	08:00
Vol.	11	3	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	11
PM Peak	13:00	20:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13:00	20:00	16:00
Vol.	9	2	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	10

1. Mid-week average includes data between Tuesday and Thursday.

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Location: Starfish Ln N-O Pilgrim Dr
Date Range: 7/19/2022 - 7/25/2022
Site Code: 06

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
1:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
2:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
3:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
5:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
6:00 AM	6	1	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	1	7
7:00 AM	**8**	3	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**8**	3	11
8:00 AM	3	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
9:00 AM	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
10:00 AM	4	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8
11:00 AM	4	**8**	**12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	**8**	**12**
12:00 PM	0	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	5	5
1:00 PM	5	4	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	9
2:00 PM	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2
3:00 PM	1	**9**	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	**9**	**10**
4:00 PM	3	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
5:00 PM	4	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8
6:00 PM	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
7:00 PM	**7**	3	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**7**	3	**10**
8:00 PM	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
9:00 PM	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
10:00 PM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
11:00 PM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
Total	55	55	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	55	110
Percent	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	50%	-
AM Peak	07:00	11:00	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	07:00	11:00	11:00
Vol.	8	8	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	12
PM Peak	19:00	15:00	15:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19:00	15:00	15:00
Vol.	7	9	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	9	10

1. Mid-week average includes data between Tuesday and Thursday.

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Location: Driveway N-O Pilgrim Dr
Date Range: 7/19/2022 - 7/25/2022
Site Code: 07

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
1:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
2:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
3:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
4:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
5:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
6:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
7:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
8:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
9:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
10:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
11:00 AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
12:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
1:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
2:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
3:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
4:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
5:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
6:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
7:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
8:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
9:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
10:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
11:00 PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AM Peak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
Vol.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
PM Peak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####
Vol.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	#####	#####

1. Mid-week average includes data between Tuesday and Thursday.

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Location: Triton Dr N-O Pilgrim Dr
Date Range: 7/19/2022 - 7/25/2022
Site Code: 08

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	6	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	8
1:00 AM	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
2:00 AM	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
3:00 AM	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
4:00 AM	3	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
5:00 AM	2	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	6
6:00 AM	12	10	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	10	22
7:00 AM	30	27	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	27	57
8:00 AM	34	46	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	46	80
9:00 AM	60	49	**109**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	49	**109**
10:00 AM	45	**50**	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	**50**	95
11:00 AM	**62**	46	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**62**	46	108
12:00 PM	56	**46**	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	**46**	102
1:00 PM	53	44	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	44	97
2:00 PM	41	25	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	25	66
3:00 PM	40	45	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	85
4:00 PM	66	37	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	37	103
5:00 PM	77	**46**	**123**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	**46**	**123**
6:00 PM	**80**	43	**123**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**80**	43	**123**
7:00 PM	54	24	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	24	78
8:00 PM	49	25	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	25	74
9:00 PM	33	16	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	16	49
10:00 PM	26	10	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	10	36
11:00 PM	14	7	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7	21
Total	850	609	1,459	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	850	609	1,459
Percent	58%	42%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58%	42%	-
AM Peak	11:00	10:00	09:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	10:00	09:00
Vol.	62	50	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	50	109
PM Peak	18:00	12:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18:00	12:00	17:00
Vol.	80	46	123	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	46	123

1. Mid-week average includes data between Tuesday and Thursday.

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Location: Triton Park Ln W-O Triton Dr
Date Range: 7/19/2022 - 7/25/2022
Site Code: 09

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	3	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	8
1:00 AM	1	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	5
2:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
3:00 AM	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
4:00 AM	4	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	5
5:00 AM	4	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	5
6:00 AM	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0	20
7:00 AM	56	7	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	7	63
8:00 AM	**69**	15	**84**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**69**	15	**84**
9:00 AM	45	20	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	20	65
10:00 AM	28	**21**	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	**21**	49
11:00 AM	36	19	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	19	55
12:00 PM	30	30	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	30	60
1:00 PM	36	30	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	30	66
2:00 PM	21	20	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	20	41
3:00 PM	25	38	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	38	63
4:00 PM	33	34	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	34	67
5:00 PM	38	51	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	51	89
6:00 PM	36	**59**	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	**59**	95
7:00 PM	**39**	58	**97**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**39**	58	**97**
8:00 PM	30	46	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	46	76
9:00 PM	13	29	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	29	42
10:00 PM	7	19	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	19	26
11:00 PM	3	9	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	9	12
Total	578	517	1,095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	578	517	1,095
Percent	53%	47%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53%	47%	-
AM Peak	08:00	10:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	10:00	08:00
Vol.	69	21	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	21	84
PM Peak	19:00	18:00	19:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19:00	18:00	19:00
Vol.	39	59	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	59	97

1. Mid-week average includes data between Tuesday and Thursday.

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Location: Rock Harbor Ln S-O Port Royal Ave
Date Range: 7/19/2022 - 7/25/2022
Site Code: 10

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
1:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
2:00 AM	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
3:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
5:00 AM	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
6:00 AM	8	3	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3	11
7:00 AM	15	4	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	4	19
8:00 AM	**22**	**18**	**40**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**22**	**18**	**40**
9:00 AM	11	15	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	15	26
10:00 AM	**22**	17	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**22**	17	39
11:00 AM	14	14	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	14	28
12:00 PM	**22**	22	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**22**	22	44
1:00 PM	18	21	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	21	39
2:00 PM	15	19	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	19	34
3:00 PM	14	22	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	22	36
4:00 PM	9	17	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	17	26
5:00 PM	16	**33**	**49**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	**33**	**49**
6:00 PM	10	25	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	25	35
7:00 PM	4	21	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	21	25
8:00 PM	7	9	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	9	16
9:00 PM	3	10	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	10	13
10:00 PM	6	4	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4	10
11:00 PM	0	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	7	7
Total	220	282	502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	282	502
Percent	44%	56%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44%	56%	-
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	22	18	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	18	40
PM Peak	12:00	17:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12:00	17:00	17:00
Vol.	22	33	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	33	49

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Location: Rock Harbor Ln S-O Port Royal Ave
Date Range: 7/19/2022 - 7/25/2022
Site Code: 11

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	7/19/2022			7/20/2022			7/21/2022			7/22/2022			7/23/2022			7/24/2022			7/25/2022					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
1:00 AM	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
2:00 AM	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
3:00 AM	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
4:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
5:00 AM	0	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	7	7
6:00 AM	1	14	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14	15
7:00 AM	5	18	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	18	23
8:00 AM	7	**38**	**45**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	**38**	**45**
9:00 AM	10	23	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	23	33
10:00 AM	**15**	24	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**15**	24	39
11:00 AM	**15**	30	**45**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**15**	30	**45**
12:00 PM	17	14	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	14	31
1:00 PM	12	18	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	18	30
2:00 PM	12	17	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	17	29
3:00 PM	15	19	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	19	34
4:00 PM	**37**	13	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**37**	13	50
5:00 PM	33	19	**52**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	19	**52**
6:00 PM	23	**21**	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	**21**	44
7:00 PM	33	14	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	14	47
8:00 PM	22	17	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	17	39
9:00 PM	8	4	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	12
10:00 PM	9	3	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	3	12
11:00 PM	6	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	8
Total	288	320	608	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	288	320	608
Percent	47%	53%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47%	53%	-
AM Peak	10:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10:00	08:00	08:00
Vol.	15	38	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	38	45
PM Peak	16:00	18:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	18:00	17:00
Vol.	37	21	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	21	52

1. Mid-week average includes data between Tuesday and Thursday.

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LOS Calculations

Intersection Level Of Service Report
Intersection 1: Vintage Park Dr and Chess Dr

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.695

Intersection Setup

Name	Vintage Park Dr			Vintage Park Dr			Chess Dr			Chess Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	280.00	100.00	100.00	265.00	100.00	100.00	140.00	100.00	100.00	215.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Dr			Vintage Park Dr			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	186	53	489	273	295	90	29	276	286	77	176	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	53	489	273	295	90	29	276	286	77	176	11
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	14	131	73	79	24	8	74	77	21	47	3
Total Analysis Volume [veh/h]	200	57	526	294	317	97	31	297	308	83	189	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	11			4			10			3		
v_di, Inbound Pedestrian Volume crossing m	10			3			11			4		
v_co, Outbound Pedestrian Volume crossing	3			9			10			3		
v_ci, Inbound Pedestrian Volume crossing mi	3			10			9			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			2			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	4	0	4	4	0	4	4	0	4	4	0
Maximum Green [s]	40	50	0	30	40	0	20	40	0	20	40	0
Amber [s]	3.1	3.2	0.0	3.1	3.2	0.0	3.1	3.2	0.0	3.1	3.2	0.0
All red [s]	0.5	0.5	0.0	1.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	23	0	0	19	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	1.7	0.0	2.1	2.2	0.0	1.6	2.2	0.0	1.6	2.2	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	68	68	68	68	68	68	68	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	3.60	3.70	3.70	3.70	4.10	4.20	4.20	3.60	4.20	4.20	3.60	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	1.70	1.70	1.70	2.10	2.20	2.20	1.60	2.20	2.20	1.60	2.20	2.20
g_i, Effective Green Time [s]	10	16	16	16	14	20	20	2	19	19	4	21	21
g / C, Green / Cycle	0.14	0.23	0.23	0.23	0.20	0.29	0.29	0.03	0.28	0.28	0.06	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.03	0.17	0.17	0.16	0.11	0.12	0.02	0.16	0.20	0.05	0.05	0.05
s, saturation flow rate [veh/h]	1792	1882	1587	1587	1792	1882	1702	1792	1882	1563	1792	1882	1841
c, Capacity [veh/h]	260	438	369	369	361	543	492	47	520	432	111	588	575
d1, Uniform Delay [s]	28.20	20.81	24.19	24.15	26.16	19.57	19.63	33.06	21.30	22.34	31.61	17.12	17.13
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.77	0.13	2.56	2.56	4.52	0.47	0.54	14.59	0.99	2.19	9.48	0.14	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.13	0.71	0.71	0.82	0.40	0.40	0.66	0.57	0.71	0.75	0.17	0.17
d, Delay for Lane Group [s/veh]	32.97	20.94	26.74	26.71	30.68	20.04	20.17	47.65	22.28	24.53	41.09	17.26	17.28
Lane Group LOS	C	C	C	C	C	C	C	D	C	C	D	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.35	0.70	3.95	3.94	4.77	2.65	2.47	0.69	4.05	4.51	1.59	1.11	1.10
50th-Percentile Queue Length [ft/ln]	83.74	17.57	98.63	98.49	119.32	66.18	61.68	17.25	101.22	112.79	39.79	27.71	27.45
95th-Percentile Queue Length [veh/ln]	6.03	1.27	7.10	7.09	8.36	4.76	4.44	1.24	7.29	7.99	2.86	2.00	1.98
95th-Percentile Queue Length [ft/ln]	150.7	31.63	177.5	177.2	208.89	119.12	111.03	31.04	182.19	199.87	71.62	49.88	49.41

Movement, Approach, & Intersection Results

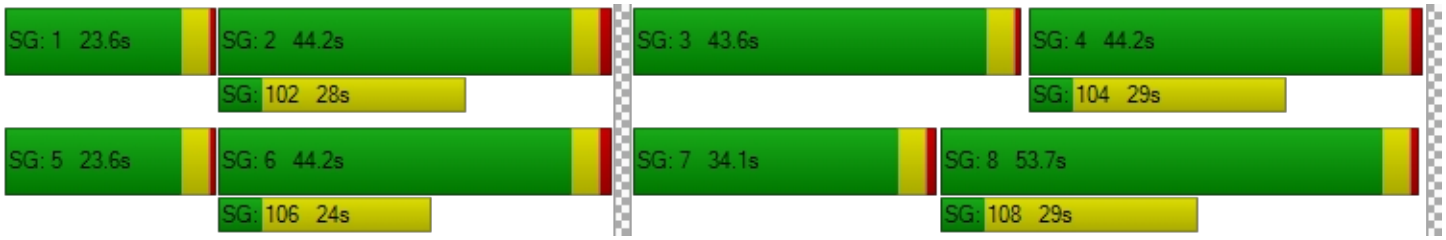
d_M, Delay for Movement [s/veh]	32.97	20.94	26.72	30.68	20.08	20.17	47.65	22.28	24.53	41.09	17.27	17.28
Movement LOS	C	C	C	C	C	C	D	C	C	D	B	B
d_A, Approach Delay [s/veh]	27.90			24.49			24.61			24.23		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.60											
Intersection LOS	C											
Intersection V/C	0.695											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	243.65	1324.64	408.65	306.65
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.697	2.459	2.484	2.682
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	889	889	889
d_b, Bicycle Delay [s]	8.89	13.90	13.89	13.89
l_b,int, Bicycle LOS Score for Intersection	2.206	2.144	2.084	1.794
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Dr and Route 92 West Ramp

Control Type:	Signalized	Delay (sec / veh):	32.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.663

Intersection Setup

Name	Route 92 West Ramp			office driveway			Chess Dr			Chess Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	77	2	197	10	20	4	0	262	780	912	175	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	2	197	10	20	4	0	262	780	912	175	1
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	1	53	3	5	1	0	70	210	245	47	0
Total Analysis Volume [veh/h]	83	2	212	11	22	4	0	282	839	981	188	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	4	0	0	1	6	1	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	4	0	0	6	5	6	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	30	30	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.2	0.0	0.0	3.2	3.1	3.2	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	0.5	0.0	0.0	1.0	1.0	1.0	2.0	0.0
Split [s]	0	27	0	0	20	0	0	20	47	20	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	17	0	0	0	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	1.7	0.0	0.0	2.2	2.1	2.2	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		Yes	
Pedestrian Recall		No			No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	17	17	17	3	19	41	53	53	53
g / C, Green / Cycle	0.16	0.16	0.16	0.03	0.17	0.37	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.13	0.02	0.15	0.30	0.27	0.27	0.11
s, saturation flow rate [veh/h]	1791	1795	1598	1819	1880	2829	1791	1791	1710
c, Capacity [veh/h]	280	281	250	49	323	1047	864	864	824
d1, Uniform Delay [s]	40.12	40.12	45.16	53.21	44.42	31.05	20.33	20.33	16.60
k, delay calibration	0.11	0.11	0.11	0.11	0.12	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.25	7.76	20.70	7.91	1.47	2.70	2.70	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.15	0.85	0.76	0.87	0.80	0.57	0.57	0.23
d, Delay for Lane Group [s/veh]	40.37	40.37	52.92	73.91	52.33	32.52	23.03	23.03	17.25
Lane Group LOS	D	D	D	E	D	C	C	C	B
Critical Lane Group	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.02	1.02	6.14	1.30	8.15	9.99	9.38	9.38	2.89
50th-Percentile Queue Length [ft/ln]	25.39	25.44	153.48	32.41	203.87	249.67	234.44	234.44	72.36
95th-Percentile Queue Length [veh/ln]	1.83	1.83	10.20	2.33	12.84	15.17	14.40	14.40	5.21
95th-Percentile Queue Length [ft/ln]	45.70	45.79	255.06	58.34	320.95	379.24	359.99	359.99	130.25

Movement, Approach, & Intersection Results

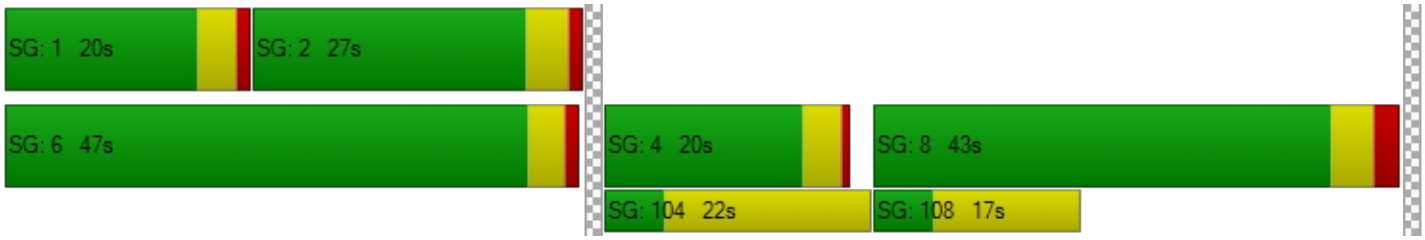
d_M, Delay for Movement [s/veh]	40.37	40.37	52.92	73.91	73.91	73.91	52.33	52.33	32.52	23.03	17.25	17.25
Movement LOS	D	D	D	E	E	E	D	D	C	C	B	B
d_A, Approach Delay [s/veh]	49.33			73.91			37.50			22.10		
Approach LOS	D			E			D			C		
d_I, Intersection Delay [s/veh]	32.49											
Intersection LOS	C											
Intersection V/C	0.663											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.37	46.37	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	1.746	2.583	0.000
Crosswalk LOS	F	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	409	296	287	682
d_b, Bicycle Delay [s]	34.80	39.93	40.33	23.89
l_b,int, Bicycle LOS Score for Intersection	2.050	1.621	3.409	2.525
Bicycle LOS	B	A	C	B

Sequence

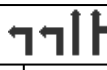
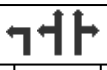
Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Foster City Blvd and Chess Dr

Control Type:	Signalized	Delay (sec / veh):	115.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.970

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			Chess Dr			Chess Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	0	0	0	1	0	0
Pocket Length [ft]	510.00	100.00	100.00	80.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	692	207	19	2	996	235	38	13	418	108	161	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	692	207	19	2	996	235	38	13	418	108	161	4
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	53	5	1	254	60	10	3	107	28	41	1
Total Analysis Volume [veh/h]	706	211	19	2	1016	240	39	13	427	110	164	4
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	3	3	0	1	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	4	0	4	4	0
Maximum Green [s]	55	65	0	20	35	30	30	30	0	55	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	3.2	3.2	0.0	3.5	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.5	0.5	0.0	1.0	0.5	0.0
Split [s]	27	55	0	14	42	20	20	20	0	27	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	0	0	0	0	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	1.7	1.7	0.0	2.5	1.6	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	3.60	3.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	1.60	1.60
g_i, Effective Green Time [s]	37	74	74	0	36	58	17	17	17	13	13
g / C, Green / Cycle	0.31	0.62	0.62	0.00	0.30	0.48	0.14	0.14	0.14	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.20	0.06	0.06	0.00	0.28	0.15	0.02	0.01	0.29	0.06	0.09
s, saturation flow rate [veh/h]	3467	1874	1821	1785	3569	1593	1785	1874	1450	1785	1867
c, Capacity [veh/h]	1058	1155	1122	5	1085	771	249	262	202	201	210
d1, Uniform Delay [s]	36.43	9.44	9.44	59.83	40.71	18.83	45.50	44.81	51.72	50.45	52.03
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.33	0.17	0.18	44.11	4.58	0.23	0.29	0.08	516.33	2.32	6.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.10	0.10	0.40	0.94	0.31	0.16	0.05	2.11	0.55	0.80
d, Delay for Lane Group [s/veh]	39.76	9.61	9.62	103.94	45.29	19.06	45.79	44.89	568.04	52.78	58.93
Lane Group LOS	D	A	A	F	D	B	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	9.49	1.29	1.25	0.12	14.98	4.03	1.05	0.34	35.08	3.29	5.38
50th-Percentile Queue Length [ft/ln]	237.17	32.24	31.36	3.05	374.44	100.72	26.22	8.59	876.91	82.26	134.52
95th-Percentile Queue Length [veh/ln]	14.54	2.32	2.26	0.22	21.32	7.25	1.89	0.62	55.84	5.92	9.18
95th-Percentile Queue Length [ft/ln]	363.45	58.03	56.44	5.49	533.11	181.29	47.20	15.46	1395.88	148.07	229.62

Movement, Approach, & Intersection Results

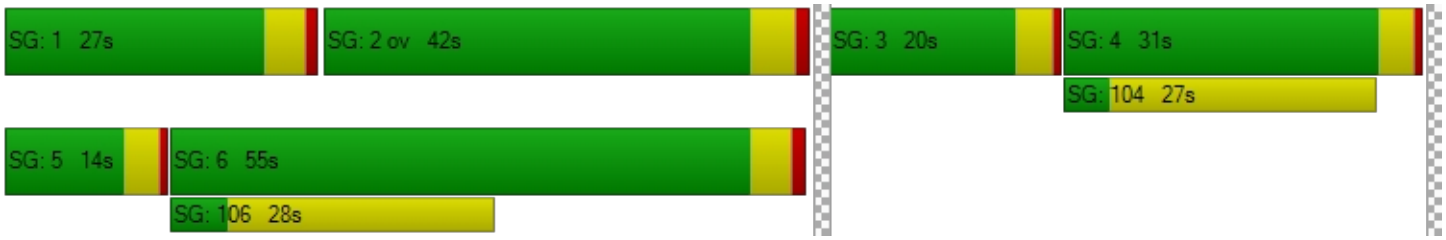
d_M, Delay for Movement [s/veh]	39.76	9.61	9.62	103.94	45.29	19.06	45.79	44.89	568.04	52.78	58.93	58.93
Movement LOS	D	A	A	F	D	B	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	32.35			40.38			511.32			56.49		
Approach LOS	C			D			F			E		
d_I, Intersection Delay [s/veh]	115.80											
Intersection LOS	F											
Intersection V/C	0.970											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	8.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.27	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.755	0.000	2.210
Crosswalk LOS	F	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	840	618	272	457
d_b, Bicycle Delay [s]	20.18	28.64	44.81	35.73
l_b,int, Bicycle LOS Score for Intersection	2.332	2.597	1.955	2.018
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Metro Center Blvd and Shell Blvd

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Shell Blvd			shopping center driveway			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	0	2	0	1
Pocket Length [ft]	160.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	210.00	100.00	200.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Shell Blvd			shopping center driveway			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	181	63	181	64	45	85	14	519	173	26	49	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	181	63	181	64	45	85	14	519	173	26	49	70
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	16	46	16	11	22	4	132	44	7	13	18
Total Analysis Volume [veh/h]	185	64	185	65	46	87	14	530	177	27	50	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	16			7			16			6		
v_di, Inbound Pedestrian Volume crossing m	16			6			16			7		
v_co, Outbound Pedestrian Volume crossing	16			4			4			16		
v_ci, Inbound Pedestrian Volume crossing mi	16			4			4			16		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	6	6	0
Maximum Green [s]	20	60	0	20	35	0	20	40	0	20	40	0
Amber [s]	3.0	3.5	0.0	3.0	3.5	0.0	3.0	3.5	0.0	3.5	3.5	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0	1.0	1.0	0.0
Split [s]	36	53	0	16	33	0	14	35	0	16	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	6	0	0	6	0	0	6	0	0	6	0
Pedestrian Clearance [s]	0	28	0	0	20	0	0	21	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.5	2.5	0.0	1.5	2.5	0.0	1.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.50	4.50	4.50	3.50	4.50	3.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	2.50	2.50	1.50	2.50	1.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	14	23	23	6	15	2	70	70	4	73	73
g / C, Green / Cycle	0.12	0.20	0.20	0.05	0.12	0.01	0.59	0.59	0.03	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.10	0.03	0.12	0.04	0.08	0.01	0.20	0.20	0.01	0.01	0.04
s, saturation flow rate [veh/h]	1791	1880	1520	1791	1663	1791	1880	1706	3478	3580	1581
c, Capacity [veh/h]	216	368	298	85	204	23	1100	997	105	2185	965
d1, Uniform Delay [s]	51.80	40.21	43.93	56.54	50.24	58.97	12.88	12.93	56.92	9.25	9.55
k, delay calibration	0.17	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.77	0.22	2.12	13.01	3.48	21.90	0.82	0.93	1.26	0.02	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.17	0.62	0.76	0.65	0.60	0.33	0.34	0.26	0.02	0.07
d, Delay for Lane Group [s/veh]	65.57	40.44	46.05	69.54	53.72	80.87	13.70	13.86	58.19	9.27	9.70
Lane Group LOS	E	D	D	E	D	F	B	B	E	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.24	1.59	5.14	2.24	3.98	0.56	5.15	4.78	0.42	0.26	0.77
50th-Percentile Queue Length [ft/ln]	155.94	39.87	128.49	56.04	99.50	14.09	128.73	119.59	10.41	6.39	19.29
95th-Percentile Queue Length [veh/ln]	10.33	2.87	8.86	4.03	7.16	1.01	8.87	8.37	0.75	0.46	1.39
95th-Percentile Queue Length [ft/ln]	258.33	71.77	221.44	100.87	179.10	25.35	221.77	209.27	18.74	11.50	34.72

Movement, Approach, & Intersection Results

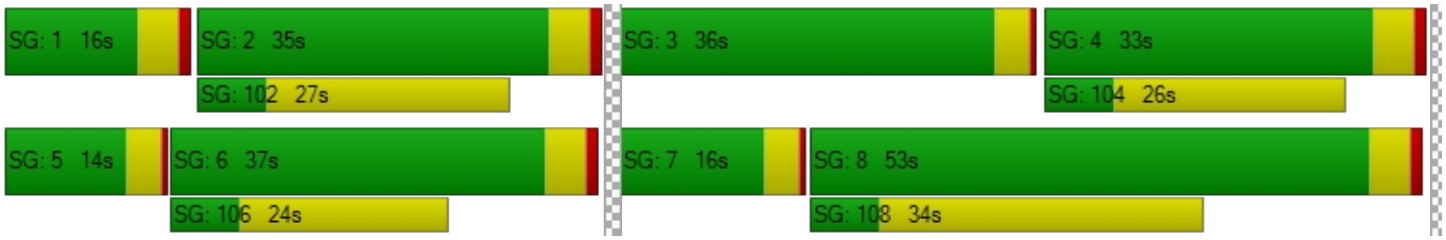
d_M, Delay for Movement [s/veh]	65.57	40.44	46.05	69.54	53.72	53.72	80.87	13.75	13.86	58.19	9.27	9.70
Movement LOS	E	D	D	E	D	D	F	B	B	E	A	A
d_A, Approach Delay [s/veh]	53.54			58.91			15.08			18.40		
Approach LOS	D			E			B			B		
d_I, Intersection Delay [s/veh]	32.31											
Intersection LOS	C											
Intersection V/C	0.433											

Other Modes

g_Walk,mi, Effective Walk Time [s]	10.0	10.0	10.0	10.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	148.92	399.75	796.36	182.89
d_p, Pedestrian Delay [s]	50.42	50.42	50.42	50.42
l_p,int, Pedestrian LOS Score for Intersection	2.470	2.086	2.552	2.759
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	808	475	508	542
d_b, Bicycle Delay [s]	21.30	34.88	33.38	31.90
l_b,int, Bicycle LOS Score for Intersection	2.276	1.886	2.154	1.682
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Metro Center Blvd and Route 92 East Ramp

Control Type:	Signalized	Delay (sec / veh):	71.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	shopping center driveway			Route 92 East Ramp			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	shopping center driveway			Route 92 East Ramp			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	2	49	21	108	4	44	504	257	6	8	101	972
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	49	21	108	4	44	504	257	6	8	101	972
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	13	5	28	1	11	130	66	2	2	26	251
Total Analysis Volume [veh/h]	2	51	22	111	4	45	520	265	6	8	104	1002
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	17	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			Yes	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	3.60	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	0.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	5	5	41	41	68	21	55	55	1	35	35	35
g / C, Green / Cycle	0.04	0.04	0.34	0.34	0.56	0.18	0.46	0.46	0.01	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.03	0.01	0.03	0.03	0.02	0.15	0.07	0.07	0.00	0.06	0.31	0.31
s, saturation flow rate [veh/h]	1868	1591	1782	1788	2816	3461	1871	1857	1782	1871	1591	1591
c, Capacity [veh/h]	81	69	612	614	1587	618	863	856	15	544	463	463
d1, Uniform Delay [s]	56.64	55.81	26.79	26.79	11.64	47.73	18.84	18.84	59.35	32.01	42.63	42.63
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.71	2.64	0.30	0.30	0.03	3.18	0.08	0.09	24.34	0.17	65.89	65.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.32	0.09	0.09	0.03	0.84	0.16	0.16	0.52	0.19	1.08	1.08
d, Delay for Lane Group [s/veh]	65.35	58.45	27.09	27.09	11.67	50.91	18.93	18.93	83.69	32.18	108.5	108.5
Lane Group LOS	E	E	C	C	B	D	B	B	F	C	F	F
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.82	0.71	1.17	1.17	0.27	7.71	2.20	2.18	0.35	2.31	22.02	22.02
50th-Percentile Queue Length [ft/ln]	45.44	17.84	29.16	29.21	6.73	192.80	55.02	54.61	8.68	57.80	550.5	550.5
95th-Percentile Queue Length [veh/ln]	3.27	1.28	2.10	2.10	0.48	12.27	3.96	3.93	0.62	4.16	31.23	31.23
95th-Percentile Queue Length [ft/ln]	81.79	32.12	52.49	52.58	12.11	306.66	99.04	98.30	15.62	104.0	780.6	780.6

Movement, Approach, & Intersection Results

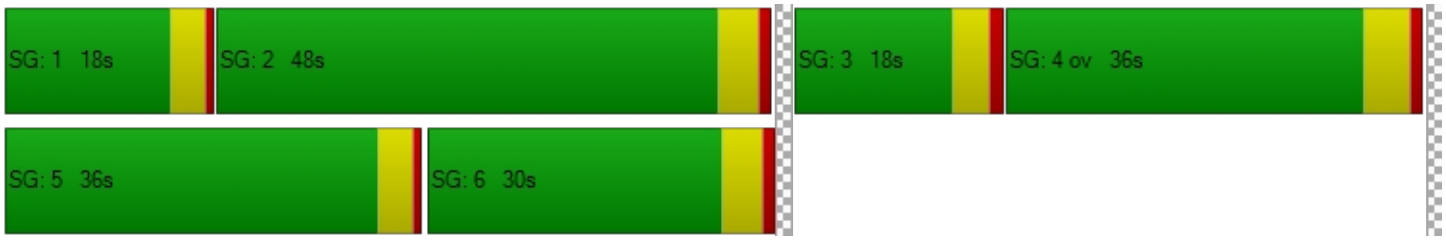
d_M, Delay for Movement [s/veh]	65.35	65.35	58.45	27.09	27.09	11.67	50.91	18.93	18.93	83.69	32.18	108.53
Movement LOS	E	E	E	C	C	B	D	B	B	F	C	F
d_A, Approach Delay [s/veh]	63.33			22.76			39.95			101.22		
Approach LOS	E			C			D			F		
d_I, Intersection Delay [s/veh]	71.38											
Intersection LOS	E											
Intersection V/C	0.584											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	31.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	33.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.745	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	230	517	725	425
d_b, Bicycle Delay [s]	46.99	33.00	24.38	37.21
l_b,int, Bicycle LOS Score for Intersection	1.683	1.824	2.212	2.479
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Foster City Blvd and Metro Center Blvd

