Connect the Coastside

San Mateo County Midcoast
Comprehensive Transportation Management Plan
Appendices

Final Draft – October 2021

COUNTY OF SAN MATEO

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Community Input Shapes the Future of Transportation on the Midcoast

Connect the Coastside 2020 Outreach Summary Report

Thank You

San Mateo County staff would like to thank everyone who provided feedback on the public working draft of the Connect the Coastside plan (CtC), a Comprehensive Transportation Management Plan for the San Mateo County Midcoast. The goal of Connect the Coastside is to improve mobility and safety for residents and visitors of the Midcoast, and the input received from community members is vital to creating a strong plan that outlines the vision of transportation on the Midcoast.

The purpose of this report is to summarize the Connect the Coastside outreach efforts that took place from January through August 2020. This report:

- Provides an overview of the outreach efforts
- Summarizes the feedback on the draft Plan and proposed updates
- Presents the timeline for finalizing Connect the Coastside and previews additional opportunities for future input and involvement

Greater detail and additional materials relating to the outreach efforts, comments, and proposed updates to CtC can be found in the Appendices 1 through 7 of this report.

Background

The original stimulus for Connect the Coastside came from the San Mateo County Local Coastal Program (LCP) Policy 2.53, which requires the development of a comprehensive transportation management plan to address the cumulative traffic impacts of residential development on the Midcoast. Development for CtC began in 2014 and included creating development forecasts, projecting future traffic, identifying transportation deficiencies, and analyzing potential improvements and development constraints.

On January 15, 2020, San Mateo County released a public working draft of the Connect the Coastside Plan for public review and feedback. The Plan recommends programs and infrastructure projects to improve mobility and accommodate transportation needs due to future development and growth through the year 2040. The Plan's recommendations are focused on the areas surrounding Highway 1 and Highway 92 and includes the unincorporated Midcoast communities of Montara, Moss Beach, El Granada, Princeton and Miramar.

The Connect the Coastside project team consists of staff from the San Mateo County Planning and Building Department working in collaboration with staff from the Office of Sustainability, County Manager's Office, the Department of Public Works and consultants from DKS Associates. The Plan has also been shaped with the help of a Technical Advisory Committee (TAC) that includes Caltrans, City of Half Moon Bay, SamTrans, and many more.

Outreach Efforts

The bulk of recent Connect the Coastside outreach efforts took place from April to August 2020 and are summarized in this section. In-person outreach events were originally planned for March and April 2020, but due to the COVID-19 pandemic, the project team postponed and reimagined outreach efforts to ensure the safety of participants. The goals of the outreach efforts were to hear from as many different Coastside stakeholders as possible and to provide multiple ways to learn about and provide comments on the Plan. Several outreach opportunities focused on reaching a broad cross-section of Coastside stakeholders including youth, mono-lingual Spanish speakers, workers, renters, and low-income residents.

Listening to the Midcoast Survey

The project team reviewed findings from the Listening to the Midcoast Mobility **online survey**, led by the Midcoast Community Council and Supervisor Horsley's office. These findings helped to inform and shape the Connect the Coastside outreach efforts.

Updates to the Website

To share information and provide an opportunity for people to provide comments, the project team made the following updates to the Connect the Coastside website:

- Created and posted a **library** of past CtC documents and meeting materials
- Posted a recorded CtC overview **presentation**
- Developed and shared 7 **factsheets** summarizing the CtC proposed projects and policies
- Added a **comment box** for community members to submit comments and sign up for the CtC emailing list

Comments received through both the comment box and emailed to the project team are incorporated into the summary of comments and proposed changes, detailed in Appendix 7.

Virtual Community Meetings

Between May and June 2020, the Connect the Coastside project team held three virtual community meetings with Coastside community members to share information about the draft Plan and to gather community input to inform the Plan's goals and proposed projects. Each meeting included the following:

- Welcome from County District 3 Supervisor Don Horsley
- Presentation on Connect the Coastside
- Polls to learn about the participants and their transportation priorities
- Question and answer session
- Breakout rooms for small group discussions with feedback recorded by notetakers
- Report out to the larger group from the small group discussions
- Explanation of next steps for moving forward with the Plan

The three virtual community meetings were conducted in English and were not translated into Spanish, as the project team heard feedback that bilingual virtual meetings with real time translation did not provide the best experience for Spanish speakers. In total, about 132 community members participated across the three public workshops. Some participated in all three workshops while others attended one or two. A detailed summary of the meetings and responses to questions are provided in Appendices 1 through 5.

Meeting Date and Topic		Approximate # of Attendees
5/30	Overview of Connect the Coastside	40
6/15	Moss Beach, Montara	60
6/30	El Granada, Princeton, Miramar	32

Youth Group Meeting

The project team collaborated with the Youth Leadership institute (YLI) to host a virtual Zoom meeting on July 7, 2020 to connect with youth who live, work, and/or visit the Coastside, hear about their transportation experiences and needs, and ensure that their needs are incorporated in CtC. The County provided an overview presentation on Connect the Coastside similar to the May 30th virtual community meeting. Youth participants shared their perspectives on what's working well and what is challenging when it comes to transportation, which Plan ideas are most important, how to improve access to their favorite places, and their vision for transportation on the coast. Students also responded to several poll questions about how they get around. Biking, walking and transit improvements were most important to this group who rely on family members and friends to get around since they cannot drive. Notes from youth meeting are included in Appendix 6.

Outreach Method	Views and Responses
July 7, 2020 Youth focus group	7 youth and 2 staff members from YLI

Spanish Language Outreach

To hear from monolingual Spanish speakers who live and work on the Midcoast, the project team used a combination of strategies to provide information about the Plan and ask for input. Outreach was designed to make participation easy and accessible by reaching people in places they already visited and by providing multiple options for participation. The Spanish language options for learning about Connect the Coastside and providing feedback included:

- A Spanish language Connect the Coastside **webpage**
- Seven Spanish language Connect the Coastside **factsheets**
- A 20-minute recorded **presentation** in Spanish that provides an overview of Connect the Coastside and was posted to the Spanish language CtC webpage
- Short (2-3 minute) **videos** in both Spanish and English posted to the ALAS and Coastside Hope Facebook pages, describing Connect the Coastside and asking for input
- A **paper survey** in Spanish and English distributed through the Coastside Hope front desk and food distribution, ALAS food distribution, Pillar Ridge, and El Granada Elementary School lunch service
- **Phone and online surveys** conducted in Spanish

These efforts were successful in reaching a number of people, including:

Outreach Method	Views and Responses
20-minute recorded presentation	14 views
ALAS Facebook Spanish video & comments	137 views, 2 comments
Coastside Hope Spanish video & comments	77 views
Coastside Hope English video & comments	92 views
Paper Survey	25 returned, 16 in Spanish and 9 in English
Online Survey	8 responses
Phone Survey	6 phone surveys completed in Spanish

Montara Water and Sanitary District Board Meeting

On April 4, 2020, County staff presented information about Connect the Coastside to the Montara Water and Sewer District Board and received feedback. This feedback is incorporated into the summary of comments and proposed changes, detailed in Appendix 7.

Midcoast Community Council Meetings

The Midcoast Community Council (MCC) is an elected Municipal Advisory Council to the San Mateo County Board of Supervisors, representing Montara, Moss Beach, El Granada, Princeton, and Miramar. The MCC has played an important role in the development of Connect the Coastside, providing advice on how to reach the Midcoast community and providing feedback and guidance on the Plan. Two MCC meetings in the summer of 2020 solicited feedback from community members on the Connect the Coastside:

- **July 8, 2020**: County staff presented on topics that were not covered in the May and June 2020 virtual meetings, including proposed projects for Highway 92 and land use programs.
- **July 29, 2020**: The MCC held a special meeting to conduct a study session on Connect the Coastside for members of the community to provide feedback.

Feedback received during the MCC meetings are incorporated into the summary of comments and proposed changes, detailed in Appendix 7.

MCC Meeting Date	Responses
July 8, 2020	4 MCC members and 5 members of the public provided comments
July 29, 2020	5 MCC members and 11 members of the public provided comments

Summary of Comments & Proposed Changes

The project team received feedback on various topics in the Plan. Below is a summary of major themes we heard and a snapshot of proposed changes to update Connect the Coastside. The complete summary of comments and proposed changes to the Plan is available in Appendix 7.

What We Heard

In general, commenters were supportive of the recommended projects that create safer places to walk, bike, and take transit. These include:

- The Multimodal Parallel Trail
- Marked crossings of Highway 1 with other safety features like median islands and lights
- Safe routes to school
- Bicycle lanes and bicycle parking
- Shelters and benches at bus stops
- More frequent and express buses

Commenters were more divided on the Plan's recommendations to improve driving. There were different opinions about the following:

- Whether intersections should have roundabouts, traffic signals or any control
- Providing additional parking and where it should be located
- The roadway design treatments that are best for the Midcoast

Several commenters focused feedback on specific locations in Moss Beach, including the proposed recommendations for Carlos Street. Others had concerns about the transportation and land use data used to inform the Plan's recommendations and wanted to know more about the impact of projects on traffic congestion and emergency response. Several commenters highlighted inconsistencies between the recommendations in the draft Plan and other planning efforts, like Plan Princeton. Many commenters were concerned about how long it would take to implement projects and wanted to know more about how projects would be funded. A few commenters were interested in the land use policy recommendations and suggested making them mandatory.

Proposed Changes to Connect the Coastside

The project team will work to update the Plan to clarify the recommendations, planning process, and next steps. Below are some of the proposed revisions to the Plan:

- Ensure consistency with ongoing and past planning efforts (like Plan Princeton and the Highway 1 Safety and Mobility Study), including updating maps and project descriptions.
- Add a chapter to describe the history of Connect the Coastside, including past outreach efforts.
- Revise the Plan's goals and include more to address environmental sustainability, accessibility for all ages and abilities, emergency response, and evacuation.
- Update and/or change specific project recommendations including: revise Highway 92 bikeways recommendation to widened shoulders only; remove Highway 92 climbing lanes; change Highway 92 roundabouts to signals; removing the recommendation for the Moss Beach Park and Ride lot; recommend roundabouts on Highway 1 with additional description about necessary studies and approval from Caltrans; removing recommendation for bus stop at Carlos St / 16th St and re-routing bus.
- Expand the implementation chapter to include a potential timeline and phased approach for project implementation, including a description of the community engagement process that will need to accompany certain projects during future project-level implementation.

Next Steps

An estimated timeline of future meetings and actions on the Connect the Coastside Plan is provided below.

Estimated Timeline	Action
September 2020	Present proposed updates at a Midcoast Community Council study session
October 2020	Update plan
November 2020	Present updated plan to Midcoast Community Council
December 2020	Planning Commission workshop on updated plan
January 2020	Final updates the plan and environmental review documents
February 2021	Publish final draft and environmental review documents
February 2021	Midcoast Community Council meeting to consider recommendation on plan
February 2021	Half Moon Bay Planning Commission meeting to consider recommendation on plan
March 2021	Planning Commission meeting to consider recommendation on plan
April 2021	Board of Supervisor meeting to consider plan approval

To Stay Involved and to Learn More:

- Visit the County's Connect the Coastside web page to sign up for email updates and for detailed plan and meeting information
- Visit the Midcoast Community Council webpage for information on MCC meetings and documents related to CtC
- Share this meeting report with your networks and people who were not able to attend
- For questions on Connect the Coastside, please contact Katie Faulkner at kfaulkner@smcgov.org

Appendices

Appendix 1 - Virtual Community Meeting Summary

Appendix 2 - Response to Connect the Coastside Virtual Meeting Inquiries

Appendix 3 - May 30th Meeting Poll Data & Small Group Discussion Notes

Appendix 4 - June 15th Meeting Poll Data & Small Group Discussion Notes

Appendix 5 - June 25th Meeting Poll Data & Small Group Discussion Notes

Appendix 6 - July 7th Youth Meeting Group Poll Data & Discussion Notes

Appendix 7 - Summary of Comments on Connect the Coastside & Proposed Changes

Appendix 1 – Virtual Community Meetings Summary

Between May and June 2020, the Connect the Coastside (CtC) project team held three virtual community meetings with Coastside community members to share information about the draft Plan and to gather community input to inform the Plan's goals and proposed projects. Objectives for the meetings were:

- Participants learn about Connect the Coastside: what it is, why and how it's being developed; and
- Participants learn with each other and share their feedback with the County about Connect the Coastside.

Meeting Format and Process

Due to the COVID-19 pandemic and San Mateo County shelter-in-place orders, the community meetings were held virtually using the Zoom online videoconferencing platform to enable community members to participate via computer or phone. Meetings were held on weekday evenings and a Saturday morning in response to feedback from community members to maximize attendance.

The meetings were designed collaboratively by a facilitation consultant and County staff from the Office of Sustainability, County Manager's Office, Planning and Building Department, and Supervisor Horsley's office, and recommendations from community members to reach a diverse group of Coastside community members and balance the needs of those who are very familiar with CtC with those who were less familiar with the Plan.

Figure 1 May 30, 2020 Virtual Meeting

Each meeting began with a welcome from County District 3 Supervisor Don Horsley followed by a presentation on Connect the Coastside by County Planner, Katie Faulkner. Attendees participated in polls before and during the presentation that aimed to learn about the participants (where they lived/worked and how familiar they were with the Connect the Coastside plan) and asked about their reactions to the Plan's goals and priorities. There was a brief question and answer session following the presentation to respond to clarifying questions. Community members were then divided into breakout rooms for small group discussions in which participants provided input on CtC and shared their ideas. The small group discussions were facilitated by trained facilitators who were either volunteers from the Peninsula Conflict Resolution Center or County staff. The small group discussions were designed to encourage participants to dialogue with each other and hear their neighbor's perspectives. This approach provided an opportunity for all individuals to share their ideas and created a more welcoming setting for everybody to participate, from people who were new to the plan and people who were more familiar with it. Groups ranged in size from two to five participants. In some groups, there was a Midcoast Community Council member or County staff person who listened to the discussion. Feedback was recorded by notetakers who shared their screen so that participants could view the notes. Each breakout group briefly reported back to the large group on key discussion themes. This was followed by an explanation of next steps for moving forward with the plan.

Some community members and MCC members expressed frustration with the limitations of the virtual meeting platform, and felt that the meeting format limited opportunities for public input. County staff acknowledges the frustration, but believes that the importance of completing the Plan justified using the virtual platform, and that there remain several future opportunities for public comment to shape the Plan.

The three virtual community meetings were conducted in English and were not translated into Spanish, as County staff heard feedback that bilingual virtual meetings with real time translation did not provide the best experience for Spanish speakers because of the limitations of a virtual meeting. Instead County staff focused on providing dedicated Spanish language outreach through phone and paper surveys, as staff understood this was preferable to many mono-lingual Spanish speakers.

Getting the Word Out

County staff, members of the Midcoast Community Council (MCC) and several organizations on the Midcoast helped spread the word to community members about the Connect the Coastside Plan and the community meetings. Efforts were made to reach a broad range of community members from the Midcoast, including people who were familiar with Connect the Coastside and those who were less familiar with the project. The meetings were promoted through the following methods:

- Email invitations sent to people who expressed interest in receiving updates on Connect the Coastside
- Personalized emails from County staff to community connectors (representatives of local schools, agencies, community groups and organizations) asking them to spread the word about the meetings
- Articles in the Half Moon Bay Review and Coastside Buzz
- Posting on the County of San Mateo Nextdoor page
- Postings on the San Mateo County Planning & Building website, the San Mateo County District 3 website, and Midcoast Community Council website
- Flyers posted at post offices, apartments, and shared at Midcoast food distribution events

- Announcements at public meetings including the San Mateo County Planning Commission and the Midcoast Community Council

Meeting Highlights

In total, about 132 community members participated across the three public workshops. Some participated in all three workshops while others attended one or two.

May 30th Workshop: Approximately 40 community members participated in the May 30thworkshop. Based on responses to a poll during the meeting, half of the participants lived or worked in Moss Beach, with 20% from El Granada, 12% from Montara and the remainder living or working elsewhere.

The County's presentation provided an overview of Connect the Coastside, the goals of the plan and some of the major proposed projects including the Parallel Trail, the completion of the Coastal Trail, proposed improvements for driving and transit, and land use changes. County staff also presented information on a recent mobility survey that was completed by more than 600 Coastside residents. The survey indicated that reducing traffic and improving safety for pedestrians and bicyclists are the issues most important to respondents, followed by improving bus service and access to bus stops. In small group discussions, participants shared their thoughts about their transportation experience during the COVID-19 shelter-in-place, their reactions to the goals of the plan, and which projects they felt were most important for improving transportation.

June 15th and June 25th Workshops: The second workshop held on June 15th was attended by approximately 60 community members and focused on the Connect the Coastside plan and projects specific to Montara and Moss Beach. Most participants (64%) indicated that they lived and/or worked in Moss Beach, 20% were from Montara, and the remainder were from elsewhere.

The third workshop on June 25th focused on plans and projects for El Granada, Princeton and Miramar. Of the 32 community members in attendance, 50% lived or worked in El Granada, 3% each were from Princeton and Miramar, and 30% were from elsewhere on the Coastside.

At both workshops, participants in small groups discussed which projects they felt were most important and what else could be done to improve transportation in the area.

Spring/Summer 2020 Connect the Coastside Virtual Meetings

Meeting Date and Topic		Approximate # of Attendees
5/30	Overview of Connect the Coastside	40
6/15	Moss Beach, Montara	60
6/30	El Granada, Princeton, Miramar	32

Appendix 2 - Response to Connect the Coastside Virtual Meeting Inquiries

Connect the Coastside is a community-based transportation plan to help improve mobility and safety for residents and visitors of the San Mateo County Midcoast. The San Mateo County Planning and Building Department released a draft of Connect the Coastside in January 2020. In May and June 2020, the Connect the Coastside project team held three virtual public meetings to engage Coastside residents and other stakeholders in learning about the plan and to provide input into plan goals and proposed projects. The meetings included a presentation by County staff, question and answer session, small group discussions, and report-outs with all meeting attendees. About 130 community members attended the three meetings, provided feedback, and asked additional questions about Connect the Coastside.

The purpose of this document is to provide preliminary responses and clarifications to questions asked during the virtual meetings on May 30, June 15 and June 25, 2020. This document includes several of the frequently asked questions (FAQs) already present on the Connect the Coastside website (https://planning.smcgov.org/connect-coastside-faq); these are denoted with an asterisk (*).

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PLAN BACKGROUND AND STUDY AREA

1) How does Connect the Coastside relate to the Coastal Act and Local Coastal Program (LCP)?*

The California Coastal Act and the San Mateo County Local Coastal Program (LCP) require the preparation of Connect the Coastside, guide the content of the plan and will continue to guide the implementation of the plan after adoption.

Adopted in 1976, the California Coastal Act is a state law that directs the planning and management of the California coastal zone, the statewide stretch of coastline along the Pacific Ocean. The Coastal Act establishes a number of foundational goals that aim to protect the coastal environment and ensure maximum public access to the coast. The California Coastal Commission and local governments are responsible for carrying out the Coastal Act and for coastal management. The implementation of Coastal Act policies is accomplished primarily through the preparation of Local Coastal Programs (LCPs), which when completed by cities and counties located in the coastal zone, allow local governments to administer the Coastal Act within their jurisdiction, subject to certain retained powers held by the Coastal Commission.

San Mateo County's Local Coastal Program (LCP) is used to guide development in the coastal zone while protecting coastal resources. Any and all development projects in the Coastal Zone require either a Coastal Development Permit or an exemption from Coastal Development Permit requirements. For a permit to be issued, the development must comply with the policies of the Local Coastal Program (LCP). Before any of the transportation infrastructure proposals in Connect the Coastside are constructed, they must be evaluated and found to be consistent with the policies of the Local Coastal Program and authorized by a Coastal Development permit.

In 2012, the Board of Supervisors adopted significant amendments to San Mateo County's Local Coastal Program regarding the Midcoast. One of these amendments was Policy 2.53, which called for the preparation of a "Comprehensive Transportation Management Plan" to address the cumulative impacts of Midcoast development. Connect the Coastside is designed to fulfill the requirements of Policy 2.53 and inform the County's implementation of several other components of the Local Coastal Program, including the public works and new development components. Some of the standards proposed in Connect the Coastside, such as the Delay Index, need to be incorporated into the Local Coastal Program through an amendment.

2) What are the boundaries of Connect the Coastside compared to the Local Coastal Program (LCP)?

The San Mateo County LCP policies apply within the unincorporated San Mateo County coastal zone, which extends at varying widths from the southern border of Pacifica to the Santa Cruz County line. Connect the Coastside focuses on future development and traffic within the urbanized Midcoast (Miramar, El Granada, Princeton, Moss Beach and Montara). Connect the Coastside's traffic analysis studied an expanded area (which includes Half Moon Bay) outside of the urbanized Midcoast, to understand how traffic impacts the urbanized Midcoast.

Figure 7 (p.53) of the report "Connect the Coastside Buildout Analysis and Traffic Projections Final Report" (November 2014) shows the various jurisdiction and study area boundaries, including the coastal zone boundary and planning boundary. The report is available on the Connect the Coastside Documents & Meeting Materials webpage in the Public Drafts section. The project team will clarify the map in the next draft of the plan.

3) Is Half Moon Bay included in Connect the Coastside? In what ways?

Development and traffic projections for Half Moon Bay are included in the Connect the Coastside traffic analysis, because development and traffic in Half Moon Bay and the Midcoast are interconnected. The traffic analysis was used to create the recommendations to improve transportation in the unincorporated Midcoast, which is under the jurisdiction of the County of San Mateo. However, Connect the Coastside does not include project recommendations for the City of Half Moon Bay, because Half Moon Bay is a separate jurisdiction from the County.

The Connect the Coastside consultant team developed several recommended traffic improvements for Half Moon Bay that were included in past public presentations, but drafts of the Connect the Coastside plan have not included those recommendations. The County has shared these recommendations with the City of Half Moon Bay for consideration during its planning efforts.

The City of Half Moon Bay and the County have been preparing separate but coordinated transportation plans over the last several years. The Planning Director for the City of Half Moon Bay also serves on the Technical Advisory Committee for Connect the Coastside. The planning staffs of the two agencies continue to coordinate on these planning efforts.

4) How is Connect the Coastside related to other County planning efforts, like Plan Princeton?*

Connect the Coastside was shaped by previous planning efforts and will help inform future planning on the Coastside. Connect the Coastside was guided by existing community plans and regulations, including:

- California Coastal Act
- San Mateo County Local Coastal Program
- San Mateo County General Plan
- Montara - Moss Beach - El Granada Community Plan
- Highway 1 Safety and Mobility Study (Phases 1 and 2)

The goals and policies of these documents helped inform the Connect the Coastside public participation process, the contents of the plan, and the evaluation of possible projects.

The list of potential infrastructure improvements recommended in Connect the Coastside was compiled from a variety of sources, including several past and concurrent planning efforts. These planning efforts include Plan Princeton, the Highway 1 Safety and Mobility Study, the Highway 1 Congestion & Safety Improvement Project, the Coastside Access Study, and the SamTrans Coastside Plan. Additionally, some of the proposed infrastructure improvement recommendations were developed during the Connect the Coastside process.

There are several concurrent planning efforts that will also influence transportation on the Midcoast. These projects include Reimagine SamTrans, the San Mateo County Active Transportation Plan, Plan Princeton, County Climate Action Plan, and the Half Moon Bay Bicycle and Pedestrian Master Plan. The Connect the Coastside project team has been working to make sure the various plans are appropriately coordinated and complement each other.

Once Connect the Coastside is adopted by the Board of Supervisors, the recommended projects will need to be incorporated into local, regional, and state transportation plans to secure funding. These plans include:

- San Mateo County Transportation Authority Strategic Plan
- San Mateo County Congestion Management Plan
- San Mateo County Road Fund
- County of San Mateo's Five-Year Capital Improvement Plan (CIP)
- Plan Bay Area
- State Transportation Improvement Program

Following adoption of Connect the Coastside by the Board of Supervisors, a priority action for County staff will be to integrate Connect the Coastside projects in local and state transportation plans.

5) How does Connect the Coastside address the cumulative impact of development?

The purpose of Connect the Coastside is to recommend a suite of transportation projects and programs to address the impact of forecasted future development in an effort to maintain access and mobility to the California coast for visitors and for coastside residents. The cumulative development projections in the "Development Forecast for the San Mateo County Comprehensive Transportation Management Plan" (available on Connect the Coastside's project website) serve as the basis to forecast future development, traffic and conditions of the transportation system, including projected levels of service and delay. In addition to recommending transportation projects to address cumulative development impacts, Connect the Coastside recommends land use policies to reduce future development on the Coastside. The lot merger, transportation impact fee and lot retirement program are described in Section 4.3 (p.64) of the draft Connect the Coastside Plan.

6) How will Connect the Coastside advance County sustainability goals?

As described in the 2013 Community Climate Action Plan entitled San Mateo County Energy Efficiency Climate Action Plan, the transportation sector accounts for over 60% of emissions annually countywide. The County is committed to implement actions that reduce greenhouse gas emissions to meet local and statewide goals and mandates. Projects in the Connect the Coastside are aimed to reduce traffic congestion and encourage a shift from vehicles to walking, bicycling, and transit and help implement goals 6 and 9 of the Climate Action Plan. As individual plan projects are designed in detail, the County will ensure opportunities for green streets (e.g., bioswales, permeable pavement, and others) are considered. The Planning and Building Department is working closely with the Office of Sustainability to update the County's Community Climate Action Plan and to coordinate with the County's Active Transportation Plan, both of which promote alternatives to driving and County policies to support projects in Connect the Coastside.

7) How does Connect the Coastside promote roadway safety?*

The Connect the Coastside plan proposes many infrastructure projects that will make walking, biking, and driving on the Midcoast safer for both residents and visitors. The plan addresses safety by analyzing existing conditions and developing improvement strategies. The proposed projects are evaluated and prioritized using six measures, one of which is safety and circulation. For more information on the six prioritization measures see Chapter 6 Plan Implementation in the public draft of the Connect the Coastside plan. Many of the proposed projects score highly on the safety and circulation measure, such as projects that would add:

- Turn lanes or acceleration lanes
- Stop signs
- Standardized paved shoulders
- Roundabouts
- Bike lanes
- Sidewalks
- Curb extensions
- Crosswalks

PLAN DEVELOPMENT PROCESS

8) How were the projects in Connect the Coastside derived? Can you summarize the process?

The projects in Connect the Coastside originate from a variety of places. Most of the projects come from ideas or concerns heard from the community, some projects are carried over from previous planning efforts, and some projects were added to fix a specific problem found by the traffic analysis. Recommendations were developed through input from the community, county staff, the consultant team, and the technical advisory committee (which includes agency partners).

Generally, recommended projects aim to address transportation safety and roadway performance based on current transportation and land use conditions, and future conditions inclusive of forecasted new development and land uses. The projects borrow heavily from past planning efforts (such as the Highway 1 Safety and Mobility Study) and concurrent planning efforts (such as Plan Princeton and the San Mateo County Unincorporated Area Active Transportation Plan). As such, Connect the Coastside addresses a broad range of Midcoast stakeholder needs and viewpoints.

The project team will clarify the history of Connect the Coastside and project development process in the next draft update.

CLARIFYING INFRASTRUCTURE RECOMMENDATIONS

9) Can Connect the Coastside clarify the purpose of each proposed pedestrian crossing?

The project team will look for opportunities to further clarify the purpose of each proposed pedestrian crossing in the next draft update. In the current draft plan, Section 2.2 describes the conditions that form the basis of recommendations, including pedestrian movements, performance standards and design, and existing conditions. Proposed marked pedestrian crossings are based on pedestrian demand for key destinations and associated traffic volumes. In locations with higher traffic volumes, higher visibility pedestrian facilities are needed to alert drivers to pedestrian crossings and create safer conditions for pedestrians. Figure 2 (p.27) shows the location of key pedestrian hot spots and points of interest, such as beaches, trails, viewpoints, surfing destinations, shopping areas, and trail crossings. Section 4.2.2.4 (p.56) describes proposed pedestrian and bicycle facilities, Figure 6 (p.58) shows proposed pedestrian crossings on a map, and Appendix A, Project Pe-1, p.16 (p.112 of 309) lists recommended striped pedestrian crossing locations. Marked pedestrian crossings will be included at locations recommended for intersection control.

10) Will people continue to cross the freeway at various locations with the proposed pedestrian crossings in place?

The proposed pedestrian crossings intend to connect key destinations and provide a higher quality and safer crossing experience so that people are less likely to cross at different locations on a given roadway stretch. Research has shown that pedestrians typically use the shortest distance to reach their destination; further, people walking will go out of their way more often if a high-quality crossing facility is provided. For example, a marked crossing of Highway 1 will be more likely to draw people to it if it includes additional safety features, such as signage and flashing beacon. The location of a pedestrian crossing also needs to be near destinations it intends to serve.

11) What will be the impact of the recommended pedestrian crossings on traffic flow?

The ultimate design of pedestrian crossings will influence traffic flow. Pedestrian crossings that are designed to halt traffic to allow pedestrians to cross will contribute a modest amount to overall delay. However, the programming of crossing signals can reduce potential impact on traffic flow. If signals are designed to hold pedestrians for a time to keep traffic moving and only allow crossings on fixed intervals (e.g., no more than one crossing every few minutes), then the impact on traffic flow can be minimized. The final design of highway crossings will have to be determined in collaboration with Caltrans.

12) Why does Connect the Coastside recommend at-grade crossings instead of over/underpass crossings for pedestrians?

Although pedestrian overpasses and underpasses have the advantage of complete separation of pedestrians from vehicle traffic, there are several drawbacks:

- They can be visually intrusive and poorly utilized when a more at-grade crossing is possible
- The must meet ADA requirements, often requiring extensive ramping, creating longer crossing distances and steeper slopes for people walking
- They are much more costly to provide ($1 M to $11 M)

- Research has shown that pedestrians may not use them if they can cross the street in a shorter or same amount of time
- Underpasses are often perceived as unsafe, can flood and require ongoing maintenance, such as lighting and cleaning

The Federal Highway Administration recommends that these be implemented as a measure of last resort and that it is usually more appropriate to use traffic-calming measures and/or install a pedestrian-activated signal. For these reasons, Connect the Coastside recommends improved at-grade pedestrian crossings; however, one location in Moss Beach near the northern terminus of Carlos Avenue is a candidate for an overcrossing and this will be evaluated in the next draft of the plan.

13) Will street lighting along Highway 1 be provided in Moss Beach as part of Connect the Coastside?

Additional street lighting is not included in the current draft of Connect the Coastside. Based on the feedback received from community members, the project team will consider this as part of the next draft and discuss feasibility as part of a technical advisory committee meeting. New intersection controls may include lighting based on Caltrans and Federal Highway Administration safety criteria.

14) What influences the types of intersection controls along Highway 1?

Many factors shape when and what type of control (traffic signal and roundabout are two examples) can be placed at the intersection of two roadways. Transportation engineers must consider the needs of all potential users, including drivers, trucks, buses, bicyclists, and pedestrians. Other factors like speeds, crashes, delay, turning movements, and roadway geometry are also important considerations. Highway 1 is under the jurisdiction of Caltrans, the California State Department of Transportation, which means Caltrans will have to approve the final intersection control choice and design. In order to weigh the compatibility of different intersection control types with the specific context, Caltrans requires the completion of an Intersection Control Evaluation (ICE). The County will collaborate closely with Caltrans to complete the ICE process and determine the different tradeoffs between intersection controls where they are needed along Highway 1. The County continues to include roundabouts in the Connect the Coastside draft plan, and will analyze their effectiveness, cost and environmental impacts as part of a Caltrans' required ICE analysis (https://dot.ca.gov/programs/traffic-operations/intersection-evaluation-control).

15) Will roundabouts be effective in areas with varying levels of traffic congestion? Are they feasible considering sewer and water locations? Will they accommodate large vehicles?

Roundabouts are circular intersections designed to eliminate left turns by requiring traffic to exit to the right of the circle. The design of roundabouts results in lower vehicle speeds, generally 15-25 miles per hour, throughout the roundabout. Commonly cited advantages of roundabouts include traffic calming, less maintenance (compared to signalized intersection control), opportunities for landscaping, and reduce certain crash types and their severity. Roundabouts can be single or multiple lanes, depending on traffic volume levels on each approaching roadway to facilitate traffic flow. Roundabout projects may require relocation of existing utilities to allow for safe ongoing maintenance. Roundabouts can be designed to accommodate large trucks (e.g., emergency vehicles and recreational vehicles); this has been done in many locations in California. If roundabouts are recommended through the intersection control evaluation process described above and funding for implementation secured, the County will prepare detailed roundabout designs that address these considerations.

16) Why doesn't Connect the Coastside recommend road widening or new roads?

As described in the Executive Summary of the 2016 Evaluation of Recommended Alternative to Address Potential Future Transportation Deficiencies Draft Report, early recommendations for transportation projects to address level of service (LOS) deficiencies included roadway-capacity projects (e.g., road widenings). However, these projects were not adequately supported by the community and therefore, community members encouraged the provision of a different set of roadway performance metrics that emphasized multi-modal (walking, bicycling, and transit) improvements in addition to those supporting driving. In addition to community concern of road widening or new roads impacts on Midcoast character and emphasis on automobile use, the County is aware of environmental constraints such as endangered species and topography that would make road widening and creating new roads challenging to implement. Lastly, providing increased road capacity can often lead to a challenge called "induced demand," where new road lanes fill up quickly by people who either would not have made a trip otherwise or would have previously used an alternative mode of travel. Finally, any widened section of Highway 1 could eventually lead to a one-lane bottleneck, either at the Tom Lantos tunnel or eastbound Highway 92.

17) Can Connect the Coatside clarify the purpose of new parking lots, where they will be located, environmental impacts, and if street parking be removed along Highway 1 with the addition of new parking lots?

The project team will work to further clarify proposed parking in the next update of the draft. Section 4.2.4 (p.61) of the draft plan describes recommended recreational and transit parking facilities and Figure 8 (p.62) shows the proposed locations of parking improvements. Additional parking paired with wayfinding and active transportation facilities is recommended to improve circulation. Parking is recommended to allow for park and ride facilities for transit use and to address the performance measure of 85% parking occupancy (i.e., 85% of parking spots filled with 15% open) during peak recreational times. The 2014 San Mateo County Buildout Analysis and Traffic Projections Report (beginning on p.34) and 2015 San Mateo County Coastside Access Study includes detailed information on parking utilization and recommended strategies to address parking demand. Environmental impacts of proposed projects, including parking lots, will be addressed in the environmental review of Connect the Coastside. Individual projects will also go through environmental review prior to implementation. The current draft plan does not recommend removing street parking along Highway 1; the project team will identify if removal of roadside parking in El Granada near Surfer's beach is necessary to improve traffic flow and pedestrian safety.

18) Why does Connect the Coastside recommend wayfinding?

Wayfinding can help residents and visitors understand how to best reach their destinations. Wayfinding is a recommended strategy from previous studies to minimize circling for parking and directing visitors to designated areas to minimize congestion. Wayfinding can encourage walking and bicycling by showing how much time it would take to use active transportation to reach key points of interest and can promote transit use by directing people to where and how to use the transit system.

19) Why are there bicycle facilities parallel to each other?

To make bicycling accessible for as many people as possible, Connect the Coastside includes different types of bicycle facilities. A multimodal path completely separated from traffic could best serve people walking, jogging, biking, and scooting, and may be better for children, recreational cyclists, or those new to bicycling. Bicycle speeds tend to be slower on shared paths. Experienced cyclists hoping to commute or travel long distances at higher speeds may prefer a facility that is dedicated for bicycling and follows the roadway network. Ideally, when the projects in long-range plans, such as Connect the Coastside, Caltrans' District 4 Bicycle Plan, and the Unincorporated San Mateo County Active Transportation Plan are implemented, there will be a complete, low-stress bicycle network.

20) Will future trail alignments be multiuse (e.g., for bicyclists, pedestrians, dog walkers)?

Proposed trails in the current draft of Connect the Coastside (e.g., Highway 1 Multi-modal Parallel Trail) are envisioned to serve people walking (includes those using scooters, wheelchairs, walking dogs, etc.) and people bicycling. The trails are not intended to serve equestrians.

21) Can you clarify the alignment and status of the Parallel Trail?

The alignment of the Multimodal Parallel Trail is shown in the draft plan Appendix A, project Pe-2, p.17 (p.113 of 309). The project was conceptualized in the Highway 1 Safety and Mobility Improvement Study in Phase 1 and is planned from Montara south to Miramar to connect to the Naomi Patridge Trail in Half Moon Bay. The first funded segment of the trail is from Mirada Road to Coronado Street. More detail on the funded project section is available on the Midcoast Multimodal Trail Project website.

TRAVEL DELAY AND DATA

22) Why does Connect the Coastside recommend using the delay index?

Connect the Coastside recommends using the delay index to understand how well a roadway is performing and to recommend roadway improvements that meet the specific needs and character of the Midcoast community.

Currently, the Midcoast Local Coastal Program (LCP) includes "Level of Service" or LOS to measure roadway performance. To measure how well a segment of roadway is performing, level of service measures the ratio between traffic volume and roadway capacity and assigns letter grades. A letter grade of "A" can be considered free-flow and "F" can be considered as stop and go (see the San Mateo County Traffic Impact Study Requirements for more information). Level of Service measures the impact to people in cars, leaving out the experience for people taking any other mode of travel (i.e., people walking, bicycling, or taking transit). The Midcoast Local Coastal Program sets the LOS performance standard for Highway 1 and Highway 92 at LOS E during commute times and recreation peak periods, and at LOS D during all other times. For example, Highway 1 is not meeting the defined performance standard if level of service is an "F" during commute hours. In order to improve roadway segment LOS, roadway capacity needs to be increased or traffic volumes need to be decreased. This is typically achieved by increasing the number of cars that can go on a road through road widening or by reducing the number of cars on that road by diverting traffic to another road.

A primary goal of Connect the Coastside is to address future roadway deficiencies due to development and meeting the standards as defined by the LCP. As described in the Executive Summary of the 2016 Evaluation of Recommended Alternative to Address Potential Future Transportation Deficiencies Draft Report, early recommendations for Connect the Coastside's transportation projects to address deficiencies as measured by LOS included roadway-capacity projects (e.g., road widenings) along Highway 1. However, these projects were largely unsupported by the community and community members encouraged providing a different set of roadway performance metrics that emphasized multi-modal (walking, bicycling, and transit) performance, in addition to driving performance. The 2016 Evaluation report (referenced above) describes the existing and proposed roadway performance standards beginning on page 5. The Delay Index is one of the proposed roadway performance standards.

Using the Delay Index instead of LOS to measure the performance of roadway segments responds to the community's desire to broaden the types of projects included in Connect the Coastside. The Delay Index is defined as the ratio of peak period travel time on a segment to the free-flow travel time. For example, the delay index would be 2 if a trip took 5 minutes during free-flow travel conditions and 10 minutes during the morning commute period (10 minutes divided by 5 minutes is equal to 2). In contrast to LOS, the delay index focuses on travel times and user experience for people driving.

The delay index allows for different thresholds for performance. If a high-quality multimodal facility is provided parallel to a roadway, then the delay index deficiency threshold is above 3; in other words, a roadway is deficient if it takes longer than three times to travel it by car during peak periods than free-flow conditions. If a roadway segment provides for vehicle-only travel, then the threshold at which it becomes deficient is above 2.

The goal of Connect the Coastside's recommended projects are both to meet community desires and needs under current conditions and address future traffic conditions based on projected new development. Changing the standard by which roadway performance is measured influences the types of projects that can be recommended. For example, if the Multimodal Parallel Trail is built, Highway 1 would no longer be considered deficient under future conditions as measured by the delay index; delay index projections for Highway 1 fall under 3.0. If roadway segment LOS is used as the roadway performance measure, the Multimodal Parallel Trail would no longer be an effective strategy because adding the trail does not change projected LOS. Using the delay index allows Highway 1 to meet roadway performance measures by adding walking and bicycling projects as an alternative to widening the highway. Therefore, Connect the Coastside recommends amending the LCP to use the delay index to measure roadway segment performance instead of roadway segment LOS.

23) Does the County plan to update the data used in Connect the Coastside?

Connect the Coastside began in 2014, and the data used for projecting development and traffic was gathered in 2014. Since that time, the County has tracked development using building permits and found that the forecast, based on 2014 data, is over-predicting development. Building permits are approximately half of what is predicted by the model. In addition, the County gathered traffic data in 2017 and 2019 to inform the design of roundabouts in Moss Beach. Although these are targeted traffic counts, they provide an opportunity to check 2014 projections, particularly for weekend traffic. Recent traffic counts show no appreciable change in traffic since 2014. The project team will look to provide additional context and data to clarify this in the next update of the plan.

24) How does Connect the Coastside reduce the number of drivers on the road?*

Connect the Coastside recommends projects that will increase transportation options and policies that will reduce development. More transportation options and less development on the Midcoast can help to reduce the number of drivers on the road.

The way land is used has a significant impact on travel patterns. Midcoast communities are mostly low density, suburban and residential. Small commercial areas can be found along Highway 1 in each of the Midcoast communities. This type of community layout encourages automobile trips. A range of other factors also encourage driving on the Midcoast, including:

- The configuration of local streets
- Limited access provided by Highway 1 and State Route 92
- Distance from major job centers and local services
- A lack of multi-modal transportation choices

The transportation improvements envisioned in Connect the Coastside will expand mobility choices, while land use strategies to limit development can serve to reduce future traffic demand. Improving safe routes to schools will provide parents and students alternatives to driving to school, such as walking and bicycling.

The lot merger program could reduce the number of homes built in existing single-family neighborhoods and result in some larger lots with more on-site, private open space. The lot retirement program will limit the development potential of rural lands on the Midcoast, preserving additional open space and natural resources.

A transportation impact mitigation fee program would collect fees for new residential and non-residential development. Fees would be collected on a per-housing-unit basis for residential and per-square-foot basis for non-residential development. These fees would help pay for projects included in Connect the Coastside and serve as a potential check on development.

Many of the recommended projects will increase transportation choices for residents and visitors. Bike lanes, sidewalks, trail improvements and safe crossings will make it easier and safer for people to walk or take their bike. Investments in bus stops and expanded weekend bus service will help reduce traffic and encourage people to take public transit.

25) Which projects will reduce traffic congestion and specifically on the weekends?

The project team will aim to clarify these findings in the next plan update. In section 5.1 of the current draft plan, Table 18 includes proposed projects and their "network impact" or ability to address deficiencies. A more detailed description of potential projects and their ability to address roadway performance standards beginning on p.37 of the 2016 Evaluation of Recommended Alternatives to Address Potential Future Transportation Deficiencies; however, not all of the projects as listed in the 2016 document are in the current draft of Connect the Coastside.

26) Can vehicular speeds be slowed without causing additional travel delay?

As summarized by the Federal Highway Administration's Office of Operations, traffic congestion and its associated travel delay is typically linked to traffic incidents, work zones, weather, fluctuations in normal traffic, special events, traffic control devices, and physical bottlenecks. Interventions to slow speeds must be carefully planned and placed to not cause physical bottlenecks, but rather, create a normal fluctuation and flow of traffic that is predictable at the desired speed.

PROGRAM RECOMMENDATIONS

27) Can you clarify the lot merger and retirement programs and their impacts?

The lot merger and retirement programs are described in Section 4.2.4 (p.63) of the current draft plan and in the 2016 Evaluation of Recommended Alternatives to Address Potential Future Transportation Deficiencies (p.35 and p.52).

The lot merger program would establish a process (first voluntary, then mandatory) for substandard (undeveloped and less than the minimum size requirement) parcels next to each other and under the same ownership to be merged. Voluntary mergers would be eligible for certain development incentives. The lot merger program would reduce the number of undeveloped parcels along the Midcoast; draft plan estimates showed the lot merger program could reduce development potential by about 216 lots.

The lot retirement program would be a mandatory program that would require one-to-one retirement of development rights on existing lots in exchange for new lots as part of a subdivision.

Draft plan estimates show that development potential could be reduced by approximately 148 units. The project team plans to update these assessments in the next Connect the Coastside draft.

28) Can you clarify the definitions of each zone (village, fringe) recommended in Connect the Coastside?

The current draft plan describes the village and fringe zones in section 4.2.1 (p.46). Figure 3 (p.49) shows where village and fringe shoulder treatments are recommended. The recommendations for creating standardized shoulder and edge treatments is originally from the Highway 1 Safety and Mobility Improvement Study Phase 1 and Phase 2. The definitions are:

- Fringe Zone: Transitional segments approaching or leaving coastal communities with increased pedestrian and bicycle activity and side street access/egress with lower vehicle speeds. Design recommended is valley gutter to define roadway edge and consistent lane widths less than 12' on segments where speeds are below 45 mph.
- Village Zones: Coastal communities with potential for multimodal conflicts due to parking, retail and restaurant use, transit stops, and controlled intersections with lower vehicle speeds. Design recommended is curb and gutter to define roadway edge, consistent lane widths less than 12 feet and raised medians where currently striped.

29) Can Connect the Coastside include enforcement a strategy that can be used to address speeding?

The California Highway Patrol and County Sheriff both have representatives on Connect the Coastside's Technical Advisory Committee and are the responsible entities for law enforcement. The project team will share this feedback with them for consideration. It is possible for future draft of Connect the Coastside to include traffic calming measures on certain County-maintained roads that commonly experience speeding by people driving.

30) Why doesn't Connect the Coastside recommend roadway pricing (tolls for tunnel)?

Roadway pricing of highways and the tunnel are out of the scope of the Connect the Coastside plan and are beyond the authority of the County to implement on a state highway. In addition, the Coastal Commission's policies and the County's Local Coastal Program encourage the provision of low-cost visitor access to public beaches and tolls could be an additional burden, especially for disadvantaged residents.

31) What is the impact of short-term rental properties on traffic and does Connect the Coastside take this into account?

The current draft of Connect the Coastside does not discuss the transportation impacts of short-term rental properties (e.g., Airbnb). The project team will research whether data is available on the numbers and locations of short-term rental properties in the Midcoast.

CLARIFYING PROJECT IMPLEMENTATION

32) What is the process to get a project funded, designed, permitted and built?*

Each of the transportation-related projects proposed in Connect the Coastside will require separate funding, design, permitting, environmental review, and construction. Local governments often seek grant funding to prepare project designs. Project designs are necessary before permitting and environmental review can start.

Each project will require a Coastal Development Permit issued by the County of San Mateo, except for a few projects that are outside the Coastal Zone. Although the overall Connect the Coastside plan is evaluated based on the California Environmental Quality Act, individual projects will need specific assessments of environmental impact as part of the Coastal Development Permit process.

Once a project is funded, designed, and permitted, it can be published for bids. This competitive public process allows construction companies to compete for a project by responding to a request for proposals (RFP) issued by the County. Once a contract is awarded, the contractor can begin to build the project.

Projects identified through Connect the Coastside will take place in phases, as funding becomes available. While some projects or parts of projects could be implemented fairly quickly, some high priority projects will likely take a long time to get through all of the steps required. Implementing transportation projects can be challenging, due to the variety of funding sources, environmental concerns and the permitting process.

It is anticipated that many projects identified in this plan will be implemented independently as stand-alone projects. However, some projects or parts of projects will instead be incorporated into other transportation or non-transportation projects on the Midcoast. This may include projects under the Caltrans State Highway Operation and Protection Program (SHOPP), San Mateo County maintenance, operational, and preservation projects, land use developments, or major infrastructure modifications.

33) Who will provide funding for improvements identified in Connect the Coastside?*

The Connect the Coastside plan creates a vision for transportation on the Midcoast and clarifies the Board of Supervisor’s priorities for investments in transportation infrastructure. Funding for different Connect the Coastside projects could potentially come from a mix of a number of local, regional, state, or federal programs. Agencies that could potentially fund various recommended improvements through grants and other programs include:

Federal:

- US Department of Transportation (US DOT)
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)

State:

- California Department of Transportation (Caltrans)

- California Transportation Commission (CTC)
- Office of Traffic Safety (OTS)
- California State Parks
- California Strategic Growth Council
- California Natural Resources Agency
- California Air Resources Board
- State Coastal Conservancy

Regional:

- Metropolitan Transportation Commission (MTC)
- Bay Area Air Quality Management District (BAAQMD)
- City/County Association of Governments of San Mateo County (C/CAG)
- The San Mateo County Transit District (SamTrans)
- San Mateo County Transportation Authority (TA)

Local:

- County of San Mateo

For a list of potential grant programs and funds, please see Table 23 (p.74) in the public draft of the Connect the Coastside plan.

Another possible funding source is a "transportation impact mitigation fee." This kind of fee could be charged to new development projects on the Midcoast to help pay for transportation projects needed to address the impacts of growth. For more information on this fee, see section 5.2.2 (p.77) in the public draft of the Connect the Coastside plan.

34) What is the cost, timeline, and priority of each recommended project in Connect the Coastside? When will the projects in Connect the Coastside be implemented? Can project implementation be phased so implementation happens more quickly?

The estimated costs of proposed projects are discussed in Chapter 5 (p.68) of the draft plan. The project team is planning to update and refine the cost estimates in the next plan update.

Connect the Coastside includes a project evaluation system to prioritize projects and project timing (pg. 81-86). Projects are evaluated based on six metrics: project cost, ease of implementation, multimodal connectivity, safety and circulation, shoreline access, and annual cost. Table 28 (p.84) shows the project implementation performance scores, and Table 29 shows the short, medium, and long-term project implementation priorities. The project team plans to update this project prioritization system to incorporate the feedback received at the virtual meetings.

Connect the Coastside is a planning document; because there is no dedicated funding allocated for any specific projects, the timeline for implementation of each project will vary. If Connect the Coastside is adopted by the San Mateo County Board of Supervisors, County staff will work to implement its recommendations and seek funding (as described above) to engage partners in developing detailed designs, project costs, and environmental review. Once the Plan is adopted, it can also serve as a basis for requiring improvements as a part of new development. The project team will address project phasing and opportunities to implement low-cost improvements as a part of routine maintenance in the next draft.

35) How will the County collaborate with other agencies, like SamTrans, on implementation?*

Putting the Connect the Coastside plan into action will require the County to work with a number of other agencies. These agencies may play a wide range of roles, including:

- Owning the land where Connect the Coastside recommends projects
- Overseeing the construction of recommended projects
- Playing a part in permitting improvements
- Providing recommended transportation services
- Providing money to help pay for projects
- Providing support or guidance to ensure plan goals are met

Likely collaborators include Caltrans, SamTrans, the California Coastal Commission, San Mateo County Parks, the California State Parks Department, the City of Half Moon Bay, San Mateo County Transportation Authority, the Metropolitan Transportation Commission, and the City County Association of Governments.

Below is a list of those agencies with an explanation of how they can support the Connect the Coastside implementation.

Caltrans

Caltrans is the State's transportation agency and the manager of Highways 1 and 92. Many of the projects contained in Connect the Coastside rely on active partnerships between the County of San Mateo and Caltrans. Caltrans must approve all modifications within the Highway 1 and Highway 92 right of way. Caltrans will also most likely construct many of the improvements within the right of way envisioned in Connect the Coastside. Caltrans can provide funding for improvements from state and federal funding sources, as well. The County will need Caltrans' assistance for design, planning, funding and constructing these improvements.

SamTrans

Connect the Coastside will rely on a partnership with SamTrans, San Mateo County's transit agency. SamTrans provides bus service to the Coastside and broader county community. Any expansion of transit service will require investments by SamTrans in vehicles, maintenance and labor. In addition, SamTrans is currently conducting "Reimagine SamTrans," a planning effort that could identify further improvements to Coastside service.

California Coastal Commission (CCC)

The California Coastal Commission (CCC) implements the California Coastal Act and oversees development within the Coastal Zone. The County's Local Coastal Program (LCP), which is certified by the Coastal Commission, includes a policy requiring preparation of the Connect the Coastside plan. The LCP includes policies that address roads and transit, promoting coastal access and protecting coastal resources. These policies will be used in evaluating transportation projects within the Coastal Zone.

San Mateo County Parks and California State Parks Departments

Both San Mateo County Parks and the California State Parks Department provide wonderful recreational opportunities at beaches, parks and nature preserves on the Coastside. Some of the improvements in Connect the Coastside, including segments of the Coastal Trail and Multi-modal Trail, and recreational parking lots, will be located in state or county parks. Park managers can obtain grant funds, secure entitlements, conduct environmental review, construct, maintain, and manage these Connect the Coastside improvements.

City of Half Moon Bay (HMB)

San Mateo County will coordinate with the City of Half Moon Bay on key transportation investments and management strategies. Half Moon Bay is an important partner in alleviating the traffic congestion on Highways 1 and 92 that can hamper coastal access and affect quality of life for residents. Half Moon Bay can collaborate with the county, plan, design and fund improvements, including obtaining grant funding for its own projects.

San Mateo County Transportation Authority (TA)

The San Mateo County Transportation Authority administers the proceeds from Measure A, which is a voter-approved half-cent sales tax that funds many different transportation-related projects and programs. The County can apply to the Transportation Authority for Measure A funds to help pay for many of the recommended improvements in the Connect the Coastside plan.

The Metropolitan Transportation Commission (MTC)

The Metropolitan Transportation Commission (MTC) is the transportation planning, financing and coordinating agency for the nine-county San Francisco Bay Area. MTC collaborates with a network of other public agencies to help support the streets, roads, highways, transit systems and other transportation resources that help millions of people get to where they need to be. MTC and the Association of Bay Area Governments (ABAG) lead the preparation of Plan Bay Area 2050, which includes the regional transportation plan and allocates and prioritizes a variety of transportation funding.

City/County Association of Governments, Congestion Management Agency (C/CAG-CMA)

The City/County Association of Governments (C/CAG), is a Joint Powers Authority whose membership includes San Mateo County and its 20 cities. The City /County Association of Governments works on multiple issues that affect quality of life in general and is the Congestion Management Agency (CMA) for San Mateo County. As the Congestion Management Agency, the City/County Association of Governments prepares a Congestion Management Program every two years. This program identifies future transportation needs and incorporates projects intended to ease and control congestion. The Congestion Management Program also includes priority allocations of federal, state and regional monies for City and County transportation projects. The Congestion Management and Environmental Quality Committee (CMEQ) provides advice and recommendations to the Board of Directors of the City County Association of Governments. The committee provides guidance on all matters relating to traffic congestion management, travel demand management, coordination of land use and transportation planning, mobile source air quality programs, energy resources and conservation, and other environmental issues facing the local jurisdictions in San Mateo County.

36) How does COVID-19 and impacts to the County budget affect Connect the Coastside?

Funding to develop the Connect the Coastside plan was allocated before the COVID-19 crisis. At present, County staff is working to revise and finalize the plan. For implementation of the plan, the County will be largely dependent on state, federal, and local grant funds. At present, these opportunities continue to exist, underscoring the importance of plan completion; however, COVID-19 may impact future transportation funds available for implementation.

37) How will future infrastructure projects be maintained?

Maintenance of improvements on County-maintained rights-of-way will be assumed by the County and incorporated into standard planned maintenance cycles; this is detailed further on the Department of Public Works webpage on road maintenance. Maintenance agreements would need to be established for projects that are outside of County-owned rights-of-way and depend on facility location and type. In some cases, the County may maintain projects that are within Caltrans' right-of-way.

38) How much money is expected from the Transportation Impact Mitigation Fee and over what period of time? What portion of projects recommended will be paid for by new development?

Section 5.2.2 of the current draft plan (p.77) describes the Potential Transportation Impact Mitigation Fee (TIMF). Only a portion of the plan's recommended projects' costs can be allocated to new development because some of the locations included in the study area are already deficient, without the addition of new development. In order for new development to pay fees and/or contribute to projects, there must be a nexus (i.e., specific connection) between the transportation project need and the new development. Based on the current project cost estimates, approximately $15.7 million of the total project costs could be attributable to future development. The fee has been divided across different development types based on the projected growth estimates through 2040 (see Tables 24, 25, and 26). The proposed TIMF would need to undergo a separate nexus study and adoption process; it does not go into effect automatically if the Connect the Coastside plan is adopted. If a TIMF is adopted, all of the forecasted development, in the amount that it is estimated by each land use type, would have to occur in order to generate the projected $15.7 million. Without the adoption of a TIMF, only developments of a certain size would cause transportation impacts where they could be required to fund transportation improvements; these are evaluated on a case by case basis.

OTHER CONSIDERATIONS

39) What kind of environmental review process will be done for Connect the Coastside? How does Connect the Coastside address environmental concerns, like endangered species?

The project team anticipates preparing an Initial Study/Mitigated Negative Declaration (IS/MND) in accordance with the California Environmental Quality Act (CEQA), which can be found in the California Public Resources Code Section 21000 et seq., and the CEQA Guidelines found in California Code of Regulations Title 14, Chapter 3, Section 15000 et seq., as amended. An initial study is a document that describes a project's potential impacts and determines what type of environmental review document should be prepared. A mitigated negative declaration is prepared when a project has significant environmental impacts under CEQA and describes the mitigation measures that will reduce impacts below a level of significance. Pursuant to State Law, the environmental document will be made available to the public for a minimum 30-day review period prior to Board of Supervisors' consideration for plan adoption. Endangered species and other related concerns will be further addressed as part of the environmental review for Connect the Coastside.

40) How does Connect the Coastside address other needs of residents, such as more health care facilities, improved school facilities, water, and sewer?

Connect the Coastside is a transportation and land use plan. It plans for the provision of transportation facilities and services and proposes certain limited land use policies. Provision of other services such as schools, health care, water and sewer are beyond the scope of the plan, and generally are provided by agencies other than the County.

41) How does the County plan for emergency situations and evacuations?*

Mobility on the Coastside is of particular concern in emergency situations and if an evacuation is required. The following is an overview of different County departments and special projects related to emergency response:

- In the event of a disaster, the Office of Emergency Services (OES) coordinates countywide response and protection services. One of the missions of the Office of Emergency Services is to maintain and improve the Countywide Emergency Operations Plan. This plan establishes policies and procedures and assigns responsibilities to keep residents safe during an emergency situation.
- During an emergency or disaster, law enforcement is responsible for evacuation and the movement of the public away from a hazard area. Representatives from law enforcement and public safety agencies were part of the Connect the Coastside Technical Advisory Committee that reviewed and helped refine the plan proposals.
- In the event of an emergency, public safety agencies such as police and fire will be able to provide emergency information directly to people who have registered for the San Mateo County (SMC) Alert service. These alerts may include life safety, fire, weather, accidents involving utilities or roadways or disaster notifications. For example, the SMC Alert service would be used to notify Coastside employees and citizens of available evacuation routes during an emergency.

- In March of 2019, Supervisor Don Horsley allocated $75,000 of discretionary Measure K funds to launch the development of a countywide standardized emergency evacuation zone project. The goals of the project are to reduce the amount of time it takes to notify the public, create a common operating evacuation platform for all jurisdictions, information sharing, and help people to safely & efficiently evacuate in case of an emergency. Since the project began, the CAL FIRE San Mateo Division has worked with every fire and law enforcement agency in San Mateo County to identify over 300 evacuation zones. The project includes a public webpage that will show a map of each evacuation zone and a software application that will help first responders call for evacuations using the standard zones. This will greatly reduce the time from when an evacuation is called to when the public is notified. Additionally, the application integrates with Waze and Google Maps, so as soon as a zone is closed people will be directed accordingly. The project team anticipates launching this evacuation management platform in summer 2020.
- The County of San Mateo will be implementing updates of the Local Hazard Mitigation Plan and the Safety Element of the General Plan in the fall of 2020. The County will be working with emergency service providers such as CalFire, the Office of Emergency Services, and the new Flood and Sea Level Rise Resiliency District. These efforts will further evaluate hazard risks and identify safety measures on the Midcoast.

42) How does Connect the Coastside promote safety in the event of an emergency?*

The projects recommended in Connect the Coastside have been selected to improve safety and mobility for residents, businesses and visitors. In addition to the projects that promote everyday roadway safety, Connect the Coastside also evaluates traffic conditions during times of peak traffic and suggests improvements to ease roadway congestion. In the event of an emergency, keeping traffic moving efficiently will be important for both emergency responders and those leaving during a possible evacuation. Many of the projects in Connect the Coastside will improve the flow of traffic, such as projects for additional turn lanes, intersection controls and passing/climbing lanes.

Connect the Coastside also suggests improvements to bicycle, pedestrian, and transit infrastructure that could aid in the evacuation of visitors and residents in certain emergency situations. For example, in the event of a Tsunami Warning, the County of San Mateo Office of Emergency Services suggests walking to high ground or inland immediately. Improvements to trails and walking paths will make it easier and safer for people to travel by foot.

43) How does Connect the Coastside address the needs of older adults, children, and people with varying abilities?

Goal 3 of the draft Connect the Coastside plan is to “Increase opportunities for walking, biking, and riding transit on the Midcoast to provide an alternative to motor vehicles and reduce roadway traffic.” In meeting this goal and its objectives, the County aims to better meet the needs of older adults, children, and people with varying abilities, who are often less likely able to drive. When specific projects are implemented, the County will aim for universal accessibility and ensure projects meet Americans with Disabilities Act design requirements. The project team will incorporate opportunities for other support projects and programs, like Safe Routes to School, as part of the next draft.

NEXT STEPS TO UPDATE CONNECT THE COASTSIDE

44) How will community feedback be incorporated into Connect the Coastside?

The draft plan incorporates community feedback received prior to January 2020. The project team is reviewing feedback received since then to identify potential changes to the draft plan. This may include revisions to plan language for clarity, adding projects that are missing due to safety concerns, modifying recommended projects, and adding sections to address other concerns such as Safe Routes to School and emergency operations. The project team will add a chapter to the plan to summarize community engagement and feedback received.

45) What is the approval process for Connect the Coastside? What is the timing projected for final adoption of the plan?

The Connect the Coastside project homepage includes a tentative timeline of next steps. Once the final draft plan and associated environmental documents are produced, the project team anticipates the following review and approval process:

- Midcoast Community Council meeting to consider recommendation on plan,
- Half Moon Bay Planning Commission meeting to consider recommendation on plan,
- Planning Commission meeting to consider recommendation on plan, and
- Board of Supervisor meeting to consider plan approval.

The project team anticipates the final review and approval process commencing in December 2020 and ending in February 2021.

VIRTUAL MEETING DESIGN

46) How will comments and questions received during the virtual meetings be addressed and shared?

This document addresses frequently asked questions from the May and June 2020 Connect the Coastside (CTC) virtual meetings. Comments and questions from the virtual meetings will also be shared, summarized and addressed in a forthcoming meeting summary report, which the County anticipates completing by September 2020. The meeting summary report will be posted on the Connect the Coastside website and shared through email with everyone who registered for the virtual meetings. Additionally, materials from the workshops are current available on the Connect the Coastside website under the Documents & Meeting Materials page. Materials include meeting presentations, large group discussion recordings, small group discussion notes, and meeting room chat transcripts (where applicable).

47) Why were participants arranged in small group discussions during the virtual meetings instead of having everyone participate in one room?

The virtual meetings were designed to offer a wide variety of Coastside community members the opportunity to learn about Connect the Coastside and have a conversation with each other about how to shape the future of transportation on the Midcoast. Breakout groups have several benefits:

- They allow participants to have a dialogue with each other
- Breakout groups allow more time for each individual to share their ideas, rather than restricting attendees to 2-3 minutes of comment as is common in public town hall meetings
- The small group discussion format can provide a less intimidating setting for those who are not yet ready to speak in front of a large group or who may feel uncomfortable expressing a different perspective than others
- Breakout groups allow for shorter meetings, which makes it possible for more people to find time to attend

The County heard both positive and negative feedback on the format of the virtual meeting breakout rooms. For those who prefer providing public comments in a large setting, there will be other opportunities to do so at future Midcoast Community Council, Planning Commission and Board of Supervisors meetings.

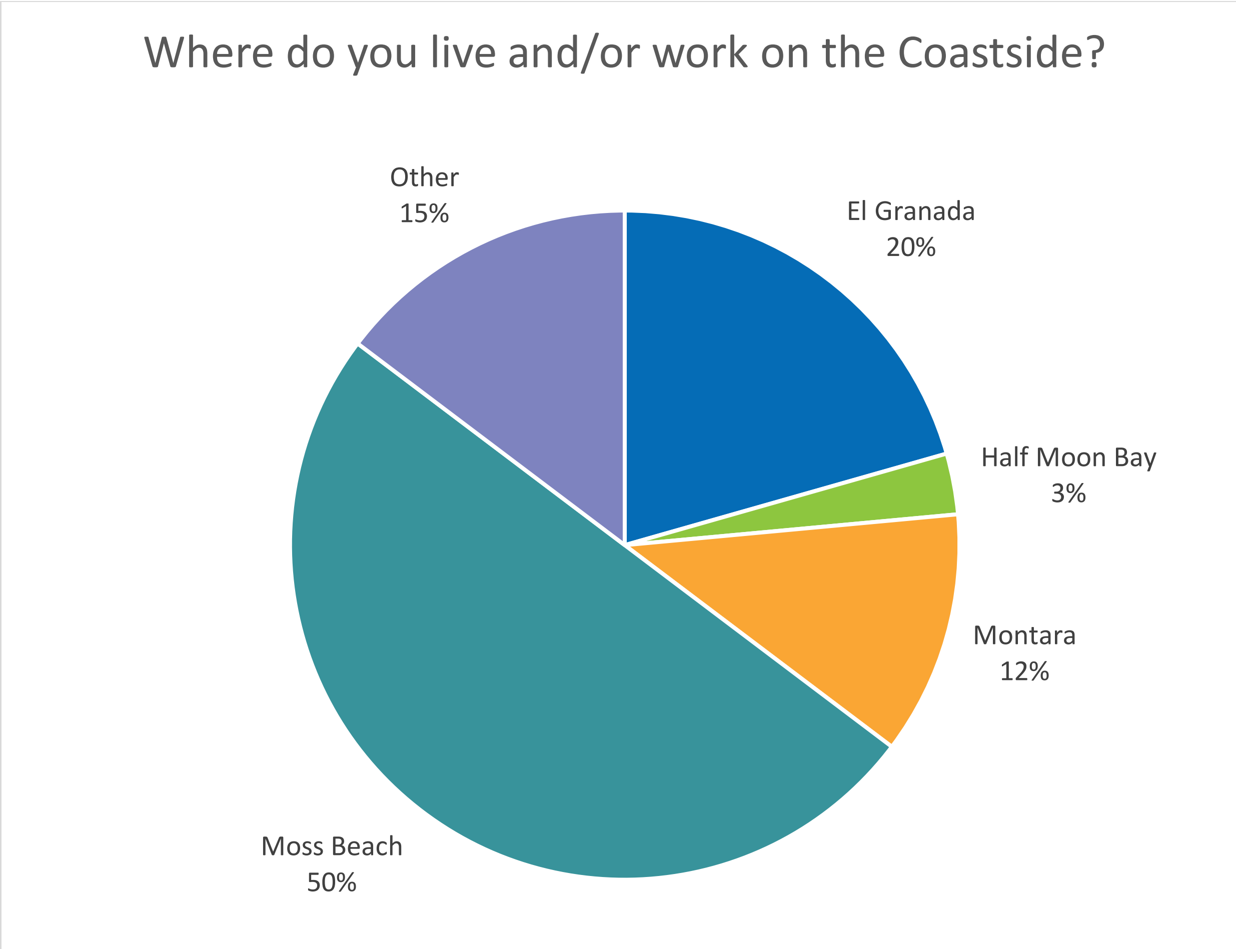
48) Why is the County continuing to work on Connect the Coastside during COVID-19?

Connect the Coastside has been in development since 2014 and its completion continues to be a priority for County staff and elected officials in order to begin implementation of the important transportation safety and congestion relief projects in the plan. The project team had to change its engagement approach to receive feedback on the most recent January 2020 draft of Connect the Coastside from in-person to virtual meetings due to COVID-19. The project team requested feedback about the format of the virtual meetings in a post-meeting evaluation survey. Some community members appreciated the virtual meetings because they would not have been able to attend an in-person meeting. Other community members gave feedback that they would have preferred to engage in person. The project team continues to learn and refine its engagement efforts to reach as broad and large of a stakeholder group as possible. Presentations at forthcoming Midcoast Community Council and Planning Commission meetings will allow for additional engagement opportunities.