Control Type:	Signalized	Delay (sec / veh):	35.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	230.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
Speed [mph]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	234	547	64	198	615	729	103	130	153	62	118	268
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	234	547	64	198	615	729	103	130	153	62	118	268
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	137	16	50	154	182	26	33	38	16	30	67
Total Analysis Volume [veh/h]	234	547	64	198	615	729	103	130	153	62	118	268
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	7			0			0			8		
v_di, Inbound Pedestrian Volume crossing m	8			0			0			7		
v_co, Outbound Pedestrian Volume crossing	4			0			4			0		
v_ci, Inbound Pedestrian Volume crossing mi	4			0			4			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	5	4	1	1	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	4	4	6	0
Maximum Green [s]	30	40	0	25	40	0	25	40	30	30	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.2	3.1	3.1	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.5	0.5	0.5	0.0
Split [s]	24	36	0	20	32	0	20	39	24	24	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.2	1.6	1.6	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	0.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	18	57	57	15	54	54	11	11	33	21	21	21
g / C, Green / Cycle	0.15	0.47	0.47	0.13	0.45	0.45	0.09	0.09	0.27	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.13	0.11	0.12	0.11	0.12	0.26	0.03	0.04	0.05	0.03	0.06	0.17
s, saturation flow rate [veh/h]	1785	3569	1770	1785	5106	2820	3467	3569	2820	1785	1874	1593
c, Capacity [veh/h]	266	1686	836	225	2296	1268	312	321	772	317	333	283
d1, Uniform Delay [s]	50.03	18.85	18.89	51.54	20.66	24.51	51.21	51.57	33.46	42.05	43.32	48.80
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.22
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.24	0.34	0.69	10.60	0.29	1.90	0.61	0.82	0.12	0.30	0.64	24.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.24	0.24	0.88	0.27	0.57	0.33	0.40	0.20	0.20	0.35	0.95
d, Delay for Lane Group [s/veh]	59.27	19.19	19.58	62.15	20.95	26.41	51.83	52.39	33.59	42.35	43.96	73.17
Lane Group LOS	E	B	B	E	C	C	D	D	C	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.49	3.40	3.50	6.46	3.61	7.81	1.47	1.87	1.72	1.62	3.18	9.89
50th-Percentile Queue Length [ft/ln]	187.14	84.93	87.50	161.45	90.17	195.33	36.82	46.86	43.04	40.41	79.43	247.29
95th-Percentile Queue Length [veh/ln]	11.97	6.11	6.30	10.63	6.49	12.40	2.65	3.37	3.10	2.91	5.72	15.05
95th-Percentile Queue Length [ft/ln]	299.31	152.87	157.50	265.64	162.30	309.93	66.27	84.36	77.48	72.74	142.97	376.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.27	19.29	19.58	62.15	20.95	26.41	51.83	52.39	33.59	42.35	43.96	73.17
Movement LOS	E	B	B	E	C	C	D	D	C	D	D	E
d_A, Approach Delay [s/veh]	30.39			28.82			44.79			61.21		
Approach LOS	C			C			D			E		
d_I, Intersection Delay [s/veh]	35.65											
Intersection LOS	D											
Intersection V/C	0.670											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	608.08	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.881	0.000	0.000	2.452
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
l_b,int, Bicycle LOS Score for Intersection	2.024	2.408	1.878	2.299
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Shell Blvd and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

Intersection Setup

Name	Shell Blvd			Shell Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	0	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	160.00	100.00	160.00	100.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Shell Blvd			Shell Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Base Volume Input [veh/h]	291	193	92	115	206	81	0	1055	497	119	478	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	291	193	92	115	206	81	0	1055	497	119	478	76
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	49	23	29	53	21	0	269	127	30	122	19
Total Analysis Volume [veh/h]	297	197	94	117	210	83	0	1077	507	121	488	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	17			27			27			17		
v_di, Inbound Pedestrian Volume crossing m	17			27			27			17		
v_co, Outbound Pedestrian Volume crossing	29			12			28			11		
v_ci, Inbound Pedestrian Volume crossing mi	28			11			29			12		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	0	4	6	0
Maximum Green [s]	25	50	0	30	40	0	0	55	0	25	45	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.6	0.0	3.1	3.6	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0
Split [s]	24	37	0	24	37	0	0	39	0	20	59	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.1	2.6	0.0	1.6	2.6	0.0	0.0	2.6	0.0	1.6	2.6	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			Yes		No	Yes	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.10	4.60	4.60	3.60	4.60	4.60	4.60	4.60	3.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.10	2.60	2.60	1.60	2.60	2.60	2.60	2.60	1.60	2.60	2.60
g_i, Effective Green Time [s]	13	16	16	10	13	13	68	68	10	81	81
g / C, Green / Cycle	0.11	0.14	0.14	0.08	0.11	0.11	0.56	0.56	0.08	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.06	0.06	0.06	0.06	0.30	0.33	0.07	0.14	0.05
s, saturation flow rate [veh/h]	3497	1891	1468	1801	3600	1350	3600	1539	1801	3600	1591
c, Capacity [veh/h]	372	258	201	148	389	146	2022	865	150	2429	1073
d1, Uniform Delay [s]	52.41	49.97	47.55	54.12	50.73	50.37	16.47	16.86	54.12	7.35	6.68
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.96	4.63	1.70	9.10	1.16	3.45	1.01	2.91	9.82	0.19	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.76	0.47	0.79	0.54	0.57	0.53	0.59	0.81	0.20	0.07
d, Delay for Lane Group [s/veh]	56.36	54.61	49.25	63.22	51.89	53.82	17.48	19.77	63.94	7.54	6.81
Lane Group LOS	E	D	D	E	D	D	B	B	E	A	A
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.57	6.03	2.68	3.84	3.06	2.49	9.28	9.37	4.00	2.31	0.69
50th-Percentile Queue Length [ft/ln]	114.34	150.81	67.06	96.11	76.47	62.29	232.03	234.28	100.04	57.64	17.26
95th-Percentile Queue Length [veh/ln]	8.08	10.06	4.83	6.92	5.51	4.48	14.28	14.39	7.20	4.15	1.24
95th-Percentile Queue Length [ft/ln]	202.03	251.51	120.70	173.00	137.65	112.12	356.94	359.79	180.06	103.75	31.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.36	54.61	49.25	63.22	51.89	53.82	0.00	17.48	19.77	63.94	7.54	6.81
Movement LOS	E	D	D	E	D	D		B	B	E	A	A
d_A, Approach Delay [s/veh]	54.64			55.52			18.21			17.39		
Approach LOS	D			E			B			B		
d_I, Intersection Delay [s/veh]	29.27											
Intersection LOS	C											
Intersection V/C	0.628											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	266.55	117.43	182.89
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.700	2.579	2.867	2.884
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	540	540	573	907
d_b, Bicycle Delay [s]	31.99	31.99	30.55	17.93
l_b,int, Bicycle LOS Score for Intersection	2.530	1.898	2.866	2.126
Bicycle LOS	B	A	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 8: Foster City Blvd and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	42.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	1	0	0	1	0	1
Pocket Length [ft]	260.00	100.00	410.00	210.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Base Volume Input [veh/h]	148	383	34	197	471	152	355	461	440	69	256	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	383	34	197	471	152	355	461	440	69	256	77
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	100	9	51	123	40	92	120	115	18	67	20
Total Analysis Volume [veh/h]	154	399	35	205	491	158	370	480	458	72	267	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	12			18			12			18		
v_di, Inbound Pedestrian Volume crossing m	12			18			12			18		
v_co, Outbound Pedestrian Volume crossing	8			4			4			8		
v_ci, Inbound Pedestrian Volume crossing mi	8			4			4			8		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			2			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Maximum Green [s]	35	50	0	30	40	0	30	40	0	30	40	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	20	34	0	23	37	0	27	43	0	20	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	25	0	0	25	0	0	27	0	0	27	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	Yes		No	Yes		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	124	124	124	124	124	124	124	124	124	124	124	124
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60
g_i, Effective Green Time [s]	8	50	50	10	52	52	27	41	41	6	20	20
g / C, Green / Cycle	0.06	0.40	0.40	0.08	0.42	0.42	0.22	0.33	0.33	0.05	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.08	0.06	0.14	0.10	0.21	0.13	0.29	0.04	0.07	0.05
s, saturation flow rate [veh/h]	3503	3606	1812	3503	3606	1601	1804	3606	1555	1804	3606	1485
c, Capacity [veh/h]	217	1456	731	273	1514	672	398	1205	519	93	596	245
d1, Uniform Delay [s]	57.00	23.92	23.96	55.92	24.14	23.12	47.31	31.68	38.38	57.99	46.61	45.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.35	0.11	0.28	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.24	0.30	0.62	4.13	0.57	0.82	23.63	0.21	11.77	12.45	0.53	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.20	0.20	0.75	0.32	0.24	0.93	0.40	0.88	0.77	0.45	0.33
d, Delay for Lane Group [s/veh]	61.24	24.23	24.58	60.05	24.71	23.94	70.95	31.89	50.15	70.43	47.14	46.18
Lane Group LOS	E	C	C	E	C	C	E	C	D	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.46	2.74	2.86	3.27	4.90	3.10	13.64	5.51	14.36	2.53	3.73	2.21
50th-Percentile Queue Length [ft/ln]	61.40	68.39	71.61	81.71	122.49	77.50	340.91	137.83	359.05	63.35	93.32	55.15
95th-Percentile Queue Length [veh/ln]	4.42	4.92	5.16	5.88	8.53	5.58	19.69	9.36	20.58	4.56	6.72	3.97
95th-Percentile Queue Length [ft/ln]	110.52	123.10	128.90	147.08	213.24	139.49	492.31	234.10	514.43	114.04	167.97	99.27

Movement, Approach, & Intersection Results

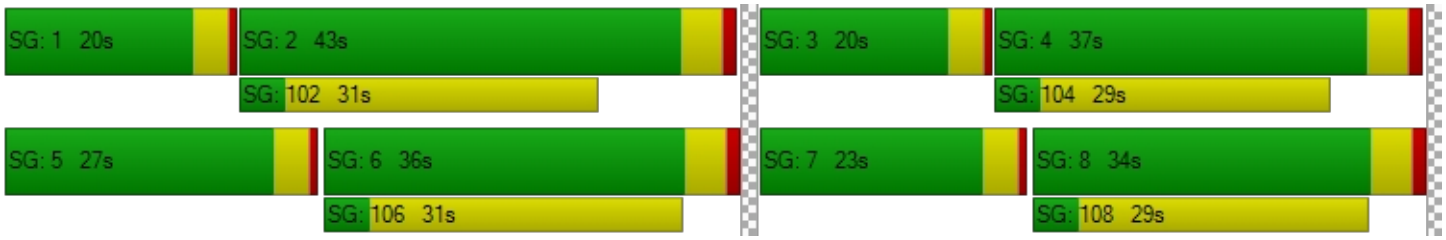
d_M, Delay for Movement [s/veh]	61.24	24.33	24.58	60.05	24.71	23.94	70.95	31.89	50.15	70.43	47.14	46.18
Movement LOS	E	C	C	E	C	C	E	C	D	E	D	D
d_A, Approach Delay [s/veh]	34.01			33.05			49.33			50.96		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	42.32											
Intersection LOS	D											
Intersection V/C	0.570											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	25.24	161.20	571.11	373.34
d_p, Pedestrian Delay [s]	52.27	52.27	52.27	52.27
l_p,int, Pedestrian LOS Score for Intersection	2.909	2.984	2.917	2.685
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	490	540	640	523
d_b, Bicycle Delay [s]	34.20	31.97	27.77	32.72
l_b,int, Bicycle LOS Score for Intersection	1.883	2.264	2.639	1.905
Bicycle LOS	A	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Metro Center Blvd and Vintage Park Dr

Control Type:	Signalized	Delay (sec / veh):	43.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	Vintage Park Dr			Vintage Park Dr			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	260.00	100.00	100.00	150.00	100.00	100.00	250.00	100.00	390.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Dr			Vintage Park Dr			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	23	246	108	297	150	186	136	359	43	35	171	345
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	246	108	297	150	186	136	359	43	35	171	345
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	68	30	83	42	52	38	100	12	10	48	96
Total Analysis Volume [veh/h]	26	273	120	330	167	207	151	399	48	39	190	383
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	70			33			70			33		
v_di, Inbound Pedestrian Volume crossing m	70			33			70			33		
v_co, Outbound Pedestrian Volume crossing	67			57			57			68		
v_ci, Inbound Pedestrian Volume crossing mi	68			57			57			67		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	54.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	5	6	0	5	6	0
Maximum Green [s]	25	40	0	30	45	0	30	40	0	25	40	0
Amber [s]	3.0	3.2	0.0	3.0	3.2	0.0	3.0	3.5	0.0	3.0	3.5	0.0
All red [s]	0.5	1.0	0.0	0.5	0.5	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	20	35	0	25	40	0	25	38	0	22	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	23	0	0	22	0	0	22	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.5	2.2	0.0	1.5	1.7	0.0	1.5	2.5	0.0	1.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.50	4.20	4.20	3.50	3.70	3.70	3.50	4.50	4.50	3.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	2.20	2.20	1.50	1.70	1.70	1.50	2.50	2.50	1.50	2.50	2.50
g_i, Effective Green Time [s]	2	27	27	22	46	46	12	52	52	4	44	44
g / C, Green / Cycle	0.02	0.22	0.22	0.18	0.39	0.39	0.10	0.44	0.44	0.03	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.01	0.11	0.13	0.18	0.09	0.14	0.08	0.12	0.13	0.02	0.05	0.24
s, saturation flow rate [veh/h]	1791	1880	1473	1791	1880	1457	1791	1880	1729	1791	3580	1598
c, Capacity [veh/h]	36	421	330	321	728	564	181	817	751	56	1307	584
d1, Uniform Delay [s]	58.44	40.52	41.46	49.25	24.74	25.89	52.97	21.81	21.97	57.56	25.54	31.80
k, delay calibration	0.11	0.11	0.11	0.27	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.02	0.86	1.57	44.13	0.16	0.40	9.70	0.84	0.99	14.37	0.23	5.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.48	0.57	1.03	0.23	0.37	0.84	0.28	0.29	0.70	0.15	0.66
d, Delay for Lane Group [s/veh]	81.47	41.38	43.03	93.38	24.90	26.29	62.68	22.65	22.96	71.92	25.77	37.48
Lane Group LOS	F	D	D	F	C	C	E	C	C	E	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.02	5.35	5.14	13.50	3.25	4.23	4.92	4.25	4.16	1.39	1.85	10.01
50th-Percentile Queue Length [ft/ln]	25.45	133.76	128.46	337.55	81.14	105.80	122.93	106.26	104.12	34.69	46.31	250.19
95th-Percentile Queue Length [veh/ln]	1.83	9.14	8.86	19.81	5.84	7.61	8.55	7.63	7.50	2.50	3.33	15.20
95th-Percentile Queue Length [ft/ln]	45.80	228.60	221.40	495.35	146.06	190.15	213.85	190.79	187.42	62.44	83.36	379.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.47	41.80	43.03	93.38	24.90	26.29	62.68	22.78	22.96	71.92	25.77	37.48
Movement LOS	F	D	D	F	C	C	E	C	C	E	C	D
d_A, Approach Delay [s/veh]	44.61			57.41			32.87			36.04		
Approach LOS	D			E			C			D		
d_I, Intersection Delay [s/veh]	43.22											
Intersection LOS	D											
Intersection V/C	0.707											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	39.97	5.77	29.76	39.87
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.310	2.610	2.547	2.745
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	513	605	558	508
d_b, Bicycle Delay [s]	33.15	29.19	31.18	33.38
l_b,int, Bicycle LOS Score for Intersection	1.905	2.721	2.053	2.065
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Edgewater Blvd and Mariners Island Blvd

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	Emerald Bay Ln			Route 92 East Ramp			Mariners Island Blvd			Edgewater Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	1	0	2	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	40.00	400.00	100.00	400.00	190.00	100.00	100.00	50.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Emerald Bay Ln			Route 92 East Ramp			Mariners Island Blvd			Edgewater Blvd		
Base Volume Input [veh/h]	3	6	5	178	2	97	564	699	10	17	729	292
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	6	5	178	2	97	564	699	10	17	729	292
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	46	1	25	147	182	3	4	190	76
Total Analysis Volume [veh/h]	3	6	5	185	2	101	588	728	10	18	759	304
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			1		
v_di, Inbound Pedestrian Volume crossing m	1			0			0			0		
v_co, Outbound Pedestrian Volume crossing	3			3			2			2		
v_ci, Inbound Pedestrian Volume crossing mi	2			2			3			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	49.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Overlap	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups							4,5					
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	6	0	4	6	0	4	6	0
Maximum Green [s]	0	40	0	0	60	0	30	65	0	20	50	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	0.0	3.1	4.0	0.0	3.1	4.0	0.0
All red [s]	0.0	0.5	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	32	0	0	29	0	22	41	0	18	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	27	0	0	0	0	0	18	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.7	0.0	0.0	3.0	0.0	1.6	3.0	0.0	1.6	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			Yes		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	40.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.70	3.70	5.00	5.00	5.00	4.30	5.00	5.00	3.60	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.70	1.70	3.00	3.00	3.00	0.00	3.00	3.00	1.60	3.00	3.00
g_i, Effective Green Time [s]	2	2	41	41	41	76	58	58	2	29	29
g / C, Green / Cycle	0.02	0.02	0.34	0.34	0.34	0.64	0.48	0.48	0.02	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.07	0.04	0.37	0.20	0.20	0.01	0.21	0.19
s, saturation flow rate [veh/h]	1857	1577	1431	1456	2840	1601	1888	1877	1798	3595	1588
c, Capacity [veh/h]	32	27	526	559	975	956	906	901	28	883	390
d1, Uniform Delay [s]	58.29	58.19	27.62	27.59	26.87	13.84	20.21	20.22	58.83	43.33	42.17
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.57	3.12	0.66	0.71	0.21	2.96	0.30	0.30	22.65	2.58	3.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.18	0.16	0.18	0.10	0.61	0.41	0.41	0.65	0.86	0.78
d, Delay for Lane Group [s/veh]	62.85	61.31	28.28	28.30	27.08	16.80	20.51	20.52	81.48	45.91	45.56
Lane Group LOS	E	E	C	C	C	B	C	C	F	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.31	0.17	1.83	2.17	1.02	8.70	6.62	6.60	0.72	10.93	8.64
50th-Percentile Queue Length [ft/ln]	7.79	4.35	45.74	54.20	25.60	217.46	165.55	164.94	17.88	273.27	216.07
95th-Percentile Queue Length [veh/ln]	0.56	0.31	3.29	3.90	1.84	13.54	10.84	10.81	1.29	16.35	13.46
95th-Percentile Queue Length [ft/ln]	14.02	7.82	82.34	97.56	46.08	338.38	271.06	270.25	32.18	408.83	336.60

Movement, Approach, & Intersection Results

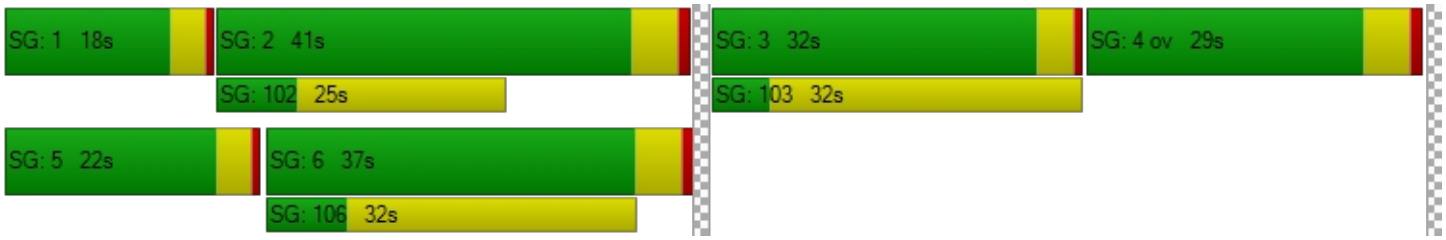
d_M, Delay for Movement [s/veh]	62.85	62.85	61.31	28.29	28.30	27.08	16.80	20.51	20.52	81.48	45.91	45.56
Movement LOS	E	E	E	C	C	C	B	C	C	F	D	D
d_A, Approach Delay [s/veh]	62.30			27.87			18.86			46.41		
Approach LOS	E			C			B			D		
d_I, Intersection Delay [s/veh]	31.04											
Intersection LOS	C											
Intersection V/C	0.352											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	1.968	3.124	0.000	3.121
Crosswalk LOS	A	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	472	400	600	533
d_b, Bicycle Delay [s]	35.04	38.40	29.44	32.27
l_b,int, Bicycle LOS Score for Intersection	1.583	2.035	2.654	2.451
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Metro Center Blvd and Edgewater Blvd

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.396

Intersection Setup

Name	Sea Spray Ln			Metro Center Blvd			Edgewater Blvd			Edgewater Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	1	0	0	2	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	50.00	270.00	100.00	100.00	370.00	100.00	100.00	180.00	100.00	50.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sea Spray Ln			Metro Center Blvd			Edgewater Blvd			Edgewater Blvd		
Base Volume Input [veh/h]	29	13	6	327	12	193	198	679	17	21	647	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	13	6	327	12	193	198	679	17	21	647	149
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	3	2	86	3	51	52	179	4	6	170	39
Total Analysis Volume [veh/h]	31	14	6	344	13	203	208	715	18	22	681	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	3			4			2			3		
v_di, Inbound Pedestrian Volume crossing m	2			3			3			4		
v_co, Outbound Pedestrian Volume crossing	5			3			3			6		
v_ci, Inbound Pedestrian Volume crossing mi	6			3			3			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			3			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	3.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	8	0	4	8	0
Maximum Green [s]	0	40	0	0	35	0	40	60	0	20	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.1	3.9	0.0	3.1	3.9	0.0
All red [s]	0.0	0.5	0.0	0.0	0.5	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	39	0	0	40	0	20	47	0	14	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	28	0	0	28	0	0	14	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.7	0.0	0.0	1.7	0.0	1.6	2.9	0.0	1.6	2.9	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	Yes		No	Yes	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	3.70	3.70	3.70	3.70	3.70	3.60	4.90	4.90	3.60	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.70	1.70	1.70	1.70	1.70	1.60	2.90	2.90	1.60	2.90	2.90
g_i, Effective Green Time [s]	11	11	22	22	22	11	89	89	2	81	81
g / C, Green / Cycle	0.08	0.08	0.16	0.16	0.16	0.08	0.64	0.64	0.02	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.02	0.00	0.10	0.10	0.13	0.06	0.19	0.20	0.01	0.13	0.10
s, saturation flow rate [veh/h]	1825	1536	1798	1804	1565	3492	1888	1869	1798	5143	1585
c, Capacity [veh/h]	140	118	282	283	245	264	1202	1190	30	2970	915
d1, Uniform Delay [s]	61.19	59.91	55.27	55.27	57.00	63.59	11.49	11.49	68.53	14.40	13.85
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.31	0.18	2.35	2.34	7.01	5.16	0.66	0.67	28.95	0.18	0.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.05	0.63	0.63	0.83	0.79	0.31	0.31	0.73	0.23	0.17
d, Delay for Lane Group [s/veh]	62.51	60.09	57.61	57.60	64.01	68.75	12.15	12.16	97.48	14.58	14.26
Lane Group LOS	E	E	E	E	E	E	B	B	F	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.59	0.21	6.06	6.08	7.38	3.82	5.25	5.21	1.02	3.53	2.42
50th-Percentile Queue Length [ft/ln]	39.65	5.15	151.41	151.90	184.43	95.51	131.28	130.25	25.58	88.24	60.45
95th-Percentile Queue Length [veh/ln]	2.85	0.37	10.09	10.12	11.83	6.88	9.01	8.95	1.84	6.35	4.35
95th-Percentile Queue Length [ft/ln]	71.36	9.28	252.31	252.97	295.78	171.93	225.23	223.84	46.05	158.84	108.82

Movement, Approach, & Intersection Results

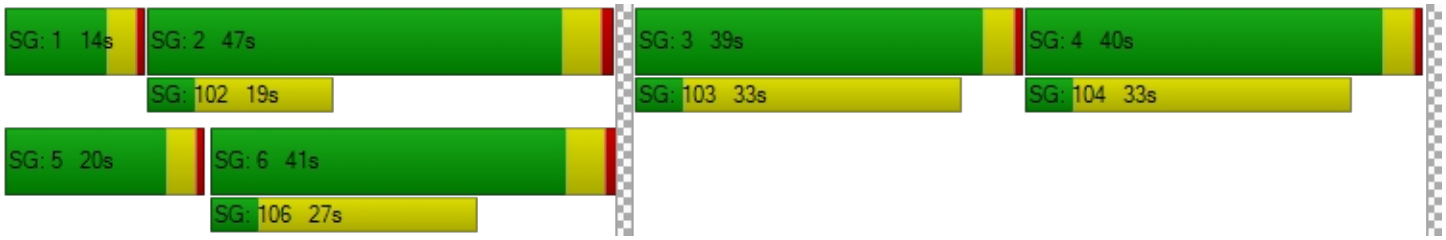
d_M, Delay for Movement [s/veh]	62.51	62.51	60.09	57.61	57.60	64.01	68.75	12.15	12.16	97.48	14.58	14.26
Movement LOS	E	E	E	E	E	E	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	62.22			59.93			24.66			16.64		
Approach LOS	E			E			C			B		
d_I, Intersection Delay [s/veh]	30.79											
Intersection LOS	C											
Intersection V/C	0.396											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
l_p,int, Pedestrian LOS Score for Intersection	1.991	2.536	2.918	3.022
Crosswalk LOS	A	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	504	519	601	516
d_b, Bicycle Delay [s]	39.15	38.43	34.28	38.57
l_b,int, Bicycle LOS Score for Intersection	1.644	2.484	2.336	2.033
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 12: Edgewater Blvd and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

Intersection Setup

Name	Edgewater Blvd			Edgewater Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Pocket Length [ft]	190.00	100.00	190.00	310.00	100.00	110.00	100.00	100.00	75.00	310.00	100.00	230.00
Speed [mph]	40.00			35.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Edgewater Blvd			Edgewater Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Base Volume Input [veh/h]	301	544	102	210	542	273	0	1340	501	225	827	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	301	544	102	210	542	273	0	1340	501	225	827	206
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	140	26	54	140	70	0	345	129	58	213	53
Total Analysis Volume [veh/h]	310	561	105	216	559	281	0	1381	516	232	853	212
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	10			3			3			11		
v_di, Inbound Pedestrian Volume crossing m	11			3			3			10		
v_co, Outbound Pedestrian Volume crossing	6			10			6			10		
v_ci, Inbound Pedestrian Volume crossing mi	6			10			6			10		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	3			4			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	75.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	0	6	0	4	6	0
Maximum Green [s]	30	60	0	20	50	0	0	45	0	30	50	0
Amber [s]	3.5	4.0	0.0	3.5	3.9	0.0	0.0	4.0	0.0	3.5	3.6	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0
Split [s]	27	52	0	18	43	0	0	42	0	28	70	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	30	0	0	34	0	0	31	0	0	33	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.0	2.9	0.0	0.0	3.0	0.0	2.0	2.6	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			Yes		No	Yes	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C	R
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.50	5.00	5.00	4.00	4.90	4.90	5.00	5.00	4.00	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	3.00	3.00	2.00	2.90	2.90	3.00	3.00	2.00	2.60	2.60
g_i, Effective Green Time [s]	15	34	34	11	30	30	57	57	20	81	81
g / C, Green / Cycle	0.11	0.24	0.24	0.08	0.21	0.21	0.41	0.41	0.14	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.18	0.06	0.16	0.18	0.27	0.33	0.13	0.17	0.13
s, saturation flow rate [veh/h]	3497	1891	1762	3497	3600	1568	5151	1571	1801	5151	1571
c, Capacity [veh/h]	375	461	429	277	766	334	2086	636	259	2988	911
d1, Uniform Delay [s]	61.26	48.94	49.11	63.31	51.41	52.63	33.89	36.53	58.97	14.81	14.23
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.16	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.64	2.39	2.71	4.73	1.36	5.77	1.67	10.76	14.54	0.24	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.74	0.75	0.78	0.73	0.84	0.66	0.81	0.90	0.29	0.23
d, Delay for Lane Group [s/veh]	65.90	51.33	51.82	68.04	52.77	58.40	35.56	47.29	73.52	15.05	14.83
Lane Group LOS	E	D	D	E	D	E	D	D	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.58	11.21	10.68	3.95	9.25	9.91	12.77	16.94	9.09	4.57	3.38
50th-Percentile Queue Length [ft/ln]	139.57	280.37	266.91	98.71	231.35	247.75	319.13	423.40	227.31	114.18	84.42
95th-Percentile Queue Length [veh/ln]	9.46	16.71	16.03	7.11	14.24	15.07	18.62	23.69	14.04	8.07	6.08
95th-Percentile Queue Length [ft/ln]	236.45	417.68	400.87	177.69	356.07	376.82	465.62	592.13	350.94	201.80	151.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.90	51.52	51.82	68.04	52.77	58.40	0.00	35.56	47.29	73.52	15.05	14.83
Movement LOS	E	D	D	E	D	E		D	D	E	B	B
d_A, Approach Delay [s/veh]	56.12			57.39			38.75			25.47		
Approach LOS	E			E			D			C		
d_I, Intersection Delay [s/veh]	42.47											
Intersection LOS	D											
Intersection V/C	0.793											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	165.11	484.17	216.94
d_p, Pedestrian Delay [s]	62.23	62.23	62.23	62.23
l_p,int, Pedestrian LOS Score for Intersection	2.970	3.008	3.237	3.175
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	671	544	529	934
d_b, Bicycle Delay [s]	30.94	37.16	37.95	19.90
l_b,int, Bicycle LOS Score for Intersection	2.365	2.431	2.603	2.273
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Center Park Ln and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

Intersection Setup

Name	Center Park Ln		E Hillsdale Blvd		E Hillsdale Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	390.00	100.00	100.00	100.00
Speed [mph]	25.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Center Park Ln		E Hillsdale Blvd		E Hillsdale Blvd	
Base Volume Input [veh/h]	185	112	363	1336	807	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.50	0.50	0.50	0.50	0.50	0.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	185	112	363	1336	807	49
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	29	95	348	210	13
Total Analysis Volume [veh/h]	193	117	378	1392	841	51
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		15	
v_di, Inbound Pedestrian Volume crossing m	0		0		14	
v_co, Outbound Pedestrian Volume crossing	5		14		5	
v_ci, Inbound Pedestrian Volume crossing mi	5		15		5	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		2		2	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	19.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	4	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	4	0	6	5	5	0
Maximum Green [s]	35	0	30	40	40	0
Amber [s]	3.5	0.0	3.1	3.5	3.5	0.0
All red [s]	0.5	0.0	0.5	1.0	1.0	0.0
Split [s]	36	0	37	84	47	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	5	0
Pedestrian Clearance [s]	20	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	1.6	2.5	2.5	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	Yes	Yes	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	0.0	40.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	16	16	27	95	64	64
g / C, Green / Cycle	0.14	0.14	0.23	0.79	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.21	0.27	0.17	0.16
s, saturation flow rate [veh/h]	1688	1609	1802	5155	3603	1826
c, Capacity [veh/h]	231	220	406	4085	1935	980
d1, Uniform Delay [s]	50.44	48.18	45.50	3.54	15.38	15.34
k, delay calibration	0.11	0.11	0.34	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.83	2.00	23.17	0.23	0.41	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.53	0.93	0.34	0.31	0.30
d, Delay for Lane Group [s/veh]	58.27	50.17	68.67	3.76	15.79	16.14
Lane Group LOS	E	D	E	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.19	3.41	13.46	2.51	4.50	4.59
50th-Percentile Queue Length [ft/ln]	154.73	85.37	336.61	62.64	112.50	114.87
95th-Percentile Queue Length [veh/ln]	10.27	6.15	19.48	4.51	7.98	8.11
95th-Percentile Queue Length [ft/ln]	256.73	153.67	487.05	112.76	199.47	202.76

Movement, Approach, & Intersection Results

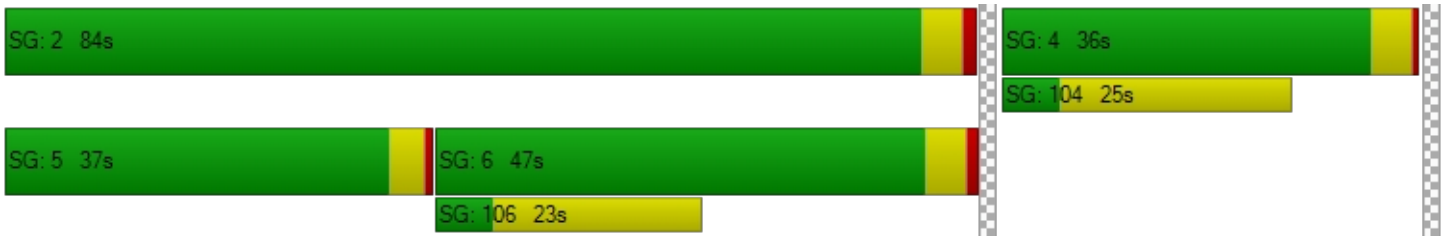
d_M, Delay for Movement [s/veh]	58.27	50.17	68.67	3.76	15.90	16.14
Movement LOS	E	D	E	A	B	B
d_A, Approach Delay [s/veh]	55.21		17.63		15.91	
Approach LOS	E		B		B	
d_I, Intersection Delay [s/veh]	21.03					
Intersection LOS	C					
Intersection V/C	0.544					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	501.89	0.00	251.53
d_p, Pedestrian Delay [s]	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.156	0.000	2.938
Crosswalk LOS	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	60.00	60.00	60.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.106	4.623
Bicycle LOS	D	F	E

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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

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

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

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

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

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

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

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

Intersection Level Of Service Report
Intersection 1: Vintage Park Dr and Chess Dr

Control Type:	Signalized	Delay (sec / veh):	39.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

Intersection Setup

Name	Vintage Park Dr			Vintage Park Dr			Chess Dr			Chess Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	280.00	100.00	100.00	265.00	100.00	100.00	140.00	100.00	100.00	215.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Dr			Vintage Park Dr			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	200	130	500	380	730	310	30	290	300	110	240	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	130	500	380	730	310	30	290	300	110	240	30
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	35	134	102	196	83	8	78	81	30	65	8
Total Analysis Volume [veh/h]	215	140	538	409	785	333	32	312	323	118	258	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	11			4			10			3		
v_di, Inbound Pedestrian Volume crossing m	10			3			11			4		
v_co, Outbound Pedestrian Volume crossing	3			9			10			3		
v_ci, Inbound Pedestrian Volume crossing mi	3			10			9			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			2			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	4	0	4	4	0	4	4	0	4	4	0
Maximum Green [s]	40	50	0	30	40	0	20	40	0	20	40	0
Amber [s]	3.1	3.2	0.0	3.1	3.2	0.0	3.1	3.2	0.0	3.1	3.2	0.0
All red [s]	0.5	0.5	0.0	1.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	23	0	0	19	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	1.7	0.0	2.1	2.2	0.0	1.6	2.2	0.0	1.6	2.2	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	99	99	99	99	99	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	3.60	3.70	3.70	3.70	4.10	4.20	4.20	3.60	4.20	4.20	3.60	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	1.70	1.70	1.70	2.10	2.20	2.20	1.60	2.20	2.20	1.60	2.20	2.20
g_i, Effective Green Time [s]	14	25	25	25	25	36	36	2	25	25	8	31	31
g / C, Green / Cycle	0.14	0.25	0.25	0.25	0.25	0.36	0.36	0.02	0.25	0.25	0.08	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.12	0.07	0.17	0.17	0.23	0.31	0.32	0.02	0.17	0.21	0.07	0.08	0.08
s, saturation flow rate [veh/h]	1792	1882	1588	1588	1792	1882	1665	1792	1882	1560	1792	1882	1807
c, Capacity [veh/h]	260	476	402	402	451	678	599	43	476	395	151	590	567
d1, Uniform Delay [s]	41.15	29.85	33.26	33.21	35.93	29.30	30.01	48.07	33.13	34.85	44.45	25.30	25.34
k, delay calibration	0.11	0.11	0.11	0.11	0.27	0.28	0.31	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.61	0.34	1.93	1.93	15.19	7.85	13.04	22.81	1.54	4.22	8.38	0.22	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.29	0.67	0.67	0.91	0.85	0.90	0.75	0.66	0.82	0.78	0.25	0.25
d, Delay for Lane Group [s/veh]	47.75	30.19	35.19	35.14	51.12	37.16	43.05	70.87	34.66	39.07	52.83	25.52	25.57
Lane Group LOS	D	C	D	D	D	D	D	E	C	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.51	2.71	5.92	5.91	11.26	13.76	13.88	1.06	6.88	7.73	3.16	2.58	2.52
50th-Percentile Queue Length [ft/ln]	137.6	67.74	148.0	147.8	281.58	343.91	347.03	26.42	171.95	193.30	79.07	64.45	62.92
95th-Percentile Queue Length [veh/ln]	9.36	4.88	9.91	9.90	16.77	19.84	19.99	1.90	11.18	12.29	5.69	4.64	4.53
95th-Percentile Queue Length [ft/ln]	233.9	121.9	247.7	247.5	419.18	495.97	499.79	47.55	279.47	307.31	142.33	116.01	113.26

Movement, Approach, & Intersection Results

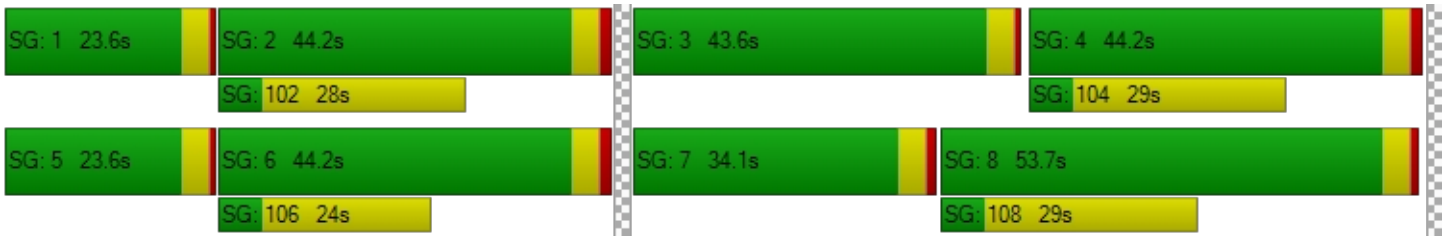
d_M, Delay for Movement [s/veh]	47.75	30.19	35.17	51.12	38.70	43.05	70.87	34.66	39.07	52.83	25.54	25.57
Movement LOS	D	C	D	D	D	D	E	C	D	D	C	C
d_A, Approach Delay [s/veh]	37.42			42.98			38.53			33.43		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	39.59											
Intersection LOS	D											
Intersection V/C	0.816											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	232.90	1274.46	190.95	276.49
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.799	2.639	2.541	2.725
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	889	889	889
d_b, Bicycle Delay [s]	8.89	13.90	13.89	13.89
l_b,int, Bicycle LOS Score for Intersection	2.296	2.819	2.110	1.896
Bicycle LOS	B	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Dr and Route 92 West Ramp

Control Type:	Signalized	Delay (sec / veh):	41.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.829

Intersection Setup

Name	Route 92 West Ramp			office driveway			Chess Dr			Chess Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	100	10	250	20	30	10	10	310	880	1170	230	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	10	250	20	30	10	10	310	880	1170	230	10
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	3	67	5	8	3	3	83	237	315	62	3
Total Analysis Volume [veh/h]	108	11	269	22	32	11	11	333	946	1258	247	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	4	0	0	1	6	1	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	4	0	0	6	5	6	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	30	30	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.2	0.0	0.0	3.2	3.1	3.2	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	0.5	0.0	0.0	1.0	1.0	1.0	2.0	0.0
Split [s]	0	27	0	0	20	0	0	20	47	20	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	17	0	0	0	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	1.7	0.0	0.0	2.2	2.1	2.2	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		Yes	
Pedestrian Recall		No			No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	21	21	21	5	22	48	43	43	43
g / C, Green / Cycle	0.19	0.19	0.19	0.05	0.20	0.44	0.39	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.03	0.03	0.17	0.04	0.18	0.33	0.35	0.35	0.15
s, saturation flow rate [veh/h]	1791	1807	1598	1796	1877	2829	1791	1791	1698
c, Capacity [veh/h]	345	348	308	85	384	1242	703	703	667
d1, Uniform Delay [s]	37.12	37.12	43.16	51.82	42.63	26.03	31.30	31.30	23.95
k, delay calibration	0.11	0.11	0.16	0.11	0.21	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.23	11.08	12.94	12.98	0.99	16.18	16.18	1.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.17	0.87	0.76	0.90	0.76	0.89	0.89	0.39
d, Delay for Lane Group [s/veh]	37.36	37.35	54.23	64.75	55.61	27.02	47.49	47.49	25.64
Lane Group LOS	D	D	D	E	E	C	D	D	C
Critical Lane Group	No	No	Yes	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.36	1.37	8.00	2.08	10.41	10.32	18.34	18.34	5.08
50th-Percentile Queue Length [ft/ln]	33.97	34.25	200.01	51.92	260.36	258.00	458.56	458.56	126.93
95th-Percentile Queue Length [veh/ln]	2.45	2.47	12.64	3.74	15.71	15.59	25.37	25.37	8.77
95th-Percentile Queue Length [ft/ln]	61.14	61.65	315.98	93.45	392.68	389.72	634.15	634.15	219.31

Movement, Approach, & Intersection Results

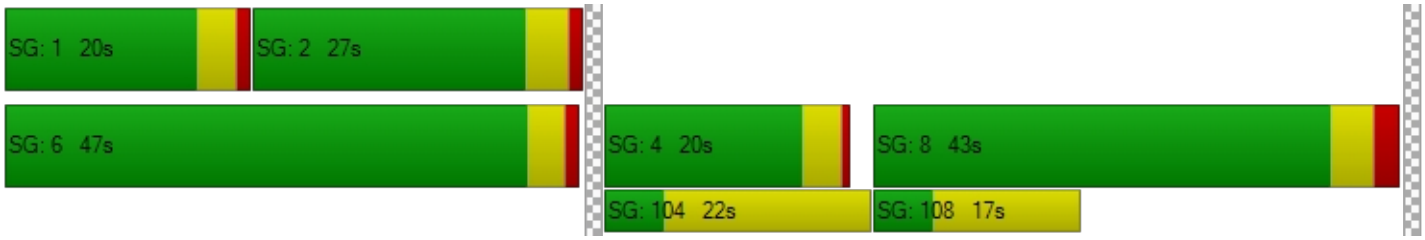
d_M, Delay for Movement [s/veh]	37.36	37.35	54.23	64.75	64.75	64.75	55.61	55.61	27.02	47.49	25.64	25.64
Movement LOS	D	D	D	E	E	E	E	E	C	D	C	C
d_A, Approach Delay [s/veh]	49.06			64.75			34.64			43.77		
Approach LOS	D			E			C			D		
d_I, Intersection Delay [s/veh]	41.20											
Intersection LOS	D											
Intersection V/C	0.829											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.37	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	1.774	2.634	0.000
Crosswalk LOS	F	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	409	296	287	682
d_b, Bicycle Delay [s]	34.80	39.93	40.33	23.89
I_b,int, Bicycle LOS Score for Intersection	2.200	1.667	3.688	2.810
Bicycle LOS	B	A	D	C

Sequence

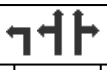
Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Foster City Blvd and Chess Dr

Control Type:	Signalized	Delay (sec / veh):	147.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.165

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			Chess Dr			Chess Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	0	1	0	0
Pocket Length [ft]	850.00	100.00	150.00	80.00	100.00	180.00	100.00	100.00	100.00	250.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	760	260	90	10	1180	290	50	40	490	250	360	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	760	260	90	10	1180	290	50	40	490	250	360	50
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	194	66	23	3	301	74	13	10	125	64	92	13
Total Analysis Volume [veh/h]	776	265	92	10	1204	296	51	41	500	255	367	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	3	3	0	1	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	4	0	4	4	0
Maximum Green [s]	55	65	0	20	35	30	30	30	0	55	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	3.2	3.2	0.0	3.5	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.5	0.5	0.0	1.0	0.5	0.0
Split [s]	27	55	0	14	42	20	20	20	0	27	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	0	0	0	0	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	1.7	1.7	0.0	2.5	1.6	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	3.60	3.60	3.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	1.60	1.60	1.60
g_i, Effective Green Time [s]	30	67	67	1	37	58	16	16	16	20	20	20
g / C, Green / Cycle	0.25	0.56	0.56	0.01	0.31	0.49	0.14	0.14	0.14	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.22	0.07	0.06	0.01	0.34	0.19	0.03	0.02	0.34	0.14	0.11	0.11
s, saturation flow rate [veh/h]	3467	3569	1593	1785	3569	1593	1785	1874	1450	1785	1874	1796
c, Capacity [veh/h]	864	1991	889	18	1101	774	244	256	198	297	312	299
d1, Uniform Delay [s]	43.63	12.70	12.47	59.22	41.56	19.51	46.12	45.81	51.89	48.70	47.10	47.13
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.15	0.11	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.01	0.14	0.23	23.73	45.93	0.44	0.42	0.29	700.81	7.09	2.63	2.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.13	0.10	0.55	1.09	0.38	0.21	0.16	2.52	0.86	0.68	0.69
d, Delay for Lane Group [s/veh]	57.64	12.84	12.71	82.95	87.48	19.95	46.54	46.09	752.70	55.80	49.73	49.90
Lane Group LOS	E	B	B	F	F	B	D	D	F	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.75	1.73	1.21	0.42	22.91	5.20	1.39	1.11	44.50	8.07	6.28	6.05
50th-Percentile Queue Length [ft/ln]	318.86	43.32	30.34	10.51	572.76	129.97	34.75	27.69	1112.56	201.75	156.90	151.26
95th-Percentile Queue Length [veh/ln]	18.61	3.12	2.18	0.76	32.55	8.94	2.50	1.99	70.28	12.73	10.38	10.08
95th-Percentile Queue Length [ft/ln]	465.29	77.98	54.61	18.91	813.68	223.46	62.55	49.84	1757.00	318.23	259.61	252.11

Movement, Approach, & Intersection Results

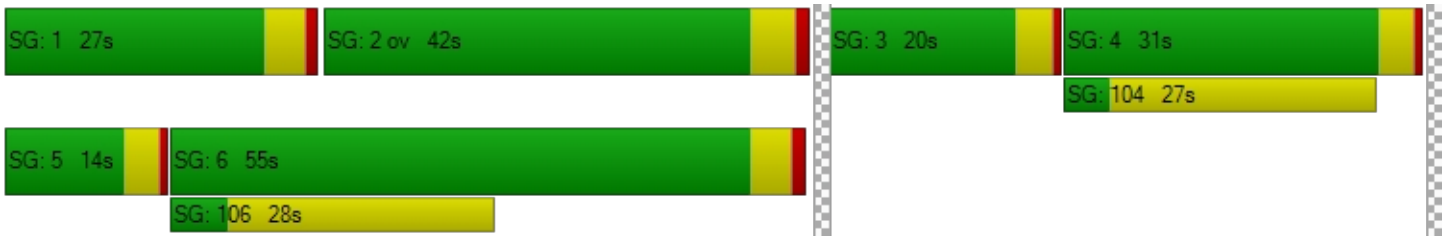
d_M, Delay for Movement [s/veh]	57.64	12.84	12.71	82.95	87.48	19.95	46.54	46.09	752.70	55.80	49.80	49.90
Movement LOS	E	B	B	F	F	B	D	D	F	E	D	D
d_A, Approach Delay [s/veh]	43.51			74.21			642.93			52.08		
Approach LOS	D			E			F			D		
d_I, Intersection Delay [s/veh]	147.65											
Intersection LOS	F											
Intersection V/C	1.165											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	8.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.27	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.825	0.000	2.448
Crosswalk LOS	F	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	840	618	272	457
d_b, Bicycle Delay [s]	20.18	28.64	44.81	35.73
l_b,int, Bicycle LOS Score for Intersection	2.494	2.805	2.048	2.115
Bicycle LOS	B	C	B	B

Sequence

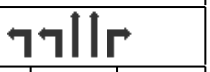
Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Metro Center Blvd and Shell Blvd

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name	Shell Blvd			shopping center driveway			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	0	2	0	1
Pocket Length [ft]	160.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	210.00	100.00	200.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Shell Blvd			shopping center driveway			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	240	70	250	70	50	90	20	780	270	50	160	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	70	250	70	50	90	20	780	270	50	160	70
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	18	64	18	13	23	5	199	69	13	41	18
Total Analysis Volume [veh/h]	245	71	255	71	51	92	20	796	276	51	163	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	16			7			16			6		
v_di, Inbound Pedestrian Volume crossing m	16			6			16			7		
v_co, Outbound Pedestrian Volume crossing	16			4			4			16		
v_ci, Inbound Pedestrian Volume crossing mi	16			4			4			16		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	6	6	0
Maximum Green [s]	20	60	0	20	35	0	20	40	0	20	40	0
Amber [s]	3.0	3.5	0.0	3.0	3.5	0.0	3.0	3.5	0.0	3.5	3.5	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0	1.0	1.0	0.0
Split [s]	36	53	0	16	33	0	14	35	0	16	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	6	0	0	6	0	0	6	0	0	6	0
Pedestrian Clearance [s]	0	28	0	0	20	0	0	21	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.5	2.5	0.0	1.5	2.5	0.0	1.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.50	4.50	4.50	3.50	4.50	3.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	2.50	2.50	1.50	2.50	1.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	18	27	27	6	14	2	65	65	5	69	69
g / C, Green / Cycle	0.15	0.22	0.22	0.05	0.12	0.02	0.54	0.54	0.04	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.14	0.04	0.17	0.04	0.09	0.01	0.30	0.30	0.01	0.05	0.04
s, saturation flow rate [veh/h]	1791	1880	1529	1791	1666	1791	1880	1699	3478	3580	1580
c, Capacity [veh/h]	274	417	340	93	201	30	1022	923	144	2063	911
d1, Uniform Delay [s]	49.94	37.79	43.26	56.24	50.79	58.72	17.84	17.93	56.02	11.30	11.29
k, delay calibration	0.32	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.55	0.19	3.36	12.31	4.58	21.98	2.11	2.40	1.47	0.07	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.17	0.75	0.77	0.71	0.66	0.55	0.55	0.35	0.08	0.08
d, Delay for Lane Group [s/veh]	73.49	37.98	46.62	68.56	55.36	80.69	19.95	20.33	57.49	11.38	11.46
Lane Group LOS	E	D	D	E	E	F	B	C	E	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.93	1.71	7.25	2.43	4.36	0.79	10.24	9.47	0.78	0.96	0.86
50th-Percentile Queue Length [ft/ln]	223.25	42.71	181.27	60.65	108.97	19.63	255.98	236.81	19.41	23.99	21.47
95th-Percentile Queue Length [veh/ln]	13.83	3.08	11.67	4.37	7.78	1.41	15.49	14.52	1.40	1.73	1.55
95th-Percentile Queue Length [ft/ln]	345.77	76.88	291.67	109.17	194.57	35.33	387.18	363.00	34.95	43.19	38.64

Movement, Approach, & Intersection Results

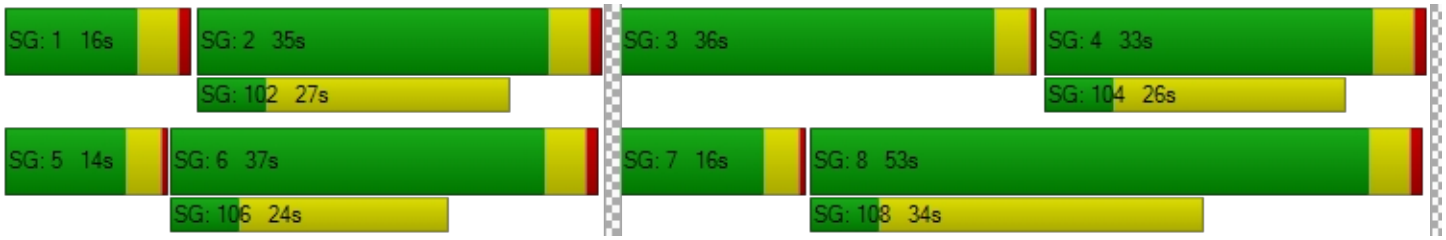
d_M, Delay for Movement [s/veh]	73.49	37.98	46.62	68.56	55.36	55.36	80.69	20.07	20.33	57.49	11.38	11.46
Movement LOS	E	D	D	E	E	E	F	C	C	E	B	B
d_A, Approach Delay [s/veh]	57.07			59.74			21.24			19.65		
Approach LOS	E			E			C			B		
d_I, Intersection Delay [s/veh]	34.31											
Intersection LOS	C											
Intersection V/C	0.598											

Other Modes

g_Walk,mi, Effective Walk Time [s]	10.0	10.0	10.0	10.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	94.92	399.75	785.39	154.12
d_p, Pedestrian Delay [s]	50.42	50.42	50.42	50.42
l_p,int, Pedestrian LOS Score for Intersection	2.530	2.097	2.677	2.837
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	808	475	508	542
d_b, Bicycle Delay [s]	21.30	34.88	33.38	31.90
l_b,int, Bicycle LOS Score for Intersection	2.502	1.913	2.461	1.795
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Metro Center Blvd and Route 92 East Ramp

Control Type:	Signalized	Delay (sec / veh):	93.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.742

Intersection Setup

Name	shopping center driveway			Route 92 East Ramp			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	shopping center driveway			Route 92 East Ramp			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	10	50	30	280	10	70	610	410	10	10	230	1140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	50	30	280	10	70	610	410	10	10	230	1140
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	13	8	72	3	18	157	106	3	3	59	294
Total Analysis Volume [veh/h]	10	52	31	289	10	72	629	423	10	10	237	1175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	17	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			Yes	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	3.60	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	0.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	6	6	37	37	67	25	59	59	1	35	35	35
g / C, Green / Cycle	0.05	0.05	0.31	0.31	0.56	0.21	0.49	0.49	0.01	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.08	0.08	0.03	0.18	0.12	0.12	0.01	0.13	0.37	0.37
s, saturation flow rate [veh/h]	1857	1591	1782	1788	2816	3461	1871	1856	1782	1871	1591	1591
c, Capacity [veh/h]	92	79	547	548	1569	724	917	909	18	545	463	463
d1, Uniform Delay [s]	56.20	55.40	31.54	31.54	12.09	45.96	17.71	17.71	59.22	34.61	42.63	42.63
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.35	3.18	1.23	1.23	0.06	3.38	0.13	0.13	22.70	0.55	137.3	137.3
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.39	0.27	0.27	0.05	0.87	0.24	0.24	0.54	0.44	1.27	1.27
d, Delay for Lane Group [s/veh]	64.55	58.59	32.78	32.77	12.15	49.34	17.84	17.85	81.92	35.16	179.9	179.9
Lane Group LOS	E	E	C	C	B	D	B	B	F	D	F	F
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.11	1.00	3.45	3.46	0.44	9.29	3.45	3.43	0.42	5.72	31.21	31.21
50th-Percentile Queue Length [ft/ln]	52.67	25.08	86.16	86.40	11.07	232.34	86.35	85.66	10.48	142.9	780.3	780.3
95th-Percentile Queue Length [veh/ln]	3.79	1.81	6.20	6.22	0.80	14.29	6.22	6.17	0.75	9.64	46.22	46.22
95th-Percentile Queue Length [ft/ln]	94.81	45.14	155.08	155.52	19.92	357.33	155.42	154.19	18.86	240.9	1155.	1155.

Movement, Approach, & Intersection Results

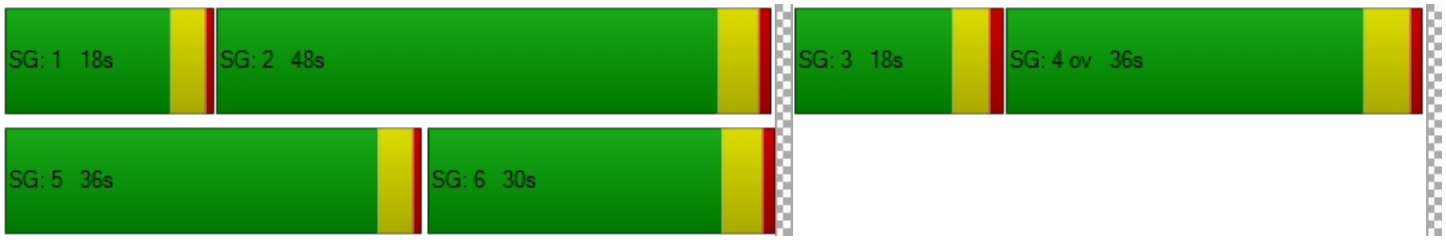
d_M, Delay for Movement [s/veh]	64.55	64.55	58.59	32.77	32.77	12.15	49.34	17.84	17.85	81.92	35.16	179.99
Movement LOS	E	E	E	C	C	B	D	B	B	F	D	F
d_A, Approach Delay [s/veh]	62.56			28.77			36.50			155.16		
Approach LOS	E			C			D			F		
d_I, Intersection Delay [s/veh]	93.59											
Intersection LOS	F											
Intersection V/C	0.742											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	31.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	33.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.816	0.000
Crosswalk LOS	F	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	230	517	725	425
d_b, Bicycle Delay [s]	46.99	33.00	24.38	37.21
l_b,int, Bicycle LOS Score for Intersection	1.713	2.172	2.436	2.733
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Foster City Blvd and Metro Center Blvd

Control Type:	Signalized	Delay (sec / veh):	46.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	230.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
Speed [mph]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	320	620	100	210	830	880	190	310	220	70	180	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	620	100	210	830	880	190	310	220	70	180	300
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	155	25	53	208	220	48	78	55	18	45	75
Total Analysis Volume [veh/h]	320	620	100	210	830	880	190	310	220	70	180	300
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	7			0			0			8		
v_di, Inbound Pedestrian Volume crossing m	8			0			0			7		
v_co, Outbound Pedestrian Volume crossing	4			0			4			0		
v_ci, Inbound Pedestrian Volume crossing mi	4			0			4			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	5	4	1	1	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	4	4	6	0
Maximum Green [s]	30	40	0	25	40	0	25	40	30	30	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.2	3.1	3.1	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.5	0.5	0.5	0.0
Split [s]	24	36	0	20	32	0	20	39	24	24	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.2	1.6	1.6	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	0.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	20	50	50	16	45	45	17	17	41	21	21	21
g / C, Green / Cycle	0.17	0.42	0.42	0.13	0.38	0.38	0.14	0.14	0.35	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.18	0.14	0.14	0.12	0.16	0.31	0.05	0.09	0.08	0.04	0.10	0.19
s, saturation flow rate [veh/h]	1785	3569	1736	1785	5106	2820	3467	3569	2820	1785	1874	1593
c, Capacity [veh/h]	303	1481	720	237	1927	1064	489	503	976	317	333	283
d1, Uniform Delay [s]	49.80	23.75	23.79	51.18	27.77	33.81	46.85	48.49	27.84	42.25	44.90	49.35
k, delay calibration	0.25	0.50	0.50	0.13	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.27
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	51.68	0.59	1.22	12.72	0.70	7.37	0.51	1.23	0.12	0.35	1.37	56.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.05	0.33	0.33	0.89	0.43	0.83	0.39	0.62	0.23	0.22	0.54	1.06
d, Delay for Lane Group [s/veh]	101.48	24.34	25.01	63.89	28.48	41.18	47.35	49.73	27.96	42.59	46.27	106.12
Lane Group LOS	F	C	C	E	C	D	D	D	C	D	D	F
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	13.34	4.69	4.74	6.98	5.95	12.36	2.60	4.42	2.25	1.83	5.06	12.97
50th-Percentile Queue Length [ft/ln]	333.38	117.20	118.59	174.44	148.64	308.93	65.06	110.58	56.22	45.86	126.41	324.31
95th-Percentile Queue Length [veh/ln]	19.84	8.24	8.32	11.31	9.94	18.12	4.68	7.87	4.05	3.30	8.74	19.45
95th-Percentile Queue Length [ft/ln]	496.05	205.97	207.88	282.75	248.62	453.06	117.11	196.81	101.20	82.55	218.60	486.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	101.48	24.49	25.01	63.89	28.48	41.18	47.35	49.73	27.96	42.59	46.27	106.12
Movement LOS	F	C	C	E	C	D	D	D	C	D	D	F
d_A, Approach Delay [s/veh]	48.23			38.17			42.45			78.45		
Approach LOS	D			D			D			E		
d_I, Intersection Delay [s/veh]	46.61											
Intersection LOS	D											
Intersection V/C	0.852											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	509.67	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.960	0.000	0.000	2.505
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
l_b,int, Bicycle LOS Score for Intersection	2.132	2.616	2.154	2.467
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Shell Blvd and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	33.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	Shell Blvd			Shell Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	0	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	160.00	100.00	160.00	100.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Shell Blvd			Shell Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Base Volume Input [veh/h]	310	220	130	120	300	100	0	1090	530	200	620	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	310	220	130	120	300	100	0	1090	530	200	620	80
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	56	33	31	77	26	0	278	135	51	158	20
Total Analysis Volume [veh/h]	316	224	133	122	306	102	0	1112	541	204	633	82
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	17			27			27			17		
v_di, Inbound Pedestrian Volume crossing m	17			27			27			17		
v_co, Outbound Pedestrian Volume crossing	29			12			28			11		
v_ci, Inbound Pedestrian Volume crossing mi	28			11			29			12		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	0	4	6	0
Maximum Green [s]	25	50	0	30	40	0	0	55	0	25	45	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.6	0.0	3.1	3.6	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0
Split [s]	24	37	0	24	37	0	0	39	0	20	59	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.1	2.6	0.0	1.6	2.6	0.0	0.0	2.6	0.0	1.6	2.6	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			Yes		No	Yes	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.10	4.60	4.60	3.60	4.60	4.60	4.60	4.60	3.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.10	2.60	2.60	1.60	2.60	2.60	2.60	2.60	1.60	2.60	2.60
g_i, Effective Green Time [s]	13	18	18	10	14	14	60	60	15	79	79
g / C, Green / Cycle	0.11	0.15	0.15	0.09	0.12	0.12	0.50	0.50	0.13	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.09	0.12	0.09	0.07	0.08	0.07	0.31	0.35	0.11	0.18	0.05
s, saturation flow rate [veh/h]	3497	1891	1480	1801	3600	1374	3600	1533	1801	3600	1590
c, Capacity [veh/h]	393	287	224	154	435	166	1790	762	233	2363	1044
d1, Uniform Delay [s]	52.08	49.09	47.18	53.91	50.79	49.62	22.00	22.92	51.38	8.61	7.48
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.12	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.91	4.64	2.49	8.75	2.10	3.67	1.63	5.54	10.71	0.28	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.78	0.59	0.79	0.70	0.61	0.62	0.71	0.88	0.27	0.08
d, Delay for Lane Group [s/veh]	55.99	53.73	49.67	62.67	52.89	53.29	23.63	28.46	62.09	8.89	7.62
Lane Group LOS	E	D	D	E	D	D	C	C	E	A	A
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.86	6.83	3.84	3.99	4.55	3.05	11.55	12.47	6.72	3.37	0.78
50th-Percentile Queue Length [ft/ln]	121.48	170.86	96.11	99.80	113.83	76.30	288.74	311.73	167.89	84.36	19.53
95th-Percentile Queue Length [veh/ln]	8.47	11.12	6.92	7.19	8.05	5.49	17.12	18.26	10.97	6.07	1.41
95th-Percentile Queue Length [ft/ln]	211.86	278.04	173.00	179.64	201.31	137.34	428.08	456.51	274.14	151.85	35.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.99	53.73	49.67	62.67	52.89	53.29	0.00	23.63	28.46	62.09	8.89	7.62
Movement LOS	E	D	D	E	D	D		C	C	E	A	A
d_A, Approach Delay [s/veh]	53.99			55.22			25.21			20.59		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	33.43											
Intersection LOS	C											
Intersection V/C	0.725											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	263.94	112.82	167.81
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.748	2.604	2.908	2.928
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	540	540	573	907
d_b, Bicycle Delay [s]	31.99	31.99	30.55	17.93
l_b,int, Bicycle LOS Score for Intersection	2.670	1.997	2.923	2.318
Bicycle LOS	B	A	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 8: Foster City Blvd and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	52.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	1	0	0	1	0	1
Pocket Length [ft]	260.00	100.00	410.00	210.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Base Volume Input [veh/h]	160	410	40	300	610	280	420	480	450	90	290	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	410	40	300	610	280	420	480	450	90	290	120
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	107	10	78	159	73	109	125	117	23	76	31
Total Analysis Volume [veh/h]	167	427	42	313	635	292	438	500	469	94	302	125
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	12			18			12			18		
v_di, Inbound Pedestrian Volume crossing m	12			18			12			18		
v_co, Outbound Pedestrian Volume crossing	8			4			4			8		
v_ci, Inbound Pedestrian Volume crossing mi	8			4			4			8		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			2			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Maximum Green [s]	35	50	0	30	40	0	30	40	0	30	40	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	20	34	0	23	37	0	27	43	0	20	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	25	0	0	25	0	0	27	0	0	27	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	Yes		No	Yes		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	133	133	133	133	133	133	133	133	133	133	133	133
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60
g_i, Effective Green Time [s]	9	50	50	14	56	56	30	43	43	9	22	22
g / C, Green / Cycle	0.06	0.38	0.38	0.11	0.42	0.42	0.23	0.33	0.33	0.07	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.09	0.09	0.18	0.18	0.24	0.14	0.30	0.05	0.08	0.08
s, saturation flow rate [veh/h]	3503	3606	1802	3503	3606	1601	1804	3606	1554	1804	3606	1486
c, Capacity [veh/h]	226	1357	678	382	1517	673	407	1174	506	119	598	246
d1, Uniform Delay [s]	61.05	28.30	28.35	57.92	27.07	27.25	51.46	35.09	42.65	61.19	50.48	50.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.36	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.65	0.39	0.81	4.38	0.85	2.03	66.54	0.25	20.32	11.22	0.66	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.23	0.23	0.82	0.42	0.43	1.08	0.43	0.93	0.79	0.51	0.51
d, Delay for Lane Group [s/veh]	65.70	28.69	29.15	62.30	27.92	29.28	118.00	35.33	62.97	72.41	51.14	51.76
Lane Group LOS	E	C	C	E	C	C	F	D	E	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.88	3.42	3.56	5.35	7.21	6.89	20.90	6.36	17.26	3.48	4.62	3.86
50th-Percentile Queue Length [ft/ln]	72.00	85.46	89.05	133.70	180.32	172.26	522.38	158.89	431.41	87.00	115.41	96.54
95th-Percentile Queue Length [veh/ln]	5.18	6.15	6.41	9.14	11.62	11.20	29.61	10.49	24.07	6.26	8.14	6.95
95th-Percentile Queue Length [ft/ln]	129.61	153.83	160.29	228.52	290.44	279.88	740.37	262.25	601.72	156.60	203.50	173.77