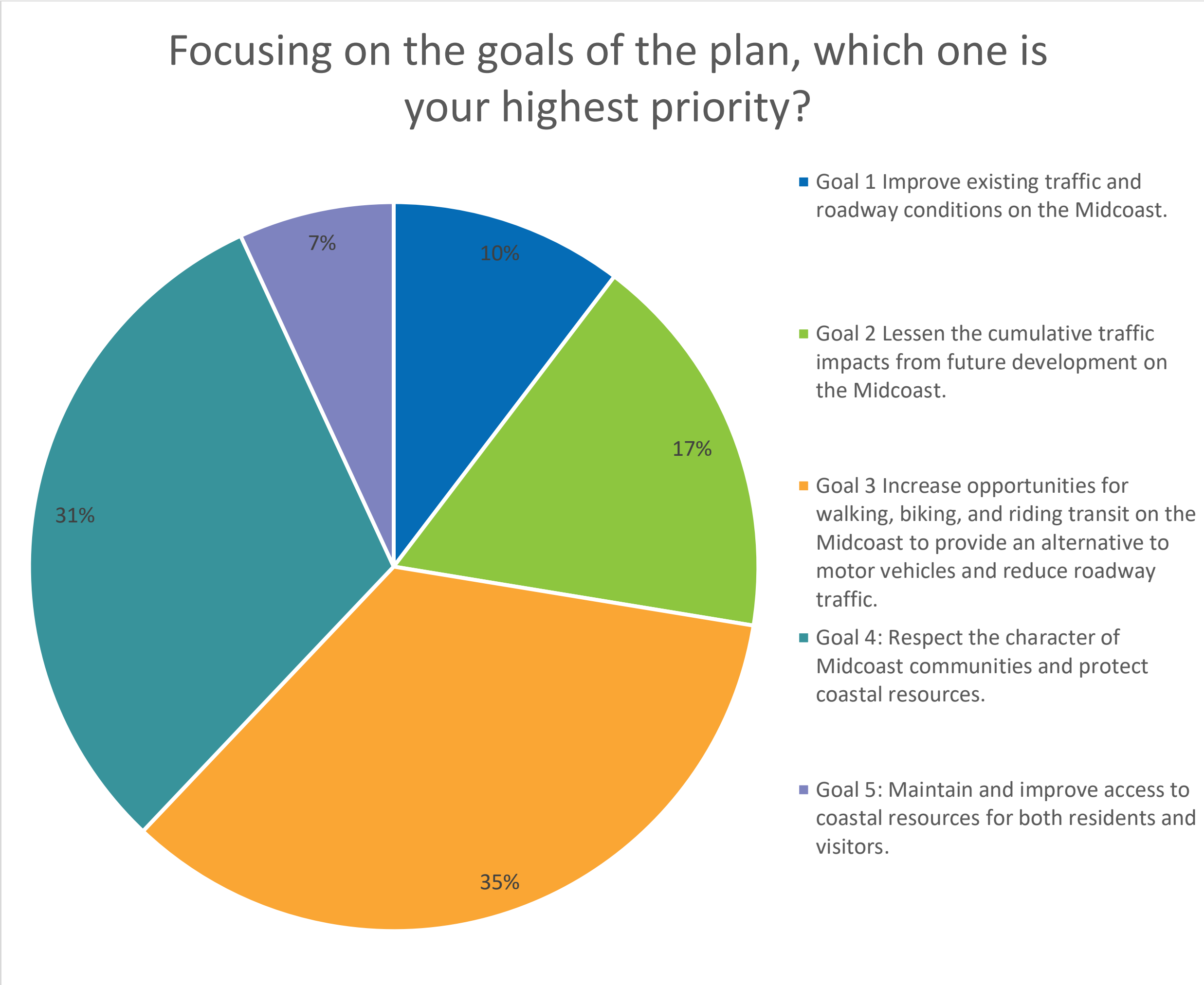
Participants at the virtual meetings noted changes in travel patterns and travel demand due to COVID-19-restrictions. The long-term impacts of COVID-19 on the transportation system are unknown; however, notable safety concerns still exist. Opportunities for implementation of transportation safety improvements through grants and new development continue and without an adopted plan, the County cannot take advantage of these opportunities.

Appendix 3 - May 30th Meeting Poll Data & Small Group Discussion Notes

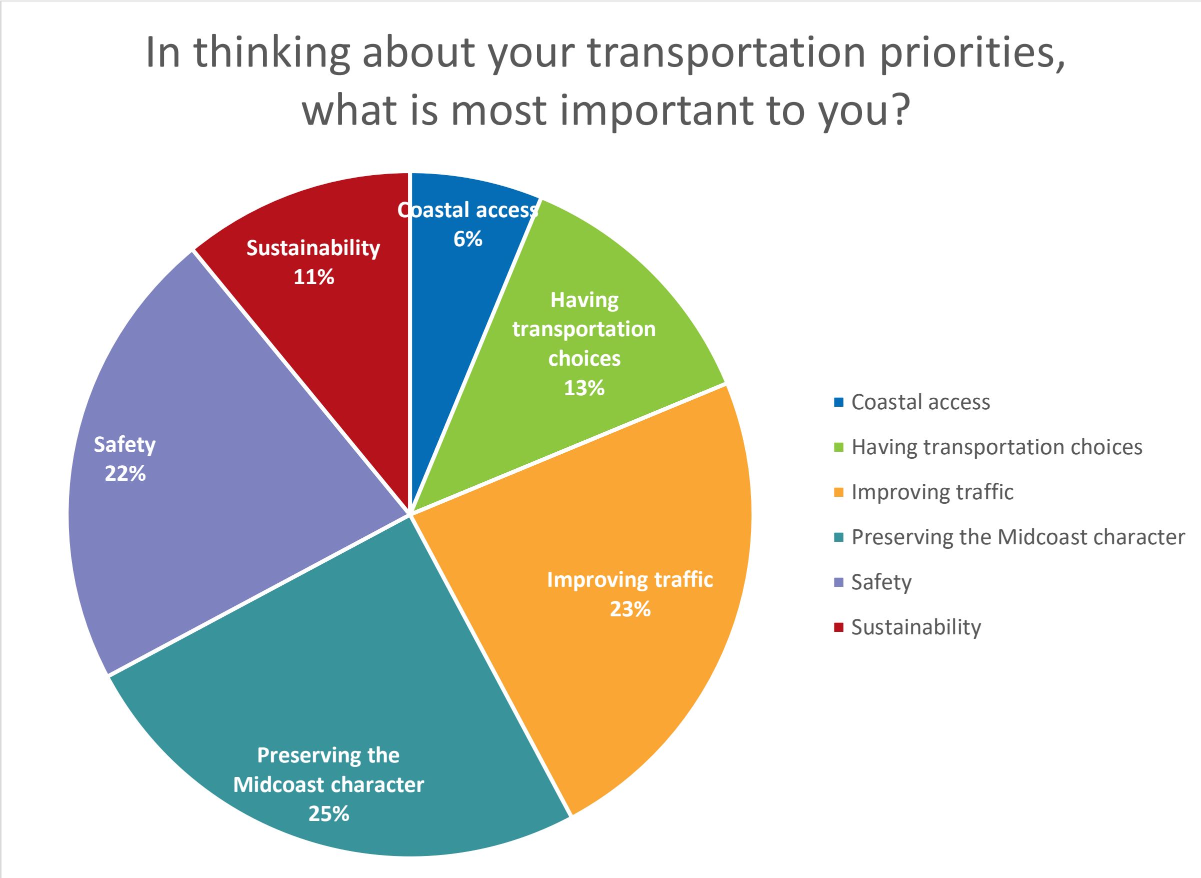
Poll Data



Answers	Number of Votes
El Granada	7
Half Moon Bay	1
Montara	4
Moss Beach	17
Other	5
Total	**34**

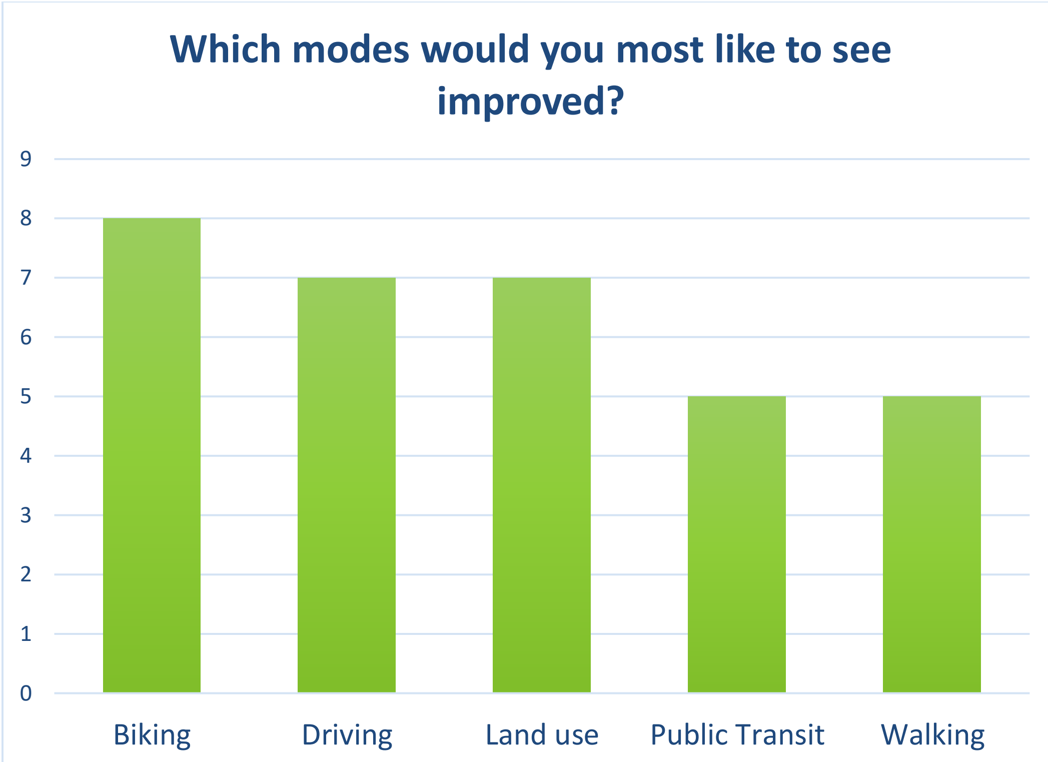


Answers	Votes
Goal 1 Improve existing traffic and roadway conditions on the Midcoast.	3
Goal 2 Lessen the cumulative traffic impacts from future development on the Midcoast.	5
Goal 3 Increase opportunities for walking, biking, and riding transit on the Midcoast to provide an alternative to motor vehicles and reduce roadway traffic.	10
Goal 4: Respect the character of Midcoast communities and protect coastal resources.	9
Goal 5: Maintain and improve access to coastal resources for both residents and visitors.	2
Grand Total	**29**



Answers*	Votes
Coastal access	4
Having transportation choices	8
Improving traffic	15
Preserving the Midcoast character	16
Safety	14
Sustainability	7
Grand Total	**64**

*Participants could vote for multiple answers



Answers	Votes
Biking	8
Driving	7
Land use	7
Public Transit	5
Walking	5
Grand Total	**32**

Small Group Discussion Notes

What have you learned about your transportation experience during this time of shelter in place?

Group	Notes
A	• Traffic has been great during shelter in place. Traffic has recently gotten worse during the weekends. • Shelter in place (SIP) showed us how bad traffic was previously. • More people may be teleworking at least part time, so daily commute traffic on the coast may get worse. Non-commute traffic may get worse, though.
B	• Gardening, love Zoom, need for cars • Not much travelling, flights are not crowded at all (one person took a flight to the Midwest) • Hardly any traffic, faster and easier to get around • Gridlock: coming back with beach restrictions lifted, Highway 92 and Highway 1, parking lot closures created difficulty for visitors, parking in neighborhoods

	• Facilities challenges during shelter in place • Older adults: people who do not drive are in danger, driving services were not available, leaving people stuck in their homes. • Communication from disability transportation • Trying to get funding for coordinated transportation system for older adults (lyft, Uber type service). Not everybody can use the bus. • Sign up for ready coast and Redi-Wheels: transit to medical appointments, with stops on the way • Challenges: people who do not have smart phone with App
C	• Haven't travelled to the coast, due to COVID restrictions. • Visitor traffic is irrepressible, coast experiencing problems during SIP; governor mistook closing parking for closing beach—parking just pushed into neighborhoods, significant impact. Beaches still in use; trash, waste, other impacts as well. Public's desire to visit coast is not diminished. • Initially there was a big decrease, then approx. 2 weeks later, returning to normal, despite SIP. Spillover parking is a big impact, as well as trash in neighborhoods… In general, a lot more pedestrian traffic on streets; some people using streets because it's easier to maintain social distancing, versus trails where distance can't be maintained. Possibly generating more danger for cars and pedestrians. • During SIP, easier to see daily patterns; garbage is increasingly worse—Cypress & Fitzgerald is fenced off, but many cars parked there, and much bad garbage. Not enough awareness of the impacts of visitors, residents on beaches, neighborhoods. • Overall, what mitigations can be added to projects to address these issues.
D	• Are breakout rooms discussion being recorded? • Why is the discussion limited to these 3 questions? • I was expecting a Zoom meeting where I could hear what everyone had to say vs. a small group discussion • Available parking, lack of bike racks • Traffic worst in the last week, normal problems exacerbated, lower speed limits, litter fines (problem at the highway), traffic enforcement needs to improve • Hopeful that this experience will allow employers to let people work from home. We won't need anywhere near as many transportation improvements if people can work from home more. • The pandemic has solved our transportation problem. The question is whether this is going to last (teleworking). • Question DKS analysis; Resist Density did their own study and pointed out flaws. Think we need to go back to the drawing board before spending $150M. The only think I can see that would merit these changes is if we allow population expansion, and that will be limited by water and sewer. • I have been biking a lot more. I have been moving my car to the street and have to leave it there. • Traffic in the beginning was better, but has been worse over the last 2-3 weeks. I have seen more people biking. I'd like to think about how we look at things differently than the frame that the county has put this in around traffic improvement. I'd like to see

	lower speed limits. I'd also like to address the litter problem along the highways. We should think about litter fines for individuals and locals. Traffic enforcement needs to improve. There is hardly any speed limit enforcement. I saw some enforcement of parking but not a lot.
E	• Traffic much easier in Shelter in Place without rush hour commute for job (San Mateo and SF from/to Coast). Traffic is picking up this week. Still avoiding driving on weekends due to congestion. • Participant lives in South SF, Planning Commissioner. When she tries to drive to coast, Highway 92 is congested. She hasn't tried to drive to Coast during Shelter in Place. Traffic in general seems better now. • Traffic better during Shelter in Place.

F	• Unsafe driving in residential streets in Moss Beach (Cypress Avenue and near Distillery)
	  o Speeding has gotten worse over last two months during SIP
	  o Walkers and with baby having to avoid vehicles, confrontations with speeders
	• Great deal of traffic on Highway 1 on weekends
	  o Crosswalk on highway is ignored by motorists when pedestrians are waiting to cross
	  o Motorists driving through crosswalk when pedestrians are waiting on both sides
	  o Crosswalk is good, needs better implementation
	• Parking challenges near Quarry Park and residential area
	  o Hopes that parking lots are never closed again as it impacts residential neighborhoods
	  o People parking along highway – recommendation to park on west side not the east side
	  o Parking in Harbor District should be open for public outside of crab & salmon season
	• Traffic reductions from SIP has made the area feel like 30 years ago
	  o Mixed feeling about having less people coming to the coast
	• Question: Why was El Granada left off of the map?

G	• Capistrano Road is dangerous to walk along the route to Highway 1 – happy to hear that the road may have some bike lanes and sidewalks • El Granada sidewalk situation is very random – makes it very difficult to walk in the neighborhood • Walking north from El Granada is very difficult due to a lack of infrastructure • Safe routes to school is very important • Feeling very isolated – hard to go outside • From Moss Beach to Half Moon Bay – hard to walk and bike, public transit is not effective • Concerned about the rate of development on the coast • Addressing traffic concerns is important and a concern due to funding and budget impacts at federal/state/local levels • People rely on cars way too much when shelter in place was not in effect

	• People driving recklessly while shelter in place • Can be very hazardous to ride a bike on the coast – almost no bike lanes along the coast • Crossing Highway 1 is very dangerous/unsafe – dependent on the drivers to slow down and allow for pedestrians and bike riders to cross safely • Hope the plan will slow traffic where it is recklessly fast and speed it up where it is very slow
H	• The number of people coming to the coast has increased; parking has been a challenge • Driving to and from work is just right due to less traffic but traffic has increase during weekend • Schools closed has increase bike riding with children more risk of traffic or being hit • Crosswalk improvement needed for safety • Connect communities; traveling safely to connect family and friends; walking or traveling on bikes • Difficult to get to town due to the hills by walking or hiking

What is your reaction to the goals of Connect the Coastside?

1. Improve existing traffic and roadway conditions on the Midcoast.
2. Lessen the cumulative traffic impacts from future development on the Midcoast.
3. Increase opportunities for walking, biking, and riding transit on the Midcoast to provide an alternative to motor vehicles and reduce roadway traffic.
4. Respect the character of Midcoast communities and protect coastal resources.
5. Maintain and improve access to coastal resources for both residents and visitors.

Group	Notes
A	• There is limited faith in the Connect the Coastside plan due to the constant changes in the plan and the lack of engagement for a sustained period of time. • There is concern over the road impacts of a new development project in the Moss Beach area. The roads aren't able to handle it. The community is concerned that the plan now seems to revolve around this new development. The housing plan is being rushed through. This is with regards to the Cypress Point development. • There is also concern about the traffic around Cypress. Likes the goal about respecting the character of Midcoast communities, but also likes safety goal and favors safety upgrades like roundabouts. • New element of plan is to divert traffic from the development through local city streets to avoid Carlos. Concerns this would conflict with the parallel trail. No sidewalks and two blind curves. • Focus on improving Carlos so cars, local traffic, and the parallel trail can all use it. Especially between Sierra and Etheldore. • Those of us who live on the coastside have to time their weekend traffic. Want to make it safer to turn on and off of the highway. Sometimes have to wait for 20 or 30 cars to go by to enter or leave a neighborhood. Easier access on and off of Highway 1

	is important. Not a big fan of the bike trail in Half Moon Bay. 12-15 MPH is too fast for the coastal trail, so people ride on the shoulder. • Housing can be difficult for new residents, so it is good to incorporate housing opportunities into the plan. • It can be unsafe to cross the highway from parking to the beach. Signals might be helpful in improving pedestrian safety.
B	Highlighted sections were said to be top priority by the group 1. Improve existing traffic and roadway conditions on the Midcoast. 2. Lessen the cumulative traffic impacts from future development on the Midcoast.* • Planning Commission looks at individual projects. Must look at overall cumulative traffic impacts • Examples: harbor village RV park, cypress point • School buses: no school buses, not a priority for school districts, this is not helpful for middle income families, creates traffic for coastside residents shuttling students 3. Increase opportunities for walking, biking, and riding transit on the Midcoast to provide an alternative to motor vehicles and reduce roadway traffic. 4. Respect the character of Midcoast communities and protect coastal resources.* • Part of Plan Princeton: keep harbor charm • More visitor attractions = more traffic (limit visitor attractions) • Coastside Village feel vs. Fisherman's wharf feel 5. Maintain and improve access to coastal resources for both residents and visitors. General Comments: • Common sense goals • Compliments to group for being here, we are not rioting, this is a very tough time
C	• Must address cumulative impacts of transportation, and must have projects/measures to mitigate those impacts. Solutions for traffic impacts from future residential development must be addressed through lot retirement –or merger-- as mitigation for development of new lots, among other policies.) • Agree with comment regarding the impetus for CtC. • Not just the midcoast, also half moon bay buildout impacts; must be factored in. • Understand prioritization of parallel trail, but: there's a lot of indirectness about roundabouts, plus idea that it will be easy to find funding for them—no clear short-term programs/policies to address traffic impacts. Frenchman's Creek stoplight never fully addressed. Traffic concerns often get shelved, it seems—community would love to hear specific phasing to address specific traffic impacts.
D	• These are good goals, but the devil is in the details, how are these interpreted? What is the County's understanding of these goals? • The cost dimension is missing, looks like a wish list, no consideration of holistic balance, Overall concept of sustainability and balance • Timeline? Different for these projects, what has gone to this point? That would be helpful. • Management plan needs to be comprehensive. It seems that the County's interpretation is different from the Commission.

E	• Participant has read Plan. It is well thought out. Understands why issues she felt was important at first were not that important in the plan.
	• Such as public transportation (such as for disabled adults) which has low ridership. Construction projects might increase people coming to coast and how will plan adjust for new patterns? How to prioritize projects based on timing of population density from future development.
	• Such as a traffic control in EG in her neighborhood. While she would want traffic control there, there's less traffic there than in other places on Coast as shown in the Plan.
	Goals:
	  o Access to Coastal trails
	  o Safety is very important.
	  o Parking for visitors is important
	• Coast is for everyone. Trails and parking need to be accessible to everyone, including ADA access.
	• Disconnect with CTC. Plan is focused on traffic and safety. Real answer is pedestrian underpasses which provide 100% safety in terms of collision with autos, and 100% traffic flow without stops for pedestrians. Crosswalks timed for slowest walker, which results in wasted wait time for cars.
	• Traffic lights that exist can be better programmed. Road system has sensors (some are timed and some have sensors?) and knows rate of low and traffic breaks. Most efficient to use breaks or low points in traffic to allow cross vehicle traffic to turn. Volunteer sheriffs during Pumpkin Festival is more efficient to allow more thru traffic, this can be used for expected peak traffic periods on Highway 1.

F	• Agreement with goals, would move Goal #4 up as a high priority
	  o Second for this being a high priority
	  o Small-town, semi-rural
	  o Paths > sidewalks, gutters in neighborhoods
	• Future challenges with Big Wave development on traffic
	  o Seems illogical to take traffic up Cypress to 1, opportunity to go through Princeton where there are bus stops, wider streets, less residential areas and children
	• Interest to see walking and biking made easier as reflected in goal #3
	  o Clarifying plan impacts along the highway
	  o Interest to see a plan for getting around the neighborhoods
	• These goals are good, seem long term facing, deep construction projects
	  o Great infrastructure projects for long term
	  o Would like to see short term actions
	    ▪ Enforcement – has made requests of Sheriff and has not seen increased enforcement.
	      o Speed limit is 25 miles per hour
	    ▪ Signage
	    ▪ Speed bumps
	    ▪ Resident unsure of costs, very scared about walking along rode and is open to creative fundraising

G	• Goal #3 – important to capitalize on the opportunity to walk/bike/ride transit – but we are currently missing links to all of these opportunities. Plan needs to be comprehensive to move traffic appropriately (where it is slow – improve the flow; where it is fast – slow it down safely). • *No funding for school busses so we need to think about other alternatives/opportunities for students and faculty/staff to get to schools • Goal #3 – improving opportunities and encouraging people to walk and bike more on the coast and enjoy our surroundings – improve quality of life, the environment and traffic flow (in a safe and quick manner). All modes of transit need safe infrastructure and accessibility. Weekends are particularly challenging since beaches/areas receive visitors from all over the Bay Area and great Northern/Central California region. • Goal #3 – voted for it but all five goals are equally important and linked to each other. Safety and emergency response a concern as well as maintaining community character. Creating a much more effective contiguous trail system along the coast and over Highway 92 possibly for bike trails
H	• Improving the existing traffic rather than future projects; very little done to improve existing traffic over the years; • Appreciate to the county for asking people their opinion to fit the community • Talk about the funding for these investments; how to prioritize assistance from the state in addition to local funding (Measure K, Measure W) • Taking into account evacuation; emergency situation; how to incorporate

Which one or two project ideas are most important to you for improving transportation for the Coastside? *(see also overview fact sheet)*

- Walk: A multimodal trail parallel to Highway 1, safe crosswalks across Highway 1, add sidewalks where missing, complete Coastal Trail
- Bike: Multimodal trail, bike lanes along Highway 1, bikeway along Airport Street, widen the shoulders of Capistrano Road for bike route, install bicycle parking
- Drive: Add turn lanes, acceleration lanes and passing lanes; add stop signs, where missing; add roundabout or signals at intersections with heavy traffic; traffic calming projects; parking improvements; Highway 1 shoulder improvements
- Public Transit: Bus stop improvements, increased weekend and commute SamTrans service, Park and Ride lots
- Land Use Programs: Lot Merger Program, Lot Retirement Program, Transportation Impact Mitigation Fee

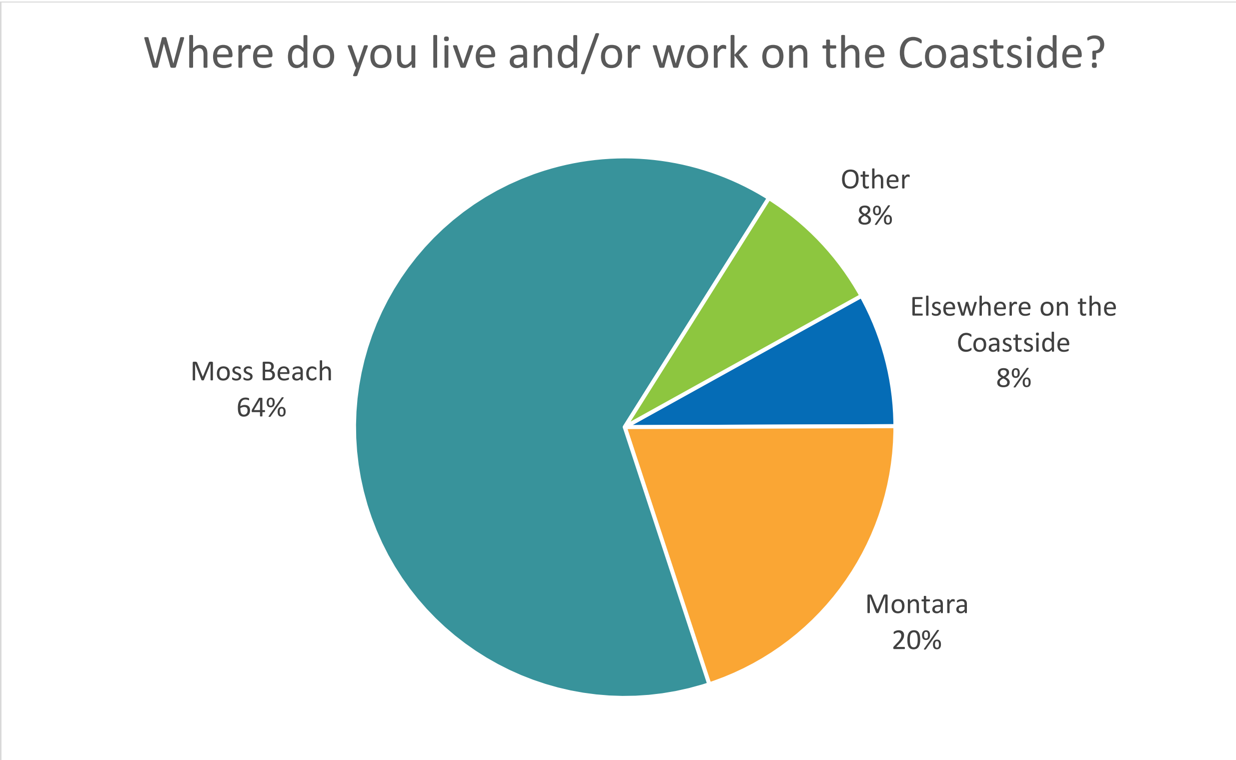
Group	Notes
A	• Driving is most important, as we won't be able to get people out of their cars. Safer driving infrastructure will also improve bike/ped safety as people will drive more safely. • Given the current environment, it may not be viable to expect SamTrans to expand weekend service (multiple people agree on this point). People commute all over the Bay Area, so carpools and transit can be difficult. Some residents may not want change, but something needs to be done to improve traffic safety. • Drive options should be the priority- turn lanes, stop signs, roundabout or signals at intersections. • If there was a decent public transit express from Montara to the BART station, it might get use, but the existing service isn't working well. Multiple people like the express bus idea.
B	*Walk: multimodal trail parallel to Highway 1, safe crosswalks across Highway 1, add sidewalks where missing, complete Coastal Trail • Age friendly: older adults riding tricycles, also for children • Problems with surfaces: use walking poles, Jean Lauer Trail with gravel • Space: • Nobody asks about ongoing needs • Bluffs were previously improved with crushed granite, potholes have been an issue due to motor vehicles • Many dog walkers • Lack of consideration by fast bicyclists – zooming by with no bell • Dangerous to walk: no sidewalks, roads are narrow • Mountain biking road – ocean blvd closed: people have been injured here *Bike: Multimodal trail, bike lanes along Highway 1, bikeway along Airport Street, widen the shoulders of Capistrano Road for bike route, install bicycle parking

	*Drive: Add turn lanes, acceleration lanes and passing lanes; add stop signs, where missing; add roundabout or signals at intersections with heavy traffic; traffic calming projects; parking improvements; Highway 1 shoulder improvements • Coming and going out of Cypress: need an acceleration lane going North out of Cypress (Moss Beach) • South bound – there is a lane • Suicide lane/waiting lane • Plan may include roundabout there *Public Transit: Bus stop improvements, increased weekend and commute SamTrans service, Park and Ride lots *Land Use Programs: Lot Merger Program, Lot Retirement Program, Transportation Impact Mitigation Fee Themes: • COVID Traffic: gridlock, beach visitors parking in neighborhoods • Age Friendly: transit, bike lanes • Condition of walkways and roads • Driving out of Moss Beach (Cypress) – make similar to Montara • 7 streetlights in Montara, 1 in Moss Beach
C	• In moss beach, some mitigation measures are actually a negative impact on the community—projects in very difficult places, very hard to avoid the impact of street closure, intersection work, etc. What's the net gain for the community of these changes? They often seem like losses.
D	*None listed*
E	• Most Important Project Ideas: • Drive and Public Transit • Walk (ped underpass crossings) • Drive (more vehicle lanes on 92) and walking trails
F	• Pedestrian and Bicycle safety projects are most important (seconded) • Lot merger program
G	• All are important – voted for biking since it is particularly lacking. Public transit is not very viable at the moment. Walking a concern, but no one path for biking – patch work of different paths throughout the community. Hard for kids, adults, visitors to bike in a safe environment – a physical barrier is needed along Highway 1 to provide safe infrastructure • Biking extremely important. Crosswalk at Moss Beach installed with no lights (really needed to make it obvious to drivers that someone is using it). • Biking highest priority/land use (lot merger and retirement will be helpful). Bike share program along the mid-coast to Half Moon Bay (parallel the coastal trail). More public transit would be helpful and is needed on the coast.
H	• Land use program component can really help; there is funding to improve public transportation as long as we request it for the coast; walking and biking improvement can help people get out of their cars if planned with public transit

	• Hard to get people out of their car; very few amenities; everything needs driving; not much access to public transportation; not just about public transportation but it is also about access; car at times is the only mode of transportation; not near by • Driving situation improved; city planners need to look at it and provide improvements • Driving; traffic circles; bikes lanes; the mile solution how to help people get to public transit; on demand models (similar to lift) but from public transit; home pick-up

Appendix 4 – June 15th Meeting Poll Data & Small Group Discussion Notes

Poll Data



Answer	Votes
Montara	10
Moss Beach	32
Elsewhere on the Coastside	4
Other	4
Grand Total	**50**

Small Group Discussion Notes

Which of the projects discussed today for Moss Beach and Montara are most important to you? Which projects are most important to encourage you and others to walk, bike or take transit?

GROUP	NOTES
1	• Most important: slowing down traffic. Very unsafe for folks crossing Hwy 1. Roundabouts or some level of traffic control. • Agree that slowing down traffic is important. Speed limit should be lowered to 45. Seen people almost be hit. Like the bike path. More pedestrian and bike options. • Love the idea of bike path and trail. Agree to make it safer to cross. Happy to hear a way for kids to get to school at Farallone.

	• Intrigued by the idea of roundabouts. Never saw one in the middle of nowhere. Ambitious and expensive. If it works, hooray! I don't see people riding their bicycles to HMB. Not a priority to get to HMB on bikes. • If you're thinking of commuting from Moss Beach to HMB, unless you have an electric bike or an avid cyclist, you won't do it. All for bike lanes, for commuting within the neighborhoods. Not a concept that will reduce traffic. A fantasy. Not going to happen. County parks put large gravel on trail from Pillar Point to Harbor. Difficult for most people. Airport road would be the most likely road from Moss Beach to Harbor. • I would bike, going north to Pacifica. Needs to be other transportation options. Traffic is going to increase. • Individuals originally paid for roads themselves in some areas • Poor plan, hodge podge, people are older • Erroneous, railroad job. We don't want to have this "thing" in our neighborhood. Other MidPen properties notorious. The forum is "when should we start elk hunting in Moss Beach." • New resident. Loves it. Excited about some of these items. • Concerns about the process. I don't feel the county engages in good faith. Some good things. Bike and pedestrian access. Not opposed to roundabouts. • Great idea to talk about CTC. Often, the county doesn't seem to be communicating aspects of their ideas. Big issue of safety in traffic on the Coast. Wants to hear more about how CTC impacts development.

2	• Vehicle improvements are high priority
	Questions:
	• Roundabouts
	    o How will they improve HW1 crossing?
	    o Handicapped, elderly, people on bicycles?
	• Etheldore & HWY 1 Park n Ride
	    o What is it for? Where is it connecting us?
	    o 1 mile away from "downtown" MB
	    o What is the reasoning behind this location?

3	• Increase pedestrian trails along coast (high priority) • Improve bike safety along coast • Biking to work not realistic • Majority of residents drive to work • Improve bus stops/lanes
4	• Pillar Ridge Resident has not used Airport Road regularly, but with COVID, sticking around the neighborhood and walking along Airport Road. Challenging to avoid speeding vehicles and maneuvering between broken glass with dogs. Fatalities on the road and traffic. With Big Wave, there is room for improvement for ped/bike access. No sidewalk from Cypress down to Yacht Club; little access. Concern for ped/bike. • High School/Middle School students travel from Montara to HMB. Parallel Trail is very important. More students would walk/bike if that option was available. Safe Routes to School to Farallone ES is important. Residents walk/bike to post office to get mail since mail is not delivered to homes. Need a safe route from Post Office to Farallone.

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Commute along Coastal Trail living in Moss Beach and has to cross Highway 1; challenging. Ped Xing at Country Market is inadequate; need improved crossing. <u>Current</u> crosswalk in Moss Beach is inadequate.
Parallel Trail without crossings would not be effective; need both (Hwy 1 xings).
What CTC suggests now for crossings is adequate.
Airport Road – Big Wave project mentioned options but wasn’t clear what would be the final plan for the road (e.g., converting Airport Road to one-way). Pillar Ridge is next door to Big Wave. Heavily used road by teenagers/children; many children live at Pillar Ridge, many cyclists.

Airport Road not on overview fact sheets; may be in the plan or another plan. Airport Road is designated as a bike route; heavily parked.
Felt hazardous to walk to El Granada ES on Airport.
Teens using bicycles for mobility; job at the yacht club. Primary access point.
Speed limit is fairly low, but people are still speeding.
Speeding has always been an issue; its easy to speed on it and treated as a “back road”
Abandoned vehicles, trash.
Residents have reported abandoned vehicles to CHP and no action is taken. Side of road is obstructed with trash/vehicles, so forced to walk in the street.

Important Highway 1 crossings – 2nd Street in Montara (where restaurant/beach is), 16th Street (with new bus stop; a lot of people use this location to cross when cycling), Virginia Ave (?) existing crossing is an important location but not safe as designed for peds or drivers

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Roundabout at Cypress and Hwy1- First to be done when there is funding. Looking forward to see it start. It has been a long wait. Already LOS F, worse on sunny days. It is too long of a wait to turn north onto NB Hwy 1, need either roundabout or acceleration lane.
No street lighting on Hwy 1, Montara has 6-7 and there is only one on California, need more highway street lighting for increased safety of pedestrians and vehicles.
No one on this part of the coast likes traffic signals. They may be OK in Half Moon Bay, but not here, Moss Beach is not a town, it is a small village that is not suited for a signal.
Insinuation of Mid Pen into the mix, they have their own agenda and not giving us opportunity to give our input. Serious issues with Cypress Point, moving too fast and not based on facts, public records and community input. Mr. Horsley understands the density and land use issues related to this. There is no reliable transportation. Impossible to get from point A to point B on bus. And daily activities cannot be done from Friday to Monday. One Rd in one Rd out of Mid Pen, no alternate routes. Wildfire risk is large for the coast. Need more transparency from Mid Pen. Connect the coast is transparent. Need more effort to address the evacuation plan. Need to address people going north to Pacifica. Caltrans needs to trim.

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Most important – improvements to pedestrian safety including crosswalks on Hwy 1, parallel trail, safety improvements on Carlos St.
How do you get to conclusion that speed bumps and other proposed measures on Carlos St. are appropriate?

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Cypress Ave between Hwy 1 and Fitzgerald Marine Reserve is very narrow and unsafe, only 1 speed limit sign posted. See Safe Streets group online petition w/165 + signatures – change.org/safestreetscoastside
Most important is all projects that can be completed the soonest – 1) safe crossing (above and below grade crossing discussion needed); 2) completion of parallel trail; 3) roundabouts, at least 1 test case needed now. Studies have been long and drawn out and people want to see improvements now.
Multimodal trail concern – endangered species along Carlos Street – what about migration pattern of frogs? How will trail construction and other improvements be impacted by this? Joe LaClair's MCC presentation identified there are frogs so how do we address them?
Traffic is going to increase along side streets around Cypress Point – how will endangered species be impacted from all of this?
How will anyone access bus stops with no road or sidewalk; what's the time period for completion?
Primary concern is what's the cost and what's the motivation for CTC?
CTC from January is relying on outdated data; may not be traffic problem in Moss Beach post COVID.
Bike route proposed is not relevant.
Traffic analysis needs to be redone post COVD and used as baseline.
Additional mitigations are not responsibility of owners; should be responsibility of incremental development projects.
Cost to residents needs to be taken to public vote.

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Parallel Trail is important +1

Provides for alternative method for mobility on the Coast
Trail improvements have been segmented over the past 20 years, unsure of total plan. If parallel trail means connecting segmented work then this is a great project

Flurry of activity to Marine Reserve and to Airport, accessible area in Moss Beach and is unsure how this fits into bigger plan

Improving Main Street in Montara to be bike friendly

Not a new idea, has been on drawing board for 10 years
This question does not resonate as it has been asked and mapped out before, curious why this is continuing to come up.

Pedestrian Underpass is necessary

Need to have pedestrians cross the road without impacting traffic and provide safety for all (pedestrians and cars)
Resident shares that 1,000 petitions from community members and visitors requesting underpass at Gray Whale Cove site (rather than having red flashing light crosswalk)

Traffic issues in Moss Beach and Montara don't have much to do with residents

Incremental changes like changing direction of the road, added parking, new sidewalks are "dressing things up" and are fine, but don't improve quality of life on the coast
Empty outside of peak times (weekends, good weather days, etc.) Better to think about what residents want.

Get Montara properly connected to Moss Beach for Biking

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Part of the Parallel Trail project – this is the most necessary connector for cyclists

Nothing in the plan motivates residents to take transit or walk
Alternate question – Resident feels like these questions do not accurately capture feedback. Preference for: What would coastsiders like? Not how would people respond to given plan?

Most of what is given in the plan is not what resonates with resident

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Interest in biking, be able to ride to HMB and the other way to get to tunnel and parking lot up there. Have to get creative to do it safely now. If you don’t have a bike that can go on trail, you are near the highway. Really hopeful trails get built in the shorter term (not 10-20 years).
How slow traffic has gotten in general. It does not seem like the increase in traffic is because people on the coast are driving more. Seems like traffic is increasing from inland visitors. Seconding of traffic increase initiated by people coming from other places. Only see increase in traffic with increase with developments – Big Wave, Cypress, Devil’s Slide Tunnel

We need to put limits on large scale developments

Intersections near Fitzgerald. People weaving in and out of neighborhood to find parking. Solution: find one way roads throughout this neighborhood. Appreciated awareness about safety concerns around distillery. Safety for cyclists. Seriously looking into one way traffic in these neighborhoods.

Carlos
Wienke
Carbillo Highway

Huge fan of roundabouts

Coming out of Dardanelle trail, crossing over Lake, going up California, which is the CA trail, going up Wienke

We should have one way traffic here to protect cyclists and people on trail

Sidestreets are a big issue. Different on east side of highway.
Carlos St is very narrow, windy and the most scenic street on the east side of the highway
Proposal for Cypress Point does not address where traffic is going to go

Analyze traffic on the side streets. How can you base recommendations without doing an analysis?
Carlos is on the Post Office box. Very common to drive to the post office (especially nowadays). VMT will be created more which is contrary to what this plan is trying to do.
Go one way south, get on the roundabout, not sure where to come back home from post office

Roundabouts need to be considered if appropriate for coastal residents who frequent the post office
Roundabouts – sewer and water pipes run under the highway. There is no room for a roundabout. Roundabouts need to be considered

Are roundabouts a pipe dream? Not enough information given to make this a reality.

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	• Big picture: This plan has had a delay because this plan was supposed to look at roundabout alternatives. We are here 4 years later with no answers on the roundabouts and discovering new problems. o Confidence is important

9	• General support for roundabouts, although there are some concerns (see below)
	• General support for parallel trail/ Eastern trail
	  o Long term: we have to have a parallel trail on the East side of Hwy1 to connect all of the communities on the Coastside
	  o Good for neighborhoods and students going to school
	• Concern with parallel trail access
	• Eastern trail / parallel trail (supportive)
	  o Addresses pedestrians and cyclists
	• Roundabouts
	  o Address traffic issues

10	• Highway 1 crossing at CA/Wienke Way (crazy intersection) in Moss Beach
	  o Crossing at night is very difficult and dangerous. Makes stores inaccessible by walking (need to walk) from the other side of the Highway
	  o Need button with flashing lights (one commenter supports; one does not)
	  o Closure of Wienke Way is ok. Only 8 houses on this street
	• Need study of neighborhood streets; new crosswalks may not be needed; need more stop signs (example: at Stetson/Sierra)
	• According to one commenter, walking on the east side of Hwy 1 in Moss Beach from eastern neighborhoods is hilly, steep, lacking in sidewalks (but some don't need sidewalks). Services are too far for most residents. Most people will drive.
	• Highway 1 crossing at 2nd street at La Costanera in Montara
	• Parallel Trail (safe and flat) to get to Moss Beach, as walking path alternative to driving on Sunshine Valley Road (can only bike in westward direction) which is curvy and steep. With Parallel trail, more reason to walk to Carlos. Geography between MB and Montara makes it hard to traverse through these areas without going to Hwy 1. 16th street is not a through street.
	• Please change plan to add Safe Route to Farralone View School

11	• Carlos one-way and interesting proposition. Accessing Hwy 1 @ Cypress challenging. Supports roundabouts. Pedestrian crosswalks along the Highway. • Continuation of the Coastal Trail, including up to Devils Slide southern access point. Between Gray Whale Cove and Tunnel…supports inclusion of Green Valley Trail project in CTC. Could help reduce congestion. What is the scope of the LCP v. CTC? • Is Half Moon Bay included? • There are four versions of the plan out there. It's confusing • Supports bike lanes. Transit is impractical for shopping. Concerned about three traffic lights or roundabouts in Moss Beach. Traffic lights slow traffic, will result in grid lock and use of parallel routes, e.g., Sunshine Valley Rd. • Evacuation Routes are needed. fire hazard risk increasing, along with traffic, makes evacuation challenging. • Traffic congestion mitigation is needed. Supports roundabouts but unsure about how well they'll work with traffic Need better access to the County of San Mateo • Solutions need to be based on Half Moon Bay development and traffic.

	• Bike lanes and routes important…both for shopping and recreational rides. Facilities for all kinds of cyclists.
12	• Bike paths most important – great plan so far – works in HMB – school bike path would be used • Lives in Moss Beach – works from home right now – did commute to Mt. View – does work from home • Moss Beach – works in SF • Crossing of Hwy 1 is most important – lights would be helpful – no one respects the crossing signs – lights in HMB works – could work here too – trails too narrow right now – could be expanded to allow bikes side by side • Still taking it in – projects are vague – a bit confused on what is being presented – what could actually be funded? Carlos – parking and biking – unsure? Concern about Hwy 1 slowing traffic flow – MB/Mon is a free area now – would this be a gridlocked section of the highway now too? Strange proposals at other meetings – trying to sort it out. Current crosswalk is dangerous – who put it in? Too many crosswalks on Hwy 1 maybe wouldn't be a functional highway. Its o.k. to get off Calif. Onto Hwy 1 – light could back things up – reluctant to say that one thing would be best solution. One main road – anything changed would have an impact. Would like to see pedestrian access improved from Montara to MB – along 16^{th} - - Montara Creek habitat – sewer main are constraints – and big question is who is paying for it? Roundabouts – driving on E. Coast/Europe but have to be wide enough to allow for free flowing traffic – 16th isn't wide enough – at Calif with 5 streets coming in would be a problem – Burlingame – ECR road not highway – keep speed – don't slow to 25 mph • First time in meeting and looking at all this info – most important is safe walking and biking for families and kids – walking bridge over highway would be best, but that's not included. Makes most sense – traffic would increase with roundabouts – who is going to pay? • Walk/Bike/Transit Ideas: • Pedestrian bridge, anything else that would reduce use of cars – transit would take 3 hours to Mt. View!! Express bus up to the City would be a good idea. So much change not – concern about taking public transit with COVID – hard to imagine commuting other than by car – transit use may be wishful thinking. School traffic, local traffic? Bikes and bike routes would help and keep people healthy too. • Farralone View – busses were for Moonridge kids – local kids didn't use the bus – safe paths is great idea from MB to Farallon. Transit doesn't serve commuters and not safe now – won't get on bus with kids!
13	• Prioritize evacuation routes • Cypress intersection • Walking to Pillar point bluffs, along Cypress and Airport – no sidewalks, fast traffic • Most issues cross-way traffic, rather than along Hwy 1, concern that new measures would slow traffic further. • Roundabouts - not sure if right location because of traffic patterns. Some in favor, majority opposed. • Max speed in Moss Beach 45 mph • Current traffic conditions are horrendous - concern about traffic getting worse as more people move to the area.

	• Concern about meeting format vs in-person meetings
14	• Closing Carlos street is unworkable; proposal isn't acceptable on this street. • At last meeting Cypress Point project (reason for a lot of these projects); Cypress Point not being brought up at this meeting—why not? Cypress Point will create traffic impacts, create potential dangers, not being addressed specifically in this meeting. Should address impacts of Cypress Point in Moss Beach and interrelation to Connect the Coastside. Connect the Coastside should address the entire length of Carlos, not just between California and Etheldore; walkers, bikers, etc use that route primarily. • The expected increase and impact of Cypress Point on surrounding streets and on non-car users on those routes should be directly addressed by CTC. Section that CTC does talk about are disconnected from Cypress Point. • The traffic going down Carlos seems to be in the opposite direction from the proposed Southbound 1-way street. CTC changes won't adequately address impacts foreseen as a result of Cypress Point. • Even absent Cypress Point, Carlos should be better-addressed in CTC; there are existing issues, connectivity to 16th Street, location of bus stops, other issues that are not included. The portion of Carlos addressed in the plan isn't the portion that should be the focus. • None of the improvements listed in the plan to-date seems to have the potential to be beneficial on any of the aspects—bike, walking, dog-walking, etc—that need improvement. • End of Carlos @ 16th to be closed and converted to recreation? (Unclear) Should remain open. • There are a lot of developments and various improvements happening, and it seems that there's a lack of coordination across projects to address both potential impacts and potential projects to address them. Projects are being addressed too quickly, and too individually, without assessment of cumulative impacts. People don't feel like all of the impacts are being assessed together, and will create significant issues. More integration is needed. • Concerned with traffic on Hwy 1; traffic studies done in 2014? Too early, doesn't reflect current impacts of traffic, volumes of traffic. Particularly during COVID, more use of these streets, high volume, high impact. Traffic studies don't capture covid or pre-covid traffic volumes accurately. Should be a current traffic study. • Idea of traffic lights is inferior to roundabouts; Gray Whale Cove traffic light is particularly bad, will impact quality of life on a daily basis. Roundabouts are better. • Crossing at Montara Beach is dangerous, particularly with high traffic volumes; maybe a yield sign or something short of a traffic light, but improvements are needed. Cars are high speed, volumes are high. • "Temporary" lights never actually come out; short-term lights are a bad idea, because they become permanent—roundabouts are a better solution. • Moss Beach and Montara portions of CTC, and Cypress Point, are connected. Because the Cypress Point improvements alone can't meet traffic volume without CTC improvements.
15	• Most people work over the hill, need more projects to help that traffic.

	• Safety for getting on Hwy 1 and crossing Hwy 1, but adding more crosswalks could be problematic. • Parallel Trail was in Measure A 16 years ago, but hasn't been built yet. • Is the Parallel Trail being routed up the hill from Carlos Street? • There are technical problems with putting roundabout at California & 16th Street. • Roundabouts lead to congestion. In traffic roundabouts are filled with cars, and people can't get into the roundabout. • Want cars to be able to get on to highway 1 and pedestrians to cross highway 1. • Too many lights will bring traffic to a halt. Suggest starting with one light. Suggest either 16th or Cypress Street. • Slow traffic down in Moss Beach with a 40 mph speed limit on Highway, and leave the speed limit in Montara at 40 mph. • Participant likes roundabouts, say they work in Europe. Traffic lights will slow traffic down and create a choke point. • Most people would like to use public transit to commute to San Francisco but need a direct bus to a BART station (Daily City or Colma). The bus also needs to run frequently enough to work. • Need decent bus service from Montara to Half Moon Bay, the bus needs to be frequent enough.

What else could the County do to improve transportation options in Moss Beach and Montara? What is missing from the plan for Moss Beach and Montara?

GROUP	NOTES
1	• What is missing from the plan is that lowering the speed limit is effective (45). It would make it a lot safer. Never been added back into the plan. Concern about development tied to this. Elephant in the room that needs to be addressed. Some options seem to encourage more traffic. Feels like the county is planning to urbanize the coast, like Santa Cruz. I hope that doesn't happen. Park and Ride in Moss Beach? Did not see it in the plan. Garbage along the road and trails. • Reducing speed limit is important. Not changing randomly along the corridor. If the county wants to reduce traffic , it needs a transportation plan that works. Bus requires waiting a long time and is not efficient. Real public transportation within the corridor. • Much better public transportation is needed. Get dropped off at beaches. As it is no one is going to do that. • Some people wanted to have a safe way to get across Hwy 1 at Moss Beach. Every year somebody gets killed there. Wanted something done to get across the Hwy. The money spent because they want a new development seems to be endless. Seems kind of "convenient" now that crossings are being discussed (because of development, money wasn't there before.) • Near Fitzgerald, someone died crossing the Hwy. Personal experience hit by a drunk driver. I imagine a lot of folks have similar experiences. Speed limit is way too high.
2	• Are these options appropriate for good/ bad weather? • Public transit northbound o Improve to visit Pacifica/ beaches • Tsunami/ emergency planning

	• Hospitals far away-- how will this improve accessibility?
	• Airport Blvd will be expensive to control
	    o Pillar point bluffs for bike transit
	    o Need to go slowly, no cars
	    o Improvements to “wayfinding” to enable usage
	• Walking along the Bluffs
	    o Cell phone dead zone
	    o Emergency call boxes/ signal boxes?
	• Cypress connection to HW1 @ Lighthouse (across the street)
	    o What is the plan? Roundabouts, stop light, etc?
	    o Carlos, next to Sierra St
	    o Concern for crossing safety, accessibility to Cypress Point
	    o Desire: “they should compliment each other”
	        ▪ Regarding Cypress Point project and HW1 improvements

3	• Heavily focused around proposed development projects • Provide plans to alleviate traffic • Evacuation/safety plan (high priority)
4	• Airport Road and slowing traffic there • Sidewalks on Airport Road – some sort of pedestrian trail that feels safe from vehicles o Existing makeshift path that does not feel safe as is; close to vehicles • Stop signs (route to Farallone ES) – on 5th St option – there are (2+) locations that do not have stop signs at intersection. Need to resolve this if it’s a path for students. Will need to check specific locations (2/3 East, Le Conte, and Farallone) • Having bicycle lane on Highway 1 could add to traffic. • Different kinds of cyclists – one who might ride on Highway 1 v. student/leisure rider who would not • As a driver, question bicycling on Highway 1 • Cycling route – south on Etheldore and come out on north end of Airport and only way to get to coastal trail is to cross the road and go to light at Princeton – or road near Mezzeluna restaurant (morning commute) • In evenings, can’t cross Highway because of traffic. On Highway 1 from Princeton to Etheldore for about 2 miles. Feels safer on Highway 1 because of wide shoulders that are marked. Not sure if bike lane would create a different impact because shoulders are already well marked.
5	• County idea of paving sidewalks on Sierra Street with bike sharrows from Joe LaClair’s presentation to the MCC. This is a non-County maintained road and it’s all dust and potholes at the moment. To improve options for kids who walk to Farallone View on Hwy 1 it is important to put sidewalk for them so they are not walking on dirt and it is not safe.
6	• Short term solutions need to be developed at lower cost that provide most beneficial impacts. • What happened to the land management plan/policies for these areas – if communities were more self-sustaining through land management policy/practices, it could lower traffic, such as lot retiring, lot consolidation, etc. Need to

	prioritize developing land management plan - needed in concert with CTC, not after, including cost assessment for land management measures. • Evacuation routes need to be assessed for roadway closures, including fire hazard, and what the rescue routes for emergency services will be and making sure rescue routes are considered and available.
7	• Reconstructing question: What do residents want and think is best? o Safe pathways not necessarily sidewalks □ Sidewalks may be needed in some areas, but there should be a minimum to respect the character of the coastside □ Do not urbanize the coastside □ No digital feedback signs to maintain character of the community 1. Pedestrian underpasses would work in place of these signs 2. Concerned about light pollution from road lights and digital feedback signs. Also concerned about being blinded by light while driving at night. • Missing resident perspective – Seems like plan prioritizes developers over current residents o Lack of thought in this planning process o Large development gets approved before improvements for residents and visitors are planned o Bigger problem on the Coast is that we are inviting development and progress without the right planning or concern about longterm effect on the coast o Tonight's topics were fairly innocuous --- small enough projects, but Planning needs to think more long term to protect character of the coast o County priorities are not in sync with community, development and plans need more thought and carefulness for long term impacts • There are many things in the Plan o Discussion lacked specifics o Questions during presentation could have been answered with more detail o Likes crossing at 2nd street o Discussion on midpen at Carlos St. was not addressed today during discussion □ This is a big conversation and needs to happen • Discussion on some of the critical projects and concerns was lacking during presentation. o What's going to happen at Cypress? Plan does not address potentially huge traffic problem. o Planners could have provided timelines, images showing what's there and what's missing and what is going in o More time is needed for community to discuss/debate pros and cons of different elements with Planning □ Traffic lights vs. roundabouts □ Community needs to discuss pros and cons of all these elements with the County
8	• Bikeways – Not seeing anything in the plan about connecting the trail to Devil's Slide area. Wide former highway that connects the two parking lots on either side of the

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tunnel but the only way to get there in by driving. Biking in this area can be really dangerous. Bike routes could be used on this area that I take on single track. Can be easily adapted to be used as a path. North side of Devil’s Slide, climbing the hill up from Pacifica is probably the most dangerous part of the route right now. Both are challenging areas. Basically, if I want to bike on the Devil’s Slide pathway and do not want to take single track, my only option is to ride along the highway. Gray Whale cove parking lot to tunnel cove entrance, the dip in either direction provides very little shoulder.
North on Montara bike pathways are the area of concern

COVID-19 has provided even more complexities to this plan. Transit options are very limited and now even more so with social distancing.

Very likely that things will deteriorate because there is no money to increase transit options. No money to add bus routes in the future.

These meetings should take place at least six months from now so maybe there would be a better idea about what the future is going to look like
Bus/Public Transit money has taken a big hit because there is virtually no ridership currently
We are not ready to know how to modify transportation because of COVID-19
One of the goals of Connect the Coast is to make sure the coast is accessible to people. The amount of buildout that is zoned in is not sustainable. Goal of this is to find a plan to make it sustainable but that is not represented in the current plan.
Need to find a way to retire some lots that are too small, not buildable, try to change zoning on those.
See what improvements can be done for transit but that is not in this plan
A realistic plan is needed. The current Connect the Coastside plan does not seem like something we can sink out teeth into at this point.

Some of these recommendations about traffic just don’t make sense anymore
Bike path on cypress point takes people up a steep hill – doesn’t work. Taking kids out on this trail can be really dangerous.
We can’t do this in a vacuum. Take into account

Planned Princeton
Big Wave
Cypress Point
New hotel in HMB
Potential impacts from Dunes Beach development
Cannot have this discussion without including impacts of HMB and these proposed developments

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Details of parallel trail @ Carlos street commercial section need examination

Carlos Street : problematic

Too busy, especially for visitors (a lot going on, streets intersecting, pedestrian crossing, etc.)
Don’t close off norther terminus of Carlos St.

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Connect Carlos to 16th and put a roundabout in proposal
Short term: Connect Carlos to 16th or even make it right turn only, but don’t close it

Suggestion: No one way segment
Proposed between Vallemar and California

Suggestion: No speed humps

Recommendation to add roundabouts/one roundabout at each end of Moss Beach (one member)
Can there be short term solutions for safe crossing of Hwy 1 before the long term solutions are implemented?
Parallel trail : who will pay for it? What is the concrete or rough timeline?
Roundabouts:

Cost concern

cost upwards of $5M
Is it viable?
Who will pay for it?

Safety concern

Coastside residents are familiar with the area, but visitors may not be

May be difficult to navigate
Could cause collisions
Visitors tend to haphazardly decide when/where to park and turn on and off of Hwy1

This could add confusion and danger to driving around this area
Could cause slowing or traffic issues

Parallel trail between 14th and 16th: allow people access to the trail
Could just prune hedges/simple short term solution?

For both Carlos St. and parallel trail, start less expensive short term solutions before long term projects are completed

Terminus of Carlos St. (mentioned above)
Parallel trail
Pruning vegetation to allow access?

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One commenter says that improvements may not actually increase walking in neighborhood due to weather. No one uses trail that extends to Miramar that goes over drainage/creek. But another commenter says that people do bike on trails a lot.
Carlos street closure at the north end (at Highway 1)- closure does not make sense. Need right turn only onto Highway 1 from Carlos Street.
Open Main St in Montara to Moss Beach. It dead ends now. Main Street can connect to Carlos Street with Bridge over creek.
Most Important to one commenter is Samtrans needs to overhaul bus route system. Little buses currently used for senior transport. Need to extend routes to neighborhoods, Hwy 1, Hwy 92. Less need for trails, signals and roundabouts (not that much traffic now).

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CTC uses outdated traffic data. Why is HMB not part of the data? Evacuation routes need to be addressed in CTC. 3 million visitors, and new development (Cypress Pt. and Big Wave) add up to 2,000 daily trips.
Green Valley Trail missing
Congestion due to ped/bike/car traffic interactions…exacerbates traffic problems. Need to give folks safe ways to cross, reduce haphazard crossings.
Sierra St. connects to California and is unsafe for bicycles.
Data is 6 years old.
A lot has changed on the Coastside since Covid.
Need pedestrian under crossings of Highway 1 at busy places like Sam's
Love living on the Coastside, many visit, so there are no perfect solutions and we need to find compromise solutions.
CTC should be a community transportation plan. It's used to promote development. Plan should serve existing community and tourists.
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Over or under passes – anything that doesn't slow the flow of traffic. Gray whale cove – accidents – underpass would be safer – and in Montara/Moss Beach too.
These are a really cool option – safe and can walk and see neighbors, sip coffee.
And would be safe!!
Any other ideas?? Carlos St. might be safer as a one way street and would be great to have bike/ped
Pacifica overpass/bridge would be great in MB or at Gray Whale Cove – concern is money...
School going down hill due to lack of resources – doesn't understand the one way street on Carlos – it's pretty wide so not sure why – would create challenges to get to PO – why? Is it being pushed to support Mid Pen
project? Change neighborhood roads that are quaint and functional – concerned about that.
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Evacuation plan
Trying to fix something that residents don't want to have fixed – not broken
Should be more sustainability on how coast is developed – fragile area with natural resources
Put improvements on developers rather than residents
Don't feel like they're dealing with current issues in Moss Beach
Plan focuses along Hwy 1 rather than side streets where daily living occurs
Find out what residents want.
Care more about people who live there – listen to them.
Bike and walking paths would help the most – will not help with daily traffic (shopping)
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California is called out as condition F, but that is not the experience of living there. Need a more inventive option then roundabouts and stop lights (for example, taking alternative routes that avoid traffic)
Another participant agrees about that the California experience is not an F right now, but California is getting worse, needs a future improvement.
The worst traffic problems are getting into Half Moon Bay or Pacifica.
Adding lanes to Highway 1 needs to be part of the solution.
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	• Lights should be coordinated or synchronized if they have to be put in. • Consider adding an on ramp or off ramp to Highway 1 at the airport end of Moss Beach. • The lights between Vallemar and Rockaway beach. • The intersection of Hwy 1 and Hwy 92 has backed up traffic. • The first light in Pacific is not geared towards traffic coming from the south. • Suggestion to look at Harris Ave & Hwy 1 because it has unique interface, people can pull out and the lane is all theirs.

What questions do you have or what would you like to know more about?

GROUP	NOTES
1	• What are the funding sources? More specifics available on website so people can see it. • What other options have been explored to cover these things other than development?
2	• Cypress Point may use Carlos, Sierra, Stetson, Kelmore, etc Moss Beach crossings at HW1 • Focus is on bike/ ped improvements--needs to account for increased car traffic as well
3	• Would proposed stop signs near Farallone View Elementary school increase traffic? • Proposed closure of Carlos Street going north? Public safety concerns. Significant impacts to traffic. Is the main purpose to accommodate affordable housing project (i.e. 71-unit affordable housing project). Not appropriate location and community does not have adequate infrastructure to support. Ideal location for affordable housing would have walkability, access to health care, access to jobs, etc. Services/amenities in the county are expensive. Access to grocery stores are limited. • Why is there a proposed park and ride at Etheldore Street and Highway 1? • Community wants to alleviate traffic not increase traffic with additional parking.
4	• Alignment of Parallel Trail – will it be shared v. separate and on what sections? Want clarity on this
5	*None*
6	• Concern that comments were not captured in notetaking, need email address for where comments can be sent in.
7	*None*
8	*None*

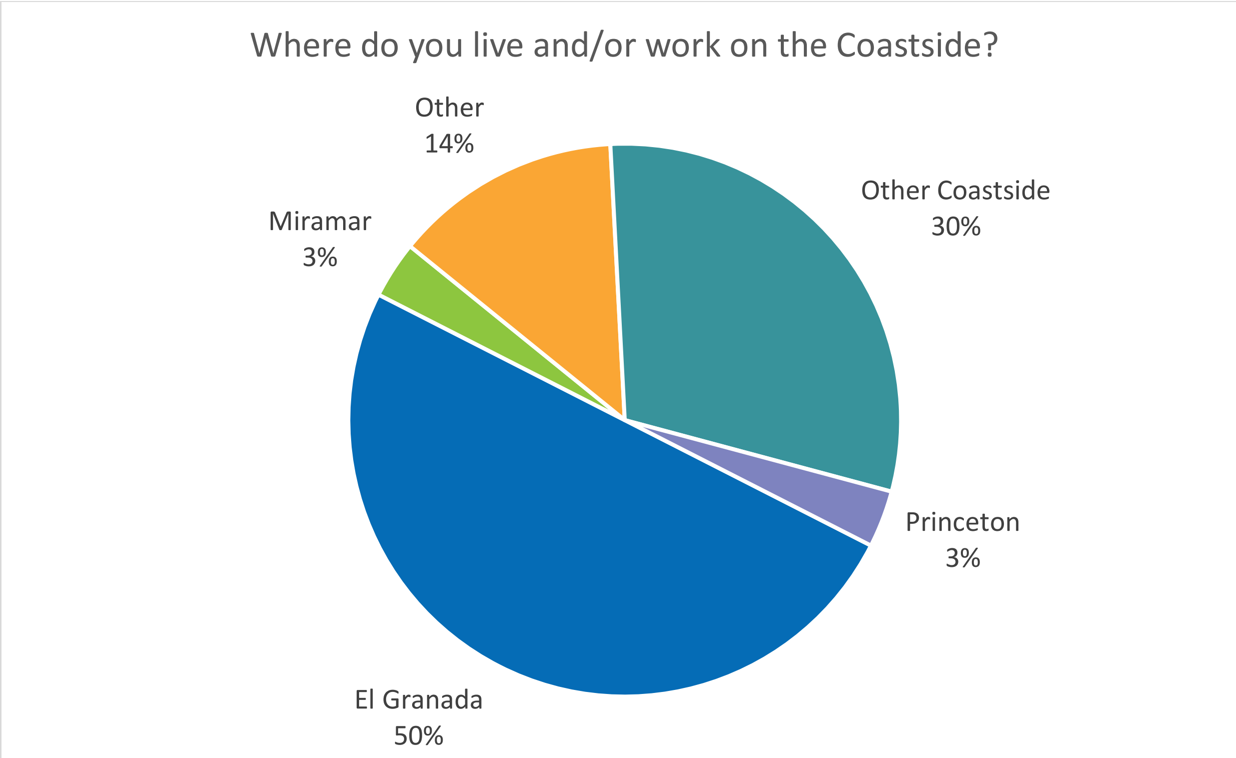
9	• Real timeline
	  o In the meantime, what short term solutions can be implemented?
	• How will projects/roundabouts be budgeted?
	• Details of parallel trail
	• Concerns about roundabouts
	  o Cost
	  o Safety
	• As density of the Midcoast increases, how will the county address traffic?

10	*None*

11	*None*
12	*None*
13	• When will we learn more about evacuation? • A proper traffic study is needed (more recent than 2014) • What about the EIRs that need to be done? • Notable different post-COVID in traffic levels • Address previous resist density traffic studies point by point • Are parallel paths solving current issues? • Who will pay for improvements? Concern about residents being responsible. • How will kids travel to school? • Will transit be cost effective (time and money)? • What does "fair-share" mean?
14	*None*
15	*None*

Appendix 5 - June 25th Meeting Poll Data & Small Group Discussion Notes

Poll Data



Answer	Votes
El Granada	15
Princeton	1
Miramar	1
Other Coastside	9
Other	4
Grand Total	**30**

Small Group Discussion Notes

Which of the projects discussed today for Princeton, El Granada and Miramar are most important to you? Which projects are most important to encourage you and others to walk, bike or take transit?

GROUP	NOTES
1	• Great to see more improvements to facilitate travel by bike • Biggest challenge in EG is parents/kids go to school in HMB – too far to ride bikes – so improved transit would be key – buses fill up on the way to/from school – more service on school days and for visitors on weekends – make more frequent and easier to use

	• Concern about lack of separation between peds and bikes and cars – on coastal trail/multimodal trail – can be dangerous • Increase in traffic in 25 years has been difficult – can't go anywhere on the weekend – very hard for residents – and concern about emergency situations as well • People will come – how to make improvements to handle it – is the scope of these projects enough to handle all the traffic – more or just different improvements – also problems on 92 – turning lanes, stop lights (e.g. at Frenchman's Creek backs everything up – even for a few cars) – could it be on a timer so it doesn't allow peds to cross as often during commute times. • Getting in/out of HMB is difficult during commute times/distances are great and make biking and walking difficult too • Likes proposed park and parking lots on Alhambra – how to control flow of traffic – get people across to the beach safely without backing up traffic is the challenge – don't allow parking on HWY 1 if a parking lot is established to address safety/traffic flow • Crosswalks – no button on the one in Moss Beach – very dangerous • MCC is working with County to address the problems with the new cross walk installed by Cal Trans without community input.