Movement, Approach, & Intersection Results

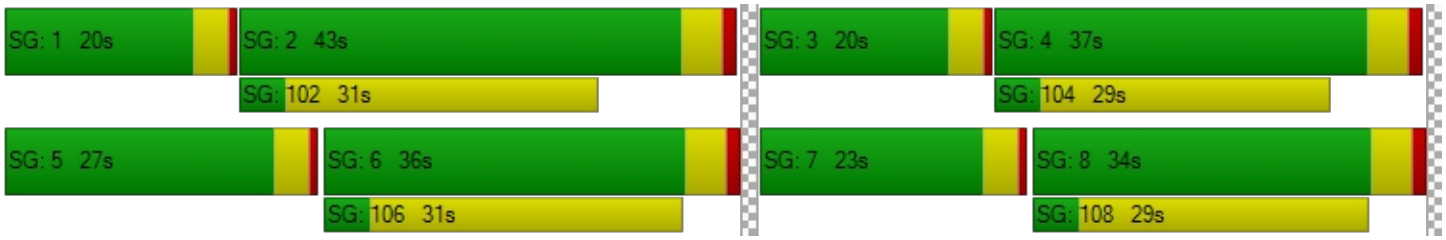
d_M, Delay for Movement [s/veh]	65.70	28.82	29.15	62.30	27.92	29.28	118.00	35.33	62.97	72.41	51.14	51.76
Movement LOS	E	C	C	E	C	C	F	D	E	E	D	D
d_A, Approach Delay [s/veh]	38.52			36.92			70.28			55.13		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	52.02											
Intersection LOS	D											
Intersection V/C	0.642											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	19.20	146.57	349.93	366.76
d_p, Pedestrian Delay [s]	52.27	52.27	52.27	52.27
l_p,int, Pedestrian LOS Score for Intersection	2.950	3.058	2.962	2.730
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	490	540	640	523
d_b, Bicycle Delay [s]	34.20	31.97	27.77	32.72
l_b,int, Bicycle LOS Score for Intersection	1.909	2.583	2.720	1.989
Bicycle LOS	A	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Metro Center Blvd and Vintage Park Dr

Control Type:	Signalized	Delay (sec / veh):	76.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.985

Intersection Setup

Name	Vintage Park Dr			Vintage Park Dr			Metro Center Blvd			Metro Center Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	260.00	100.00	100.00	150.00	100.00	100.00	250.00	100.00	390.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Dr			Vintage Park Dr			Metro Center Blvd			Metro Center Blvd		
Base Volume Input [veh/h]	30	260	120	570	160	370	200	490	50	40	250	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	260	120	570	160	370	200	490	50	40	250	390
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	72	33	158	44	103	56	136	14	11	69	108
Total Analysis Volume [veh/h]	33	289	133	633	178	411	222	544	56	44	278	433
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	70			33			70			33		
v_di, Inbound Pedestrian Volume crossing m	70			33			70			33		
v_co, Outbound Pedestrian Volume crossing	67			57			57			68		
v_ci, Inbound Pedestrian Volume crossing mi	68			57			57			67		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	54.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	5	6	0	5	6	0
Maximum Green [s]	25	40	0	30	45	0	30	40	0	25	40	0
Amber [s]	3.0	3.2	0.0	3.0	3.2	0.0	3.0	3.5	0.0	3.0	3.5	0.0
All red [s]	0.5	1.0	0.0	0.5	0.5	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	41	33	0	39	31	0	17	37	0	11	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	23	0	0	22	0	0	22	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.5	2.2	0.0	1.5	1.7	0.0	1.5	2.5	0.0	1.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.50	4.20	4.20	3.50	3.70	3.70	3.50	4.50	4.50	3.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	2.20	2.20	1.50	1.70	1.70	1.50	2.50	2.50	1.50	2.50	2.50
g_i, Effective Green Time [s]	3	27	27	36	60	60	14	38	38	4	28	28
g / C, Green / Cycle	0.02	0.22	0.22	0.30	0.50	0.50	0.11	0.32	0.32	0.03	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.14	0.35	0.09	0.28	0.12	0.16	0.17	0.02	0.08	0.27
s, saturation flow rate [veh/h]	1791	1880	1463	1791	1880	1489	1791	1880	1714	1791	3580	1598
c, Capacity [veh/h]	44	423	329	530	941	745	201	595	542	58	845	377
d1, Uniform Delay [s]	58.15	40.81	41.85	42.25	16.55	20.18	53.25	33.48	33.88	57.61	37.97	45.84
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.13	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.86	0.99	1.88	105.03	0.10	0.74	61.41	3.14	3.89	18.49	1.04	93.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.52	0.62	1.19	0.19	0.55	1.10	0.51	0.54	0.76	0.33	1.15
d, Delay for Lane Group [s/veh]	80.01	41.80	43.72	147.28	16.65	20.92	114.66	36.61	37.78	76.11	39.01	138.93
Lane Group LOS	F	D	D	F	B	C	F	D	D	E	D	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.26	5.82	5.57	30.95	2.73	7.77	9.45	7.68	7.60	1.61	3.49	20.79
50th-Percentile Queue Length [ft/ln]	31.62	145.44	139.23	773.69	68.26	194.15	236.17	191.92	190.07	40.28	87.28	519.73
95th-Percentile Queue Length [veh/ln]	2.28	9.77	9.44	44.58	4.91	12.34	15.06	12.22	12.12	2.90	6.28	30.50
95th-Percentile Queue Length [ft/ln]	56.91	244.33	235.99	1114.60	122.87	308.41	376.49	305.51	303.12	72.51	157.11	762.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	80.01	42.26	43.72	147.28	16.65	20.92	114.66	37.12	37.78	76.11	39.01	138.93
Movement LOS	F	D	D	F	B	C	F	D	D	E	D	F
d_A, Approach Delay [s/veh]	45.43			85.75			58.11			98.48		
Approach LOS	D			F			E			F		
d_I, Intersection Delay [s/veh]	76.08											
Intersection LOS	E											
Intersection V/C	0.985											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	38.81	0.00	0.00	38.45
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.325	2.737	2.666	2.860
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	480	455	542	442
d_b, Bicycle Delay [s]	34.66	35.81	31.90	36.43
l_b,int, Bicycle LOS Score for Intersection	1.935	3.576	2.238	2.182
Bicycle LOS	A	D	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 10: Edgewater Blvd and Mariners Island Blvd

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name	Emerald Bay Ln			Route 92 East Ramp			Mariners Island Blvd			Edgewater Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	1	0	2	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	40.00	400.00	100.00	400.00	190.00	100.00	100.00	50.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Emerald Bay Ln			Route 92 East Ramp			Mariners Island Blvd			Edgewater Blvd		
Base Volume Input [veh/h]	10	30	10	230	10	110	580	880	20	20	890	420
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	30	10	230	10	110	580	880	20	20	890	420
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	60	3	29	151	229	5	5	232	109
Total Analysis Volume [veh/h]	10	31	10	240	10	115	604	917	21	21	927	438
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			1		
v_di, Inbound Pedestrian Volume crossing m	1			0			0			0		
v_co, Outbound Pedestrian Volume crossing	3			3			2			2		
v_ci, Inbound Pedestrian Volume crossing mi	2			2			3			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	49.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Overlap	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups							4,5					
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	6	0	4	6	0	4	6	0
Maximum Green [s]	0	40	0	0	60	0	30	65	0	20	50	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	0.0	3.1	4.0	0.0	3.1	4.0	0.0
All red [s]	0.0	0.5	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	32	0	0	29	0	22	41	0	18	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	27	0	0	0	0	0	18	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.7	0.0	0.0	3.0	0.0	1.6	3.0	0.0	1.6	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			Yes		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	40.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.70	3.70	5.00	5.00	5.00	4.30	5.00	5.00	3.60	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.70	1.70	3.00	3.00	3.00	0.00	3.00	3.00	1.60	3.00	3.00
g_i, Effective Green Time [s]	4	4	31	31	31	66	65	65	2	37	37
g / C, Green / Cycle	0.04	0.04	0.26	0.26	0.26	0.55	0.54	0.54	0.02	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.02	0.01	0.08	0.09	0.04	0.37	0.25	0.25	0.01	0.26	0.28
s, saturation flow rate [veh/h]	1865	1591	1431	1479	2840	1619	1888	1870	1798	3595	1592
c, Capacity [veh/h]	68	58	408	443	740	796	1024	1014	31	1114	493
d1, Uniform Delay [s]	57.06	56.16	35.71	35.97	34.25	20.68	16.76	16.79	58.72	38.56	39.36
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.21
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.49	1.41	1.65	1.84	0.45	6.70	0.32	0.33	23.09	1.69	9.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.17	0.27	0.31	0.16	0.76	0.46	0.46	0.68	0.83	0.89
d, Delay for Lane Group [s/veh]	65.56	57.57	37.36	37.81	34.70	27.37	17.08	17.11	81.81	40.25	49.28
Lane Group LOS	E	E	D	D	C	C	B	B	F	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.39	0.32	2.83	3.54	1.35	12.24	7.70	7.68	0.83	12.71	13.36
50th-Percentile Queue Length [ft/ln]	34.66	7.93	70.64	88.38	33.77	305.91	192.62	191.91	20.71	317.65	334.04
95th-Percentile Queue Length [veh/ln]	2.50	0.57	5.09	6.36	2.43	17.97	12.26	12.22	1.49	18.55	19.36
95th-Percentile Queue Length [ft/ln]	62.39	14.27	127.14	159.08	60.78	449.33	306.43	305.51	37.29	463.79	483.90

Movement, Approach, & Intersection Results

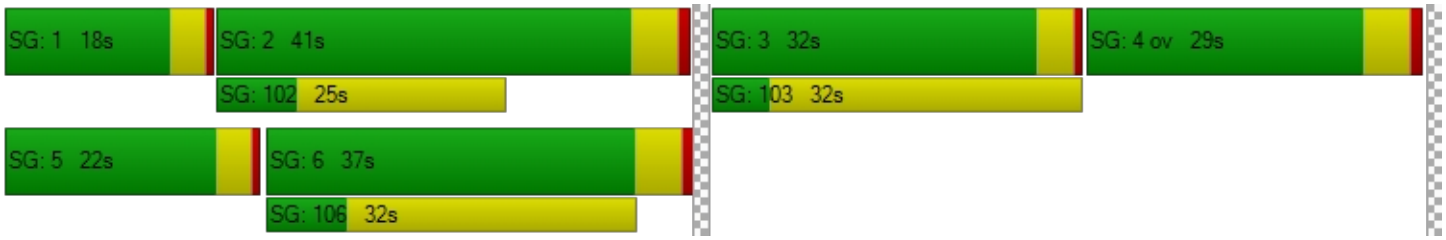
d_M, Delay for Movement [s/veh]	65.56	65.56	57.57	37.60	37.81	34.70	27.37	17.10	17.11	81.81	40.25	49.28
Movement LOS	E	E	E	D	D	C	C	B	B	F	D	D
d_A, Approach Delay [s/veh]	63.99			36.69			21.12			43.73		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	32.85											
Intersection LOS	C											
Intersection V/C	0.535											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	1.987	2.982	0.000	3.313
Crosswalk LOS	A	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	472	400	600	533
d_b, Bicycle Delay [s]	35.04	38.40	29.44	32.27
l_b,int, Bicycle LOS Score for Intersection	1.644	2.162	2.832	2.703
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Metro Center Blvd and Edgewater Blvd

Control Type:	Signalized	Delay (sec / veh):	53.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.593

Intersection Setup

Name	Sea Spray Ln			Metro Center Blvd			Edgewater Blvd			Edgewater Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	1	0	0	2	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	50.00	270.00	100.00	100.00	370.00	100.00	100.00	180.00	100.00	50.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sea Spray Ln			Metro Center Blvd			Edgewater Blvd			Edgewater Blvd		
Base Volume Input [veh/h]	30	50	80	360	60	240	260	750	20	190	700	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	50	80	360	60	240	260	750	20	190	700	330
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	13	21	95	16	63	68	197	5	50	184	87
Total Analysis Volume [veh/h]	32	53	84	379	63	253	274	789	21	200	737	347
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	3			4			2			3		
v_di, Inbound Pedestrian Volume crossing m	2			3			3			4		
v_co, Outbound Pedestrian Volume crossing	5			3			3			6		
v_ci, Inbound Pedestrian Volume crossing mi	6			3			3			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			3			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	3.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	0	6	0	6	8	0	4	8	0
Maximum Green [s]	0	40	0	0	35	0	40	60	0	20	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.1	3.9	0.0	3.1	3.9	0.0
All red [s]	0.0	0.5	0.0	0.0	0.5	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	39	0	0	40	0	20	47	0	14	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	28	0	0	28	0	0	14	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.7	0.0	0.0	1.7	0.0	1.6	2.9	0.0	1.6	2.9	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	Yes		No	Yes	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	3.70	3.70	3.70	3.70	3.70	3.60	4.90	4.90	3.60	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.70	1.70	1.70	1.70	1.70	1.60	2.90	2.90	1.60	2.90	2.90
g_i, Effective Green Time [s]	14	14	26	26	26	13	73	73	10	71	71
g / C, Green / Cycle	0.10	0.10	0.19	0.19	0.19	0.09	0.52	0.52	0.07	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.12	0.12	0.16	0.08	0.22	0.22	0.11	0.14	0.22
s, saturation flow rate [veh/h]	1853	1553	1798	1823	1568	3492	1888	1868	1798	5143	1585
c, Capacity [veh/h]	189	158	334	339	291	329	990	979	134	2595	800
d1, Uniform Delay [s]	59.17	59.58	52.86	52.85	55.09	62.33	20.18	20.19	64.80	20.06	21.93
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.28	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.67	2.74	2.21	2.16	7.77	5.51	1.26	1.28	244.67	0.27	1.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.53	0.66	0.66	0.87	0.83	0.41	0.41	1.50	0.28	0.43
d, Delay for Lane Group [s/veh]	60.85	62.32	55.07	55.01	62.85	67.84	21.44	21.47	309.47	20.33	23.64
Lane Group LOS	E	E	E	E	E	E	C	C	F	C	C
Critical Lane Group	No	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.96	2.98	7.35	7.43	9.21	5.03	8.31	8.25	13.82	4.69	7.52
50th-Percentile Queue Length [ft/ln]	74.10	74.56	183.85	185.76	230.13	125.66	207.86	206.19	345.59	117.32	188.10
95th-Percentile Queue Length [veh/ln]	5.34	5.37	11.80	11.90	14.18	8.70	13.04	12.96	22.42	8.25	12.02
95th-Percentile Queue Length [ft/ln]	133.38	134.20	295.03	297.52	354.53	217.58	326.08	323.94	560.42	206.14	300.57

Movement, Approach, & Intersection Results

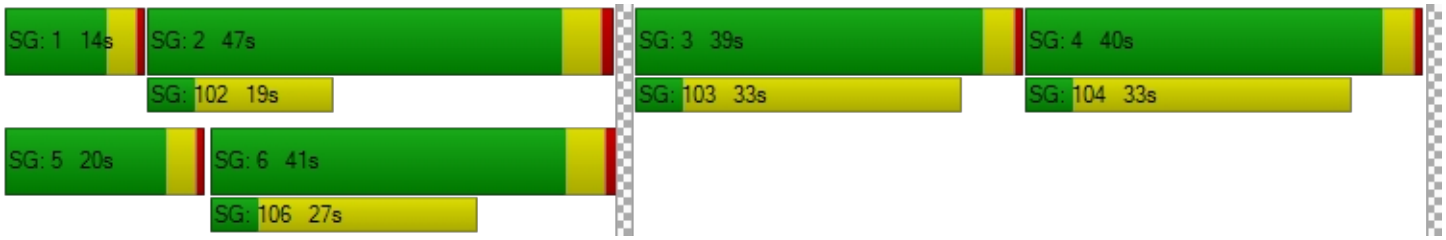
d_M, Delay for Movement [s/veh]	60.85	60.85	62.32	55.04	55.01	62.85	67.84	21.46	21.47	309.47	20.33	23.64
Movement LOS	E	E	E	E	E	E	E	C	C	F	C	C
d_A, Approach Delay [s/veh]	61.58			57.88			33.18			66.26		
Approach LOS	E			E			C			E		
d_I, Intersection Delay [s/veh]	53.12											
Intersection LOS	D											
Intersection V/C	0.593											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
l_p,int, Pedestrian LOS Score for Intersection	2.085	2.634	2.958	3.108
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	504	519	601	516
d_b, Bicycle Delay [s]	39.15	38.43	34.28	38.57
l_b,int, Bicycle LOS Score for Intersection	1.838	2.706	2.454	2.266
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 12: Edgewater Blvd and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	51.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.903

Intersection Setup

Name	Edgewater Blvd			Edgewater Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Pocket Length [ft]	190.00	100.00	190.00	310.00	100.00	110.00	100.00	100.00	75.00	310.00	100.00	230.00
Speed [mph]	40.00			35.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Edgewater Blvd			Edgewater Blvd			E Hillsdale Blvd			E Hillsdale Blvd		
Base Volume Input [veh/h]	310	560	120	260	600	380	0	1430	520	250	850	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	310	560	120	260	600	380	0	1430	520	250	850	230
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	144	31	67	155	98	0	369	134	64	219	59
Total Analysis Volume [veh/h]	320	577	124	268	619	392	0	1474	536	258	876	237
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	10			3			3			11		
v_di, Inbound Pedestrian Volume crossing m	11			3			3			10		
v_co, Outbound Pedestrian Volume crossing	6			10			6			10		
v_ci, Inbound Pedestrian Volume crossing mi	6			10			6			10		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	3			4			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	75.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	0	6	0	4	6	0
Maximum Green [s]	30	60	0	20	50	0	0	45	0	30	50	0
Amber [s]	3.5	4.0	0.0	3.5	3.9	0.0	0.0	4.0	0.0	3.5	3.6	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0
Split [s]	27	52	0	18	43	0	0	42	0	28	70	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	30	0	0	34	0	0	31	0	0	33	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.0	2.9	0.0	0.0	3.0	0.0	2.0	2.6	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			Yes		No	Yes	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C	R
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.50	5.00	5.00	4.00	4.90	4.90	5.00	5.00	4.00	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	3.00	3.00	2.00	2.90	2.90	3.00	3.00	2.00	2.60	2.60
g_i, Effective Green Time [s]	15	41	41	13	38	38	46	46	22	73	73
g / C, Green / Cycle	0.11	0.29	0.29	0.09	0.27	0.27	0.33	0.33	0.16	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.09	0.19	0.19	0.08	0.17	0.25	0.29	0.34	0.14	0.17	0.15
s, saturation flow rate [veh/h]	3497	1891	1751	3497	3600	1572	5151	1568	1801	5151	1568
c, Capacity [veh/h]	385	550	510	330	981	428	1694	515	283	2666	812
d1, Uniform Delay [s]	61.06	43.53	43.69	62.24	44.79	49.06	44.22	46.46	58.08	19.65	19.13
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.23	0.50	0.50	0.21	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.66	1.34	1.51	4.82	0.68	15.17	6.42	50.37	18.46	0.33	0.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.66	0.67	0.81	0.63	0.92	0.87	1.04	0.91	0.33	0.29
d, Delay for Lane Group [s/veh]	65.72	44.87	45.20	67.06	45.47	64.23	50.64	96.83	76.54	19.98	20.04
Lane Group LOS	E	D	D	E	D	E	D	F	E	B	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.76	11.04	10.43	4.88	9.51	14.87	16.67	24.48	10.39	5.59	4.56
50th-Percentile Queue Length [ft/ln]	144.01	276.01	260.77	122.11	237.79	371.77	416.69	611.93	259.81	139.67	113.89
95th-Percentile Queue Length [veh/ln]	9.70	16.49	15.73	8.51	14.57	21.19	23.36	33.47	15.68	9.46	8.06
95th-Percentile Queue Length [ft/ln]	242.42	412.24	393.19	212.72	364.24	529.87	584.08	836.72	391.99	236.59	201.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.72	44.99	45.20	67.06	45.47	64.23	0.00	50.64	96.83	76.54	19.98	20.04
Movement LOS	E	D	D	E	D	E		D	F	E	B	C
d_A, Approach Delay [s/veh]	51.51			55.74			62.95			30.64		
Approach LOS	D			E			E			C		
d_I, Intersection Delay [s/veh]	51.48											
Intersection LOS	D											
Intersection V/C	0.903											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	150.46	288.33	206.33
d_p, Pedestrian Delay [s]	62.23	62.23	62.23	62.23
l_p,int, Pedestrian LOS Score for Intersection	3.003	3.046	3.285	3.209
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	671	544	529	934
d_b, Bicycle Delay [s]	30.94	37.16	37.95	19.90
l_b,int, Bicycle LOS Score for Intersection	2.402	2.615	2.665	2.314
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Center Park Ln and E Hillsdale Blvd

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.614

Intersection Setup

Name	Center Park Ln		E Hillsdale Blvd		E Hillsdale Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	390.00	100.00	100.00	100.00
Speed [mph]	25.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Center Park Ln		E Hillsdale Blvd		E Hillsdale Blvd	
Base Volume Input [veh/h]	200	130	400	1500	970	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.50	0.50	0.50	0.50	0.50	0.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	130	400	1500	970	60
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	34	104	391	253	16
Total Analysis Volume [veh/h]	208	135	417	1563	1010	63
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		15	
v_di, Inbound Pedestrian Volume crossing m	0		0		14	
v_co, Outbound Pedestrian Volume crossing	5		14		5	
v_ci, Inbound Pedestrian Volume crossing mi	5		15		5	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		2		2	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	19.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	4	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	4	0	6	5	5	0
Maximum Green [s]	35	0	30	40	40	0
Amber [s]	3.5	0.0	3.1	3.5	3.5	0.0
All red [s]	0.5	0.0	0.5	1.0	1.0	0.0
Split [s]	36	0	37	84	47	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	5	0
Pedestrian Clearance [s]	20	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	1.6	2.5	2.5	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	Yes	Yes	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	0.0	40.0	40.0	40.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	17	17	29	94	61	61
g / C, Green / Cycle	0.15	0.15	0.24	0.78	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.23	0.30	0.20	0.20
s, saturation flow rate [veh/h]	1695	1609	1802	5155	3603	1824
c, Capacity [veh/h]	247	234	440	4039	1835	929
d1, Uniform Delay [s]	49.87	47.76	44.52	4.03	18.02	17.96
k, delay calibration	0.11	0.11	0.40	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.65	2.24	27.41	0.28	0.63	1.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.58	0.95	0.39	0.39	0.39
d, Delay for Lane Group [s/veh]	57.52	50.00	71.93	4.31	18.64	19.17
Lane Group LOS	E	D	E	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.64	3.95	15.32	3.17	6.08	6.21
50th-Percentile Queue Length [ft/ln]	166.04	98.69	382.92	79.36	151.88	155.25
95th-Percentile Queue Length [veh/ln]	10.87	7.11	21.74	5.71	10.12	10.30
95th-Percentile Queue Length [ft/ln]	271.70	177.64	543.38	142.85	252.94	257.42

Movement, Approach, & Intersection Results

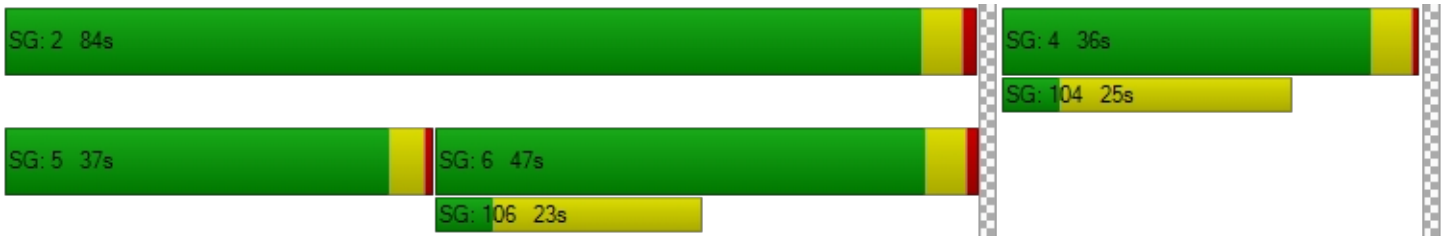
d_M, Delay for Movement [s/veh]	57.52	50.00	71.93	4.31	18.80	19.17
Movement LOS	E	D	E	A	B	B
d_A, Approach Delay [s/veh]	54.56		18.55		18.82	
Approach LOS	D		B		B	
d_I, Intersection Delay [s/veh]	22.27					
Intersection LOS	C					
Intersection V/C	0.614					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	470.53	0.00	251.53
d_p, Pedestrian Delay [s]	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.178	0.000	3.007
Crosswalk LOS	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	60.00	60.00	60.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.221	4.723
Bicycle LOS	D	F	E

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	100	98	97.8%	64.1	31.9	E
	Through	10	8	83.0%	122.8	140.8	F
	Right Turn	250	222	88.6%	254.7	155.7	F
	Subtotal	360	328	91.0%	197.3	118.6	F
SB	Left Turn	20	19	96.5%	94.9	23.9	F
	Through	30	32	107.7%	62.4	8.8	E
	Right Turn	10	13	131.0%	21.6	15.3	C
	Subtotal	60	65	107.8%	65.0	11.6	E
EB	Left Turn	10	6	61.0%	480.2	300.9	F
	Through	310	203	65.4%	603.6	162.0	F
	Right Turn	880	641	72.9%	406.8	62.0	F
	Subtotal	1,200	850	70.8%	450.0	80.9	F
WB	Left Turn	1,170	1,069	91.4%	14.4	1.5	B
	Through	230	213	92.7%	14.7	2.3	B
	Right Turn	10	8	84.0%	11.2	11.2	B
	Subtotal	1,410	1,291	91.5%	14.4	1.5	B
Total		3,030	2,533	83.6%	177.0	25.7	F

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

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	760	727	95.7%	86.4	29.4	F
	Through	260	248	95.5%	20.5	2.8	C
	Right Turn	90	85	94.1%	5.2	1.3	A
	Subtotal	1,110	1,061	95.5%	64.1	20.7	E
SB	Left Turn	10	7	73.0%	302.4	126.9	F
	Through	1,180	816	69.2%	456.8	43.7	F
	Right Turn	290	213	73.4%	263.6	23.4	F
	Subtotal	1,480	1,037	70.0%	414.2	40.6	F
EB	Left Turn	50	39	78.8%	65.6	25.0	E
	Through	40	29	72.8%	162.7	76.1	F
	Right Turn	490	333	67.9%	364.6	79.6	F
	Subtotal	580	401	69.2%	327.3	75.1	F
WB	Left Turn	250	204	81.6%	307.9	60.8	F
	Through	360	340	94.5%	50.5	14.1	D
	Right Turn	50	47	94.4%	31.8	12.7	C
	Subtotal	660	592	89.6%	148.2	27.6	F
Total		3,830	3,090	80.7%	232.2	25.7	F

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

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	89.0%	53.7	37.2	D
	Through	50	53	105.8%	96.3	10.9	F
	Right Turn	30	35	116.7%	9.7	1.8	A
	Subtotal	90	97	107.6%	62.0	15.5	E
SB	Left Turn	280	283	101.2%	33.4	2.6	C
	Through	10	12	118.0%	33.7	14.6	C
	Right Turn	70	75	107.0%	8.4	2.4	A
	Subtotal	360	370	102.8%	29.1	2.5	C
EB	Left Turn	610	504	82.7%	333.1	22.4	F
	Through	410	362	88.3%	117.1	8.9	F
	Right Turn	10	8	83.0%	87.3	40.4	F
	Subtotal	1,030	875	84.9%	246.4	17.6	F
WB	Left Turn	10	8	76.0%	38.4	32.5	D
	Through	230	182	79.0%	72.8	16.2	E
	Right Turn	1,140	881	77.3%	94.3	2.7	F
	Subtotal	1,380	1,071	77.6%	90.5	3.5	F
Total		2,860	2,412	84.3%	135.3	4.0	F

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

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	320	320	100.0%	107.5	32.1	F
	Through	620	637	102.7%	25.6	4.6	C
	Right Turn	100	105	104.7%	15.4	6.2	B
	Subtotal	1,040	1,062	102.1%	50.7	14.2	D
SB	Left Turn	210	150	71.4%	76.0	13.5	E
	Through	830	579	69.7%	69.9	10.2	E
	Right Turn	880	608	69.1%	183.1	24.5	F
	Subtotal	1,920	1,336	69.6%	121.5	15.6	F
EB	Left Turn	190	182	95.5%	48.1	6.9	D
	Through	310	294	94.7%	49.1	3.2	D
	Right Turn	220	205	93.1%	28.9	2.7	C
	Subtotal	720	680	94.4%	42.7	3.2	D
WB	Left Turn	70	52	73.9%	204.2	32.0	F
	Through	180	149	82.6%	240.0	47.5	F
	Right Turn	300	243	81.0%	171.7	34.6	F
	Subtotal	550	443	80.6%	198.0	39.4	F
Total		4,230	3,521	83.2%	92.9	8.8	F

Intersection Level Of Service Report
Intersection 9: New Intersection

Control Type:	Signalized	Delay (sec / veh):	52.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.905

Intersection Setup

Name	Shell			Shell			Hillsdale			Hillsdale		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	210.00	100.00	100.00	160.00	100.00	160.00	100.00	100.00	100.00	135.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Shell			Shell			Hillsdale			Hillsdale		
Base Volume Input [veh/h]	370	270	140	120	310	330	0	1250	530	200	780	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.60	0.60	0.60	0.60	0.60	0.60	2.00	0.60	0.60	0.60	0.60	0.60
Proportion of CAVs [%]	6.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	370	270	140	120	310	330	0	1250	530	200	780	80
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	1.0000	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	69	36	31	79	84	0	319	135	51	199	20
Total Analysis Volume [veh/h]	378	276	143	122	316	337	0	1276	541	204	796	82
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	17			27			27			17		
v_di, Inbound Pedestrian Volume crossing m	17			27			27			17		
v_co, Outbound Pedestrian Volume crossing	29			12			28			11		
v_ci, Inbound Pedestrian Volume crossing mi	28			11			29			12		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	0	7	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	0	4	6	0
Maximum Green [s]	25	50	0	30	40	0	0	55	0	25	45	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.6	0.0	3.1	3.6	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0
Split [s]	24	37	0	24	37	0	0	39	0	20	59	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.1	2.6	0.0	1.6	2.6	0.0	0.0	2.6	0.0	1.6	2.6	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			Yes		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	L	C	R
C, Cycle Length [s]	143	143	143	143	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	4.10	4.60	4.60	3.60	4.60	4.60	4.60	4.60	3.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.10	2.60	2.60	1.60	2.60	2.60	2.60	2.60	1.60	2.60	2.60
g_i, Effective Green Time [s]	19	41	41	12	33	33	55	55	18	77	77
g / C, Green / Cycle	0.13	0.28	0.28	0.09	0.23	0.23	0.39	0.39	0.13	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.12	0.16	0.10	0.07	0.10	0.25	0.35	0.35	0.11	0.22	0.05
s, saturation flow rate [veh/h]	3231	1742	1410	1664	3316	1362	3657	1541	1806	3657	1612
c, Capacity [veh/h]	432	497	402	145	780	320	1410	594	230	1967	867
d1, Uniform Delay [s]	60.63	43.31	40.34	64.13	46.11	53.23	41.35	40.27	61.26	19.46	16.03
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.37	0.50	0.50	0.19	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.76	0.97	0.53	12.13	0.34	57.40	9.87	20.42	17.64	0.13	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.56	0.36	0.84	0.41	1.05	0.90	0.91	0.89	0.40	0.09
d, Delay for Lane Group [s/veh]	66.39	44.28	40.88	76.25	46.45	110.62	51.22	60.68	78.90	19.60	16.08
Lane Group LOS	E	D	D	E	D	F	D	E	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.07	8.48	4.09	4.87	4.82	16.31	22.93	20.71	8.41	7.87	1.34
50th-Percentile Queue Length [ft/ln]	176.74	211.90	102.13	121.66	120.59	407.72	573.21	517.68	210.22	196.72	33.51
95th-Percentile Queue Length [veh/ln]	11.43	13.25	7.35	8.48	8.43	23.61	30.78	28.17	13.16	12.47	2.41
95th-Percentile Queue Length [ft/ln]	285.75	331.26	183.84	212.11	210.64	590.22	769.53	704.26	329.11	311.73	60.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	66.39	44.28	40.88	76.25	46.45	110.62	0.00	51.22	60.68	78.90	19.60	16.08
Movement LOS	E	D	D	E	D	F		D	E	E	B	B
d_A, Approach Delay [s/veh]	54.16			79.05			54.04			30.51		
Approach LOS	D			E			D			C		
d_I, Intersection Delay [s/veh]	52.70											
Intersection LOS	D											
Intersection V/C	0.905											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	62.55	62.55	62.55	62.55
l_p,int, Pedestrian LOS Score for Intersection	2.778	2.775	2.972	2.902
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	455	483	763
d_b, Bicycle Delay [s]	42.57	42.57	41.03	27.24
l_b,int, Bicycle LOS Score for Intersection	2.875	2.199	3.059	2.452
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: New Intersection

Control Type:	Signalized	Delay (sec / veh):	75.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			Hillsdale			Hillsdale		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	260.00	100.00	410.00	210.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			Hillsdale			Hillsdale		
Base Volume Input [veh/h]	200	510	50	310	700	350	520	510	550	110	310	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	510	50	310	700	350	520	510	550	110	310	140
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	133	13	81	182	91	135	133	143	29	81	36
Total Analysis Volume [veh/h]	208	531	52	323	729	365	542	531	573	115	323	146
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	12			18			12			18		
v_di, Inbound Pedestrian Volume crossing m	12			18			12			18		
v_co, Outbound Pedestrian Volume crossing	8			4			4			8		
v_ci, Inbound Pedestrian Volume crossing mi	8			4			4			8		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			2			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Maximum Green [s]	35	50	0	30	40	0	30	40	0	30	40	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	20	34	0	23	37	0	27	43	0	20	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	25	0	0	25	0	0	27	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	Yes		No	Yes		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	134	134	134	134	134	134	134	134	134	134	134	134
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60
g_i, Effective Green Time [s]	10	50	50	15	55	55	30	42	42	11	23	23
g / C, Green / Cycle	0.08	0.37	0.37	0.11	0.41	0.41	0.22	0.31	0.31	0.08	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.11	0.11	0.09	0.20	0.23	0.30	0.15	0.36	0.06	0.09	0.10
s, saturation flow rate [veh/h]	3503	3606	1802	3503	3606	1600	1804	3606	1585	1804	3606	1488
c, Capacity [veh/h]	273	1346	672	392	1468	651	404	1132	497	142	609	251
d1, Uniform Delay [s]	60.56	29.49	29.54	58.22	29.53	30.46	52.01	36.99	45.23	60.73	50.84	50.90
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.38	0.54	1.10	4.41	1.20	3.46	170.11	0.30	89.40	10.35	0.72	2.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.29	0.29	0.82	0.50	0.56	1.34	0.47	1.15	0.81	0.53	0.58
d, Delay for Lane Group [s/veh]	64.94	30.03	30.64	62.63	30.73	33.92	222.11	37.30	134.63	71.08	51.56	53.02
Lane Group LOS	E	C	C	E	C	C	F	D	F	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.59	4.43	4.60	5.57	8.89	9.56	32.46	7.02	28.33	4.24	4.99	4.61
50th-Percentile Queue Length [ft/ln]	89.76	110.73	114.91	139.14	222.36	239.05	811.59	175.57	708.23	105.92	124.87	115.36
95th-Percentile Queue Length [veh/ln]	6.46	7.88	8.11	9.43	13.79	14.63	48.45	11.37	40.48	7.61	8.66	8.14
95th-Percentile Queue Length [ft/ln]	161.57	197.02	202.81	235.86	344.63	365.84	1211.2	284.23	1012.0	190.31	216.51	203.43

Movement, Approach, & Intersection Results

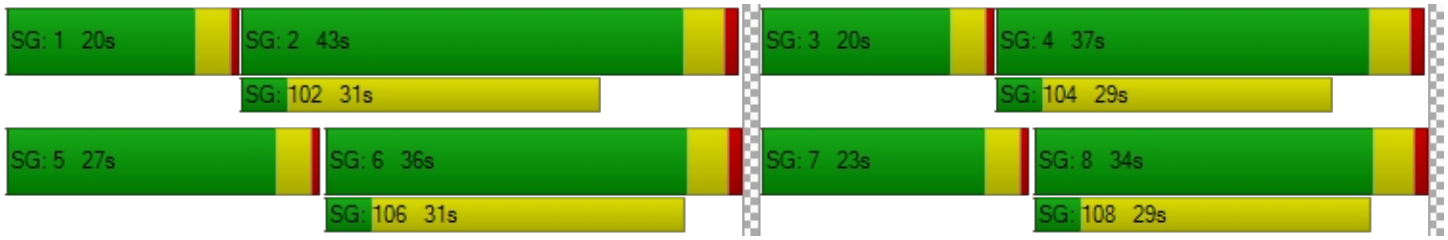
d_M, Delay for Movement [s/veh]	64.94	30.20	30.64	62.63	30.73	33.92	222.11	37.30	134.63	71.08	51.56	53.02
Movement LOS	E	C	C	E	C	C	F	D	F	E	D	D
d_A, Approach Delay [s/veh]	39.36			38.82			132.04			55.77		
Approach LOS	D			D			F			E		
d_I, Intersection Delay [s/veh]	75.72											
Intersection LOS	E											
Intersection V/C	0.783											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.19	59.19	59.19	59.19
l_p,int, Pedestrian LOS Score for Intersection	3.025	3.121	2.956	2.756
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	439	484	574	469
d_b, Bicycle Delay [s]	40.78	38.47	34.09	39.25
l_b,int, Bicycle LOS Score for Intersection	1.995	2.729	2.918	2.041
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Hillsdale / FCB

Control Type:	Signalized	Delay (sec / veh):	42.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Foster City Blvd			Foster City Blvd			Hillsdale			Hillsdale		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	260.00	100.00	410.00	210.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Foster City Blvd			Foster City Blvd			Hillsdale			Hillsdale		
Base Volume Input [veh/h]	200	510	50	310	700	350	520	510	550	110	310	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	105	0	0	165	0	0	42
Total Hourly Volume [veh/h]	200	510	35	310	700	245	520	510	385	110	310	98
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	133	9	81	182	64	135	133	100	29	81	26
Total Analysis Volume [veh/h]	208	531	36	323	729	255	542	531	401	115	323	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	12			18			12			18		
v_di, Inbound Pedestrian Volume crossing m	12			18			12			18		
v_co, Outbound Pedestrian Volume crossing	8			4			4			8		
v_ci, Inbound Pedestrian Volume crossing mi	8			4			4			8		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			2			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Maximum Green [s]	35	50	0	30	40	0	30	40	0	30	40	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0	3.1	3.6	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	10	25	0	11	26	0	38	36	0	38	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	27	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0	1.6	2.6	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	Yes		No	Yes		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	124	124	124	124	124	124	124	124	124	124	124	124
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60	3.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60	1.60	2.60	2.60
g_i, Effective Green Time [s]	10	50	50	14	54	54	22	34	34	10	22	22
g / C, Green / Cycle	0.08	0.40	0.40	0.11	0.44	0.44	0.18	0.27	0.27	0.08	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.10	0.09	0.20	0.16	0.15	0.15	0.26	0.06	0.09	0.07
s, saturation flow rate [veh/h]	3503	3606	1829	3503	3606	1601	3503	3606	1546	1804	3606	1492
c, Capacity [veh/h]	277	1449	735	398	1573	698	622	985	423	144	632	262
d1, Uniform Delay [s]	56.08	24.84	24.87	53.85	24.78	23.49	49.79	38.53	43.76	56.29	46.47	45.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.31	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.06	0.43	0.86	4.04	0.98	1.47	3.98	0.46	24.00	9.84	0.64	0.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.26	0.26	0.81	0.46	0.37	0.87	0.54	0.95	0.80	0.51	0.39
d, Delay for Lane Group [s/veh]	60.14	25.27	25.73	57.89	25.77	24.97	53.78	38.99	67.76	66.13	47.11	46.12
Lane Group LOS	E	C	C	E	C	C	D	D	E	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.30	3.70	3.88	5.11	7.67	5.23	8.45	6.91	14.56	3.91	4.55	2.83
50th-Percentile Queue Length [ft/ln]	82.54	92.59	97.09	127.83	191.82	130.81	211.25	172.67	363.89	97.81	113.86	70.75
95th-Percentile Queue Length [veh/ln]	5.94	6.67	6.99	8.82	12.22	8.98	13.22	11.22	20.81	7.04	8.05	5.09
95th-Percentile Queue Length [ft/ln]	148.57	166.66	174.77	220.54	305.39	224.59	330.44	280.42	520.31	176.07	201.35	127.36

Movement, Approach, & Intersection Results

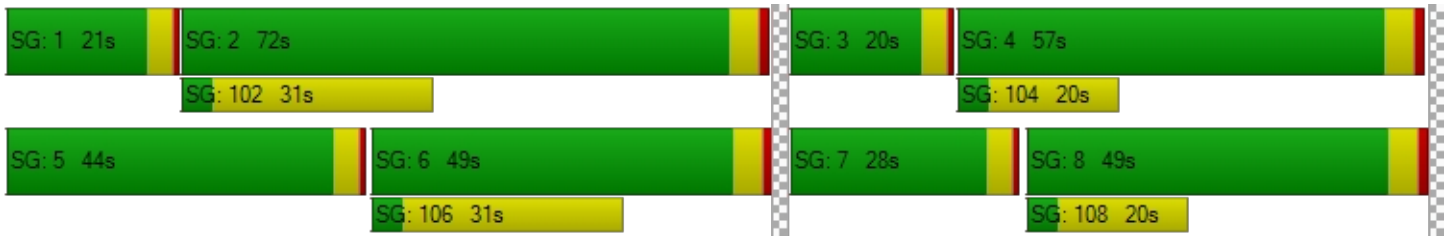
d_M, Delay for Movement [s/veh]	60.14	25.41	25.73	57.89	25.77	24.97	53.78	38.99	67.76	66.13	47.11	46.12
Movement LOS	E	C	C	E	C	C	D	D	E	E	D	D
d_A, Approach Delay [s/veh]	34.75			33.55			52.26			50.97		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	42.80											
Intersection LOS	D											
Intersection V/C	0.647											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.37	54.37	54.37	54.37
l_p,int, Pedestrian LOS Score for Intersection	3.041	3.266	3.257	2.812
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	715	844	1085	715
d_b, Bicycle Delay [s]	25.65	20.77	13.01	25.66
l_b,int, Bicycle LOS Score for Intersection	1.994	2.725	2.912	2.040
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Trip Generation Comparison

Pilgrim-Triton 713 units

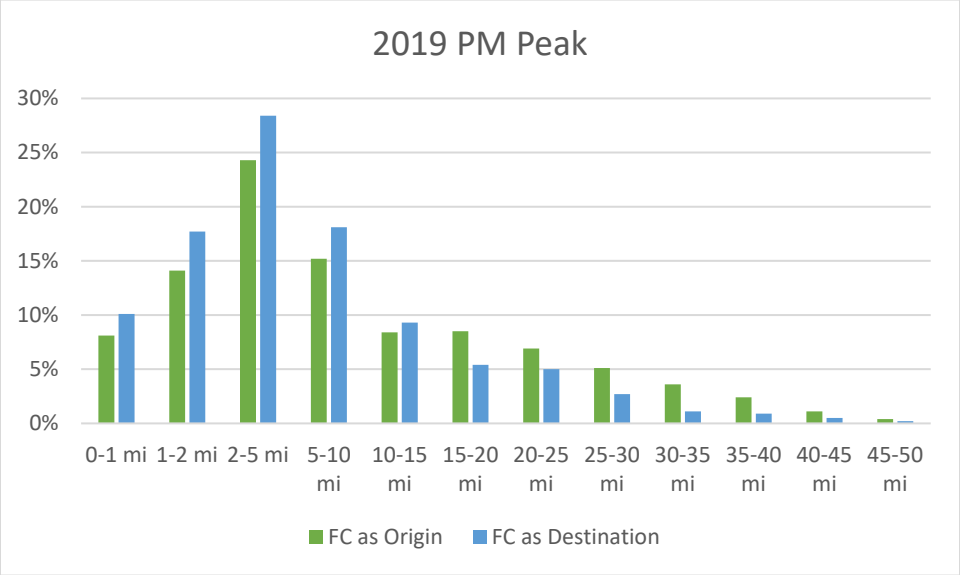
	Driveway Counts					ITE				68 ksf Commercial
	In	Out	Total	Rate	Rate Decrease	In	Out	Total	Rate	% Reduction
AM Peak	58	129	187	0.26	28%	61	203	264	0.37	29%
PM Peak	130	107	237	0.33	28%	170	108	278	0.39	15%
Daily	1439	1349	2788	3.91	18%	1619	1619	3237	4.54	14%

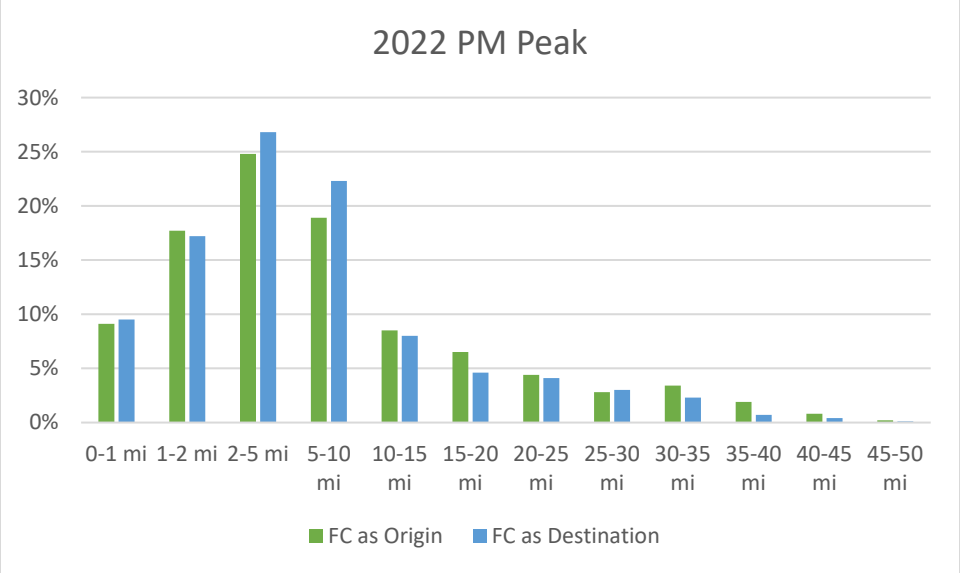
Lantern Cove 232 units

	Driveway Counts				ITE				
	In	Out	Total	Rate	In	Out	Total	Rate	% Reduction
AM Peak	56	29	85	0.37	22	71	93	0.40	8%
PM Peak	51	56	107	0.46	75	44	118	0.51	10%
Daily	602	508	1110	4.78	782	782	1564	6.74	29%

Trip Length Comparison

Trip Length Distribution for Trips Entering/Existing Foster City





APPENDIX C
TRIP GENERATION AND TRAFFIC VOLUMES

Foster City Housing Element Trip Generation and Existing Traffic Volumes

Land Use[1]	Size (DU)	Project Daily Trip Generation		Nearby Roadway Segment	2015 ADT[2]	Traffic Doubled?
		Rate (trip/DU)	Trips			
Pipeline Projects						
Laguna Vista Condominiums (low-rise)	46	6.74	310	East Hillsdale Boulevard	14,120	No
Workforce Apartments (low-rise)	22	6.74	148	East Hillsdale Boulevard	12,627	No
Proposed Projects						
Lantern Cove (mid-rise)	356	4.54	1,616	Edgewater Boulevard	8,801	No
Schooner Bay (mid-rise)	646	4.54	2,933	Edgewater Boulevard	2,918	**Yes**
Eaves Apartments MF ADUs (low-rise)	22	6.74	148	Foster City Boulevard	2,765	No
Triton Apartments MF ADUs (low-rise)	10	6.74	67	East Hillsdale Boulevard	14,120	No
RHNA5 Sites						
Franciscan Apartments (mid-rise)	104	4.54	472	Foster City Boulevard	13,294	No
Sand Cove Apartments (mid-rise)	139	4.54	631	Shell Boulevard	15,435	No
The Lagoons Apartments (mid-rise)	161	4.54	731	Shell Boulevard	15,435	No
Beach Cove Apartments (mid-rise)	239	4.54	1,085	Foster City Boulevard	13,034	No
Shadow Cove Apartments (mid-rise)	113	4.54	513	Foster City Boulevard	13,034	No
Harbor Cove Apartments (mid-rise)	91	4.54	413	Edgewater Boulevard	18,951	No
Other Residential Sites						
Eaves Apartments (mid-rise)	100	4.54	454	Foster City Boulevard	2,765	No
Foster's Landing Apartments (mid-rise)	900	4.54	4,086	Foster City Boulevard	15,435	No
Commercial Sites to be Rezoned						
OSH	222	4.54	1,008	Foster City Boulevard	25,801	No

Notes:

[1]Trip rates are from the ITE Trip Generation Manual, 11th Edition, 2021. It was assumed that housing development with less than 50 dwelling units will be low-rise (Land Use 220) and more than 50 dwelling units will be mid-rise (Land Use 221). Average rates expressed in trips per dwelling unit (DU) are used. The daily trip generation rate for mid-rise and high-rise apartment buildings are the same and therefore not distinguished in this analysis.

[2]Fehr & Peers, 2015. Traffic counts for the Foster City Levee EIR.

APPENDIX D
WATER CAPACITY STUDY

APPENDIX D: WATER CAPACITY STUDY

A. EXECUTIVE SUMMARY

This Water Capacity Study (WCS) will inform the development of an upcoming Water Supply Assessment (WSA) for the City of Foster City (City) 6th Cycle Housing Element Update, Safety Element Update, and Associated General Plan and Zoning Amendments (named the 2023-2031 Housing Element (HE) in this document). The 2023-2031 Housing Element identifies and addresses housing needs by including goals, policies, and programs to preserve, improve, and develop housing for all economic segments of the community. This includes identifying housing sites to provide capacity for the Regional Housing Needs Allocation (RHNA) for the 2023-2031 planning period, enough for 1,896 units required within Foster City. Specific sites for additional housing units outlined in the 2023-2031 Housing Element have not all been specified, but will generally be spread around the City, including accessory dwelling units on single-family properties, increased densities at existing apartment sites, and conversion or inclusion of mixed use at existing non-residential sites.

The requirements for a 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 the Estero Municipal Improvement District's (EMID) total projected water supplies available during normal, single-dry and multiple-dry water years, during a 20-year projection, are sufficient to meet the projected water demand associated with the 2023-2031 Housing Element, in addition to existing and planned future uses in the EMID service area (see Wat. Code § 1091(c)(3)).

This WCS builds on previous water demand projections created as part of the Bay Area Water Supply and Conservation Agency (BAWSCA) Regional Water Demand and Conservation Projections Update, which was completed on December 5, 2022, as well as the 2020 Urban Water Management Plan (UWMP) submitted by EMID in June 2021. The new demands from the BAWSCA Regional Water Demand and Conservation Projections Update were approved by EMID and were based on the EMID 2020 UWMP published demands. The EMID 2020 UWMP was adopted by Resolution No. 3596 by the EMID Board of Directors during its July 19, 2021 meeting.

All the development projects included in this WCS are within the service area of EMID, which includes all of Foster City and the Mariners Island portion of San Mateo. It is important to note that, though some developments were completed by the time this WCS was published (i.e., the developments were completed sometime between 2020 and 2022), there was not enough historical water use data to create an accurate, actual site water use estimate. In fact, some of the buildings were not fully occupied, landscaping was not fully established, and a full year of water use data was not available to ascertain

water use trends through the various seasons. All future development projects are required to maximize the efficient use of water by installing water saving plumbing fixtures and California native landscaping to reduce water demand.

The process of estimating net water demand for development project sites is dynamic, and by the next WCS submittal there will be more actual site data available under non-dry year conditions and with the new-normal impacts of the recent/ongoing pandemic. EMID has completed this WCS based on the land uses proposed for the developments presented in Table G-1. These developments include development completed, entitled, under construction, in application review, and/or estimated/planned for after the year 2020. In some cases, a portion of an earlier, larger development effort was completed after 2020 and is included here. Future development project net demands are primarily estimated using available water use data for similar land use developments that have been constructed recently. Net demand takes into account existing site water use including buildings that will be demolished and/or landscapes that will be converted. A detailed description of each development, including its site-specific net demand basis and schedule, is included later in this document in Section D. Prior to issuance of future development entitlements, utility analyses shall be performed by the developer to determine whether existing transmission/distribution infrastructure has adequate capacity to deliver the needed water to the development sites.

TABLE G-1 EMID SERVICE AREA POST-2020 DEVELOPMENT SCHEDULE AND NET DEMAND SUMMARY

Development Project Name[1]	Development Completion Schedule	Net Demand (Acre Feet per Year (AFY))
Biomed Phase 2	2020-2025	19
Gilead Integrated Corporate Campus	2030-2035	74
Pilgrim Triton Project Completion	2020-2025	16
15-Acres Project (Foster Square)	2020-2025	3.1
Chess/Hatch Drive Offices Project	2025-2030	15
1601 Beach Park Blvd/Sea Island	2020-2025	2.2
New Hotel in Metro Center (VISA)	2025-2030	12
388 Vintage Park	2020-2025	5.7
Lantern Cove Apartments Redevelopment	2025-2030	41
Bridgepointe Redevelopment (City of San Mateo)	2025-2035	89
1065 E. Hillsdale (Century Plaza) R&D Conversions[2]	2020-2025	0[2]
1065 E. Hillsdale Retail Pavilion (Century Plaza UP-21-0015)	2020-2025	2.6
Schooner Bay I Redevelopment	2028	33
Schooner Bay II Redevelopment	2029	28
Charter Square Demo/Beach Park Elementary School	2021	4.3
1010 Metro Center Blvd (OSH Redevelopment)	2020-2030	12
1001 E. Hillsdale (Parkside Towers)[2]	2025-2030	0[2]

Development Project Name[1]	Development Completion Schedule	Net Demand (Acre Feet per Year (AFY))
901/951 Mariner's Island Blvd Office to Life Science Building Conversion (City of San Mateo)	2020-2025	3.1
1400 Fashion Island Blvd (City of San Mateo)	2020-2025	1.7
999 Baker Way (City of San Mateo)	2020-2025	0.5
Other/Additional Non-Residential Growth	2030-2040	5.2
Accessory Dwelling Units (ADU) for Eaves and Single-Family Homes	2023-2031	4.2
2023-2031 Residential Development to Achieve RHNA (Other Sites in the Sites Inventory)	2025-2030	61
Other/Additional Residential Development (Other Sites in the Sites Inventory)	2032-2045	108

[1] These development names represent the portion or phase of the development project completed after 2020 and not any development constructed beforehand under the same development title.
[2] These development projects' net water use was evaluated and was ultimately not included in calculations because they are estimated to have a net zero demand due to landscape redevelopment or the installation of ultra-high efficiency fixtures on site. This approach is consistent with the current trends to consider stressed water supply and demand conditions.

This analysis determined that existing (year 2020) and future development (listed in Table G-1), in addition to estimated added total system water loss, will yield a total net demand of 583 AFY by year 2045. This total net demand includes approximately 7.75% of additional demand due to an apportioned total system water loss of 42 AFY. Individual future development net demand values between 2020 and 2045 are summarized in five-year increments in Table G-7.

The water demand associated with the 2023-2031 Housing Element, in addition to the existing and future uses evaluated in this WCS, will be accommodated during non-drought years within a 20-year projection. However, as documented in Table 7-5 in the EMID 2020 UWMP, during single and multiple dry years, the EMID service area's total annual water demand is expected to exceed EMID's available water supplies from 2025 to 2045. The estimated net demand from the 2023-2031 Housing Element, in addition to the net demand from the existing and planned future uses evaluated in this WCS, will exacerbate EMID's existing projected supply shortfall during single and multiple dry years.

Therefore, this WCS concludes that there is not "sufficient water supply" (per Government Code 664737.7 (a)(2)) available to meet the demands of the 2023-2031 Housing Element, in addition to the existing and planned future uses evaluated in this WCS, during single-dry and multiple dry water years within a 20-year projection. EMID shall consider this projected insufficiency and may take measures, if and when that becomes necessary, to acquire and develop water supplies.

B. INTRODUCTION

This section presents this document's purpose, a project description, scope of investigation, and persons and documents consulted.

1. Purpose and Authorization

The Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated General Plan and Zoning Amendments (named the 2023-2031 Housing Element in this document) is considered a "project" under CEQA and is therefore subject to CEQA review. The City of Foster City, as the Lead Agency, has prepared a Program EIR for the proposed project in accordance with CEQA, implementing the CEQA Guidelines, relevant case law, and City procedures.[1]

The Safety Element Update portion of the project does not generate additional water demands, leaving the 2023-2031 Housing Element as the focus of this WCS. The 2023-2031 Housing Element is not a development project, but rather a policy document that provides guidance and sets standards for several areas of mandatory environmental review for later "projects" that would be undertaken by local government and the private sector. Foster City has determined that the 2023-2031 Housing Element is a "project" subject to CEQA and is therefore preparing a program-level EIR. A WSA is required for "projects" as defined by Water Code Section 10912 that are subject to CEQA. Water Code Section 10912(7) reasonably applies because it describes future anticipated development: "A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project." Future development projects facilitated by the 2023-2031 Housing Element arguably fall within this definition. Additionally, because the 2023-2031 Housing Element is a "project" subject to CEQA per CEQA Guidelines Section 15155, and because SB 610 generally requires an evaluation of a 20-year water supply for a project be included in the EIR, a WSA will be prepared.

As the public water supplier for the City, EMID has prepared this WCS to evaluate whether EMID's total projected water supplies available during normal, single-dry and multiple-dry water years, during a 20-year projection, are sufficient to meet the projected water demand associated with the 2023-2031 Housing Element, in addition to existing and planned future uses (Water Code §10910(c)(3)).

This WCS does not create a right or entitlement to water service or define any specific level of water service (per Water Code Section 10914). The provision of water service will

[1]City of Foster City. *Notice of Preparation of a Draft Program Environmental Impact Report (EIR) for the City of Foster City 6th Cycle Housing Element Update, Safety Element Update, and Associated Zoning Amendments*, January 26, 2022

continue to be undertaken in a manner consistent with applicable EMID and City policies and procedures, consistent with existing law.

The WCS was developed by the collaborative efforts of the project team consisting of Urban Planning Partners, Maddaus Water Management Inc., EMID, Foster City Community Development Department, Public Works Departments, and City of San Mateo Planning Department. Urban Planning Partners was the project manager; Maddaus Water Management provided estimated calculations for the water demand of all developments included in the WCS and assisted in compiling the WCS report; City of Foster City, EMID, and City of San Mateo staff provided information on all other development projects and demands contained within the report.

2. Project Description

The 2023-2031 Housing Element[2] is one of the eight State-mandated elements of the General Plan and must address the existing and projected housing needs of all economic segments of the community. The purpose of the 2023-2031 Housing Element is to identify the community's housing needs; state the community's goals and objectives with regards to housing production, rehabilitation, and conservation to meet those needs; and define the policies and programs that the community will implement to achieve the stated goals and objectives. California State law requires that the Housing Element be updated every eight (8) years to be responsive to changing conditions, new State law requirements, updated Regional Housing Needs Allocations, and analyses on Affirmatively Furthering Fair Housing (AFFH).

The RHNA process is the part of Housing Element Law used to determine how many new homes, and the affordability of those homes, each local government must plan for in its Housing Element. This process is repeated every 8 years. For the 2023-2031 cycle the California Department of Housing and Community Development (HCD) provided the Association of Bay Area Governments (ABAG) with a Regional Housing Needs Determination (RHND) of 441,176 units. ABAG then developed a RHNA methodology to allocate the RHND across all cities, towns, and counties in the region. This determination of need is primarily based on estimated job growth. ABAG then allocated that need for each jurisdiction, based on their share of the region’s households and adjusted for access to high opportunity areas, proximity of jobs to transportation and transit, and an equity adjustment to ensure that each jurisdiction receives an allocation of lower-income units that is at least proportional to its share of the region’s total households.

[2] This WCS is using the Sites Inventory in the Draft Housing Element dated January 31, 2023.

3. Scope of Investigation

Per Water Code Section 10910, this WCS evaluates the projected water demand associated with the 2023-2031 Housing Element, in addition to existing and planned future uses in the EMID service area.

The 2023-2031 Housing Element includes a Sites Inventory that identifies sites that meet the RHNA target of 1,896 housing units in the 2023-2031 time period plus a buffer of 1,184 housing units.[3] The Sites Inventory identified several categories of sites including Pipeline Projects (units permitted or under construction but not completed as of June 30, 2022), Proposed Projects (projects that have submitted a development proposal but are not yet approved), Accessory Dwelling Units (ADUs), Other Residential Sites, and Commercial Sites to Allow Residential Mixed Use. This WCS evaluated the demands associated with identified Pipeline, Proposed, ADU, Commercial Sites to Allow Residential Mixed Use developments, and the remaining housing units (assumed to be on other sites in the Sites Inventory) to meet the City's 2023-2031 RHNA target of 1,896 units.

In this WCS, existing water use is based on year 2020 consumption. This represents the actual baseline year reported in the EMID 2020 UWMP. New development water use completed within the EMID service area between 2020 and the time this WCS was prepared in December 2022 is accounted for in the developments presented using actual data. The water use from developments that were completed after year 2020 was included uniquely in this WCS to account for the volume in addition to the "existing" 2020 use and because actual water use data from the completed development site is available - those site's water use was not available nor incorporated into the EMID 2020 UWMP year 2020 demands. Existing uses that were evaluated in this WCS include portions of the Gilead Integrated Corporate Campus and Pilgrim Triton Master Plan Project completed after 2020, housing units completed after 2020 for the 15-Acres Project (Foster Square), and the Charter Square Demo/Beach Park Elementary School.

In this WCS, planned future uses refers to developments that were not included in the 2023-2031 Housing Element to meet RHNA requirements. These developments were entitled, under construction, in application review, or estimated/planned in the EMID service area starting in 2020 and are estimated to be completed within the next 20 years. This WCS evaluated planned future developments including office to research and development (R&D) conversions, a hotel, housing in an area of the City of San Mateo served by EMID, other/additional residential development built between 2032-2045, and other non-residential growth (based on expected job growth). By incorporating demand from development that was completed between 2020 and December 2022, in addition to estimated demand from planned future development, a more detailed EMID service area

[3] This WCS is using the Sites Inventory in the Draft Housing Element dated January 31, 2023.

demand has been projected for determining water supply availability for the 2023-2031 Housing Element.