2	• Big wave project (concern with being age and handicap friendly)
	• Age-friendly communities
	  o Trails being accessible to people on 3-wheel bikes
	  o Trail width
	  o For California coastal trail and parallel trail (east side)
	• Safe pedestrian crossings, if they are used properly

3	• Comprehensive fix at Surfer's Beach would be great—even on weekdays traffic is bad, but safety is the big issue. Multiple accidents, fatalities due to traffic, visibility issues, particularly at dusk. Pedestrians aren't visible; pedestrians cross at random points. Wouldn't put in new cross-walk—would get rid of east-side parking, and concentrate it at the stoplight. And use space from Harbor District. Creating crossings w/out parking at those areas is counterproductive; but parking in those areas is also problematic because it removes valuable resources—parking in the right-of-way at existing stoplit intersections is best. • Concerns with some proposed projects; many coastside residents value character of coastside, any improvements must respect that character. Sidewalks proposed instead of pathways—this takes away rural feel, and adds an urban character, which isn't preferable. Curb and gutter on Highway 1 also, and stop-lights detract from character. Similarly, bus shelters are good but the style of them needs to match the unique character of the coastside, rather than generic. Parallel trail is valuable; just not anything that advances urbanization or urban character. (Small percent of community is participating in process, not a robust account of community. • From Capistrano stoplight to Coronado stoplight (Hwy 1) people randomly cross the road, and a crosswalk won't make them use it—not productive, opposed to any crosswalk there. The big empty El Granada Elementary School parking lot—which is closed now—is unused during the weekends. Why not

	use as a beach parking lot? 50+ cars, much capacity. No crosswalks for Surfers Beach. Opposed to overpasses because of aesthetic impacts; underpasses because of crime, etc—negative impacts. Maybe have a shuttle ("beach bus") to take people to designated locations, Caltrans lots. Directly across from new fire dept and Wilkinson School—people have converted a space into an informal parking lot, dirt lot—this should be stopped. Illegal/informal use, because of closed lots during COVID. • IMPROVEMENTS, IN PLAN, THAT ARE ATTRACTIVE? Airport Boulevard: both sides of the road are loaded with cars—abandoned? Or residents' overflow? Will be a barrier to bike lanes if there's parking there. Bike lanes on HWY 1: if you clear parking on east side at surfers beach, will facilitate constructing a bike lane, depending on Class of bike lane. Would be good to have Parallel Trail for pedestrians only. • Bike parking at Princeton/Pillar Point: good idea for bike owners. If needed for connecting to bus, need to expand bus service. But if for bikers coming from elsewhere by bike, it's good. Depends on purpose. • Coastal trail extension? On city streets through Princeton…. Assuming it's close to the water, in favor of improvements. • Regarding pedestrian underpasses: some people are in favor of some models. Currently being built in places all around the world. If well-lit, brightly painted, natural light, with surveillance technology, can be monitored. Can be done safely. (Various opinions). Heavily used underpasses are effective; police themselves because of traffic. Underpasses only way to truly improve traffic, because it doesn't interfere with vehicular flow. Underpasses remove need for stoplight; safe, no congestion. "Cadillac of crossings." • Push cars over a bit but normal bike lanes on HWY 1 are not needed. Need a bit more room—but not widening of the highways. Formal bike lanes would probably require that; better effort is to use coastal trail & parallel trail. Give people options of routes, without expanding HWY 1.
4	• What projects can be implemented soon? Project time horizons are long, some 10 years or more. Do some crosswalks early. Transit revenues down. Is it realistic? Funding for bike paths? Zoning allows development that exceeds infrastructure. Identify projects that can be done in the near term. Pandemic has changed things, e.g, traffic patterns are traffic studies still relevant? Identify crosswalks as first priority. • Supports biking options, walking options for crossing Highway 1. We need to be asked what we don't like about this plan. Don't support more parking lots. Don't want to end up like Santa Cruz or Pacifica. Parking lot in Etheldore could disrupt natural habitats in the area. Parking lots are for people who don't live here, not residents. Good bus service is important, particularly for disadvantaged members. • More innovative environmentally friendly options to asphalt. Water permeable pavements. Coastal atmosphere needs to be protected. Urban area examples are grating. • A lot of tourists and visitors from the area already here, throwing trash, but there's nowhere like Mirada Rd. where one can access the coast as closely, so additional Miramar parking is needed. Magellan is jammed, Mirada Rd. too. • Extending the bike paths would be wonderful.

	• Keep the highway moving. Can't slow it down. Worried that roundabouts and signals will slow traffic too much. Not enough room to make roundabouts that allow faster traffic. May not be able to afford "smart" lights. • Increasing lanes is not the answer. • One roundabout would be a nice thing, make people safer. Need to slow traffic
5	• Moss Beach commuter to HMB via Hwy 1. • CTC is okay - feels like "band aid fixes." Hopes for specific plan to coordinate from tunnels to South of HMB to Pescadero. CTC is important but feels short-sighted. • Closing Wienke Way heading south at California makes sense. Challenging intersection and could include pedestrian crossing there with push button/lights. Access to coastside market - an important destination. • Walk near Alhambra, Surfer's Beach. Complicated area. People are parking in neighborhoods with increase in trash (when parking was closed due to COVID-19). Need improved access to post office near there. Connection with the sanitation district / park, and formal parking area. Valencia down to Obispo (runs parallel to open space), near fire station. Traffic along Highway 1 and pedestrian crossings feel risky. Crossing should be coordinated with where the parking lot is. • Bikes between Princeton Harbor and HMB. No bike lanes. Dangerous route. Wayfinding - google/waze - signs are up high and out of date. Using technology to help with wayfinding. • Capistrano/Prospect - need better crosswalk paint and/or crosswalks. Higher visibility paint. PAINT. JUST PAINT. • Half Moon Bay Distillery - no painted crosswalks. Need crosswalks here and at every intersection in Princeton Harbor and along Princeton Avenue. Lots of traffic and no marked crosswalks. • Have to go on the north side of Princeton Avenue to cross the street on bike.

6	• Anything that would improve traffic flow from stop light at Princeton to El Granada Elem/Wilkinson school. Particularly commuting hours and weekends. Made worse by parking on Hwy 1 and randomly crossing Hwy 1 (could be improved by dedicated parking and crossing location).
	    o Look at where people are already crossing to determine crosswalk location.
	    o Sam's Restaurant traffic congestion
	    o Need multiple crosswalks, people look for shortest route
	• Unlikely to walk to Halfmoon Bay (distance/weather)
	• Airport St east-side trail (if can be done without disturbing the wetlands). Bike trail because traffic is fast and dangerous.
	• Parallel trail for students walking/biking to school.
	• Sidewalks for students to get to school safely.
	• Putting trail through Princeton will be problematic as streets are not designed to accommodate a trail
	• Capistrano – islands in center, sidewalks, etc very tight roadway means a challenge to add a trail
	• Could continue trail that's on east side of Hwy 1 to Miramar/Montara. Would need ways to cross Hwy 1.

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Two types of users – some want directness, others want more scenic route

How likely to make location trips with walking/biking/travel without a car?

Depends on location (uphill/ downhill)
Recreational walker – walking anyway, would appreciate safer routes, makes it more possible.

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What else could the County do to improve transportation options in Princeton, El Granada and Miramar? What is missing from the plan for these areas?

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More bus service during school hours – need more buses for the kids – so crowded now – if not more parents would feel comfortable putting kids on bus
More signage would be helpful to help folks find parking and trails – places to turnaround – would help tourists who don’t know where they are going – paint the pavement to direct people so they don’t change lanes at the last minute – improve safety
Bike to school days – more to encourage folks to get off the road and bike – provide incentives – would help the daily commute for commuters if local traffic is more bike/ped/transit

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Roundabouts

Concern about roundabouts causing traffic congestion
Locations and effect unclear
Roundabouts making commute more time consuming
Roundabout addition around intersection and at north end of el Granada going into Princeton (suggestion)

Safe pedestrian crossings

By surfer’s beach
Add one between El Granada stop light and end of surfers beach area?
Need a technique to handle periodic bulk crossing from east side of the street that is safe
How will pedestrian crossings affect traffic? How many will there be and where?

Parking lot addition:

Parallel street parking not a traffic concern
May increase # of pedestrians needing to cross the highway at that location (all at once)
Pedestrians will cross wherever they want, regardless of new crossings

Traffic concern

People don’t use existing hwy 1 crossings, so why would they use the new ones?

Pedestrian crossings and roundabouts won’t work with a one lane hwy (cause more traffic)
More traffic study needed

Around new development

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	• One access stairway down to the beach
	  ○ Correlating beach access with where ped xings are might alleviate traffic
	  ○ Parking feeding into crossings leading to the beach (suggestion)

3	*See notes in question 1*
4	• As we improve transportation infrastructure, traffic will increase. • Need lower speed limit • Need more of a focus on environmental resources and protection, not just building things. More attention paid to garbage problem, mainly a weekend visitor problem.
5	• Comprehensive plan across multiple organizations. Coastside sanitation - understanding the collaboration across the various organizations and how things will work together. Challenging to understand where to get voice and concerns heard with different entities and who manages what. Resources to understand who to go to speak with. Are there feedback sessions with multiple constituencies involved so the public can ask questions of multiple entities at one time? • SamTrans needs to be coordinated with coastside - can supply different types of buses (e.g., hybrid, electric, etc.) and coordinate with express buses to 280. Important and they should be part of the comprehensive plan. Short range and long-range plan, and the long-range plan should include HMB, 92, SamTrans, and other variables. Highway impacts everyone, including people going to school. • CTC Roundabout to put at crystal springs, 35/92, Miramar. It's an extensive plan, but trying to address whether we want it. Should we be planning right now during COVID times?

6	• Wilkinson School, Coronado and Santiago intersection: T shape, two bus stops, no crosswalk, only two stop signs (rather than three). Intersection is confusing and dangerous, especially for bus users.
	  ○ Coronado – uphill off of Hwy 1, difficult to interact with pedestrians, and traffic flow. Series of difficult intersections.
	  ○ Traffic funneling to Hwy 1 as well
	  ○ People will take left at El Granada and Princeton to use as a short cut to get onto Hwy 1
	  ○ Potentially parking structure will help take traffic off Coronado
	• Questioning multi-use parking lot at Carlos and Hwy 1 – concern about it being an unsafe location – why put parking lot here?

What questions do you have or what would you like to know more about?

GROUP	NOTES
1	• Trail improvements/signage – how to preserve the area? Get people aware of erosion problems and wildlife – better beach access in some places to prevent

	people from scrambling down the bluffs – safety and to preserve the environment • Parking lots – and will there be bathrooms? May need other facilities, safe place to cross, and bathrooms – needs to be coordinated to all come together
2	• Age friendly communities: Will trails be age and disabled friendly? o Wide enough • How many roundabouts will be built on hwy 1? Where will they be? o 2 proposed • How many crossings? • How will projects affect traffic? (not discussed in presentation) • Why not talk about all of the projects discussed in the general meeting? (around the highway)
3	*See notes under question 1*
4	*None*
5	*None*
6	*None*

Appendix 6 – July 7th Youth Meeting Group Discussion Notes & Poll Data

Attendees: 2 Youth Leadership Institute (YLI) Staff, 7 youth, & 2 county staff (Katie Faulkner and Jackie Nunez)
Tuesday, July 7 2020 3:00-4:30pm on Zoom

Introduce yourselves

- Name
- What's your connection to the Coast?
- What experience have you had working on transportation issues with YLI?
- What is one thing you look forward to learning today?

Youth Responses:

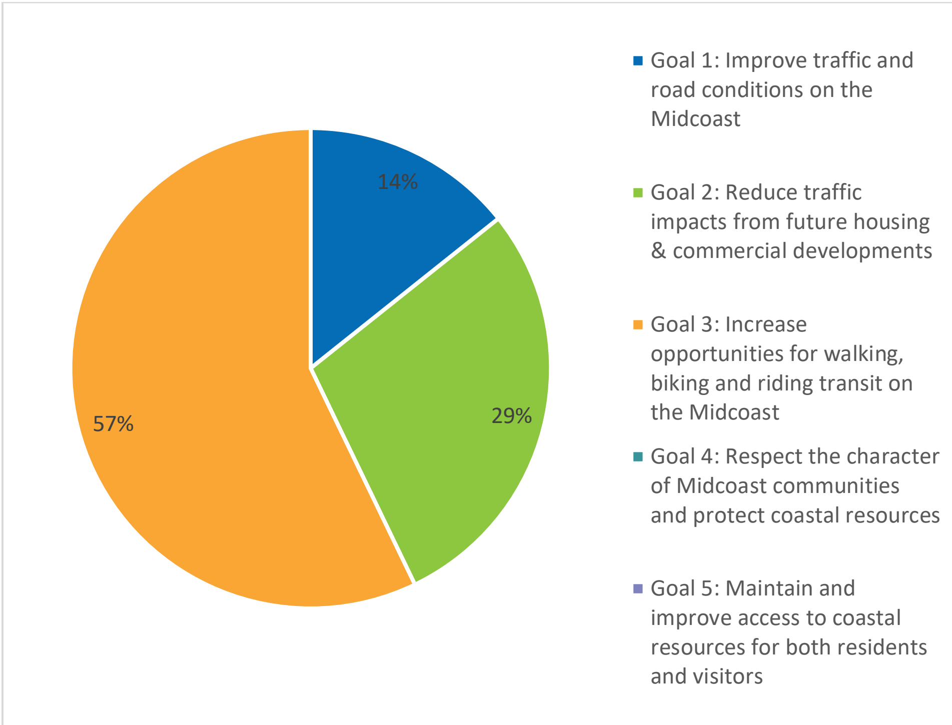
- Lived in El Granada & Moss Beach, participated in a road watch survey observing distracted drivers, and traffic observations
- Lives on the coast, does projects around transportation like surveys, interested in the behind the scenes work
- Lives on the coast, worked on road watch, learning more and about the behind the scenes
- Lives on coast, road watch, behind the scenes & how things like signs got placed where they are
- Lives in Moonridge and works in Princeton, involved with pilot project on ways to get around the Coastside, looking forward to learning about how to get around
- Going to school in Coast but doesn't live there, helped make the YLI survey, behind the scenes
- Lived on coast for most of life, road watch & the priorities of half moon bay, and behind the scenes

When it comes to getting around on the Coast, what is working well? What is most challenging for you?

- Challenges:
    - Relying on other people for transit - Get parents to have the time to drive to a certain place
        - "Finding rides sometimes is harder"
    - Taking the bus is hard and aligning my schedule with the bus schedule to when my friends want to meet
    - Traffic
        - Traffic on Main street and getting into HMB from Moonridge
        - Traffic near Surfers beach is challenging, there is jaywalking which is dangerous and can lead to accident "my sister has been in an accident in Surfer's beach to due to the stop and go cars"
    - Lighting at night - it's very dim when crossing the street at night
    - Running/walking on Highway 1 is challenging, road conditions are poor, potholes **+1**
- Working well:
    - Walking **+1**
        - "Most of the places that I go to are close together in Half Moon Bay"

- Carpooling with friends **+1**
- The intersection before Hwy 92, no right turn on weekends, has been helpful with overflow traffic when heading east towards 92

Focusing on the goals of the plan, which one is your highest priority?



Goal 1: Improve traffic and road conditions on the Midcoast	1 participant	14%
Goal 2: Reduce traffic impacts from future housing & commercial developments	2 participants	29%
Goal 3: Increase opportunities for walking, biking and riding transit on the Midcoast	4 participants	57%
Goal 4: Respect the character of Midcoast communities and protect coastal resources	0 participants	0%
Goal 5: Maintain and improve access to coastal resources for both residents and visitors	0 participants	0%

<u>Group Discussion Notes</u>

1. **Which ideas from the plan are most important to help you get around more easily? Are there ideas you have that may not be in the plan?**
   a. Biking & walking recommendations – doesn't drive yet but walking and biking are an option.
   b. Biking & walking. Making streets safer at night with lights and making it safer to walk day and night.
   c. Driving - Jaywalking is a major factor and would like to have crosswalks or signal lights. Especially Montara & Moss Beach, which are dangerous areas to cross the highways.

d. Public transit – main mode of transportation, and lots of people rely on public transit.
e. Biking & walking – doesn't drive yet.
f. Public transit – how he gets around and to school in usual times.
g. Biking & walking – everyone's way of getting around town.

2. What's your favorite place to go on the Coast and how do you get there? What ideas do you have to improve your transportation experience to get there?

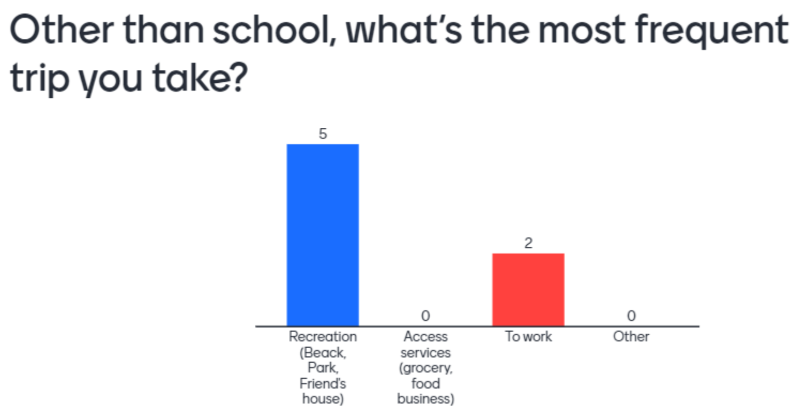
a. The Princeton Beach and access to the coastal trail. Lives on the other side of Highway 1 in Moss Beach and has to drive to the beach & coastal trail because it is safer. Would like an easier way to cross Highway 1 and a sidewalk & bike lane on Highway 1 would make it easier to get there.
b. The beach is most convenient and lives close, would not change anything. Walks or bikes to the beach. When tourist come parking could be improved.
c. The beach. Poplar Beach (bus and walk) or the beach near Moon Ridge (walk). Might improve things to make the bus closer to a beach.
d. Kelley Beach & walks there. It is a little dangerous, bike & ped lane is combined, but people park there so there is not much space to walk & bike. So more space to walk & bike along the road.
e. Kelly Beach. Goes with a friend who lives close, there is a sidewalk, would not change.
f. Coastal Trail. Hard to get there because has to go for a run along the highway to get there, would be better if there was an established walk/bike lane to make getting to the Coastal Trail easier.
g. Poplar Beach. Skates there, mostly on the road, there are not many sidewalks. At the beach there is a sidewalk but it is narrow, and skaters/bikers/drivers all have to share the road and bump into each other.

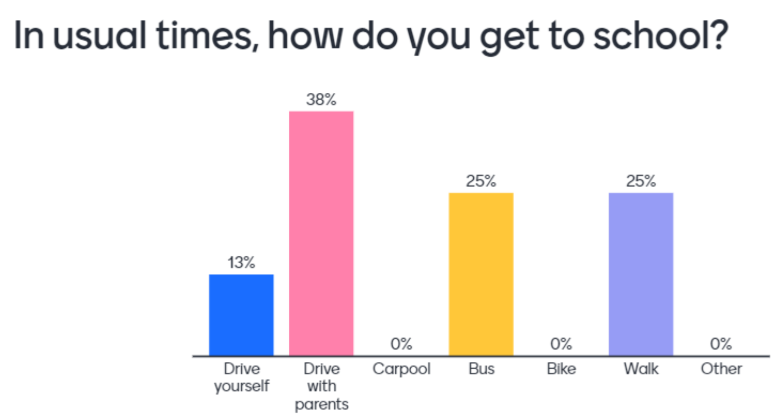
3. What is your vision for transportation on the coast?

Questions from the session:

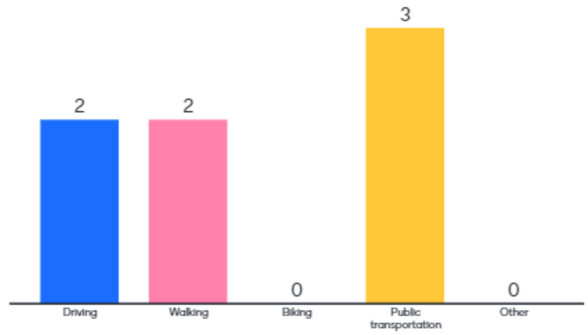
- When will the multimodal trail be finished?
- Is bicycle parking free?
- Who decides where the parking goes? Can the community make recommendations?

Poll Results:

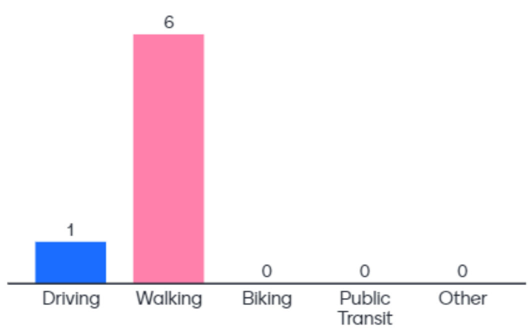




Which mode do you most want to see improved?



Which mode do you most use to get to access the beaches?



Appendix 7 - Summary of Comments on Connect the Coastside & Proposed Changes

The project team developed this summary by reviewing all comments received and assigning a primary category and subcategory to each comment. This section is organized by category and subcategory. Each subcategory is organized into the summary of comments ("What We Heard") and proposed changes to the Draft Connect the Coastside Plan ("Proposed Changes to Connect the Coastside"). Some comments were relevant to multiple categories and/or modes of travel and are therefore noted multiple times. The main categories are

- Active Transportation (Walking and Bicycling),
- Driving,
- Transit,
- Land Use,
- Planning Process,
- Data,
- Overarching Concerns or Considerations, and
- Errors and Clarifications.

Active Transportation (Walking and Bicycling)

Many commenters stated that it can be difficult to walk and bike around the Midcoast and to Half Moon Bay, and most support improvements that will make it easier and safer to walk and bike. Commenters mentioned that walking and biking improvements would give people an alternative to driving to shop at stores, see friends and family, and visit beaches and trails.

Pedestrian Crossings

What We Heard

A large number of commenters mentioned that Highway 1 is difficult and unsafe to cross on foot or on bike in many locations along the Midcoast, and that they would like to a solution to this problem. A few commenters stated the need to cross Highway 92 near businesses and to connect future planned trails. Commenters supported a variety of solutions to make it easier and safer to get across highways, including implementing:

- Additional marked crosswalks with pedestrian activated beacons/lights
- Traffic signals with marked crosswalks
- Medians or median islands with marked crosswalks, so pedestrians can cross one direction of traffic at a time
- Roundabouts with crosswalks
- Lower speed limits and slowing car speeds
- Pedestrian underpasses
- Pedestrian overpasses or bridges

The greatest amount of support was for crossings with pedestrian activated beacons/lights.

While many commenters supported the idea of adding new crossings along Highway 1, not all supported the idea. Some were concerned that more Highway 1 crossings would slow down traffic, and that pedestrians would not use the crossings and would instead cross Highway 1 wherever convenient.

Commenters also mentioned several intersections outside of Highway 1 where crosswalks would make it easier and safer to walk around Midcoast neighborhoods. Commenters mentioned locations where they would like to see pedestrian crossings added or improved:

- Highway 1 at Gray Whale Cove
- Highway 1 & 1st Street in Montara
- Highway 1 & 2nd Street in Montara
- Highway 1 & Carlos/16th Street
- Highway 1 & Wienke Way/California Avenue in Moss Beach
- Highway 1 & Virginia Avenue in Moss Beach
- Capistrano Road & Prospect Way in Princeton
- Every intersection in Princeton Harbor and along Princeton Avenue
- Highway 1 in El Granada by Surfer's Beach
- Highway 1 & Coronado Street in El Granada
- Highway 1 and between Miramar Road and Medio Road in Miramar
- Highway 92 near busy commercial areas with attractions on both sides

Proposed Changes to Connect the Coastside

Marked pedestrian crossings may or may not have an impact on traffic flow. The impact on delay will depend on overall pedestrian volumes and demand for crossings, the design of the marked crossings and what type of signal, beacon, or other features are in place, and how other projects and programs support shifting trips from vehicles to other modes. Connect the Coastside recommends adding marked pedestrian crossings due to safety concerns and stakeholder support.

The draft Connect the Coastside Plan (Plan) currently recommends marked pedestrian crossings with a beacon, or in conjunction with proposed intersection control, at nearly all of the locations listed above. The project team will update the Plan and relevant maps to address:

- Highway 1 and Virginia Avenue, where there is an existing marked crosswalk with signage but no flashing beacon.
- Crossing locations in Princeton Harbor and along Princeton Avenue based on Plan Princeton.
- Capistrano Road and Prospect Way based on Plan Princeton and the Unincorporated San Mateo County Active Transportation Plan.
- Highway 92 crossings (specific locations).
- Other locations as applicable based on Caltrans District 4 Pedestrian Plan and 2020 State Highway and Protection Program projects.

The Plan does not recommend underpasses or overpasses due to the high costs for construction and maintenance costs, and right-of-way needed to make them ADA accessible (see #12 in Response to Inquiries). Previously, there was an above-grade crossing of Highway 1 in Moss Beach near the northern terminus of Carlos Street and the project team will evaluate whether this is a viable project to include in the Plan.

The project team will expand on future steps needed to develop specific crossing designs for each location to be more consistent with the Highway 1 Safety and Mobility Study, including seeking opportunities for additional pedestrian crossing infrastructure (such as median islands) when feasible, describing the roles of Caltrans, County Department of Public Works, County Planning and Building Department, and California Coastal Commission, as well as the proposed public process for developing detailed designs for implementation.

Walkways

What We Heard

A number of commenters requested improvements that make it easier and safer to walk around Midcoast neighborhoods. Commenters mentioned several challenges that make it difficult to walk around the Midcoast including:

- Roads that don't have a safe space for people to walk along.
- Speeding cars.
- Dark streets at night.
- Many existing sidewalks are discontinuous and not well connected.
- Uneven surfaces on roads and trails are difficult for older adults.
- Overgrown vegetation makes it difficult to walk along Highway 1 and some sidewalks.

Most commenters mentioned improvements that would provide more safe space for people to walk along neighborhood roads. Some commenters requested more sidewalks; however, several preferred pathways instead of sidewalks to preserve the rural character of the Midcoast. There was a request for traffic calming measures to make it safer to walk along the street, but others did not want digital feedback signs and requested a limited number of speed bumps to preserve the rural nature of the Midcoast.

Commenters suggested walkway improvements including:

- Highway 1 between 7th and 9th Streets in Montara: add a sidewalk in front of the Highway-fronting businesses.
- West side of Highway 1 in Montara: clear the vegetation to allow room to walk along the paved shoulders.
- Highway 1 from 14th Street to 16th Street between Montara and Moss Beach: requests for near-term and long-term solutions to make it easier and safer for people to walk.
- Carlos Street in Moss Beach: support for pedestrian improvements like the parallel trail.
- Cypress Avenue to California Avenue along the west side of Highway 1: add a pathway or sidewalk next to the businesses, paint side street crosswalks.
- Airport Street: add a dedicated pedestrian trail or sidewalk.

Proposed Changes to Connect the Coastside

Unpaved pathways do not always provide a smooth, even, and accessible surface necessary for those in wheelchairs, using strollers, or that have sight impairment. Unpaved paths can also be more challenging to maintain especially in inclement weather. Due to the lack of separation from the roadway, drivers often park on unpaved paths blocking pedestrian access. Unpaved paths will be recommended as short-term solutions and the plan will describe the need for brush clearance and maintenance.

Connect the Coastside will recommend sidewalks in higher traffic pedestrian areas, including along routes to school (such as to Farallone View Elementary School) and in business districts, and will specify the need for a community-engagement process at the time of specific project development. The project team will ensure the next draft plan is consistent with concurrent planning processes (e.g., Plan Princeton) and the maps on the Connect the Coastside factsheets. In addition to those, the project team will add recommendations for:

- Sidewalk on eastside of Highway 1 from 7th Street to 9th Street in Montara.
- Paved trail on eastside of Highway 1 from 14th Street to 16th Street (Montara-Moss Beach).
- Sidewalk on westside of Highway 1 from California Avenue to Cypress Avenue.
- Regular clearance of vegetation along Highway 1 to make more room for people walking.
- Marked pedestrian crossings of stop-controlled side streets intersecting with SR-1.
- Pedestrian accommodation on Airport Street.

Safe Routes to School

What We Heard

Commenters supported the idea of providing Safe Routes to School (SRTS) and making it safer for families and kids to walk and bike, and several specifically mentioned supporting SRTS improvements to Farallone View Elementary School. Commenters highlighted the importance of the Multimodal Parallel Trail to SRTS, which will allow Midcoast students to walk and bike to school in Half Moon Bay, El Granada and Montara.

Proposed Changes to Connect the Coastside

The project team will add section(s) on Safe Routes to School, including background on the San Mateo County Office of Education's programs, show existing and proposed routes to school on Plan maps, and note which projects (such as stop signs and sidewalks on routes to school and improved transit) support walking and bicycling to school.

Bikeways & Bike Parking

What We Heard

Many commenters supported the idea of adding bike lanes and/or bike paths to make bicycling in the Midcoast easier and safer. Commenters mentioned several obstacles to biking including:

- Few bike lanes on the coast, and existing bike lanes are not well connected.
- Lack of lighting makes it difficult to bike at night (and some people need to bike at night).
- Lack of signage and markings for bike routes and lanes.
- Lack of bike parking.
- Some roadways with poor or rough conditions make it less safe for bicycling.

Generally, commenters stated a desire for more bicycle facilities, such as bike lanes and paths on the Midcoast and some requested bike amenities like lighting and signage. One commenter suggested more incentives to encourage people to bike instead of drive, which could help reduce daily commute traffic. Some suggested adding more bike parking and mentioned Princeton and Pillar Point. A few commenters stated that a bike lane on Highway 1 was not necessary if the shoulders were wide enough to accommodate bicyclists. One commenter suggested that adding bike lanes is not a traffic reduction strategy, and specifically, adding them to Highway 92 might not attract many cyclists due to the steep terrain.

Specific locations commenters mentioned in need of bike lanes or paths included:

- Airport Street in Princeton
- Montara north to Pacifica
- Highway 1 at Surfer's Beach in El Granada
- Highway 1 throughout the Midcoast

Proposed Changes to Connect the Coastside

The project team will reference sections of the Unincorporated San Mateo County Active Transportation Plan (ATP) to ensure consistency for bikeway recommendations. Connect the Coastside (CTC), the draft ATP, and Plan Princeton all recommend a bikeway along Airport Street: the exact configuration will depend on a future community engagement effort, and design and environmental constraints. The project team will add language to CTC in Chapter 6 (implementation) describing necessary future community-based planning processes. CTC and the ATP both recommend Class II Bike Lanes on Highway 1 from Montara north to Tom Lantos Tunnel and in the area near Surfer's Beach in El Granada. In addition, the Parallel Trail (Class I Path) is recommended from Miramar to Montara.

Highway 92 is an important potential recreational route for bicyclists and its current configuration and lack of bicycle-related improvements poses a hazard to cyclists. Connect the Coastside will recommend widened shoulders along Highway 92 to make it safer for cycling and to provide more room for vehicles to maneuver in the event of an emergency.

The project team will add bicycle parking locations, including at Pillar Point and Princeton to the map of proposed bicycle and pedestrian improvements, and reference the ATP and its design guidelines. The project team will expand on Local Coastal Program Policy 2.52 and add a section on transportation demand management to describe existing San Mateo County programs and future opportunities, including incentives for bicycling.

Trails (Parallel & Coastal Trails)

What We Heard

Creating a continuous and easily accessible trail systems along the coast was mentioned in many comments. Commenters stated support and excitement for a parallel trail that connects the Midcoast communities and were interested in seeing improvements that complete the Coastal Trail in the Midcoast. Additionally, several commenters requested extending the trail system to the Tom Lantos tunnel and that the Green Valley Trail be added to the Plan.

Several commenters were concerned that putting bicyclists and pedestrians on the same trail could create problems and wanted to see some separation of these two modes. Commenters also highlighted that large gravel on trails can make them difficult to use and some requested wide trails. Another suggestion proposed adding signage to trails to educate people about erosion and wildlife.

A couple of commenters were concerned about how to fit the Parallel Trail along the commercial section of Carlos Street, and asked for careful consideration of this section with regards to the car traffic and the intersecting streets. Commenters also stated that providing safe street crossings along the

Parallel Trail would be important. Several commenters said that the Montara to Moss Beach Parallel Trail section is important to complete as soon as possible.

One theme was the need to create better connections to and between the existing segments of the Coastal Trail. One suggestion was to create one-way streets along the Coastal Trail route to protect pedestrians and bicyclists on the Coastal Trail. Another comment was concerned about the challenge of routing the Coastal Trail along Capistrano Road because of the limited space.

Proposed Changes to Connect the Coastside

Although open space trails, such as the Bay Area Ridge Trail or more isolated segments of the Coastal Trail are unlikely to contribute to significant traffic reduction or circulation improvements, the project team will update the existing and planned trails descriptions in Connect the Coastside and add these to Plan maps. Implementation of recreational trails is led by the San Mateo County Parks Department and other partners.

Connect the Coastside's proposed paths and trails largely follow roads that have limited right-of-way available; therefore, they will need to accommodate both pedestrians and bicyclists. Pedestrians and bicyclists in most cases are allowed to use the road itself to travel; cyclists who are trying to travel at faster speeds will likely use the roadway over a path shared with slower pedestrians. The Multimodal Parallel Trail is an important project to stakeholders and has the potential to reduce the number for vehicle trips. Connect the Coastside will include a recommended alignment of the Parallel Trail with any necessary roadway reconfigurations noted; however, the exact design of trails and paths (including the Parallel Trail) will happen during future project design and implementation with community input. For the Plan's recommendation on Carlos Street's reconfiguration, please see the Roadway Design section. The project team will add language to the Plan referencing minimum trail design standards and community desire for wide trails with smoother surfaces.

The project team will add to wayfinding signage discussion and highlight trail wayfinding and opportunities for interpretive signage.

Connect the Coastside does not recommend one-way streets due to limited access from neighborhoods to Highway 1. Case studies have shown that speeds are higher on one-way streets and one-way street patterns can increase vehicle-miles traveled.

Driving

Traffic

What We Heard

Many commenters stressed traffic concerns about getting around the Midcoast on Highway 1 and Highway 92, and especially the weekend traffic. Commenters said that traffic can prevent residents from doing basic activities like going to the store or visiting a friend on the weekend. Commenters expressed concern about having a personal medical emergency or a community-wide emergency that requires a large-scale evacuation during a peak traffic period. Many commenters attributed the increase in traffic to people visiting the coast from other locations and said that visitor traffic had increased for all days of the week during COVID-19. Commenters were also concerned that potential and approved new development projects, such as Cypress Point and Big Wave, will increase the traffic on Highway 1 and along neighborhood side streets.

Stakeholders wanted to better understand how Connect the Coastside will improve traffic and asked to see more projects that will specifically reduce car traffic. While commenters stated that most of the walking, bicycling, and transit projects are helpful, many don't think these projects can solve the traffic issue alone. Commenters stated concerns that additional highway crossings would slow traffic and had questions about how to accommodate both pedestrians and car traffic.

Proposed Changes to Connect the Coastside

The project team will look for opportunities to better explain existing and projected future transportation conditions and better characterize what is contributing to both in the Midcoast. The project team will also include a diagram in the plan to clarify the regional travel demand model and software used to assess conditions.

Existing traffic conditions are challenging due to both local (within the project study area) and regional (those outside of the study area) trips taken by car. There are existing (Tables 7 and 8) and projected (Tables 15 and 16) traffic congestion issues at intersections that result in delay. Table 25 (on p.79) of the Plan shows the projected number of total local and through trips: the percentage of local traffic attributable to *new* development at certain locations is projected to be 18-20% of the total number of projected trips.

In earlier draft reports for Connect the Coastside, the project team proposed roadway widening and additional travel lanes to improve traffic flow; however, this was not supported by the community and would be challenging to implement due to environmental constraints (as described in #16 Response to Inquiries). Therefore, the Plan focuses on reducing the overall demand for vehicle trips in the Midcoast. Reducing vehicle trips requires that people who would normally drive for a trip to switch to another mode, and keeping those who already walk, bike, or take transit to continue doing so. Therefore, the Plan includes proposal that would:

- Improve walking and bicycling infrastructure to make it easier to shift away from vehicles, especially for short trips (typically less than 3 miles).
- Increase opportunities for visitors to take transit to/from the Midcoast and while on the Midcoast.
- Reduce the potential demand for future travel by limiting local development through lot retirement and lot merger programs.
- Improve traffic flow and predictability through intersection improvements.

Roadway Design

What We Heard

There were a number of comments on roadway design, mostly about specific locations. General comments included support for safer driving infrastructure and a desire to see roadway projects that respect and maintain the rural character of the Midcoast. Specific locations where commenters provided input on roadway design included:

- Highway 1 in Montara: Include a project to convert the highway bidirectional center turn lane into dedicated left turn lane into 8th Street and dedicated left turn acceleration lane out of 8th Street as proposed in 2012 Highway 1 Safety and Mobility Study.

- Main Street: Extend Main Street in Montara to connect with Carlos Street in Moss Beach with a bridge over the creek.
- Carlos and 16th Street: Several commenters objected to closing off access to Carlos Street to and from Highway 1, but some commenters were supportive of connecting Carlos Street and 16th Street. One commenter noted that the Montara Water and Sanitary District recently replaced a sewer main in this location, so the costs of extending Carlos Street might need to include the relocation of the sewer main depending on the alignment of the extension.
- Carlos Street (commercial section): Several commenters do not want Carlos Street to become a one-way street in this section and objected to speed humps and digital feedback signs.
- Highway 1 in Moss Beach: One commenter suggested using a more rural edge treatment in this area instead of curb and gutters, and specifically to use tactile edge striping and colorized bike lanes and medians to create a consistent cross section (as suggested in the Highway 1 Safety and Mobility Study). Another suggestion for this area was to close or minimize the unrestricted direct highway access between Vermont Ave and Lancaster Blvd in the west-side commercial district.
- Moss Beach and Seal Cove, west of Highway 1: A couple of commenters suggested turning the streets leading to Fitzgerald Marine Reserve and the Moss Beach Distillery (Cypress Avenue, California Avenue, Virginia Avenue and Vermont Avenue) into one-way streets that allow for parking on one side and safe space for walking and biking on the other.
- Cypress Avenue in Moss Beach: One suggestion was to consider allowing only right turns onto Highway 1 and prohibiting left turns to help traffic flow. One suggested adding speed humps.
- Big Wave: One suggestion was to direct Big Wave traffic through Princeton to get to Highway 1 instead of Cypress Avenue.

Proposed Changes to Connect the Coastside

Connect the Coastside presents conceptual project and roadway designs to address existing and projected future traffic and safety concerns. Detailed roadway design will be determined as part of future community processes for project implementation. The project team will:

- Ensure consistency with recommendations from the Highway 1 Safety and Mobility study regarding edge treatments on Highway 1 in Moss Beach and converting the center-turn lane at Highway 1 and 8th Street in Montara into a left turn lane into 8th Street and acceleration lane out of 8th Street.
- Recommend a path with a guard rail separating the path from traffic along Highway 1 on the east side from 14th Street to 16th Street as an interim solution towards implementing the Parallel Trail here.
- Continue to recommend that Carlos Street be realigned to connect to 16th Street.
- Suggest traffic calming on Carlos Street but remove the specific recommendation for speed humps and digital feedback signs; remove the recommendations for re-routing the bus and for a bus stop at 16th Street and Carlos Street, and recommend reconfiguring the street to ensure consistent circulation patterns and to fit the Parallel Trail in the constrained corridor.

The intersection of Cypress Avenue and Highway 1 meets warrants for intersection control, which are important to improve safety. This is discussed further in the “Intersection Control” section.

As described above, Connect the Coastside does not recommend one-way streets generally due to limited access from neighborhoods to Highway 1.

Roadway Widening

What We Heard

Several commenters suggested adding lanes to Highways 1 and 92 to help alleviate traffic congestion, especially on the weekends. Others requested the Plan retain recommendations to not to widen any roadways and questioned whether Connect the Coastside's proposed Highway 92 widening to accommodate bicyclists and provide a passing lane near the quarry would be feasible due to environmental and right-of-way constraints. Stakeholders suggested the project team research these constraints and future operations of the quarry to confirm whether this recommendation is appropriate.

Proposed Changes to Connect the Coastside

Early drafts of Connect the Coastside recommended widening Highway 1 in certain locations. These were not supported by the community and would be limited due to environmental constraints (see Response to Inquiries #16). The passing lanes on Highway 92 near the quarry were initially recommended in the Plan due to the slow speeds of trucks entering the highway. The project team has researched the future operations of the quarry and environmental constraints and recommends removing the passing lanes from Connect the Coastside. The Plan will recommend widening Highway 92 shoulders where feasible to better accommodate bicyclists and allow for passing room in the event of an emergency, as well as left-turn/acceleration lanes at entrances to certain businesses on Highway 92.

Lighting

What We Heard

Several commenters stated the need for roadway lighting to improve the safety especially for those walking and bicycling in the evening along Highway 1, Airport Street, and at highway intersections. However, commenters also addressed the need to minimize light pollution and keeping dark skies to maintain the Coastside character.

Proposed Changes to Connect the Coastside

The project team will add more contextual information about roadway and pedestrian-scale lighting as part of Chapter 6 Implementation, including reference to dark skies. The project team will add information about lighting districts and necessary coordination with Caltrans for any new Highway 1 lighting. The San Mateo County Department of Public Works oversees several lighting districts on the Midcoast. Lighting districts are considered a County-governed special district, governed by the San Mateo County Board of Supervisors and operated by the County; more on these special districts, including when they were established is on the San Mateo County Local Agency Formation Commission (LAFCO) website. There is an established petition process for requests of additional lighting where there is already a lighting district in place, including an assessment by the Department of Public Works.

Parking

What We Heard

Many commenters shared concerns about existing parking conditions, including:

- Increased pedestrian crossings of Highway 1 at random locations as people park along the highway and cross to the ocean.
- Drivers circling and weaving in neighborhoods looking for parking.
- Additional traffic congestion along Highway 1 as people look for parking.
- Many informal parking lots, causing increases in neighborhood traffic and litter.

Commenters were divided on whether adding new parking or formalizing existing parking would be beneficial. Some commenters said that providing parking for visitors would increase the numbers of visitors, leading to more traffic congestion and concerns. Others requested formal parking to serve visitors to reduce neighborhood impacts, including at:

- Miramar to serve the Magellan Trailhead and beach, as Magellan Avenue and Mirada Road experience significant parking and traffic congestion.
- El Granada near Surfer's Beach and Sam's Chowder House paired with pedestrian crossing(s) to reduce the number of people parking alongside Highway 1. Some also suggested making parking illegal along Highway 1 on this stretch if a parking lot was provided.
- Near access points to Quarry Park.

Several commenters supported the addition of "park and ride" lots to make taking the bus easier for those who live further away from bus stops. Others were against adding park and ride lots, especially in Moss Beach at Highway 1 and Etheldore south. At this location, stakeholders were concerned about additional pavement and its associated impacts on water quality and wildlife habitat and questioned whether parking would actually be used since it is about 1 mile away from downtown Moss Beach. A stakeholder commented that pervious surfaces should be used if new parking lots are constructed.

Several commenters suggested using existing private parking lots for others when not in use by the owners. For example, the parking at El Granada Elementary School for weekend visitors and Harbor District parking for the public outside of crab and salmon season.

Proposed Changes to Connect the Coastside

The Local Coastal Program recommends formalized parking with clear signage for visitors and park and ride users. The Local Coastal Program includes several policies related to parking, including:

- 2.52(b) to provide public access parking that is not time restricted and signage indicating parking is available.
- 2.54 to encourage the use of transit by developing a park and ride facility near the intersection of Highways 1 and 92.
- 10.22(c) details specific criteria when developing or relocating new off-street parking facilities for shoreline access areas, such as preference for sites that are currently used for informal shoreline access parking.
- Table 10.6 which includes site specific recommendations for shoreline destinations, which specifies developing or expanding parking at locations including Montara State Beach, Point

Montara, at Vallemar Street and Juliana Avenue, Pillar Point Harbor, Princeton Beaches, and others.

The project team will remove the recommendation for the park and ride lot in Moss Beach at Highway 1 and Etheldore (south) and re-evaluate the viability and necessity of the other suggested parking locations currently in the draft Plan based on the above LCP policies, the 2015 Coastside Access Study, and parking inventory completed as part of Connect the Coastside. The project team will also look for opportunities for shared parking lots as a potential strategy to address park and ride and visitor parking needs. The project team will add an implementation action in Chapter 6 to seek funding for a community-based planning process to evaluate parking needs, potential locations, and to coordinate with SamTrans service if parking is intended for park and ride users. The project team will endeavor to collaborate with SamTrans to coordinate this effort with an exploration of the potential to increase commuter and visitor-serving transit service to and from the Midcoast. The project team will also add a recommendation to use green infrastructure as part of any proposed park and ride lot (see the County of San Mateo Green Infrastructure Plan), including potential retrofits of existing parking lots.

Signage

What We Heard

A few people commented on the benefits of proposed wayfinding signage to help residents and visitors alike, and suggested pointing out parking, trails, turnarounds, and painting the pavement with directional arrows. Another comment suggested working with technology companies like Waze to help with wayfinding in their applications.

Proposed Changes to Connect the Coastside

Connect the Coastside will continue to recommend wayfinding signage and include more information on potential locations and types of signage to inform a future wayfinding design and assessment. The project team will include a section on programmatic and transportation demand management strategies, which will include opportunities to use technology to address transportation needs.

Intersection Control (Signals, Roundabouts, Turns, Stop Signs)

What We Heard

Many comments addressed the proposed locations and types of intersection improvements in the Plan and stated different opinions on when and what should be implemented (if anything), and the benefits and drawbacks of different options.

Many comments on the need for intersection improvements shared a concern about safety, including:

- Safety for people walking and bicycling to cross the highway.
- High speed turns and long wait times to get on and off Highway 1 from side streets.
- Students walking and bicycling to school at intersections without stop signs.

Specific locations that were mentioned included:

- Intersections of Le Conte Avenue, Farallone Avenue, and East Avenue at Fifth Street
- Highway 1 & 16th Street/Carlos Street
- Highway 1 & Vallemar Street

- Highway 1 & California Avenue
- Highway 1 & Cypress Avenue
- Intersections near Fitzgerald Marine Reserve
- Airport Street near Pillar Ridge
- Highway 1 & the airport
- El Granada & Obispo Road
- Highway 1 & northern end of El Granada to enter Princeton
- Highway 1 & Frenchmans Creek Road (Half Moon Bay)
- Highway 92 & Crystal Springs

Some stakeholders shared their concerns and preference of one solution over another, especially with regard to roundabouts and traffic signals. Many commenters said that traffic signals would cause additional gridlock, traffic congestion, and increased traffic on neighborhood streets (the "Waze effect") and cited poor signal timing as a potential contributor. Others felt roundabouts would create more impacts by requiring drivers to slow down during times of low traffic congestion, and that roundabouts might make it harder to get onto the highway during heavy traffic times because of fewer breaks in Highway 1 traffic. Some said they preferred roundabouts over traffic signals but were concerned about feasibility due to their high costs and preferred the shortest-term solution even if that meant a traffic signal. Others questioned whether intersection controls were needed at all to address concerns and requested acceleration lanes as a solution. Some commented that they felt roundabouts better fit Midcoast character compared to traffic signals.

Proposed Changes to Connect the Coastside

The project team recognizes many stakeholders' desire for roundabouts and the potential benefits of roundabouts, including reduction in certain types and severity of crashes, improved traffic flow, reduced long-term operational costs, safe pedestrian crossings, and a solution more congruent with Midcoast character than traffic signals. There are also potential tradeoffs in implementing roundabouts due to topography, environmental constraints, necessary right-of-way costs, and higher overall project costs.

Connect the Coastside is a long-range transportation plan intended to meet Midcoast stakeholders' long-term vision and meet both existing and projected future transportation needs. The project team has received feedback from stakeholders that it is critical to provide short-term solutions to meet today's needs, in addition to visionary projects. The analysis in Connect the Coastside is a first step to inform solutions. The preliminary analysis in the Plan (see Signal Warrant Analysis in the Plan's Appendix C) found that the intersection of Cypress Avenue and Highway 1 meets a peak hour signal warrant under *existing* conditions, whereas California Avenue and Highway 1 is projected to meet a peak hour signal warrant in the *future*. In order to implement any type of intersection control (signal, roundabout, stop sign) on Caltrans' right-of-way, a project sponsor will have to complete an Intersection Control Evaluation (ICE) to fully understand the tradeoffs among the options. Signals may need to be installed given the *current* conditions and needs at intersections along Highway 1, pending the outcomes of ICEs and development projects that trigger that specific need. However, installation of a traffic signal does not and will not preclude the County and its partners from continuing to evaluate roundabouts as an intervention, especially for the long-term vision of the Coastside.

Speed (Traffic Calming)

What We Heard

There were many comments about speeding drivers creating unsafe travel conditions, especially for those walking and bicycling. Commenters reported speeding on Highway 1 in Moss Beach and Montara, Cypress Avenue, Airport Street, Carlos Street, and Obispo Road. Several commenters stated that there has been an increase in unsafe driving and speeding during periods of shelter-in-place when there are fewer cars on the road.

Suggestions to address speeding included:

- Lowering the speed limit on Highway 1, specifically near downtown Montara and Moss Beach.
- Speed humps or other traffic calming measures on Cypress Avenue, Airport Street, and Obispo Road.
- Additional traffic enforcement and more signage to alert drivers to slow down.

Proposed Changes to Connect the Coastside

The California Vehicle Code (Division 11, Chapter 7) dictates speed laws in California. The State of California Department of Transportation (Caltrans) can lower the speed limit on highways under certain conditions. Connect the Coastside will include a recommendation that Caltrans engage in the appropriate studies to determine whether the speed limit on Highway 1 can be lowered, especially near downtown Montara and Moss Beach.

Connect the Coastside includes recommendations to improve walking and bicycling on Cypress Avenue, Airport Street, and Obispo Road; these recommendations can also help reduce speeding. The San Mateo County Department of Public Works has a residential speed control program, which aims to curb excessive speeding in residential neighborhoods on County-maintained roadways. The project team will include a link to this program in the Plan and describe how residents can participate. The project team will also include descriptions of programs that can reduce speeding, such as traffic enforcement and safe driving campaigns. The Roadway Design section above also describes recommendations to address unsafe speeds.

Transit

Commenters highlighted the importance of transit to get around and to and from the Midcoast, especially for students, those who do not own automobiles, and older adults. The comments contained many suggestions for how to make transit better and a more viable option for those who don’t currently use it.

Bus Stops

What We Heard

Many commenters stated a need for improved amenities at bus stops, including shelters, benches, signs, trash cans, lighting, and more information in Spanish. Many requested benches and shelters that are unique to the Midcoast’s character, specifically in Montara at Main Street near Highway 1, Pillar Ridge Manufactured Home Park, and at Moon Ridge Apartments (south of Half Moon Bay). A few people suggested additional bus stops on Highway 92, in Linda Mar (Pacifica), and at Poplar Beach (Half Moon Bay).

Proposed Changes to Connect the Coastside

The project team will update the transit service section to match updated routes and timetable schedules. The next draft Plan will include a discussion about the importance of well-designed bus stop amenities and accommodating disabled people. The project team will share comments about Half Moon Bay and Pacifica with respective jurisdiction staff.

Bus Route & Frequency

What We Heard

Many commenters stated the need for more frequent buses and additional connections to destinations. Suggestions included:

- A local shuttle that goes up and down the coast to destinations (like beaches) so people can park once and take a shuttle throughout the Midcoast.
- Express bus service from the Midcoast to the Daly City or Colma BART stations and Caltrain in San Mateo.
- More frequent bus service that runs at least every 20 minutes along the Midcoast, especially from Montara to Half Moon Bay.
- More reliable bus service, especially for students traveling to Half Moon Bay or to schools on the bayside.
- More evening and weekend bus service.
- Return of route 294 which ran from the Midcoast to San Mateo.

Proposed Changes to Connect the Coastside

The project team will add the suggestions above to Connect the Coastside and will remove the recommendation to re-route SamTrans buses on Carlos Street and the added stop at 16th St.

School Buses

What We Heard

Many commenters cited the importance of transit for students, as school traffic was mentioned as a contributor to traffic congestion. Commenters stated that many students rely on SamTrans to get to school. Several highlighted the need to reinstate funding for school buses, providing additional SamTrans bus service during school hours, and ensuring bus service is safe for students.

Proposed Changes to Connect the Coastside

The project team will work with the San Mateo County Office of Education to clarify costs associated with providing school buses and add recommendations for SamTrans to increase frequent bus service during school hours.

Land Use

Policies (Lot Merger, Lot Retirement, other)

What We Heard

Those who commented on land use were supportive of policies that limit development in the Midcoast. Some questioned why the lot merger program had not already been implemented, asked how the Witt and Abernathy court decisions affected the program, and asked for a cost assessment for implementation. Other suggestions included:

- Request for more detail on the lot merger and lot retirement policies, including expanding lot retirement beyond subdivisions, tying lot retirement to commercial development, requiring that lot retirement and the new subdivision occur within the same Midcoast community, implementing the lot retirement and merger programs at the same time, and making the lot retirement and merger programs mandatory.
- New policies such as using mitigation fees to buy development rights on unbuilt residential parcels, a conservation lot purchase program, and avoiding development in environmentally sensitive areas.

Proposed Changes to Connect the Coastside

The draft Plan identifies the implementation of a lot merger program as a priority action to be completed soon after the adoption of Connect the Coastside, and this recommendation will be retained in the next update. The project team will update the Plan to provide more detailed information on the proposed lot merger and lot retirement programs. The project team will also update the Plan to recommend that the voluntary period for the lot merger program be shortened to one (1) year. No other changes to the lot merger and lot retirement programs and no new land use policies are being considered for the next update of the plan.

Development

What We Heard

Many commented about the connection between proposed new development on the Midcoast (such as the potential Cypress Point project in Moss Beach) and recommendations in Connect the Coastside. Commenters described concerns about recommendations in the plan being driven by new development and overall density changes. A few commenters highlighted the importance of developing affordable housing on the Midcoast.

Proposed Changes to Connect the Coastside

Connect the Coastside is a long-range transportation plan intended to address traffic from future development generally and provide a wider range of mobility options, and is not tied to specific development projects. Proposed new development may be required to conduct project transportation analysis based on the County's Traffic Impact Analysis guidelines and may propose or be required to implement mitigations for impacts; those mitigations could help implement Connect the Coastside but do not necessarily have to align. The project team will include more information about the development process as part of the background in the Plan. Connect the Coastside's constrained non-residential and residential development forecasts take into account the projects that were under review from 2013 to 2015.

Planning Process

Many commenters asked clarifying questions about the planning process for Connect the Coastside, including requests for more background on the Plan's development, community engagement, phasing infrastructure projects, cost estimates, funding strategies, and implementation.

Plan Development

What We Heard

Several commenters questioned whether the Plan meets the requirements of the Local Coastal Program Policy 2.53 and commented that the Plan needs additional policy recommendations beyond what is currently included to comply. Others requested clarity on the Plan's development process and scope of the Plan. Another suggestion was to include a commitment to review and update the plan every 5 years.

Proposed Changes to Connect the Coastside

The next draft will include an infographic with a timeline and the various products developed as part of this planning effort.

The project team will expand the discussion in Section 1.3 about the Local Coastal Program (LCP), policies relevant to Connect the Coastside, including Policy 2.53:

Develop a comprehensive transportation management plan to address the cumulative traffic impacts of residential development, including single-family, two-family, multi-family, and second dwelling units, on roads and highways in the entire Midcoast, including the City of Half Moon Bay. The plan shall be based on the results of an analysis that identifies the total cumulative traffic impact of projected new development at LCP buildout and shall propose specific LCP policies designed to offset the demand for all new vehicle trips generated by new residential development on Highway 1, Highway 92, and relevant local streets, during commuter peak periods and peak recreation periods; and policies for new residential development to mitigate for residential development's significant adverse cumulative impacts on public access to the beaches of the Midcoast region of San Mateo County. The plan shall thoroughly evaluate the feasibility of developing an in-lieu fee traffic mitigation program, the expansion of public transit, including buses and shuttles, and development of a mandatory lot merger program.

The project team will also update Chapter 6 - Plan Implementation to include a discussion on the potential for future amendments of the Local Coastal Program based on Connect the Coastside's recommended projects and programs. Connect the Coastside will provide direction for amending the LCP in the future, but it will not recommend specific LCP policies, as any amendments to the LCP will require a separate process. The project team will include a recommendation in the Plan to report to the Midcoast Community Council and Board of Supervisors every 5 years on plan implementation and make adjustments as directed.

Community Engagement

What We Heard

Several commenters stated concern about the County's decision to continue Connect the Coastside planning and engagement work due to COVID-19, citing concerns about the lack of in-person engagement. Some appreciated the May and June virtual meetings and their structure, stating that breakout sessions worked well to provide feedback, whereas others would have preferred a large group discussion. Several commenters noted that the conversations were not as rich or as in-depth as they could have been because breakout room facilitators and notetakers did not have content expertise. Commenters suggested:

- Future meetings with public comment period and large group discussions that allows for back and forth conversations with staff and other stakeholders.
- Joint community engagement sessions with other agencies, such as sanitation, so stakeholders gain a deeper understanding of agency roles, responsibilities, and have to attend fewer meetings.
- Including a timeline of previous community engagement efforts in the Plan with a description of outcomes and decisions from those efforts.

Proposed Changes to Connect the Coastside

The project team will add a section to the Plan that describes the community engagement process to develop Connect the Coastside with a timeline, including recommendations for future project-level implementation engagement. The next phase of outreach for the Plan includes workshops with the Midcoast Community Council and Planning Commission, where the public will be able to provide comment in a large-group forum.

Phasing

What We Heard

Many commenters identified the need to include more specific timelines and a phased implementation approach to infrastructure projects in the Plan; some said they do not want to wait 20 years to see important safety improvements come to fruition. Several commenters highlighted the need to be opportunistic in the Plan's implementation approach, taking into account new development and grant opportunities. Suggestions included:

- Prioritize implementation of land use policies and programs.
- Include a timeline for implementation that shows which projects can be completed in the short, medium, and long-term.
- Identify interim solutions for long-term infrastructure projects.
- Prioritize projects based on ease of implementation so improvements can happen sooner rather than later.
- Include metrics to evaluate how well a project is meeting its intended objectives and mechanisms to halt or reverse choices as needed.
- Highlight the next steps needed to implement the Transportation Impact Mitigation Fee and clarify the requirement for a nexus study.

Proposed Changes to Connect the Coastside

Chapter 6 of Connect the Coastside includes a list of Project Implementation Priorities (Table 29) that identifies the likely short, medium, and long-term projects. This list will be updated based on the changes to the overall proposed project list, estimated ease of project implementation, and community priorities. The project team will add discussion about a phased implementation approach, including potential short-term interventions to address safety concerns.

Most of the recommended projects in Connect the Coastside are not under County control and will require collaboration with and approval from Caltrans for implementation. Chapter 6 currently includes discussions of the partners required and potential next steps for implementation, and both discussions will be expanded and updated to provide more detail. The County is already looking for opportunities to implement projects, such as through the 2020 State Highway Operation and Protection Program.

Development impact fees, like the proposed Transportation Impact Mitigation Fee, are a way of collecting a proportional share of funds from new development to offset transportation impacts due to that new development. In order to implement the Transportation Impact Mitigation Fee as described, the County will need to document the "nexus" or linkage between the fees being charged to new development, the benefits to mitigate impacts, and cost allocation. These legal requirements are in California Government Code section 66000-66025 and commonly called the "Mitigation Fee Act" or "AB 1600 requirements." The project team will provide more background on next steps in Chapter 6, including to seek funding to conduct the nexus study.

Costs & Funding

What We Heard

Several commenters stated that the Plan's proposed project cost estimates are too high to realize implementation and highlighted a need for balance between recommended project type and cost. Several commenters asked for clarity about who will be responsible for paying for implementation, and if the Plan proposed taxing residents. Some commenters requested the Plan match proposed projects to funding sources and implementation mechanisms at the local level such as Measures K and W.

Proposed Changes to Connect the Coastside

The Plan does not include a proposal to tax residents; it does include a proposal to study and establish a Transportation Impact Mitigation Fee, which would apply to *new* development. The County, along with its partners (like Caltrans), will need to actively seek grant funding and/or allocate existing funding sources to implement the Plan's projects. Several projects, especially complex ones like the Parallel Trail, will need to undergo separate community engagement, planning, design, and engineering to achieve implementation; more detailed cost estimates will be produced during these future phases. Some projects may be funded and/or implemented with new development. The project team will expand the discussion of funding sources in Table 23: Potential Funding Sources for Project Categories to further clarify which projects could match each source; Measures K and W will be added to this table with discussion.

Coordination

What We Heard

Many commenters highlighted the importance of coordination with other agencies for Plan implementation and the need for Connect the Coastside to match other planning efforts. Comments included:

- Ensure the Plan takes into account concurrent planning efforts including Plan Princeton and the Unincorporated San Mateo County Active Transportation Plan.
- Clarify the potential impacts of new development and how they will be coordinated with Connect the Coastside.

- Expand the discussion of potential partners, including the role of the California Coastal Commission.
- Coordinate with special districts to identify things like sewer lines that may be within a project area.

Proposed Changes to Connect the Coastside

The project team will expand the discussion of other concurrent planning efforts (like Plan Princeton and the Unincorporated San Mateo County Active Transportation Plan) throughout the Plan to better show consistency in recommended projects, planning context and relationship among plans, and if the recommended projects in Connect the Coastside come from another source. Since Connect the Coastside is a long-range planning document, discussion about current new or proposed developments will not be included unless relevant to clarify what is incorporated into the development forecast. The project team will expand on the role of the California Coastal Commission in the implementation chapter. The implementation chapter will be updated to discuss the need to coordinate with special districts in the planning area when planning and implementing a project.

Planning Area

What We Heard

A few people asked for the Plan to include the cities of Half Moon Bay and Pacifica.

Proposed Changes to Connect the Coastside

Connect the Coastside's study area includes the City of Half Moon Bay, whose future forecasted development informed the traffic analysis, which then informed the proposed projects in Connect the Coastside. Development forecasts do not include the City of Pacifica. The County of San Mateo does not have jurisdiction over Pacifica or Half Moon Bay, and therefore does not include specific recommendations for either city. The project team is working closely with Half Moon Bay to share data and information from the respective planning processes. The project team will share relevant comments with each jurisdiction.

Data

What We Heard

Several commenters asked questions about the transportation and land use data used in Connect the Coastside, including where data came from, how it was used to develop the recommendations, and opportunities to update the data. Some expressed concern that COVID-19 has changed travel patterns and travel demand, and the future of transportation is unpredictable and cannot be accurately forecast in Connect the Coastside. There were also differing opinions about whether to use the constrained (2040) buildout forecast or maximum buildout forecast for the analysis. Some people feel that 2040 is too short of a timeframe whereas others said that the maximum buildout forecast is unrealistic. Some commented that the Local Coastal Program Policy 2.53 requires that the maximum buildout forecast be used.

Comments regarding traffic analysis suggested the following:

- Clarifying the source data and discussing how it is used in the traffic analysis to develop existing and forecasted delay.

- Updating the source data for the traffic analysis to 2019, pre-COVID levels.
- Consolidating data tables in the plan to show level of service and delay index calculations for existing, constrained (2040) buildout, and maximum buildout forecast.
- Clarifying the impacts of local versus visitor-related traffic.
- Showing how individual projects' impact on delay.

Comments regarding development forecasts suggested the following:

- Using consistent terminology and better explaining the constrained development forecast (2040) and maximum building forecast.
- Clarifying the assumptions for the development forecasts and whether they take into account sewer and water capacity.
- Updating the development forecasts so they take into account Half Moon Bay's recent forecasts and updating the data and maps to address rural lands that have been recently acquired and will no longer be developed.

Proposed Changes to Connect the Coastside

The project team will:

- Include additional infographics, text, references, and footnotes to clarify assumptions for both the traffic analysis and development forecasts.
- Consolidate tables to better show the variations in delay and level of service under each scenario.
- Update maps to show rural lands that have been acquired and can no longer be developed.
- Conduct global edits to the Plan for consistent terminology for development forecasts.

Recent traffic counts conducted in 2017 and 2019 at several locations along Highway 1 do not indicate differences in traffic volumes that would necessitate substantive changes to the traffic projections in the Plan or that additional traffic analysis would change the conclusions and recommendations in the Plan. The Plan includes weekend traffic counts, which is a good indicator of additional visitor-related traffic. The project team will look for opportunities to include additional qualitative or quantitative data to make a distinction between visitor and local trips.

The 2014 analysis of the maximum buildout projection, together with projected traffic, showed that meeting current LCP level of service standards would require widening Highway 1 in all possible Midcoast locations. This solution was not supported by the public, as noted in the 2015 Evaluation of Recommended Alternative to Address Potential Future Transportation Deficiencies Report. In addition, it was impossible to predict what year maximum buildout would occur, if ever. It was also impossible to properly analyze traffic under maximum buildout because the only available traffic model (C/CAG/VTA model) is designed to project traffic to 2040 only. For these reasons, the community requested that a more realistic development forecast be prepared and that the impacts of projected growth on mobility be analyzed. This "constrained" development forecast incorporated "in the pipeline" projects, such as Big Wave and included conservative development assumptions (for example, 148 units for the north Moss Beach affordable housing site). Since the constrained development forecast was prepared, County staff has monitored issued development permits in the Midcoast and observed that development is tracking well under the constrained forecast projections. For these reasons, the project team does not believe that re-doing the buildout forecast or traffic analysis will yield a different outcome. The project team is meeting with City of Half Moon Bay staff to address different development forecasts and will address any differences as part of the Plan update.

Overarching Concerns or Considerations

Planning Goals

What We Heard

In general, community members in attendance at the May and June 2020 virtual meetings supported the goals of the Plan, particularly Goal 3: Increase opportunities for walking, biking, and riding transit on the Midcoast to provide an alternative to motor vehicles and reduce roadway traffic and Goal 4: Respect the character of Midcoast communities and protect coastal resources. Several participants noted that many of the goals are connected. For example, the existing character of the Midcoast paired with spread out destinations makes it challenging to use transportation modes other than driving. One stakeholder suggested revising Objective 2.1 to evaluate the likely residential development potential and Objective 2.4 to evaluate the implementation of a mandatory lot retirement program.

Goal 1	Improve existing traffic and roadway conditions on the Midcoast.
Goal 2	Lessen the cumulative traffic impacts from future development on the Midcoast.
Goal 3	Increase opportunities for walking, biking, and riding transit on the Midcoast to provide an alternative to motor vehicles and reduce roadway traffic.
Goal 4	Respect the character of Midcoast communities and protect coastal resources.
Goal 5	Maintain and improve access to coastal resources for both residents and visitors.

Proposed Changes to Connect the Coastside

Connect the Coastside addresses impacts of forecasted residential and non-residential development due to their collective impact on traffic conditions in the Midcoast. The project team will add more to the Plan about Local Coastal Program Policy 2.52 and its connection to Connect the Coastside, such as employing transportation demand management strategies as a requirement for new development that triggers these requirements, consistent with the County's transportation demand management ordinance. The Plan will note than any changes to the ordinance will be implemented within the plan area. The project team will look for opportunities to clarify impacts due to forecasted residential development. As described above, the lot retirement program will not be recommended to be mandatory. In addition to the above, additional changes to goals are described in the Environmental Sustainability and Accessibility sections below.

Environmental Sustainability

What We Heard

Several commenters stated a need to incorporate more about the environment and sustainability in the Plan, as it is an important piece of Coastside character. Suggestions included: adding a section on the history of the Coastside that acknowledges natural resources, conservation, and wildlife; discussing environmentally friendly and sustainable building materials; and addressing litter and maintenance.

Proposed Changes to Connect the Coastside

The project team will update the:

- Plan's introduction to better describe the history, existing setting and natural resources of the Midcoast .
- Goals of Connect the Coastside to explicitly incorporate environmental sustainability.
- Plan's implementation chapter to recommend incorporation of green infrastructure into proposed projects and add references to the Green Infrastructure Plan.
- Plan's implementation chapter will reference LCP policies protecting sensitive habitats and wildlife and scenic resources.

Emergency Response and Evacuation

What We Heard

Many commenters shared concerns about emergencies, such as fires and tsunamis and a need for the Plan to address evacuation for residents and visitors alike. Suggestions included adding more on the County's approach to emergency evacuations, additional projects to address brush and tree clearance along Highway 1, and analyzing the impact of the Plan's proposed projects on ability to evacuate.

Proposed Changes to Connect the Coastside

The project team will update the Plan to:

- Add more information about the County's approach to emergency response, planning and evacuation.
- Recommend vegetation clearance along Highway 1, which will also create additional space for walking and biking.
- Incorporate data on emergency response if available.