4. Documents and Persons Consulted

Pursuant to Water Code § 10910(c)(3), this WCS was prepared based on information contained within EMID's 2020 UWMP, the 2020 BAWSCA Regional Water Demand and Conservation Projections, the 2022 BAWSCA Regional Water Demand and Conservation Projections Update, supplemented by information on proposed developments from the 2023-2031 Housing Element and information prepared by Foster City and City of San Mateo staff from January 2017 to December 2022. The following development project specific environmental documents and water supply assessments were also reviewed:

- 2012 Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report[4]
    - Addendum No. 1 to the certified 2012 Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report
    - Addendum No. 2 to the certified 2012 Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report
    - Addendum No. 3 to the certified 2012 Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report
    - Addendum No. 4 to the certified 2012 Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report
    - Addendum No. 5 to the certified 2012 Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report
- Pilgrim Triton Master Plan Environmental Impact Report[5]
    - CEQA Compliance for the Proposed Amendment to the Pilgrim Triton Master Plan[6]
- 388 Vintage Park Drive Project Environmental Impact Report[7]
- New Hotel in Metro Center General Development Plan Area Environmental Impact Report[8]

[4]Urban Planning Partners. *Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report*, 2013
[5]LSA Associates. *Pilgrim-Triton Master Plan Environmental Impact Report*, March 2008.
[6]Urban Planning Partners. *CEQA Compliance for the Proposed Amendment to the Pilgrim Triton Master Plan*, July 2018.
[7]LSA Associates. *388 Vintage Park Drive Draft Environmental Impact Report*, December 2021.
[8]Urban Planning Partners. *New Hotel in Metro Center General Development Plan Area Environmental Impact Report*, June 2020.

- Water Capacity Investigation for 1065 E. Hillsdale Boulevard, Foster City[9]
- 1001 E. Hillsdale Boulevard – Water Demand Analysis[10]

C. EMID AND ITS WATER SUPPLY SOURCE

This section presents EMID's water supply source information and volume under normal and dry year conditions.

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 is governed by a board of five directors, who also serve as the City Council for Foster City. Foster City's Public Works Department manages and operates EMID.

EMID purchases all of its water from the San Francisco Public Utility Commission (SFPUC) as a contractual member of 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. As a retailer, EMID has no direct control over its water supply and treatment.

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. EMID has four at-grade, water storage tanks with a total capacity of 20 million gallons for emergencies, peak, and fire flow demand.

2. Service Area Information and Population Projections

The EMID service area 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

[9]Maddaus Water Management Inc. *Water Capacity Investigation for 1065 E. Hillsdale Boulevard, Foster City*, March 2021.
[10]BKF. *1001 E. Hillsdale Boulevard – Water Demand Analysis*, March 2022.

businesses, biotech research and development, and a small number of industrial businesses. EMID served an estimated population of approximately 36,500 as reported in the EMID 2020 UWMP and, as a result of this analysis, the service area population is estimated to be 36,700 by 2025.

Today, the City of Foster City is almost built-out with several redevelopment projects in various stages of planning. Table G-2 shows the projected population used for this WCS in 5-year increments until the year 2045. The percent increase for the population growth is also shown. This WCS uses the population estimate published in the EMID 2020 UWMP as the baseline for year 2020 service area population. With all foreseeable future residential development included on this effort's development list, this analysis developed an updated population projection through 2045. Population projections incorporate the City's RHNA, which was not available at the time the EMID 2020 UWMP was developed.

TABLE G-2 EMID CURRENT AND PROJECTED POPULATION

	2020[1]	2025	2030	2035	2040	2045
Service Area Population[2]	36,500	36,700	41,000	42,000	42,700	43,400
% Average Annual Population Increase		0.1%	2.1%	0.5%	0.33%	0.32%

[1] 2020 actual population is based on the EMID 2020 UWMP (Service Area includes a small portion of San Mateo in addition to all of Foster City).
[2] Values have been rounded to the nearest hundred.

3. 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 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 most recent Contract runs through June 30, 2034 and guarantees a supply assurance of 184 million-gallons-per-day (MGD) to BAWSCA member agencies. EMID's contractual allocation of water (known as its Individual Supply Guarantee) is 5.9 MGD, or approximately 6,610 AFY (2,154 MGY).

In 2020, EMID purchased 4,896 AFY of water from SFPUC.[11] Compared to historical use, SFPUC purchases have declined due to a decrease in water demand and the drought.

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. 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 184 MGD or 206,106 AFY total supply assurance to all BAWSCA member agencies. Going forward, SFPUC's annual normal year supply assurance to EMID is 5.9 MGD or 6,610 AFY as shown in Table G-3.

TABLE G-3 ANNUAL SUPPLY ASSURANCE FROM SFPUC

Water Supply Source	2025	2030	2035	2040	2045
SFPUC, MGD[1]	5.9	5.9	5.9	5.9	5.9
SFPUC, AFY	6,610	6,610	6,610	6,610	6,610

[1]EMID 2020 UWMP DWR Table 7-2

Although the Master Agreement and accompanying Water Supply Contract expire in 2034, the supply assurance (which quantifies SFPUC's obligation to supply water to its individual wholesale customers) survives the Contract expiration and continues indefinitely. 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 EMID 2020 UWMP allocations.

[11]Erler & Kalinowski, Inc. *2020 Urban Water Management Plan for Estero Municipal Improvement District*, Table 4-5, July 2021.

TABLE G-4 EMID PROJECTED ANNUAL SUPPLY ALLOCATIONS FOR A SINGLE AND MULTIPLE DRY YEARS

Water Supply Source	Status	Normal Year	Single Year	Year 2	Year 3	Year 4	Year 5
			Year 1				
2025 SFPUC, AFY	Max Allocation	6,610	3,170	2,716	2,716	2,716	2,716
	% Reduction	0%	48%	41%	41%	41%	41%
2030 SFPUC, AFY	Max Allocation	6,610	3,219	2,762	2,762	2,762	2,762
	% Reduction	0%	49%	42%	42%	42%	42%
2035 SFPUC, AFY	Max Allocation	6,610	3,275	2,808	2,808	2,808	2,572
	% Reduction	0%	50%	42%	42%	42%	39%
2040 SFPUC, AFY	Supply	6,610	3,354	2,879	2,879	2,538	2,538
	% Reduction	0%	51%	44%	44%	38%	38%
2045 SFPUC, AFY	Max Allocation	6,610	3,020	3,020	3,020	2,566	2,566
	% Reduction	0%	46%	46%	46%	39%	39%

a. Normal year allocation same through projection period per EMID 2020 UWMP DWR Table 7-2.
b. Dry year allocation unique to projection year and dry year type per 2020 UWMP DWR Table 7-3 & 7-4. In general, multiple dry years 2 & 3 supplies are the same, whereas multiple dry years 4 & 5 supplies are the same. More specifically, year 2030 multiple dry years 2-5 supplies are the same.

The following narrative from Section 7.1.3.4 of the EMID 2020 UWMP describing uncertainties in dry year water supply has been included in this WCS to provide context for the projected supply allocations in Table G-4.

> Significant water supply shortfalls are currently projected in future single and multiple dry years, directly because of the Bay-Delta Plan Amendment implementation. However, numerous uncertainties remain in the implementation of the Bay-Delta Plan Amendment. The water supply projections presented [in Table 7-5 of the EMID 2020 UWMP] likely represent a worst-case scenario in which the Bay-Delta Plan Amendment is implemented without the SFPUC and the State Water Resources Control Board (SWRCB) reaching a Voluntary Agreement and do not account for implementation of SFPUC's Alternative Water Supply Program (AWSP). Under this supply scenario, SFPUC appears not to be able to meet its contractual obligations (i.e., Level of Service goals) and EMID's forecasted demands during droughts.
>
> SFPUC also provided water supply reliability projections without the Bay-Delta Plan Amendment, which likely represents a highly optimistic water supply reliability outcome. These projections indicated that without the Bay-Delta Plan Amendment SFPUC would be able to supply 100 percent of projected RWS demands in all year types through 2045, except for the 4th and 5th consecutive

dry year in 2045, during which 90 percent of projected RWS demands (85 percent of the Wholesale demands) would be met. The large disparity in projected water supply reliability between these two scenarios demonstrates the current level of uncertainty.

In addition to these two UWMP scenarios, in a March 26, 2021 Special Commission Meeting, SFPUC staff presented HHLSM modeling results for 10 different scenarios, including scenarios with the implementation of the Tuolumne River Voluntary Agreement (TRVA), with the implementation of the Bay-Delta Plan Amendment and the AWSP, and with the use of a modified rationing policy and a modified design drought. Results for the scenarios with the TRVA and with the AWSP (particularly with a modified rationing policy and design drought) showed significantly improved RWS supply availability compared to the Bay-Delta Plan Amendment scenario shown herein.

The current sources of uncertainty in the dry year water supply projections are summarized below:

- Implementation of the Bay-Delta Plan Amendment is under negotiation. The SFPUC is continuing negotiations with the SWRCB on implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. The SFPUC, in partnership with other key stakeholders, has proposed a voluntary substitute agreement to the Bay-Delta Plan Amendment, the TRVA, that provides a collaborative approach to protect the environment and plan for a reliable and high-quality future potable water supply. This is a dynamic situation and the projected drought cutback allocations may need to be revised before the next (i.e., 2025) UWMP depending on the outcome of ongoing negotiations.
- Benefits of the AWSP are not accounted for in current supply projections. SFPUC is exploring options to increase its supplies through the AWSP. Implementation of feasible projects developed under the AWSP is not yet reflected in the supply reliability scenarios presented in the EMID 2020 UWMP and is anticipated to reduce the projected RWS supply shortfalls.
- Methodology for Tier One and Tier Two Wholesale drought allocations have not been established for wholesale shortages greater than 20 percent. The current Tier One and Tier Two Plans are not designed for RWS supply shortages of greater than 20 percent. For UWMP planning purposes per BAWSCA guidance, the Tier One Wholesale share for a 16 percent to 20 percent supply reduction (62.5 percent) has been applied for reductions greater than 20 percent and an equal percent reduction has been applied across all Wholesale agencies. BAWSCA member agencies have not formally agreed to adopt this shortage allocation methodology

and are in discussions about jointly developing an alternative allocation method that would consider additional equity factors if SFPUC is unable to deliver its contractual supply volume and cutbacks to the RWS supply exceed 20 percent.

Negotiations on the Bay-Delta Plan have been ongoing and in November 2022[12] the SFPUC, Turlock Irrigation District, and Modesto Irrigation District signed onto the March 2022 "Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions".[13] The signatories of the MOU submitted Voluntary Agreements (VAs) to the State Water Resources Control Board (SWRCB) as an alternative for the update of the Bay-Delta Plan proposed as a voluntary pathway to achieve reasonable protection of fish and wildlife beneficial uses. As of January 2023, no voluntary agreement proposals have been approved by the SWRCB. The SWRCB will consider the VA alternative along with other alternatives as part of the public process to update the Bay-Delta Plan. The Tuolumne River portion of the VAs will be evaluated in subsequent analyses.[14]

During periods of supply reductions, EMID will have to implement its Water Shortage Contingency Plan (WSCP) to reduce demand. The WSCP describes triggering levels and actions to be considered for each stage of demand reduction. As detailed in Section 6, the plan has six levels with each level set to respond to increasingly more severe conditions. The WSCP is designed to decrease demand to meet the reduced allocations by SFPUC, however, this WCS does not rely on the WSCP as the primary means to enable EMID to sustain sufficient supplies during projected shortfalls.

6. EMID Water Supply Shortage Contingency

The Urban Water Management Planning Act requires 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 WSCP as part of the UWMP. 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. Per Water Code Section 10632 (a)(3)(A),

[12] https://resources.ca.gov/Newsroom/Page-Content/News-List/Four-More-Local-Water-Agencies-Join-Agreement-to-Improve-the-Health-of-Rivers-and-Landscapes
[13] Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions, https://resources.ca.gov/-/media/CNRA-Website/Files/NewsRoom/email-items/VoluntaryAgreementMOUTermSheet20220329_SIGNED-20220811.pdf
[14] CA SWRCB. Frequently Asked Questions: Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements for the Sacramento River, Delta, and Tributaries Update to the San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan, https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/FAQ-BD-Plan-Scientific-Basis-Supplement.pdf

EMID must include six standard water shortage levels that represent shortages from the normal reliability as determined in the Annual Assessment. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10, 20, 30, 40, 50, and greater than 50% shortage compared to the normal reliability condition) and align with the response actions EMID would implement to meet the severity of the impending shortages.

Table G-5 shows the EMID's supply availability over five years based on the supply reliability estimates and allocation structure provided by SFPUC and BAWSCA. See the EMID 2020 UWMP for existing customer category breakdowns and water shortage policies for each customer class.

TABLE G-5 REGIONAL WATER SYSTEM (RWS) WHOLESALE SUPPLY AVAILABILITY DURING NORMAL AND DRY YEARS FOR BASE YEARS 2025 THROUGH 2045

Base Year	Normal Year	Single Dry Year	Multiple Dry Years				
			Year 1	Year 2	Year 3	Year 4	Year 5
2025	100%	64%	64%	55%	55%	55%	55%
2030	100%	64%	64%	55%	55%	55%	55%
2035	100%	64%	64%	54%	54%	54%	50%
2040	100%	63%	63%	54%	54%	48%	48%
2045	100%	54%	54%	54%	54%	46%	46%

Source: EMID 2020 UWMP DWR Table 7-2
a. Normal-year water supply availability is presented in terms of percentage of EMID's annual supply assurance (5.9 MGD).
b. Dry-year water supply availability is presented in terms of percentage of projected RWS demands for each base year consistent with the revised BAWSCA Drought Methodology that assumes equal percent cutbacks across all Wholesale Agencies.
c. Results reflect a scenario with the Bay-Delta Plan Amendment implemented in 2023. As discussed above in Section C.5, though the Tuolumne River Voluntary Agreement has been submitted to the SWRCB, it is not guaranteed water and therefore not considered in this WCS as a reliable source of supply under any water year conditions or shortfall conditions.

D. WATER DEMAND PROJECTIONS

This section presents projected demands for the EMID service area based on analysis of the 2023-2031 Housing Element and existing and planned future uses. Per the City's direction, this WCS assumes the EMID 2020 UWMP baseline water use and all post 2020 development project estimated demand. In some cases, values are rounded to the nearest single digit and totals may not align due to rounding.

1. Future System Demand Projections

Table G-6 shows the future system demand projections without additional development and the difference (excess supply allocation) until 2045. This table presents existing demand projections using the year 2020 actual demand as reported in the EMID 2020 UWMP, adjusted for active and passive savings over time, and assumes no growth in

accounts in the EMID service area. Active savings refers to the savings that result from implementing conservation measures. Passive savings refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs implemented by water suppliers. These savings result primarily from the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards, the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards, and inclusion of low-water use landscaping and high-efficiency irrigation systems to minimize outdoor water use in new connections and developments in accordance with the State's Model Water Efficient Landscape Ordinance (MWELO).[15]

As shown, available supplies are sufficient to meet system demand projections in a normal year.

TABLE G-6 FUTURE SYSTEM DEMAND PROJECTIONS (WITHOUT ADDITIONAL DEVELOPMENT)

	2020[1]	2025	2030	2035	2040	2045
SFPUC Supply, AFY	6,610	6,610	6,610	6,610	6,610	6,610
Demand Projections with Passive and Active Conservation Savings, AFY[2]	4,896	4,648	4,371	4,223	4,100	4,113
Annual Excess, AFY	1,715	1,962	2,240	2,388	2,511	2,497
Percent Excess	26%	30%	34%	36%	38%	38%

[1]2020 data is based on actual demand numbers found in the EMID 2020 UWMP.
[2]2025-2045 water demands are estimated using reported passive and active conservation savings volumes per the December 5, 2022 BAWSCA Study.

2. Development Descriptions and Net Additional Demands

This section presents background and demand calculation information on the 2023-2031 Housing Element housing sites and existing and future planned developments not included in the 2023-2031 Housing Element. All development projects are within the service area of EMID. EMID has completed the WCS based on available water use data from completed developments and the land use proposed for the developments listed below. Per City's direction, this WCS assumes the EMID 2020 UWMP baseline water use and all post 2020 development project estimated demand. If a development project was built between 2020 and 2022, its actual water use was included when available. EMID has a first-come, first-served policy for serving new development projects, with each new major development requiring a water demand analysis.

[15]Erler & Kalinowski, Inc. *2020 Urban Water Management Plan for Estero Municipal Improvement District*, P-35, July 2021.

A review of 2020-2022 water use was conducted for more than 15 existing office, R&D and residential properties located in the service area and built within the last 10 years. Derived demand factors based on these sites' water use and square footages were used in this analysis when factors by office, R&D and residential type were consistent with each other, respectively. In many cases, due to the COVID-19 pandemic, demand factors for office and R&D buildings were not consistent and deemed too speculative; therefore, older more conservative demand factors were used. Specific demand factor sources are presented by development in this section.

a. Biomed Phase 2

The approved development is on approximately 20 acres of land located in Foster City. All seven, one- and two-story office/warehouse buildings totaling approximately 280,000 square feet were demolished by the current owner and development applicant. The approved development would contain up to 595,000 total square feet of life sciences research facilities in a campus setting, which includes up to 555,000 square feet of laboratory and office uses and a 40,000-square-foot building to house amenities for employees and visitors. Phase 1, completed in early 2018, consisted of 320,000 square feet in two lab/office buildings and 40,000 square feet in one amenities building. Phase 2 consists of 235,000 total square feet of R&D use and office space in one building and 84,916 square feet of landscaping. The Phase 2 development proposes that 70 percent of the 235,000 square feet be developed for R&D uses and 30 percent be developed for office uses.

EMID staff have determined that existing land use at a comparable development, 355 Lakeside Drive and 309 Velocity Way, is similar to the land use for the new R&D and office space building at this site. 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 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. To ensure that maximum water demand was studied, the WCS calculated demand assuming 70 percent of the total square footage would be R&D use and 30 percent would be office use. Based on the calculations, approximately 16 AFY will be required for the Phase 2 R&D and office space.

Landscape area was based on the same proportion of turf (13,824 square feet) and shrubs (71,092 square feet) assumed for Phase 1. Demand was estimated based on local climate factors with an average regional reference evapotranspiration (ETo) of 47 inches per year. For turf, an irrigation efficiency of 65% and a plant factor of 0.7 or higher was assumed; for shrubs, an irrigation efficiency of 85% and a plant factor of 0.6 was assumed. Based on the calculations, approximately 3 AFY will be required for the proposed landscaping. The total demand for the proposed development including landscaping will be 19 AFY. This development is estimated to be completed by 2025.

b. Gilead Integrated Corporate Campus

In 2013, the city certified the Gilead Sciences Integrated Corporate Campus Master Plan Final Subsequent Environmental Impact Report and adopted Ordinances approving the Amended General Development Plan/Rezoning (GDP) and the First Amendment to the Development Agreement. The GDP includes the development of a biopharmaceutical campus. The Development Agreement includes an allotment of 206 AF of water by EMID.[16]

Proposed future development on site involves the removal of 46,943 square feet of recreational turf and the net total development of 361,679 square feet of R&D space, 359,971 square feet of office space, and 23,600 square feet of storage/warehouse space. City staff confirmed that the existing land use at 355 Lakeside Drive and 309 Velocity Way is similar to the land use for the proposed R&D and office space buildings, respectively. Therefore, historical consumption data for these sites was used as a basis to project water demand for the proposed 361,679 square feet of R&D space and 359,971 square feet of office space. The 2014-2017 consumption data shows that 25 gallons of water per year (GPY) for each square foot of R&D space is needed, and the 2016-2017 data yields 13 GPY for each square foot of office space. Based on the calculations, approximately 28 AFY will be required for the R&D buildings and 15 AFY for the office space. The storage/warehouse building is estimated to use 1 AFY based on an average of unrefrigerated warehouse water demand factors from 5 sources (including EPA, Univ of FL, NY, DC, and Philadelphia) as presented in the 2018 "ICI Water Use by the Numbers Presented at Emerging Water Technology Symposium" by Bill Hoffman, P.E. and warehouse and storage combined demand factors reported in 2016 CA agency Commercial Demand Factor Study. The 46,943 square feet of recreational turf that will be demolished is estimated to have consumed approximately 5 AFY based on local climate factors, an assumed irrigation efficiency of 65%, a plant factor of 0.7 or higher, and an average regional ETo of 47 inches per year.

Per the Development Agreement for the Gilead development, an estimated site water use value of 206 AF is contractually obliged to be served by EMID. Based on an estimated existing water use of 132 AF for the site, 39 AFY for the specified development elements summarized in this WCS, and a 206 AF water allotment per the 2012 Gilead WSA and EMID's obligated service level, the estimated demand for unspecified future development is approximately 35 AFY.

The net projected demand is calculated by subtracting the existing recreational turf consumption from the total projected development demand (including the unspecified

[16] Section 2.17 of the Development Agreement states "…during the Term of this Agreement, EMID will reserve and provide sanitary sewage and water supply capacity, in quantities required for full development of the Project, as described in the EIR." The EIR projected a water demand of 206 AF.

development), resulting in approximately 74 AFY of additional water demand. This development is estimated to be completed in various phases by 2035.

c. Pilgrim Triton Project Completion

The originally approved 2008 Pilgrim Triton Master Plan development included 296,000 square feet of commercial/office space, a one-acre park, and 730 units of residential housing to be developed in four phases. In 2017, the applicant submitted revised plans for Pilgrim Triton Phase C that amended the 2015 proposal to include 22 units of workforce housing and 70 for-sale townhouse units on 4.78 acres, replacing the existing entitlement of 225,943 sq. ft. of commercial office and 17 townhouse units on 4.78 acres in the Pilgrim Triton Master Plan development. With a net increase of 75 residential units for Pilgrim Triton Phase C, the total number of residential units for the entire Pilgrim Triton Master Plan development increased from 730 units to 805 units. The total amount of commercial/office space for the entire Pilgrim Triton Master Plan development decreased from 296,000 square feet to 70,057 square feet.

The following development pieces of the Pilgrim Triton Project Completion were evaluated in this WCS:

- Development of 70 townhouse-style condominium units known as Laguna Vista. Townhouse units will consist of two, three, and four-bedroom plans, and range in size from approximately 1,220 square feet to 2,050 square feet. The estimated demand for the proposed 70 townhouses is 6.4 AFY. Indoor water use was calculated by multiplying an estimated 1.7 people per household, based on average multifamily housing occupancy rates, with the average indoor water use of 48 GPCD, which is consistent with the EMID service area multifamily use.

- Development of 22 workforce housing apartment units that are owned by the City. Workforce housing units will be one and two-bedroom units and range in size from approximately 760 square feet to 1,110 square feet. The workforce housing units will require a total demand of 2 AFY. The estimated water use was calculated using the methodology described previously for townhouses with typical water use of 48 GPCD for indoor use and 1.7 people per household.

- 34,531 square feet of landscaping for the townhouse and workforce housing units. 29,336 square feet of landscaping will be associated with the townhomes and 5,195 square feet will be associated with the workforce housing. 95% of the landscaping will be shrubs and 5% will be turf. Demand was estimated based on local climate factors with an average regional ETo of 47 inches per year; for turf an irrigation efficiency of 65% and a plant factor of 0.7 or higher was assumed; for shrubs, an irrigation efficiency of 85% and a plant factor of 0.6 was assumed. The townhouse and workforce housing landscaping will require 1.2 AFY.

- Development of a new 24,103 square foot portion of the existing 1.2 acre Pilgrim Triton Plaza Park. Of this new area, only 11% is turf. Turf water is estimated based on local climate factors, assuming an irrigation efficiency of 65%, a plant factor of 0.7 or higher, and an average regional ETo of 47 inches per year for a total demand of approximately 0.26 AFY.

- A 9,400 square foot expansion of the Family Dental building. The expansion will require approximately 2.9 AFY assuming a 27 GPD/100 square feet demand factor based on the 2016 Castaic Lake Water Agency (CLWA) Commercial Demand Factor Study which reported medical/dental/veterinary use per square footage factors for CA water agencies.

- Development of 20 townhouse units known as Waverly Cove were completed in 2020. Demand for these units was calculated using actual annual site demand based on recent July 2021- June 2022 water use data for a total demand of 3.1 AFY.

- Occupancy of the 3,970 square feet of retail space on the ground floor of the Triton Apartments that has been vacant since the building was completed will require approximately 0.37 AFY assuming a conservative 8 GPD/100 square feet demand factor based on the 2016 CLWA Commercial Demand Factor Study which reported retail space use per square footage factors for CA water agencies.

Development of the portions of the Pilgrim Triton Project Completion described above will result in approximately 16 AFY net development water demand. This development will be completed in various phases by 2025.

d. 15-Acres Project (Foster Square):

The approved development is on approximately 15 acres located adjacent to the Foster City Civic Center and the Peninsula Jewish Community Center. The entire Foster Square development 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. Of the market rate senior units, 152 were completed between 2017 and 2020, and 48 units were completed after 2020.

For the analysis of the 48 units that were built after 2020, a demand factor of 58 GPD/unit was developed based on actual water use data from the completed residences. The 48 units are expected to require approximately 3.1 AFY of additional water demand.

e. Chess/Hatch Drive Offices Project:

Implementation of the proposed Master Plan will result in the demolition of 11 existing commercial/industrial buildings, totaling 190,000 square feet, and phased construction

of three new multi-story office buildings, totaling 800,000 square feet. Net new development on the site would total 610,000 square feet of office use.

Based on historical 2016-2017 consumption data from Gilead Sciences at 309 Velocity Way that includes landscape irrigation and a cooling tower, a water use factor of 13 GPY/square foot was applied to the proposed 800,000 square feet of office space, yielding 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 approximately 18 AFY. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total projected demand, resulting in approximately 15 AFY of additional water demand. This development is estimated to be completed between 2026 and 2030.

f. 1601 Beach Park Blvd/Sea Island:

The existing 3,330 square foot church building is located on an approximately 1.35-acre site at 1601 Beach Park Boulevard. The subject site is located at the northwest corner of Beach Park Boulevard and Gull Avenue. A pre-school previously operated at the church and for the purposes of projecting a realistic water demand for the site allowed by the current zoning and General Plan designation is assumed to reopen sometime in 2023.

The existing church building has had no water use in recent years. This analysis used historical water use data for the site from 2004-2008 to develop the demand estimate. The total water demand required for this site is approximately 2.2 AFY.

g. New Hotel in Metro Center:

The proposed development involves the development of an approximately 83,000 square-foot, six-story hotel on an approximately 1.36-acre vacant lot at the corner of Metro Center Boulevard and Shell Boulevard. There is no building to be demolished, but there is existing irrigation at the site. The most recent proposal for the hotel includes 154 guest rooms, a restaurant, meeting space, and a rooftop bar, in addition to several features generally associated with short-stay hotels, including a fitness center, lobby lounge, and a guest laundry room. The proposed development would provide approximately 140 parking spaces, new drive aisles, landscaping, and covered outdoor seating areas.

Water use estimates are derived from number of guests, staff, occupancy, site area, etc. Values are consistent with industry standards and represent 100 GPD/room. Projected water demand for this development is approximately 18 AFY. Two years of consumption data from August 2017 to July 2019, solely for the purpose of irrigation, was used to determine the existing site water demand of approximately 5.9 AFY. The net demand is calculated by subtracting the existing consumption from the total projected development

demand, resulting in approximately 12 AFY of additional water demand. This development is estimated to be completed between 2027 and 2030.

h. 388 Vintage Park:

The proposed development involves redevelopment of the vacant El Torito restaurant into a new office building with approximately 50% office and 50% R&D space. The proposed plans for the site include demolition of the vacant restaurant, development of 95,931 square feet of a new Class A life sciences office,198 vehicular parking spaces,16 motorcycle and 20 bicycle parking spaces, and an outdoor roof terrace at the 4th level for employee amenity use.

Historical 2016-2017 consumption data from Gilead Sciences at 309 Velocity Way was used to calculate the projected demand for the office portion of the development. Based on a large office space with a cooling tower and landscape irrigation, a water use factor of 13 GPY/square foot was applied to the proposed 47,965 square feet of office space. This factor yields a demand of 2 AFY for the office portion of the proposed development. Historical 2014-2017 consumption data from Gilead Sciences at 355 Lakeside Dr was used to calculate the projected demand for the R&D portion of the development. A water use factor of 25 GPY/square foot was applied to the proposed 47,965 square feet of R&D space. This factor yields a demand of 3.7 AFY for the R&D portion of the proposed development. The restaurant onsite has been closed since 2018 so there was no recent water use data to evaluate, and thus no demand was assumed. The total water demand required for this site is approximately 5.7 AFY. This development is estimated to be completed by 2025.

i. Lantern Cove Apartments Redevelopment:

The proposed development involves removing 64 existing dwelling units and adding 420 new dwelling units, resulting in a net total of 356 new dwelling units on a 16.8-acre site known as Lantern Cove Apartments. The subject site is located to the south of Port Royal Avenue between the two points of intersections of Port Royal Avenue and Rock Harbor Lane. The site currently includes thirty-five 2-story apartment buildings containing 232 dwelling units, a leasing/amenity building, and 482 parking spaces.

This analysis assumed an indoor water use factor of 48 gallons per capita per day (GPCD) and a household size of 2 people per unit to calculate total water demand for the 356 new units. These values are based on the 2021 average multifamily per capita indoor water use presented in the 2021 Estero DSS Model (Maddaus Water Management's Demand Side Management Least Cost Planning Decision Support System [DSS Model]) and the average household size of a renter-occupied unit from 2016 American Community Survey data for the Foster City area. Net demand for this development is approximately 41 AFY. This development is estimated to be completed in 2026.

j. Bridgepointe Redevelopment (City of San Mateo):

Bridgepointe is an underutilized commercial shopping center located within the City of San Mateo. There are six parcels ranging in size from 1.3 acres to 12 acres with significant amounts of surface parking. There have been a variety of discussions with the owners of the shopping center who have expressed interest in mixed-use redevelopment that includes both housing and commercial. By assuming mixed-use development on these parcels, the City of San Mateo is calculating the realistic capacity at 40 units per acre for a total of 1,188 units. Bridgepointe is located within the City of San Mateo, and was included in this WCS because it is served water by EMID.

This analysis assumed no net irrigation increase, an indoor water use factor of 48 GPCD, and a household size of 1.4 people per unit to calculate water demand for the 1,188 new multifamily units. These values are based on the 2021 average multifamily per capita indoor water use presented in the 2021 Estero DSS Model and occupancy data from neighboring Schooner Bay and Lantern Cove one-bedroom units. Net demand for this development is approximately 89.5 AFY. Approximately 75% of the total housing units will be completed by 2030, and the remaining units are estimated to be completed by 2035.

k. 1065 E. Hillsdale (Century Plaza) R&D Conversions:

The site is currently occupied by a 4-story, 115,629 square foot building (Century Plaza Office Building). The applicant proposes to convert up to 75 percent of the existing building to R&D use (approximately 87,000 square feet).

Historical 2014-2017 consumption data from Gilead Sciences at 355 Lakeside Dr was used to calculate the projected demand for the R&D portion of the development. A water use factor of 25 GPY/square foot was applied to the proposed 87,000 square feet of R&D space. This factor includes landscape irrigation and yields a demand of 6.8 AFY for the R&D space. A demand factor of 19.1 GPY/square foot was applied to the proposed 29,000 square feet of office space. The demand factor was based on the site's actual building and outside irrigation meter usage from February 2019-March 2020 (pre-COVID). This factor yields a demand of 1.7 AFY for the proposed office space. The existing building that will be redeveloped uses approximately 6.8 AFY based on 2019 pre-COVID water use for the site. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total demand, resulting in approximately 1.7 AFY of additional water demand. This estimated net increase in site demand will be fully offset by converting the existing landscaping to drought tolerant landscaping and conducting an efficient landscape irrigation equipment upgrade. Therefore, no net new demand is expected for the site. This development is estimated to be completed by 2025.

This development was evaluated but is ultimately not included in calculations because it will have a net zero demand with the planned development and landscape conversions.

This approach is consistent with the current trends to consider stressed water supply and demand conditions.

l. 1065 E. Hillsdale Retail Pavilion (Century Plaza UP-21-0015):

The proposed development involves development of a new, approximately 5,200 square-foot, stand-alone outdoor pavilion structure featuring restaurant and retail tenant spaces as an ancillary amenity to the existing Century Plaza office use located at 1065 E. Hillsdale Boulevard, situated at the southwest corner of Foster City Boulevard and E. Hillsdale Boulevard.

Demand for the proposed 2,600 square feet of retail space was calculated at 0.24 AFY using a conservative 8 GPD/100 square feet demand factor based on the 2016 CLWA Commercial Demand Factor Study that reported retail space use per square footage factors for CA water agencies. Demand for the proposed 2,600 square feet of restaurant space was calculated at 2.3 AFY using a conservative 80 GPD/100 square feet demand factor based on the 2016 CLWA Commercial Demand Factor Study that reported fast-food space use per square footage factors for CA water agencies. Net demand for this development is 2.6 AFY. This development is estimated to be completed in 2023.

m. Schooner Bay I Redevelopment:

Schooner Bay is located in the southeast corner of Foster City at the end of Edgewater Boulevard. The 24.8 acre property includes 312 existing apartment units. The proposal is divided into two parts: Schooner Bay I and Schooner Bay II.

The proposed Schooner Bay I development involves the removal of 56 existing units and development of 113 studios, 220 one-bedroom, and 75 two-bedroom units for a total of 408 new units in one building.

Demand for the 408 new residential units was calculated using an assumed 55 GPCD and 1.4 people per household per studio and one-bedroom units, and 2.2 people per household per two-bedroom unit. These values were based on per capita water use at the nearby Triton Apartments, and existing Schooner Bay occupancy data. The total demand for the new residential units is 39 AFY.

Demand for the existing 56 units that will be demolished was calculated using an assumed 48 GPCD and 1.9 people per unit. These values were based on existing Schooner Bay occupancy data and average multifamily per capita indoor water use presented in the 2021 Estero DSS Model. The total demand from the demolished units is 5.7 AFY. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total demand, resulting in approximately 33 AFY of additional water demand. This development is estimated to be completed in 2028.

n. Schooner Bay II Redevelopment:

The proposed Schooner Bay II development involves the removal of 56 existing units in seven buildings and development of 94 studios, 159 one-bedroom units, and 97 two-bedroom units for a total of 350 new units.

Demand for the 350 new residential units was calculated using an assumed 55 GPCD and 1.4 people per household per studio and one-bedroom units, and 2.2 people per household per two-bedroom unit. These values were based on per capita water use at the nearby Triton Apartments, and existing Schooner Bay occupancy data. The total demand for the new residential units is 34 AFY.

Demand for the existing 56 units that will be demolished was calculated using an assumed 48 GPCD and 1.9 people per unit. These values were based on existing Schooner Bay occupancy data and average multifamily per capita indoor water use presented in the 2021 Estero DSS Model. The total demand from the demolished units is 5.7 AFY. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total demand, resulting in approximately 28 AFY of additional water demand. This development will be completed in 2029.

o. Charter Square Demo/Beach Park Elementary School:

This development, completed in 2021, involved the demolition of 58,479 square feet of retail space at 1058 Shell Blvd in 2019 and development of Beach Park Elementary School. Beach Park Elementary School currently serves grades K-5.

Demand for the elementary school is 4.5 AFY based on actual site water use data from August 2020-July 2021. Demand from the 58,479 square feet of retail space that was demolished was approximately 0.1 AFY based on the site's average annual water use from 2012-2017. Therefore, the net demand resulting from the development is calculated by subtracting the consumption from the demolished building from the total demand, resulting in approximately 4.3 AFY of additional water demand.

p. 1010 Metro Center Blvd. (OSH Redevelopment):

The proposed development involves re-occupancy of the vacant 58,300 square foot retail building at the site at 1010 Metro Center Boulevard in 2023 and potential redevelopment with mixed use and other residential housing by 2030. This analysis estimates 111 residential units will be developed, as indicated on the Sites Inventory in the January 31, 2023 Draft Housing Element. The Housing Element explains that the 111 units is "discounted" pursuant to HCD Guidelines to account for the potential that the owner will choose to develop the site with only commercial use rather than a mixed

commercial/residential use. The site is 6.345 acres with frontage on both Metro Center Boulevard and Foster City Boulevard.

It was assumed that demand from re-occupancy of the 58,300 square foot retail space aligns with historical average annual use from 2014-2018 yielding a total demand of 1.3 AFY. The demand for the potential 111 residential units was calculated assuming 1.79 people per unit based on recent multifamily occupancy values for over 7 local developments and 48 GPCD for a total demand of 10.7 AFY. No net additional outdoor water use was assumed. Therefore, the total water demand for this development is approximately 12 AFY. The retail portion of this development is expected to be completed by 2025 and the residential portion will be completed by 2030.

q. 1001 E. Hillsdale (Parkside Towers):

This development involves the conversion of 317,599 square feet of office space to R&D use. Historical 2014-2017 consumption data from Gilead Sciences at 355 Lakeside Dr was used to calculate the projected demand. A water use factor of 25 GPY/square foot was applied to the proposed 317,599 square feet of R&D space. This factor includes landscape irrigation and yields a demand of 25 AFY for the R&D space. Historical 2016-2017 water use data from Gilead Sciences at 309 Velocity Way was used to calculate demand from the existing 317,599 square feet of office space that will be demolished. A water use factor of 13 GPY/square foot was applied to the 317,599 square feet of office space to be demolished yielding a demand of 13 AFY. This factor includes landscape irrigation and is based on a large office space with a cooling tower. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total demand, resulting in approximately 12 AFY of additional water demand. According to Foster City staff, the 12 AFY of new water demand will be completely offset with high efficiency fixtures as required by the conditions of approval. This development is estimated to be completed between 2025 and 2030.

This development's water use was evaluated by the City and was ultimately not included in calculations because it will have a net zero demand with the planned redevelopment and high efficiency fixtures. This approach is consistent with the current trends to consider stressed water supply and demand conditions.

r. 901/951 Mariner's Island Blvd Office (City of San Mateo):

This development involves conversion of two seven-story office buildings from an office use to R&D use.

Historical 2014-2017 consumption data from Gilead Sciences at 355 Lakeside Dr was used to calculate the projected demand. A water use factor of 25 GPY/square foot was applied to the proposed 248,897 square feet of R&D space. This factor includes

landscape irrigation and yields a demand of 19 AFY for the proposed R&D space. The existing 245,972 square feet of office space that will be redeveloped at 901 and 951 Mariner's Island Blvd used 16 AFY based on actual site average annual water use from 2012-2022. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total demand, resulting in approximately 3 AFY of additional water demand. This development is estimated to be completed by 2025.

s. 1400 Fashion Island Blvd (City of San Mateo):

This development involves conversion of a 175,459 square foot, 10-story office building from an office use to R&D use. No change in floor area or demolition is anticipated.

Historical 2014-2017 consumption data from Gilead Sciences at 355 Lakeside Dr was used to calculate the projected demand. A water use factor of 25 GPY/square foot was applied to the proposed 175,459 square feet of R&D space. This factor includes landscape irrigation and yields a demand of 13.5 AFY for the proposed R&D space. The existing 175,459 square feet of office space that will be redeveloped used 11.8 AFY based on actual site average annual water use from 2019. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total demand, resulting in approximately 1.7 AFY of additional water demand. This development is estimated to be completed by 2025.

t. 999 Baker Way (City of San Mateo):

This development involves conversion of 36,062 square feet of office space to R&D use.

Historical 2014-2017 consumption data from Gilead Sciences at 355 Lakeside Dr and water use data from the existing office site was used to calculate the projected demand. A water use factor of 25 GPY/square foot was applied to the proposed 36,062 square feet of R&D space. This factor includes landscape irrigation and yields a demand of 2.8 AFY for the proposed R&D space. The existing 36,062 square feet of office space that will be redeveloped was assumed to use 2.3 AFY based on actual site average annual water use from 2019 that was proportioned to the area of renovation. Therefore, the net demand resulting from the proposed development is calculated by subtracting the existing consumption from the total demand, resulting in approximately 0.5 AFY of additional water demand. This development is estimated to be completed by 2025.

u. Other/Additional Non-Residential Growth:

This WCS calculates demand for 200 remaining net additional jobs (to be online between 2030 and 2040) that were estimated in consideration of ABAG's job projections and based on the anticipated conversion of office uses to R&D which may result in job losses. The estimated 200 other jobs accounted for in this WCS accounts for the scarcity of land area or potential redevelopment of space for job growth. This additional job

growth between 2030 and 2040 is assumed to be 3% retail, 35% office and 62% R&D based on recent development trends.

Demand for this additional job growth is calculated assuming 405 square feet/employee based on an average of Foster City's projected development commercial ratios. Historical 2014-2017 consumption data from Gilead Sciences at 355 Lakeside Dr is used to calculate demand for R&D water use based on a factor of 25 GPY/square foot. Historical 2016-2017 consumption data from Gilead Sciences at 309 Velocity Way is used to calculate demand for office water use based on a factor of 13 GPY/square foot. A conservative factor of 8 GPD/100 square feet based on the 2016 CLWA Commercial Demand Factor Study which reported retail space use per square footage factors for CA water agencies is used to calculate the demand for retail water use. It is assumed that any outdoor use will be net zero or reduced because of projected conservation requirements. The additional job growth between 2030 and 2040 will require approximately 5.2 AFY of additional water demand.

v. Accessory Dwelling Units (ADU) for Eaves and Single-Family Homes:

The Eaves is located at the southeast corner of Foster City Boulevard and Marlin Avenue. The Eaves Apartments includes 288 units on 11 acres. State law and Chapter 17.78 of the Foster City Municipal Code allow multi-family ADUs up to 25% of the existing number of dwelling units. For The Eaves, this would allow a maximum of 72 ADUs. Preliminary plans were submitted for 22 multi-family ADUs at The Eaves Apartments. The ADUs would be created from existing tuck-under parking spaces, an existing second floor lounge, and include two of the ADUs in a freestanding structure(s). The ADUs would be studio apartments of about 500 square feet each.

The City has had a few ADUs and Junior ADUs (JADUs) permitted and constructed at single family houses (not multi-family ADUs) in recent years. The City has issued an average of 2.66 building permits per year for ADUs over the last three years (2020-2022), with the biggest growth in the last two years. The significant growth in ADUs indicates that the City can reasonably expect increased ADU production at the 2021 rate of three per year. At a rate of approximately 3 ADUs/year, with 4 in year 2023 as they are currently under construction, a total of 28 SF ADUs are estimated to be constructed in Foster City during the 2023-2031 RHNA planning period. No ADUs are estimated to be constructed after the RHNA planning period ends in 2031. This number is conservative given additional changes in State law, the City's efforts to further facilitate ADU construction, actual ADU production over the last two years, and new programs to promote the production of ADUs.

A total of 56 ADUs are assumed to be constructed between 2020 and 2045 from development of the Eaves ADUs (22) in 2024 and single family ADUs (34) between 2020 and 2031. Demand for the these ADUs will be 4.5 AFY. This was calculated assuming a 48 indoor GPCD and 1.5 people per household based on the approximate average of the

1-bedroom units in Lantern Cove and Schooner Bay. Demand from the existing landscape assumed to be removed for each single family ADU development will be 0.3 AFY. This was calculated assuming landscape is 10% of the demand for a single family ADU. Therefore, net demand for 56 ADUs will be approximately 4.2 AFY.

w. 2023-2031 Residential Development to Achieve RHNA (Other Sites in the Sites Inventory):

This analysis assumed 663 additional units on sites in the Sites Inventory that are not included in planned future developments are needed to meet the City's RHNA requirement of 1,896 by 2031. Demand for the 663 units was calculated using an indoor water use factor of 48 GPCD (consistent with EMID service area multifamily indoor water use) and 1.7 people per household (consistent with local multifamily occupancy rates). Any outdoor use was assumed to be net zero or reduced because new units will be replacing existing buildings or landscaping. It was also assumed that there would be no demolition of existing buildings to accommodate the RHNA units. Net demand from the 663 units is approximately 61 AFY.

x. Other/Additional Residential Development (Other Sites in the Sites Inventory)

The City's 2023-2031 Housing Element Sites Inventory identifies sites to meet construction objectives/RHNA targets. The City estimates 3,080 total housing units are needed, including a buffer for excess capacity so that the Sites Inventory can demonstrate sufficient capacity. Since the RHNA requirement is expected to be met by 2031 with the planned development of 1,896 units, the remaining anticipated 1,184 "buffer units" outlined in the Site Inventory were evaluated in this WCS as additional housing growth between 2032 and 2045. More specifically, this analysis assumed 30% of these units would come online between 2032 and 2035; 35% would come online between 2035 and 2040; and the remaining 35% units would be built and occupied between 2040 and 2045.

Demand for the 1,184 additional residential development units was calculated assuming a 48 indoor GPCD (consistent with EMID current average multifamily indoor use) and 1.7 people per unit (based on local average multifamily housing occupancy rates). Any outdoor use was assumed to be net zero or reduced because new units will be replacing existing buildings or landscaping. It was also assumed that there would be no demolition of existing buildings to accommodate the additional residential development. The additional residential development will require approximately 108 AFY of additional water demand.

E. SUPPLY VS. DEMAND COMPARISON

1. Comparison of Supply and Demand

Table G-7 shows the total projected annual additional net demand generated from the various development projects evaluated in this WCS in addition to estimated total system water loss apportioned to the net demand volume from the new development. Net additional demand (as opposed to new development demand) takes into account existing site water use including buildings that will be demolished or landscapes that will be converted. Total system water loss is the sum of apparent and real losses. Apparent loss is associated with metering inaccuracies, billing and administrative errors, authorized unmetered uses (e.g., system flushing and firefighting), and unauthorized uses. Real loss is associated with physical water lost through line breaks, leaks and seeps, and overflows of storage tanks. This WCS applies an additional total system water loss demand of 7.75% based on the average year 2020 and 2021 EMID American Water Works Association (AWWA) validated water loss audits. The EMID 2021 AWWA validated water loss audit reported a total system water loss percentage of 7.2% and a total system water loss percentage of 8.3% in 2020. The 2022 BAWSCA Demand Study estimated an 8.3% total system water loss percentage.

TABLE G-7 ANNUAL NET ADDITIONAL FUTURE DEMANDS FROM VARIOUS DEVELOPMENTS (AFY)

Development Project	2025	2030	2035	2040	2045
Biomed Phase 2	19	19	19	19	19
Gilead Integrated Corporate Campus	0	10	74	74	74
Pilgrim Triton Project Completion	16	16	16	16	16
15-Acres Project (Foster Square)	3.1	3.1	3.1	3.1	3.1
Chess/Hatch Drive Offices Project	0	15	15	15	15
1601 Beach Park Blvd/Sea Island	2.2	2.2	2.2	2.2	2.2
New Hotel in Metro Center (VISA)	0	12	12	12	12
388 Vintage Park	5.7	5.7	5.7	5.7	5.7
Lantern Cove Apartments Redevelopment	0	41	41	41	41
Bridgepointe Redevelopment (City of San Mateo)	0	67	89	89	89
1065 E. Hillsdale (Century Plaza) R&D Conversions[1]	0[1]	0[1]	0[1]	0[1]	0[1]
1065 E. Hillsdale Retail Pavilion (Century Plaza UP-21-0015)	2.6	2.6	2.6	2.6	2.6
Schooner Bay I Redevelopment	0	33	33	33	33
Schooner Bay II Redevelopment	0	28	28	28	28
Charter Square Demo/Beach Park Elementary School	4.3	4.3	4.3	4.3	4.3
1010 Metro Center Blvd (OSH Redevelopment)	1.3	12	12	12	12
1001 E. Hillsdale (Parkside Towers)[1]	0[1]	0[1]	0[1]	0[1]	0[1]
901/951 Mariner's Island Blvd Office to Life Science Building Conversion (City of San Mateo)	3.1	3.1	3.1	3.1	3.1
1400 Fashion Island Blvd (City of San Mateo)	1.7	1.7	1.7	1.7	1.7

Development Project	2025	2030	2035	2040	2045
999 Baker Way (City of San Mateo)	0.5	0.5	0.5	0.5	0.5
Other/Additional Non-Residential Growth	0	0	2.6	5.2	5.2
Accessory Dwelling Units (ADU) for Eaves and Single-Family Homes	2.9	4.0	4.2	4.2	4.2
2023-2031 Residential Development to Achieve RHNA (Other Sites in the Sites Inventory)	0	61	61	61	61
Other/Additional Residential Development (Other Sites in the Sites Inventory)	0	0	32	70	108
Subtotal Developments	62	341	463	504	541
Estimated Total System Water Loss[2]	5	26	36	39	42
Grand Total[3]	67	368	499	543	583

[1]These development projects' net water use was evaluated and was ultimately not included in calculations because they are estimated to have a net zero demand due to landscape redevelopment or the installation of ultra-high efficiency fixtures on site. This approach is consistent with the current trends to consider stressed water supply and demand conditions.
[2]With all future development demand in the service area captured in this table, estimated total system water losses apportioned to this demand are likewise included at 7.75% based on the average year 2020 and 2021 EMID AWWA validated water loss audits.
[3]In some cases, values are rounded to the nearest single digit and totals may not align due to rounding.

Table G-8 shows the total system demand during non-drought (normal) conditions projected for EMID including the net demand from the proposed developments (including an apportioned total system water loss). The total system demand is calculated by adding the total net demand generated from the proposed developments from Table G-7 to the system demand projections from Table G-6.

TABLE G-8 TOTAL SYSTEM DEMAND WITH ADDED DEVELOPMENTS

System Demand, No Drought[1]	2020	2025	2030	2035	2040	2045
Demand Projection for EMID, with Passive and Active Conservation, AFY	4,896	4,648	4,371	4,223	4,100	4,113
Net Demand from Additional Developments, AFY	0	67	368	499	543	583
Total System Demand, AFY	4,896	4,715	4,738	4,722	4,642	4,696
SFPUC Supply Assurance, AFY	6,610	6,610	6,610	6,610	6,610	6,610
Estimated Remaining SFPUC Supply, AFY	1,715	1,895	1,872	1,889	1,968	1,914
Est. Remaining Supply Reliability %	26%	29%	28%	29%	30%	29%

[1]In some cases, values are rounded to the nearest single digit and totals may not align due to rounding.

Table G-9 shows a comparison of the supply allocations from Table G-4 and projected total system demands from Table G-8 through the 20-year planning horizon as required by SB 610. As discussed in Table G-4, during a period of five consecutive dry years starting in 2025, the SFPUC's plan calls for a 48 percent supply reduction of the normal year supply in the first year, followed by a 41 percent reduction of the normal year supply for each of the next four years. This level of reduction varies in subsequent future

years. To meet the reductions, EMID will have to cut back its consumption in kind by implementing its WSCP based on the severity of the drought. In 2020, EMID refined its WSCP to achieve water savings of up to 20 percent in a Level 2 Drought, rather than the previous 15 percent goal that was targeted.

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 developments, in non-drought (normal) conditions until year 2045. There will not be sufficient supplies under dry year conditions even with EMID's implementation of the mandatory demand reduction as outlined in the EMID WSCP. The WSCP would minimize shortfalls from inadequate water supplies within the EMID service area if the SFPUC reduces water deliveries to EMID (as would occur during a prolonged drought) but would not eliminate all estimated shortfalls in dry year conditions.

TABLE G-9 ANNUAL SUPPLY ALLOCATION VS. MULTIPLE DRY YEARS DEMAND (AFY) WITH DEMAND REDUCTION IN DRY YEARS CONSISTENT WITH THE 2020 REVISED WATER SHORTAGE CONTINGENCY PLAN[1]

Year	Topic	Normal Year	Single Dry Year & Multiple Dry Year 1	Year 2	Year 3	Year 4	Year 5
			Demand Reduction %				
			Assumes WSCP Supply Shortage Level 1	*Assumes WSCP Supply Shortage Level 2*	*Assumes WSCP Supply Shortage Level 3*	*Assumes WSCP Supply Shortage Level 4*	*Assumes WSCP Supply Shortage Level 5*
			10%	20%	30%	40%	50%
2020[2]	Actual 2020 Demand	4,896	4,896	4,896	4,896	4,896	4,896
2025	Maximum Allocation	6,610	3,170	2,716	2,716	2,716	2,716
	Demand (NOT Including Proposed Developments)	4,648	4,183	3,718	3,254	2,789	2,324
	Demand (Including Proposed Developments' NET Demand)	4,715	4,244	3,772	3,301	2,829	2,358
	Excess/Shortfall (NOT Including Proposed Developments)	1,962	-1,013	-1,003	-538	-73	392
	Excess/Shortfall (Including Proposed Developments' NET Demand)	1,895	-1,074	-1,056	-585	-113	358
2030	Maximum Allocation	6,610	3,219	2,762	2,762	2,762	2,762
	Demand (NOT Including Proposed Developments)	4,371	3,934	3,497	3,059	2,622	2,185
	Demand (Including Proposed Developments' NET Demand)	4,738	4,264	3,791	3,317	2,843	2,369
	Excess/Shortfall (NOT Including Proposed Developments)	2,240	-714	-735	-297	140	577
	Excess/Shortfall (Including Proposed Developments' NET Demand)	1,872	-1,045	-1,029	-555	-81	393
	Maximum Allocation	6,610	3,275	2,808	2,808	2,808	2,572

Year	Topic	Normal Year	Single Dry Year & Multiple Dry Year 1	Year 2	Year 3	Year 4	Year 5
			Demand Reduction %				
			Assumes WSCP Supply Shortage Level 1	*Assumes WSCP Supply Shortage Level 2*	*Assumes WSCP Supply Shortage Level 3*	*Assumes WSCP Supply Shortage Level 4*	*Assumes WSCP Supply Shortage Level 5*
			10%	20%	30%	40%	50%
2035	Demand (NOT Including Proposed Developments)	4,223	3,800	3,378	2,956	2,534	2,111
	Demand (Including Proposed Developments' NET Demand)	4,722	4,249	3,777	3,305	2,833	2,361
	Excess/Shortfall (NOT Including Proposed Developments)	2,388	-526	-570	-148	274	460
	Excess/Shortfall (Including Proposed Developments' NET Demand)	1,889	-975	-969	-497	-25	211
2040	Maximum Allocation	6,610	3,354	2,879	2,879	2,538	2,538
	Demand (NOT Including Proposed Developments)	4,100	3,690	3,280	2,870	2,460	2,050
	Demand (Including Proposed Developments' NET Demand)	4,642	4,178	3,714	3,250	2,785	2,321
	Excess/Shortfall (NOT Including Proposed Developments)	2,511	-336	-401	9	78	488
	Excess/Shortfall (Including Proposed Developments' NET Demand)	1,968	-824	-835	-371	-247	217
2045	Maximum Allocation	6,610	3,020	3,020	3,020	2,566	2,566
	Demand (NOT Including Proposed Developments)	4,113	3,702	3,290	2,879	2,468	2,057
	Demand (Including Proposed Developments' NET Demand)	4,696	4,227	3,757	3,288	2,818	2,348

Year	Topic	Normal Year	Single Dry Year & Multiple Dry Year 1	Year 2	Year 3	Year 4	Year 5
			Demand Reduction %				
			Assumes WSCP Supply Shortage Level 1	*Assumes WSCP Supply Shortage Level 2*	*Assumes WSCP Supply Shortage Level 3*	*Assumes WSCP Supply Shortage Level 4*	*Assumes WSCP Supply Shortage Level 5*
			10%	**20%**	**30%**	**40%**	**50%**
	Excess/Shortfall (NOT Including Proposed Developments)	2,497	-682	-271	141	98	509
	Excess/Shortfall (Including Proposed Developments' NET Demand)	1,914	-1,207	-737	-268	-252	217

[1]In some cases, values are rounded to the nearest single digit and totals may not align due to rounding.
[2]2020 data is based on actual numbers.

2. Supply and Demand Conclusion

In conclusion, the existing and planned future uses evaluated in this WCS will generate an additional net water demand of 583 AFY post year 2020 baseline EMID 2020 UWMP demand. The water demand associated with the 2023-2031 Housing Element and the existing and future uses evaluated in this WCS will be accommodated by EMID's existing supplies during non-drought years within a 20-year projection.

As documented in Table 7-5 in the EMID 2020 UWMP, during single and multiple dry years, EMID's total annual water demand is expected to exceed EMID's available water supplies from 2025 to 2045. The estimated demand from the 2023-2031 Housing Element in addition to the existing and planned future uses evaluated in this WCS, will exacerbate EMID's existing projected supply shortfall during single and multiple dry years. Therefore, this WCS concludes that there is not "sufficient water supply" (per Government Code 664737.7 (a)(2)) available to meet the demands of the 2023-2031 Housing Element, in addition to the existing and planned future uses evaluated in this WCS, during single-dry and multiple dry water years within a 20-year projection.

F. APPROACHES TO ADDRESSING PROJECTED SUPPLY SHORTFALLS

This WCS has concluded that EMID's water supplies are, or will be, insufficient during single-dry and multiple dry water years. Per Water Code Section 10911, EMID shall consider this projected insufficiency and shall provide the City with its plans to acquire and develop additional water supplies. Prior to issuance of future development project entitlements, utility analyses shall be performed by the project developer to determine whether existing transmission/distribution infrastructure has adequate capacity to deliver the needed water to the development project sites.

As documented in the EMID 2020 UWMP, EMID has no approved plans for acquiring additional water supplies as a retailer. Although EMID does not currently use recycled water, it is coordinating with the City of San Mateo, SFPUC, and BAWSCA to assess potential options for producing and using recycled water in the future to assist with offsetting future new potable demands. EMID has updated its WSCP and will continue to invest in and implement ongoing and long-term demand management measures including the development of a water neutral growth policy for new development. A description of SFPUC, BAWSCA, and EMID's approaches to addressing projected dry year supply shortfalls is described in the following sections.

1. SFPUC

The EMID 2020 UWMP Section 7.1.3.5 - Strategies and Actions to Address Dry Year Supply Shortfalls states the following:

> **Water System Improvement Program**
>
> The WSIP authorized the SFPUC to undertake a number of water supply projects to meet dry-year demands with no greater than 20% system-wide rationing in any one year. Implementation of these projects is also expected to mitigate impacts of the implementation of the Bay-Delta Plan Amendment. Those projects include the following:

- Calaveras Dam Replacement Project. Calaveras Dam is located near a seismically active fault zone and was determined to be seismically vulnerable. To address this vulnerability, the SFPUC constructed a new dam of equal height downstream of the existing dam. Construction on the project occurred between 2011 and July 2019. The SFPUC began impounding water behind the new dam in accordance with California Division of Safety of Dams (DSOD) guidance in the winter of 2018/2019.

- Alameda Creek Recapture Project. As a part of the regulatory requirements for future operations of Calaveras Reservoir, the SFPUC must implement bypass and instream flow schedules for Alameda Creek. The Alameda Creek Recapture Project will recapture a portion of the water system yield lost due to the instream flow releases at Calaveras Reservoir or bypassed around the Alameda Creek Diversion Dam and return this yield to the RWS through facilities in the Sunol Valley. Water that naturally infiltrates from Alameda Creek will be recaptured into an existing quarry pond known as SMP (Surface Mining Permit)- 24 Pond F2. The project will be designed to allow the recaptured water to be pumped to the Sunol Valley Water Treatment Plant or to San Antonio Reservoir. Construction of this project will occur from spring 2021 to fall 2022.

- Lower Crystal Springs Dam Improvements. The Lower Crystal Springs Dam (LCSD) Improvements were substantially completed in November 2011. The joint San Mateo County/SFPUC Bridge Replacement Project to replace the bridge across the dam was completed in January 2019. A WSIP follow up project to modify the LCSD Stilling Basin for fish habitat and upgrade the fish water release and other valves started in April 2019. While the main improvements to the dam have been completed, environmental permitting issues for reservoir operation remain significant. While the reservoir elevation was lowered due to DSOD restrictions, the habitat for the Fountain Thistle, an endangered plant, followed the lowered reservoir elevation. Raising the reservoir elevation now requires that new plant populations be restored incrementally before the reservoir elevation is raised. The result is that it may be several years before pre-project water storage volumes can be restored.

- Regional Groundwater Storage and Recovery Project. The Groundwater Storage and Recovery Project (GSRP) is a strategic partnership between SFPUC and three San Mateo County agencies – Cal Water, the City of Daly City, and the City of San Bruno – to conjunctively operate the south Westside Groundwater Basin. The project sustainably manages groundwater and surface water resources in a way that provides supplies during times of drought. During years of normal or heavy rainfall, the project would provide additional surface water to the partner agencies in San Mateo County in lieu of groundwater pumping. Over time, reduced pumping creates water storage through natural recharge of up to 20 billion gallons of new water supply available during dry years. The project's Final Environmental Impact Report was certified in August 2014, and the project also received Commission approval that month. Phase 1 of this project consists of construction of thirteen well sites and is over 99 percent complete. Phase 2 of this project consists of completing construction of the well station at the South San

Francisco Main site and some carryover work that has not been completed from Phase 1. Phase 2 design work began in December 2019.

- 2 MGD Dry-year Water Transfer. In 2012, the dry-year transfer was proposed between the Modesto Irrigation District and the SFPUC. Negotiations were terminated because an agreement could not be reached. Subsequently, the SFPUC had discussions with the Oakdale Irrigation District for a one-year transfer agreement with the SFPUC for 2 MGD (2,240 acre-feet). No progress towards agreement on a transfer was made in 2019, but the irrigation districts recognize SFPUC's continued interest and SFPUC will continue to pursue transfers.

In order to achieve its target of meeting at least 80 percent of its customer demand during droughts with a system demand of 265 MGD, and to mitigate the impacts of the Bay-Delta Plan, the SFPUC must successfully implement the dry-year water supply projects included in the WSIP. Furthermore, the permitting obligations for the Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvements include a combined commitment of 12.8 MGD for instream flows on average. When this is reduced for an assumed Alameda Creek Recapture Project recovery of 9.3 MGD, the net loss of water supply is 3.5 MGD.

Alternative Water Supply Program (AWSP)

The SFPUC is increasing and accelerating its efforts to acquire additional water supplies and explore other projects that would increase overall water supply resilience through the AWSP. The drivers for the program include: (1) the adoption of the Bay-Delta Plan Amendment and the resulting potential limitations to RWS supply during dry years, (2) the net supply shortfall following the implementation of WSIP, (3) San Francisco's perpetual obligation to supply 184 MGD to the Wholesale Customers, (4) adopted LOS Goals to limit rationing to no more than 20 percent system-wide during droughts, and (5) the potential need to identify water supplies that would be required to offer permanent status to interruptible customers. Developing additional supplies through this program would reduce water supply shortfalls and reduce rationing associated with such shortfalls. The planning priorities guiding the framework of the AWSP are as follows:

1. Offset instream flow needs and meet regulatory requirements
2. Meet existing obligations to existing permanent customers
3. Make interruptible customers permanent
4. Meet increased demands of existing and interruptible customers

In conjunction with these planning priorities, the SFPUC considers how the program fits within the LOS Goals and Objectives related to water supply and sustainability when considering new water supply opportunities. The key LOS Goals and Objectives relevant to this effort can be summarized as:

- Meet dry-year delivery needs while limiting rationing to a maximum of 20 percent system-wide reduction in water service during extended droughts;
- Diversify water supply options during non-drought and drought periods;
- Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers;
- Meet, at a minimum, all current and anticipated legal requirements for protection of fish and wildlife habitat;
- Maintain operational flexibility (although this LOS Goal was not intended explicitly for the addition of new supplies, it is applicable here).

Together, the planning priorities and LOS Goals and Objectives provide a lens through which the SFPUC considers water supply options and opportunities to meet all foreseeable water supply needs.

In addition to the Daly City Recycled Water Expansion project, which was a potential project identified in the SFPUC's 2015 UWMP and had committed funding at that time, the SFPUC has taken action to fund the study of potential additional water supply projects. Capital projects under consideration to develop additional water supplies include surface water storage expansion, recycled water expansion, water transfers.

2. BAWSCA

The EMID 2020 UWMP Section 7.1.3.5 - Strategies and Actions to Address Dry Year Supply Shortfalls states the following:

> BAWSCA's Long-Term Reliable Water Supply Strategy (Strategy), completed in February 2015, quantified the water supply reliability needs of the BAWSCA member agencies through 2040, identified the water supply management projects and/or programs (projects) that could be developed to meet those needs, and prepared an implementation plan for the Strategy's recommendations.
>
> When the 2015 Demand Study concluded it was determined that while there is no longer a regional normal year supply shortfall, there was a regional drought year supply shortfall of up to 43 MGD. In addition, key findings from the Strategy's project evaluation analysis included:
>
> - Water transfers represent a high priority element of the Strategy.
> - Desalination potentially provides substantial yield, but its high effective costs and intensive permitting requirements make it a less attractive drought year supply alternative.
> - Other potential regional projects provide tangible, though limited, benefit in reducing dry-year shortfalls given the small average yields in drought years.

Since 2015, BAWSCA has completed a comprehensive update of demand projections and engaged in significant efforts to improve regional reliability and reduce the dry year water supply shortfall.