Visitors

What We Heard

A few commenters requested that Connect the Coastside describe how the Plan makes the Coastside more accessible to those living outside of the Midcoast and preserves access to coastal resources.

Proposed Changes to Connect the Coastside

The project team will add more information about the California Coastal Commission and its role in ensuring the coast is accessible to Californians, and contextual information about visitors to the coast.

Accessibility

What We Heard

Many commenters highlighted the need to create a more accessible coastside, with facilities and programs that take people of different ages and abilities into consideration. Both youth and seniors mentioned that they face particular transportation challenges. For example, many rely on other modes of travel besides a car to get around. Suggestions included:

- Incorporating and addressing programs like on-demand transit service for older adults and youth.
- Ensuring proposed infrastructure projects are designed with accessibility in mind, such as bikeways and trails wide enough to accommodate three-wheeled bicycles and accessible bus stops.
- Adding language to the Plan about creating an age-friendly Midcoast.

Proposed Changes to Connect the Coastside

The project team will revise Goal 3 and its objectives to include creating an age-friendly Midcoast and add a section in the implementation chapter that references design guidance for accessibility.

Errors and Clarifications

What We Heard

Several people found errors in the January 2020 Public Working Draft of Connect the Coastside and provided suggestions including updating:

- Project descriptions and maps for consistency; for example, the Pillar Point Bluff Trail has been resurfaced and is no longer packed dirt.
- Project source descriptions and correcting places where the Highway 1 Safety and Mobility Improvement Study is erroneously referenced.
- SamTrans routes and service time frequencies.

Proposed Changes to Connect the Coastside

The project team will incorporate the edits cited above.

Moss Beach Evaluation 10/20/20 Meeting – Follow-up Notes and Resources

Post-meeting Survey

https://www.surveymonkey.com/r/Moss_Beach_Meeting_evaluation

Attendees

Name	Organization	E-mail
Steve Monowitz	San Mateo County (SMC), Planning & Building	smonowitz@smcgov.org
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Takeaways

California and Highway 1

- Conceptual (10% designs) for signal and roundabouts do not appear to have fatal flaws; signal warrant analysis may not be appropriate mechanism for evaluating need for roundabout
- Address turning radius/access on Carlos, south of California Ave (roundabout), particularly for large trucks
- Traffic calming needed on SR-1 approaching the roundabout
- Orient crosswalks to increase visibility for people walking (roundabout)
- Square the signal crossing to shorten the crossing for pedestrians
- Evaluate options for direct Parallel Trail crossing at Carlos and SR-1, instead of routing away from intersection (roundabout)
- Dropping bike lanes from the roundabout design is appropriate
- Check the designs against the Caltrans Highway Design Manual to see if any exceptions are needed
- Evaluate signal performance with multi-lane approaches; recommend adding multi-lane approaches and downstream weave
- Address drainage concerns in area between Carlos St and SR-1, north of California Ave (red-legged frog habitat)
- Address left-turns for reoriented Wienke Way from northbound SR-1; left-turn bay into Wienke is likely possible with roundabout, not with signal
- Evaluate mitigation trade-offs regarding impacts to endangered species habitat
- Review opportunities to connect Wienke into roundabout, e.g., split Wienke terminus and allow southbound entry and incorporate connection from roundabout to Carlos Street (examples below)
- No other conflicting planned projects in this area were identified
- Detailed design issues can and should be resolved during the PSR-PDS process

Example of local street intersection near adjacent roundabout (McIver Crossing/Donner Pass Road Roundabout - example from Dan Wilkins)

Example of traffic calming on high speed roundabout approach (SR 89 north/ Prosser Dam Rd/ Alder Drive - example from Dan Wilkins)

Example of left turn pocket on roundabout departure leg (Martis Valley Drive/Brockway Road Intersection - example from Dan Wilkins)

Cypress Avenue and Highway 1

- Address impacts to private lots. Access rights for parcels are an important consideration in the roundabout design.
    - Determine access rights of 3 parcels (flag lot and adjacent lots) on east side
    - Consider how design could be altered to change deflection and reduce conflicts with 3 parcels and to increase separation and location options for parallel trail
    - Maintain driveway access by shortening island
    - May have to purchase undeveloped lots that are impacted
- Document any exceptions to Caltrans Highway Design Manual, including frontage road and access for emergency vehicles
- Evaluate signal performance with multi-lane approaches
- Multi-lane roundabout is likely appropriate; could consider designing single-lane with ability to expand to multi-lane in the future when traffic warrants (ROW for multi-lane roundabout would have to be acquired upfront)
- Check roundabout design size (130’ v. 110’), and consider modifying deflection
- Address safety concerns with culvert/drainage alongside Cypress
- Consider creating right turn lane from Cypress onto SR-1 in the interim
- Consider whether entire roundabout needs to be two-lane, some single-lane portions may be sufficient
- Detailed design issues can and should be resolved during the PSR-PDS process

- Move bike lane egress point south to avoid conflict with private driveway

Parallel Trail

- Conceptual design does not appear to have any fatal flaws
- Advancing pedestrian safety and access between 14th and 16th St on SR-1
    - There is a requirement for a minimum 5 ft. separation between travel lane and trail, unless positive separation is provided
        - Elliot Goodrich (Caltrans) will see if precedent exists to narrow separation between trail and roadway (examples shared: Bay Trail in San Carlos near Whipple and airport; Bay Trail in Albany Richmond along 580; west shore of Lake Tahoe at 89)
    - Suggestion for sidewalk with shoulder as potential option from 14th - 16th streets due to available ROW; note that 15th St does not exist (paper street)
    - Long-term vision is to have pile-supported structure for path
    - Caltrans SHOPP project cannot add guardrail on east side at 14th - 16th at this time; project has already been scoped and funded
- Trail crossings will be evaluated individually, must be ADA complaint, and should be set back as far as possible on each side street to minimize potential conflict with vehicles coming on/off of Hwy 1 and queues
- Aim for direct trail crossings when possible for pedestrian/bicyclist path of least resistance
- Quick-build/short-term are not common at this time; encroachment permit process will be appropriate mechanism for smaller improvements
    - If County pursues quick-build proposals, it can share with Mohammad Suleiman (Caltrans) for pre-review before encroachment permit office
- Request to consider near term improvements:
    - On Carlos between Etheldore and 16th: sharrows and decomposed granite path
    - On SR-1 between 14th - 16th: trim trees, put down decomposed granite, and install guardrail; can guardrail be installed at existing edge of pavement?
- Khoa Vo (SMC Public Works) can help provide a unit cost on a metal beam guardrail

2' separation from back of curb (Class 1 Bike Trail 5-1/2 miles south of Tahoe City on State Route 89 - example from Dan Wilkins)

Action Items

- **Josh Pilachowski** (DKS Associates) to check the designs against the Highway Design Manual to document any exceptions
- **Elliot Goodrich** (Caltrans) will see if precedent exists to narrow separation between trail and roadway
- **Khoa Vo** (SMC Public Works) to provide a unit coast on a metal beam guardrail to Joe LaClair (SMC Planning & Building)
- **Connect the Coastside Project Team** will incorporate design considerations generated from the meeting into the revised Plan (November 2020)

APPENDIX B – PROJECT REPORTS

Connect the Coastside Interim Reports

The following table is a list of interim reports produced by the County and its consultant team. Documents are available on the Connect the Coastside webpage: https://planning.smcgov.org/connect-coastside-documents-meeting-materials

Name	Publication Date	Description	Direct Link
Buildout Analysis and Traffic Projections Report	November 2014	Existing transportation conditions and level of service analysis, existing and projected land use and buildout, and forecasted travel conditions and deficiencies	https://planning.smcgov.org/sites/planning.smcgov.org/files/PUBLIC%20DRAFTS%20November%2020%202014%20Buildout%20Analysis%20and%20Traffic%20Projects%20Report.pdf
Evaluation of Transportation Alternatives to Address Buildout Deficiencies Report	April 2015	Potential project alternatives to address identified transportation deficiencies	https://planning.smcgov.org/sites/planning.smcgov.org/files/PUBLIC%20DRAFTS%20April%209%202015%20Evaluation%20of%20Transportation%20Alternatives%20to%20Address%20Buildout%20Deficiencies%20Report.pdf
Development Forecast for the San Mateo County Transportation Management Plan Report	November 2015	Summary of methodology and results of assessment of potential development in Connect the Coastside study area	https://planning.smcgov.org/sites/planning.smcgov.org/files/PUBLIC%20DRAFTS%20November%202015%20Development%20Forecast%20for%20the%20San%20Mateo%20County%20CTMP%20Report.pdf
Evaluation of Recommended Alternative to Address Potential Future Transportation Deficiencies Report	March 2016	Recommended projects to address transportation deficiencies	https://planning.smcgov.org/sites/planning.smcgov.org/files/PUBLIC%20DRAFTS%20March%2010%202016%20Evaluation%20of%20Recommended%20Alternative%20Report.pdf
Response to Connect the Coastside Virtual Meeting Inquiries Report	August 2020	Responses and clarifications to questions asked during May and June virtual meetings	https://planning.smcgov.org/sites/planning.smcgov.org/files/CTC%20Virtual%20Mtgs%20Response%20to%20Inquiries_web.pdf
Meeting Outreach Summary Report	September 2020	Summary of 2020 Connect the Coastside engagement efforts	https://planning.smcgov.org/sites/planning.smcgov.org/files/CTC-2020-Outreach-Summary-Report-and-Appendices.pdf?v=2

APPENDIX C – PLANNING AND POLICY CONTEXT

Connect the Coastside Planning & Policy Context

MONTARA MOSS BEACH EL GRANADA COMMUNITY PLAN (1978)

Link:
https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/General%20Plan%20-%20Area%20Plans%20Summary.pdf - This is only a summary of the original plan. Complete original plan available in paper form.

Copy on the MCC website: http://plan.sanmateo.org/preface.html

Description

Area plan for Montara, Moss Beach, & El Granada. Part of the General Plan. Set's goals and policies for growth. Provides some historical background on the midcoast. This plan limited development to areas which are already subdivided, zoned for development, and served by utilities ("urban infill").

Policies or Programs

Circulation p. 22:

Circulation System

- Design circulation systems to discourage through-traffic in residential areas.
- Employ the criteria of the County Road Design Manual relating to protection of natural features, conservation of resources, and neighborhood quality preservation in new road construction.
- Construct bicycle lanes as a portion of arterials, and major and minor lanes thorough-fares
- Encourage SamTrans, the San Mateo County Transit District, to increase the level of bus service from the community to Half Moon Bay and the Bayside cities.

Road Standards

- Construct arterials and major and minor thoroughfares, as defined in the Community Plan, to County Road Standards in urbanized areas of the community.
- Construct residential streets in residential areas according to Modified Road Standards, which allow for reduced road widths and special design considerations.
- Employ design measures which blend with the rural character of the community: walkways of asphalt, exposed aggregate pavement, and/or colored cement (earth colors or black), walkways separated from roadways, preservation of existing trees by curved roadways, winding pathways and walkways, parking bays, etc.
- Locate paths and walkways on one side of streets only in residential areas, except in locations where there is heavy pedestrian traffic, i.e. near schools, parks, etc.
- Provide parking bays instead of parking lanes wherever possible and desirable.

Trails p. 26:

- Incorporate bicycle lanes with new road construction for major and minor thoroughfares.
- Construct a bicycle path along the Coast Highway, for intra-community as well as regional access.

Conservation & Open Space p. 29

- Establish limits for urban growth based on geological hazards, floodplains, tsunami hazard areas, and prime agricultural soils.
- Encourage orderly and balanced development by limiting growth to the infill of already subdivided and partially developed areas.
- Prevent development of prime agriculture soils, steep slopes, and ridgetops.
- Limit services provided by utility districts to urbanized areas.

Community Appearance:

- Encourage CalTrans to landscape portions of the Coast Highway in urbanized areas of the community. (P. 38)

GENERAL PLAN (1986, 2013, 2015)

Link:

[Overview Background & Issues]

[Policies]

DESCRIPTION

The General Plan provides information on existing natural and man-made conditions of the physical environment. These local conditions can then be analyzed and problems and opportunities concerning resource management and community development can be addressed. The plan identifies key plans, regulations and agencies that affect planning decisions. The plan makes recommendations for improving this coordination. The plan indicates the type of development that the County desires, where it should be located and how it should be regulated.

POLICIES OR PROGRAMS

VEGETATIVE, WATER, FISH AND WILDLIFE RESOURCES POLICIES

GOALS AND OBJECTIVES

1.1 Conserve, Enhance, Protect, Maintain and Manage Vegetative, Water, Fish and Wildlife Resources Promote the conservation, enhancement, protection, maintenance and managed use of the County's Vegetative, Water, Fish and Wildlife Resources.

1.2 Protect Sensitive Habitats Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.

DEFINITIONS

1.5 Definition of Vegetative Resources Define vegetative resources as plants and plant communities, including timber but excluding agricultural crops.*

1.8 Definition of Sensitive Habitats Define a sensitive habitat as any area where the vegetative, water, fish and wildlife resources provide especially valuable and rare plant and animal habitats that can be easily disturbed or degraded. These areas include but are not limited to: (1) habitats containing or supporting rare or unique species; (2) riparian corridors; (3) marine and estuarine habitats; (4) wetlands; (5) sand dunes; (6) wildlife refuges, reserves, and scientific study areas; and (7) important nesting, feeding, breeding or spawning areas.

1.9 Definition of Rare or Unique Species Define rare or unique species as any plant or animal that is determined to be rare, endangered, threatened, unique to the County and adjacent areas or protected by Federal or State law and State and County EIR guidelines.

1.19 Definition of Development Define development as the construction, reconstruction, conversion, relocation or enlargement of any structure; the division of a parcel of land into two or more parcels; any mining, excavation, landfill or land disturbance including grading; and changes in land uses.

GENERAL POLICIES

1.21 Importance of Sensitive Habitats Consider areas designated as sensitive habitats as a priority resource requiring protection.

REGULATION OF DEVELOPMENT

1.23 Regulate Development to Protect Vegetative, Water, Fish and Wildlife Resources

a. Regulate land uses and development activities to prevent, and if infeasible mitigate to the extent possible, significant adverse impacts on vegetative, water, fish and wildlife resources.

b. Place a priority on the managed use and protection of vegetative, water, fish and wildlife resources in rural areas of the County.

1.24 Regulate Location, Density and Design of Development to Protect Vegetative, Water, Fish and Wildlife Resources

Regulate the location, density and design of development to minimize significant adverse impacts and encourage enhancement of vegetative, water, fish and wildlife resources.

RESOURCE PROTECTION

1.25 Protect Vegetative Resources

Ensure that development will: (1) minimize the removal of vegetative resources and/or; (2) protect vegetation which enhances microclimate, stabilizes slopes or reduces surface water runoff, erosion or sedimentation; and/or (3) protect historic and scenic trees.

1.27 Protect Fish and Wildlife Resources

Ensure that development will minimize the disruption of fish and wildlife and their habitats.

VISUAL QUALITY POLICIES

GOALS AND OBJECTIVES

4.1 Protection of Visual Quality

a. Protect and enhance the natural visual quality of San Mateo County.

b. Encourage positive visual quality for all development and minimize adverse visual impacts.

c. Encourage citizen awareness and interest in San Mateo County’s scenic resources.

4.2 Protection of Shorelines

a. Protect and enhance the visual quality of and from shorelines of bodies of water including lakes, reservoirs, streams, bays, ocean, sloughs.

b. Maximize the preservation of significant public ocean views.

4.3 Protection of Vegetation

Minimize the removal of visually significant trees and vegetation to accommodate structural development.

4.4 Appearance of Rural and Urban Development

Promote aesthetically pleasing development in rural and urban areas.

DEFINITIONS

4.12 Definition of Scenic Corridors

Define a scenic corridor as land adjacent to a scenic road right-of-way which, when seen from the road, provides outstanding views of natural landscapes and attractive man-made development.

GENERAL POLICIES

4.15 Appearance of New Development

a. Regulate development to promote and enhance good design, site relationships and other aesthetic considerations.

4.29 Trees and Vegetation

a. Preserve trees and natural vegetation except where removal is required for approved development or safety.

b. Replace vegetation and trees removed during construction wherever possible. Use native plant materials or vegetation compatible with the surrounding vegetation, climate, soil, ecological characteristics of the region and acceptable to the California Department of Forestry.

c. Provide special protection to large and native trees.

SCENIC ROADS AND CORRIDORS

4.40 Scenic Roads

Give special recognition and protection to travel routes in rural and unincorporated urban areas which provide outstanding views of scenic vistas, natural landscape features, historical sites and attractive urban development.

4.41 Coordination of Scenic Roadway Standards and Design

Coordinate standards of roadway and right-of-way design, improvements, and maintenance with cities in order to maintain a consistent approach in applying scenic conservation standards.

4.44 Road Design and Construction

a. Require the design and construction of new roads and road improvements to be sensitive to the visual qualities and character of the scenic corridor. This includes width, alignment, grade, slope, grading, and drainage facilities.

b. Encourage the construction and maintenance of scenic turnouts, selective clearing of vegetation to open new vistas, development of picnic and rest areas at selected locations along the scenic road system.

TABLE 4.6 DESIGNATED STATE AND COUNTY SCENIC ROADS

County Designated Routes

Cabrillo Highway - (from Junipero Serra Freeway to northern limits of the City of Half Moon Bay)

PARK AND RECREATION RESOURCES POLICIES

GENERAL POLICIES

6.5 Access to Park and Recreation Facilities

b. Encourage access to the park and recreation system by transportation means other than private automobiles, where feasible.

6.39 Trail System Coordination

a. Support, encourage and participate in the development of a system of trails that link existing and proposed park and recreation facilities within this County and adjacent counties.

b. Particularly encourage the development of: trails that link park and recreation facilities on San Francisco Bay to those on the Pacific Coast; multi-use trails where appropriate and trails in County lands under management by other public agencies. Ensure that these trails do not adversely affect adjacent land uses.

URBAN LAND USE POLICIES

8.5 Definition of Urban Community

Define Urban Communities as those large, populated unincorporated areas which contain a wide range of residential land use densities and a mix of land uses which provide services to surrounding areas and meet, in part, the internal shopping, employment and recreational needs of the community residents.

8.9 Designation of Existing Urban Communities

Designate North Fair Oaks and Montara-Moss Beach-El Granada as existing Urban Communities.

8.12 General Plan Land Use Designations for Urban Areas

a. Adopt the land use designations, and amendments thereto, of the: (1) Local Coastal Program, (2) Emerald Lake Hills Community Plan, and (3) North Fair Oaks Community Plan and other future area plans as the proposed General Plan land use designations in these urban areas.

b. Reflect these adopted area plan land use designations on the General Plan Proposed Land Use Maps.

c. Use the policies of the General Plan Urban Land Use Chapter to provide guidance when: (1) designating the remaining portions of urban areas on the General Plan Proposed Land Use Maps, (2) conducting land use studies and/or preparing future area plans, and (3) amending the land use designations of existing area plans.

WATER SUPPLY POLICIES

10.1 Coordinate Planning

Coordinate water supply planning with land use and wastewater management planning to assure that the supply and quality of water is commensurate with the level of development planned for an area.

<u>TRANSPORTATION POLICIES</u>

12.2 <u>Definition of Complete Streets</u>

Define Complete Streets as an approach to transportation that describes an integrated, multimodal transportation system which equally supports all types of transportation, including pedestrian, bicycle, and vehicular traffic.

12.4 <u>Definition of Complete Streets Projects</u>

Define Complete Streets Projects as: Including but not limited to sidewalks, shared-use paths, bicycle lanes, bicycle routes, paved shoulders, street trees and landscaping, planting strips, accessible curb ramps, crosswalks, refuge islands, pedestrian signals, signs, street furniture, bicycle parking facilities, transit priority signalization, and other features assisting in the provision of safe travel for all users, such as traffic-calming devices, bulb-outs, curb extensions, chicanes, and road diets.

GOALS AND OBJECTIVES

12.7 Create and maintain Complete Streets that serve all categories of transportation users and goods, providing safe, efficient, comfortable, and convenient travel along all streets through an integrated, balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the General Plan.

12.8 To the extent possible, plan for accommodating future transportation demand in the County by using existing transportation facilities more efficiently, or improving and expanding them before building new facilities.

12.9 Provide for a balanced and integrated transportation system in the County which allows for travel by various modes and easy transfer between modes.

12.10 Plan for increasing the proportion of trips using public transit or ridesharing.

12.11 Balance and attempt to minimize adverse environmental impacts resulting from transportation system improvements in the County.

12.12 Promote the development of energy-conserving transportation systems in the County.

12.13 Coordinate transportation planning with adjacent jurisdictions.

AUTOMOBILE TRAVEL

12.14 Additional Capacity When providing additional capacity for automobile traffic where needed, give priority to upgrading and expanding existing roads before developing new road alignments.

12.15 Rural Road Improvements In rural areas, where improvements are needed due to safety or congestion, support improved traffic control measures that balance the needs of all users and provide safe travel, implementing measures such as signing, lane markings, and speed controls, and the construction of operational and safety improvements, such as adequate passing lanes, elimination of sharp curves, lane widening, or paved shoulders.

12.16 Urban Road Improvements In urban areas, where improvements are needed due to safety concerns or congestion, support the construction of interchange and intersection improvements, additional traffic lanes, turning lanes, redesign of parking, channelization, traffic control signals, or other improvements while enhancing the functionality of travel routes for all transportation users.

12.18 Recreational Traffic to the Coastside Seek methods to mitigate the impact of peak recreational traffic to and along the Coastside.

12.20 Financing Local Road Improvements

Utilize all available techniques for funding local road improvements in unincorporated areas, including assessment districts, developer contributions, and County road funds. Ensure road improvements are consistent with adopted land use plans and area plans.

12.21 Local Circulation Policies

In unincorporated communities, plan for providing:

a. Maximum freedom of movement for all transportation users and adequate access to various land uses;

b. Improved streets, sidewalks, bicycle routes, landscaping, shared-use paths, and other site-appropriate design features that enhance the safety and usability of transportation networks in developed areas;

e. Access for emergency vehicles;

f. Safe and efficient bicycle and pedestrian travel;

g. Access by all transportation users, including persons with disabilities, seniors, children, and youth, to public buildings, shopping areas, hospitals, offices, and schools;

h. Prioritization of accessibility to transit services and to routes and turnouts for public transit;

j. Coordination of transportation improvement with adjacent jurisdictions.

12.22 Local Road Standards

Allow for modification of road standards for sub-areas of the County, which respond to local needs and conditions as identified in area plans.

COMPLETE STREETS

12.29 Context-Sensitive Street Design

Coordinate with stakeholders during street planning and design to maintain sensitivity to local conditions and ensure a strong sense of place that meets the needs of transit users, including consideration of a diversity of Complete Streets projects.

12.30 Integration with Regional Complete Streets Planning

Coordinate transportation and street projects with local and regional plans for bicycle, pedestrian, transit, and related multimodal plans designed to support Complete Streets.

12.31 <u>Existing Street and Network Connectivity</u>

Incorporate Complete Streets infrastructure into existing streets to improve the safety and convenience of users, accommodate all transportation users, and increase connectivity across jurisdictional boundaries and for existing and anticipated areas of development.

PUBLIC TRANSIT AND RIDESHARING

12.32 <u>SamTrans Service</u>

Encourage SamTrans to continue to work toward improving service levels on both local and mainline routes through reevaluation and expansion of routes, increased service to the Coastside, provision of more satellite parking facilities, and evaluation of smaller buses for local routes.

12.33 <u>Recreational Service</u>

Encourage increased transit service between the Bayside and the Coastside during summer months and special events in order to help meet recreational travel demand.

BICYCLE AND PEDESTRIAN TRAVEL

12.44 Bicycle Trails in Rural Areas

Support the development of bicycle trails in rural and Coastal areas.

12.45 Bicycle Storage Facilities

Promote the provision of bicycle lockers and other storage facilities at transit stops, schools, shopping areas and other activity centers.

12.49 Pedestrian Bridges

Encourage CalTrans to provide pedestrian bridges and connections in areas where State highways have divided communities.

<u>HOUSING ELEMENT</u>

Policy HE 21 Support Infrastructure Adequate to Support Housing Development. Continue to support infrastructure expansion and identify opportunities for County assistance with infrastructure improvement in specific areas.

<u>ENERGY AND CLIMATE CHANGE ELEMENT</u>

Goal 9: Identify and prepare for climate change impacts.

Policy 9.2: Integrate ongoing assessment of climate change vulnerabilities into the planning process.

Implementing Strategy 9.2D: Incorporate potential climate change impacts into the decision-making process when siting new facilities and prioritizing repairs and improvements to critical infrastructure.

Goal 10: Enhance the adaptive capacity of natural and man-made systems.

Policy 10.1: Encourage the location and design of new development, remodels, or expansions to anticipate and mitigate climate change risks.

Implementing Strategy 10.1B: Promote the site selection and design of critical facilities that consider site-specific vulnerabilities to climate change.

Implementing Strategy 10.1.C: Promote the location of new critical infrastructure facilities in areas not subject to severe climate change impacts, such as storm surge, flooding, or inundation.

Implementing Strategy 10.1E: Consistent with statewide standards and guidance from the California Coastal Commission, require all new projects in the coastal zone to account for sea level rise and the potential for increasing rates of erosion.

SAN MATEO COUNTY TRAILS MASTER PLAN (2001)

Link:
https://parks.smcgov.org/sites/parks.smcgov.org/files/documents/files/Trails%20Master%20Plan.pdf

DESCRIPTION

The County Trails Plan includes proposed trail routes, an inventory of existing trails, county trails policies, design guidelines, and use and management guidelines. Includes the California Coastal Trail.

POLICIES OR PROGRAMS

- Policy 6.5.1 Trail access should be provided for a range of user capabilities and needs (including persons with physical limitations) in a manner consistent with State and Federal regulations. The detailed design and management plans for each individual trail shall conform to the most current Americans with Disabilities Act Accessibility Guidelines for Outdoor Developed Areas where conditions permit. Trail maps and guides shall indicate specific areas that are accessible for people with disabilities or wheelchair users.
- 6.38.2 The County trail system should be linked to provide for regional trails including the San Francisco Bay Area Ridge Trail, the San Francisco Bay Trail, the California Coast Trail, and the Juan Bautista de Anza National Historic Trail.
- D.G. 1.2 Setback Trails shall be sited as far away from occupied dwellings as practical. Trails not within planned road rights-of-way within the County shall be set back a minimum distance from occupied dwellings in accordance with Table 4.1. Where setbacks specified in Table 4.1 are not feasible, potential noise and privacy impacts must be evaluated and reduced by use of berms, fencing, landscaping, and other feasible and compatible means, if necessary. (p.29)
- D.G. 1.5 Trail Alignment Trail alignments should be selected that minimize intersections with motorized vehicles. Where feasible, trail grades should be separated from roadway grades at crossings. Where separated crossings are not possible, at-grade crossings must be designed to equally consider vehicular and trail user safety. New trail crossings at state highways shall be designed and located at existing signalized or stop-control intersections or where signalized or stop-controlled intersections will be provided concurrent with the new trail. (p.30)
- D.G. 1.6 Usage Locate trails to promote and allow as many uses as possible, if feasible. At the intersections of multiple-use trails or where off-street bicycle trails intersect with on-street bicycle routes not at a road intersection, there should ideally be a 15-foot turning radius and 25-foot sight clearance between the two trail routes.
- D.G. 1.10.2.1 Sensitive Habitat. To the maximum extent feasible, trail alignments shall avoid impacts to sensitive habitats, including habitats for special status plants and animals. Trail alignments shall be evaluated on a case-by-case basis by a professional biologist to identify impact avoidance measures or mitigation measures for biotic impacts. Consideration shall be given to:

  Rerouting the trail • Periodic closures • Revegetation prescriptions including replacement vegetation based on habitat acreage or plant quantity • Buffer plantings • Discrete barrier fencing that accommodates wildlife passage • Other appropriate measures

Removal of native vegetation shall be avoided as much as possible. The appropriate resource agencies shall be contacted regarding any trail alignments that may impact sensitive habitats, special status species, or their habitat. Ensure plant replacement is native to the area. (p.31)

- D.G. 2.1.2 Multi-Use. Multiple-use, natural tread, double track trails should be designed as two-way paths. Where paved, the paved portions of a multiple-use trail should have an optimum width of 12 feet with a center stripe and minimal 2-foot, flush gravel shoulders, or clear space on each side of the trail. (p.34)
- D.G. 2.3.1 American With Disabilities Act (ADA). Where feasible, the design of County trails should recognize the intent of the ADA and should emphasize accessibility for everyone. To determine feasibility and the degree to which trails will be designed for whole-access, the overall terrain conditions of the area surrounding the trail route will be referenced. As an initial reference, three general accessibility zones are: Valley Floors/Coastal Plain; Foothills; and Canyon/Mountain. Table 4.2 defines the general slope characteristics of each of these zones. The final definition of each zone as it pertains to a particular trail alignment should be made only after detailed site investigations have been conducted.

Projects

- CALIFORNIA COASTAL TRAIL (R3) The California Coastal Trail would follow the San Mateo County coastline from Thornton Beach to Año Nuevo State Reserve. Primarily a bluff-top trail, this trail would connect numerous state and county parks and beaches along the coast, a distance of approximately 50 miles. Some sections of the Coastal Trail, primarily within the Half Moon Bay city limits, are already in place and suitable for multiple use. The Coastal Trail would connect with the Bay Area Ridge Trail by the existing Montara Mountain Trail, as well as by other trails proposed in this plan (pg. 12)
- P10 Highway 92 Trail. Extending from Interstate 280 to Half Moon Bay, the Highway 92 Trail would connect the Ridge Trail to both the Coastside and Bayside communities. This highway corridor could accommodate a multi-use trail, as well as bike lanes on the highway. (pg. 16)

Maps and Photos

- https://parks.smcgov.org/sites/parks.smcgov.org/files/documents/files/Regional-Trail-Map-Plan.pdf

MIDCOAST RECREATIONAL NEEDS ASSESSMENT (2002)

Link: https://parks.smcgov.org/sites/parks.smcgov.org/files/documents/files/Mid-Coast%20Recreational%20Needs%20Assessment%20Plan.pdf

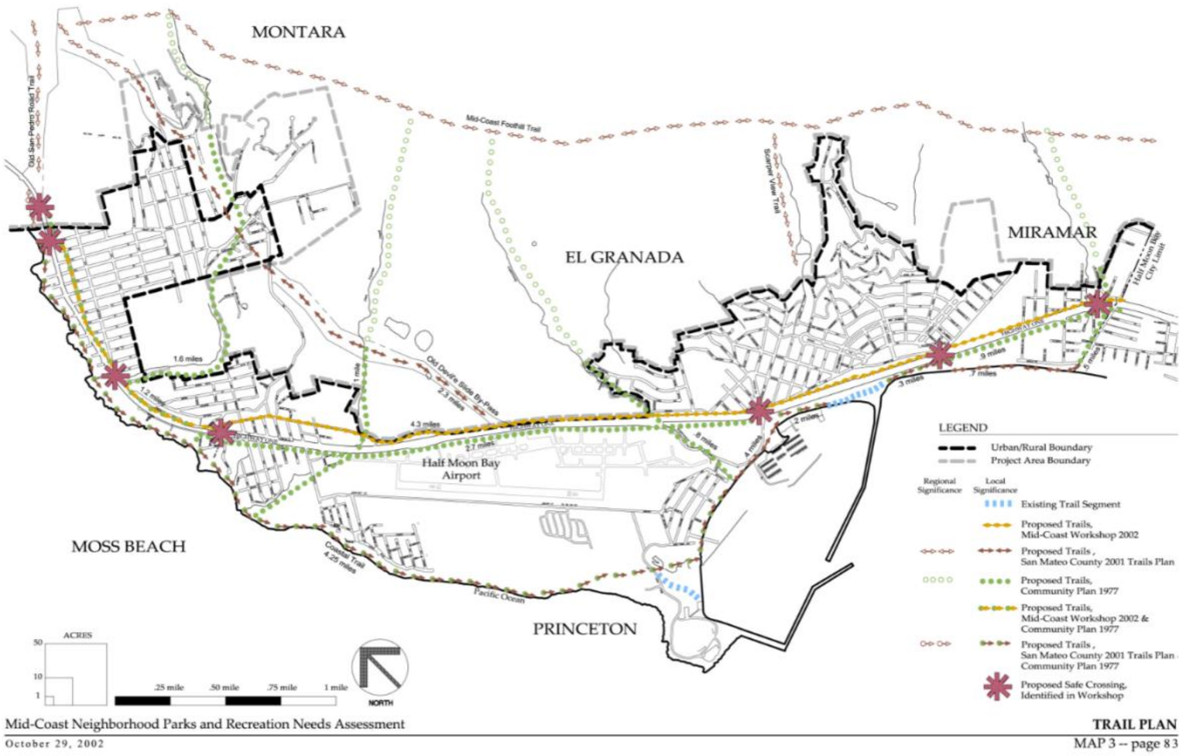
Description

Needs assessment and report to provide the Mid-Coast with a strategy for creating and implementing a system of neighborhood parks connected to a central community center by a system of paths and trails. The purpose of this assessment is to assist the Mid-Coast community in moving forward with their vision of a park and recreation system and outline a strategy for their implementation of the overall plan.

Policies or Programs

- GOAL 3: TRAILS SYSTEM Develop a network of pedestrian and bicycle trails to link individual components of the park system and provide better non-motorized access throughout the Mid-Coast. (p.16)
    - Objective 3.1: Develop a trail system in cooperation with the County, Golden Gate National Recreation Area (GGNRA), Mid-Peninsula Regional Open Space District (MPROSD), Coastal Conservancy, Peninsula Open Space Trust (POST), State Parks, Half Moon Bay, Caltrans and others. (p.16)
        - 3.1.1 Prepare a trail system assessment to establish a system of bikeways, hiking trails and bike lanes in accordance with State and County standards.
        - 3.1.2 Include Class I (separate bike path), Class II (on-street bicycle lane), and Class III bikeways (shared traffic lane with signage) in the overall system consistent with the March 2000 San Mateo County Comprehensive Bicycle Route Plan.
        - 3.1.4 Provide a local trail system that connects parks, residential areas and regional trails and facilities.
        - 3.1.5 Encourage and support any and all agencies as required to provide a number of safe crossings to Highway 1.
    - Objective 3.2: Develop multi-use recreation trails and paths which link the community and accommodate the Mid-Coast community. (p.16)
        - 3.2.2. Use linear features such as roads, riparian corridors, creeks, bluff tops, and topography to integrate trail system.
        - 3.2.3 Coordinate trail planning with County departments, the County Trails Plan 2001, Half Moon Bay, Caltrans and others as noted in 3.1.
        - 3.2.4 Include small sitting and picnic areas in the design of the trail system.
- GOAL 4: IMPLEMENTATION
        - Policy 4.1.3 Explore and institute development impact fees for new and remodel construction on the Mid-Coast. (p.17)

MAPS AND PHOTOS



HIGHWAY 1 SAFETY & MOBILITY STUDY PHASE 1 (2010)

Link: https://planning.smcgov.org/highway-1-safety-and-mobility-study

Link to File:
https://planning.smcgov.org/sites/planning.smcgov.org/files/Highway%201%20Safety%20and%20Mobility%20Improvement%20Study_PhaseI.pdf

Description

The Highway 1 Safety and Mobility Improvement Study is a community-based transportation plan with recommended improvements to Highway 1 in the unincorporated communities of Princeton, El Granada, and Miramar. The effort was funded through a Caltrans Community-Based Transportation Planning Grant in partnership with the Local Government Commission. The Plan was developed through an extensive community process in 2009 that included a focus groups, community workshops, walk audits, and a design charette. Many of the recommendations in Connect the Coastside are from this study.

Policies or Programs

- Recommends consistent lane striping depending on context
  - Typical Rural Section: 12' travel lanes with shoulders 6-8' wide (page 13)
  - Typical Fringe Section: 12' travel lanes, 6' shoulder, valley gutter, and sidewalk as needed (page 13)
  - Typical Village Section: 12' wide lanes (or less), curb and gutter, with bike lanes and sidewalks as appropriate
- General recommendation to add walkways and bikeways, with key features to increase safety such as medians, tighter curb radii, improved lighting at intersections, and others
- Plan includes a series of recommendations that range from roundabouts, Highway 1 realignment, pedestrian crossings of Highway 1, and others.

Projects

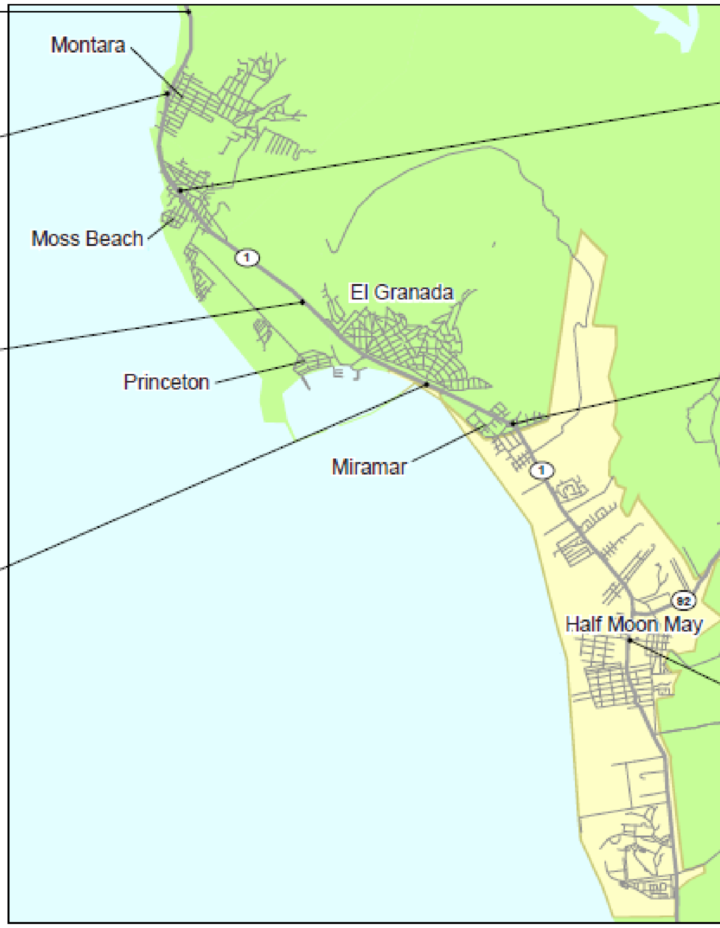
Street	To (Cross Street 1)	From (Cross Street 2)	Proposed Project	Page #
Capistrano Rd	Highway 1	Princeton (community)	Class II Bike lanes	28
Airport St	Princeton (community)	Moss Beach (community)	Class II Bike lanes	28
Coastline	Pillar Point Harbor	Princeton (community)	Class I Path	28
Coastal Trail		West side of Highway 1 through Miramar	Coastal Trail	28
Avenue Alhambra and Obispo	El Granada	Santiago Ave	Class II Bike lanes	28
Highway 1	Half Moon Bay trail	Mirada Drive, Santiago Ave	Class I Path / trail	28

Culvert under Highway 1	Furtado Lane	Miramar Dr	Replace metal culvert with precast concrete system to create trail connection and connect to Arroyo de en Medio	29
Alameda Ave	Miramar (community)		Bike Boulevard + Bike Bridge to connect east/west sections over ravine + Trail from east terminus of Alameda to Coast Trail/Balboa Blvd	29
Mirada Road / Medio Road	Miramar (community)		Connection to Coastal Trail from HMB section on east side of SR-1 b/w Nurserymen's service road and Highway 1	
Highway 1	North of Capistrano Road		Rural	30
Highway 1	Capistrano Rd (N)	Capistrano Rd (S)	Fringe	30
Highway 1	Capistrano Rd (S)	Coronado St	Extensive short and long-term conceptual designs, including realignment of SR-1. Generally village. Short-term suggests remove informal parallel parking and organized diagonal parking east of SR-1 with one-way NB access way	32
Highway 1	Surfer's Beach, Sam's Chowder House		Ped xings with median islands	34
Highway 1	Capistrano, Coronado		Ped crossing improvements, including extension of curb and gutter, restriped xwalks, corner ramps	35
Highway 1	Coronado St	500 feet south of Roosevelt Blvd	Village	42
Highway 1	Roosevelt Blvd	Frenchmans Creek	Fringe	42

Maps and Photos

Observations Map (page 7)

Highway 1 on San Mateo Midcoast



North of Montara
- Grade changes
- Minimal shoulders
- Relatively sharper curves
- Bike/Vehicle conflicts
- Recreation parking conflicts

Montara
- Speeds
- Access management
- Highway adjacent parking loaded development
- Side street sight distance

Airport Segment
- Open cross section
- Gentle alignment
- Adjacent agricultural use and access
- Undefined airport access intersection
- Inconsistent number of lanes northbound
- Speed transition needs to El Granada

El Granada
- Coastal erosion
- Speed management
- High pedestrian crossing demand
- Varying traffic volumes and speeds
- Turning traffic at driveways and streets
- Sight distance challenges at cross streets
- Sight triangles and vertical alignment

General Corridor Observations and Issues

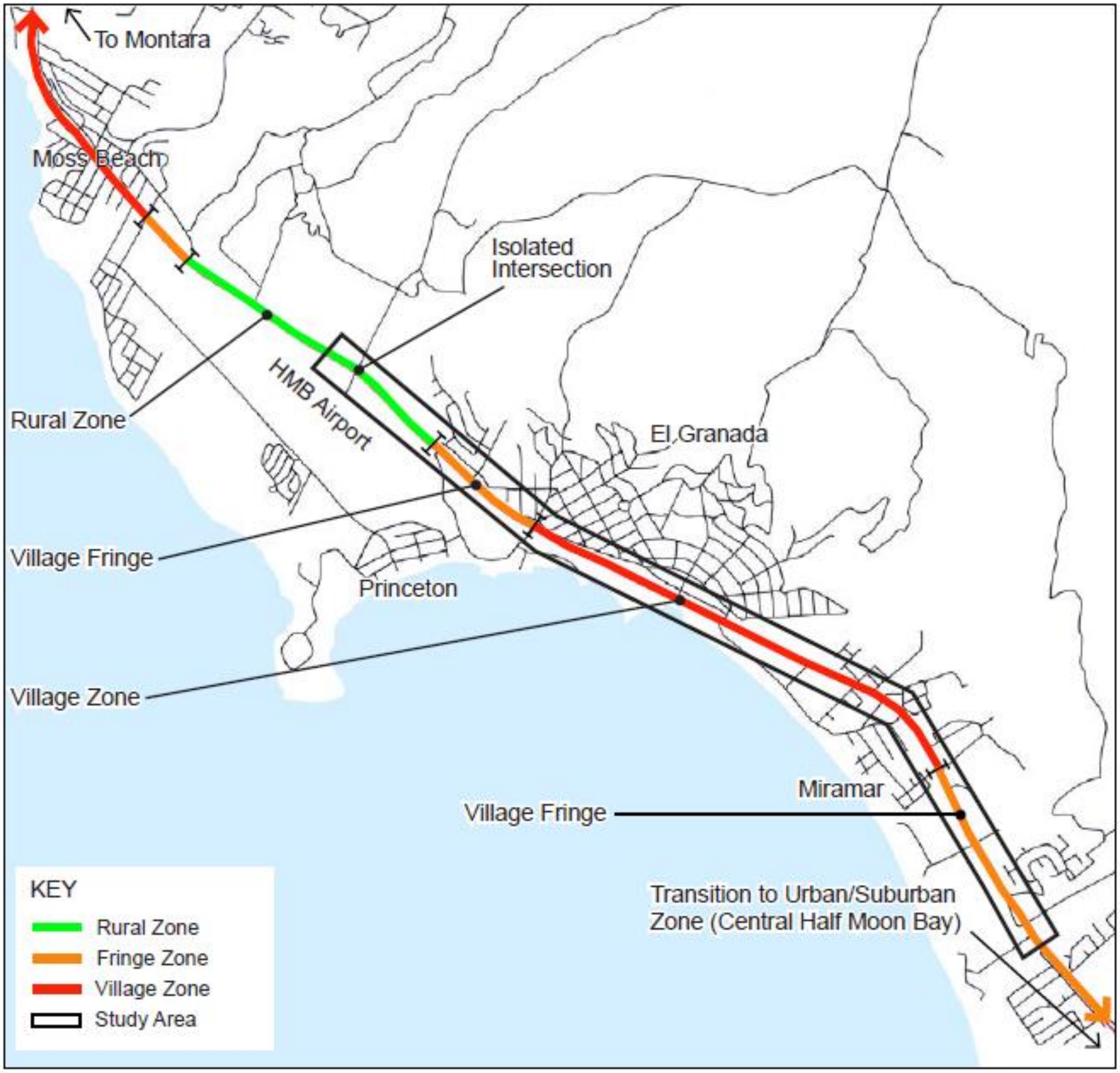
Moss Beach
- Speeds
- Number of public street accesses
- Crossing traffic
- Inconsistent roadway edge
- Underdeveloped frontage "Main Street"
- Storm water treatment opportunity

Miramar to Half Moon Bay
- Transitional segment
- Varying traffic volumes and speeds
- Relatively high number of accesses
- "Isolated" signalized intersection
- Turning traffic at driveways and streets
- Sight distance challenges at cross streets
- Sight triangles and vertical alignment

Half Moon Bay
- Heaviest volumes
- Signalized intersections
- Significant highway crossing demand
- Inconsistent edge treatments
- Inconsistent typical cross section south of Kelly Avenue
- Unbalanced treatments to Main Street

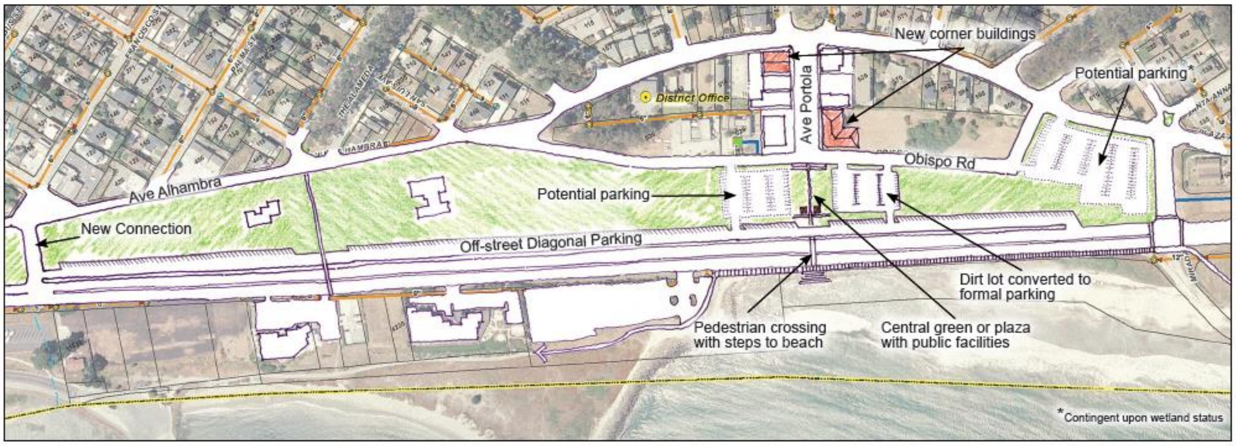
7 Local Government Commission

Context Zones Map (page 9)



Connectivity and Mobility Framework Map (page 24)

SR-1 Short-term Improvement (page 34)



HIGHWAY 1 SAFETY & MOBILITY STUDY PHASE 2 (2012)

Link: https://planning.smcgov.org/highway-1-safety-and-mobility-study

Link to File:
https://planning.smcgov.org/sites/planning.smcgov.org/files/SMM_Ph_2_Study_Final_LR.pdf

DESCRIPTION

Similar to the Highway 1 Safety and Mobility Study Phase 1, Phase 2 assesses vehicle, pedestrian, and bicycle safety and mobility challenges in the Montara and Moss Beach area, from Half Moon Bay Airport to Devil's Slide area. The Plan was accepted by the San Mateo County Board of Supervisors on November 20, 2012. Engagement took place from March through May 2011 and included advisory group meetings, focus groups, community meeting, design charette, and presentation. Many of the recommendations in Connect the Coastside are from this study.

PROJECTS

Street	To (Cross Street 1)	From (Cross Street 2)	Proposed Project	Page #
Highway 1	Gray Whale Cove		Parking lot improvements, including LT bay, acceleration lanes, and marked crosswalk north of the lot	37
Highway 1	Montara State Beach (near McNee Ranch Parking)		Parking facilities on either side of the highway, parking lot and Rancho Corral de Tierra access. Improved parking lot, formalized parallel parking (existing and proposed parking supply on p.42)	40
Highway 1	2nd St		Ped crossing of the Coastal Trail with median islands. Coastal trail crosses from east side to west side	44
Highway 1	7th St	9th St	Raised medians from north of 7th St through South of 9th St, left-turns consolidated at 8th, restricted turning movements at 9th St, and pedestrian crossing 7th St	46
Main St	7th St	9th St	Sidewalks, crosswalks, and traffic calming improvements	46
Highway 1	9th St		Roundabout	47
Highway 1	16th St / Montara Lighthouse		Raised or painted median with left turn bay northbound onto Lighthouse, RT only onto highway from Carlos St, Ped Xing and refuge island at Lighthouse driveway Long-term: Pedestrian over-crossing at Lighthouse intersection	50

Highway 1	Vallemar/Etheldore	Marine Blvd	Several options for Moss Beach, including medians, roundabouts (Etheldore, Cypress)	54
Parallel Trail alignment on Etheldore				60-61
Cypress Avenue	Dead end		Trail that leads to Coastal Trail	62

Maps and Photos

Corridor Observations and Issues (page 11)

Corridor Observations and Issues

North of Montara State Beach
- Grade changes and curves
- Sections with narrow shoulders
- Bicycle use
- Pedestrian crossing conflicts at beach and trail access areas
- Informal shoulder parking

Montara
- Relatively high number of accesses
- No sidewalks, sections with narrow shoulders
- Sight distance challenges at cross streets
- Pedestrian crossing conflicts
- Turning vehicle conflicts at Lighthouse and Hostel

Moss Beach
- Relatively high number of accesses
- Cross traffic
- Frontage street
- No sidewalks
- Pedestrian/bike crossing conflicts

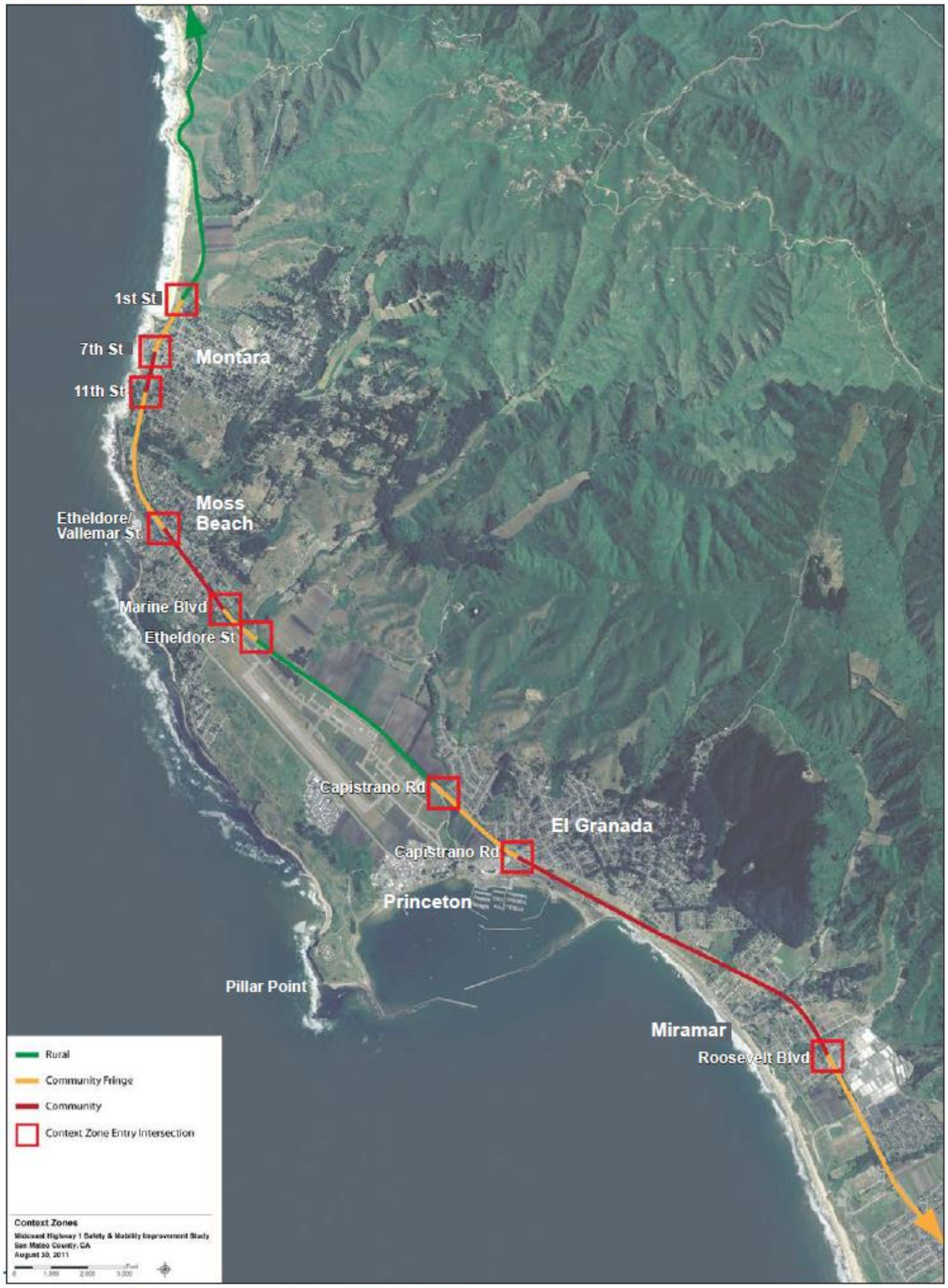
El Granada
- "Surfer's Beach" erosion
- High pedestrian/bike use, crossing demand
- No sidewalks
- Two signalized intersections
- Peak hour, weekend and seasonal congestion
- Informal shoulder parking

Miramar to Half Moon Bay
- Relatively high number of accesses
- Turning traffic at driveways and streets
- Sight distance challenges at cross streets
- Signalized intersection

Highway 1 Safety and Mobility Improvement Study 11

Zones (page 13)

Highway 1 Context Zones



Highway 1 Safety and Mobility Improvement Study 13

Existing Posted Speed Limits (page 17)

Existing Posted Speed Limits

The image above shows the current speed zones with posted limits through the study area.

Recommended Target Speeds (page 18)

Recommended Target Speeds

The image above shows suggested targets for motor speeds through Community and Fringe zones for increased safety and flexibility in highway design and operations.

Pedestrian and Bicycle Network – Pacific to Montara (page 24)

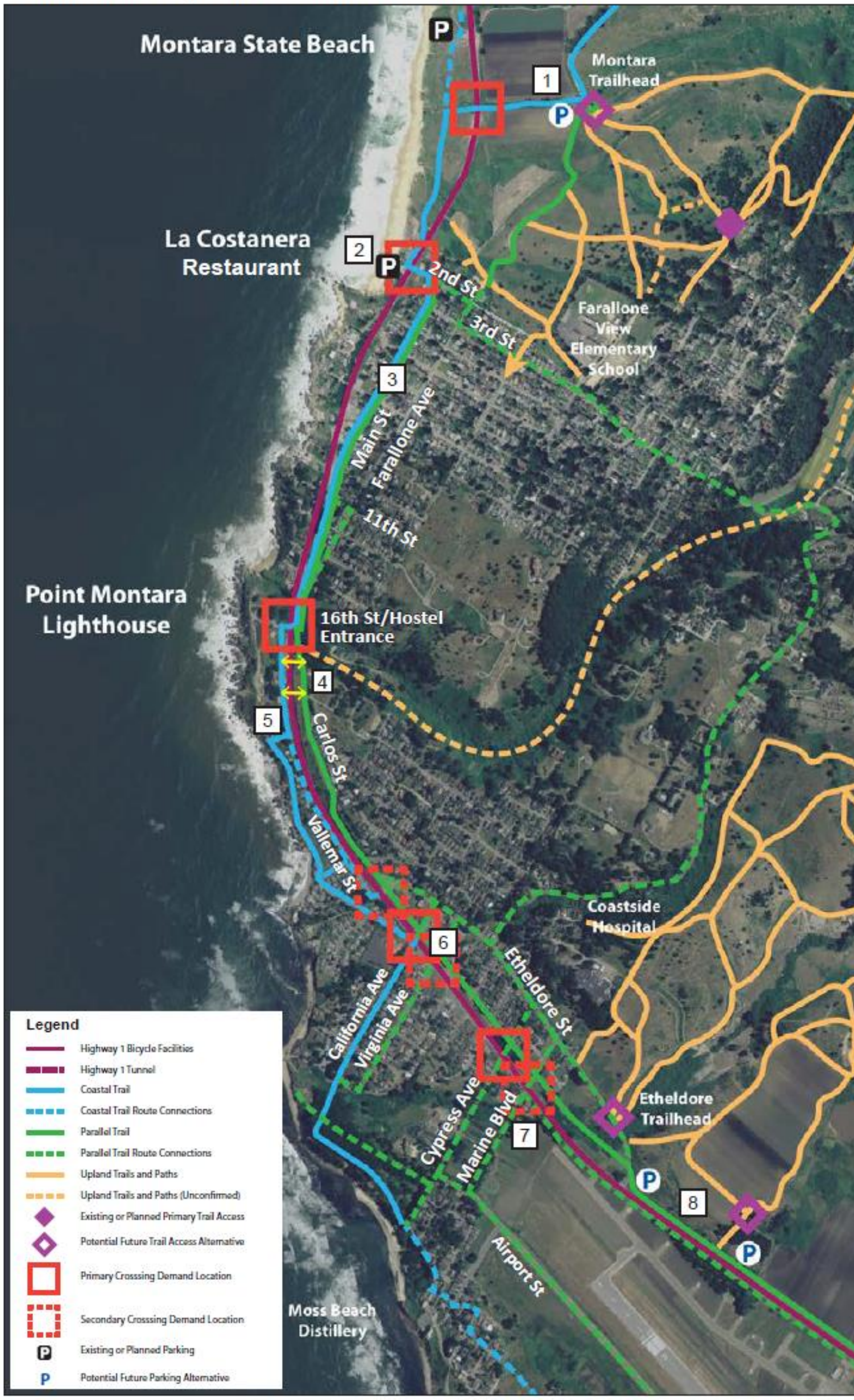
Pedestrian & Bicycle Network: Pacifica to Montara

1. Planned Coastal Trail segment after tunnel opening
2. Planned parking lot and trail access.
3. Existing parking lot and trail access - Gray Whale Cove.
4. Existing trail access and small parking area - McNee Ranch.
5. Existing dirt parking lot and beach access.
6. Potential future trail access parking location at the back of fallow farmland near the junction of Farallone Road Trail and Old San Pedro Mountain Road Trail.

24 **Highway 1 Safety and Mobility Improvement Study**

Pedestrian and Bicycle Network – Montara to Moss Beach (page 25)

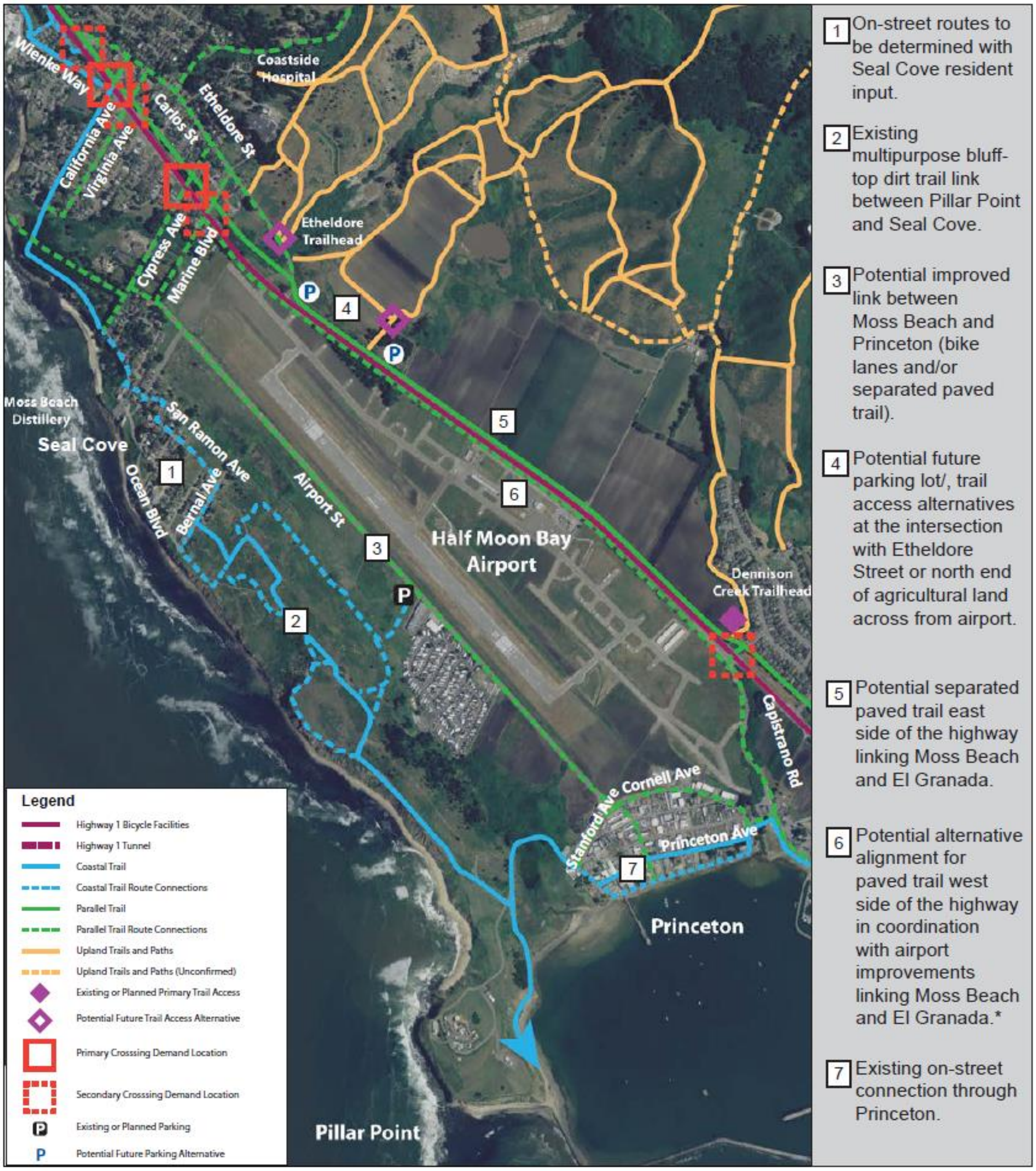
Pedestrian & Bicycle Network: Montara to Moss Beach



1. Potential future trail access parking location alternative at the back of fallow farmland near the junction of Farallone Road Trail and Old San Pedro Mountain Road Trail.
2. Existing beach and shared private restaurant/public beach parking.
3. Shared on-street coastal trail and parallel trail route.
4. Potential future pedestrian overcrossing alternatives.
5. Create path connecting Vallemar Street cul-de-sac to MWSD access road.
6. Parallel trail between the highway and Carlos Street frontage road.
7. Open Marine Blvd to pedestrian and bicycle access.
8. Potential future parking lot/, trail access alternatives at the intersection with Etheldore Street or north end of agricultural land across from airport.

Pedestrian and Bicycle Network – Moss Beach to Pillar Point Harbor (Page 26)

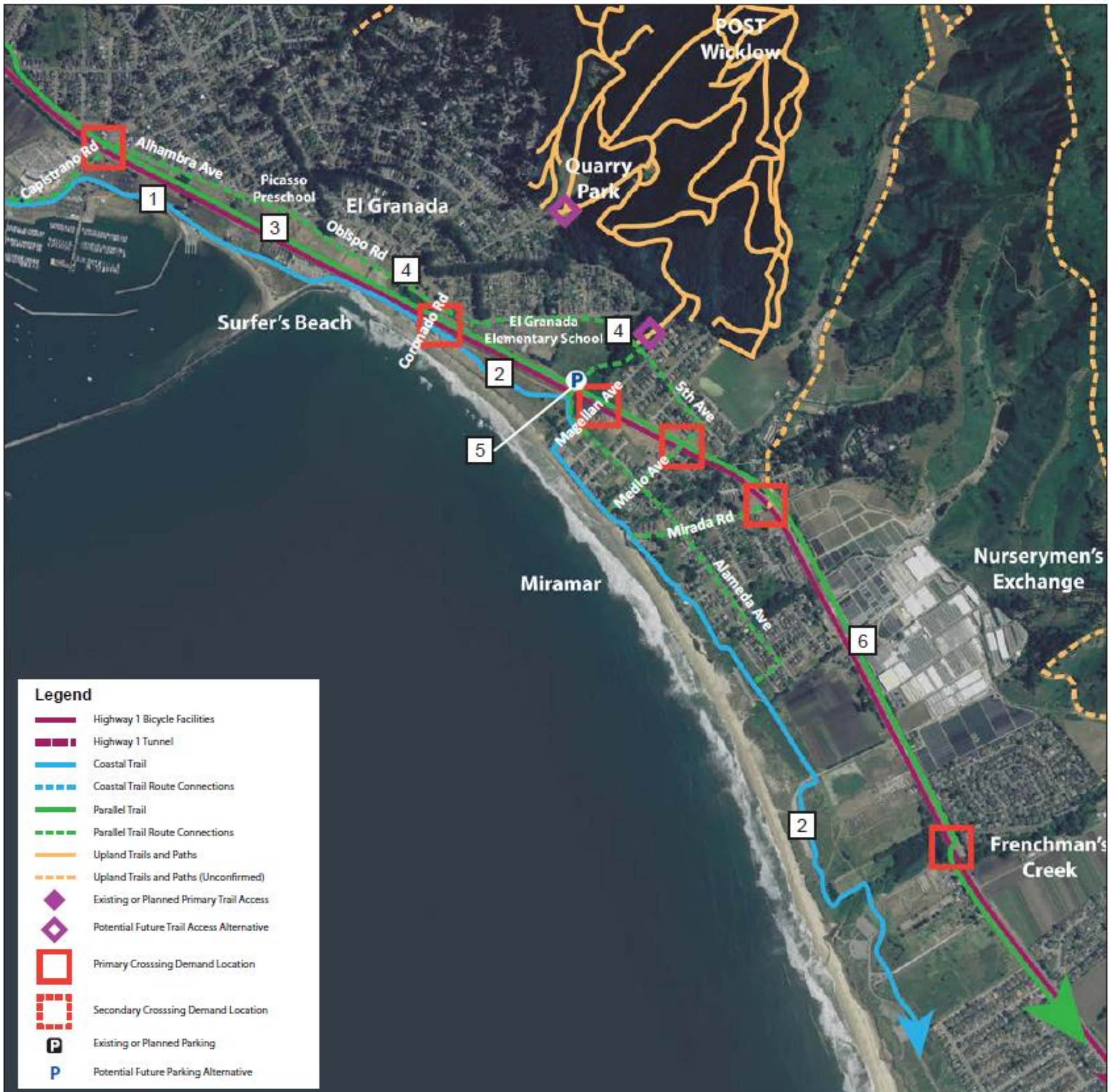
Pedestrian & Bicycle Network: Moss Beach to Pillar Point Harbor



***Note:** The airport is owned by the County and is under FAA requirements to ensure ground separation between motor vehicles and airplanes on taxi ways. The County is in the process of developing a plan to improve airport circulation which will likely include establishment of a parallel frontage road between the highway and the hangers and taxi way. This presents a potential opportunity to establish the parallel trail in conjunction with the frontage road on the west side of the highway that would avoid conflict with agricultural land on the east side of the highway.

Pedestrian and Bicycle Network – El Granada to Half Moon Bay (page 27)

Pedestrian & Bicycle Network: El Granada to Half Moon Bay



1 Existing paved trail past east jetty, transitioning to dirt trail, then paved route through parking lots and on-street through Princeton.

2 Existing paved, separated trail Surfer's Beach to City of Half Moon Bay.

3 Potential alignment along "Burnham Strip."

4 Potential alignment using paths and existing streets.

5 Potential future parking lot/ trail access alternatives to Quarry Park and POST Wicklow property.

6 Planned City of Half Moon Bay trail to City/County boundary at Mirada Road.

SAN MATEO COUNTY CONGESTION MANAGEMENT PROGRAM (C/CAG) (2019)

Link: https://ccag.ca.gov/programs/transportation-programs/congestion-management/

Direct Link: https://ccag.ca.gov/wp-content/uploads/2020/04/2019-CMP-Final-040920.pdf

Appendix: https://ccag.ca.gov/wp-content/uploads/2020/04/2019-Final-CMP-Appendix-040920-compressed.pdf

DESCRIPTION

The City/County Association of Governments of San Mateo County (C/CAG), as the Congestion Management Agency for San Mateo County, is required to prepare and adopt a Congestion Management Program (CMP) on a biennial basis. The purpose of the CMP is to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide solutions. The CMP is required to be consistent with the Metropolitan Transportation Commission (MTC) planning process that includes regional goals, policies, and projects for the Regional Transportation Improvement Program (RTIP). The CMP roadway system includes 53 roadway segments and 16 intersections, and includes all of the State highways within the County. CMP legislation requires the use of Level of Service to measure roadway performance. Highway 92 between Highway 1 and I-280 exceed the LOS standard in the AM and PM periods. The CMP includes C/CAG's programs and policies regarding transportation systems management (TSM) and transportation demand management (TDM), which address efforts to increase efficiency of the existing system and encourage utilization of alternative modes of transportation.

POLICIES OR PROGRAMS

Chapter 3 – Traffic Level of Service Standards

- California Government Code Sections 65089.1 (A) and (B) requires that level of service standards be established by, in this case, C/CAG for the roadways and intersections designated to be in the CMP Roadway System. (p.14)
- Existing levels of service are to be calculated every two years as part of the CMP's traffic operations monitoring program. (p.16)
- **The following LOS standards were selected for the roadway segments**. (p.19)
    - If the existing (1990/91) level of service was F, then the standard was set to be LOS F.
    - If the existing or future level of service was or will be E, then the standard was set to be LOS E.
    - The standard for roadway segments near the San Francisco, Santa Clara, and Alameda County borders, with one exception,12 was set to be LOS E to be consistent with the recommendations in those counties' 1991 CMPs. (This standard would apply unless those roadway segments were already operating at LOS F.)
    - On SR 82 (El Camino Real), the standard was set to be LOS E.
    - For the remaining roadway segments, the standard was set to be one letter designation worse than the LOS projected for the year 2000.

- LOS Standards for CMP Roadway Segments are in Table II (p.20)

Table II: Level of Service Standards for CMP Roadway Segments

Route	Roadway Segment	Baseline (1990-91) LOS	LOS Standard
1	San Francisco County Line to Linda Mar Boulevard	D	E
1	Linda Mar Boulevard to Frenchmans Creek Road	D	E
1	Frenchmans Creek Road to Miramontes Road	E	E
1	Miramontes Road to Santa Cruz County Line	C	D
92	SR 1 to I-280	E	E
92	I-280 to U.S. 101	C	D
92	U.S. 101 to Alameda County Line (Bridge Causeway)	D	E

- **Intersection Level of Service Standards** (p.23)
    - 16 intersection were added to the CMP Roadway System first adopted in 1991; the process to define these is described on p.23; Table III is on p.24

Table III: Intersection Level of Service Standards

Intersection	Peak Hour	Baseline (1993) LOS	LOS Standard
SR 92/SR 1	AM	B	E
	PM	A	
SR 92/Main Street	AM	F	F
	PM	D	

Chapter 4 – Performance Element

- According to California Government Code section 65089(b)(2), this element includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods. At a minimum, these performance measures shall incorporate highway and roadway system performance, and measures established for the frequency and routing of public transit, and for the coordination of transit services provided by separate operators… The performance measures will be used to evaluate the effectiveness of projects proposed for inclusion in the CMP Capital Improvement Program. They will also be used to evaluate the effectiveness of proposed actions in deficiency plans to determine whether they are appropriate and acceptable. (p.28)
- San Mateo County Performance Measures (p.29) – evaluated for peak commute periods
    - Level of Service – Measured with vehicle counts to determine volume-to-capacity ratio, or floating car runs, to determine travel speeds
    - Travel Times for Single-Occupant Automobiles, Carpools, and Transit – Determine amount of time required to traverse selected corridors on a variety of modes.

- Pedestrian and Bicycle Improvements – Considering ped/bike facilities in design for all transportation projects in the CMP Capital Improvement Program
- Ridership/Person Throughput for Transit – Evaluate number of individuals that use transit during peak periods by using ridership data

Chapter 5 – Trip Reduction and Travel Demand (p.31)

- California Government Code 65089.a.3 requires that a Trip Reduction and Travel Demand Element be part of the CMP.
- The implementation of congestion reduction strategies such as staggered work hours, telecommuting, and parking management are also expected to be pursued at the local level.

Current TSM/TDM Programs in SMC (p.34)

- Measures that reduce the number of vehicles on the roadway system are referred to as Transportation Demand Management (TDM) measures. Measures that improve the efficiency of the system are referred to as Transportation System Management (TSM) measures.
- Measure A mandated that every jurisdiction in San Mateo County have a TSM/TDM plan/program in order to be eligible to receive Measure A funds.
- In November 2004, voters in San Mateo County approved the continuation of Measure A to be in effect from 2009 to 2033. The continuation of Measure A includes the Bicycles and Pedestrians Program ($45 million over 25 years) which will provide safe paths for bicyclists and pedestrians and the Alternative Congestion Relief Program ($15 million over 25 years) which allocates one percent of the total revenue to fund traffic management projects and creative congestion relief programs.
- Commute.org is SMC's TDM agency and operates a shuttle program, employer programs, and commuter programs, annual events, and TDM partnerships (p.36-38)

Chapter 6 – Land Use Impact Analysis Program

- Proposition 111 (Government Code Sections 65088-65089) requires that local governments develop a Land Use Impact Analysis Program to determine the impacts of land use decisions upon regional transportation routes and air quality. The document outlines the process for conducting land use analysis and which projects need to, and the mitigation and conformance.

Chapter 7 – Deficiency Plan Guidelines (p.48)

- The legislation that resulted in the preparation of Congestion Management Programs (CMPs) defined the preparation of deficiency plans as a way for local jurisdictions (cities and the County) to remain in conformance with the CMP when the level of service (LOS) for a CMP roadway segment or intersection deteriorates below the established standard. A CMP roadway segment or intersection can be found to violate the LOS standard when levels of service are monitored biennially.
- Based on the 2019 Monitoring, no roadway segments on Highway 1 were considered deficient (p.54)

San Mateo County Congestion Relief Plan

- The Plan, which was initiated in July 1, 2002 and updated July 1, 2019, will relieve all San Mateo County jurisdictions - 20 cities and the County - from having to fix the specific congested locations that triggered the development of this Plan, and any new ones that may be detected for the next four years.
- Total funding:

	2015-2019 Proposed Plan				2019-2023 Proposed Plan		
1	Employer-Based Shuttle and Local Transportation Services Program		$500,000	1	Local Transportation Services Program		$500,000
2	Travel Demand Management		$550,000	2	Travel Demand Management		$550,000
3	Intelligent Transportation Systems (ITS)/ Traffic Operational Improvement Strategies		$200,000	3	Intelligent Transportation Systems (ITS)/ Traffic Operational Improvement Strategies; Express Lane operations support; Smart Corridor Expansion		$200,000
4	Linking Transportation and Land Use:		$600,000	4	Linking Transportation and Land Use:		$600,000
	4A. Innovative Trip Reduction Strategies and Major Corridors Studies	$250,000			4A. Innovative Trip Reduction Strategies (Carpool 3.0)/ Mobility Action Plan	$150,000	
	4B. Transportation Improvement Strategy	$100,000			4B. Transportation Improvement Strategy to reduce GHG (GW TAP/743 toolkit/ Performance assessments)	$150,000	
	4C. Climate Action Plan Activities	$150,000			4C. Climate Change and Resiliency Planning (RICAPS, Climate Action Plan, Sea level rise planning for Trans. Facilities)	$150,000	
	4D. Sustainable Communities Strategy (SCS) Activities, Linking Housing with Transportation.	$100,000			4D. Sustainable Communities Strategy (SCS) Activities, Linking Housing with Transportation. (21 Elements/ Sub-RHNA/ Legislation compliance)	$150,000	
	Total		$1,850,000		Total		$1,850,000

Other Funding Sources for San Mateo County

- Measures A – Appendix H has summary of transportation expenditure plan
- Measure M - $10 Vehicle Registration Fee (Details in Chapter 11)
- Proposition 111 - Gas tax revenues allocated to local jurisdictions
- Transportation Fund for Clean Air - Programs to enhance air quality funded by increased vehicle registration fees (see Chapter 5)
- Bridge Replacement and Rehabilitation funds
- Proposition 108 - Passenger Rail and Clean Air Bond Act of 1990
- Proposition 116 - Clean Air and Transportation Improvement fund
- Regional Bridge Tolls
- Transportation Development Act funds
- Transit Capital Improvement funds

- Transit operator funds

Chapter 9 – Database and Travel Model (p.71)

- California Government Code section 65089 (c) requires that every Congestion Management Agency (CMA), in consultation with the regional transportation planning agency, cities, and the county, develop a uniform data base to support a countywide transportation computer model that can be used to project traffic impacts associated with proposed land developments.
- Transportation models are analytical tools that can be used to assess the impacts of land use and development decisions on the transportation system. Transportation models are based on a complex interaction of relationships between variables: for example, the relationship between the price of gasoline and the number of vehicle-miles traveled or transit ridership. They are tools that can be used to project future transportation conditions, and the need for and effectiveness of transportation projects and infrastructure improvements. If the basic relationships established in a base year model validation remain well behaved over time, a well-designed and validated transportation model should predict transportation conditions with some degree of confidence.
- The CMP transportation database consists of data that in effect document existing and future transportation network conditions and socioeconomic characteristics in a quantitative manner. The databases are a basic input for the C/CAG transportation model (CMP model) and are typically updated based on updates to the regional socioeconomic data sets provided by the Association of Bay Area Governments (ABAG) and through periodic updates of the transportation networks through development of long-range planning efforts and for specific projects and corridors.
- Description of C/CAG CMP Transportation Model is on p.73

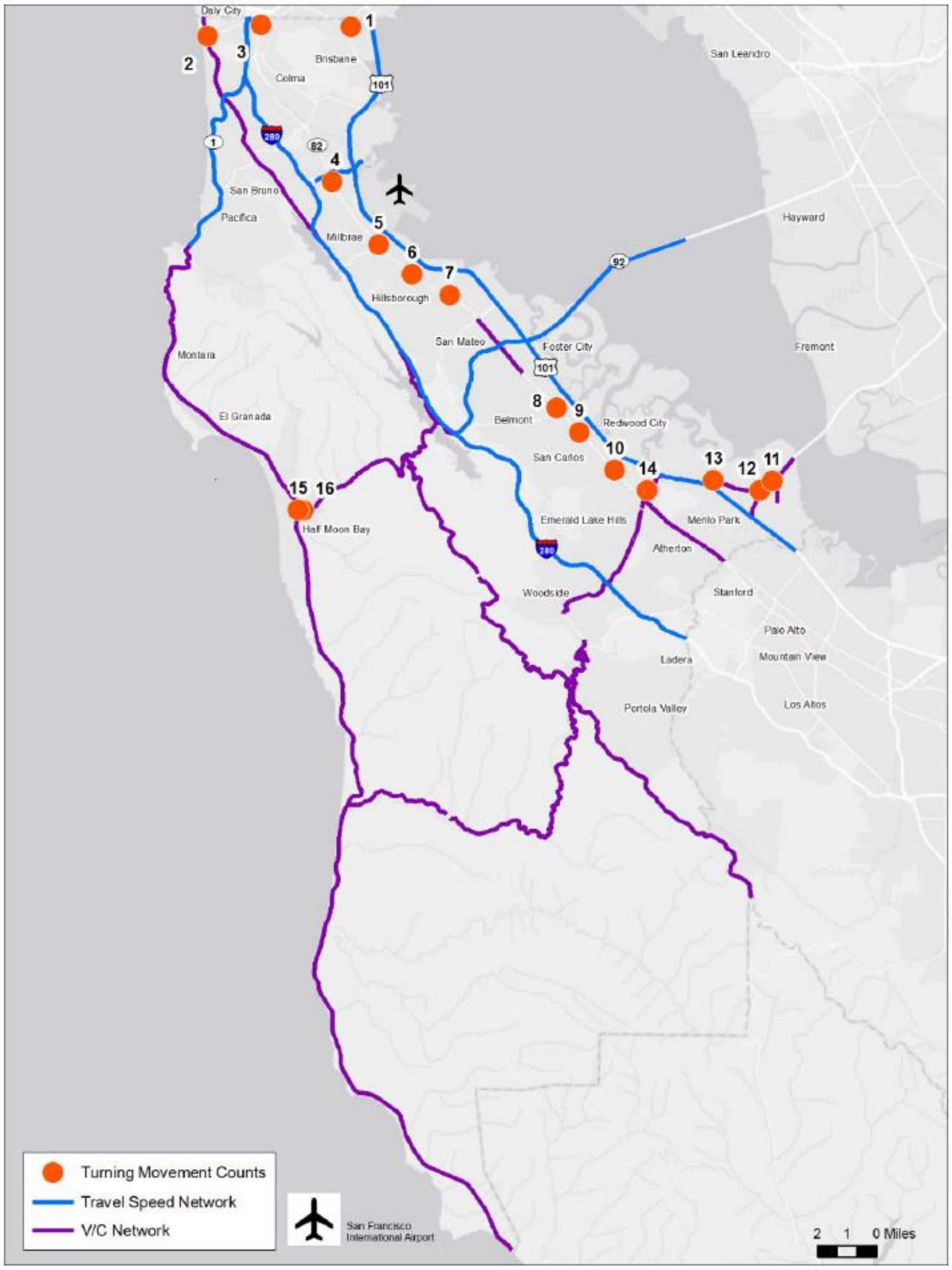
Chapter 12 – Traffic Impact Analysis (TIA) Policy (p.83)

- The intent of the Traffic Impact Analysis (TIA) policy is to provide uniform procedures to analyze traffic impacts on the Congestion Management Program (CMP) network from projects and cumulative traffic impacts on the CMP network from General Plans and Specific Area Plans, and to set thresholds for mitigations.

MAPS AND PHOTOS

CMP Roadway Network (page 12)

Figure 1: CMP Roadway Network and Intersection Map



CA COASTAL TRAIL MCC CONCEPT PLAN (2012)

Link: http://static1.1.sqspcdn.com/static/f/1461275/21340479/1356197885377/2012-09-11-MCC-CCT-Midcoast.pdf?token=obHK1ZKaVBpQY1DAW%2FcmYo8pDFM%3D

Also see: http://www.midcoastcommunitycouncil.org/midcoast-cct/

Description

The MCC formed a Midcoast California Coastal Trail Committee from 2012-2013 that has since been disbanded. This committee created a draft working document for the Midcoast California Coastal Trail, but it appears this document was never finished or finalized.

Policies or Programs

- P.8: referring to Pillar Point Bluff Trails: Recommendations: The packed dirt trail surface developed by POST and the Coastal Conservancy suits this natural area and should be continued in the southern portion of the bluff at the time when trails can be formalized and developed. It is recommended that the route of existing dirt roads be used wherever possible in order to minimize habitat disturbance and weed infestation.
- P.8: Recommendation: Revisit the possibility of routing the primary CCT through Seal Cove once street circulation and road improvements are made.
- P. 9 Recommendations: Improve informal trail on County property between Vallemar and MWSD frontage road.
- P.11: Recommendations:
    - Safe highway crossing at Lighthouse/16th St. is badly needed. Caltrans recent leftturn project created more pedestrian/bike danger and no crossing. Highway 1 Safety/Mobility Study had good concept plan.
    - Improve and maintain adequate walking access on west side of highway from Lighthouse to Montara Beach. No traffic safety improvements should be allowed that decrease pedestrian/bike safety such as recent moving of west-side fog line immediately north of Lighthouse.
    - At several sections of abandoned old highway/Main St. trail, the roadbed is undercut and should be shored up. Vegetation along the route needs pruning to improve trail clearance.
    - In front of restaurant at Montara Beach, a trail is needed in the highway ROW where restaurant landscaping now encroaches.

SAN MATEO LOCAL COASTAL PROGRAM (2013)

Link: https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/SMC_Midcoast_LCP_2013.pdf

DESCRIPTION

San Mateo County's Local Coastal Program (LCP) is used to guide development in the coastal zone while protecting coastal resources. Any and all development projects in the Coastal Zone require either a Coastal Development Permit or an exemption from Coastal Development Permit requirements. For a permit to be issued, the development must comply with the policies of the Local Coastal Program (LCP).

POLICIES OR PROGRAMS

1.1 Coastal Development Permits

After certification of the Local Coastal Program (LCP), require a Coastal Development Permit for all development in the Coastal Zone subject to certain exemptions.

1.2 Definition of Development

As stated in Section 30106 of the Coastal Act, define development to mean:

On land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511).

As used in this section, "structure" includes, but is not limited to, any buildings, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line.

1.3 Definition of Urban Areas

a. Define urban areas as those lands suitable for urban development because the area is either: (1) developed, (2) subdivided and zoned for development at densities greater than one dwelling unit/5 acres, (3) served by sewer and water utilities, and/or (4) designated as an affordable housing site in the Housing Component.

b. Recognize, however, that in order to make a logical urban/rural boundary, some land has been included within the urban boundary which should be restricted to open space uses and not developed at relatively high densities (e.g., prime agricultural soils, and sensitive habitats).

1.4 <u>Designation of Urban Areas</u>

Designate as urban those lands shown inside the urban/rural boundary on the Land Use Plan Maps. Such areas include Montara, Moss Beach, El Granada, Princeton and Miramar.

1.5 <u>Land Uses and Development Densities in Urban Areas</u>

a. Incorporate the adopted Montara-Moss Beach-El Granada Community Plan into the land use plan for the Midcoast, but amend it where necessary to meet Local Coastal Program objectives.

GROWTH MANAGEMENT

1.18 <u>Location of New Development</u>

*a. Direct new development to existing urban areas and rural service centers in order to: (1) discourage urban sprawl, (2) maximize the efficiency of public facilities, services, and utilities, (3) minimize energy consumption, (4) encourage the orderly formation and development of local governmental agencies, (5) protect and enhance the natural environment, and (6) revitalize existing developed areas.

b. Concentrate new development in urban areas and rural service centers by requiring the “infilling” of existing residential subdivisions and commercial areas.

c. Allow some future growth to develop at relatively high densities for affordable housing in areas where public facilities and services are or will be adequate and where coastal resources will not be endangered.

d. Require the development of urban areas on lands designated as agriculture and sensitive habitats in conformance with Agriculture and Sensitive Habitats Component policies.

1.20 <u>Definition of Infill</u>

Define infill as the development of vacant land in urban areas and rural service centers which is: (1) subdivided and zoned for development at densities greater than one dwelling unit per 5 acres, and/or (2) served by sewer and water utilities.

1.21 <u>Lot Consolidation</u>
According to the densities shown on the LCP Land Use Plan Map, consolidate contiguous lots, held in the same ownership, in residential subdivisions in Seal Cove to minimize risks to life and property and in Miramar to protect coastal views and scenic coastal areas.

1.23 <u>Timing of New Housing Development in the Midcoast</u>

a. In order to ensure that roads, utilities, schools and other public works facilities and community infrastructure are not overburdened by rapid residential growth, limit the maximum number of new dwelling units built in the urban Midcoast to 40 units each calendar year until:

> i. A comprehensive transportation management plan, as described in Policy 2.53, is incorporated into the LCP;
>
> ii. Facilities to adequately contain stormwater infiltration and inflow that exceed the existing Intertie Pipeline System (IPS) capacity during storm events and peak flows have been constructed and sufficient evidence has been presented that IPS capacity is adequate to avoid sewage overflows and water quality violations; and
>
> iii. The growth rate is changed by an LCP amendment.

b. New dwelling units include each new single-family residential unit, each new unit in a two-family dwelling, each new unit in a multiple-family residential development, each new unit in mixed-use development, each new caretaker quarter, each new affordable housing unit, and each new second dwelling unit as further defined in ‘d’.

c. The number of each dwelling units built each year means that the number of units for which building permits have been issued authorizing construction to commence. The date of building permit issuance does not relate to the date of building permit application.

d. If the number of issued building permits for any given year has reached the 40-unit maximum, building permits for affordable housing, including second dwelling units, may still be issued under the following circumstances:

(1) the units are “affordable” as defined by Section 6102.48.6 of the certified zoning regulations and subject to income and cost/rent restrictions for the life of the development; and (2) the growth rate average over the three-year period, that includes the year of building permit issuance and the following two years, does not exceed 40 units/year.

e. This annual limit on residential units is not an entitlement, i.e., it does not guarantee that any proposed development will be approved. A coastal development permit for residential units may only be approved if the proposed development can be found consistent with all applicable policies of the certified LCP.

PUBLIC WORKS COMPONENT

2.1 Development Review of Public Works

After certification of the LCP, require a Coastal Development Permit from any public utility, government agency or special district wishing to undertake any development in the Coastal Zone, with the exceptions of State Universities and colleges and development on public trust lands or tidelands as described in Section 30519(b) of the California Coastal Act.

2.2 Definition of Public Works
Define public works as:

b. All public transportation facilities, including streets, roads, highways, public parking lots and structures, ports, harbors, airports, railroads and mass transit facilities and stations, bridges, trolley wires and other related facilities.

*2.6 Capacity Limits

Limit development or expansion of public works facilities to a capacity which does not exceed that needed to serve buildout of the Local Coastal Program.

2.7 Phased Development of Public Works Facilities

Require the phased development of public works facilities in order to ensure that permitted public works capacities are limited to serving needs generated by development which is consistent with the Local Coastal Program policies. In accordance with Policies 2.9, 2.14, 2.22, 2.27, and 2.42, allow expansion of public works facilities, including but not limited to water supply and transmission, sewage treatment and transmission, and the San Mateo County Midcoast and City of Half Moon Bay regional transportation system only after considering the availability of other public works facilities, and establishing whether capacity increases would overburden the existing and probable future capacity of other public works facilities.

2.9 Timing for New or Expanded Public Works Facilities

a. The amount of new or expanded capacity shall be determined by:
(1) Estimating the capacity needed to serve the land use plan at buildout;
(2) Considering the availability of related public works to establish whether capacity increases would overburden the existing and probable future capacity of other public works;
(3) Considering the availability of funds; and
(4) Considering available information from the Transportation Management Plan required by Policy 2.53.
b. Require every new public works facility or expansion of capacity to go through the coastal development review process.

2.10 Coordination with the City of Half Moon Bay

Coordinate with the City of Half Moon Bay's certified Local Coastal Program to take into consideration the policies of the City's LCP when determining when and how much to increase the capacity of all public works facilities.

ROADS

2.42 Capacity Limits

a. Limit expansion of roadways to capacity which does not exceed that needed to accommodate commuter peak period traffic when buildout of the Land Use Plan occurs and which does not exceed existing and probable future capacity of water and sewage treatment and transmission capacity or otherwise conflict with other policies of the LCP.

b. Use the requirements of commuter peak period traffic as the basis for determining appropriate increases in capacity.

c. Ensure that any additional development that would be served or facilitated by the road expansion project does not exceed the development levels that the existing and probable future water supply and sewage treatment capability can serve.

d. Maintain Highway 1 as scenic two-lane road outside the Urban Midcoast area depicted on Land Use Plan Map 1.3.

2.43 Desired Level of Service

In assessing the need for road expansion, consider Service Level D acceptable during commuter peak periods and Service Level E acceptable during recreation peak periods.

2.44 Route 1 and Route 92 Phase I Capacity Limits

a. On Route 92, limit Phase I improvements to: (1) slow vehicle lanes on uphill grades, and (2) the following operational and safety improvements within the existing alignment or lands immediately adjacent: elimination of sharp curves, lane widening, wider shoulders to allow passage for bicycles and emergency vehicles and signals at major intersections.

b. On Route 1, limit improvements to: (1) slow vehicle lanes on uphill grades and the following operational and safety improvements within the existing alignment or lands immediately adjacent: elimination of sharp curves, lane widening, lane reconfiguration, acceleration/deceleration lanes, wider shoulders to allow passage for bicycles, emergency vehicles and signals at major intersections; (2) additional traffic lanes in the Midcoast project area as depicted on Map 1.3, provided the additional lanes are found to be in compliance with all other applicable policies of the LCP, including, but not limited to, sensitive habitat and wetland protection policies;

2.46 Monitoring
a. Ensure that any data collected by transportation organizations, including CalTrans', of peak commuter periods and recreation peak periods is applied in decisions related to the adequacy of roadway capacity.

b. Monitor the number and rate of new residential construction particularly in the rural and urban Midcoast.

2.49 Preferential Treatment for Buses

Require that CalTrans provide preferential treatment for buses and shuttles at congested locations, such as the intersection of Routes 1 and 92, in accordance with the Transit Policies of this Component.

2.50 Improvements for Bicycle and Pedestrian Trails

a. Require, if funds are available, that CalTrans provide adjacent or separate facilities for bicycle and pedestrian trails in accordance with the policies of the Recreation and Visitor-Serving Facilities and Shoreline Access Components and the San Mateo County Bikeways Plan (CCAG).

c. The County will work with CalTrans, the State Coastal Conservancy, the Coastal Commission, State Parks, Golden Gate National Recreation Area, and other public agencies to ensure that a CCT trail alignment is developed and will continue from the southern terminus of the Devil's Slide Highway 1 relinquishment and link to other trail systems.

d. Require, at a minimum, and consistent with AB 1396, that CalTrans protect and make available adequate right-of-way to allow the future development of bicycle and pedestrian trails in accordance with the policies of the Recreation and Visitor-Servicing Facilities and Shoreline Access Components and the San Mateo County Comprehensive Bike Route Plan (CCAG) and the California Coastal Trail (CCT) Plan.

e. Through coordination with CalTrans, promote the development of a continuous Midcoast pedestrian/bicycle/multi-purpose path (or a system of single mode paths) parallel to Highway 1 as part of the overall CCT system.

f. Through coordination with CalTrans, promote the most appropriate, safe, feasible crossings, either at-grade, above- or below-ground pedestrian crossings at Midcoast locations along Highway 1, including those shown as "Proposed Safe Crossing" in the Midcoast Recreational Needs Assessment – Map 3.

g. Unless a suitable off-highway alternative already exists or is being provided, as part of any new or improved roadway project other than repair and maintenance of existing facilities and consistent with AB 1396, require that CalTrans incorporate the following provisions (the size and scope of which will be commensurate with the size and scope of the proposed roadway project):

(1) A link within the vicinity of the project area necessary to facilitate a continuous Midcoast pedestrian/bicycle/multi-purpose path (or a system of single mode paths) parallel to Highway 1; or

(2) The most appropriate, safe, feasible crossings, either at-grade, above- or below-ground pedestrian crossings at Midcoast locations along Highway 1, including those shown as "Proposed Safe Crossing" in the Midcoast Recreational Needs Assessment – Map 3; Or

(3) Completion of any CCT segment gap that is in the vicinity of the new

or improved roadway project; or

(4) Provide funding necessary to complete any of the above actions; or

(5) Any combination of the above.

h. Ensure that no roadway repair or maintenance project blocks or damages any existing or formally planned public trail segment or, if such an impact is not avoidable, that an equal or better trail connection is provided in conjunction with that repair and maintenance project either directly by CalTrans or through CalTrans' funding to a third party.

2.51 <u>Protecting Road Capacity for Visitors through Transportation System Management Techniques</u>

a. Use the following transportation system management techniques to maximize the efficiency and effectiveness of existing roadways during 2.22 recreation peak periods and protect road capacity for visitors: (1) recommend that the State Highway Patrol enforce illegal parking regulations along Route 1 and in emergency pullouts on peak weekends and holidays; (2) recommend that CalTrans install left turn storage lanes at all parking lots (25 spaces or greater) along the shoreline; (3) prohibit new road or driveway connections to Routes 1 and 92 in the Midcoast area as shown on Map 1.3 which do not serve recreation facilities unless there is no feasible alternative; (4) minimize the number of new road or driveway connections to Routes 1, 92, and 84 in rural areas which do not serve recreation facilities; and (5) orient local commercial and community facilities away from Highways 1 and 92.

b. Recommend to the City of Half Moon Bay that it prohibit the location of local commercial or community facilities on Route 92 and on Route 1, within a half-mile of Route 92.

c. Monitor the peak recreation period traffic to determine whether the above techniques are successful and whether new residential development is consuming road capacity needed for visitors.

2.52 <u>Traffic Mitigation for all Development in the Urban Midcoast</u>

In the urban Midcoast, require applicants for new development, as defined in Section 30106 of the Coastal Act, that generates any net increase in vehicle trips on Highways 1 and/or 92, except for a single-family dwelling, a second dwelling unit, or a two-family dwelling, to develop and implement a traffic impact analysis and mitigation plan (TIMP). Prior to the approval of any coastal development permit (CDP) application involving the above, information necessary for the analysis and implementation of all components of the TIMP shall be submitted in support of any CDP application. Calculation of new vehicle trips generated shall assume maximum occupancy/use of any approved development. The TIMP shall include:

a. Traffic mitigation measures, including but not limited to transportation demand management (TDM) measures set forth by the City/County Association of Governments (CCAG), establishing a shuttle service for employees of the subject development, subsidizing transit for employees of the specific development, charging for non-public access parking, establishing a carpool or vanpooling program for employees of the subject development, having a compressed work week for employees of the subject development, providing bicycle storage facilities and showers for employees of the subject development, and establishing a day care program for employees of the subject development. Prior to approval of the coastal development permit, the County must be able to make the finding that the proposed mitigation measures are adequate to offset new vehicle trips generated by the project to the extent feasible.

b. Specific provisions to assess, and mitigate for, the project's significant adverse cumulative impacts on public access to, and recreational use of, the beaches of the Midcoast region of San Mateo County. This shall include an assessment of project impacts combined with other projects causing related impacts, including all reasonably foreseeable future projects as defined in 14 CCR Section 15130(b). Public access and recreation mitigation measures to consider include: providing public access parking that is not time restricted, public access signage indicating that public access parking is available, providing a public recreation shuttle bus to all the beaches during key recreational use times that commences at the junction of Highways 92 and 280, dedication of construction of various public access improvements such as bikeways, and vertical and lateral public paths to and along the beaches and/or bluffs.

2.53 <u>Transportation Management Plan</u>

Develop a comprehensive transportation management plan to address the cumulative traffic impacts of residential development, including single-family, two-family, multi-family, and second dwelling units, on roads and highways in the entire Midcoast, including the City of Half Moon Bay. The plan shall be based on the results of an analysis that identifies the total cumulative traffic impact of projected new development at LCP buildout and shall propose specific LCP policies designed to offset the demand for all new vehicle trips generated by new residential development on Highway 1, Highway 92, and relevant local streets, during commuter peak periods and peak recreation periods; and policies for new residential development to mitigate for residential development's significant adverse cumulative impacts on public access to the beaches of the Midcoast region of San Mateo County.

The plan shall thoroughly evaluate the feasibility of developing an in-lieu fee traffic mitigation program, the expansion of public transit, including buses and shuttles, and development of a mandatory lot merger program.

SAN MATEO COUNTY TRAFFIC IMPACT STUDY REQUIREMENTS (2013)

Link: https://publicworks.smcgov.org/documents/traffic-impact-analysis-requirements

DESCRIPTION

The County of San Mateo Department of Public Works (DPW) requires analysis for traffic and circulation impacts of proposed developments of a certain size and/or type. This requirement can be satisfied by preparing a Traffic Impact Study (TIS). Generally, projects that are expected to generate over 500 trips per day or over 100 trips during the peak hour are required to develop a TIS. Development of the TIS is the responsibility of the applicant (developer), and the County serves in a reviewing capacity. The results of the TIS inform any conditions of development and mitigations.

SAN MATEO COUNTY INTERIM VMT ANALYSIS GUIDELINES (2020)

Link: https://publicworks.smcgov.org/documents/traffic-impact-analysis-requirements

DESCRIPTION

Senate Bill 743 (SB 743) initiated an update to the CEQA Guidelines to change how lead agencies evaluate transportation impacts under CEQA. As of July 1, 2020, agencies analyzing the transportation impacts of new projects must now use vehicle miles traveled (VMT) instead of level of service (LOS). VMT measures how much actual auto travel a proposed project would create. Applicants must assess whether their proposed projects are subject to a VMT analysis in order to meet CEQA Guidelines Section 15064.3. San Mateo County has developed interim guidance for applicants including when a project would be likely screened from a VMT analysis, significance criteria, and mitigation options. C/CAG is currently developing a VMT estimation tool that is anticipated to be publicly available in early 2021. The County plans to develop final guidance once the C/CAG tool is available. Assessing VMT is not yet reflected in the San Mateo County Local Coastal Program, DPW Traffic Impact Study Requirements, or C/CAG's Traffic Impact Analysis Policy.

PLAN PRINCETON (EXISTING CONDITIONS 2014, NEXT DRAFT 2020)

Link: https://planning.smcgov.org/plan-princeton

DESCRIPTION

Plan Princeton is a study being conducted by San Mateo County to update the land use plan for Princeton. The project will focus on the area west of and including Highway 1, between Pillar Point Harbor and Moss Beach. The purpose of this project is to make a comprehensive update to the policies, plans, and standards regulating the Princeton study area. The project team released the Preferred Plan and Policy Framework in March 2015. The Draft Plan is currently being developed and will be released for public review and comment. The Connect the Coastside Project Team is working closely with the Plan Princeton Project Team to ensure consistency with the current draft of the plan; these projects may change in the future after additional community input.

POLICIES OR PROGRAMS

Section 3.2 – Circulation Policy Framework (p.24)

- Create **pedestrian-oriented street enhancements along Prospect Way, Broadway, Princeton Avenue, and West Point Avenue, as the Princeton Waterfront's visitor-oriented spine**. Street improvements should reinforce Princeton's existing character, while providing safe and attractive space for pedestrians.
- Work with the Harbor District to enhance the pedestrian path along the edge of the Inner Harbor.
- Create a network of **multiuse trails and on-street bike routes that provides safe and attractive access into the Princeton Waterfront area, and enhances the Coastal Trail**. The network includes **multiuse paths along Highway 1 (the "Parallel Trail") and Airport Street**; as well as Class II and Class III bikeways along **Capistrano Road** from Highway 1 (north intersection) to Prospect Way.
- Identify a circulation network for visitor access to Princeton and Pillar Point Harbor that includes the Harbor access road, Capistrano Road, Prospect Way, Broadway from Prospect to Princeton Avenue, Princeton Avenue, and West Point Avenue from Princeton to the Pillar Point recreational parking lot. Improvements on these streets should facilitate multimodal access and enhance the look and feel of Princeton. **Signage should be used to guide visitors along these routes.**
- Identify a circulation network for trucks and marine-related traffic that includes the Harbor access road, Capistrano Road from Highway 1 (south) to Prospect Way, Prospect Way, Harvard Avenue, Airport Street, and Cypress Avenue. Improvements should facilitate movement for large vehicles and equipment, while also supporting other users. Signage should be used to guide trucks and marine-related traffic along these routes.
- **Identify improvements to the intersection of Capistrano Road and Prospect Way** that relieve traffic congestion and create a safe and attractive gateway between the Harbor area and the Princeton Waterfront.
- Support **improvements to the intersections of Highway 1 and Cypress Avenue and Highway 1 and (north) Capistrano Road**, as part of the Comprehensive Transportation Management Plan (CTMP) being conducted in parallel with Plan Princeton (also known as **Connect the Coastside**).

Improvements should be designed to ease congestion and improve the safety and attractiveness of travel by bike and on foot.

- Following policy 2.53 in the certified LCP, plan roadway improvements in light of the overall implementation of the transportation management plan currently underway for the larger Midcoast area.
- Following policy 11.13 in the certified LCP, ensure consistency with San Mateo County's County Trail Policies and the County Trail Design and Management Guidelines, including but not limited to:
    - Ensuring compatibility with the environment by locating, designing, and developing trail routes with consideration of their potential to have environmental, recreational, and other impacts on adjacent lands;
    - Considering an alternative trail route if the location of a trail is proposed in a sensitive habitat or wetland and trail use is not allowed by the LCP;
    - Providing trail access for a range of potential users;
    - Siting and designing trail alignments and associated facilities to be in harmony with their natural and cultural environment, and to keep aesthetically natural characteristics;
    - Siting and designing trails to avoid prime lands designated as suitable for agriculture, or to traverse such lands in a manner that does not result in interference with agricultural activities or substantially reduce the agricultural potential of those lands. Agricultural activities shall be protected and buffered from trail user impacts by means of distance, physical barriers, or other non-disruptive methods.
- Develop a **system of wayfinding signage to direct visitors** to where coastal access parking areas can be found and if there are any parking restrictions, following the guidance established in Plan Princeton.
- Pursue an **agreement with Half Moon Bay Airport (a division of San Mateo County) to establish a parking lot for recreational users of Pillar Point Bluff**, addressing the shortage of recreational parking in this area. The parking lot may be unimproved, and used only for spillover parking at peak times or for special events.

Maps and Photos

- Figure 3-1: Preferred Plan Circulation (p.21)
- Figure 3-2: Circulation Components by Mode (p.22)

SAN MATEO COUNTY COASTSIDE ACCESS STUDY (2015)

Link: https://www.nps.gov/goga/learn/management/upload/SM-Coastside-Access-FINAL-April-2015.pdf

DESCRIPTION

The San Mateo Coastside Access Study considers access to public lands along the San Mateo County coast between Pedro Point Headlands and El Granada. The partners to the study are San Mateo County Parks, California State Parks, and Golden Gate National Recreation Area (GGNRA). The consultant team carried out an assessment of access capacity and visitor demand. The team considered current conditions and developed a forecast of how visitor access might change in the future.

POLICIES OR PROGRAMS

COASTSIDE ACCESS OPPORTUNITIES:

1. Continue to improve pedestrian and bicycle connectivity between parks
2. Study the potential for a regional shared parking strategy
3. Study the potential for a regional paid parking program
4. Improve wayfinding.
5. Provide and promote a more frequent, visitor-oriented regional transit service
6. Monitor growth in parking demand and consider strategically expanding the parking supply in accordance with policy goals

PROJECTS

p.4-11: NEXT STEPS / PHASING APPROACH

1. **Formalize Gray Whale Cove informal parking area and Montara State Beach Roadside parking.**
2. **Begin discussions of shared parking with potential partners.**
3. **Implement improved wayfinding.** The wayfinding improvements discussed in this memo could begin immediately. Signage should identify the formal parking areas at Gray Whale Cove, and at the Montara State Beach roadside. Improved signage should also direct visitors to the public parking spaces at the Oceano Hotel. Land managers may also wish to begin working together on shared website language regarding travel options to and from the Coastside.
4. **Begin discussion of costs, benefits, and tradeoffs of more intensive strategies.**
5. **Monitor parking occupancies.**

HIGHWAY 1 CONGESTION AND SAFETY IMPROVEMENT PROJECT – PRELIMINARY PLANNING STUDY (2015)

Link: https://planning.smcgov.org/highway-1-congestion-and-safety-improvement-project

DESCRIPTION

The San Mateo County Transportation Authority prepared the Preliminary Planning Study (PPS) to evaluate the feasibility of the projects that were identified in the Highway 1 Safety and Mobility Studies (Phase 1 and 2). The study was funded through Measure A funds.

The improvements were grouped into five general locations (from south to north): (1) Mirada Road in Miramar; (2) S. Etheldore Street to Vallemar Street in Moss Beach, CA; (3) 16th Street in Montara, CA; (4) 1st Street through 9th Street in Montara; and (5) Gray Whale Cove. The Moss Beach location includes the proposed improvements at Cypress Avenue. The improvements at each location could be implemented independently of one another as individual projects, combined into a single project, or grouped into multiple projects depending on feasibility, public acceptance, and the availability of funds.

Generally, two alternatives were evaluated for each location. The two alternatives consist of the minimum and the maximum improvements in terms of costs and impacts. A third alternative was developed for two locations—1st Street through 9th Street in Montara and S. Etheldore Street to Vallemar Street in Moss Beach—in response to feedback from the public at the third public workshop, which was held on March 11, 2015.

Table ES-1-1: Highway 1 Preliminary Planning Study Alternatives Matrix

Location	Alternative	Estimated Capital Cost[1]	Estimated Support Cost	Estimated Construction Completion[2]	Environmental Impact[3]	Utility Impact[4]
Mirada Road, Miramar	1	$371,000	$138,000	2018	Low	None
	2	$4,122,000	$1,526,000	2020	Med	Low
Moss Beach	1A	$680,000	$252,000	2018	Low	None
	1B	$577,000	$214,000	2018	Low	None
	2	$7,405,000	$2,740,000	2020	Med	Low
	3	$2,947,000	$1,091,000	2019	Low	None
16th Street, Montara	1	$377,000	$140,000	2018	Low	None
	2	$3,325,000	$1,231,000	2020	Med	Med
1st Street – 9th Street, Montara	1	$517,000	$191,000	2018	Low	None
	2	$7,246,000	$2,681,000	2020	Med	High
	3	$4,106,000	$1,519,000	2019	Low	Med
Gray Whale Cove	1	$951,000	$351,000	2020	Med	Med
	2	$1,050,000	$388,000	2020	Med	Med

Notes:
1. Project capital outlay cost (construction cost) refer to Attachment C.
2. Refer to schedule assumptions.
3. Low = minimizes impacts; Med = some impacts or potential mitigation.
4. Low > $50K > Med > $150K < High

Each of the factors in Table ES-1 plays a key role in the feasibility of the project(s) moving forward. Depending on the implementation strategy, the California Department of Transportation (Caltrans) project delivery process may include the development of a Project Initiation Document (PID), a Project Approval and Environmental Document (PA&ED), and separate Plans, Specifications, and Estimates (PS&E). Delivery of individual sites may qualify for a Permit Engineering Evaluation Report (PEER), which is an abbreviated process. The alternatives and implementation strategies have been discussed with Caltrans District 4 staff.

Beginning on p.4-11, the PPS documents design exceptions, traffic analysis, bridge and structure work, right-of-way and utility impacts, and a Preliminary Environmental Analysis Report (PEAR). The checklist for all alternatives is also included as Attachment D.

Cost estimates for each alternatives are in Tables 4-10 and 4-11 (p.4-25).

Project delivery recommendations are addressed in Section 6.

PROJECTS

Mirada Road and Highway 1 (p.4-3) Future considerations (p.6-2)

- Install at-grade crossing
  - Alternative 1 – RRFBs, highway lighting, advance yield markings and signs
  - Alternative 2 – raised medians, ped refuge in the median, highway lighting, advance yield markings and signs
    - Requires pavement widening to accommodate medians and shoulders, extension of drainage culvert, and four bus stop would need relocation

Moss Beach (p.4-4) Support for Alternative 3

- Median between S. Etheldore St and Marine Boulevard
- Ped crossings at Cypress, Virginia, and/or California Avenues
  - Limit restriping of acceleration lane for northbound Highway 1 traffic at Cypress
- Acceleration lane on Highway 1 for eastbound Cypress Ave going NB on Highway 1

Montara – 16th St (p.4-6) Alternative 1

- At-grade ped crossing with highway lighting. Alternatives include raised medians.

Montara – 1st through 9th St (p.4-7) No individual alternative emerged for 7th St, Alternative 3 for 2nd St

- At-grade ped xings at 2nd St and 7th St with additional highway lighting, RRFBs, alternative includes raised medians

Gray Whale Cove Alternative 1

- New at-grade ped xing north of the parking lot with RRFB or PHB

MAPS AND PHOTOS

- Attachment B includes detailed exhibits for each alternative

CALTRANS TRANSPORTATION CONCEPT REPORT FOR SR 1 SOUTH (2018)

Link: http://static1.1.sqspcdn.com/static/f/1461275/28065824/1548438726290/2018-04-Caltrans-Rte1-TransConceptRep.pdf?token=gCbuKEZq5TwjCLHNIX6axGltVGw%3D

DESCRIPTION

The purpose of the Transportation Concept Report (TCR) is to evaluate current and projected conditions along the route and communicate the vision for development in each Caltrans District over a 25-year planning horizon; TCRs are part of Caltrans System Planning. The TCR for SR 1 South is from San Mateo/Santa Cruz County to the Golden Gate Bridge. The summary of the 25-year concept for the Midcoast is in the Executive Summary (snapshot below).

SEGMENT	COUNTY	SEGMENT DESCRIPTION	EXISTING FACILITY	25-YR CONCEPT	STRATEGIES TO ACHIEVE CONCEPT
Segment B PM 29.04–R43.46	SM	SR 92 to Sharp Park Road, Pacifica	**2-4** lane Conventional Highway	**2-6** lane Conventional Highway	• Support "Connect the Coastside" efforts • Support completion of CA Coastal Trail • Implement new Traffic Operations Systems elements including Closed Circuit TV and Variable Message Signs • Maintain & improve Park & Ride lots • Improve coastal community safety & mobility with consistent roadway edges, shoulders, ped crossings & roundabouts • Monitor and plan for sea level rise

The TCR acknowledges that Segment B has periods of traffic congestion on the weekends and during annual events, that visitors often park informally along the highway shoulder for trail and beach access, and pedestrian and bicycle activity is prevalent.

The TCR also includes data on each segment as summarized in the tables below.

Route Designations

Table 2: Route Designations

SR 1 South Route Designations and Characteristics				
Segment:	A	B	C	D
	Santa Cruz/San Mateo County Line to SR 92	SR 92 to Sharp Park Road, Pacifica	Sharp Park Road to SM/SF County Line	SM/SF County Line to US 101
California Freeway & Expressway System (F&E)	Yes	Yes	Yes	Yes
National Highway System (NHS)	Partial (North of Tunitas Creek Rd.)	Yes	Yes	Yes
Strategic Highway Network (STRAHNET)	No	No	No	No
Scenic Highway	Yes	Eligible	Eligible	Eligible
Interregional Road System (IRRS)	Yes	Yes	Yes	Yes
Federal Functional Classification	Minor Arterial/Other Principal Arterial	Other Principal Arterial	Other Freeway or Expressway/ Interstate	Other Principal Arterial/Other Freeway or Expressway
Goods Movement Route	No	No	Tier 3 (I-280 portion only)	No
Truck Designation	Terminal Access (STAA*)/ Kingpin to Rear Axle 40 ft. max	CA Legal 65' KPRA 40'max/ Restrictions in Tom Lantos Tunnel	Terminal Access (STAA*)/ Kingpin to Rear Axle 40 ft. max	CA Legal Route 65' max Kingpin to Real Axle 40 ft. max
Rural/Urban/Urbanized	Rural	Rural	Urbanized	Urbanized
Metropolitan Planning Organization/ Regional Transportation Planning Agency	Metropolitan Transportation Commission			
Congestion Management Agency	San Mateo City/County Association of Governments			San Francisco County Transportation Authority
Local Agency	San Mateo County/ City of Half Moon Bay	San Mateo County/ City of Pacifica	San Mateo County/ City of Daly City	San Francisco County Transportation Authority, City & County of San Francisco
Air District	Bay Area Air Quality Management District			
Terrain	Mountainous/ Rolling	Mountainous/ Rolling	Mountainous/ Rolling	Rolling/Flat

*STAA = federal Surface Transportation Assistance Act of 1982

SYSTEM CHARACTERISTICS

Table 4: SR 1 South Facility and Lane Characteristics

Segment	A	B	C	D
	Santa Cruz/San Mateo County Line to SR 92	SR 92 to Sharp Park Road, Pacifica	Sharp Park Road to SM/SF County Line	SM/SF County Line to US 101
Existing Facility (2015)				
Facility Type	C	C	F	C/F
General Purpose Lanes	2	2-4	4-10	4-6
Lane Miles				
Centerline Miles	29.04	14.42	4.89	7.08
Median Width	0-12'	0-46'	8-46'	4-14'
Median Characteristics	Striped	Striped/Barrier	Barrier	Raised Island/Barrier
HOV Lanes	0	0	0	0
Auxiliary Lanes	0	0	Yes	Partial
Truck Climbing Lanes	0	0	0	0
Distressed Pavement (2012 Survey)	5%	20%	20%	30%
ROW	<100'	<100'+	100'+	100'+
Concept Facility (2040)				
Facility Type	C	C	F	C/F
General Purpose Lanes	2	2-6	4-10	4-6
Lane Miles	58	79	30	40
Centerline Miles	29.04	14.42	4.89	7.08
HOV /HOT Lanes	0	0	0	0
Aux Lanes	0	0	0	0
Truck Climbing Lanes	0	0	0	0
TMS Elements				
TMS Elements (Base Year)		CCTV CMS	CCTV TMS	CCTV HAR VMS
TMS Elements (Horizon Year)		CCTV CMS VMS	CCTV TMS VMS	CCTV HAR VMS

C = Conventional Highway
F = Freeway

CCTV = Closed Circuit Television
CMS = Changeable Message Signs
HAR = Highway Advisory Radio
TMS = Traffic Monitoring Stations
VMS = Variable Message Signs

Table 5: Bicycle Facilities

SR 1 South Bicycle Facilities										
	SR 1 South Bicycle Facility						Parallel Bicycle Facility			
Segment	*Post Mile*	*Location Description*	*Bicycle Access Prohibited*	*Facility Type*	*Parallel Facility Present*	*Posted Speed Limit*	*Name*	*Location Description*	*Class*
A	*SM 0.00 to SM 29.04*	*SM/SCruz County Line to SR 92*	*No*	*Shared Roadway; no dedicated bikeway*	*Portion*	*55 mph*		*Naomi Patridge Trail, 3.5 mile multipurpose trail through Half Moon Bay*	*I*
B	*SM 29.04 to SM R43.46*	*SR 92 to Sharp Park Rd, Pacifica*	*No*	*Shared Roadway; no dedicated bikeway*	*Portion*	*55 mph*		*Devil's Slide Trail, a 1.3-mile multi-use trail, converted from a former segment of Highway 1*	*n/a*
C	*SM R43.46 to SM R48.22*	*Sharp Park Rd, Pacifica to SM/SF County Line*	*Yes*	*Bicycling Prohibited on freeway*	*Yes*	*65 mph*		*Bradford Way Francisco Blvd. Lakeside Ave. Palmetto Ave. Esplanade Ave. Skyline Blvd. Junipero Serra Blvd.*	*II/III*
D	*SF 0.00 to SF 7.08*	*SM/SF County Line to US 101*	*Portion from Lake Street northward*	*Shared Roadway to Lake Street*	*Yes*	*30 mph*		*Beverly St. Lunado Way Winston Dr. 20th Ave. 23rd Ave. Lincoln Blvd.*	*II/III*

Class I: Bike path
Class II: Bike lane
Class III: Bike route

The TCR identifies high priority intersections for pedestrian crossing improvements, including Coronado St, Capistrano Rd, and Gray Whale Beach parking lot (p.25). It also shares the vision for the California Coastal Trail (p.26) and understanding that Caltrans is committed to cooperate to make lands available for the completion of the trail.

The TCR also discusses the partnership agreement with the California Coastal Commission, with a focus on sea level rise and the California Coastal Trail. Caltrans District 4 is also working on the Climate Change Vulnerability Assessment which studies the potential effects of climate change on the State Highway system. It identifies SR-1 South between Pescadero and San Gregorio (p.37) as an area of immediate concern with erosion on the roadbed (p.37). It also identifies Surfer's Beach in El Granada as an area of concern, due to its exposure to wave erosion.

The TCR acknowledges that roundabouts should be evaluated as they pertain to highway operations, per its Traffic Operations Policy Directive 13-02 on Intersection Control Evaluation (ICE) to better examine the benefits of alternative treatments (p.48).

Policies or Programs

Detailed beginning on page 52; below are examples most relevant to Connect the Coastside.

- Planned traffic operations systems From Half Moon Bay to Pacifica (Segment B):

   - On the conventional highway portions of the corridor, fixed cameras at each signalized intersection, along with a few CCTVs on the long stretches between signalized intersections.
   - VMSs and TMSs to be installed.
   - Consider roundabouts for coastal communities
- Work with transit operators on the planning and implementation of projects to increase people throughput in the corridor such as: Park and Ride facilities, bus signal priority, transit stops and shelters.
- Support operations and expansion of transit service and improve amenities; increase frequency and passenger comfort and reduce travel times, including a Regional Express Bus network.
- Pave transit stops and connect them via sidewalk or path along SR 1 South.
- Support bicycle network improvements paralleling and crossing SR 1 South.
- Install rectangular rapid flashing beacons or pedestrian hybrid beacons where appropriate
- Analyze lane widths of road facilities to consider the addition of medians to provide pedestrian refuge and help with traffic calming.
- Work with local agencies on implementing planned and programmed pedestrian and bicycle network improvements. These may include on-street improvements or grade-separated facilities.
- Provide shoulder striping or edge treatments wherever possible to enhance the walking experience
- Support completion of the California Coastal Trail and provide trail connectivity wherever possible, recognizing the alignment goals for the trail which aim to place it within the sights, sounds, and smells of the ocean, safely protected from motorized traffic.

PROJECTS

Pages 53-54

Table 19: SR 1 South Summary of Planned and Programmed Projects

Seg.	Description	Planned or Programmed	Location	Source	Purpose	Implementation Phase
A	SR 1 possible realignment because of severe erosion between Pescadero & San Gregorio.	Planned	Bean Hollow Rd. to Stage Rd. PM 10.70-19.45	Project Study Report (EA: 2S210K)	Realignment	Planning
A	Complete Class I bike & pedestrian path from Kelly Ave. to San Mateo Rd (SR 92)	Planned	Half Moon Bay	Project Recommended by Caltrans	Bike & Pedestrian Improvements	Planning
A B	Intersection improvements at Kelly Ave., Coronado St., and Capistrano Rd: curve radii, curb extensions, crosswalks	Planned	Half Moon Bay to El Granada and Princeton	Project Recommended by Caltrans	Bike & Pedestrian Improvements	Planning
B	Stripe Class II bike lanes with striped buffer where feasible	Planned	Half Moon Bay to El Granada and Princeton	Project Recommended by Caltrans	Bike & Pedestrian Improvements	Planning
B	Pave Transit Stops and connect stops via sidewalk or path	Planned	Half Moon Bay to El Granada and Princeton	Project Recommended by Caltrans	Transit Improvements	Planning
B	Hwy 1 operational & safety improvements in SM Co. mid-Coast. (acceleration/ deceleration lanes; turn lanes; bike lanes; pedestrian crossings; and trails	Planned $29M	San Mateo County Midcoast	RTP 2013 Plan Bay Area ID #17060020	Highway Operational Improvements	Completion 2020
B	SR 1 Improvements in Half Moon Bay; left and right turn lanes, bike lanes, bus stops, safety lighting, median and channelization improvements	$19M	Half Moon Bay	RTP 2013 Plan Bay Area ID #17060023	Highway Operational Improvements	Completion 2019
B	Along 7 miles of SR 1 between Half Moon Bay and Pacifica install raised medians, left turn lanes, acceleration lanes, and pedestrian crossings	Planned	Between Half Moon Bay and Pacifica	San Mateo County	SHOPP Coordination	Planning
B	Widen overcrossing at Manor Dr. & new onramp for NB SR 1 at Milagra Drive.	$23.4M	Pacifica	RTP 2013 Plan Bay Area ID #240067	Safety	Completion 2040
B	Construct SR 1 (Calera Parkway) northbound and southbound lanes from Fassler Ave. to Westport Dr.	Programmed $58M	Pacifica	RTP 2013 Plan Bay Area ID #17060034	Roadway Expansion	Project on Hold
B	Repair washout Rock Slope Protection due to storm waves and repair box culver	Programmed $1.4M	El Granada, 0.1 mile N of Coronado St.	2016 SHOPP 4J060	Roadway Preservation Flood Protection	Construction April 2019
B C	Rehabilitate pavement	Programmed $18.9M	Montara, Pacifica, & Daly City, 1.3mi N of 2nd St to Sullivan Ave overcrossing	2016 SHOPP 4H210	Roadway Preservation	Construction Sept 2019

CALTRANS D4 BIKE PLAN (2018)

Link to Plan: https://www.catplan.org/files/managed/Document/268/CaltransD4BikePlan_Report.pdf

Link to Bike Plan webmap of proposed projects: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=91f1bb4eb7ff418092977b762b459d01

Link to homepage: https://www.catplan.org/district-4

Contact: Elliot Goodrich - elliot.goodrich@dot.ca.gov

Description

The Caltrans District 4 Bike Plan covers the nine-county San Francisco Bay Area and builds on the 2017 California State Bicycle and Pedestrian Plan, Toward an Active California. The District 4 Bike Plan identifies policies, strategies, and actions for Caltrans and its partners to improve the safety and comfort of bicyclists, including evaluating bicycle needs, identifying proposed improvements, and serves as a resource to inform the selection and scoping of District 4 projects for Caltrans funding. The focus of the Plan is on Caltrans-owned and maintained rights-of-way.

Policies or Programs

- Three pathways for implementation: maintenance and operations (like the State Highway Operation and Protection Program), other funding sources (like State Active Transportation Program, Senate Bill 1 programs, and State Transportation Improvement Program), and locally sponsored projects and programs. (p.57-58)
- Provide guidance to local agency partners on the Caltrans approval process for complete street improvements on the State network (p.59)
- Explore opportunities to partner with local agencies and organizations on short-term pilot projects and events to promote bicycling (p.59)
- Initiate a bicycle count program for the State transportation network in District 4 (p.59)

Projects

- San Mateo County top tier projects that are expected to cost over $250k; full project list is in Appendix A (p.44)
- District 4 project prioritization tool is available to download as an excel file

Street	To (Cross Street 1)	From (Cross Street 2)	Proposed Project	Page #
Highway 92	Highway 1	Half Moon Bay border	Corridor improvement – Class 1. Potential San Mateo County project to install Class 1 facility on SR 92. (SM-92-C02)	p.45 of Plan, p.43 of Appendix A
Highway 92	Main Street	Half Moon Bay town limit	Corridor Improvement – Class II. Potential San Mateo County project to install Class II bike lanes on SR 92. (SM-02-C01)	p.43 of Appendix A

Highway 1	Roosevelt Blvd	Higgins Canyon Road	Corridor improvement – Class 1. Potential San Mateo County project to install Class 1 facility on SR-1. (SM-1-C01)	p.34 of Appendix A
Highway 1	Highway 92	Wavecrest Road	Corridor Improvement – Class 1. Complete Class 1 bikeways on both sides of Hwy 1. (SM-1-C02)	p.34 of Appendix A
Highway 1	Gray Whale Cove Parking Area	Devil's Slide Trail	Corridor Improvement – Class 1. Provide Class 1 connection from Gray Whale Cove to Devils Slide Trail along Hwy 1. (SM-1-C03)	p.44 of Plan, p.34 of Appendix A
Highway 1	Gray Whale Cove	Half Moon Bay Airport	Corridor improvement – Class 1. Provide Class 1 path in Hwy 1 ROW. (SM-1-C05)	p.35 of Appendix A
Highway 1	Gray Whale Cove		Provide flashing beacon, pedestrian hybrid beacon or other improvement along Hwy 1 at Gray Whale Cove beach parking lot to connect to Gray Whale Cove State Beach. (SM-1-X14)	p.36 of Appendix A
Highway 1	2nd St		Provide flashing beacons or other advance warning for bicyclists crossing Hwy 1 at 2nd St (SM-1-X15)	p.36 of Appendix A
Highway 1	7th St		Provide flashing beacons or other advance warning for bicyclists crossing Hwy 1 at 7th St (SM-1-X16)	p.36 of Appendix A
Highway 1	Capistrano Road	Prospect Way	Intersection improvement at controlled intersection. Potential San Mateo County project to install Class III bike route on Capistrano Road between Prospect Way and SR 1. Also improve crossing at Capistrano Road / SR 1. (SM-1-X05)	p.35 of Appendix A
Highway 1	Capistrano Road		Potential San Mateo County project to improve crossing at Capistrano and SR 1 intersection. Consider closing or reconfiguring free right-turn lane. (SM-1-X08)	p.35 of Appendix A
Highway 1	Highway 92		Potential San Mateo County project to improve crossing at SR 1 and SR 92 intersection (SM-1-X06).	p.35 of Appendix A
Carlos Street	Highway 1	Vermont Ave	Potential San Mateo County project to install Class II Bike Lanes on Carlos St from SR 1 to Vermont Ave. (SM-1-X07)	p.35 of Appendix A
Highway 1	Virginia Ave		Provide Ped Hybrid Beacon or flashing beacons for an improved bike and ped crossing of Hwy 1 in Moss Beach – exact location TBD	p.36 of Appendix A
Highway 1	Cypress Avenue		Potential San Mateo County project to improve crossing at Coronado Street and SR 1 intersection. (SM-1-X10)	p.35 of Appendix A

Highway 1	Half Moon Bay Airport entrance		Potential San Mateo County project to improve crossing at Half Moon Bay Airport and SR 1 intersection. (SM-1-X11)	p.36 of Appendix A
Highway 1	Coronado Street		Potential San Mateo County project to improve crossing at Coronado Street and SR 1 intersection. (SM-1-X09)	p.35 of Appendix A
Highway 1	Mirada Road		Potential San Mateo County project to improve crossing at Mirada Road and SR 1 intersection. (SM-1-X12)	p.35 of Appendix A

Maps and Photos

Map of San Mateo County proposed projects (p.46)

Online webmap:
https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=91f1bb4eb7ff418092977b762b459d01

HALF MOON BAY BICYCLE AND PEDESTRIAN MASTER PLAN (2019)

Link: https://www.half-moon-bay.ca.us/640/Bicycle-Pedestrian-Master-Plan

DESCRIPTION

The Half Moon Bay Bicycle and Pedestrian Master Plan was approved by the City of Half Moon Bay in September 2019. The Plan guides the development of programs and facilities to enhance walking and bicycling as practical, safe, and efficient modes of transportation for residents, worker and visitors of Half Moon Bay. It identifies needs and prioritizes active transportation needs and provides the City with a blueprint to implement a complete network, and with tools to apply for grant funding to support implementation. The Plan was developed by collecting data, identifying key activity generators, engaging community on needs, and identifying solutions.

More recently (2020), the City of Half Moon Bay used "Our Voice," a citizen science data collection tool with a small group of stakeholders to capture geotagged photos and annotate them with text with concerns. Some locations in unincorporated County were identified, including:

- Highway 1 near the Beach House Half Moon Bay (between Surfer's Beach and Sam's Chowder House) with photo of parked cars along Highway 1 and people unloading bicycles and getting ready to cross with text "Recommendation: Divert Hwy 1 along Obispo Rd with parking on the west side for all recreation and businesses."
- Highway 1 north of Sam's Chowder House – "there is also a restaurant (Sams), hotel, RV park, and a skatepark on the same block competing for parking."
- Highway 1 at Surfer's Beach with photo of family crossing Highway 1- "Parking along both sides of Hwy 1 and a dirt lot east of the Hwy creates a dangerous crossing for families and surfers going to the beach."

PROJECTS

Recommended projects that connect to or impact unincorporated areas include:

- Mirada Road / Highway 1 – Pedestrian crossing of Highway 1 with pedestrian hybrid beacon
- Mirada Road / Magellan Ave – Class III Bike Route / Bike Boulevard, and additional corridor study of Mirada Road needed
- East and west sides of Highway 1, from southern HMB to Mirada Road – Class 1 Shared -Use Path
- Mirada Road, south of Magellan Ave (near Coastal Access Point) – Add bicycle parking

MAPS AND PHOTOS

- Figure 3-2: Pedestrian Recommendations, page 3-4
- Figure 3-8: Recommended Bikeway Network, page 3-10

SAMTRANS COASTSIDE TRANSIT STUDY (2018)

Link: https://www.samtrans.com/Planning/Planning_and_Research/Coastside_Transit_Study.html

Description

Between April 2017 and May 2018, SamTrans conducted a study of bus service on the Coastside, including Pacifica, Half Moon Bay, and other Coastside communities like Montara, El Granada, and Moss Beach. The Study was adopted by the SamTrans Board of Directors on August 1, 2018. As part of the study, SamTrans staff evaluated existing SamTrans bus service on the coast and conducted an assessment of transit needs for the area. Staff also reviewed origin/destination trip data for the Coastside and recent and historic operations data, such as ridership and cost per passenger.

The study's goals were to:

- Engage with Coastside community members about SamTrans bus service and hear their ideas
- Evaluate potential demand for additional or modified bus service
- Consider recommendations for bus service concepts that maximize efficiency and provide the best service possible to meet the community's needs.

The study included two rounds of community outreach. Meetings were held in Half Moon Bay and Pacifica in April 2017 to kick off the project and hear from the community about their transit needs. A second round of meetings was held in the same cities in late January/early February 2018 to share draft recommendations.

An estimated 17,000 trips are made from or within the coastside each morning; about 8.700 remain on the coast and 8,300 leave for other destinations (p.19).

Policies or Programs

Based on input from the community and technical analysis, SamTrans staff developed a set of Coastside service recommendations for both near-term and longer-term implementation.

Near-term improvements:

- **Extension of the 118 route to serve Daly City BART.** Route 118 previously only served Colma BART. By extending service to Daly City BART, passengers have new access to a BART station with twice as much train service and a slightly less expensive fare for trips heading north into San Francisco. Other portions of the current route will not change. *This change took effect on January 21, 2018.*

- **Introduction of one additional trip in the evening on the 118.** The new trip will depart Daly City BART around 7:30 pm. This will offer more flexibility to passengers that require a later connection between BART and SamTrans. *This change took effect on January 21, 2018.*

- **Educate the community on how to use the FLX service in Pacifica.** We heard there was confusion around how to use the FLX service in Pacifica. This outreach will seek to spread information on how to call SamTrans to request a deviation on the FLX route, as well as how to use the FLX route as a normal service with stops and timetables. *This campaign will be conducted in 2018.*

- **Evaluate opportunities for better timed transfers to and from Coastside routes.** This improvement will be an ongoing effort to evaluate scheduling with respect to the transfer experience, minimizing wait times and improving connectivity where a transfer is required. *This will be an ongoing effort in 2018.*

Longer-term improvements, requiring significant resource investment, which will be further studied individually by SamTrans staff:

- **Expand Route 118 to new places such as Half Moon Bay and increase frequency.** This route would offer a direct ride from points south of Pacifica to BART and increase the frequency of trips from Pacifica directly to BART. This service is envisioned to run on weekdays at 20 or 30-minute frequency in the peak commute periods and hourly in the midday periods.

- **Invest in physical improvements at Linda Mar park-and-ride and new park-and-rides if needed, such as secure bike parking, better waiting areas, restrooms, and other amenities.** This would require significant coordination with Caltrans, the owner of the Linda Mar park-and-ride, and the cities of Pacifica and Half Moon Bay.

- **Continue to assess the potential for non-traditional transportation** options to solve mobility challenges on the Coast, such as bike share, microtransit, and on-demand services.

The Plan also recommended initiatives for future study, including:

- Establish SamTrans goals for providing service on the coastside – develop a set of goals as part of either an upcoming Short Range Transit Plan (SRTP) or **Comprehensive Operations Analysis (COA)**
- Explore whether a coastside bike share system could help address mobility needs
- Analyze complementary weekend trip-making data for patterns – evaluate how trip patterns may differ between weekdays and weekends
- Consider re-introduction of Express Bus service from the coast – An express bus service used to exist between Pacifica and downtown San Francisco. SamTrans re-evaluated this opportunity and the route did not meet the daily trips threshold to be included as a route in the Express Bus Study. A challenge is heavily congested freeway conditions that would cause the route to be 30 min longer with less reliability.
- Continue regular evaluation of bus service on the coast – continue to monitor performance and demand for bus service on the coastside. Initiatives for future consideration include weekend bus service and late evening hours, more frequent bus service, extended service into SF, and service using smaller vehicles

C/CAG BIKE/PED PLAN (2011, 2021)

Contact: Mikaela Hiatt, mhiatt@smcgov.org

Link to Draft Plan Webmap: https://tooledesign.github.io/F0066-San-Mateo-CCAG/

Link to homepage: https://bikewalkccag.com/

Link to 2011 San Mateo County Comprehensive Bicycle and Pedestrian Plan: https://performance.smcgov.org/Livable-Community/San-Mateo-County-Comprehensive-Bicycle-and-Pedestr/r4g3-aghc

Description

City/County Association of Governments of San Mateo County Countywide Bicycle & Pedestrian Plan (CBPP) update will set forth detailed goals and objectives to provide an interconnected system of safe, convenient and universally accessible bicycle and pedestrian facilities, for both transportation and recreation throughout San Mateo County. The update builds upon the 2011 Comprehensive Bicycle and Pedestrian Plan to identify opportunities and resources to address the planning, design, funding, and implementation of bicycle and pedestrian projects of countywide significance. As a funding agency, C/CAG's Plan will help guide regional resources.