- Water Transfers. BAWSCA successfully facilitated two transfers of portions of Individual Supply Guarantee (ISG) between BAWSCA agencies in 2017 and 2018. Such transfers benefit all BAWSCA agencies by maximizing use of existing supplies. BAWSCA is currently working on an amendment to the Water Supply Agreement between the SFPUC and BAWSCA agencies to establish a mechanism by which member agencies that have an ISG may participate in expedited transfers of a portion of ISG and a portion of a Minimum Annual Purchase Requirement. In 2019, BAWSCA participated in a pilot water transfer that, while ultimately unsuccessful, surfaced important lessons learned and produced interagency agreements that will serve as a foundation for future transfers. BAWSCA is currently engaged in the Bay Area Regional Reliability Partnership (BARR), a partnership among eight Bay Area water utilities (including the SFPUC, Alameda County Water District, BAWSCA, Contra Costa Water District, Santa Clara Valley Water District) to identify opportunities to move water across the region as efficiently as possible, particularly during times of drought and emergencies.

- Regional Projects. Since 2015, BAWSCA has coordinated with local and State agencies on regional projects with potential dry-year water supply benefits for BAWSCA's agencies. These efforts include storage projects, indirect/direct water reuse projects, and studies to evaluate the capacity and potential for various conveyance systems to bring new supplies to the region.

BAWSCA continues to implement the Strategy recommendations in coordination with BAWSCA member agencies. Strategy implementation will be adaptively managed to account for changing conditions and to ensure that the goals of the Strategy are met in an efficient and cost-effective manner. On an annual basis, BAWSCA will reevaluate Strategy recommendations and results in conjunction with development of the BAWSCA's FY 2021-22 Work Plan. In this way, actions can be modified to accommodate changing conditions and new developments.

3. EMID

EMID has been and will continue to implement demand management measures to address supply shortfalls by reducing existing potable demand and will evaluate opportunities to use recycled water. In addition, EMID is collaborating with regional partners to advocate for the development of additional supplies. To reduce the future demand for water from new growth or expanded redevelopment projects, the City and EMID will be developing a water neutral growth policy. If needed, EMID also has the option to purchase water from another agency within or outside of the SFPUC RWS. As documented in this WCS in Section C.6, EMID has recently updated its Water Shortage Contingency Plan which will further reduce demand during dry years.

a. Recycled Water

As documented in the EMID 2020 UWMP, there is currently no recycled water use in the EMID service area. EMID is in the initial phases of recycled water planning and has not developed recycled water use projections for the EMID service area. However, as of January 2023, the San Mateo Wastewater Treatment Plan expansion project has completed phases 1 & 2 and has entered phase 3 of construction.[17] The EMID 2020 UWMP Section 6.2.5 - Current and Projected Uses of Recycled Water states the following:

> In 2013, Foster City conducted a market assessment and conceptual project development for potential recycled water use in the EMID service area (RMC, 2013). The objectives of this study were to: (1) estimate the quantity and types of potential recycled water customers within Foster City, (2) develop a conceptual recycled water distribution system to connect as many potential users as possible in a cost-effective manner, and (3) estimate the capital and operations and maintenance (O&M) costs of the conceptual project (RMC, 2013). The study identified a potential demand for 741 MG per year (2.03 MGD) of recycled water within the EMID service area; potential recycled water uses identified included landscape irrigation at parks, a golf course, roadway medians, Homeowner Association (HOA) landscaped areas, business parks, and filling of ponds (RMC, 2013). The study estimated that the potential capital costs associated with the construction of recycled water treatment, distribution, and storage costs could be approximately $11,935,000 and that the ongoing operations and maintenance costs associated with the treatment and distribution systems would be approximately $129,000 per year (RMC, 2013).
>
> In 2014, EMID and City of San Mateo jointly submitted a Water Recycling Facilities Planning Grant Application to the State Water Resources Control Board (SWRCB) Division of Financial Assistance, Office of Water Recycling (RMC, 2014). The Recycled Water Feasibility Study Plan of Study associated with the grant application proposed to develop a facilities plan for a potential recycled water treatment and distribution system to serve recycled water users within both Foster City and San Mateo (RMC, 2014). The grant was awarded, and the first phase of the facilities plan, specifically a revised Market Assessment, was completed in 2015 (HydroScience, 2015). This updated market assessment identified sixteen major potential recycled water customers within Foster City, with a total potential recycled water demand of 138 MG per year (0.38 MGD) (HydroScience, 2015).
>
> Using a grant from the SWRCB, EMID and City of San Mateo completed a Recycled Water Facilities Plan (RWFP) in 2017 that identified opportunities to provide recycled water to both services areas (HydroScience, 2017). The RWFP included updated near-term recycled water demand forecasts for both cities and presents possible alternatives for implementation of recycled water as well as a cost and time breakdown of activities. The RWFP developed a preferred alternative for a recycled water distribution system with up to a total of 30 miles of 6-inch to 24-inch pipeline and identified up to 281 MG per year of potential recycled water irrigation uses in the EMID service area that could be served by the distribution system. The

[17] San Mateo Clean Water Program. Wastewater Treatment Plant Nutrient Removal and Wet Weather Flow Management Upgrade and Expansion Project. https://cleanwaterprogramsanmateo.org/wwtp/

implementation of the RWFP was broken up into five phases with an estimated 18-year implementation timeline. The estimated cost for the distribution system and on-site retrofit capital improvements was approximately $66.5 million of which approximately $24 million would be EMID's share.

In addition to evaluating non-potable recycled water uses, the RWFP also reviewed opportunities to use recycled water produced at the WWTP for regional potable reuse opportunities. The RWFP identified a preferred regional potable reuse alternative of installing a pipeline from the WWTP to the SFPUC's Lower Crystal Spring Reservoir discussed further in Section 7.1.3.5 for purposes of supplying recycled water for surface water augmentation.

Based on the findings of this study and the estimated costs associated with constructing a new recycled water distribution system presented in the RWFP, EMID staff consider the regional potable reuse opportunities a more viable alternative at this time. EMID and other agencies including the City of San Mateo, SFPUC and BAWSCA, among others, have been participating in the development of the Potable Reuse Exploratory Plan (PREP) since 2016. PREP Phase 3 is currently underway to develop a feasibility study for augmenting potable water demand for the San Francisco Bay region via Indirect Potable Reuse and Direct Potable Reuse. Given the uncertainty in future uses of recycled water in the service area, recycled water was not quantified or included in EMID's 2020 UWMP.

b. Water Exchanges and Transfers

The EMID 2020 UWMP Section 6.7.1 - Exchanges and Transfers states the following:

There are potential transfer and exchange opportunities within and outside of the SFPUC RWS. EMID does not presently anticipate the need for water right transfers during normal year conditions. However, should that condition change in the future, it is possible that EMID could purchase water from another agency or entity either within or outside of the SFPUC RWS.

Within the SFPUC RWS, it is possible to transfer water entitlements or banked water among agencies. The Water Shortage Allocation Plan (WSAP) adopted by all BAWSCA agencies and the SFPUC provides the basis for voluntary transfers of water among BAWSCA agencies during periods when mandatory rationing is in effect on the SFPUC RWS (see Section 7.1.1.1). Some BAWSCA agencies have the capacity to rely on groundwater or other sources during dry years and thus may be willing to transfer at an agreed upon cost a portion of their wholesale water entitlement to other BAWSCA agencies in need of supply above their allocations.

Securing water from willing sellers outside the SFPUC RWS is a more complex process than transfers within the RWS, which requires both a contract with the seller agency and approval by the SFPUC. BAWSCA has the authority to plan for and acquire supplemental water supplies and continues to evaluate the feasibility of water transfers as part of its implementation of the Strategy (see Section 7.1.3.5 of the 2020 EMID UWMP).

c. Demand Management Measures

EMID implements a variety of water demand management measures (DMMs). As documented in the EMID 2020 UWMP, EMID is a participant in BAWSCA's Regional Water Conservation Program and is currently participating in BAWSCA provided subscription-based conservation programs. EMID also makes water conservation tips 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 DMMs EMID is currently implementing or planning to implement according to the EMID 2020 UWMP and the City's Water Conservation Rebate Programs webpage.

TABLE G-10 WATER DEMAND MANAGEMENT MEASURES[1, 2]

Measure Name	Target Sector	Description
Water Conserving Landscape & Codes	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 for residential developments (no turf at commercial, industrial, and institutional developments), plant selection, efficient irrigation systems, no irrigation of non-functional turf, and smart irrigation controllers.
Water Waste Prevention Ordinances	SF, MF, CII, IRR	Chapter 8.12 of the EMID code states that "No customer shall knowingly permit leaks or waste of water. Where water is wastefully or negligently used on a customer's premises, seriously affecting the general service, the district may discontinue the service if such conditions are not corrected within the time specified in the written notice. (Ord. 126 § 1 (part), 2009)."
Metering	SF, MF, CII, IRR	All water service connections are metered, with the exception of fire services. Many non-residential and multi-family customers have sub-meters to monitor water use for landscape irrigation separately from indoor uses. All EMID meters were upgraded to an Advanced Metering Infrastructure (AMI) system over the period of 2008 through 2015.
Conservation Pricing	SF, MF, CII, IRR	The water consumption charge is tiered such that customers are billed at a lower rate for lower water use and a higher rate for high water use. Effective July 2015, the rate structure for the water consumption charge includes two tiers of bimonthly water use.
School Education Program: Earth Capades	SF, MF	School assemblies that teach water science and conservation to students, including local water source and watershed education and specific information pertaining to the EMID service area. The EMID participates through the BAWSCA Regional Water Conservation Program.
Water-Wise School Education Kits and Curriculum	SF, MF	Fifth grade teachers are provided with a water conservation curriculum. Kits are distributed to 5th grade students that enable them to install water saving devices and perform a water audit in their home. EMID participates through the BAWSCA Regional Water Conservation Program.
Online Water Management Tool	SF, MF, CII, IRR	EMID offers an online water management and billing tool to its customers. By visiting the online portal, EMID customers can pay their bills electronically, view water use reports, and detect water leaks.
Information Booths at	SF, MF, CII, IRR	At public events, EMID distributes information and materials to participants regarding its water conservation programs.

Measure Name	Target Sector	Description
Public Events		
Other Outreach	SF, MF, CII, IRR	EMID maintains pages on the City of Foster City's website (http://www.fostercity.org) that are dedicated to its water conservation programs. The website provides information regarding EMID's rebate programs, water regulations, conservation tips and links to interactive tools such as Water-Wise Gardening in the Bay Area. EMID encourages water conservation and markets its rebate programs through various methods including newsletters, bill inserts, and ads at the EMID facilities.
Programs to Assess and Manage Distribution System Real Losses	Non-Revenue	EMID has an active program to manage loss, which includes staff trained to perform regular visual inspections and respond to public complaints. Repairs are performed immediately when leaks are detected (EKI, 2016).
Conservation Program Coordination and Staff	SF, MF, CII, IRR	EMID employs staff and funds the water conservation program.
Landscape Analysis Program	MF, CII	Free landscape analyses (value of $1,400) are offered to commercial and multifamily residential accounts and provide customers with reports on how to improve landscape water efficiency. EMID participates through the BAWSCA Regional Water Conservation Program.
Large Landscape Water Budgets	IRR	EMID distributes water budgets to all dedicated irrigation accounts. Water rates charged to these irrigation accounts are increased if an account exceeds its annual water budget.
Lawn Be Gone! Turf Replacement Rebates	SF, MF, CII	Customers are offered $4 per square foot of turf removed and replaced with water efficient landscaping, up to a $5,000 rebate. The new landscape must include at least 80 percent live plant coverage, permeable hardscape, and all plants must be low water use plants from the BAWSCA-approved plant list. EMID participates through the BAWSCA Regional Water Conservation Program.
Synthetic Turf Replacement Rebates	SF, MF, CII	EMID administers a turf rebate replacement program that financially incentivizes replacement of turf with synthetic turf. Since May 2011, EMID has offered its customers $4 per square foot of turf removed up to a maximum $5,000 rebate for residential customers and up to $10,000 for large landscape customers. To qualify for participation in this program, customers must arrange for a preinstallation on-site visit by EMID staff.
Smart Irrigation Controller Rebates	SF, MF, IRR	EMID administers a smart irrigation controller rebate program for its residential and irrigation customers. To qualify, the smart irrigation controller must have gone through the Irrigation Association's Smart Water Application Technology testing protocol or display the WaterSense label.
Pressure Regulating Sprinkler Heads & Rotating Nozzle Rebates	SF, MF, IRR	EMID administers a water saving sprinkler & nozzle replacement program. The maximum for residential customers is up to $4 a set with a limit of 15 sets. Large landscape properties may be eligible for $4 per set with no limit on quantity. To qualify for participation in this program, customers must arrange for a pre-installation onsite visit by EMID staff. From 2016 through 2020 EMID granted 9 rebates for this program.

[1]Foster City. Public Works Water Conservation Rebate Programs webpage, accessed December 2022: https://www.fostercity.org/publicworks/page/water-conservation-rebate-programs
[2]Erler & Kalinowski, Inc. *2020 Urban Water Management Plan for Estero Municipal Improvement District*, 9.2 Agency Water Conservation, July 2021.

d. Water Neutral Growth Policy to Offset New Future Water Demands

A water neutral growth policy requires offsetting the projected water demand of new development with water efficiency measures to create a neutral impact on the overall service area demands and water use.[18] A development may be required to offset 50-100% of the estimated net demand for a project based on a combination of water use factors, square footage, building uses, occupancy, and other considerations.

Offsets are commonly achieved through a combination of onsite water efficiency measures, offsite efficiency upgrades or other improvements at existing facilities, and/or payment of fees to the water supplier to fund conservation programming in the overall service area. Reducing onsite demand could be achieved by installing high efficiency plumbing fixtures (with flow rates that exceed state code), installing only native and drought-adapted landscaping, and/or using alternative onsite water sources such as rainwater or graywater. Offsite demand offsets in the existing service area could be achieved through measures such as the direct installation of high efficiency toilets or appliances in older existing homes or businesses, or the conversion of turf fields to synthetic turf.

EMID will determine the parameters of its water neutral growth policy during development of the future water supply assessment, including which type of development projects the policy will apply to, the offset amount required, how a developer will estimate project demand, the mechanisms by which they may offset their estimated demands, under what water conditions the policy applies, and other considerations.

[18] Alliance for Water Efficiency. Net Blue: Supporting Water Neutral Growth. https://www.allianceforwaterefficiency.org/resources/topic/net-blue-supporting-water-neutral-growth

APPENDIX E
SANITARY SEWER IMPACT STUDY

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Sanitary Sewer Impact Study

City of Foster City Housing Element 2023-2031

Foster City, California

November 15, 2022

1.1 Introduction

The purpose of this Sanitary Sewer Impact Study is to evaluate the potential impacts to sanitary sewer infrastructure caused by the 2023-2031 City of Foster City Housing Element. The Housing Element is a document that outlines the community's housing policies, goals, and programs, and identifies opportunities for new housing as mandated by the State. This study includes a summary of the proposed Housing Element plan updates; an overview of the existing sanitary sewer system, its current condition and planned upgrades; and an assessment of the potential impacts caused by the proposed housing element projects.

1.2 Project Background

As housing prices rise, providing affordable housing continues to be an important issue throughout the Bay Area. To help address the increased demand for affordable housing, the City of Foster City is updating its Housing Element for the 2023-2031 planning horizon. In addition to reallocating previous housing element sites, the City is proposing to add six new housing sites that collectively increase the total projected housing supply by approximately 1,200 housing units and 30 Accessory Dwelling Units (ADUs) Figure 1 shows the locations of the proposed Housing Element sites, highlighting the locations that have not been included in previous Housing Elements.

The scale of proposed housing expansion requires the City to evaluate potential impacts to sanitary sewer infrastructure, and assess where improvements may be required to accommodate the proposed housing sites. The proposed Housing Element encompasses thirteen housing sites within the City. Seven of these sites have been included in past Housing Elements, and do not propose any changes to the number of units at these sites, so their impacts on sanitary sewer infrastructure have already been accounted for and will not change. Additionally, the Foster's Landing site - which is a new addition to the 2023-2031 Housing Element - is an existing apartment complex with 900 total units. Seeing as this is a pre-existing complex already feeding into the sanitary sewer with no new units scheduled to be added in the future, it will not have significant new impacts on sanitary sewer infrastructure.

This study will focus on the impacts from the remaining five proposed Housing Element sites: Triton Site, Eaves Avenue Apartments, Metro Center Boulevard,

Schooner Bay, and Lantern Cove. Ten ADUs have been proposed at the Triton site in north Foster City, set to be completed in 2024. The Eaves Avenue site is an existing apartment complex with one hundred total units that has not previously been included in Housing Element inventories. Twenty two new ADUs are proposed at this site, and are projected to be completed in 2024. Given that the one hundred housing units were pre-existing and already feeding into the sanitary sewer, only the impacts from the twenty two proposed ADUs will be evaluated in this study. The Metro Center Boulevard project proposes to construct two hundred and twenty two (222) new housing units on an existing parking lot, with project completion slated for 2030. The Schooner Bay and Lantern Cove sites are proposed redevelopments of existing apartment complexes to create higher density units. At Schooner Bay, there are three hundred twelve (312) existing units. Under the proposed project, one hundred twelve of these units will be demolished and replaced with seven hundred fifty eight (758) new units (646 net addition). This project is scheduled to be completed between 2028 and 2029. There are currently two hundred sixty two (262) units at the Lantern Cove site. The proposed project will demolish sixty four of these units, and replace them with four hundred twenty (420) new units (356 net addition) by 2026.

1.3 Existing Sanitary Sewer Infrastructure

The Estero Municipal Improvement District (EMID) provides wastewater collection services to the City of Foster City and Mariner's Island within the City of San Mateo. The system was originally constructed in the early 1960's and currently serves a population of approximately 37,200 people. The wastewater collection system is comprised of 63 miles of gravity sewer lines, 4.5 miles of force mains, 48 liftstations and one high capacity pump. Sewage flows from the outer basins of the city to pump station 59, where it is consolidated and transported to the San Mateo Wastewater Treatment Plant (WWTP) (See Appendix 1). Given the low elevation of Foster City, the sanitary sewer system relies on a significant number of lift stations to maintain adequate system elevations and minimize interactions with groundwater.

The condition of existing sanitary sewer infrastructure is expected to change between now and the completion of the projects proposed in the Housing Element. A number of Capital Improvement Program (CIP) projects are scheduled through 2039 that will address necessary improvements to lift stations, sanitary sewer manholes, force mains, and gravity sewers that were identified as hotspots in EMID's 2019 Wastewater Collection System Master Plan. Figure 2 shows the location of these infrastructure hotspots in relation to the proposed housing element sites.

1.4 Potential Impacts to Sanitary Sewer Infrastructure

For each Housing Element site, the following factors are evaluated to assess the impact to the existing sanitary sewer infrastructure:

- Existing land use at each site to determine the current wastewater flow contribution coming from each location.
- Condition of existing infrastructure at the time of project completion, utilizing the projected timeline of CIP projects to anticipate infrastructure improvements and future conditions.
- Changes in wastewater flow based on the number of units being added to a site.
- The distance sewage must flow to reach the final outfall at the San Mateo WWTP.
- The extent of system extensions required to connect new developments to the existing sanitary sewer system.

Based on these factors, the impacts of each site were then rated as minimal, moderate, or significant. Table 1 summarizes the potential impacts on sanitary sewer infrastructure at each proposed housing site.

1.5 Conclusion

Several of the proposed development sites will have significant impacts on the existing sanitary sewer infrastructure. The most significant impacts will come from the Schooner Bay and Lantern Cove sites, which propose adding a large number of sites far upstream from the San Mateo WWTP. Moderate impacts will come from the Metro Center Boulevard site, which will require a significant mainline extension and potential upsizing of existing pipe infrastructure, but is located close to the final sewer outfall. Finally, the lowest impacts will come from the Eaves Avenue ADUs, and Triton site, both of which are adding a very small number of units to existing housing developments.

For each proposed project, additional site specific analysis is recommended to further quantify and confirm the extent of the initial impacts discussed in this study. Sewer flow modeling is recommended for the sites with potential moderate and significant impacts, to ensure there is sufficient pipe capacity, pump capacity, and wet well capacity downstream of these locations to account for potential increases

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in flow. Additionally, for the Metro Center Boulevard project, a survey of the existing sewer lines branching northeast off of Shell Boulevard between Metro Center Boulevard and Hillsdale Boulevard is recommended to determine the size and capacity of the existing pipeline. This survey will aid in determining if upsizing of the existing line is necessary to accommodate additional flows from the proposed housing element. Finally, the CIP project priorities may need to be reevaluated with the proposed Housing Element in mind to ensure infrastructure improvements align with future development timelines.

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Work Cited

City of Foster City "Fiscal Year 2022-2023 Final Budget" June 2022

City of Foster City "Fiscal Year 2021-2022 Final Budget" June 2021

Estero Municipal Improvement District "Sewer System Management Plan" March 2017

Estero Municipal Improvement District "Wastewater Collection System Master Plan" June 2019

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Table 1

Summary of Potential Impacts to Sanitary Sewer Infrastructure
SDE September 2022

Housing Element		Sanitary Sewer System Impacts				
Name (Planned Completion Year)	**Proposed Net Increase**	**SS System Extension**	**Distance from San Mateo WWTP**	**Condition of Sanitary Sewer Infrastructure at time of Project Completion**	**Anticipated Flow Increase**	**Summary**
Triton Site (2024)	10 ADUs	None required (ADUs are being constructed in an existing housing development)	This site is just over two miles from the WWTP.	Infrastructure downstream is in good condition.	Minimal increase in sanitary sewer flows due to the small number of proposed units.	**Minimal Impact**
Eaves Avenue Site (2024)	22 ADUs	None required (ADUs are being constructed in an existing housing development)	This site is approximately three miles upstream of the San Mateo WWTP.	Three pump stations and five manholes along this route were identified as hotspots. Pump station 10 and manholes 18-01, 16-17, and 14-02 are slated for improvement in Phase 6 of CIP projects, which is scheduled to occur concurrently with project completion.	Minimal increase in sanitary sewer flows due to the small number of proposed units.	**Minimal Impact**
Metro Center Boulevard (2030)	222 apartments	Significant (Apartments are being constructed on an existing parking lot which will need to be tied into existing infrastructure)	This site is just under two miles from the WWTP.	Sewage flows through one deteriorated lift station (9), which is targeted for improvement in Phase 7 of CIP projects. This will happen before project completion in 2030. Size of the existing seven hundred feet of pipe branching northeast of Shell Boulevard that this site will connect to is currently unknown. A survey of this line is recommended to determine pipe size/slope and evaluate capacity.	Potential significant increase in flows due to the large number of proposed units.	**Moderate Impact**
Schooner Bay (2028-2029)	646 apartments	Minimal (Redevelopment of an existing apartment complex)	The site is approximately four miles from the San Mateo WWTP.	Four lift stations along this pipeline were identified as hotspots in the 2019 Master Plan. Lift stations 9 and 43 will be improved in CIP projects that are scheduled to be completed before project completion (Phase 7). Lift station 22 will be improved in CIP projects occurring concurrently with project completion (Phase 8). There are no improvements currently scheduled in the 15 year outlook for lift station 40.	Potential significant increase in flows due to the large number of proposed units.	**Significant Impact**
Lantern Cove (2026)	365 apartments	Minimal (Redevelopment of an existing apartment complex)	This site is approximately four and a half miles from the San Mateo WWTP.	Four lift stations and one manhole along this pipeline were identified as hotspots in the 2019 Master Plan. Improvements to lift station 29 and 9 will occur in Phase 6 and 7, respectively, of CIP projects and are scheduled to be completed before and concurrent with project completion. Improvements to manhole 29-31 are slated for Phase 8 of CIP projects, and will not be completed before project construction.	Potential significant increase in flows due to the large number of proposed units	**Significant Impact**

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FIGURE 1

Housing sites included in the 2023-2031 City of Foster City Housing Element
SDE September 2022

Figure III-2
Sites Inventory Locations

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FIGURE 2

Sanitary Sewer Infrastructure Hotspots in Relation to Proposed 2023-2031 Housing Element Sites

SDE September 2022

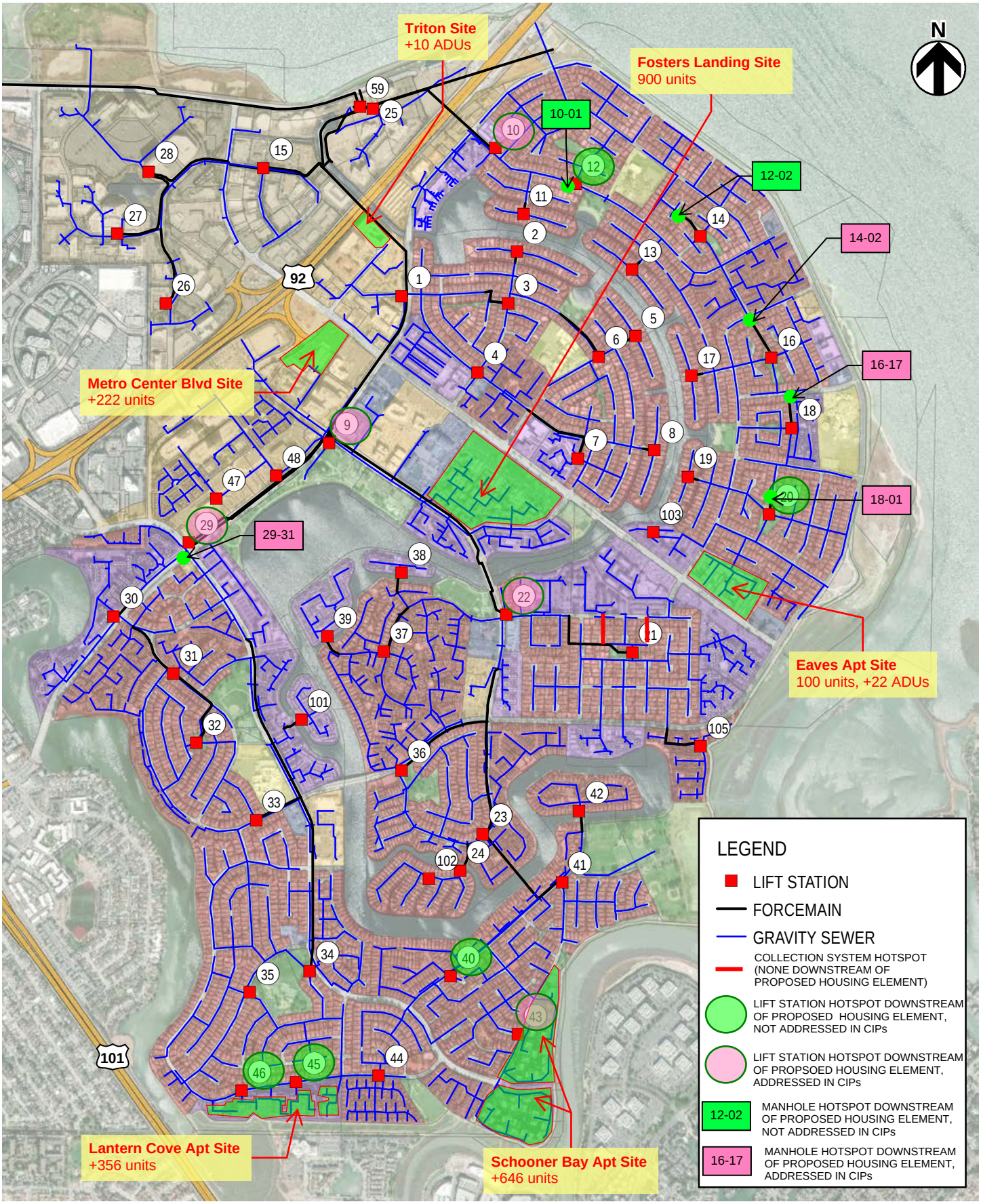

FIGURE 3-1
CITY OF FOSTER CITY/ESTERO MUNICIPAL IMPROVEMENT DISTRICT
WASTEWATER COLLECTION SYSTEM MASTER PLAN
WASTEWATER COLLECTION SYSTEM

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Figure 2. Sanitary Sewer Infrastructure Hotspots in Relation to Proposed 2023-2031 Housing Element Sites

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APPENDIX 1

City of Foster City Wastewater Collection System

City of Foster City/Estero Municipal Improvement District Wastewater Collection System Master Plan (2019)

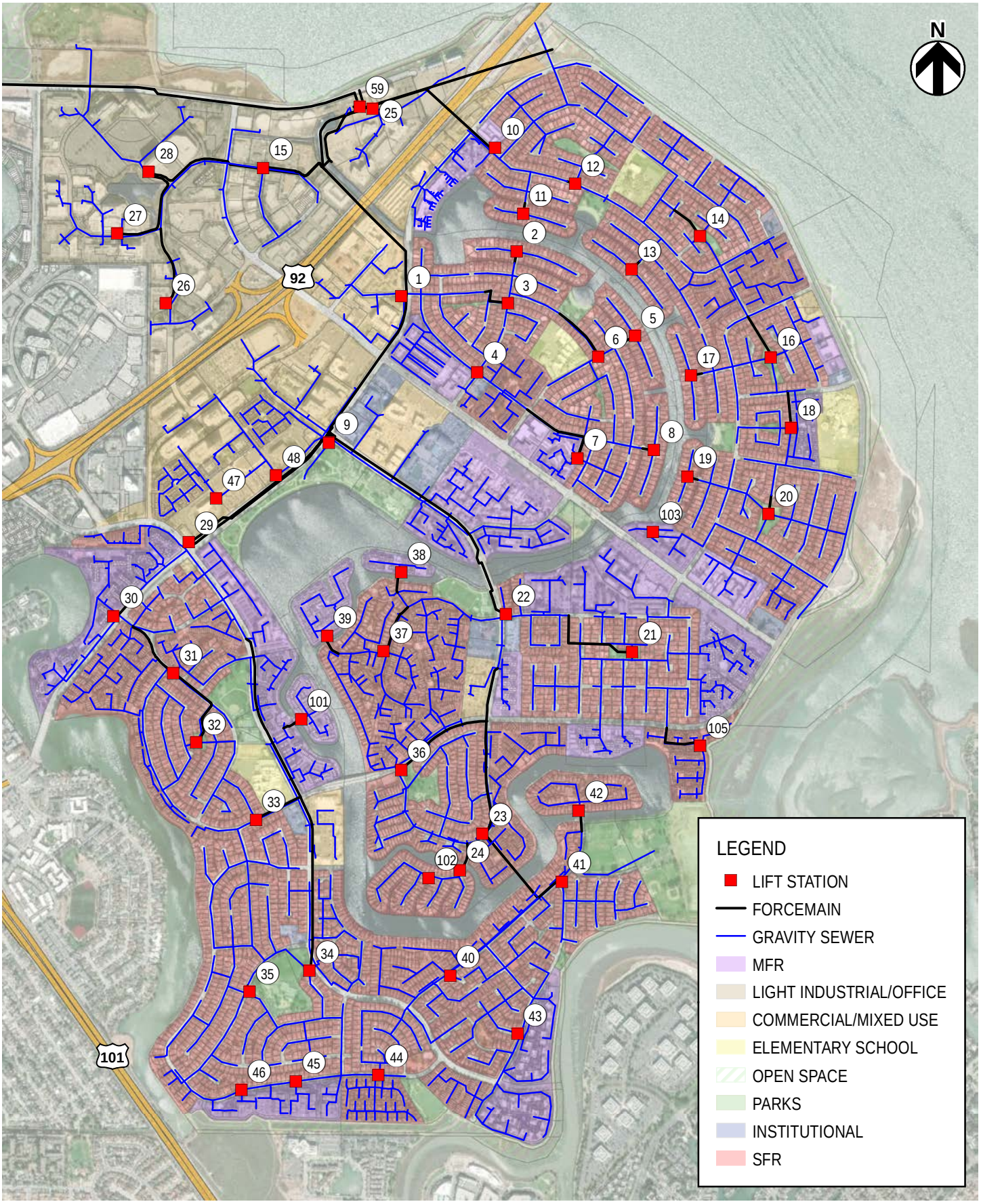

FIGURE 3-1
CITY OF FOSTER CITY/ESTERO MUNICIPAL IMPROVEMENT DISTRICT
WASTEWATER COLLECTION SYSTEM MASTER PLAN
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