Projects

The Draft Plan's webmap shows Highways 1 and 92 throughout the Midcoast as part of the county "backbone" network. Connect the Coastside's recommended alignment of the Parallel Trail (with portion along Carlos Street) is also included as part of the network. Portions of Princeton and El Granada near Highway 1 are "pedestrian focus areas." Several stakeholders have commented on the webmap for the recommended Class III Bike Route with Wide Shoulders along Highway 92, requesting a better (Class II) facility or not listing it as a designated route due to safety concerns.

UNINCORPORATED SAN MATEO COUNTY ACTIVE TRANSPORTATION PLAN (2021)

Link to Draft Plan: https://tooledesign.github.io/uninc_smc/pdf/

Link to Draft Appendices: https://tooledesign.github.io/uninc_smc/appendix/

Link to homepage: https://walkbikesmc.org/

Contact: Julia Malmo-Laycock, jmalmolaycock@smcgov.org

Description

The Unincorporated San Mateo County Active Transportation Plan provides a framework to improve active transportation conditions for people walking and biking throughout unincorporated county communities, and includes proposed projects, programs, and policies to do so. The Plan prioritizes projects in unincorporated areas across the Bay Side and Coast side. As of October 2020, the Draft Plan was available for review and comment with a Final Plan anticipated to be released and submitted for approval in 2021.

Policies or Programs

- Existing programs and policies (p.71)
    - Safe Routes to School, operated by the County Office of Education includes education and encouragement programs for students
    - Traffic Calming through the Department of Public Works residential speed control device program
    - Complete Streets resolution (2013)
- Proposed programs and policies (p.72)
    - Employ traffic calming strategies in locations where traffic speeds are too high for pedestrian or bicyclists comfort and areas where anticipated active transportation demand is high.
    - Consider establishing 15 mph school zones and other slow zones near parks, community facilities or senior housing.
    - Work with BART, SamTrans and Caltrain and neighboring jurisdictions to identify infrastructure and programmatic improvements to increased pedestrian, bicycle, and micromobility access to transit.
    - Provide amenities for recreational bicyclists at key locations, for instance on the coastside.
    - Implement short-term interim, high visibility bicycle demonstration or 'pop-up' projects to serve as models that can be applied throughout the county.
    - Develop strategies for rapid network implementation treatments.
- Ongoing high priority county projects, including the Midcoast Multimodal Parallel Trail (p.79)
- Appendix F contains funding sources and descriptions

Projects

- Detailed infrastructure recommendations are available in Appendix D - https://oohwalkbikesmc.blob.core.windows.net/media/Default/Documents/UnincSMC_ActiveTransPlan_AppD_InfrastructureRecs.pdf
- Downtown Montara, Mavericks Event Center (Princeton), and Downtown El Granada were assessed for pedestrian priority destinations (p.67) and conceptual drawings are in Appendix D
- Main Street in Montara and Avenida Alhambra in El Granada project fact sheets are available in Appendix D

Maps and Photos

- Existing bicycle network (p.25)
- Bicycle collisions in Unincorporated San Mateo County (2013-2017) (p.28)
- Proposed Bicycle Network (p.32)
- Proposed Bicycle Network – El Granada, Miramar, Montara, Moss Beach, Princeton (p.35)
- Pedestrian Collisions in Unincorporated San Mateo County (2013-2018) (p.52)
- Pedestrian Focus Areas and Community-Identified Gaps (p.58)
- Pedestrian Focus Areas and Community-Identified Gaps – El Granada, Miramar, Montara, Moss Beach, Princeton (p.61)

CALTRANS D4 PED PLAN (2021)

Link: https://www.catplan.org/district-4

Contact: Gregory Currey, gregory.currey@dot.ca.gov

Description

The Caltrans District-level plans are expected to ultimately lead to an increase in active transportation projects to support a shift in mode-share to active transportation trips. They are also intended to identify opportunities to re-connect communities where transportation facilities have historically created community barriers (Toward an Active California, Chapter 5, E2.1 and S1.1). The District-Level Active Transportation Plans will be data-driven, action-oriented, and project delivery-oriented. The identified bicycle and pedestrian needed improvements – “location-based needs” – will be documented so that they can be incorporated into system and corridor planning, project initiation documents, asset management, and project delivery. Currently under development, the Caltrans District 4 Pedestrian Plan will identify pedestrian needs on and across State highways and develop a comprehensive strategy to address safety concerns. The Planning Team is still collecting community input using Street Story, a tool developed by SafeTREC at UC Berkeley (https://streetstory.berkeley.edu/).

SAN MATEO COUNTY SUSTAINABLE STREETS PLAN (2020)

Link: https://www.flowstobay.org/data-resources/plans/sustainable-streets-master-plan/

DESCRIPTION

The San Mateo Countywide Water Pollution Prevention Program is creating a San Mateo County Sustainable Streets Master Plan. Within the context of a street, the term "green streets" is often used to describe streets that have green infrastructure built into the sidewalks and roadways, allowing water to soak into the land rather than drain straight to the bay or ocean. Transportation planners refer to streets that are designed with enhanced bus stops, cycle tracks, pedestrian-oriented road-crossings, and other improvements to facilitate mobility of all users of the road as "complete streets." Taken together, green infrastructure and complete streets can maximize the benefits of each and lead the way towards what we call "sustainable streets." This long-term planning effort builds on years of watershed modeling and stakeholder input, and will take a closer look at how and where to build sustainable streets in San Mateo County that integrate stormwater management with local priorities, like bike and pedestrian mobility, transit improvements, climate change adaptation, and more. The plan will also use down-scaled climate data to anticipate future changes in rainfall and how we need to account for climate change with respect to sustainable streets planning, design, and construction. The Plan is still in development.

SAN MATEO COUNTY GREEN INFRASTRUCTURE PLAN

Link: https://www.smcsustainability.org/download/energy-water/SMC-GI-PLAN-Final_09-17-19-with-Appendices.pdf

DESCRIPTION

Approved by the San Mateo County Board of Supervisors on September 17, 2019, the San Mateo County Green Infrastructure (GI) Plan intends to reduce the impact of urban development on waterways and comply with the requirements of the Municipal Regional Stormwater Permit. The Plan must show how the County plans to shift from "gray" storm drain infrastructure, which channels polluted runoff directly into waters without treatment, to a more resilient system of "green" infrastructure. Green Infrastructure uses vegetation, soils, and stormwater capture facilities to mimic natural processes, manage stormwater, and create healthier urban environments. The GI Plan represents the County's long-term strategy to incorporate GI into both private and public spaces in unincorporated communities.

The Midcoast (urban areas of Montara, Moss Beach, Princeton, El Granada, and Miramar) are called out as focus areas with characteristics beneficial for GI implementation. The Midcoast watersheds include Montara Creek, Dean Creek, San Vicente, Denniston Creek, El Granada Creek, and Arroyo de en Medio Creek (p.11).

POLICIES OR PROGRAMS

- Section 4.2.4 Midcoast describes opportunities and challenges for GI.
    - Connect the Coastside, which includes specific transportation improvements, can serve as an opportunity to implement GI

    - Stormwater conveyance in the rural midcoast is already managed by vegetated ditches, which serve similar functions as GI
- Chapter 5 includes a series of metrics to prioritize potential projects, including green streets, low impact development, and others.
- Appendix C includes the County's Green Infrastructure Design Guidance (p.147)

PROJECTS

- Early implementation green streets projects include:
    - Fitzgerald Marine Reserve Parking Lot: A trench drain was installed, along with 400 square feet of bioretention, to treat drainage from a parking lot at the Fitzgerald Marine Reserve in Moss Beach. The project treats a drainage area of 9,375 square feet. The project was completed in November 2014.
    - Carlos Street: Two bioretention areas were installed on Carlos Street between California Avenue and Virginia Avenue in front of the San Mateo County North Coast Substation in Moss Beach. The bioretention bulbouts receive sheet flow runoff from the sidewalk and runoff from the roadway via curb cuts. The bioretention areas include an underdrain placed 6 inches above the bottom of the aggregate storage layer. The project was completed in 2017.

MAPS AND PHOTOS

High Priority Zoning: The County identified high priority areas for implementing GI based on zoning designations; Figure 5-7 (page 68)

COUNTY CLIMATE ACTION PLAN (2012, 2013, AND 2021)

Link: https://www.smcsustainability.org/climate-change/climate-action-plans/

DESCRIPTION

Local governments have a role to play in helping the State achieve its climate goals. California's Climate Change Scoping Plan encourages local governments to adopt goals to reduce greenhouse gas (GHG) emissions by 15% below 1990 levels by 2020, 40% below 1990 levels in 2030, and 80% below 1990 levels by 2050. Climate action plans are comprehensive roadmaps that outline the specific activities that an agency will undertake to reduce greenhouse gas emissions. San Mateo County has two Climate Action Plans currently in place – a Government Operations Climate Action Plan and a Community Climate Action Plan. The Office of Sustainability is responsible for the update and implementation of both Plans, ensuring that the County meets its GHG emissions reduction commitments. A primary purpose for developing a Community Climate Action Plan (also called an Energy Efficiency Climate Action Plan or EECAP) is to streamline future environmental review of development projects by following CEQA guidelines and meeting the Bay Area Air Quality Management District's (BAAQMD) expectations for a Qualified GHG Reduction Strategy.

FINDINGS (FROM 2013 EECAP)

- Midcoast communities are designated as "Urban Coastal" (p.4)
- In 2005, transportation accounted for over 60% of all emissions in the County (p.26)
- Commercial and residential energy use accounted for another 28% of all emissions in the county

GHG REDUCTION STRATEGIES (FROM 2013 EECAP)

- Goal 5: Design for Mobility and Connectivity
    - Measure 5.3: Impact fees – Create an impact fee program for new projects to encourage development in locations with high accessibility to destinations such as jobs, retail, and other attractions. (p.66)
- Goal 6: Non-Motorized and Alternative Travel
    - Measure 6.2: Traffic Calming in New Construction and Complete Streets – Require larger new projects (including existing projects with major renovations) to evaluate and implement appropriate traffic calming measures at the site, as determined through the plan review process. (p.68)
    - Measure 6.3: Traffic Impact Fund – Use the impact fee program discussed in Measure 5.2 to fund transit improvements, optimization, and expansion in the county. (p.69)
    - Measure 6.4: Expand Transit – Work with SamTrans to optimize the local transit network by adding or modifying existing transit service to enhance service near future project sites and areas of future demand in the unincorporated county. (p.70)
- Goal 7: Commute Trips
    - Measure 8.4: Work Shuttles – Promote expansions of worker shuttle programs (p.74)
- Goal 9: School-related Travel
    - Measure 9.1: Alternative School Transit - Promote school shuttle programs to reduce vehicle miles traveled (VMT).

SOUTHERN SKYLINE BOULEVARD RIDGE TRAIL EXTENSION (SFPUC 2020)

Link: https://sfwater.org/index.aspx?page=1034

Description

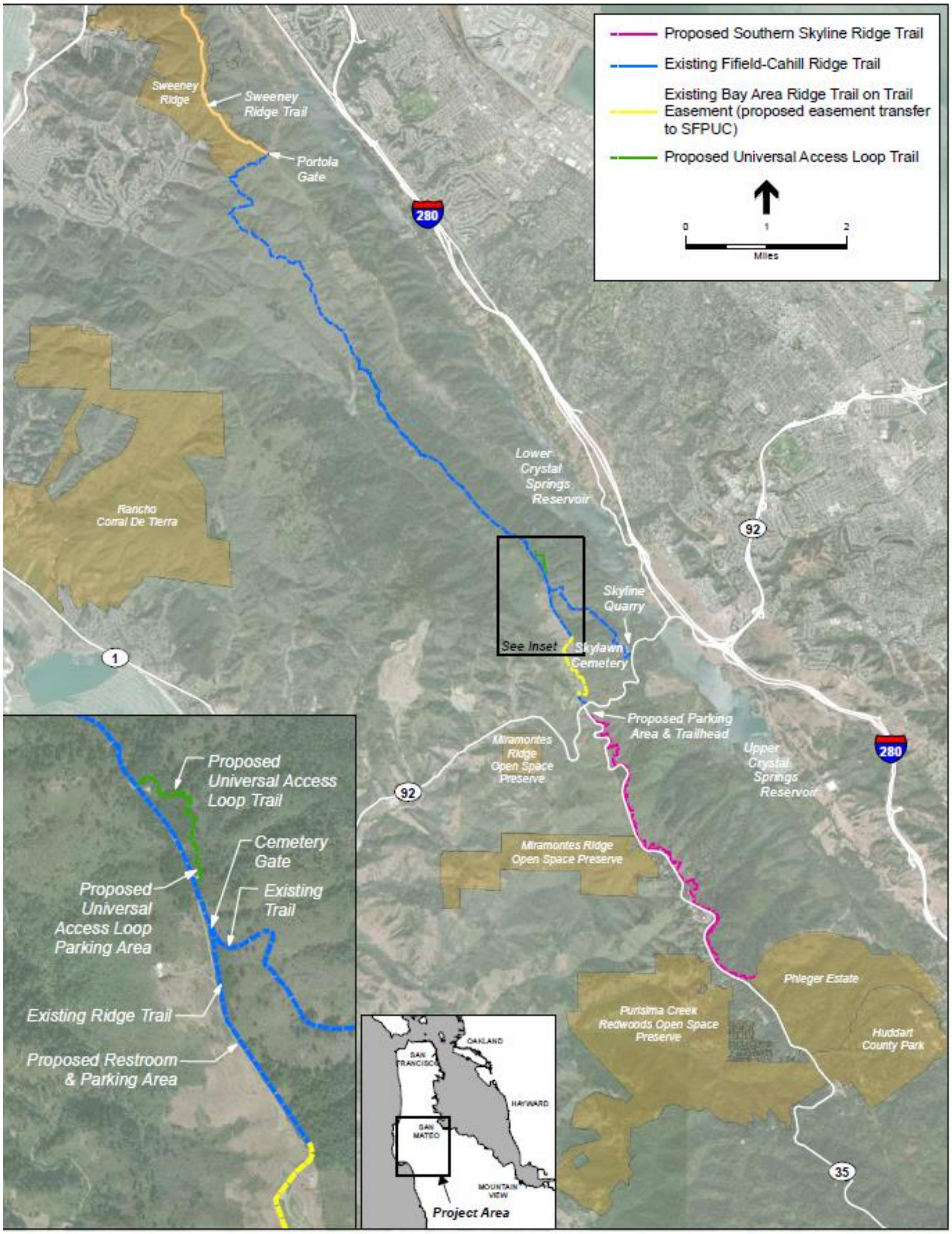
The San Francisco Public Utilities Commission (SFPUC) recently released a Draft Environmental Impact Report for the Southern Skyline Boulevard Ridge Trail Extension Project. SFPUC proposes to improve and develop recreational trails and associated facilities located within the Peninsula Watershed in central San Mateo County in order to extend and enhance the Bay Area Ridge Trail, improve the existing Fifield-Cahill ridge trail, and enhance public awareness of the watershed and SFPUC's role. The Peninsula Watershed property is owned by the City and County of San Francisco and managed by the SFPUC. The project is a component of the SFPUC's Peninsula Watershed Management Plan. The project area includes watershed lands along the Fifield-Cahill ridge trail, which is approximately 1.5 miles north of the State Route 92 (SR-92)/State Route 35 (SR-35) intersection (north of the Skylawn Memorial Park), and watershed lands extending south from SR-92 approximately 6 miles to the Phleger Estate boundary and east from SR-35 a few hundred feet.

The SFPUC does not propose to connect segments of the Bay Area Ridge Trail north and south of S.R. 92, nor does it propose to facilitate or otherwise encourage pedestrian, bicycle, or equestrian crossing of S.R. 92. Trail users attempting to cross S.R. 92 near its intersections with Lifemark Road or S.R. 35 would create potentially hazardous conditions for them. S.R. 92 carries approximately 26,800 to 28,900 vehicles per day in this area, is congested when traffic volumes. The DEIR preferred Alternative B, Relocated Parking Lot and Trailhead South of SR-92, would avoid the significant-and-unavoidable-with-mitigation impact related to traffic hazards by relocating the parking lot and trailhead for the southern skyline ridge trail from the proposed location at the intersection of S.R. 92/S.R. 35 to a new location approximately 1.5 miles south of S.R. 92, near the site of a proposed permanent access drive and temporary construction staging. This reduced trail alignment would accommodate multimodal access and include docent-led, unsupervised/unrestricted, or unsupervised/restricted access. The 1.5-mile gap between S.R. 92 and the relocated trailhead of the southern skyline ridge trail would substantially reduce the likelihood that visitors of one trail segment would attempt crossing S.R. 92 to reach the opposite segment.

Caltrans has explored various options to address existing congestion concerns (without the proposed project) at the intersection of SR-92 and SR-35 in the past due to Level of Service F for vehicles northbound on SR-35 turning left to westbound SR-92 during weekday peak hours. Options explored include traffic signals, roundabout and grade separation. The SFPUC intends to work with Caltrans to formulate and execute an agreement on the design, funding, and construction a solution to reduce potentially hazardous conditions for trail user access across S.R. 92 near its intersections with S.R. 35 and Lifemark Road. The agreement shall also provide for the construction of new sidewalks connecting the selected crossing improvement (i.e., bridge or roundabout) to the existing adjacent Bay Area Ridge Trail segment along Lifemark Road to the north, and the southern skyline ridge trail trailhead and parking area approximately 300 feet to the south. SFPUC's financial contribution in the agreement shall be roughly proportional to the project's impact.

Maps and Photos

Figure 2-2 – Project Overview and Regional Setting



REIMAGINE SAMTRANS (2021)

Link: https://www.reimaginesamtrans.com/

DESCRIPTION

In summer 2019, SamTrans launched "Reimagine SamTrans" an effort to undergo a comprehensive operational analysis (COA) to identify the challenges in the current bus system using data and public engagement, and identify opportunities to improve SamTrans service. The overarching goals of Reimagine SamTrans are to improve the transit experience, grow new and more frequent ridership, and build SamTrans' efficiency as a mobility provider. Recommendations from Reimagine SamTrans could include route, system, and/or vehicle size changes, improved connectivity with regional providers, new service models or pilot programs, and more. The effort provides an opportunity for Midcoast residents to share their transit needs and concerns directly with SamTrans and identify potential solutions. SamTrans put a hold on the effort due to the COVID-19 public health crisis and plans to restart the project in 2021.

CALTRANS STATE HIGHWAY OPERATION AND PROTECTION PROGRAM (2020)

Link: https://dot.ca.gov/programs/financial-programming/state-highway-operation-protection-program-shopp-minor-program-shopp

DESCRIPTION

The Office of State Highway Operations and Protection Program (SHOPP) Management has primary responsibility for planning, developing, managing and reporting the four-year SHOPP portfolio of projects. This includes preparation of the four-year program, participating in the development of the State Highway System Management Plan, coordinating the formal amendment of adopted SHOPP projects, coordinating with California Transportation Commission (CTC) staff, management of the annual Minor Program, coordination with Districts and Headquarters divisions, and upkeep of project information in the Department's California Transportation Improvement Program System (CTIPS) database.

PLAN BAY AREA 2050 (2020)

Link: https://www.planbayarea.org/

DESCRIPTION

Plan Bay Area 2050 is a long-range plan charting the course for the future of the nine-county San Francisco Bay Area, and serves as the Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS). Plan Bay Area 2050 focuses on four key issues — the economy, the environment, housing and transportation — and will identify a path to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. Building on the work of the Horizon initiative, this new regional plan outlines strategies for growth and investment through the year 2050, while simultaneously striving to meet and exceed federal and state requirements. The Metropolitan Transportation Commission and the Association of Bay Area Governments are expected to adopt Plan Bay Area 2050 in fall 2021. Plan Bay Area 2050 neither funds specific infrastructure projects nor changes local policies. Cities and counties retain all local land use authority. Plan Bay Area 2050 does identify a potential path forward for future investments — including infrastructure to improve our transportation system and to protect communities from rising sea levels — as well as the types of public policies necessary to realize a future growth pattern for housing and jobs. In order for certain projects to be eligible for funding, they must be in and/or consistent with the RTP/SCS. The Plan will include a final project list, similar to what was prepared for Plan Bay Area 2040 (https://projects.planbayarea.org/). The draft of Plan Bay Area 2050 had not been released as of 11/15/20.

POLICIES OR PROGRAMS

The Midcoast is not identified as a priority development or production area (see Growth Geographies: https://www.planbayarea.org/sites/default/files/PBA2050_Blueprint_Geographies_High_Resolution.pdf

Final Blueprint Strategies (https://www.planbayarea.org/sites/default/files/PlanBayArea2050_FinalBlueprint_Strategies.pdf): Contains a variety of strategies that are largely aimed at reducing single occupancy vehicle driving, encouraging transit use, walking, and bicycling, encouraging affordable housing, allowing for a greater mix of housing/density types, and more.

PROJECTS

Plan Bay Area 2040 included RTP ID# 17-06-0020 for operational and safety improvements for vehicles, bicycles, and pedestrians, along the Highway 1 corridor between Half Moon Bay and Pacifica. This could include acceleration lanes, deceleration lanes, turn lanes, bike lanes, enhanced crossings, and trail network improvements, with an estimated $29 M cost.

HALF MOON BAY LAND USE LOCAL COASTAL PROGRAM UPDATE (2020)

Link: https://planhmb.org/

DESCRIPTION

At their October 20, 2020 regular meeting, the City Council unanimously voted to approve the Local Coastal Land Use Plan Update and submit it to the California Coastal Commission for certification. The Local Coastal Land Use Plan (LCLUP) is the Land Use Plan component of the City of Half Moon Bay's Local Coastal Program. It was comprehensively updated in 2020 and contains the primary policies governing land use and development within the city.

DISCUSSION

- Development policies begin on p.2-19, including policies on lot retirements, development intensity reductions, transfer of development rights, lot mergers, and development impact fees
- Land Use Plan Buildout is discussed in Chapter 3 (p.3-5). The City presents two levels of buildout projections: first for the 2040 planning horizon and the second for the maximum theoretical buildout (MTB). The 2040 horizon helps foresee near term infrastructure needs, while MTB uses an extreme scenario if all potential development sites were developed to analyze longer-term infrastructure capacity.
- The San Mateo County LCP was updated in 2013 and similarly included Midcoast growth projections for "Phase 1" and "Buildout" scenarios. For coordination purposes, the County's LCP "Phase 1" projections are understood to be reasonably aligned to this LUP's 2040 planning horizon; and the "Buildout" scenario represents a maximum buildout without an assumed end year as is the case for this LUP's MTB scenario. The Half Moon Bay and San Mateo County unincorporated Midcoast buildout projections are summarized below in Table 3-1, and the assumptions and calculations for the projections are provided in Appendix B.
- Circulation systems are described beginning on p.3-31. The LCLUP calls for review of alternative or additional performance standards to be studied including the Delay Index (p.3-33).

Table 3-1. City of Half Moon Bay and Midcoast Buildout Summary

	2018	2040 Projections	MTB
Dwelling Units[1]			
Midcoast Total	9,210	11,028	14,006
Half Moon Bay	4,830	5,612	7,051
Unincorporated Midcoast	4,380	5,416	6,955
Population[2]			
Midcoast Total	23,909	28,532	35,347
Half Moon Bay	12,565	14,535	18,262
Unincorporated Midcoast	11,344	14,027	17,085
Employment (Jobs)[3]			
Midcoast Total	7,930	11,047	------
Half Moon Bay	5,379	6,053	7,684
Unincorporated Midcoast	2,551	4,994	------

[1] Residential Dwelling Units:
Half Moon Bay:
- Existing: 2013-2017 American Community Survey, City of Half Moon Bay GIS, and City of Half Moon Bay building permits data.
- 2040 Projections and Maximum Theoretical Buildout: Land Use Plan Appendix B.

Unincorporated Midcoast:
- Existing and 2040 Projections: Connect the Coastside (Public Working Draft), January 15, 2020, page 37, 2014 data including 80 additional dwelling units for 2014-2018 per San Mateo County Planning staff.
- Maximum Theoretical Buildout: San Mateo County LCP 2013, page 2.45.

[2] Population:
Half Moon Bay:
- Existing: 2013-2017 American Community Survey.
- 2040 Projections and Maximum Theoretical Buildout: Assumes 2.59 persons per residential dwelling units per 2013-2017 American Community Survey.

Unincorporated Midcoast:
- Existing and 2040 Projections: Connect the Coastside (Public Working Draft), January 15, 2020, 2014 data adjusted to account for population associated with 20 additional dwelling units per year from 2014-2018 per San Mateo County Planning staff.
- Maximum Theoretical Buildout: San Mateo County LCP 2013, page 2.45, Table 2.21.

[3] Employment:
Half Moon Bay:
- Existing: Half Moon Bay Economic and Real Estate Conditions and Trends, Economic and Planning Systems, July 2014; augmented with City of Half Moon Bay planning and building permit data from 2014 – 2018.
- 2040 Projections and Maximum Theoretical Buildout: Land Use Plan Appendix B.

Unincorporated Midcoast:
- Existing and 2040 Projections: Connect the Coastside, (Public Working Draft), January 15, 2020, page 38.
- Maximum Theoretical Buildout: San Mateo County, ABAG, and other data sources do not include jobs projections for the unincorporated Midcoast for the maximum theoretical buildout condition.

- Public Works policies begin on p.3-42 and include monitoring growth and infrastructure capacity, advancing a road network and town boulevard initiatives that meet multimodal needs, limiting higher-trip generating development, establishing thresholds of significance for VMT, and others.
- Bicycle and Pedestrian Coastal Access policies begin on p.5-23 and include completing the Eastside Parallel Trail, advancing highway crossings, studying the long-term alignment of the California Coastal Trail and improving the California Coastal Trail, and others.
- Parking, Transit, and Alternate Modes policies begin on p.5-29 and include encouraging improvements to parking systems to accommodate visitor surges during peak periods, a comprehensive signage program, bus shelters, community shuttle service, and effective transit services.

Maps and Photos

- Figure 1-1: Regional Setting (p.1-6)
- Table 1-1: Existing Land Uses in the Planning Area (p.1-45)
- Figure 1-10: Existing Land Uses (p.1-46)
- Figure 2-1: Land Use Map (p.2-7)
- Figure 2-2: Town Center (p.2-17)
- Figure 2-3: Established Neighborhoods and Planned Developments (PDs) (p.2-28)
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SAN MATEO COUNTY TRANSPORTATION AUTHORITY STRATEGIC PLAN (2020-2024)

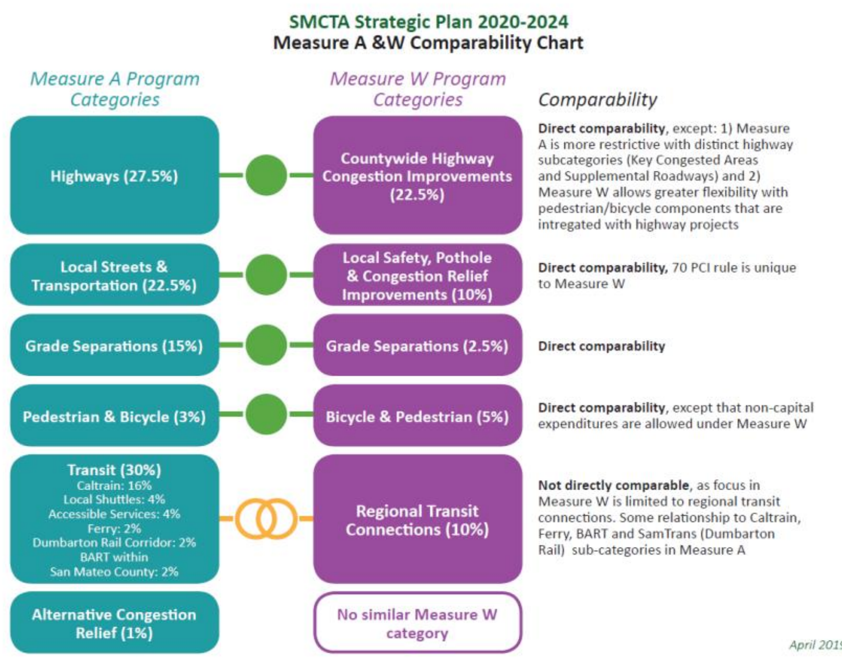
Link: https://www.smcta.com/about/Strategic_Plan_2020-2024.html

DESCRIPTION

The San Mateo County Transportation Authority (TA) Board approved its Final Strategic Plan 2020-2024 on December 5, 2019, which outlines the principles, vision, goals, and implementation procedures for Measure A and 50% of Measure W. The purpose of the Plan is to provide policy guidance for the implementation of the Measures A and W transportation sales tax programs that the TA is tasked with administering. Both programs are an important source of funding for implementation of transportation projects.

POLICIES OR PROGRAMS

Figure 3-2: Measure A & W Comparability Chart



- Table 2-1: Measure A Program Category Details (p.4) describes the purpose of each Measure A program category and allocated percentage of funding
- Table 2-2: Measure W Program Category Details (p.8) describes the purpose of each Measure W program category and allocated percentage of funding
- Section 6 (p.41) identifies the programming and allocation guidelines, including the Project Selection Approach for each category in Table 6-3 (p.43)
- Section 7 (p.51) describes funds management, including requirements regarding matching funds
- The Short Range Highway Plan (SRHP) and accompanying Capital Improvement Program informs the competitive project selection process for the Measure W Countywide Highway Congestion Improvements Program
- The TA will also prepare a Regional Transit Connections Planning Study and accompanying CIP in coordination with the TA's regional transit program for the Measure W Regional Transit Connection Program funds selection process

SAN MATEO COUNTY TRANSPORTATION AUTHORITY SHORT-RANGE HIGHWAY PLAN (2011-2021)

Link: https://www.smcta.com/Programs/Highway.html

DESCRIPTION

In 2004, San Mateo County voters approved a half-cent transportation sales tax (New Measure A) and accompanying Transportation Expenditure Plan (TEP); Measure A is a 25-year program (2009-2033). The San Mateo County Transportation Authority (TA) adopted a Strategic Plan and Implementation Plan in 2008 and 2009 to guide Measure A program expenditures and provide policy parameters. This direction called for the development of a short-range highway plan to advance the overall “Highways” program. This Plan is a 10-year outlook to guide investment decisions and develop a capital improvement plan over time. Once the Plan is adopted, it is regularly updated by the TA and serves as the basis for a call for projects and is used to make short-term funding decisions.

2004 Measure A TEP has 6 programs – Highways Program is one of them, which is divided into two areas: Key Congested Areas which focus on removing bottlenecks in the most congested highway commute corridors and Supplemental Roadways which focus on reducing congestion and improving throughput. (p.4) The Highways Program receives 27.5% of the total sales tax revenue collected for the New Measure A program (17.3% for KCA and 10.2% for SR). The program is oversubscribed and describes funding challenges and the shortfalls (p.7).

POLICIES OR PROGRAMS

The established policies in the TEP, Strategic Plan and Implementation Plan are the following:

1. New Measure A revenues will only be used to fund New Measure A projects. They cannot be used to fund Original Measure A projects unless they are also included in the New Measure A Program.
2. Funding caps established in the Measure A must be met. The TEP sets funding caps for the total program, KCA subcategory, and SR subcategory.
3. Pay as you go. Funds will be allocated based on amounts collected annually. If there is a compelling need to advance funds from future years, an exceptional case justification and Board action will be required.
4. Funding match goals should be met. The matching goal for other funding is 50 percent for KCA projects and 30 percent for SR projects. Given the shortfall, leveraging funds will be critical to advancing the total program.

PROJECTS

Table 1. Key Congested Areas Projects, Status and Estimated Sales Tax Contribution by Corridor			
Corridor	**Sales Tax***	**Projects**	**Status****
Highway 280 (I-280) North Improvements	$77M	Reconstruct I-280/State Route 1 Interchange	CS
		Construct Auxiliary Lanes between I-380 and Hickey Blvd.	Not initiated
Coastside Highway Improvements	$24M	State Route 1/San Pedro Creek Bridge Replacement	E&D
		State Route 1/Manor Drive Overcrossing improvement and widening	CS
		State Route 1 and 92 safety and operational improvements within and in the proximity of Half Moon Bay	CS
Highway 92 (SR-92) Improvements	$50M	Auxiliary Lanes and interchange improvements between I-280 and the San Mateo Hayward Bridge	CS
Highway 101 (US-101) Mid-County Improvements	$49M	Reconstruction of the US-101/Broadway Interchange	E&D
		Modification of the US-101/Peninsula Avenue Interchange	CS
		Operational Improvements on US-101 from Hillsdale to State Route 92	CS
Highway 101 (US-101) South Improvements	$60M	Reconstruct the US-101/Woodside Road Interchange	CS
		US-101 improvements between State Route 84 and the Santa Clara county line and access improvements to the Dumbarton Bridge	CS
Total:	**$260 million**		

** As estimated in the 2004 Measure A Transportation Expenditure Plan*
*** CS (Conceptual Studies); E&D (Environmental & Design); C (Construction)*

Table 2. Supplemental Roadways Candidate Projects and Status Estimated Sales Tax Contribution $153 million*	
Candidate Projects	**Status****
State Route 35 (I-280 - Sneath Lane) widening	Not initiated
US 101/Produce Avenue Interchange	CS
State Route 92 (I-280 to State Route 35) truck climbing lane	E&D
Willow Road adaptive signal control system	Not initiated
US-101 (Sierra Point Pkwy - SF/SM County Line) auxiliary lanes	CS
Geneva Ave extension	CS
I-280/John Daly Blvd - Overcrossing (north side) widening	Not initiated
Junipero Serra Blvd Improvements in Daly City, Colma, and South San Francisco	Project Complete
US-101/Candlestick Point Interchange	CS
US-101(Sierra Point Pkwy - San Bruno Ave) auxiliary lanes	CS
I-280/I-380 local access improvement	CS
US-101/Sierra Point Pkwy Interchange replacement and Lagoon Way extension	CS
Triton Drive widening (Foster City)	E&D
Sand Hill Road signal coordination	Not initiated
Woodside Road Widening (US-101 - El Camino Real)	E&D

** As identified in the 2004 Measure A Expenditure Plan*
*** CS (Conceptual Studies); E&D (Environmental & Design); C (Construction)*

Chapter 7 includes the Technical Evaluation Criteria and Ranking (p.10)

- Key Congested Areas Technical Project Ranking by Type (Arterial)
    - 1 State Route 1 and 92: Make Safety and Operational Improvements within and in the proximity of Half Moon Bay
    - 2 State Route 1: Manor Drive overcrossing improvement and widening
    - 3 State Route 1: San Pedro Creek Bridge Replacement
- Supplemental Roadways Technical Project Ranking by Type
    - 2 State Route 92: Add truck climbing lane between I-280 and SR 35

SAN MATEO COUNTYWIDE TRANSPORTATION PLAN 2040 (2017)

Link: https://ccag.ca.gov/wp-content/uploads/2014/05/SMCTP-2040-FINAL_.pdf

Description

The San Mateo Countywide Transportation Plan for 2040 (SMCTP 2040) was conceived by San Mateo County leaders as a way to provide the county with a long-range, comprehensive transportation planning document that sets forth a coordinated planning framework and establishes a systematic transportation planning process for identifying and resolving transportation issues. Transportation planning and programming is undertaken by many agencies with sometimes overlapping jurisdiction, including the San Mateo County Transit District, Transportation Authority, C/CAG, Caltrans, BART, Caltrain, and MTC. SMCTP 2040 is intended to articulate clear transportation planning objectives and policies and to promote consistency and compatibility among all transportation plans and programs within the county. By doing so, SMCTP 2040 supports an integrated, system-wide approach to transportation planning that gives proper consideration to the countywide transportation network as a whole, not just in its constituent parts. In general, the approach includes:

- Enhancing transit capacity, service frequency, and connectivity
- Getting the most out of existing infrastructure using managed lanes, intelligent transportation systems, and transportation systems management
- Managing demand through employer-based trip reduction programs, parking policy, and pricing
- Improving safety for bicyclists and pedestrians

Policies or Programs

- Policies related to the roadway system begin on p.41 and include: Enhancing safety for travel by motorized modes, including consideration of roundabouts and separate lanes or facilities for non-motorized modes where feasible
- Policies related to bicycles begin on p.47 and include:
    - Integration with public transit, including installing bicycle parking
    - Safety, including providing support for programs that educate drivers and bicyclists
    - Complete Streets, including complying with existing Caltrans and MTC complete streets policies
    - Barriers to bicycle access and circulation, including reducing barriers to access caused by freeways among others
- Policies related to pedestrians begin on p.56 and include similar policies to the above for bicyclists.

APPENDIX D – VEHICLE COUNTS COMPARISON

Comparison of Midcoast Vehicular Count Data during AM and PM Peak Periods at Key Intersections

			AM from 7 am to 9 am				PM from 4 pm to 6 pm				Weekend from 11 am to 1 pm				
Major Street	**Minor Street**	**Date of Data Collection**	**Major St (N Bound)**	**Major St (S Bound)**	**Minor St (E Bound)**	**Minor St (W Bound)**	**Major St (N Bound)**	**Major St (S Bound)**	**Minor St (E Bound)**	**Minor St (W Bound)**	**Major St (N Bound)**	**Major St (S Bound)**	**Minor St (E Bound)**	**Minor St (W Bound)**	**Source**
Highway 1	16th Street	Apr-17	1,222	940	8	3	1,271	1,563	19	3	1,320	1,805	5	3	Cypress Point Traffic Impact Analysis
Highway 1	16th Street	Jul-19	1,146	829	4	1	1,219	1,466	11	3	1,212	2,027	21	5	Draft ICE Analysis
		Percent change	*-6%*	*-12%*	*-50%*	*-67%*	*-4%*	*-6%*	*-42%*	*0%*	*-8%*	*12%*	*320%*	*67%*	
Highway 1	Carlos Street	Jun-14	1,100	832	-	32	1,140	1,419	-	13	1,853	2,451	n/a	n/a	Connect the Coastside
Highway 1	Carlos Street	Apr-17	764	504	-	20	672	840	-	-	1,311	1,765	-	18	Draft ICE Analysis
		Percent change	*-31%*	*-39%*	*n/a*	*-38%*	*-41%*	*-41%*	*n/a*	*-100%*	*-29%*	*-28%*	*n/a*	*n/a*	
Highway 1	California Avenue	Jun-14	1,073	826	29	107	1,223	1,344	35	101	1,783	2,435	n/a	n/a	Connect the Coastside
Highway 1	California Avenue	Apr-17	1,156	922	33	131	1,340	1,487	21	86	1,359	1,795	54	90	Cypress Point Traffic Impact Analysis
Highway 1	California Avenue	Jul-19	1,088	819	30	112	1,254	1,387	34	85	1,219	1,986	65	74	Draft ICE Analysis
		*Percent change**	*1%*	*-1%*	*3%*	*5%*	*3%*	*3%*	*-3%*	*-16%*	*-32%*	*-18%*	*20%*	*-18%*	
Highway 1	Cypress Avenue	Jun-14	1,083	996	n/a	n/a	1,297	1,457	n/a	n/a	1,918	2,555			Connect the Coastside
Highway 1	Cypress Avenue	Jul-19	1,116	1,128	166	43	1,412	1,501	185	34					Draft ICE Analysis
		Percent change	*3%*	*13%*	*n/a*	*n/a*	*9%*	*3%*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	

*Percent change calculated between earliest available year of data collection (2014 or 2017) vs. 2019

APPENDIX E – ANALYSIS WORKSHEETS

SR-1 Existing Conditions Synchro Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	12	0	121	0	553	10	27	242	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	13	0	127	0	582	11	28	255	0
Pedestrians											3	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1024	904	255	899	899	590	255			593		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1024	904	255	899	899	590	255			593		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	100	75	100			97		
cM capacity (veh/h)	156	269	784	254	271	506	1310			983		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	140	0	593	28	255
Volume Left	0	13	0	0	28	0
Volume Right	0	127	0	11	0	0
cSH	1700	464	1700	1700	983	1700
Volume to Capacity	0.00	0.30	0.00	0.35	0.03	0.15
Queue Length 95th (ft)	0	31	0	0	2	0
Control Delay (s)	0.0	16.1	0.0	0.0	8.8	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	16.1	0.0		0.9	
Approach LOS	A	C				

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	0	2	0	0	20	0	548	1	0	251	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	1	0	2	0	0	21	0	571	1	0	261	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	854	834	262	835	834	571	262			572		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	854	834	262	835	834	571	262			572		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	96	100			100		
cM capacity (veh/h)	268	304	777	286	304	520	1302			1001		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	3	21	0	572	262
Volume Left	1	0	0	0	0
Volume Right	2	21	0	1	1
cSH	475	520	1700	1700	1700
Volume to Capacity	0.01	0.04	0.00	0.34	0.15
Queue Length 95th (ft)	0	3	0	0	0
Control Delay (s)	12.6	12.2	0.0	0.0	0.0
Lane LOS	B	B			
Approach Delay (s)	12.6	12.2	0.0		0.0
Approach LOS	B	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	96	21	524	14	3	248
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	97	21	529	14	3	251
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	793	536			543	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	793	536			543	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	73	96			100	
cM capacity (veh/h)	356	544			1025	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	118	543	254
Volume Left	97	0	3
Volume Right	21	14	0
cSH	380	1700	1025
Volume to Capacity	0.31	0.32	0.00
Queue Length 95th (ft)	33	0	0
Control Delay (s)	18.7	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	18.7	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	15	551	0	4	465
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	16	586	0	4	495
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1089	586			586	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1089	586			586	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	237	510			989	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	16	586	4	495
Volume Left	0	0	4	0
Volume Right	16	0	0	0
cSH	510	1700	989	1700
Volume to Capacity	0.03	0.34	0.00	0.29
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	12.3	0.0	8.7	0.0
Lane LOS	B		A	
Approach Delay (s)	12.3	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	0	3	8	0	27	0	513	2	11	446	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	0	3	8	0	28	0	534	2	11	465	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1051	1024	465	1026	1024	535	466			536		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1051	1024	465	1026	1024	535	466			536		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	99	96	100	95	100			99		
cM capacity (veh/h)	193	233	597	210	233	545	1096			1032		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	6	36	0	536	11	466
Volume Left	3	8	0	0	11	0
Volume Right	3	28	0	2	0	1
cSH	291	399	1700	1700	1032	1700
Volume to Capacity	0.02	0.09	0.00	0.32	0.01	0.27
Queue Length 95th (ft)	2	7	0	0	1	0
Control Delay (s)	17.6	14.9	0.0	0.0	8.5	0.0
Lane LOS	C	B			A	
Approach Delay (s)	17.6	14.9	0.0		0.2	
Approach LOS	C	B				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	1	10	33	0	12	4	506	34	9	460	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	6	1	11	35	0	13	4	544	37	10	495	0
Pedestrians											2	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1082	1103	495	1096	1085	564	495			581		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1082	1103	495	1096	1085	564	495			581		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	99	98	81	100	98	100			99		
cM capacity (veh/h)	188	208	575	184	214	524	1069			993		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	48	4	581	10	495
Volume Left	6	35	4	0	10	0
Volume Right	11	13	0	37	0	0
cSH	314	223	1069	1700	993	1700
Volume to Capacity	0.06	0.22	0.00	0.34	0.01	0.29
Queue Length 95th (ft)	5	20	0	0	1	0
Control Delay (s)	17.2	25.6	8.4	0.0	8.7	0.0
Lane LOS	C	D	A		A	
Approach Delay (s)	17.2	25.6	0.1		0.2	
Approach LOS	C	D				

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	0	9	8	1	3	9	542	3	1	488	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	0	9	8	1	3	9	571	3	1	514	3
Pedestrians		1						1				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1112	1111	517	1117	1111	572	518			574		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1112	1111	517	1117	1111	572	518			574		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	98	95	99	99	99			100		
cM capacity (veh/h)	183	207	557	180	207	520	1047			999		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	12	13	9	574	1	517
Volume Left	2	8	9	0	1	0
Volume Right	9	3	0	3	0	3
cSH	406	218	1047	1700	999	1700
Volume to Capacity	0.03	0.06	0.01	0.34	0.00	0.30
Queue Length 95th (ft)	2	5	1	0	0	0
Control Delay (s)	14.1	22.6	8.5	0.0	8.6	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	14.1	22.6	0.1		0.0	
Approach LOS	B	C				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	3	13	29	1	5	1	534	20	2	495	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	14	3	14	31	1	5	1	562	21	2	521	8
Pedestrians					1			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1099	1116	526	1117	1109	574	529			584		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1099	1116	526	1117	1109	574	529			584		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	98	98	83	99	99	100			100		
cM capacity (veh/h)	187	207	551	177	209	518	1038			990		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	31	37	1	583	2	529
Volume Left	14	31	1	0	2	0
Volume Right	14	5	0	21	0	8
cSH	269	196	1038	1700	990	1700
Volume to Capacity	0.11	0.19	0.00	0.34	0.00	0.31
Queue Length 95th (ft)	9	17	0	0	0	0
Control Delay (s)	20.1	27.5	8.5	0.0	8.6	0.0
Lane LOS	C	D	A		A	
Approach Delay (s)	20.1	27.5	0.0		0.0	
Approach LOS	C	D				

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	61	1	15	13	3	6	22	511	5	5	530	46
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	1	16	14	3	7	24	555	5	5	576	50
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1223	1221	601	1210	1243	558	626			561		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1223	1221	601	1210	1243	558	626			561		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	99	97	91	98	99	97			99		
cM capacity (veh/h)	148	174	500	150	169	529	956			1010		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	84	24	24	561	5	626
Volume Left	66	14	24	0	5	0
Volume Right	16	7	0	5	0	50
cSH	172	190	956	1700	1010	1700
Volume to Capacity	0.49	0.13	0.03	0.33	0.01	0.37
Queue Length 95th (ft)	58	11	2	0	0	0
Control Delay (s)	44.2	26.7	8.9	0.0	8.6	0.0
Lane LOS	E	D	A		A	
Approach Delay (s)	44.2	26.7	0.4		0.1	
Approach LOS	E	D				

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	11	0	521	14	1	544
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	12	0	573	15	1	598
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1180	580			588	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1180	580			588	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	100			100	
cM capacity (veh/h)	210	514			987	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	12	588	599
Volume Left	12	0	1
Volume Right	0	15	0
cSH	210	1700	987
Volume to Capacity	0.06	0.35	0.00
Queue Length 95th (ft)	5	0	0
Control Delay (s)	23.2	0.0	0.0
Lane LOS	C		A
Approach Delay (s)	23.2	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	16	2	6	518	519	32
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	2	7	563	564	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	859	564	564			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	859	564	564			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	100	99			
cM capacity (veh/h)	294	469	1004			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	17	2	7	282	282	564	35
Volume Left	17	0	7	0	0	0	0
Volume Right	0	2	0	0	0	0	35
cSH	294	469	1004	1700	1700	1700	1700
Volume to Capacity	0.06	0.00	0.01	0.17	0.17	0.33	0.02
Queue Length 95th (ft)	5	0	0	0	0	0	0
Control Delay (s)	18.0	12.7	8.6	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	17.4		0.1			0.0	
Approach LOS	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	51	445	20	18	505
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	38	55	478	22	19	543
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1071	489			500	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1071	489			500	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	91			98	
cM capacity (veh/h)	240	579			1064	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	38	55	500	19	543
Volume Left	38	0	0	19	0
Volume Right	0	55	22	0	0
cSH	240	579	1700	1064	1700
Volume to Capacity	0.16	0.09	0.29	0.02	0.32
Queue Length 95th (ft)	14	8	0	1	0
Control Delay (s)	22.8	11.9	0.0	8.4	0.0
Lane LOS	C	B		A	
Approach Delay (s)	16.3		0.0	0.3	
Approach LOS	C				

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	97	96	79	67	158	96	353	41	87	400	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.93		1.00	0.98		1.00	1.00	0.85
Flt Protected		1.00	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1855	1583		1710		3433	3484		1770	3539	1583
Flt Permitted		0.98	1.00		0.90		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1817	1583		1560		3433	3484		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	105	104	86	73	172	104	384	45	95	435	25
RTOR Reduction (vph)	0	0	55	0	21	0	0	11	0	0	0	19
Lane Group Flow (vph)	0	114	49	0	310	0	104	418	0	95	435	6
Turn Type	Perm	NA	Perm		NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8									2
Actuated Green, G (s)		30.5	30.5		30.5		5.3	14.2		6.7	15.6	15.6
Effective Green, g (s)		30.5	30.5		30.5		5.3	14.2		6.7	15.6	15.6
Actuated g/C Ratio		0.47	0.47		0.47		0.08	0.22		0.10	0.24	0.24
Clearance Time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)		860	749		738		282	768		184	857	383
v/s Ratio Prot							0.03	0.12		c0.05	c0.12	
v/s Ratio Perm		0.06	0.03		c0.20							0.00
v/c Ratio		0.13	0.07		0.42		0.37	0.54		0.52	0.51	0.02
Uniform Delay, d1		9.5	9.2		11.1		28.0	22.2		27.3	21.1	18.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.0	0.0		0.1		0.3	1.0		1.0	0.6	0.0
Delay (s)		9.5	9.2		11.3		28.3	23.2		28.3	21.7	18.6
Level of Service		A	A		B		C	C		C	C	B
Approach Delay (s)		9.4			11.3			24.2			22.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	43	655	483	196	431	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.5	5.5	5.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1545
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1583	1770	1545
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	47	720	531	215	474	22
RTOR Reduction (vph)	0	0	0	134	0	13
Lane Group Flow (vph)	47	720	531	81	474	9
Confl. Peds. (#/hr)						3
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.6	35.7	28.1	28.1	30.6	30.6
Effective Green, g (s)	4.6	35.7	28.1	28.1	30.6	30.6
Actuated g/C Ratio	0.06	0.48	0.38	0.38	0.41	0.41
Clearance Time (s)	3.0	5.5	5.5	5.5	3.0	3.0
Vehicle Extension (s)	2.5	2.4	2.4	2.4	2.0	2.0
Lane Grp Cap (vph)	108	889	699	594	724	632
v/s Ratio Prot	0.03	c0.39	0.29		c0.27	
v/s Ratio Perm				0.05		0.01
v/c Ratio	0.44	0.81	0.76	0.14	0.65	0.01
Uniform Delay, d1	33.8	16.7	20.4	15.4	17.8	13.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	5.3	4.5	0.1	1.6	0.0
Delay (s)	35.9	22.0	24.9	15.4	19.5	13.1
Level of Service	D	C	C	B	B	B
Approach Delay (s)		22.8	22.2		19.2	
Approach LOS		C	C		B	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	74.8	Sum of lost time (s)	11.5
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	27	213	345	0	3	101
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	36	280	454	0	4	133
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		151				
pX, platoon unblocked						
vC, conflicting volume	454				805	454
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	454				805	454
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				99	78
cM capacity (veh/h)	1107				340	606

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	316	454	137
Volume Left	36	0	4
Volume Right	0	0	133
cSH	1107	1700	593
Volume to Capacity	0.03	0.27	0.23
Queue Length 95th (ft)	2	0	22
Control Delay (s)	1.2	0.0	12.9
Lane LOS	A		B
Approach Delay (s)	1.2	0.0	12.9
Approach LOS			B

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	7	2	9	716	1000	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	2	10	796	1111	22
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1939	1123	1134			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1939	1123	1134			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	99	98			
cM capacity (veh/h)	71	250	615			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	10	10	796	1133
Volume Left	8	10	0	0
Volume Right	2	0	0	22
cSH	84	615	1700	1700
Volume to Capacity	0.12	0.02	0.47	0.67
Queue Length 95th (ft)	10	1	0	0
Control Delay (s)	53.5	10.9	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	53.5	0.1		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	0	28	17	0	9	9	656	6	6	1039	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	3	0	31	19	0	10	10	721	7	7	1142	4
Pedestrians											1	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1909	1904	1144	1930	1903	725	1146			727		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1909	1904	1144	1930	1903	725	1146			727		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	87	56	100	98	98			99		
cM capacity (veh/h)	50	67	243	43	67	425	610			876		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	34	29	10	727	7	1146
Volume Left	3	19	10	0	7	0
Volume Right	31	10	0	7	0	4
cSH	177	62	610	1700	876	1700
Volume to Capacity	0.19	0.46	0.02	0.43	0.01	0.67
Queue Length 95th (ft)	17	45	1	0	1	0
Control Delay (s)	30.2	104.5	11.0	0.0	9.1	0.0
Lane LOS	D	F	B		A	
Approach Delay (s)	30.2	104.5	0.1		0.1	
Approach LOS	D	F				

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	5	0	0	9	1	677	0	2	1085	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	5	0	0	10	1	744	0	2	1192	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1956	1946	1196	1948	1949	744	1199			744		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1956	1946	1196	1948	1949	744	1199			744		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	98	100	100	98	100			100		
cM capacity (veh/h)	47	64	227	47	64	415	582			864		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	5	10	1	744	2	1199
Volume Left	0	0	1	0	2	0
Volume Right	5	10	0	0	0	7
cSH	227	415	582	1700	864	1700
Volume to Capacity	0.02	0.02	0.00	0.44	0.00	0.71
Queue Length 95th (ft)	2	2	0	0	0	0
Control Delay (s)	21.3	13.9	11.2	0.0	9.2	0.0
Lane LOS	C	B	B		A	
Approach Delay (s)	21.3	13.9	0.0		0.0	
Approach LOS	C	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	0	29	14	0	3	15	565	9	6	1231	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	14	0	31	15	0	3	16	595	9	6	1296	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1941	1947	1298	1970	1945	599	1301			604		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1941	1947	1298	1970	1945	599	1301			604		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	85	62	100	99	97			99		
cM capacity (veh/h)	48	62	197	39	63	501	532			974		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	44	18	16	604	6	1301
Volume Left	14	15	16	0	6	0
Volume Right	31	3	0	9	0	5
cSH	100	46	532	1700	974	1700
Volume to Capacity	0.44	0.39	0.03	0.36	0.01	0.77
Queue Length 95th (ft)	47	34	2	0	0	0
Control Delay (s)	67.0	126.2	12.0	0.0	8.7	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	67.0	126.2	0.3		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	12	0	75	0	549	8	54	819	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	13	0	80	0	584	9	57	871	0
Pedestrians											9	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1659	1579	871	1574	1574	597	871			593		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1659	1579	871	1574	1574	597	871			593		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	85	100	84	100			94		
cM capacity (veh/h)	62	103	350	85	103	499	774			983		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	93	0	593	57	871
Volume Left	0	13	0	0	57	0
Volume Right	0	80	0	9	0	0
cSH	1700	299	1700	1700	983	1700
Volume to Capacity	0.00	0.31	0.00	0.35	0.06	0.51
Queue Length 95th (ft)	0	32	0	0	5	0
Control Delay (s)	0.0	22.4	0.0	0.0	8.9	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	22.4	0.0		0.5	
Approach LOS	A	C				

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	1	0	0	11	0	601	9	10	803	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	1	0	0	11	0	620	9	10	828	1
Pedestrians		1			4							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		4.0			4.0							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1481	1483	829	1478	1479	628	830			633		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1481	1483	829	1478	1479	628	830			633		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	98	100			99		
cM capacity (veh/h)	100	123	370	102	124	481	801			947		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	1	11	0	629	839
Volume Left	0	0	0	0	10
Volume Right	1	11	0	9	1
cSH	370	481	1700	1700	947
Volume to Capacity	0.00	0.02	0.00	0.37	0.01
Queue Length 95th (ft)	0	2	0	0	1
Control Delay (s)	14.8	12.7	0.0	0.0	0.3
Lane LOS	B	B			A
Approach Delay (s)	14.8	12.7	0.0		0.3
Approach LOS	B	B			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	59	16	588	13	16	789
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	61	16	606	13	16	813
Pedestrians	4					1
Lane Width (ft)	12.0					12.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1463	618			624	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1463	618			624	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	56	97			98	
cM capacity (veh/h)	139	487			954	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	77	620	830
Volume Left	61	0	16
Volume Right	16	13	0
cSH	164	1700	954
Volume to Capacity	0.47	0.36	0.02
Queue Length 95th (ft)	56	0	1
Control Delay (s)	45.3	0.0	0.5
Lane LOS	E		A
Approach Delay (s)	45.3	0.0	0.5
Approach LOS	E		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	8	613	0	7	918
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.96	0.96	0.98	0.98
Hourly flow rate (vph)	0	8	639	0	7	937
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1590	639			639	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1590	639			639	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			99	
cM capacity (veh/h)	118	476			945	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	8	639	7	937
Volume Left	0	0	7	0
Volume Right	8	0	0	0
cSH	476	1700	945	1700
Volume to Capacity	0.02	0.38	0.01	0.55
Queue Length 95th (ft)	1	0	1	0
Control Delay (s)	12.7	0.0	8.8	0.0
Lane LOS	B		A	
Approach Delay (s)	12.7	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	4	7	0	26	6	591	5	24	881	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	0	4	7	0	27	6	603	5	24	899	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1592	1571	902	1570	1571	606	904			608		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1592	1571	902	1570	1571	606	904			608		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	92	100	95	99			97		
cM capacity (veh/h)	80	107	336	86	107	497	752			970		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	4	34	6	608	24	904
Volume Left	0	7	6	0	24	0
Volume Right	4	27	0	5	0	5
cSH	336	248	752	1700	970	1700
Volume to Capacity	0.01	0.14	0.01	0.36	0.03	0.53
Queue Length 95th (ft)	1	12	1	0	2	0
Control Delay (s)	15.8	21.8	9.8	0.0	8.8	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	15.8	21.8	0.1		0.2	
Approach LOS	C	C				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	22	26	1	20	17	582	39	18	878	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	5	0	22	27	1	20	17	594	40	18	896	13
Pedestrians		1			2							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		4.0			4.0							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1590	1611	904	1606	1597	616	910			636		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1590	1611	904	1606	1597	616	910			636		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	93	65	99	96	98			98		
cM capacity (veh/h)	80	100	335	76	102	490	748			946		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	28	48	17	634	18	909
Volume Left	5	27	17	0	18	0
Volume Right	22	20	0	40	0	13
cSH	210	120	748	1700	946	1700
Volume to Capacity	0.13	0.40	0.02	0.37	0.02	0.53
Queue Length 95th (ft)	11	42	2	0	1	0
Control Delay (s)	24.7	53.7	9.9	0.0	8.9	0.0
Lane LOS	C	F	A		A	
Approach Delay (s)	24.7	53.7	0.3		0.2	
Approach LOS	C	F				

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	0	29	16	2	9	13	590	17	11	947	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	9	0	31	16	2	9	13	608	18	11	976	8
Pedestrians		3									1	
Lane Width (ft)		12.0									12.0	
Walking Speed (ft/s)		4.0									4.0	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1652	1659	983	1674	1654	618	988			626		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1652	1659	983	1674	1654	618	988			626		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	100	90	75	98	98	98			99		
cM capacity (veh/h)	74	94	301	66	95	489	698			956		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	40	28	13	626	11	985
Volume Left	9	16	13	0	11	0
Volume Right	31	9	0	18	0	8
cSH	180	96	698	1700	956	1700
Volume to Capacity	0.22	0.29	0.02	0.37	0.01	0.58
Queue Length 95th (ft)	20	27	1	0	1	0
Control Delay (s)	30.5	57.1	10.3	0.0	8.8	0.0
Lane LOS	D	F	B		A	
Approach Delay (s)	30.5	57.1	0.2		0.1	
Approach LOS	D	F				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	3	5	10	3	5	9	613	30	11	952	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	10	3	5	10	3	5	9	626	31	11	971	12
Pedestrians					4			4			1	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1652	1678	982	1668	1669	646	984			660		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1652	1678	982	1668	1669	646	984			660		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	97	98	86	97	99	99			99		
cM capacity (veh/h)	74	92	301	71	93	470	702			925		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	18	9	656	11	984
Volume Left	10	10	9	0	11	0
Volume Right	5	5	0	31	0	12
cSH	98	98	702	1700	925	1700
Volume to Capacity	0.19	0.19	0.01	0.39	0.01	0.58
Queue Length 95th (ft)	16	16	1	0	1	0
Control Delay (s)	50.1	49.8	10.2	0.0	8.9	0.0
Lane LOS	F	E	B		A	
Approach Delay (s)	50.1	49.8	0.1		0.1	
Approach LOS	F	E				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	43	1	28	6	3	9	37	616	9	4	869	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	1	30	7	3	10	40	670	10	4	945	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1742	1740	972	1739	1762	674	999			679		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1742	1740	972	1739	1762	674	999			679		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	24	99	90	89	96	98	94			100		
cM capacity (veh/h)	61	81	306	58	79	454	693			913		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	78	20	40	679	4	999
Volume Left	47	7	40	0	4	0
Volume Right	30	10	0	10	0	54
cSH	89	112	693	1700	913	1700
Volume to Capacity	0.87	0.18	0.06	0.40	0.00	0.59
Queue Length 95th (ft)	119	15	5	0	0	0
Control Delay (s)	146.0	44.0	10.5	0.0	9.0	0.0
Lane LOS	F	E	B		A	
Approach Delay (s)	146.0	44.0	0.6		0.0	
Approach LOS	F	E				

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	11	6	681	16	0	936
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	12	6	732	17	0	1006
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1747	741			749	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1747	741			749	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	98			100	
cM capacity (veh/h)	95	416			860	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	18	749	1006
Volume Left	12	0	0
Volume Right	6	17	0
cSH	130	1700	860
Volume to Capacity	0.14	0.44	0.00
Queue Length 95th (ft)	12	0	0
Control Delay (s)	37.1	0.0	0.0
Lane LOS	E		
Approach Delay (s)	37.1	0.0	0.0
Approach LOS	E		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	28	24	16	686	909	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	30	26	17	730	967	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1366	967	967			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1366	967	967			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	78	90	98			
cM capacity (veh/h)	135	254	708			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	30	26	17	365	365	967	67
Volume Left	30	0	17	0	0	0	0
Volume Right	0	26	0	0	0	0	67
cSH	135	254	708	1700	1700	1700	1700
Volume to Capacity	0.22	0.10	0.02	0.21	0.21	0.57	0.04
Queue Length 95th (ft)	20	8	2	0	0	0	0
Control Delay (s)	39.1	20.7	10.2	0.0	0.0	0.0	0.0
Lane LOS	E	C	B				
Approach Delay (s)	30.6		0.2			0.0	
Approach LOS	D						

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	19	45	661	30	57	874
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	20	48	711	32	61	940
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1789	727			743	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1789	727			743	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	89			93	
cM capacity (veh/h)	83	424			864	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	20	48	743	61	940
Volume Left	20	0	0	61	0
Volume Right	0	48	32	0	0
cSH	83	424	1700	864	1700
Volume to Capacity	0.25	0.11	0.44	0.07	0.55
Queue Length 95th (ft)	22	10	0	6	0
Control Delay (s)	62.2	14.6	0.0	9.5	0.0
Lane LOS	F	B		A	
Approach Delay (s)	28.7		0.0	0.6	
Approach LOS	D				

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	145	163	13	91	119	295	433	47	278	470	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.93		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1827	1583		1724		3433	3487		1770	3539	1583
Flt Permitted		0.74	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1386	1583		1691		3433	3487		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	158	177	14	99	129	321	471	51	302	511	107
RTOR Reduction (vph)	0	0	97	0	43	0	0	10	0	0	0	70
Lane Group Flow (vph)	0	259	80	0	199	0	321	512	0	302	511	37
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4								2
Actuated Green, G (s)		18.1	18.1		18.1		11.2	17.1		16.3	22.2	22.2
Effective Green, g (s)		18.1	18.1		18.1		11.2	17.1		16.3	22.2	22.2
Actuated g/C Ratio		0.28	0.28		0.28		0.17	0.27		0.25	0.34	0.34
Clearance Time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)		388	444		474		596	924		447	1218	544
v/s Ratio Prot							0.09	c0.15		c0.17	0.14	
v/s Ratio Perm		c0.19	0.05		0.12							0.02
v/c Ratio		0.67	0.18		0.42		0.54	0.55		0.68	0.42	0.07
Uniform Delay, d1		20.5	17.6		18.9		24.3	20.4		21.7	16.2	14.2
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		3.4	0.1		0.2		0.5	0.9		3.2	0.3	0.1
Delay (s)		23.9	17.6		19.1		24.8	21.3		24.9	16.5	14.3
Level of Service		C	B		B		C	C		C	B	B
Approach Delay (s)		21.4			19.1			22.6			19.0	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	64.5	Sum of lost time (s)	13.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	794	15	25	336	235	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	3.0	3.0	3.0	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	854	16	27	361	253	817
RTOR Reduction (vph)	0	0	0	164	0	366
Lane Group Flow (vph)	854	16	27	197	253	451
Turn Type	Prot	NA	NA	custom	NA	custom
Protected Phases	2!	5		4		6
Permitted Phases			4		6!	
Actuated Green, G (s)	35.0	0.9	12.9	12.9	31.1	31.1
Effective Green, g (s)	35.0	0.9	12.9	12.9	31.1	31.1
Actuated g/C Ratio	0.62	0.02	0.23	0.23	0.55	0.55
Clearance Time (s)	5.5	3.0	3.0	3.0	5.5	5.5
Vehicle Extension (s)	2.4	2.5	2.0	2.0	2.4	2.4
Lane Grp Cap (vph)	1098	29	426	362	976	872
v/s Ratio Prot	c0.48	0.01		c0.12		0.28
v/s Ratio Perm			0.01		0.14	
v/c Ratio	0.78	0.55	0.06	0.54	0.26	0.52
Uniform Delay, d1	7.8	27.5	17.0	19.2	6.6	7.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	16.9	0.0	0.9	0.1	0.4
Delay (s)	11.2	44.5	17.0	20.1	6.7	8.3
Level of Service	B	D	B	C	A	A
Approach Delay (s)		11.8	19.8		7.9	
Approach LOS		B	B		A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	56.4	Sum of lost time (s)	11.5
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	115	178	305	4	4	186
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	120	185	318	4	4	194
Pedestrians					11	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		151				
pX, platoon unblocked					0.93	
vC, conflicting volume	333				756	331
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333				701	331
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				99	72
cM capacity (veh/h)	1215				337	704

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	305	322	198
Volume Left	120	0	4
Volume Right	0	4	194
cSH	1215	1700	688
Volume to Capacity	0.10	0.19	0.29
Queue Length 95th (ft)	8	0	30
Control Delay (s)	3.8	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	3.8	0.0	12.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	14	20	28	986	1106	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	15	22	31	1084	1215	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2373	1228	1241			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2373	1228	1241			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	57	90	95			
cM capacity (veh/h)	36	217	561			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	37	31	1084	1241
Volume Left	15	31	0	0
Volume Right	22	0	0	25
cSH	71	561	1700	1700
Volume to Capacity	0.53	0.05	0.64	0.73
Queue Length 95th (ft)	55	4	0	0
Control Delay (s)	102.2	11.8	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	102.2	0.3		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	0	38	17	0	28	32	981	19	22	1096	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	7	0	40	18	0	29	33	1022	20	23	1142	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2312	2303	1148	2326	2299	1032	1155			1042		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2312	2303	1148	2326	2299	1032	1155			1042		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	67	100	84	13	100	90	94			97		
cM capacity (veh/h)	22	35	242	20	35	283	605			668		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	47	47	33	1042	23	1155
Volume Left	7	18	33	0	23	0
Volume Right	40	29	0	20	0	14
cSH	96	48	605	1700	668	1700
Volume to Capacity	0.49	0.97	0.06	0.61	0.03	0.68
Queue Length 95th (ft)	53	103	4	0	3	0
Control Delay (s)	74.5	254.8	11.3	0.0	10.6	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	74.5	254.8	0.4		0.2	
Approach LOS	F	F				

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1	14	1	0	5	4	1050	12	8	1108	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	1	15	1	0	5	4	1105	13	8	1166	9
Pedestrians					1						1	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2308	2315	1171	2319	2314	1114	1176			1119		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2308	2315	1171	2319	2314	1114	1176			1119		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	97	94	96	100	98	99			99		
cM capacity (veh/h)	26	37	235	24	37	253	594			624		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	6	4	1118	8	1176
Volume Left	2	1	4	0	8	0
Volume Right	15	5	0	13	0	9
cSH	104	97	594	1700	624	1700
Volume to Capacity	0.17	0.07	0.01	0.66	0.01	0.69
Queue Length 95th (ft)	15	5	1	0	1	0
Control Delay (s)	46.9	44.7	11.1	0.0	10.9	0.0
Lane LOS	E	E	B		B	
Approach Delay (s)	46.9	44.7	0.0		0.1	
Approach LOS	E	E				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	0	17	8	0	2	30	1198	11	2	1190	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	13	0	17	8	0	2	30	1210	11	2	1202	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2485	2494	1208	2499	2494	1216	1214			1221		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2485	2494	1208	2499	2494	1216	1214			1221		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	31	100	92	53	100	99	95			100		
cM capacity (veh/h)	19	27	223	17	27	221	574			571		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	30	10	30	1221	2	1214
Volume Left	13	8	30	0	2	0
Volume Right	17	2	0	11	0	12
cSH	39	21	574	1700	571	1700
Volume to Capacity	0.77	0.48	0.05	0.72	0.00	0.71
Queue Length 95th (ft)	71	34	4	0	0	0
Control Delay (s)	229.7	282.3	11.6	0.0	11.3	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	229.7	282.3	0.3		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	7	0	50	0	451	8	128	609	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	0	0	7	0	51	0	460	8	131	621	0
Pedestrians											4	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1398	1351	621	1347	1347	468	621			468		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1398	1351	621	1347	1347	468	621			468		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	94	100	91	100			88		
cM capacity (veh/h)	98	132	487	116	133	593	959			1093		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	58	0	468	131	621
Volume Left	0	7	0	0	131	0
Volume Right	0	51	0	8	0	0
cSH	1700	395	1700	1700	1093	1700
Volume to Capacity	0.00	0.15	0.00	0.28	0.12	0.37
Queue Length 95th (ft)	0	13	0	0	10	0
Control Delay (s)	0.0	15.7	0.0	0.0	8.7	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	15.7	0.0		1.5	
Approach LOS	A	C				

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	1	0	0	10	0	447	16	0	643	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	1	0	0	11	0	476	17	0	684	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1170	1177	684	1169	1168	484	684			493		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1170	1177	684	1169	1168	484	684			493		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	98	100			100		
cM capacity (veh/h)	167	191	449	170	193	583	909			1071		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	1	11	0	493	684
Volume Left	0	0	0	0	0
Volume Right	1	11	0	17	0
cSH	449	583	1700	1700	1700
Volume to Capacity	0.00	0.02	0.00	0.29	0.40
Queue Length 95th (ft)	0	1	0	0	0
Control Delay (s)	13.0	11.3	0.0	0.0	0.0
Lane LOS	B	B			
Approach Delay (s)	13.0	11.3	0.0		0.0
Approach LOS	B	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	88	14	439	12	12	630
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	93	15	462	13	13	663
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1157	468			475	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1157	468			475	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	57	98			99	
cM capacity (veh/h)	215	595			1087	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	107	475	676
Volume Left	93	0	13
Volume Right	15	13	0
cSH	235	1700	1087
Volume to Capacity	0.46	0.28	0.01
Queue Length 95th (ft)	55	0	1
Control Delay (s)	32.5	0.0	0.3
Lane LOS	D		A
Approach Delay (s)	32.5	0.0	0.3
Approach LOS	D		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	4	566	0	12	721
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	4	590	0	12	751
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1366	590			590	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1366	590			590	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	160	508			986	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	4	590	12	751
Volume Left	0	0	12	0
Volume Right	4	0	0	0
cSH	508	1700	986	1700
Volume to Capacity	0.01	0.35	0.01	0.44
Queue Length 95th (ft)	1	0	1	0
Control Delay (s)	12.1	0.0	8.7	0.0
Lane LOS	B		A	
Approach Delay (s)	12.1	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	0	6	8	2	14	9	541	7	44	677	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	0	6	8	2	15	9	569	7	46	713	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1412	1403	715	1404	1402	573	717			577		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1412	1403	715	1404	1402	573	717			577		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	99	92	98	97	99			95		
cM capacity (veh/h)	106	132	431	110	132	519	884			997		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	8	25	9	577	46	717
Volume Left	2	8	9	0	46	0
Volume Right	6	15	0	7	0	4
cSH	244	209	884	1700	997	1700
Volume to Capacity	0.03	0.12	0.01	0.34	0.05	0.42
Queue Length 95th (ft)	3	10	1	0	4	0
Control Delay (s)	20.3	24.5	9.1	0.0	8.8	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	20.3	24.5	0.1		0.5	
Approach LOS	C	C				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	0	12	37	2	16	14	561	45	14	660	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	3	0	13	39	2	17	15	591	47	15	695	7
Pedestrians					4						7	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1373	1399	698	1385	1379	625	702			642		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1373	1399	698	1385	1379	625	702			642		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	97	66	98	96	98			98		
cM capacity (veh/h)	114	136	440	114	139	480	895			940		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	58	15	638	15	702
Volume Left	3	39	15	0	15	0
Volume Right	13	17	0	47	0	7
cSH	279	148	895	1700	940	1700
Volume to Capacity	0.06	0.39	0.02	0.38	0.02	0.41
Queue Length 95th (ft)	4	42	1	0	1	0
Control Delay (s)	18.7	44.4	9.1	0.0	8.9	0.0
Lane LOS	C	E	A		A	
Approach Delay (s)	18.7	44.4	0.2		0.2	
Approach LOS	C	E				

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	2	15	19	1	11	15	599	26	9	676	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	9	2	16	20	1	12	16	644	28	10	727	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1440	1455	732	1454	1446	658	737			672		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1440	1455	732	1454	1446	658	737			672		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	98	96	80	99	97	98			99		
cM capacity (veh/h)	105	126	421	100	128	464	869			919		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	27	33	16	672	10	737
Volume Left	9	20	16	0	10	0
Volume Right	16	12	0	28	0	10
cSH	196	140	869	1700	919	1700
Volume to Capacity	0.14	0.24	0.02	0.40	0.01	0.43
Queue Length 95th (ft)	12	22	1	0	1	0
Control Delay (s)	26.3	38.5	9.2	0.0	9.0	0.0
Lane LOS	D	E	A		A	
Approach Delay (s)	26.3	38.5	0.2		0.1	
Approach LOS	D	E				

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	2	15	21	1	5	7	635	32	7	695	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	2	16	22	1	5	7	668	34	7	732	6
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1439	1467	736	1463	1454	685	739			702		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1439	1467	736	1463	1454	685	739			702		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	98	96	78	99	99	99			99		
cM capacity (veh/h)	107	125	419	100	128	448	867			895		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	26	28	7	702	7	738
Volume Left	8	22	7	0	7	0
Volume Right	16	5	0	34	0	6
cSH	198	118	867	1700	895	1700
Volume to Capacity	0.13	0.24	0.01	0.41	0.01	0.43
Queue Length 95th (ft)	11	22	1	0	1	0
Control Delay (s)	26.0	45.0	9.2	0.0	9.1	0.0
Lane LOS	D	E	A		A	
Approach Delay (s)	26.0	45.0	0.1		0.1	
Approach LOS	D	E				

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	1	1	55	7	26	7	602	68	35	696	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	1	1	60	8	28	8	654	74	38	757	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1540	1582	762	1541	1551	691	768			728		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1540	1582	762	1541	1551	691	768			728		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	99	100	33	93	94	99			96		
cM capacity (veh/h)	80	103	405	89	108	444	846			875		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	14	96	8	728	38	768
Volume Left	12	60	8	0	38	0
Volume Right	1	28	0	74	0	12
cSH	87	119	846	1700	875	1700
Volume to Capacity	0.16	0.80	0.01	0.43	0.04	0.45
Queue Length 95th (ft)	14	118	1	0	3	0
Control Delay (s)	54.3	104.6	9.3	0.0	9.3	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	54.3	104.6	0.1		0.4	
Approach LOS	F	F				

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	20	0	637	26	0	694
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	22	0	685	28	0	746
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1445	699			713	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1445	699			713	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	100			100	
cM capacity (veh/h)	145	440			887	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	22	713	746
Volume Left	22	0	0
Volume Right	0	28	0
cSH	145	1700	887
Volume to Capacity	0.15	0.42	0.00
Queue Length 95th (ft)	13	0	0
Control Delay (s)	34.1	0.0	0.0
Lane LOS	D		
Approach Delay (s)	34.1	0.0	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	27	15	12	663	676	48
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	29	16	13	713	727	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1109	727	727			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1109	727	727			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	96	99			
cM capacity (veh/h)	201	366	872			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	29	16	13	356	356	727	52
Volume Left	29	0	13	0	0	0	0
Volume Right	0	16	0	0	0	0	52
cSH	201	366	872	1700	1700	1700	1700
Volume to Capacity	0.14	0.04	0.01	0.21	0.21	0.43	0.03
Queue Length 95th (ft)	12	3	1	0	0	0	0
Control Delay (s)	26.0	15.3	9.2	0.0	0.0	0.0	0.0
Lane LOS	D	C	A				
Approach Delay (s)	22.1		0.2			0.0	
Approach LOS	C						

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	30	619	56	66	620
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	20	33	680	62	73	681
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1537	711			742	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1537	711			742	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	92			92	
cM capacity (veh/h)	117	433			865	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	20	33	742	73	681
Volume Left	20	0	0	73	0
Volume Right	0	33	62	0	0
cSH	117	433	1700	865	1700
Volume to Capacity	0.17	0.08	0.44	0.08	0.40
Queue Length 95th (ft)	15	6	0	7	0
Control Delay (s)	42.0	14.0	0.0	9.5	0.0
Lane LOS	E	B		A	
Approach Delay (s)	24.5		0.0	0.9	
Approach LOS	C				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	74	78	46	78	188	137	467	26	198	617	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1820	1583		1699		3433	3511		1770	3539	1583
Flt Permitted		0.65	1.00		0.94		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1219	1583		1603		3433	3511		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	80	85	50	85	204	149	508	28	215	671	71
RTOR Reduction (vph)	0	0	63	0	58	0	0	4	0	0	0	42
Lane Group Flow (vph)	0	152	22	0	281	0	149	532	0	215	671	29
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4								2
Actuated Green, G (s)		15.2	15.2		15.2		6.0	17.8		12.4	24.2	24.2
Effective Green, g (s)		15.2	15.2		15.2		6.0	17.8		12.4	24.2	24.2
Actuated g/C Ratio		0.26	0.26		0.26		0.10	0.30		0.21	0.41	0.41
Clearance Time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)		317	412		417		352	1070		375	1466	655
v/s Ratio Prot							0.04	0.15		c0.12	c0.19	
v/s Ratio Perm		0.12	0.01		c0.18							0.02
v/c Ratio		0.48	0.05		0.67		0.42	0.50		0.57	0.46	0.04
Uniform Delay, d1		18.3	16.2		19.4		24.6	16.6		20.6	12.4	10.2
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.4	0.0		3.4		0.3	0.5		1.3	0.3	0.0
Delay (s)		18.7	16.2		22.7		24.9	17.1		21.9	12.7	10.2
Level of Service		B	B		C		C	B		C	B	B
Approach Delay (s)		17.8			22.7			18.8			14.6	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	34	658	834	394	232	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.5	5.5	5.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1496
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1583	1770	1496
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	708	897	424	249	23
RTOR Reduction (vph)	0	0	0	167	0	18
Lane Group Flow (vph)	37	708	897	257	249	5
Confl. Peds. (#/hr)						23
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	4.1	58.1	51.0	51.0	17.5	17.5
Effective Green, g (s)	4.1	58.1	51.0	51.0	17.5	17.5
Actuated g/C Ratio	0.05	0.69	0.61	0.61	0.21	0.21
Clearance Time (s)	3.0	5.5	5.5	5.5	3.0	3.0
Vehicle Extension (s)	2.5	2.4	2.4	2.4	2.0	2.0
Lane Grp Cap (vph)	86	1287	1129	959	368	311
v/s Ratio Prot	0.02	c0.38	c0.48		c0.14	
v/s Ratio Perm				0.16		0.00
v/c Ratio	0.43	0.55	0.79	0.27	0.68	0.02
Uniform Delay, d1	38.9	6.5	12.6	7.8	30.7	26.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.4	3.8	0.1	3.8	0.0
Delay (s)	41.4	6.9	16.4	7.9	34.5	26.5
Level of Service	D	A	B	A	C	C
Approach Delay (s)		8.6	13.6		33.9	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	11.5
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	118	308	160	2	4	86
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	133	346	180	2	4	97
Pedestrians			1		5	
Lane Width (ft)			12.0		12.0	
Walking Speed (ft/s)			4.0		4.0	
Percent Blockage			0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		151				
pX, platoon unblocked						
vC, conflicting volume	187				798	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	187				798	186
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				99	89
cM capacity (veh/h)	1382				319	853

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	479	182	101
Volume Left	133	0	4
Volume Right	0	2	97
cSH	1382	1700	794
Volume to Capacity	0.10	0.11	0.13
Queue Length 95th (ft)	8	0	11
Control Delay (s)	2.9	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	2.9	0.0	10.2
Approach LOS			B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	14	13	24	1211	863	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	14	25	1275	908	31
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2249	924	939			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2249	924	939			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	96	97			
cM capacity (veh/h)	44	327	730			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	28	25	1275	939
Volume Left	15	25	0	0
Volume Right	14	0	0	31
cSH	76	730	1700	1700
Volume to Capacity	0.37	0.03	0.75	0.55
Queue Length 95th (ft)	36	3	0	0
Control Delay (s)	78.5	10.1	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	78.5	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	0	24	6	0	18	20	1197	30	15	852	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	0	25	6	0	19	21	1247	31	16	888	8
Pedestrians		1									2	
Lane Width (ft)		12.0									12.0	
Walking Speed (ft/s)		4.0									4.0	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2233	2244	893	2248	2232	1264	897			1278		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2233	2244	893	2248	2232	1264	897			1278		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	100	93	76	100	91	97			97		
cM capacity (veh/h)	26	40	340	26	40	206	756			543		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	28	25	21	1278	16	896
Volume Left	3	6	21	0	16	0
Volume Right	25	19	0	31	0	8
cSH	146	76	756	1700	543	1700
Volume to Capacity	0.19	0.33	0.03	0.75	0.03	0.53
Queue Length 95th (ft)	17	31	2	0	2	0
Control Delay (s)	35.3	73.9	9.9	0.0	11.8	0.0
Lane LOS	E	F	A		B	
Approach Delay (s)	35.3	73.9	0.2		0.2	
Approach LOS	E	F				

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	0	1	0	0	4	0	1293	2	5	869	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	1	0	0	4	0	1405	2	5	945	3
Pedestrians					1						1	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2368	2366	946	2364	2366	1409	948			1409		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2368	2366	946	2364	2366	1409	948			1409		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	100	100	97	100			99		
cM capacity (veh/h)	23	35	317	24	35	170	724			484		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	2	4	0	1408	5	948
Volume Left	1	0	0	0	5	0
Volume Right	1	4	0	2	0	3
cSH	44	170	1700	1700	484	1700
Volume to Capacity	0.05	0.03	0.00	0.83	0.01	0.56
Queue Length 95th (ft)	4	2	0	0	1	0
Control Delay (s)	91.7	26.8	0.0	0.0	12.5	0.0
Lane LOS	F	D			B	
Approach Delay (s)	91.7	26.8	0.0		0.1	
Approach LOS	F	D				

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	78.5%	ICU Level of Service		D
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	0	16	11	0	7	26	1096	11	3	835	18
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	12	0	17	12	0	7	27	1154	12	3	879	19
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2111	2115	888	2116	2118	1159	898			1165		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2111	2115	888	2116	2118	1159	898			1165		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	67	100	95	66	100	97	96			99		
cM capacity (veh/h)	35	49	342	34	48	238	756			599		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	28	19	27	1165	3	898
Volume Left	12	12	27	0	3	0
Volume Right	17	7	0	12	0	19
cSH	75	51	756	1700	599	1700
Volume to Capacity	0.38	0.37	0.04	0.69	0.01	0.53
Queue Length 95th (ft)	37	33	3	0	0	0
Control Delay (s)	80.3	112.7	9.9	0.0	11.0	0.0
Lane LOS	F	F	A		B	
Approach Delay (s)	80.3	112.7	0.2		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

SR-1 Existing Conditions
16th Street Intersection
Synchro Report
From Draft Intersection Control Analysis

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	1	0	0	0	5	557	0	0	466	0
Future Vol, veh/h	2	0	1	0	0	0	5	557	0	0	466	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	1	0	0	0	5	605	0	0	507	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1123	1123	507	1123	1123	605	507	0	0	605	0	0
Stage 1	507	507	-	616	616	-	-	-	-	-	-	-
Stage 2	616	616	-	507	507	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	183	206	566	183	206	498	1058	-	-	973	-	-
Stage 1	548	539	-	478	482	-	-	-	-	-	-	-
Stage 2	478	482	-	548	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	182	205	566	182	205	498	1058	-	-	973	-	-
Mov Cap-2 Maneuver	182	205	-	182	205	-	-	-	-	-	-	-
Stage 1	545	539	-	476	480	-	-	-	-	-	-	-
Stage 2	476	480	-	547	539	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.5	0	0.1	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1058	-	-	235	-	973	-	-
HCM Lane V/C Ratio	0.005	-	-	0.014	-	-	-	-
HCM Control Delay (s)	8.4	-	-	20.5	0	0	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	8	1	0	2	3	663	1	2	1048	6
Future Vol, veh/h	4	0	8	1	0	2	3	663	1	2	1048	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	9	1	0	2	3	721	1	2	1139	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1876	1875	1142	1879	1878	721	1146	0	0	722	0	0
Stage 1	1147	1147	-	728	728	-	-	-	-	-	-	-
Stage 2	729	728	-	1151	1150	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	55	72	244	54	71	427	610	-	-	880	-	-
Stage 1	242	274	-	415	429	-	-	-	-	-	-	-
Stage 2	414	429	-	241	273	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	54	71	244	52	70	427	610	-	-	880	-	-
Mov Cap-2 Maneuver	54	71	-	52	70	-	-	-	-	-	-	-
Stage 1	241	273	-	413	427	-	-	-	-	-	-	-
Stage 2	410	427	-	232	272	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41.3	34.6	0	0
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	610	-	-	112	125	880	-	-
HCM Lane V/C Ratio	0.005	-	-	0.116	0.026	0.002	-	-
HCM Control Delay (s)	10.9	-	-	41.3	34.6	9.1	-	-
HCM Lane LOS	B	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	2	0	2	2	0	0	1	3	608	0	0	744	5
Future Vol, veh/h	2	0	2	2	0	0	1	3	608	0	0	744	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	125	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	2	0	0	1	3	661	0	0	809	5

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	1478	1481	811	1480	1484	661	813	814	0	0	661	0	0
Stage 1	811	811	-	667	670	-	-	-	-	-	-	-	-
Stage 2	667	670	-	813	814	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	104	125	379	104	125	462	-	813	-	-	927	-	-
Stage 1	373	393	-	448	455	-	-	-	-	-	-	-	-
Stage 2	448	455	-	372	391	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	104	125	379	103	125	462	~ -4	~ -4	-	-	927	-	-
Mov Cap-2 Maneuver	104	125	-	103	125	-	-	-	-	-	-	-	-
Stage 1	373	393	-	448	455	-	-	-	-	-	-	-	-
Stage 2	448	455	-	370	391	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.7	40.7		0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	163	103	927	-	-
HCM Lane V/C Ratio	-	-	-	0.027	0.021	-	-	-
HCM Control Delay (s)	-	-	-	27.7	40.7	0	-	-
HCM Lane LOS	-	-	-	D	E	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0.1	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Simtraffic
SR-1 Existing Report

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	0.7	7.9	0.1	47
Medio Ave	17	0.7	9.6	0.1	47
Magellan Ave	16	1.0	15.2	0.2	47
Coronado St	14	13.5	40.6	0.4	35
	52	7.9	59.7	0.7	44
Capistrano Rd	13	9.6	18.2	0.1	25
	51	4.5	11.1	0.1	29
	50	0.8	4.5	0.1	41
Coral Reef Ave	12	1.2	13.2	0.2	48
	49	0.5	4.8	0.1	44
Capistrano Rd 2	11	0.6	9.0	0.1	50
St Etheldore St	10	7.4	97.2	1.3	47
Cypress Ave	9	3.1	26.8	0.3	45
Vermont Ave	8	1.9	13.1	0.2	43
Virginia Ave	7	0.9	4.9	0.1	41
California Ave	6	1.1	5.1	0.1	39
Vallemar St	5	1.2	9.0	0.1	44
Carlos St	4	2.7	38.6	0.5	47
8th St	3	3.2	34.8	0.4	46
7th St	2	0.6	4.3	0.0	41
2nd St	1	2.6	20.9	0.3	44
Total		65.8	448.8	5.4	43

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	0.9	6.5	0.1	45
	2	0.6	18.6	0.3	49
8th St	3	0.4	4.2	0.0	42
Carlos St	4	1.2	27.9	0.4	58
	5	2.1	37.7	0.5	48
California Ave	6	1.0	8.8	0.1	45
Virginia Ave	7	0.6	4.5	0.1	43
Vermont Ave	8	0.7	4.7	0.1	42
Cypress Ave	9	2.2	13.3	0.2	43
St Etheldore St	10	2.0	26.0	0.3	46
Capistrano Rd 2	11	8.0	97.0	1.3	47
	49	1.0	10.0	0.1	45
Coral Reef Ave	12	0.6	4.8	0.1	44
	50	1.4	14.2	0.2	45
	51	0.8	4.5	0.1	40
Capistrano Rd	13	11.3	17.2	0.1	19
	52	5.5	14.9	0.1	30
Coronado St	14	15.5	62.8	0.7	42
Magellan Ave	16	6.7	34.0	0.4	42
Medio Ave	17	2.2	16.4	0.2	44
Miramar Dr	18	1.5	10.8	0.1	42
Total		66.4	438.9	5.4	44

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	1.4	9.3	0.1	43
Medio Ave	17	1.9	10.9	0.1	42
Magellan Ave	16	1.9	16.6	0.2	43
Coronado St	14	17.2	45.4	0.4	31
	52	9.8	62.0	0.7	42
Capistrano Rd	13	21.1	29.7	0.1	15
	51	5.2	11.7	0.1	27
	50	0.5	4.2	0.1	44
Coral Reef Ave	12	2.1	14.4	0.2	44
	49	0.7	5.1	0.1	42
Capistrano Rd	11	0.8	9.4	0.1	48
St Etheldore St	10	9.1	97.8	1.3	47
Cypress Ave	9	3.5	27.2	0.3	44
Vermont Ave	8	2.7	14.0	0.2	41
Virginia Ave	7	1.5	5.4	0.1	36
California Ave	6	1.6	5.4	0.1	36
Vallemar St	5	1.5	9.3	0.1	42
Carlos St	4	2.8	38.8	0.5	47
8th St	3	3.6	35.3	0.4	46
7th St	2	0.8	4.5	0.0	40
2nd St	1	2.4	20.0	0.3	46
Total		92.1	476.5	5.4	41

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	1.7	8.0	0.1	40
	2	2.2	20.1	0.3	45
8th St	3	0.9	4.8	0.0	37
Carlos St	4	3.2	34.2	0.4	47
	5	4.3	40.1	0.5	45
California Ave	6	2.2	10.1	0.1	39
Virginia Ave	7	1.6	5.5	0.1	36
Vermont Ave	8	1.3	5.3	0.1	37
Cypress Ave	9	3.2	14.4	0.2	40
St Etheldore St	10	3.1	26.8	0.3	45
Capistrano Rd	11	10.7	99.6	1.3	46
	49	1.5	10.5	0.1	43
Coral Reef Ave	12	0.7	4.9	0.1	43
	50	1.8	14.6	0.2	44
	51	1.2	4.9	0.1	38
Capistrano Rd	13	15.4	21.2	0.1	15
	52	6.6	16.0	0.1	28
Coronado St	14	17.0	63.8	0.7	41
Magellan Ave	16	8.1	36.3	0.4	39
Medio Ave	17	3.2	17.7	0.2	41
Miramar Dr	18	2.1	11.3	0.1	40
Total		92.2	470.1	5.4	41

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	1.9	10.3	0.1	41
Medio Ave	17	3.1	12.0	0.1	38
Magellan Ave	16	3.1	17.7	0.2	41
Coronado St	14	19.8	48.0	0.4	30
	52	10.3	62.4	0.7	42
Capistrano Rd	13	13.1	20.6	0.1	22
	51	5.2	11.8	0.1	27
	50	0.5	4.2	0.1	44
Coral Reef Ave	12	2.2	14.4	0.2	44
	49	0.9	5.2	0.1	41
Capistrano Rd	11	0.9	9.3	0.1	48
St Etheldore St	10	8.8	97.1	1.3	47
Cypress Ave	9	4.7	28.3	0.3	42
Vermont Ave	8	3.2	14.3	0.2	40
Virginia Ave	7	1.6	5.5	0.1	36
California Ave	6	1.7	5.7	0.1	35
Vallemar St	5	1.5	9.2	0.1	43
Carlos St	4	2.4	38.2	0.5	48
8th St	3	2.6	31.5	0.4	51
7th St	2	0.8	4.5	0.0	40
2nd St	1	2.1	20.5	0.3	44
Total		90.5	470.6	5.4	42

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	1.9	8.0	0.1	39
	2	1.4	19.1	0.3	48
8th St	3	0.7	4.5	0.0	39
Carlos St	4	2.6	34.5	0.4	47
	5	3.7	39.6	0.5	46
California Ave	6	1.5	9.4	0.1	42
Virginia Ave	7	0.9	4.8	0.1	41
Vermont Ave	8	0.8	4.8	0.1	41
Cypress Ave	9	1.9	13.3	0.2	43
St Etheldore St	10	2.0	25.2	0.3	48
Capistrano Rd	11	9.3	98.0	1.3	47
	49	1.2	10.2	0.1	44
Coral Reef Ave	12	0.6	4.8	0.1	44
	50	1.5	14.3	0.2	44
	51	1.1	4.8	0.1	38
Capistrano Rd	13	15.1	20.4	0.1	16
	52	6.9	16.3	0.1	27
Coronado St	14	13.1	63.3	0.7	41
Magellan Ave	16	6.4	34.7	0.4	41
Medio Ave	17	2.2	16.8	0.2	43
Miramar Dr	18	1.2	10.5	0.1	43
Total		76.1	457.6	5.4	42

SR-92 Existing Conditions Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	1234	1	2	464	22	2	0	1	12	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	1299	1	2	488	23	2	0	1	13	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	512			1300			1817	1836	1299	1814	1814	488
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	512			1300			1817	1836	1299	1814	1814	488
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	100	99	79	100	99
cM capacity (veh/h)	1054			533			59	75	197	60	77	579

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	11	1300	491	23	3	17
Volume Left	11	0	2	0	2	13
Volume Right	0	1	0	23	1	4
cSH	1054	1700	533	1700	77	77
Volume to Capacity	0.01	0.76	0.00	0.01	0.04	0.22
Queue Length 95th (ft)	1	0	0	0	3	19
Control Delay (s)	8.5	0.0	0.1	0.0	53.7	64.7
Lane LOS	A		A		F	F
Approach Delay (s)	0.1		0.1		53.7	64.7
Approach LOS					F	F

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1184	27	58	443	17	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	1208	28	59	452	17	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1208		1779	1208
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1208		1779	1208
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		79	82
cM capacity (veh/h)			577		81	223

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1208	28	59	452	58
Volume Left	0	0	59	0	17
Volume Right	0	28	0	0	41
cSH	1700	1700	577	1700	272
Volume to Capacity	0.71	0.02	0.10	0.27	0.21
Queue Length 95th (ft)	0	0	9	0	20
Control Delay (s)	0.0	0.0	11.9	0.0	35.5
Lane LOS			B		E
Approach Delay (s)	0.0		1.4		35.5
Approach LOS					E

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	225	1067	436	16	45	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	245	1160	474	17	49	124
RTOR Reduction (vph)	0	0	0	10	0	76
Lane Group Flow (vph)	245	1160	474	7	49	48
Turn Type	Prot	NA	NA	Perm	NA	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	15.5	41.3	21.8	21.8	5.9	21.4
Effective Green, g (s)	15.5	41.3	21.8	21.8	5.9	21.4
Actuated g/C Ratio	0.28	0.75	0.39	0.39	0.11	0.39
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	497	1393	735	625	189	714
v/s Ratio Prot	0.14	c0.62	0.25		c0.03	0.01
v/s Ratio Perm				0.00		0.02
v/c Ratio	0.49	0.83	0.64	0.01	0.26	0.07
Uniform Delay, d1	16.6	4.6	13.6	10.1	22.6	10.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	4.2	1.5	0.0	0.3	0.0
Delay (s)	16.9	8.9	15.0	10.2	22.9	10.6
Level of Service	B	A	B	B	C	B
Approach Delay (s)		10.3	14.9		14.1	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	837	4	1	1047	5	0	0	2	2	0	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	910	4	1	1138	5	0	0	2	2	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1143			914			2074	2066	912	2061	2063	1138
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1143			914			2074	2066	912	2061	2063	1138
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	99	95	100	95
cM capacity (veh/h)	611			746			37	54	332	40	54	245

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	914	1139	5	2	15
Volume Left	4	0	1	0	0	2
Volume Right	0	4	0	5	2	13
cSH	611	1700	746	1700	332	141
Volume to Capacity	0.01	0.54	0.00	0.00	0.01	0.11
Queue Length 95th (ft)	1	0	0	0	0	9
Control Delay (s)	10.9	0.0	0.1	0.0	15.9	33.5
Lane LOS	B		A		C	D
Approach Delay (s)	0.1		0.1		15.9	33.5
Approach LOS					C	D

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	723	25	158	1186	53	185
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	786	27	172	1289	58	201
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			786		2418	786
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			786		2418	786
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			79		0	49
cM capacity (veh/h)			833		28	392

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	786	27	172	1289	259
Volume Left	0	0	172	0	58
Volume Right	0	27	0	0	201
cSH	1700	1700	833	1700	118
Volume to Capacity	0.46	0.02	0.21	0.76	2.20
Queue Length 95th (ft)	0	0	19	0	551
Control Delay (s)	0.0	0.0	10.4	0.0	626.9
Lane LOS			B		F
Approach Delay (s)	0.0		1.2		626.9
Approach LOS					F

Intersection Summary			
Average Delay	64.7		
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	99	833	1112	27	26	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1551	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1551	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	905	1209	29	28	282
RTOR Reduction (vph)	0	0	0	12	0	25
Lane Group Flow (vph)	108	905	1209	17	28	257
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA	Perm	NA	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	10.1	72.4	58.3	58.3	16.8	26.9
Effective Green, g (s)	10.1	72.4	58.3	58.3	16.8	26.9
Actuated g/C Ratio	0.10	0.74	0.60	0.60	0.17	0.28
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	183	1387	1117	930	305	495
v/s Ratio Prot	0.06	c0.49	c0.65		0.02	c0.09
v/s Ratio Perm				0.01		0.07
v/c Ratio	0.59	0.65	1.08	0.02	0.09	0.52
Uniform Delay, d1	41.6	6.2	19.5	7.9	33.8	29.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	0.8	52.1	0.0	0.0	0.5
Delay (s)	44.9	7.0	71.6	7.9	33.8	30.2
Level of Service	D	A	E	A	C	C
Approach Delay (s)		11.0	70.1		30.5	
Approach LOS		B	E		C	

Intersection Summary			
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	97.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
47: Muddy Rd/Ox Mt Landfill Rd & SR-92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	770	4	3	1210	3	0	0	2	12	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	811	4	3	1274	3	0	0	2	13	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1277			815			2108	2098	813	2095	2097	1274
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1277			815			2108	2098	813	2095	2097	1274
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	67	100	93
cM capacity (veh/h)	544			813			35	52	379	38	52	204

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	815	1277	3	2	26
Volume Left	1	0	3	0	0	13
Volume Right	0	4	0	3	2	14
cSH	544	1700	813	1700	379	66
Volume to Capacity	0.00	0.48	0.00	0.00	0.01	0.40
Queue Length 95th (ft)	0	0	0	0	0	38
Control Delay (s)	11.6	0.0	0.2	0.0	14.6	92.6
Lane LOS	B		A		B	F
Approach Delay (s)	0.0		0.2		14.6	92.6
Approach LOS					B	F

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	770	19	97	1191	24	97
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	856	21	108	1323	27	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			856		2394	856
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			856		2394	856
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		17	70
cM capacity (veh/h)			784		32	358

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	856	21	108	1323	134
Volume Left	0	0	108	0	27
Volume Right	0	21	0	0	108
cSH	1700	1700	784	1700	161
Volume to Capacity	0.50	0.01	0.14	0.78	0.83
Queue Length 95th (ft)	0	0	12	0	141
Control Delay (s)	0.0	0.0	10.3	0.0	72.9
Lane LOS			B		F
Approach Delay (s)	0.0		0.8		72.9
Approach LOS					F

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	115	744	1046	24	30	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1551	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1551	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	120	775	1090	25	31	223
RTOR Reduction (vph)	0	0	0	9	0	37
Lane Group Flow (vph)	120	775	1090	16	31	186
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA	Perm	NA	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	10.6	72.9	58.3	58.3	12.9	23.5
Effective Green, g (s)	10.6	72.9	58.3	58.3	12.9	23.5
Actuated g/C Ratio	0.11	0.78	0.62	0.62	0.14	0.25
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	200	1447	1157	964	243	455
v/s Ratio Prot	c0.07	0.42	c0.59		0.02	c0.06
v/s Ratio Perm				0.01		0.06
v/c Ratio	0.60	0.54	0.94	0.02	0.13	0.41
Uniform Delay, d1	39.6	4.0	16.2	6.8	35.5	29.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.2	14.5	0.0	0.1	0.2
Delay (s)	42.8	4.2	30.7	6.8	35.6	29.6
Level of Service	D	A	C	A	D	C
Approach Delay (s)		9.4	30.2		30.3	
Approach LOS		A	C		C	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Simtraffic
SR-92 Existing Report

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.6	8.9	0.1	29
	12	2.8	29.7	0.2	27
	13	0.9	8.1	0.1	26
	14	4.4	37.5	0.3	27
	15	2.3	18.5	0.1	26
	16	1.2	9.4	0.1	26
	17	1.1	8.6	0.1	26
	45	11.2	85.6	0.6	26
	19	6.9	51.1	0.4	26
	20	1.4	10.1	0.1	26
	21	6.2	45.6	0.3	26
	22	3.6	26.4	0.2	26
	23	2.1	15.1	0.1	26
	24	3.4	25.0	0.2	26
	25	3.6	26.1	0.2	26
	26	3.9	27.9	0.2	26
	27	3.6	26.4	0.2	26
Skyline Blvd (West)	48	4.7	15.8	0.1	29
	28	1.4	16.8	0.1	27
	29	1.2	11.7	0.1	26
	30	2.1	17.8	0.1	26
	31	1.4	10.8	0.1	26
	32	1.0	7.8	0.1	27
	33	3.3	25.2	0.2	26
	34	2.0	14.8	0.1	25
	35	2.6	19.4	0.1	26
	36	2.5	18.1	0.1	26
	37	4.4	31.9	0.2	26
	38	3.9	28.1	0.2	26
	39	3.4	24.6	0.2	26
	40	2.2	15.8	0.1	26
	46	5.0	34.0	0.2	26
SR-35 (East)	49	8.9	18.6	0.1	22
Total		109.3	771.1	5.6	26

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	1.7	15.2	0.1	26
	40	1.8	30.8	0.2	28
	39	1.1	15.0	0.1	27
	38	1.7	22.7	0.2	28
	37	2.2	26.4	0.2	27
	36	2.7	30.3	0.2	27
	35	1.7	17.6	0.1	27
	34	1.9	19.0	0.1	27
	33	1.4	13.8	0.1	27
	32	2.5	24.4	0.2	27
	31	0.8	7.8	0.1	26
	30	1.1	10.4	0.1	27
	29	1.9	17.5	0.1	27
	28	1.3	11.5	0.1	27
Skyline Blvd (West)	48	3.0	13.9	0.1	33
	27	0.9	16.2	0.1	29
	26	2.0	25.2	0.2	27
	25	2.5	26.2	0.2	27
	24	2.6	25.2	0.2	27
	23	2.5	23.8	0.2	27
	22	1.6	14.6	0.1	27
	21	2.8	25.6	0.2	27
	20	5.0	44.5	0.3	27
	19	1.1	9.9	0.1	26
	45	5.8	50.3	0.4	27
	17	10.0	84.5	0.6	27
	16	1.1	8.8	0.1	26
	15	1.1	9.1	0.1	27
	14	2.3	18.5	0.1	26
	13	4.6	37.7	0.3	26
	12	1.0	8.2	0.1	26
	11	3.8	30.8	0.2	26
Ox Mt Landfill Rd	47	2.9	9.4	0.1	27
Total		80.4	744.9	5.6	27

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.4	8.7	0.1	29
	12	2.0	29.0	0.2	28
	13	0.7	7.9	0.1	27
	14	3.7	36.7	0.3	27
	15	2.0	18.2	0.1	27
	16	1.0	9.2	0.1	26
	17	1.0	8.5	0.1	27
	45	10.0	84.4	0.6	27
	19	6.3	50.8	0.4	26
	20	1.3	10.0	0.1	26
	21	5.7	45.3	0.3	26
	22	3.4	26.2	0.2	26
	23	1.9	15.0	0.1	26
	24	3.2	24.8	0.2	26
	25	3.4	25.9	0.2	26
	26	3.6	27.7	0.2	26
	27	3.4	26.1	0.2	26
Skyline Blvd (West)	48	3.8	14.5	0.1	32
	28	1.2	16.5	0.1	28
	29	0.9	11.4	0.1	27
	30	1.7	17.4	0.1	27
	31	1.1	10.6	0.1	26
	32	0.9	7.6	0.1	27
	33	2.9	24.7	0.2	27
	34	1.8	14.5	0.1	26
	35	2.4	19.2	0.1	27
	36	2.2	17.8	0.1	26
	37	4.1	31.6	0.2	26
	38	3.6	27.7	0.2	26
	39	3.2	24.3	0.2	26
	40	2.1	15.7	0.1	26
	46	4.6	33.5	0.2	26
SR-35 (East)	49	10.1	19.8	0.1	20
Total		99.5	761.3	5.6	26

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	3.4	16.9	0.1	24
	40	3.4	32.4	0.2	27
	39	1.9	15.7	0.1	26
	38	2.9	23.9	0.2	26
	37	3.5	27.6	0.2	26
	36	4.1	31.6	0.2	26
	35	2.4	18.3	0.1	26
	34	2.6	19.7	0.1	26
	33	1.9	14.3	0.1	26
	32	3.4	25.3	0.2	26
	31	1.1	8.0	0.1	26
	30	1.5	10.8	0.1	26
	29	2.4	18.0	0.1	26
	28	1.6	11.9	0.1	26
Skyline Blvd (West)	48	4.9	16.0	0.1	28
	27	1.2	16.5	0.1	28
	26	2.6	25.6	0.2	27
	25	3.1	26.8	0.2	27
	24	3.2	25.8	0.2	26
	23	3.1	24.4	0.2	26
	22	1.9	15.0	0.1	26
	21	3.5	26.3	0.2	26
	20	6.1	45.5	0.3	26
	19	1.4	10.1	0.1	26
	45	7.0	51.8	0.4	26
	17	11.7	85.8	0.6	26
	16	1.2	8.9	0.1	26
	15	1.3	9.2	0.1	26
	14	2.6	18.8	0.1	26
	13	5.3	38.2	0.3	26
	12	1.2	8.3	0.1	26
	11	4.3	31.1	0.2	26
Ox Mt Landfill Rd	47	2.2	8.5	0.1	30
Total		103.9	767.2	5.6	26

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.4	8.7	0.1	29
	12	2.0	29.0	0.2	28
	13	0.7	7.9	0.1	27
	14	3.6	36.6	0.3	27
	15	1.9	18.1	0.1	27
	16	1.0	9.2	0.1	26
	17	1.0	8.5	0.1	27
	45	10.0	84.4	0.6	27
	19	6.3	50.6	0.4	26
	20	1.3	10.0	0.1	26
	21	5.7	45.1	0.3	26
	22	3.4	26.2	0.2	26
	23	1.9	15.0	0.1	26
	24	3.2	24.8	0.2	26
	25	3.4	25.9	0.2	26
	26	3.6	27.6	0.2	26
	27	3.4	26.2	0.2	26
Skyline Blvd (West)	48	4.1	15.4	0.1	30
	28	1.3	16.7	0.1	27
	29	1.1	11.6	0.1	27
	30	2.0	17.7	0.1	27
	31	1.3	10.8	0.1	26
	32	0.9	7.7	0.1	27
	33	3.2	25.0	0.2	26
	34	1.9	14.7	0.1	25
	35	2.5	19.2	0.1	27
	36	2.4	18.1	0.1	26
	37	4.2	31.8	0.2	26
	38	3.8	27.9	0.2	26
	39	3.3	24.4	0.2	26
	40	2.1	15.8	0.1	26
	46	4.7	33.8	0.2	26
SR-35 (East)	49	8.5	18.3	0.1	22
Total		100.1	762.7	5.6	26

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	3.4	16.9	0.1	24
	40	3.4	32.4	0.2	27
	39	1.9	15.8	0.1	26
	38	2.9	23.9	0.2	26
	37	3.5	27.7	0.2	26
	36	4.1	31.6	0.2	26
	35	2.4	18.3	0.1	26
	34	2.6	19.7	0.1	26
	33	1.9	14.3	0.1	26
	32	3.3	25.2	0.2	26
	31	1.1	8.0	0.1	26
	30	1.4	10.7	0.1	26
	29	2.4	18.0	0.1	26
	28	1.6	11.8	0.1	26
Skyline Blvd (West)	48	4.8	16.0	0.1	29
	27	1.4	16.7	0.1	28
	26	2.8	25.9	0.2	27
	25	3.3	26.9	0.2	26
	24	3.3	26.0	0.2	26
	23	3.2	24.4	0.2	26
	22	2.0	15.0	0.1	26
	21	3.5	26.4	0.2	26
	20	6.2	45.7	0.3	26
	19	1.4	10.2	0.1	26
	45	7.1	51.6	0.4	26
	17	11.9	85.9	0.6	26
	16	1.2	8.9	0.1	25
	15	1.3	9.2	0.1	26
	14	2.6	18.8	0.1	26
	13	5.4	38.5	0.3	26
	12	1.2	8.4	0.1	25
	11	4.4	31.1	0.2	26
Ox Mt Landfill Rd	47	2.8	9.4	0.1	27
Total		105.6	769.4	5.6	26

SR-1 Buildout Conditions Synchro Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	26	0	164	0	872	13	50	777	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	27	0	173	0	918	14	53	818	0
Pedestrians											3	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2017	1855	818	1848	1848	928	818			932		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2017	1855	818	1848	1848	928	818			932		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	49	100	47	100			93		
cM capacity (veh/h)	19	69	376	54	69	324	810			735		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	200	0	932	53	818
Volume Left	0	27	0	0	53	0
Volume Right	0	173	0	14	0	0
cSH	1700	193	1700	1700	735	1700
Volume to Capacity	0.00	1.04	0.00	0.55	0.07	0.48
Queue Length 95th (ft)	0	228	0	0	6	0
Control Delay (s)	0.0	126.3	0.0	0.0	10.3	0.0
Lane LOS	A	F			B	
Approach Delay (s)	0.0	126.3	0.0		0.6	
Approach LOS	A	F				

Intersection Summary			
Average Delay	12.9		
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	69	0	808	26	0	796	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	0	0	0	72	0	842	27	0	829	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1743	1698	829	1684	1684	855	829			869		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1743	1698	829	1684	1684	855	829			869		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	80	100			100		
cM capacity (veh/h)	54	92	370	75	94	358	802			776		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	0	72	0	869	829
Volume Left	0	0	0	0	0
Volume Right	0	72	0	27	0
cSH	1700	358	1700	1700	1700
Volume to Capacity	0.00	0.20	0.00	0.51	0.49
Queue Length 95th (ft)	0	18	0	0	0
Control Delay (s)	0.0	17.6	0.0	0.0	0.0
Lane LOS	A	C			
Approach Delay (s)	0.0	17.6	0.0		0.0
Approach LOS	A	C			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	116	19	823	19	7	783
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	117	19	831	19	7	791
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1646	841			851	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1646	841			851	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	95			99	
cM capacity (veh/h)	108	365			788	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	136	851	798
Volume Left	117	0	7
Volume Right	19	19	0
cSH	120	1700	788
Volume to Capacity	1.13	0.50	0.01
Queue Length 95th (ft)	206	0	1
Control Delay (s)	192.4	0.0	0.2
Lane LOS	F		A
Approach Delay (s)	192.4	0.0	0.2
Approach LOS	F		

Intersection Summary			
Average Delay	14.8		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	28	847	0	14	1009
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	30	901	0	15	1073
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2004	901			901	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2004	901			901	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	91			98	
cM capacity (veh/h)	64	337			754	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	30	901	15	1073
Volume Left	0	0	15	0
Volume Right	30	0	0	0
cSH	337	1700	754	1700
Volume to Capacity	0.09	0.53	0.02	0.63
Queue Length 95th (ft)	7	0	2	0
Control Delay (s)	16.7	0.0	9.9	0.0
Lane LOS	C		A	
Approach Delay (s)	16.7	0.0	0.1	
Approach LOS	C			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	5	0	35	0	803	1	15	1010	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	0	5	0	36	0	836	1	16	1052	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1956	1921	1052	1920	1920	837	1052			838		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1956	1921	1052	1920	1920	837	1052			838		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	90	100	90	100			98		
cM capacity (veh/h)	43	66	275	50	66	367	662			797		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	42	0	838	16	1052
Volume Left	0	5	0	0	16	0
Volume Right	0	36	0	1	0	0
cSH	1700	205	1700	1700	797	1700
Volume to Capacity	0.00	0.20	0.00	0.49	0.02	0.62
Queue Length 95th (ft)	0	18	0	0	1	0
Control Delay (s)	0.0	27.0	0.0	0.0	9.6	0.0
Lane LOS	A	D			A	
Approach Delay (s)	0.0	27.0	0.0		0.1	
Approach LOS	A	D				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	1	19	49	0	15	14	752	43	15	992	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	1	20	53	0	16	15	809	46	16	1067	0
Pedestrians											2	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1956	1984	1067	1982	1961	834	1067			855		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1956	1984	1067	1982	1961	834	1067			855		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	76	98	92	0	100	96	98			98		
cM capacity (veh/h)	44	59	270	41	61	368	653			785		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	69	15	855	16	1067
Volume Left	11	53	15	0	16	0
Volume Right	20	16	0	46	0	0
cSH	96	51	653	1700	785	1700
Volume to Capacity	0.34	1.34	0.02	0.50	0.02	0.63
Queue Length 95th (ft)	33	157	2	0	2	0
Control Delay (s)	60.6	373.0	10.6	0.0	9.7	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	60.6	373.0	0.2		0.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	13.6		
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	0	15	10	2	3	21	798	5	2	1033	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	3	0	16	11	2	3	22	840	5	2	1087	8
Pedestrians		1						1				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1985	1986	1094	1995	1988	843	1097			845		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1985	1986	1094	1995	1988	843	1097			845		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	94	74	96	99	97			100		
cM capacity (veh/h)	43	59	260	41	59	364	636			791		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	19	16	22	845	2	1096
Volume Left	3	11	22	0	2	0
Volume Right	16	3	0	5	0	8
cSH	141	52	636	1700	791	1700
Volume to Capacity	0.13	0.30	0.03	0.50	0.00	0.64
Queue Length 95th (ft)	11	26	3	0	0	0
Control Delay (s)	34.5	101.1	10.9	0.0	9.6	0.0
Lane LOS	D	F	B		A	
Approach Delay (s)	34.5	101.1	0.3		0.0	
Approach LOS	D	F				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	3	18	35	2	5	3	793	24	3	1033	24
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	3	19	37	2	5	3	835	25	3	1087	25
Pedestrians					1			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1954	1974	1101	1970	1974	848	1113			861		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1954	1974	1101	1970	1974	848	1113			861		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	66	95	93	11	97	99	99			100		
cM capacity (veh/h)	46	62	258	41	62	361	628			780		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	38	44	3	860	3	1113
Volume Left	16	37	3	0	3	0
Volume Right	19	5	0	25	0	25
cSH	81	47	628	1700	780	1700
Volume to Capacity	0.47	0.94	0.01	0.51	0.00	0.65
Queue Length 95th (ft)	49	97	0	0	0	0
Control Delay (s)	84.0	248.5	10.8	0.0	9.6	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	84.0	248.5	0.0		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	2	23	23	3	9	20	756	9	10	1058	49
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	84	2	25	25	3	10	22	822	10	11	1150	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2075	2073	1177	2068	2095	827	1203			832		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2075	2073	1177	2068	2095	827	1203			832		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	96	89	25	93	97	96			99		
cM capacity (veh/h)	35	51	233	33	50	372	580			801		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	111	38	22	832	11	1203
Volume Left	84	25	22	0	11	0
Volume Right	25	10	0	10	0	53
cSH	44	45	580	1700	801	1700
Volume to Capacity	2.54	0.85	0.04	0.49	0.01	0.71
Queue Length 95th (ft)	297	84	3	0	1	0
Control Delay (s)	894.7	228.6	11.4	0.0	9.6	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	894.7	228.6	0.3		0.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	48.8		
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	13	0	727	0	18	1016
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	14	0	799	0	20	1116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1955	799			799	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1955	799			799	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	100			98	
cM capacity (veh/h)	69	386			824	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	799	1136
Volume Left	14	0	20
Volume Right	0	0	0
cSH	69	1700	824
Volume to Capacity	0.21	0.47	0.02
Queue Length 95th (ft)	18	0	2
Control Delay (s)	70.8	0.0	0.8
Lane LOS	F		A
Approach Delay (s)	70.8	0.0	0.8
Approach LOS	F		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	16	2	6	518	519	32
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	2	7	563	564	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	859	564	564			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	859	564	564			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	100	99			
cM capacity (veh/h)	294	469	1004			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	17	2	7	282	282	564	35
Volume Left	17	0	7	0	0	0	0
Volume Right	0	2	0	0	0	0	35
cSH	294	469	1004	1700	1700	1700	1700
Volume to Capacity	0.06	0.00	0.01	0.17	0.17	0.33	0.02
Queue Length 95th (ft)	5	0	0	0	0	0	0
Control Delay (s)	18.0	12.7	8.6	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	17.4		0.1			0.0	
Approach LOS	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	51	55	595	25	25	962
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	55	59	640	27	27	1034
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1741	653			667	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1741	653			667	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	41	87			97	
cM capacity (veh/h)	93	467			923	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	55	59	667	27	1034
Volume Left	55	0	0	27	0
Volume Right	0	59	27	0	0
cSH	93	467	1700	923	1700
Volume to Capacity	0.59	0.13	0.39	0.03	0.61
Queue Length 95th (ft)	69	11	0	2	0
Control Delay (s)	89.1	13.8	0.0	9.0	0.0
Lane LOS	F	B		A	
Approach Delay (s)	50.0		0.0	0.2	
Approach LOS	F				

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	138	181	122	109	196	158	445	48	126	763	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected		1.00	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1855	1583		1723		3433	3488		1770	3539	1583
Flt Permitted		0.96	1.00		0.86		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1791	1583		1499		3433	3488		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	150	197	133	118	213	172	484	52	137	829	50
RTOR Reduction (vph)	0	0	119	0	19	0	0	9	0	0	0	34
Lane Group Flow (vph)	0	163	78	0	445	0	172	527	0	137	829	16
Turn Type	Perm	NA	Perm		NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8									2
Actuated Green, G (s)		30.3	30.3		30.3		8.4	23.1		10.5	25.2	25.2
Effective Green, g (s)		30.3	30.3		30.3		8.4	23.1		10.5	25.2	25.2
Actuated g/C Ratio		0.39	0.39		0.39		0.11	0.30		0.14	0.33	0.33
Clearance Time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)		705	623		590		374	1047		241	1159	518
v/s Ratio Prot							0.05	0.15		c0.08	c0.23	
v/s Ratio Perm		0.09	0.05		c0.30							0.01
v/c Ratio		0.23	0.12		0.75		0.46	0.50		0.57	0.72	0.03
Uniform Delay, d1		15.5	14.8		20.1		32.1	22.2		31.1	22.7	17.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.1	0.0		4.9		0.3	0.5		1.8	2.3	0.0
Delay (s)		15.6	14.9		24.9		32.4	22.7		32.9	25.0	17.6
Level of Service		B	B		C		C	C		C	C	B
Approach Delay (s)		15.2			24.9			25.1			25.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	13.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	489	19	649	225	55	1138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.5	5.5	3.0	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1543	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1543	1863	1583	1770	1863
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	537	21	713	247	60	1251
RTOR Reduction (vph)	0	12	0	118	0	0
Lane Group Flow (vph)	537	9	713	129	60	1251
Confl. Peds. (#/hr)		3				
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		
Actuated Green, G (s)	30.1	30.1	53.1	53.1	7.3	63.4
Effective Green, g (s)	30.1	30.1	53.1	53.1	7.3	63.4
Actuated g/C Ratio	0.30	0.30	0.52	0.52	0.07	0.62
Clearance Time (s)	3.0	3.0	5.5	5.5	3.0	5.5
Vehicle Extension (s)	2.0	2.0	2.4	2.4	2.5	2.4
Lane Grp Cap (vph)	522	455	969	824	126	1157
v/s Ratio Prot	c0.30		0.38		0.03	c0.67
v/s Ratio Perm		0.01		0.08		
v/c Ratio	1.03	0.02	0.74	0.16	0.48	1.08
Uniform Delay, d1	36.0	25.5	19.0	12.8	45.5	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	46.9	0.0	2.7	0.1	2.1	51.3
Delay (s)	82.9	25.5	21.7	12.8	47.6	70.6
Level of Service	F	C	C	B	D	E
Approach Delay (s)	80.7		19.4			69.6
Approach LOS	F		B			E

Intersection Summary			
HCM 2000 Control Delay	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	102.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	38	255	401	0	0	123
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	50	336	528	0	0	162
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		151				
pX, platoon unblocked						
vC, conflicting volume	528				963	528
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528				963	528
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				100	71
cM capacity (veh/h)	1039				270	551

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	386	528	162
Volume Left	50	0	0
Volume Right	0	0	162
cSH	1039	1700	551
Volume to Capacity	0.05	0.31	0.29
Queue Length 95th (ft)	4	0	30
Control Delay (s)	1.6	0.0	14.2
Lane LOS	A		B
Approach Delay (s)	1.6	0.0	14.2
Approach LOS			B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	8	3	9	934	1561	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	3	10	1038	1734	24
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2805	1748	1760			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2805	1748	1760			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	55	97	97			
cM capacity (veh/h)	20	107	355			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	12	10	1038	1759
Volume Left	9	10	0	0
Volume Right	3	0	0	24
cSH	25	355	1700	1700
Volume to Capacity	0.49	0.03	0.61	1.03
Queue Length 95th (ft)	37	2	0	0
Control Delay (s)	243.7	15.4	0.0	0.0
Lane LOS	F	C		
Approach Delay (s)	243.7	0.1		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	0	34	28	0	14	12	867	11	12	1587	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	3	0	37	31	0	15	13	953	12	13	1744	7
Pedestrians											1	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2769	2765	1747	2793	2762	960	1751			965		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2769	2765	1747	2793	2762	960	1751			965		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	65	0	100	95	96			98		
cM capacity (veh/h)	11	18	107	7	18	311	358			714		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	41	46	13	965	13	1751
Volume Left	3	31	13	0	13	0
Volume Right	37	15	0	12	0	7
cSH	63	11	358	1700	714	1700
Volume to Capacity	0.64	4.19	0.04	0.57	0.02	1.03
Queue Length 95th (ft)	68	Err	3	0	1	0
Control Delay (s)	132.7	Err	15.4	0.0	10.1	0.0
Lane LOS	F	F	C		B	
Approach Delay (s)	132.7	Err	0.2		0.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	165.2		
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	7	0	0	11	1	895	0	3	1645	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	8	0	0	12	1	984	0	3	1808	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2816	2804	1812	2808	2808	984	1815			984		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2816	2804	1812	2808	2808	984	1815			984		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	92	100	100	96	100			100		
cM capacity (veh/h)	11	18	98	11	18	302	338			702		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	8	12	1	984	3	1815
Volume Left	0	0	1	0	3	0
Volume Right	8	12	0	0	0	8
cSH	98	302	338	1700	702	1700
Volume to Capacity	0.08	0.04	0.00	0.58	0.00	1.07
Queue Length 95th (ft)	6	3	0	0	0	0
Control Delay (s)	45.0	17.4	15.7	0.0	10.2	0.0
Lane LOS	E	C	C		B	
Approach Delay (s)	45.0	17.4	0.0		0.0	
Approach LOS	E	C				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	0	48	18	0	4	25	771	11	8	1774	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	22	0	51	19	0	4	26	812	12	8	1867	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2757	2765	1872	2805	2764	817	1877			823		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2757	2765	1872	2805	2764	817	1877			823		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	44	0	100	99	92			99		
cM capacity (veh/h)	12	18	90	5	18	376	320			807		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	73	23	26	823	8	1877
Volume Left	22	19	26	0	8	0
Volume Right	51	4	0	12	0	9
cSH	29	6	320	1700	807	1700
Volume to Capacity	2.46	4.00	0.08	0.48	0.01	1.10
Queue Length 95th (ft)	214	Err	7	0	1	0
Control Delay (s)	949.7	Err	17.3	0.0	9.5	0.0
Lane LOS	F	F	C		A	
Approach Delay (s)	949.7	Err	0.5		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	106.4		
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	20	0	121	0	865	11	78	1360	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	21	0	129	0	920	12	83	1447	0
Pedestrians											9	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2671	2545	1447	2539	2539	935	1447			932		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2671	2545	1447	2539	2539	935	1447			932		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	0	100	60	100			89		
cM capacity (veh/h)	8	24	161	17	24	319	468			734		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	150	0	932	83	1447
Volume Left	0	21	0	0	83	0
Volume Right	0	129	0	12	0	0
cSH	1700	89	1700	1700	734	1700
Volume to Capacity	0.00	1.68	0.00	0.55	0.11	0.85
Queue Length 95th (ft)	0	305	0	0	10	0
Control Delay (s)	0.0	429.3	0.0	0.0	10.5	0.0
Lane LOS	A	F			B	
Approach Delay (s)	0.0	429.3	0.0		0.6	
Approach LOS	A	F				

Intersection Summary			
Average Delay	25.0		
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	61	0	863	31	13	1344	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	0	0	63	0	890	32	13	1386	0
Pedestrians		1			4							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		4.0			4.0							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2366	2339	1387	2322	2323	910	1387			926		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2366	2339	1387	2322	2323	910	1387			926		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	81	100			98		
cM capacity (veh/h)	19	36	175	26	37	332	493			736		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	0	63	0	922	1399
Volume Left	0	0	0	0	13
Volume Right	0	63	0	32	0
cSH	1700	332	1700	1700	736
Volume to Capacity	0.00	0.19	0.00	0.54	0.02
Queue Length 95th (ft)	0	17	0	0	1
Control Delay (s)	0.0	18.4	0.0	0.0	1.1
Lane LOS	A	C			A
Approach Delay (s)	0.0	18.4	0.0		1.1
Approach LOS	A	C			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	74	19	885	16	21	1325
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	76	20	912	16	22	1366
Pedestrians	4					1
Lane Width (ft)	12.0					12.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2334	926			933	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2334	926			933	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	94			97	
cM capacity (veh/h)	39	325			731	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	96	929	1388
Volume Left	76	0	22
Volume Right	20	16	0
cSH	48	1700	731
Volume to Capacity	2.01	0.55	0.03
Queue Length 95th (ft)	243	0	2
Control Delay (s)	653.3	0.0	1.7
Lane LOS	F		A
Approach Delay (s)	653.3	0.0	1.7
Approach LOS	F		

Intersection Summary			
Average Delay	26.9		
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	21	909	0	17	1462
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.96	0.96	0.98	0.98
Hourly flow rate (vph)	0	21	947	0	17	1492
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2473	947			947	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2473	947			947	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			98	
cM capacity (veh/h)	32	317			725	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	21	947	17	1492
Volume Left	0	0	17	0
Volume Right	21	0	0	0
cSH	317	1700	725	1700
Volume to Capacity	0.07	0.56	0.02	0.88
Queue Length 95th (ft)	5	0	2	0
Control Delay (s)	17.2	0.0	10.1	0.0
Lane LOS	C		B	
Approach Delay (s)	17.2	0.0	0.1	
Approach LOS	C			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	4	0	33	0	880	3	29	1444	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	0	0	4	0	34	0	898	3	30	1473	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2464	2434	1473	2432	2432	899	1473			901		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2464	2434	1473	2432	2432	899	1473			901		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	81	100	90	100			96		
cM capacity (veh/h)	18	31	156	21	31	337	457			754		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	38	0	901	30	1473
Volume Left	0	4	0	0	30	0
Volume Right	0	34	0	3	0	0
cSH	1700	129	1700	1700	754	1700
Volume to Capacity	0.00	0.29	0.00	0.53	0.04	0.87
Queue Length 95th (ft)	0	28	0	0	3	0
Control Delay (s)	0.0	44.0	0.0	0.0	10.0	0.0
Lane LOS	A	E			A	
Approach Delay (s)	0.0	44.0	0.0		0.2	
Approach LOS	A	E				

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	0	33	38	1	28	22	829	49	24	1408	18
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	7	0	34	39	1	29	22	846	50	24	1437	18
Pedestrians		1			2							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		4.0			4.0							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2416	2439	1447	2437	2423	873	1456			898		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2416	2439	1447	2437	2423	873	1456			898		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	62	100	79	0	97	92	95			97		
cM capacity (veh/h)	19	29	161	16	30	349	464			755		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	41	68	22	896	24	1455
Volume Left	7	39	22	0	24	0
Volume Right	34	29	0	50	0	18
cSH	69	27	464	1700	755	1700
Volume to Capacity	0.59	2.53	0.05	0.53	0.03	0.86
Queue Length 95th (ft)	63	207	4	0	3	0
Control Delay (s)	113.8	1004.6	13.2	0.0	9.9	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	113.8	1004.6	0.3		0.2	
Approach LOS	F	F				

Intersection Summary			
Average Delay	29.5		
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	0	35	18	3	10	23	846	18	13	1491	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	0	38	19	3	10	24	872	19	13	1537	15
Pedestrians		3									1	
Lane Width (ft)		12.0									12.0	
Walking Speed (ft/s)		4.0									4.0	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2507	2513	1548	2530	2511	882	1556			891		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2507	2513	1548	2530	2511	882	1556			891		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	40	100	73	0	88	97	94			98		
cM capacity (veh/h)	16	26	140	13	26	345	424			761		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	47	32	24	891	13	1553
Volume Left	10	19	24	0	13	0
Volume Right	38	10	0	19	0	15
cSH	54	20	424	1700	761	1700
Volume to Capacity	0.87	1.60	0.06	0.52	0.02	0.91
Queue Length 95th (ft)	95	107	4	0	1	0
Control Delay (s)	207.2	704.9	14.0	0.0	9.8	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	207.2	704.9	0.4		0.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	12.8		
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	3	7	14	5	6	16	868	33	13	1496	22
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	14	3	7	14	5	6	16	886	34	13	1527	22
Pedestrians					4			4			1	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2492	2520	1542	2505	2515	908	1549			923		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2492	2520	1542	2505	2515	908	1549			923		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	10	88	95	10	81	98	96			98		
cM capacity (veh/h)	16	26	141	16	27	332	428			737		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	26	16	919	13	1549
Volume Left	14	14	16	0	13	0
Volume Right	7	6	0	34	0	22
cSH	23	23	428	1700	737	1700
Volume to Capacity	1.07	1.11	0.04	0.54	0.02	0.91
Queue Length 95th (ft)	78	81	3	0	1	0
Control Delay (s)	454.8	467.4	13.7	0.0	10.0	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	454.8	467.4	0.2		0.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	56	2	40	11	4	16	36	859	15	7	1399	52
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	2	43	12	4	17	39	934	16	8	1521	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2596	2592	1549	2601	2612	942	1577			950		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2596	2592	1549	2601	2612	942	1577			950		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	90	69	0	80	95	91			99		
cM capacity (veh/h)	12	22	140	10	22	319	417			723		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	107	34	39	950	8	1577
Volume Left	61	12	39	0	8	0
Volume Right	43	17	0	16	0	57
cSH	20	23	417	1700	723	1700
Volume to Capacity	5.36	1.48	0.09	0.56	0.01	0.93
Queue Length 95th (ft)	Err	108	8	0	1	0
Control Delay (s)	Err	616.2	14.5	0.0	10.0	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	Err	616.2	0.6		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	400.3		
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	21	871	18	0	1423
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	23	937	19	0	1530
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2476	946			956	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2476	946			956	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	33	317			719	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	23	956	1530
Volume Left	0	0	0
Volume Right	23	19	0
cSH	317	1700	719
Volume to Capacity	0.07	0.56	0.00
Queue Length 95th (ft)	6	0	0
Control Delay (s)	17.2	0.0	0.0
Lane LOS	C		
Approach Delay (s)	17.2	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	28	24	16	686	909	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	30	26	17	730	967	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1366	967	967			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1366	967	967			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	78	90	98			
cM capacity (veh/h)	135	254	708			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	30	26	17	365	365	967	67
Volume Left	30	0	17	0	0	0	0
Volume Right	0	26	0	0	0	0	67
cSH	135	254	708	1700	1700	1700	1700
Volume to Capacity	0.22	0.10	0.02	0.21	0.21	0.57	0.04
Queue Length 95th (ft)	20	8	2	0	0	0	0
Control Delay (s)	39.1	20.7	10.2	0.0	0.0	0.0	0.0
Lane LOS	E	C	B				
Approach Delay (s)	30.6		0.2			0.0	
Approach LOS	D						

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	28	54	809	33	66	1335
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	30	58	870	35	71	1435
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2465	888			905	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2465	888			905	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	83			91	
cM capacity (veh/h)	30	343			751	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	30	58	905	71	1435
Volume Left	30	0	0	71	0
Volume Right	0	58	35	0	0
cSH	30	343	1700	751	1700
Volume to Capacity	1.00	0.17	0.53	0.09	0.84
Queue Length 95th (ft)	84	15	0	8	0
Control Delay (s)	354.1	17.6	0.0	10.3	0.0
Lane LOS	F	C		B	
Approach Delay (s)	132.5		0.0	0.5	
Approach LOS	F				

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	113	163	266	25	135	173	357	511	51	338	821	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.93		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1825	1583		1726		3433	3491		1770	3539	1583
Flt Permitted		0.56	1.00		0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1042	1583		1667		3433	3491		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	123	177	289	27	147	188	388	555	55	367	892	142
RTOR Reduction (vph)	0	0	134	0	39	0	0	8	0	0	0	90
Lane Group Flow (vph)	0	300	155	0	323	0	388	602	0	367	892	52
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4								2
Actuated Green, G (s)		23.5	23.5		23.5		13.8	21.9		20.8	28.9	28.9
Effective Green, g (s)		23.5	23.5		23.5		13.8	21.9		20.8	28.9	28.9
Actuated g/C Ratio		0.30	0.30		0.30		0.17	0.28		0.26	0.36	0.36
Clearance Time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)		309	469		494		598	965		464	1291	577
v/s Ratio Prot							0.11	0.17		c0.21	c0.25	
v/s Ratio Perm		c0.29	0.10		0.19							0.03
v/c Ratio		0.97	0.33		0.65		0.65	0.62		0.79	0.69	0.09
Uniform Delay, d1		27.5	21.7		24.3		30.4	25.0		27.2	21.4	16.5
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		42.9	0.2		2.4		1.8	1.4		8.4	1.7	0.1
Delay (s)		70.5	21.9		26.7		32.3	26.5		35.5	23.1	16.6
Level of Service		E	C		C		C	C		D	C	B
Approach Delay (s)		46.6			26.7			28.7			25.7	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	389	26	945	266	21	1300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.5	5.5	3.0	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.94	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1484	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1484	1863	1583	1770	1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	418	28	1016	286	23	1398
RTOR Reduction (vph)	0	20	0	119	0	0
Lane Group Flow (vph)	418	8	1016	167	23	1398
Confl. Peds. (#/hr)		23				
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		
Actuated Green, G (s)	28.4	28.4	60.3	60.3	2.9	66.2
Effective Green, g (s)	28.4	28.4	60.3	60.3	2.9	66.2
Actuated g/C Ratio	0.28	0.28	0.58	0.58	0.03	0.64
Clearance Time (s)	3.0	3.0	5.5	5.5	3.0	5.5
Vehicle Extension (s)	2.0	2.0	2.4	2.4	2.5	2.4
Lane Grp Cap (vph)	487	408	1089	925	49	1196
v/s Ratio Prot	c0.24		0.55		0.01	c0.75
v/s Ratio Perm		0.01		0.11		
v/c Ratio	0.86	0.02	0.93	0.18	0.47	1.17
Uniform Delay, d1	35.4	27.2	19.6	9.9	49.3	18.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.5	0.0	13.9	0.1	5.1	85.3
Delay (s)	48.9	27.2	33.5	10.0	54.4	103.7
Level of Service	D	C	C	A	D	F
Approach Delay (s)	47.6		28.3			102.9
Approach LOS	D		C			F

Intersection Summary			
HCM 2000 Control Delay	64.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	103.1	Sum of lost time (s)	11.5
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	133	216	360	0	0	211
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	139	225	375	0	0	220
Pedestrians					11	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		151				
pX, platoon unblocked						
vC, conflicting volume	386				888	386
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	386				888	386
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				100	66
cM capacity (veh/h)	1162				274	656

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	364	375	220
Volume Left	139	0	0
Volume Right	0	0	220
cSH	1162	1700	656
Volume to Capacity	0.12	0.22	0.34
Queue Length 95th (ft)	10	0	37
Control Delay (s)	4.0	0.0	13.2
Lane LOS	A		B
Approach Delay (s)	4.0	0.0	13.2
Approach LOS			B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	14	22	27	1205	1665	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	15	24	30	1324	1830	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3227	1843	1857			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3227	1843	1857			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	74	91			
cM capacity (veh/h)	10	93	325			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	40	30	1324	1857
Volume Left	15	30	0	0
Volume Right	24	0	0	27
cSH	21	325	1700	1700
Volume to Capacity	1.84	0.09	0.78	1.09
Queue Length 95th (ft)	129	7	0	0
Control Delay (s)	781.6	17.2	0.0	0.0
Lane LOS	F	C		
Approach Delay (s)	781.6	0.4		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	9.7		
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	0	44	25	0	37	34	1191	23	30	1644	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	7	0	46	26	0	39	35	1241	24	31	1712	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3133	3119	1721	3144	3115	1253	1729			1265		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3133	3119	1721	3144	3115	1253	1729			1265		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	59	0	100	82	90			94		
cM capacity (veh/h)	5	10	111	3	10	210	365			550		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	53	65	35	1265	31	1729
Volume Left	7	26	35	0	31	0
Volume Right	46	39	0	24	0	17
cSH	28	8	365	1700	550	1700
Volume to Capacity	1.92	7.82	0.10	0.74	0.06	1.02
Queue Length 95th (ft)	158	Err	8	0	5	0
Control Delay (s)	736.4	Err	15.9	0.0	11.9	0.0
Lane LOS	F	F	C		B	
Approach Delay (s)	736.4	Err	0.4		0.2	
Approach LOS	F	F				

Intersection Summary			
Average Delay	215.8		
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1	16	1	0	6	4	1268	12	9	1667	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	1	17	1	0	6	4	1335	13	9	1755	11
Pedestrians					1						1	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3129	3136	1760	3142	3135	1343	1765			1348		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3129	3136	1760	3142	3135	1343	1765			1348		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	67	90	84	79	100	97	99			98		
cM capacity (veh/h)	6	11	105	5	11	185	353			510		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	20	7	4	1347	9	1765
Volume Left	2	1	4	0	9	0
Volume Right	17	6	0	13	0	11
cSH	34	30	353	1700	510	1700
Volume to Capacity	0.59	0.24	0.01	0.79	0.02	1.04
Queue Length 95th (ft)	50	19	1	0	1	0
Control Delay (s)	210.9	159.7	15.3	0.0	12.2	0.0
Lane LOS	F	F	C		B	
Approach Delay (s)	210.9	159.7	0.0		0.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	0	34	12	0	3	39	1402	14	3	1734	18
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	24	0	34	12	0	3	39	1416	14	3	1752	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3265	3276	1761	3294	3278	1423	1770			1430		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3265	3276	1761	3294	3278	1423	1770			1430		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	67	0	100	98	89			99		
cM capacity (veh/h)	5	8	105	3	8	167	352			475		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	59	15	39	1430	3	1770
Volume Left	24	12	39	0	3	0
Volume Right	34	3	0	14	0	18
cSH	11	4	352	1700	475	1700
Volume to Capacity	5.41	3.92	0.11	0.84	0.01	1.04
Queue Length 95th (ft)	Err	Err	9	0	0	0
Control Delay (s)	Err	Err	16.5	0.0	12.6	0.0
Lane LOS	F	F	C		B	
Approach Delay (s)	Err	Err	0.4		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	222.5		
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	14	0	96	0	768	9	154	1149	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	0	0	14	0	98	0	784	9	157	1172	0
Pedestrians											4	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2372	2280	1172	2275	2275	792	1172			793		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2372	2280	1172	2275	2275	792	1172			793		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	41	100	75	100			81		
cM capacity (veh/h)	15	32	234	24	32	388	596			828		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	112	0	793	157	1172
Volume Left	0	14	0	0	157	0
Volume Right	0	98	0	9	0	0
cSH	1700	133	1700	1700	828	1700
Volume to Capacity	0.00	0.84	0.00	0.47	0.19	0.69
Queue Length 95th (ft)	0	133	0	0	17	0
Control Delay (s)	0.0	103.8	0.0	0.0	10.4	0.0
Lane LOS	A	F			B	
Approach Delay (s)	0.0	103.8	0.0		1.2	
Approach LOS	A	F				

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	60	0	707	41	0	1186	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	64	0	752	44	0	1262	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2078	2057	1262	2036	2036	774	1262			796		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2078	2057	1262	2036	2036	774	1262			796		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	84	100			100		
cM capacity (veh/h)	33	55	207	42	57	398	551			826		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	0	64	0	796	1262
Volume Left	0	0	0	0	0
Volume Right	0	64	0	44	0
cSH	1700	398	1700	1700	1700
Volume to Capacity	0.00	0.16	0.00	0.47	0.74
Queue Length 95th (ft)	0	14	0	0	0
Control Delay (s)	0.0	15.7	0.0	0.0	0.0
Lane LOS	A	C			
Approach Delay (s)	0.0	15.7	0.0		0.0
Approach LOS	A	C			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	104	16	737	16	17	1165
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	109	17	776	17	18	1226
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2046	784			793	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2046	784			793	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	96			98	
cM capacity (veh/h)	60	393			828	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	126	793	1244
Volume Left	109	0	18
Volume Right	17	17	0
cSH	68	1700	828
Volume to Capacity	1.86	0.47	0.02
Queue Length 95th (ft)	286	0	2
Control Delay (s)	537.8	0.0	0.9
Lane LOS	F		A
Approach Delay (s)	537.8	0.0	0.9
Approach LOS	F		

Intersection Summary			
Average Delay	31.9		
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	17	862	0	22	1265
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	18	898	0	23	1318
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2261	898			898	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2261	898			898	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			97	
cM capacity (veh/h)	44	338			756	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	18	898	23	1318
Volume Left	0	0	23	0
Volume Right	18	0	0	0
cSH	338	1700	756	1700
Volume to Capacity	0.05	0.53	0.03	0.78
Queue Length 95th (ft)	4	0	2	0
Control Delay (s)	16.2	0.0	9.9	0.0
Lane LOS	C		A	
Approach Delay (s)	16.2	0.0	0.2	
Approach LOS	C			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	7	0	21	0	833	4	50	1239	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	7	0	22	0	877	4	53	1304	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2308	2291	1304	2288	2288	879	1304			881		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2308	2291	1304	2288	2288	879	1304			881		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	72	100	94	100			93		
cM capacity (veh/h)	24	37	196	26	37	347	531			767		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	29	0	881	53	1304
Volume Left	0	7	0	0	53	0
Volume Right	0	22	0	4	0	0
cSH	1700	86	1700	1700	767	1700
Volume to Capacity	0.00	0.34	0.00	0.52	0.07	0.77
Queue Length 95th (ft)	0	33	0	0	6	0
Control Delay (s)	0.0	67.7	0.0	0.0	10.0	0.0
Lane LOS	A	F			B	
Approach Delay (s)	0.0	67.7	0.0		0.4	
Approach LOS	A	F				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	22	52	2	21	20	809	55	20	1189	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	0	23	55	2	22	21	852	58	21	1252	12
Pedestrians					4						7	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2223	2255	1257	2243	2232	892	1263			913		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2223	2255	1257	2243	2232	892	1263			913		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	80	100	89	0	95	93	96			97		
cM capacity (veh/h)	26	38	209	25	40	338	550			744		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	28	79	21	909	21	1263
Volume Left	5	55	21	0	21	0
Volume Right	23	22	0	58	0	12
cSH	91	34	550	1700	744	1700
Volume to Capacity	0.31	2.30	0.04	0.53	0.03	0.74
Queue Length 95th (ft)	30	223	3	0	2	0
Control Delay (s)	61.6	843.2	11.8	0.0	10.0	0.0
Lane LOS	F	F	B		A	
Approach Delay (s)	61.6	843.2	0.3		0.2	
Approach LOS	F	F				

Intersection Summary			
Average Delay	29.6		
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	2	20	22	1	11	25	856	27	11	1219	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	2	22	24	1	12	27	920	29	12	1311	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2330	2347	1320	2346	2341	935	1329			949		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2330	2347	1320	2346	2341	935	1329			949		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	53	94	89	0	97	96	95			98		
cM capacity (veh/h)	23	34	192	20	34	322	519			723		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	34	37	27	949	12	1329
Volume Left	11	24	27	0	12	0
Volume Right	22	12	0	29	0	18
cSH	54	30	519	1700	723	1700
Volume to Capacity	0.64	1.24	0.05	0.56	0.02	0.78
Queue Length 95th (ft)	65	104	4	0	1	0
Control Delay (s)	152.5	446.9	12.3	0.0	10.1	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	152.5	446.9	0.3		0.1	
Approach LOS	F	F				

Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	75.6%	ICU Level of Service		D
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	2	20	27	2	6	16	891	35	9	1236	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	2	21	28	2	6	17	938	37	9	1301	16
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2308	2337	1310	2332	2327	956	1318			975		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2308	2337	1310	2332	2327	956	1318			975		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	57	94	89	0	94	98	97			99		
cM capacity (veh/h)	24	35	194	21	35	313	524			708		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	34	37	17	975	9	1317
Volume Left	11	28	17	0	9	0
Volume Right	21	6	0	37	0	16
cSH	56	26	524	1700	708	1700
Volume to Capacity	0.60	1.42	0.03	0.57	0.01	0.77
Queue Length 95th (ft)	61	112	2	0	1	0
Control Delay (s)	139.8	551.6	12.1	0.0	10.2	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	139.8	551.6	0.2		0.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	2	3	67	5	28	7	844	71	42	1226	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	2	3	73	5	30	8	917	77	46	1333	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2397	2441	1340	2399	2409	956	1347			995		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2397	2441	1340	2399	2409	956	1347			995		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	92	98	0	82	90	99			93		
cM capacity (veh/h)	17	29	187	20	30	313	511			696		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	40	109	8	995	46	1347
Volume Left	35	73	8	0	46	0
Volume Right	3	30	0	77	0	14
cSH	19	28	511	1700	696	1700
Volume to Capacity	2.14	3.90	0.01	0.59	0.07	0.79
Queue Length 95th (ft)	136	Err	1	0	5	0
Control Delay (s)	954.9	Err	12.1	0.0	10.5	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	954.9	Err	0.1		0.3	
Approach LOS	F	F				

Intersection Summary			
Average Delay	442.6		
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	22	0	836	27	0	1176
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	0	899	29	0	1265
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2178	913			928	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2178	913			928	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	53	100			100	
cM capacity (veh/h)	51	331			737	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	928	1265
Volume Left	24	0	0
Volume Right	0	29	0
cSH	51	1700	737
Volume to Capacity	0.47	0.55	0.00
Queue Length 95th (ft)	43	0	0
Control Delay (s)	126.6	0.0	0.0
Lane LOS	F		
Approach Delay (s)	126.6	0.0	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	27	15	12	663	676	48
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	29	16	13	713	727	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1109	727	727			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1109	727	727			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	96	99			
cM capacity (veh/h)	201	366	872			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	29	16	13	356	356	727	52
Volume Left	29	0	13	0	0	0	0
Volume Right	0	16	0	0	0	0	52
cSH	201	366	872	1700	1700	1700	1700
Volume to Capacity	0.14	0.04	0.01	0.21	0.21	0.43	0.03
Queue Length 95th (ft)	12	3	1	0	0	0	0
Control Delay (s)	26.0	15.3	9.2	0.0	0.0	0.0	0.0
Lane LOS	D	C	A				
Approach Delay (s)	22.1		0.2			0.0	
Approach LOS	C						

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	29	37	770	59	76	1078
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	32	41	846	65	84	1185
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2230	879			911	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2230	879			911	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	24	88			89	
cM capacity (veh/h)	42	347			748	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	32	41	911	84	1185
Volume Left	32	0	0	84	0
Volume Right	0	41	65	0	0
cSH	42	347	1700	748	1700
Volume to Capacity	0.76	0.12	0.54	0.11	0.70
Queue Length 95th (ft)	72	10	0	9	0
Control Delay (s)	217.2	16.8	0.0	10.4	0.0
Lane LOS	F	C		B	
Approach Delay (s)	104.8		0.0	0.7	
Approach LOS	F				

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	107	145	75	118	234	196	548	31	244	989	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Lane Util. Factor		1.00	1.00		1.00		0.97	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.93		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1820	1583		1710		3433	3511		1770	3539	1583
Flt Permitted		0.57	1.00		0.90		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1069	1583		1558		3433	3511		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	116	158	82	128	254	213	596	34	265	1075	105
RTOR Reduction (vph)	0	0	93	0	41	0	0	4	0	0	0	65
Lane Group Flow (vph)	0	220	65	0	423	0	213	626	0	265	1075	40
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4								2
Actuated Green, G (s)		29.3	29.3		29.3		9.7	25.5		16.5	32.3	32.3
Effective Green, g (s)		29.3	29.3		29.3		9.7	25.5		16.5	32.3	32.3
Actuated g/C Ratio		0.35	0.35		0.35		0.12	0.30		0.20	0.38	0.38
Clearance Time (s)		3.5	3.5		3.5		3.0	6.5		3.0	6.5	6.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)		371	550		541		395	1062		346	1355	606
v/s Ratio Prot							0.06	0.18		c0.15	c0.30	
v/s Ratio Perm		0.21	0.04		c0.27							0.03
v/c Ratio		0.59	0.12		0.78		0.54	0.59		0.77	0.79	0.07
Uniform Delay, d1		22.6	18.7		24.6		35.2	25.0		32.1	23.0	16.5
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.7	0.0		6.7		0.7	1.0		8.8	3.5	0.1
Delay (s)		24.3	18.8		31.3		35.9	26.0		40.9	26.5	16.5
Level of Service		C	B		C		D	C		D	C	B
Approach Delay (s)		22.0			31.3			28.5			28.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	13.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	285	22	1020	420	46	1161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.5	5.5	3.0	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.94	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1486	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1486	1863	1583	1770	1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	306	24	1097	452	49	1248
RTOR Reduction (vph)	0	19	0	177	0	0
Lane Group Flow (vph)	306	5	1097	275	49	1248
Confl. Peds. (#/hr)		23				
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		
Actuated Green, G (s)	21.2	21.2	60.7	60.7	6.5	70.2
Effective Green, g (s)	21.2	21.2	60.7	60.7	6.5	70.2
Actuated g/C Ratio	0.21	0.21	0.61	0.61	0.07	0.70
Clearance Time (s)	3.0	3.0	5.5	5.5	3.0	5.5
Vehicle Extension (s)	2.0	2.0	2.4	2.4	2.5	2.4
Lane Grp Cap (vph)	375	315	1131	961	115	1309
v/s Ratio Prot	c0.17		0.59		0.03	c0.67
v/s Ratio Perm		0.00		0.17		
v/c Ratio	0.82	0.02	0.97	0.29	0.43	0.95
Uniform Delay, d1	37.5	31.1	18.7	9.3	44.9	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.0	19.6	0.1	1.8	15.0
Delay (s)	49.7	31.1	38.3	9.4	46.8	28.4
Level of Service	D	C	D	A	D	C
Approach Delay (s)	48.3		29.9			29.1
Approach LOS	D		C			C

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	11.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	133	349	213	0	0	110
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	149	392	239	0	0	124
Pedestrians			1		5	
Lane Width (ft)			12.0		12.0	
Walking Speed (ft/s)			4.0		4.0	
Percent Blockage			0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		151				
pX, platoon unblocked						
vC, conflicting volume	244				936	244
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	244				936	244
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				100	84
cM capacity (veh/h)	1316				259	791

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	542	239	124
Volume Left	149	0	0
Volume Right	0	0	124
cSH	1316	1700	791
Volume to Capacity	0.11	0.14	0.16
Queue Length 95th (ft)	10	0	14
Control Delay (s)	3.1	0.0	10.4
Lane LOS	A		B
Approach Delay (s)	3.1	0.0	10.4
Approach LOS			B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	14	15	22	1430	1422	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	16	23	1505	1497	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3066	1514	1532			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3066	1514	1532			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	89	95			
cM capacity (veh/h)	13	147	435			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	31	23	1505	1532
Volume Left	15	23	0	0
Volume Right	16	0	0	35
cSH	24	435	1700	1700
Volume to Capacity	1.25	0.05	0.89	0.90
Queue Length 95th (ft)	95	4	0	0
Control Delay (s)	501.9	13.8	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	501.9	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	0	30	11	0	29	22	1405	35	21	1402	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	0	31	11	0	30	23	1464	36	22	1460	11
Pedestrians		1									2	
Lane Width (ft)		12.0									12.0	
Walking Speed (ft/s)		4.0									4.0	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3052	3057	1467	3063	3044	1484	1473			1500		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3052	3057	1467	3063	3044	1484	1473			1500		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	45	100	80	0	100	80	95			95		
cM capacity (veh/h)	6	11	157	6	11	153	457			447		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	34	42	23	1500	22	1472
Volume Left	3	11	23	0	22	0
Volume Right	31	30	0	36	0	11
cSH	46	19	457	1700	447	1700
Volume to Capacity	0.75	2.25	0.05	0.88	0.05	0.87
Queue Length 95th (ft)	74	141	4	0	4	0
Control Delay (s)	198.9	1004.4	13.3	0.0	13.5	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	198.9	1004.4	0.2		0.2	
Approach LOS	F	F				

Intersection Summary			
Average Delay	15.9		
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	0	2	0	0	6	0	1510	2	6	1429	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	2	0	0	7	0	1641	2	7	1553	4
Pedestrians					1						1	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3217	3213	1555	3212	3214	1644	1558			1644		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3217	3213	1555	3212	3214	1644	1558			1644		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	60	100	98	100	100	95	100			98		
cM capacity (veh/h)	5	10	139	6	10	123	425			393		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	4	7	0	1643	7	1558
Volume Left	2	0	0	0	7	0
Volume Right	2	7	0	2	0	4
cSH	10	123	1700	1700	393	1700
Volume to Capacity	0.42	0.05	0.00	0.97	0.02	0.92
Queue Length 95th (ft)	24	4	0	0	1	0
Control Delay (s)	506.0	36.0	0.0	0.0	14.3	0.0
Lane LOS	F	E			B	
Approach Delay (s)	506.0	36.0	0.0		0.1	
Approach LOS	F	E				

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	0	34	15	0	8	32	1301	13	4	1377	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	22	0	36	16	0	8	34	1369	14	4	1449	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2917	2923	1464	2937	2930	1376	1478			1383		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2917	2923	1464	2937	2930	1376	1478			1383		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	77	0	100	95	93			99		
cM capacity (veh/h)	9	14	158	7	14	178	456			495		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	58	24	34	1383	4	1478
Volume Left	22	16	34	0	4	0
Volume Right	36	8	0	14	0	28
cSH	21	10	456	1700	495	1700
Volume to Capacity	2.79	2.38	0.07	0.81	0.01	0.87
Queue Length 95th (ft)	188	100	6	0	1	0
Control Delay (s)	1197.4	1359.6	13.5	0.0	12.3	0.0
Lane LOS	F	F	B		B	
Approach Delay (s)	1197.4	1359.6	0.3		0.0	
Approach LOS	F	F				

Intersection Summary			
Average Delay	34.5		
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

SR-1 Buildout Conditions
16th Street Intersection
Synchro Report
From Draft Intersection Control Analysis

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	2	2	0	0	0	863	0	0	997	0
Future Vol, veh/h	5	0	2	2	0	0	0	863	0	0	997	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	2	2	0	0	0	938	0	0	1084	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2022	2022	1084	2023	2022	938	1084	0	0	938	0	0
Stage 1	1084	1084	-	938	938	-	-	-	-	-	-	-
Stage 2	938	938	-	1085	1084	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	43	58	264	43	58	321	643	-	-	730	-	-
Stage 1	263	293	-	317	343	-	-	-	-	-	-	-
Stage 2	317	343	-	262	293	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	43	58	264	43	58	321	643	-	-	730	-	-
Mov Cap-2 Maneuver	43	58	-	43	58	-	-	-	-	-	-	-
Stage 1	263	293	-	317	343	-	-	-	-	-	-	-
Stage 2	317	343	-	260	293	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	77.7	93.1	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	643	-	-	57	43	730	-	-
HCM Lane V/C Ratio	-	-	-	0.133	0.051	-	-	-
HCM Control Delay (s)	0	-	-	77.7	93.1	0	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	2	0	2	3	1005	0	2	966	0
Future Vol, veh/h	0	0	0	2	0	2	3	1005	0	2	966	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	2	0	2	3	1092	0	2	1050	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2154	2153	1050	2153	2153	1092	1050	0	0	1092	0	0
Stage 1	1054	1054	-	1099	1099	-	-	-	-	-	-	-
Stage 2	1100	1099	-	1054	1054	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	35	48	276	35	48	261	663	-	-	639	-	-
Stage 1	273	303	-	258	288	-	-	-	-	-	-	-
Stage 2	257	288	-	273	303	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	48	276	35	48	261	663	-	-	639	-	-
Mov Cap-2 Maneuver	35	48	-	35	48	-	-	-	-	-	-	-
Stage 1	272	302	-	257	287	-	-	-	-	-	-	-
Stage 2	254	287	-	272	302	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	67.4	0	0
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	663	-	-	-	62	639	-	-
HCM Lane V/C Ratio	0.005	-	-	-	0.07	0.003	-	-
HCM Control Delay (s)	10.5	-	-	0	67.4	10.7	-	-
HCM Lane LOS	B	-	-	A	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	5	2	0	3	0	1046	0	2	1084	0
Future Vol, veh/h	6	0	5	2	0	3	0	1046	0	2	1084	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	5	2	0	3	0	1137	0	2	1178	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2322	2320	1178	2322	2320	1137	1178	0	0	1137	0	0
Stage 1	1183	1183	-	1137	1137	-	-	-	-	-	-	-
Stage 2	1139	1137	-	1185	1183	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	26	38	232	26	38	246	593	-	-	614	-	-
Stage 1	231	263	-	245	277	-	-	-	-	-	-	-
Stage 2	245	277	-	230	263	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	26	38	232	25	38	246	593	-	-	614	-	-
Mov Cap-2 Maneuver	26	38	-	25	38	-	-	-	-	-	-	-
Stage 1	231	262	-	245	277	-	-	-	-	-	-	-
Stage 2	242	277	-	224	262	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	114.9	79	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	593	-	-	44	54	614	-	-
HCM Lane V/C Ratio	-	-	-	0.272	0.101	0.004	-	-
HCM Control Delay (s)	0	-	-	114.9	79	10.9	-	-
HCM Lane LOS	A	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.3	0	-	-

Simtraffic
SR-1 Buildout Report

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	0.7	8.9	0.1	43
Medio Ave	17	1.0	11.0	0.1	42
Magellan Ave	16	1.5	16.0	0.2	45
Coronado St	14	16.4	43.3	0.4	33
	52	9.3	61.3	0.7	43
Capistrano Rd	13	24.7	33.3	0.1	13
	51	5.3	11.8	0.1	27
	50	0.4	4.2	0.1	44
Coral Reef Ave	12	1.6	14.0	0.2	46
	49	0.6	5.0	0.1	43
Capistrano Rd	11	0.6	8.4	0.1	53
St Etheldore St	10	7.0	85.8	1.3	53
Cypress Ave	9	3.5	27.0	0.3	45
Vermont Ave	8	2.6	14.0	0.2	41
Virginia Ave	7	1.3	5.3	0.1	37
California Ave	6	1.5	5.5	0.1	36
Vallemar St	5	1.7	9.4	0.1	42
Carlos St	4	3.7	39.9	0.5	45
8th St	3	4.5	39.6	0.4	41
7th St	2	1.4	5.5	0.0	32
2nd St	1	3.9	24.2	0.3	38
Total		93.2	473.4	5.4	41

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	1.2	7.8	0.1	40
	2	1.5	21.5	0.3	42
8th St	3	0.8	5.1	0.0	35
Carlos St	4	3.7	33.9	0.4	48
	5	4.3	40.0	0.5	45
California Ave	6	2.0	9.9	0.1	40
Virginia Ave	7	1.4	5.4	0.1	37
Vermont Ave	8	1.6	5.6	0.1	35
Cypress Ave	9	4.4	15.7	0.2	36
St Etheldore St	10	4.4	27.6	0.3	43
Capistrano Rd	11	6.8	75.5	1.3	61
	49	1.6	10.5	0.1	43
Coral Reef Ave	12	2.2	5.8	0.1	40
	50	4.9	17.8	0.2	36
	51	5.9	9.5	0.1	19
Capistrano Rd	13	49.4	55.1	0.1	6
	52	10.6	20.0	0.1	22
Coronado St	14	101.5	152.7	0.7	17
Magellan Ave	16	11.2	39.0	0.4	37
Medio Ave	17	3.6	19.6	0.2	37
Miramar Dr	18	2.5	12.8	0.1	36
Total		225.5	590.7	5.4	33

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	3.0	16.0	0.1	34
Medio Ave	17	4.0	13.9	0.1	33
Magellan Ave	16	4.9	19.8	0.2	36
Coronado St	14	22.8	50.7	0.4	28
	52	14.1	66.0	0.7	40
Capistrano Rd	13	82.6	90.9	0.1	5
	51	6.1	12.7	0.1	25
	50	0.4	4.2	0.1	44
Coral Reef Ave	12	2.2	14.5	0.2	44
	49	0.8	5.1	0.1	42
Capistrano Rd	11	0.7	8.5	0.1	53
St Etheldore St	10	8.5	89.4	1.3	51
Cypress Ave	9	3.9	27.8	0.3	43
Vermont Ave	8	2.9	14.3	0.2	40
Virginia Ave	7	1.6	5.5	0.1	36
California Ave	6	1.7	5.6	0.1	35
Vallemar St	5	1.9	9.6	0.1	41
Carlos St	4	3.6	39.7	0.5	46
8th St	3	4.3	39.2	0.4	41
7th St	2	1.2	5.3	0.0	33
2nd St	1	3.3	23.1	0.3	39
Total		174.6	561.9	5.4	35

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	3.8	12.7	0.1	29
	2	8.4	28.3	0.3	32
8th St	3	2.7	7.0	0.0	25
Carlos St	4	8.7	40.5	0.4	40
	5	7.5	43.4	0.5	42
California Ave	6	4.9	12.8	0.1	31
Virginia Ave	7	3.4	7.4	0.1	27
Vermont Ave	8	3.1	7.1	0.1	28
Cypress Ave	9	6.3	17.5	0.2	32
St Etheldore St	10	4.9	28.8	0.3	42
Capistrano Rd	11	8.6	84.1	1.3	54
	49	4.7	13.6	0.1	33
Coral Reef Ave	12	8.8	30.8	0.1	17
	50	41.7	54.4	0.2	12
	51	17.7	21.3	0.1	9
Capistrano Rd	13	69.1	74.8	0.1	4
	52	10.8	20.2	0.1	22
Coronado St	14	112.8	176.2	0.7	16
Magellan Ave	16	12.2	40.5	0.4	35
Medio Ave	17	4.2	20.3	0.2	35
Miramar Dr	18	2.6	13.0	0.1	35
Total		346.8	754.7	5.4	27

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	3.3	14.2	0.1	33
Medio Ave	17	4.7	14.6	0.1	31
Magellan Ave	16	5.2	20.1	0.2	36
Coronado St	14	42.2	70.1	0.4	20
	52	14.0	66.1	0.7	40
Capistrano Rd	13	42.9	50.3	0.1	9
	51	6.2	12.8	0.1	25
	50	0.5	4.2	0.1	43
Coral Reef Ave	12	2.2	14.6	0.2	44
	49	0.8	5.2	0.1	41
Capistrano Rd	11	0.8	8.7	0.1	52
St Etheldore St	10	8.6	89.7	1.3	51
Cypress Ave	9	5.8	28.9	0.3	42
Vermont Ave	8	3.9	15.1	0.2	38
Virginia Ave	7	1.9	5.8	0.1	34
California Ave	6	2.1	6.1	0.1	32
Vallemar St	5	1.9	9.8	0.1	40
Carlos St	4	3.4	39.5	0.5	46
8th St	3	3.8	36.9	0.4	44
7th St	2	1.4	5.5	0.0	32
2nd St	1	3.1	23.3	0.3	39
Total		158.8	541.4	5.4	36

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	3.1	11.2	0.1	31
	2	2.7	22.7	0.3	40
8th St	3	1.1	5.4	0.0	33
Carlos St	4	4.9	37.2	0.4	44
	5	5.4	41.2	0.5	44
California Ave	6	2.7	10.6	0.1	37
Virginia Ave	7	1.9	5.8	0.1	34
Vermont Ave	8	1.7	5.8	0.1	34
Cypress Ave	9	3.3	14.8	0.2	39
St Etheldore St	10	2.9	26.0	0.3	46
Capistrano Rd	11	7.4	79.2	1.3	58
	49	4.7	13.7	0.1	33
Coral Reef Ave	12	14.1	98.1	0.1	12
	50	78.9	91.6	0.2	7
	51	35.7	39.3	0.1	5
Capistrano Rd	13	88.0	237.9	0.1	3
	52	10.5	19.9	0.1	23
Coronado St	14	18.3	70.0	0.7	37
Magellan Ave	16	9.0	37.0	0.4	39
Medio Ave	17	3.1	19.2	0.2	37
Miramar Dr	18	1.8	12.2	0.1	38
Total		301.2	898.8	5.4	29

SR-92 Buildout Conditions Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1315	0	0	3	774	1	0	2	14	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	1384	0	0	3	815	1	0	2	15	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	818			1384			1393	2206	1384	1394	1392	3
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	818			1384			1393	2206	1384	1394	1392	3
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	87	100	100
cM capacity (veh/h)	810			495			119	44	176	117	142	1081

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	1384	3	815	3	16
Volume Left	2	0	0	0	1	15
Volume Right	0	0	0	815	2	1
cSH	810	1700	495	1700	152	125
Volume to Capacity	0.00	0.81	0.00	0.48	0.02	0.13
Queue Length 95th (ft)	0	0	0	0	2	11
Control Delay (s)	9.5	0.0	0.0	0.0	29.3	38.0
Lane LOS	A				D	E
Approach Delay (s)	0.0		0.0		29.3	38.0
Approach LOS					D	E

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	130.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1205	0	120	340	116	304
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	1230	0	122	347	118	310
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1230		1821	1230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1230		1821	1230
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			78		0	0
cM capacity (veh/h)			567		67	217

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1230	0	122	347	429
Volume Left	0	0	122	0	118
Volume Right	0	0	0	0	310
cSH	1700	1700	567	1700	182
Volume to Capacity	0.72	0.00	0.22	0.20	2.36
Queue Length 95th (ft)	0	0	20	0	885
Control Delay (s)	0.0	0.0	13.1	0.0	669.3
Lane LOS			B		F
Approach Delay (s)	0.0		3.4		669.3
Approach LOS					F

Intersection Summary			
Average Delay	135.6		
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	448	1081	0	1028	41	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5		5.0	3.5	3.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	0.95	1.00
Satd. Flow (prot)	1770	1863		1583	1770	1583
Flt Permitted	0.95	1.00		1.00	0.95	1.00
Satd. Flow (perm)	1770	1863		1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	1175	0	1117	45	121
RTOR Reduction (vph)	0	0	0	239	0	78
Lane Group Flow (vph)	487	1175	0	878	45	43
Turn Type	Prot	NA		Perm	Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	30.0	92.0		58.0	7.9	37.9
Effective Green, g (s)	30.0	92.0		58.0	7.9	37.9
Actuated g/C Ratio	0.28	0.85		0.54	0.07	0.35
Clearance Time (s)	3.5	4.5		5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	492	1588		850	129	607
v/s Ratio Prot	c0.28	0.63			c0.03	0.01
v/s Ratio Perm				c0.55		0.02
v/c Ratio	0.99	0.74		1.03	0.35	0.07
Uniform Delay, d1	38.8	3.2		25.0	47.6	23.3
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	37.4	1.6		39.8	0.6	0.0
Delay (s)	76.2	4.8		64.7	48.2	23.3
Level of Service	E	A		E	D	C
Approach Delay (s)		25.7	64.7		30.0	
Approach LOS		C	E		C	

Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	107.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
47: Muddy Rd/Ox Mt Landfill Rd & SR-92

9/23/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	926	4	1	1350	5	0	0	2	2	0	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1007	4	1	1467	5	0	0	2	2	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1473			1011			2500	2492	1009	2487	2489	1467
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1473			1011			2500	2492	1009	2487	2489	1467
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	99	89	100	92
cM capacity (veh/h)	458			686			18	29	292	20	29	157

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	1011	1468	5	2	15
Volume Left	4	0	1	0	0	2
Volume Right	0	4	0	5	2	13
cSH	458	1700	686	1700	292	78
Volume to Capacity	0.01	0.59	0.00	0.00	0.01	0.19
Queue Length 95th (ft)	1	0	0	0	1	17
Control Delay (s)	12.9	0.0	0.1	0.0	17.4	61.6
Lane LOS	B		A		C	F
Approach Delay (s)	0.1		0.1		17.4	61.6
Approach LOS					C	F

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	765	70	482	1463	134	461
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	832	76	524	1590	146	501
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			832		3470	832
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			832		3470	832
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			35		0	0
cM capacity (veh/h)			801		3	369

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	832	76	524	1590	647
Volume Left	0	0	524	0	146
Volume Right	0	76	0	0	501
cSH	1700	1700	801	1700	11
Volume to Capacity	0.49	0.04	0.65	0.94	58.41
Queue Length 95th (ft)	0	0	124	0	Err
Control Delay (s)	0.0	0.0	17.6	0.0	Err
Lane LOS			C		F
Approach Delay (s)	0.0		4.4		Err
Approach LOS					F

Intersection Summary			
Average Delay	1765.3		
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	312	865	1688	91	19	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1551	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1551	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	339	940	1835	99	21	279
RTOR Reduction (vph)	0	0	0	10	0	3
Lane Group Flow (vph)	339	940	1835	89	21	276
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA	Perm	Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	24.8	87.2	58.4	58.4	17.8	42.6
Effective Green, g (s)	24.8	87.2	58.4	58.4	17.8	42.6
Actuated g/C Ratio	0.22	0.77	0.52	0.52	0.16	0.38
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	388	1437	962	801	278	645
v/s Ratio Prot	c0.19	0.50	c0.99		0.01	c0.07
v/s Ratio Perm				0.06		0.11
v/c Ratio	0.87	0.65	1.91	0.11	0.08	0.43
Uniform Delay, d1	42.6	5.9	27.3	14.0	40.6	26.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.5	0.8	412.3	0.0	0.0	0.2
Delay (s)	61.1	6.8	439.6	14.0	40.6	26.3
Level of Service	E	A	F	B	D	C
Approach Delay (s)		21.2	417.8		27.3	
Approach LOS		C	F		C	

Intersection Summary			
HCM 2000 Control Delay	240.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	113.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	861	4	3	1511	3	0	0	2	11	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	906	4	3	1591	3	0	0	2	12	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1594			911			2521	2511	908	2507	2509	1591
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1594			911			2521	2511	908	2507	2509	1591
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	39	100	90
cM capacity (veh/h)	411			748			17	28	333	19	28	132

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	911	1594	3	2	25
Volume Left	1	0	3	0	0	12
Volume Right	0	4	0	3	2	14
cSH	411	1700	748	1700	333	36
Volume to Capacity	0.00	0.54	0.00	0.00	0.01	0.71
Queue Length 95th (ft)	0	0	0	0	0	63
Control Delay (s)	13.8	0.0	0.7	0.0	15.9	232.9
Lane LOS	B		A		C	F
Approach Delay (s)	0.0		0.7		15.9	232.9
Approach LOS					C	F

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	802	74	411	1476	97	383
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	891	82	457	1640	108	426
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			891		3444	891
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			891		3444	891
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			40		0	0
cM capacity (veh/h)			761		3	341

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	891	82	457	1640	533
Volume Left	0	0	457	0	108
Volume Right	0	82	0	0	426
cSH	1700	1700	761	1700	15
Volume to Capacity	0.52	0.05	0.60	0.96	36.38
Queue Length 95th (ft)	0	0	102	0	Err
Control Delay (s)	0.0	0.0	16.6	0.0	Err
Lane LOS			C		F
Approach Delay (s)	0.0		3.6		Err
Approach LOS					F

Intersection Summary			
Average Delay	1482.1		
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	338	772	1627	77	22	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1551	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1551	1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	352	804	1695	80	23	222
RTOR Reduction (vph)	0	0	0	8	0	5
Lane Group Flow (vph)	352	804	1695	72	23	217
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA	Perm	Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	25.2	87.6	58.4	58.4	14.9	40.1
Effective Green, g (s)	25.2	87.6	58.4	58.4	14.9	40.1
Actuated g/C Ratio	0.23	0.79	0.53	0.53	0.13	0.36
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	403	1476	984	819	238	624
v/s Ratio Prot	c0.20	0.43	c0.91		0.01	c0.05
v/s Ratio Perm				0.05		0.09
v/c Ratio	0.87	0.54	1.72	0.09	0.10	0.35
Uniform Delay, d1	41.1	4.2	26.1	12.9	41.9	25.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.0	0.2	329.5	0.0	0.1	0.1
Delay (s)	59.1	4.4	355.5	12.9	42.0	25.8
Level of Service	E	A	F	B	D	C
Approach Delay (s)		21.0	340.1		27.3	
Approach LOS		C	F		C	

Intersection Summary			
HCM 2000 Control Delay	199.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Simtraffic
SR-92 Buildout Report

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.6	8.9	0.1	28
	12	2.9	29.9	0.2	27
	13	0.9	8.1	0.1	26
	14	4.6	37.5	0.3	26
	15	2.4	18.5	0.1	26
	16	1.2	9.4	0.1	26
	17	1.1	8.6	0.1	26
	45	11.5	85.7	0.6	26
	19	7.0	51.1	0.4	26
	20	1.4	10.1	0.1	26
	21	6.3	45.7	0.3	26
	22	3.7	26.4	0.2	26
	23	2.1	15.1	0.1	26
	24	3.5	25.0	0.2	26
	25	3.7	26.1	0.2	26
	26	3.9	27.8	0.2	26
	27	3.7	26.5	0.2	26
Skyline Blvd (West)	48	4.6	15.4	0.1	30
	28	1.4	16.7	0.1	27
	29	1.2	11.7	0.1	26
	30	2.0	17.8	0.1	26
	31	1.3	10.8	0.1	26
	32	1.0	7.7	0.1	27
	33	3.2	25.1	0.2	26
	34	2.0	14.7	0.1	25
	35	2.6	19.5	0.1	26
	36	2.4	18.0	0.1	26
	37	4.4	31.9	0.2	26
	38	3.9	28.0	0.2	26
	39	3.4	24.5	0.2	26
	40	2.2	15.9	0.1	26
	46	4.9	33.9	0.2	26
SR-35 (East)	49	6.6	16.4	0.1	24
Total		107.8	768.4	5.6	26

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	3.4	16.9	0.1	24
	40	3.4	32.3	0.2	27
	39	1.9	15.7	0.1	26
	38	2.9	23.8	0.2	27
	37	3.4	27.5	0.2	26
	36	3.9	31.4	0.2	26
	35	2.3	18.1	0.1	26
	34	2.5	19.6	0.1	26
	33	1.8	14.2	0.1	26
	32	3.2	25.1	0.2	26
	31	1.0	8.0	0.1	26
	30	1.4	10.7	0.1	26
	29	2.3	17.9	0.1	26
	28	1.5	11.8	0.1	26
Skyline Blvd (West)	48	2.7	10.9	0.1	42
	27	0.3	15.6	0.1	30
	26	0.9	24.0	0.2	29
	25	1.5	25.2	0.2	28
	24	1.7	24.4	0.2	28
	23	1.8	23.1	0.2	28
	22	1.2	14.2	0.1	28
	21	2.2	25.0	0.2	27
	20	4.1	43.7	0.3	27
	19	1.0	9.7	0.1	27
	45	5.1	49.9	0.4	27
	17	8.9	83.1	0.6	27
	16	1.0	8.7	0.1	26
	15	1.0	9.0	0.1	27
	14	2.1	18.3	0.1	26
	13	4.2	37.1	0.3	27
	12	0.9	8.1	0.1	26
	11	3.7	30.6	0.2	26
Ox Mt Landfill Rd	47	2.4	7.1	0.1	47
Total		81.8	740.8	5.6	27

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.4	8.7	0.1	29
	12	2.2	29.2	0.2	28
	13	0.7	7.9	0.1	27
	14	3.8	36.7	0.3	27
	15	2.0	18.2	0.1	27
	16	1.1	9.2	0.1	26
	17	1.0	8.5	0.1	27
	45	10.3	84.6	0.6	27
	19	6.4	50.5	0.4	27
	20	1.3	10.0	0.1	26
	21	5.9	45.3	0.3	26
	22	3.4	26.2	0.2	26
	23	2.0	15.0	0.1	26
	24	3.3	24.8	0.2	26
	25	3.4	25.9	0.2	26
	26	3.7	27.6	0.2	26
	27	3.5	26.2	0.2	26
Skyline Blvd (West)	48	4.3	15.1	0.1	31
	28	1.2	16.4	0.1	28
	29	1.0	11.4	0.1	27
	30	1.7	17.4	0.1	27
	31	1.2	10.6	0.1	26
	32	0.9	7.6	0.1	27
	33	2.9	24.7	0.2	27
	34	1.8	14.6	0.1	26
	35	2.4	19.2	0.1	27
	36	2.3	17.8	0.1	26
	37	4.1	31.6	0.2	26
	38	3.7	27.8	0.2	26
	39	3.2	24.4	0.2	26
	40	2.1	15.7	0.1	26
	46	4.5	33.6	0.2	26
SR-35 (East)	49	7.3	16.9	0.1	24
Total		99.0	759.5	5.6	26

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	3.4	16.9	0.1	24
	40	3.3	32.4	0.2	27
	39	1.8	15.7	0.1	26
	38	2.9	23.8	0.2	26
	37	3.5	27.6	0.2	26
	36	4.0	31.6	0.2	26
	35	2.4	18.2	0.1	26
	34	2.6	19.7	0.1	26
	33	1.9	14.2	0.1	26
	32	3.3	25.2	0.2	26
	31	1.1	8.0	0.1	26
	30	1.4	10.7	0.1	26
	29	2.4	18.0	0.1	26
	28	1.6	11.9	0.1	26
Skyline Blvd (West)	48	5.9	17.2	0.1	26
	27	1.0	16.3	0.1	29
	26	2.1	25.2	0.2	27
	25	2.7	26.4	0.2	27
	24	2.9	25.5	0.2	27
	23	2.9	24.1	0.2	27
	22	1.8	14.8	0.1	26
	21	3.2	25.9	0.2	26
	20	5.7	45.1	0.3	26
	19	1.3	10.1	0.1	26
	45	6.7	51.3	0.4	26
	17	11.3	85.2	0.6	26
	16	1.2	8.9	0.1	26
	15	1.2	9.2	0.1	26
	14	2.5	18.7	0.1	26
	13	5.2	38.3	0.3	26
	12	1.1	8.3	0.1	26
	11	4.2	31.0	0.2	26
Ox Mt Landfill Rd	47	2.2	8.4	0.1	30
Total		101.0	764.0	5.6	26

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.4	8.7	0.1	29
	12	2.1	29.1	0.2	28
	13	0.7	7.9	0.1	27
	14	3.7	36.6	0.3	27
	15	2.0	18.2	0.1	27
	16	1.0	9.2	0.1	26
	17	1.0	8.5	0.1	27
	45	10.1	84.6	0.6	27
	19	6.3	50.5	0.4	27
	20	1.3	10.0	0.1	26
	21	5.8	45.2	0.3	26
	22	3.4	26.2	0.2	26
	23	2.0	15.0	0.1	26
	24	3.3	24.9	0.2	26
	25	3.4	26.0	0.2	26
	26	3.7	27.6	0.2	26
	27	3.5	26.2	0.2	26
Skyline Blvd (West)	48	4.7	16.0	0.1	29
	28	1.3	16.5	0.1	28
	29	1.0	11.5	0.1	27
	30	1.9	17.6	0.1	27
	31	1.2	10.7	0.1	26
	32	0.9	7.7	0.1	27
	33	3.1	24.9	0.2	26
	34	1.9	14.7	0.1	26
	35	2.5	19.4	0.1	26
	36	2.3	17.9	0.1	26
	37	4.2	31.7	0.2	26
	38	3.7	27.9	0.2	26
	39	3.3	24.4	0.2	26
	40	2.1	15.8	0.1	26
	46	4.6	33.6	0.2	26
SR-35 (East)	49	5.9	15.4	0.1	26
Total		98.0	759.9	5.6	26

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	3.4	16.9	0.1	24
	40	3.3	32.4	0.2	27
	39	1.8	15.7	0.1	26
	38	2.9	23.8	0.2	26
	37	3.4	27.6	0.2	26
	36	4.0	31.5	0.2	26
	35	2.3	18.1	0.1	26
	34	2.5	19.7	0.1	26
	33	1.9	14.2	0.1	26
	32	3.3	25.2	0.2	26
	31	1.1	8.0	0.1	26
	30	1.4	10.7	0.1	26
	29	2.4	18.0	0.1	26
	28	1.6	11.9	0.1	26
Skyline Blvd (West)	48	5.7	16.9	0.1	27
	27	1.1	16.4	0.1	28
	26	2.3	25.2	0.2	27
	25	2.8	26.4	0.2	27
	24	3.0	25.6	0.2	26
	23	2.9	24.2	0.2	26
	22	1.9	14.9	0.1	26
	21	3.3	26.1	0.2	26
	20	5.8	45.1	0.3	26
	19	1.3	10.1	0.1	26
	45	6.8	51.3	0.4	26
	17	11.5	85.9	0.6	26
	16	1.2	8.9	0.1	26
	15	1.3	9.2	0.1	26
	14	2.6	18.7	0.1	26
	13	5.2	38.2	0.3	26
	12	1.1	8.3	0.1	26
	11	4.3	31.1	0.2	26
Ox Mt Landfill Rd	47	2.8	9.3	0.1	27
Total		102.3	765.6	5.6	26

SR-1 Mitigated Buildout Conditions SIDRA Report

MOVEMENT SUMMARY

Site: 101 [Highway 1 & 16th Street AM]

Highway 1 & 16th Street
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Highway 1												
3	L2	1	2.0	0.700	12.2	LOS B	9.0	229.5	0.15	0.03	0.15	28.6
8	T1	938	2.0	0.700	12.2	LOS B	9.0	229.5	0.15	0.03	0.15	35.5
18	R2	1	2.0	0.700	12.2	LOS B	9.0	229.5	0.15	0.03	0.15	27.1
Approach		940	2.0	0.700	12.2	LOS B	9.0	229.5	0.15	0.03	0.15	35.5
East: 16th Street												
1	L2	2	2.0	0.009	7.2	LOS A	0.0	0.8	0.64	0.52	0.64	28.3
6	T1	1	2.0	0.009	7.2	LOS A	0.0	0.8	0.64	0.52	0.64	23.3
16	R2	1	2.0	0.009	7.2	LOS A	0.0	0.8	0.64	0.52	0.64	27.8
Approach		4	2.0	0.009	7.2	LOS A	0.0	0.8	0.64	0.52	0.64	26.7
North: Highway 1												
7	L2	1	2.0	0.806	16.7	LOS C	15.6	395.2	0.16	0.03	0.16	27.1
4	T1	1084	2.0	0.806	16.7	LOS C	15.6	395.2	0.16	0.03	0.16	33.2
14	R2	1	2.0	0.806	16.7	LOS C	15.6	395.2	0.16	0.03	0.16	25.8
Approach		1086	2.0	0.806	16.7	LOS C	15.6	395.2	0.16	0.03	0.16	33.2
West: 16th Street												
5	L2	5	2.0	0.020	8.5	LOS A	0.1	1.8	0.68	0.63	0.68	27.6
2	T1	1	2.0	0.020	8.5	LOS A	0.1	1.8	0.68	0.63	0.68	22.9
12	R2	2	2.0	0.020	8.5	LOS A	0.1	1.8	0.68	0.63	0.68	27.1
Approach		9	2.0	0.020	8.5	LOS A	0.1	1.8	0.68	0.63	0.68	26.8
All Vehicles		2039	2.0	0.806	14.6	LOS B	15.6	395.2	0.16	0.03	0.16	34.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Highway 1 & 16th Street Mid]

Highway 1 & 16th Street
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Highway 1												
3	L2	3	2.0	0.814	17.2	LOS C	16.3	414.4	0.17	0.03	0.17	26.9
8	T1	1092	2.0	0.814	17.2	LOS C	16.3	414.4	0.17	0.03	0.17	32.9
18	R2	1	2.0	0.814	17.2	LOS C	16.3	414.4	0.17	0.03	0.17	25.6
Approach		1097	2.0	0.814	17.2	LOS C	16.3	414.4	0.17	0.03	0.17	32.9
East: 16th Street												
1	L2	2	2.0	0.013	8.5	LOS A	0.0	1.1	0.68	0.61	0.68	28.0
6	T1	1	2.0	0.013	8.5	LOS A	0.0	1.1	0.68	0.61	0.68	23.1
16	R2	2	2.0	0.013	8.5	LOS A	0.0	1.1	0.68	0.61	0.68	27.5
Approach		5	2.0	0.013	8.5	LOS A	0.0	1.1	0.68	0.61	0.68	26.7
North: Highway 1												
7	L2	2	2.0	0.784	15.5	LOS C	13.6	345.7	0.19	0.04	0.19	27.4
4	T1	1050	2.0	0.784	15.5	LOS C	13.6	345.7	0.19	0.04	0.19	33.8
14	R2	1	2.0	0.784	15.5	LOS C	13.6	345.7	0.19	0.04	0.19	26.1
Approach		1053	2.0	0.784	15.5	LOS C	13.6	345.7	0.19	0.04	0.19	33.7
West: 16th Street												
5	L2	1	2.0	0.007	8.1	LOS A	0.0	0.6	0.67	0.56	0.67	28.3
2	T1	1	2.0	0.007	8.1	LOS A	0.0	0.6	0.67	0.56	0.67	23.3
12	R2	1	2.0	0.007	8.1	LOS A	0.0	0.6	0.67	0.56	0.67	27.8
Approach		3	2.0	0.007	8.1	LOS A	0.0	0.6	0.67	0.56	0.67	26.3
All Vehicles		2159	2.0	0.814	16.3	LOS C	16.3	414.4	0.18	0.04	0.18	33.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Highway 1 & 16th Street PM]

Highway 1 & 16th Street
Site Category: (None)
Roundabout

Movement Performance - Vehicles													
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Highway 1												
3	L2	1	2.0	0.851	19.8	LOS C	20.0	508.7	0.33	0.08	0.33	26.1
8	T1	1137	2.0	0.851	19.8	LOS C	20.0	508.7	0.33	0.08	0.33	31.7
18	R2	1	2.0	0.851	19.8	LOS C	20.0	508.7	0.33	0.08	0.33	24.9
Approach		1139	2.0	0.851	19.8	LOS C	20.0	508.7	0.33	0.08	0.33	31.7
East: 16th Street												
1	L2	2	2.0	0.011	8.9	LOS A	0.0	0.9	0.70	0.62	0.70	27.7
6	T1	1	2.0	0.011	8.9	LOS A	0.0	0.9	0.70	0.62	0.70	23.0
16	R2	1	2.0	0.011	8.9	LOS A	0.0	0.9	0.70	0.62	0.70	27.2
Approach		4	2.0	0.011	8.9	LOS A	0.0	0.9	0.70	0.62	0.70	26.2
North: Highway 1												
7	L2	2	2.0	0.877	22.1	LOS C	25.1	637.2	0.24	0.04	0.24	25.4
4	T1	1178	2.0	0.877	22.1	LOS C	25.1	637.2	0.24	0.04	0.24	30.8
14	R2	1	2.0	0.877	22.1	LOS C	25.1	637.2	0.24	0.04	0.24	24.3
Approach		1182	2.0	0.877	22.1	LOS C	25.1	637.2	0.24	0.04	0.24	30.7
West: 16th Street												
5	L2	7	2.0	0.033	9.6	LOS A	0.1	2.9	0.71	0.71	0.71	27.4
2	T1	1	2.0	0.033	9.6	LOS A	0.1	2.9	0.71	0.71	0.71	22.8
12	R2	5	2.0	0.033	9.6	LOS A	0.1	2.9	0.71	0.71	0.71	27.0
Approach		13	2.0	0.033	9.6	LOS A	0.1	2.9	0.71	0.71	0.71	26.8
All Vehicles		2338	2.0	0.877	20.9	LOS C	25.1	637.2	0.29	0.06	0.29	31.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Highway 1 & California AM]

Highway 1 & California Ave
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Highway 1												
3	L2	5	2.0	0.643	10.7	LOS B	6.9	174.3	0.24	0.07	0.24	29.1
8	T1	817	2.0	0.643	10.7	LOS B	6.9	174.3	0.24	0.07	0.24	36.3
18	R2	27	2.0	0.643	10.7	LOS B	6.9	174.3	0.24	0.07	0.24	27.6
Approach		850	2.0	0.643	10.7	LOS B	6.9	174.3	0.24	0.07	0.24	35.9
East: 16th Street												
1	L2	61	2.0	0.111	7.7	LOS A	0.4	10.6	0.64	0.64	0.64	27.3
6	T1	1	2.0	0.111	7.7	LOS A	0.4	10.6	0.64	0.64	0.64	22.8
16	R2	1	2.0	0.111	7.7	LOS A	0.4	10.6	0.64	0.64	0.64	26.9
Approach		63	2.0	0.111	7.7	LOS A	0.4	10.6	0.64	0.64	0.64	27.2
North: Highway 1												
7	L2	8	2.0	0.825	18.7	LOS C	13.6	346.6	0.72	0.36	0.72	26.4
4	T1	1025	2.0	0.825	18.7	LOS C	13.6	346.6	0.72	0.36	0.72	32.2
14	R2	8	2.0	0.825	18.7	LOS C	13.6	346.6	0.72	0.36	0.72	25.2
Approach		1040	2.0	0.825	18.7	LOS C	13.6	346.6	0.72	0.36	0.72	32.1
West: 16th Street												
5	L2	13	2.0	0.065	9.2	LOS A	0.2	5.8	0.69	0.69	0.69	27.6
2	T1	1	2.0	0.065	9.2	LOS A	0.2	5.8	0.69	0.69	0.69	22.9
12	R2	14	2.0	0.065	9.2	LOS A	0.2	5.8	0.69	0.69	0.69	27.1
Approach		28	2.0	0.065	9.2	LOS A	0.2	5.8	0.69	0.69	0.69	27.1
All Vehicles		1982	2.0	0.825	14.8	LOS B	13.6	346.6	0.51	0.25	0.51	33.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Highway 1 & California Mid]

Highway 1 & California Ave
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Highway 1												
3	L2	11	2.0	0.611	9.9	LOS A	6.1	155.5	0.18	0.05	0.18	29.4
8	T1	758	2.0	0.611	9.9	LOS A	6.1	155.5	0.18	0.05	0.18	36.8
18	R2	46	2.0	0.611	9.9	LOS A	6.1	155.5	0.18	0.05	0.18	27.9
Approach		814	2.0	0.611	9.9	LOS A	6.1	155.5	0.18	0.05	0.18	36.0
East: 16th Street												
1	L2	40	2.0	0.070	6.7	LOS A	0.3	6.7	0.61	0.58	0.61	27.6
6	T1	1	2.0	0.070	6.7	LOS A	0.3	6.7	0.61	0.58	0.61	23.0
16	R2	1	2.0	0.070	6.7	LOS A	0.3	6.7	0.61	0.58	0.61	27.2
Approach		42	2.0	0.070	6.7	LOS A	0.3	6.7	0.61	0.58	0.61	27.5
North: Highway 1												
7	L2	10	2.0	0.802	17.1	LOS C	12.9	326.5	0.60	0.27	0.60	26.9
4	T1	1009	2.0	0.802	17.1	LOS C	12.9	326.5	0.60	0.27	0.60	33.0
14	R2	10	2.0	0.802	17.1	LOS C	12.9	326.5	0.60	0.27	0.60	25.6
Approach		1028	2.0	0.802	17.1	LOS C	12.9	326.5	0.60	0.27	0.60	32.8
West: 16th Street												
5	L2	1	2.0	0.073	9.0	LOS A	0.3	6.5	0.68	0.68	0.68	28.4
2	T1	4	2.0	0.073	9.0	LOS A	0.3	6.5	0.68	0.68	0.68	23.3
12	R2	27	2.0	0.073	9.0	LOS A	0.3	6.5	0.68	0.68	0.68	27.9
Approach		33	2.0	0.073	9.0	LOS A	0.3	6.5	0.68	0.68	0.68	27.2
All Vehicles		1917	2.0	0.802	13.7	LOS B	12.9	326.5	0.42	0.19	0.42	33.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Highway 1 & California PM]

Highway 1 & California Ave
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Highway 1												
3	L2	17	2.0	0.912	26.5	LOS D	28.7	728.3	0.80	0.28	0.80	24.2
8	T1	1129	2.0	0.912	26.5	LOS D	28.7	728.3	0.80	0.28	0.80	29.0
18	R2	53	2.0	0.912	26.5	LOS D	28.7	728.3	0.80	0.28	0.80	23.2
Approach		1200	2.0	0.912	26.5	LOS D	28.7	728.3	0.80	0.28	0.80	28.6
East: 16th Street												
1	L2	40	2.0	0.104	10.3	LOS B	0.4	9.3	0.72	0.72	0.72	26.5
6	T1	1	2.0	0.104	10.3	LOS B	0.4	9.3	0.72	0.72	0.72	22.2
16	R2	1	2.0	0.104	10.3	LOS B	0.4	9.3	0.72	0.72	0.72	26.1
Approach		42	2.0	0.104	10.3	LOS B	0.4	9.3	0.72	0.72	0.72	26.4
North: Highway 1												
7	L2	22	2.0	0.857	21.1	LOS C	16.7	424.7	0.78	0.37	0.78	25.7
4	T1	1057	2.0	0.857	21.1	LOS C	16.7	424.7	0.78	0.37	0.78	31.1
14	R2	13	2.0	0.857	21.1	LOS C	16.7	424.7	0.78	0.37	0.78	24.5
Approach		1091	2.0	0.857	21.1	LOS C	16.7	424.7	0.78	0.37	0.78	30.9
West: 16th Street												
5	L2	4	2.0	0.023	8.8	LOS A	0.1	2.0	0.69	0.66	0.69	27.8
2	T1	1	2.0	0.023	8.8	LOS A	0.1	2.0	0.69	0.66	0.69	23.0
12	R2	4	2.0	0.023	8.8	LOS A	0.1	2.0	0.69	0.66	0.69	27.3
Approach		10	2.0	0.023	8.8	LOS A	0.1	2.0	0.69	0.66	0.69	26.9
All Vehicles		2343	2.0	0.912	23.6	LOS C	28.7	728.3	0.79	0.34	0.79	29.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [1 Lane Roundabout 2040 AM]

Highway 1 & Cypress Ave
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: RT 1 South Leg											
3	L2	30	3.9	0.877	15.7	LOS B	18.6	480.4	1.00	0.68	29.3
8	T1	940	3.9	0.877	9.7	LOS A	18.6	480.4	1.00	0.68	34.4
18	R2	3	3.9	0.877	9.4	LOS A	18.6	480.4	1.00	0.68	27.6
Approach		973	3.9	0.877	9.8	LOS A	18.6	480.4	1.00	0.68	34.2
East: Cypress East Leg											
1	L2	13	3.9	0.116	16.6	LOS B	0.8	21.0	0.98	0.89	24.2
6	T1	11	3.9	0.116	11.4	LOS B	0.8	21.0	0.98	0.89	20.6
16	R2	11	3.9	0.116	12.3	LOS B	0.8	21.0	0.98	0.89	23.7
Approach		35	3.9	0.116	13.6	LOS B	0.8	21.0	0.98	0.89	22.8
North: RT 1 North Leg											
7	L2	5	3.9	0.819	13.1	LOS B	15.3	394.0	0.69	0.47	33.2
4	T1	859	3.9	0.819	7.1	LOS A	15.3	394.0	0.69	0.47	36.4
14	R2	129	3.9	0.819	6.7	LOS A	15.3	394.0	0.69	0.47	28.5
Approach		993	3.9	0.819	7.1	LOS A	15.3	394.0	0.69	0.47	35.1
West: Cypress West Leg											
5	L2	111	3.9	0.345	13.2	LOS B	2.4	62.0	0.92	0.94	25.4
2	T1	8	3.9	0.345	7.9	LOS A	2.4	62.0	0.92	0.94	21.4
12	R2	46	3.9	0.345	8.9	LOS A	2.4	62.0	0.92	0.94	24.5
Approach		165	3.9	0.345	11.7	LOS B	2.4	62.0	0.92	0.94	24.9
All Vehicles		2166	3.9	0.877	8.8	LOS A	18.6	480.4	0.85	0.61	33.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [2 Lane Roundabout 2040 AM]

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: RT 1 South Leg											
3	L2	30	3.9	0.423	12.1	LOS B	3.3	86.3	0.43	0.50	31.5
8	T1	940	3.9	0.423	6.2	LOS A	3.3	86.3	0.42	0.50	37.5
18	R2	3	3.9	0.344	6.0	LOS A	2.4	62.4	0.41	0.50	30.1
Approach		973	3.9	0.423	6.4	LOS A	3.3	86.3	0.42	0.50	37.3
East: Cypress East Leg											
1	L2	13	3.9	0.061	9.3	LOS A	0.2	6.3	0.64	0.70	28.7
6	T1	11	3.9	0.061	4.3	LOS A	0.2	6.3	0.64	0.70	23.8
16	R2	11	3.9	0.061	5.0	LOS A	0.2	6.3	0.64	0.70	28.0
Approach		35	3.9	0.061	6.4	LOS A	0.2	6.3	0.64	0.70	26.8
North: RT 1 North Leg											
7	L2	5	3.9	0.400	12.3	LOS B	2.9	75.8	0.25	0.46	35.9
4	T1	859	3.9	0.400	6.4	LOS A	2.9	75.8	0.25	0.47	38.8
14	R2	129	3.9	0.325	6.0	LOS A	2.2	55.6	0.25	0.48	29.9
Approach		993	3.9	0.400	6.4	LOS A	2.9	75.8	0.25	0.47	37.4
West: Cypress West Leg											
5	L2	111	3.9	0.247	9.2	LOS A	1.1	27.1	0.63	0.79	27.3
2	T1	8	3.9	0.247	4.1	LOS A	1.1	27.1	0.63	0.79	23.2
12	R2	46	3.9	0.247	4.9	LOS A	1.1	27.1	0.63	0.79	26.4
Approach		165	3.9	0.247	7.7	LOS A	1.1	27.1	0.63	0.79	26.9
All Vehicles		2166	3.9	0.423	6.5	LOS A	3.3	86.3	0.36	0.51	36.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [1 Lane Roundabout 2040 WE]

Highway 1 & Cypress Ave
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: RT 1 South Leg											
3	L2	61	0.9	0.829	13.2	LOS B	14.0	352.1	0.90	0.59	29.7
8	T1	894	0.9	0.829	7.1	LOS A	14.0	352.1	0.90	0.59	35.3
18	R2	9	0.9	0.829	6.9	LOS A	14.0	352.1	0.90	0.59	28.0
Approach		964	0.9	0.829	7.5	LOS A	14.0	352.1	0.90	0.59	34.8
East: Cypress East Leg											
1	L2	14	0.9	0.070	14.4	LOS B	0.5	12.3	0.94	0.82	25.2
6	T1	6	0.9	0.070	9.2	LOS A	0.5	12.3	0.94	0.82	21.1
16	R2	6	0.9	0.070	10.1	LOS B	0.5	12.3	0.94	0.82	24.7
Approach		26	0.9	0.070	12.2	LOS B	0.5	12.3	0.94	0.82	24.0
North: RT 1 North Leg											
7	L2	9	0.9	1.330	166.0	LOS F	187.4	4717.7	1.00	1.74	6.2
4	T1	1482	0.9	1.330	160.0	LOS F	187.4	4717.7	1.00	1.74	7.7
14	R2	122	0.9	1.330	159.7	LOS F	187.4	4717.7	1.00	1.74	7.2
Approach		1613	0.9	1.330	160.0	LOS F	187.4	4717.7	1.00	1.74	7.6
West: Cypress West Leg											
5	L2	100	0.9	0.524	26.4	LOS C	4.6	115.7	1.00	1.13	20.8
2	T1	6	0.9	0.524	21.2	LOS C	4.6	115.7	1.00	1.13	17.2
12	R2	43	0.9	0.524	22.1	LOS C	4.6	115.7	1.00	1.13	20.2
Approach		149	0.9	0.524	24.9	LOS C	4.6	115.7	1.00	1.13	20.5
All Vehicles		2752	0.9	1.330	97.9	LOS F	187.4	4717.7	0.97	1.29	11.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [2 Lane Roundabout 2040 WE]

New Site
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: RT 1 South Leg											
3	L2	61	0.9	0.403	11.9	LOS B	3.2	81.5	0.40	0.50	31.5
8	T1	894	0.9	0.403	6.0	LOS A	3.2	81.5	0.40	0.50	37.9
18	R2	9	0.9	0.327	5.8	LOS A	2.3	59.1	0.39	0.48	30.2
Approach		964	0.9	0.403	6.4	LOS A	3.2	81.5	0.40	0.50	37.4
East: Cypress East Leg											
1	L2	14	0.9	0.041	8.8	LOS A	0.2	4.2	0.62	0.68	28.8
6	T1	6	0.9	0.041	3.8	LOS A	0.2	4.2	0.62	0.68	23.6
16	R2	6	0.9	0.041	4.5	LOS A	0.2	4.2	0.62	0.68	28.0
Approach		26	0.9	0.041	6.7	LOS A	0.2	4.2	0.62	0.68	27.2
North: RT 1 North Leg											
7	L2	9	0.9	0.645	12.6	LOS B	6.9	172.7	0.43	0.48	34.6
4	T1	1482	0.9	0.645	6.8	LOS A	6.9	172.7	0.41	0.49	38.2
14	R2	122	0.9	0.524	6.3	LOS A	4.5	113.2	0.38	0.49	29.4
Approach		1613	0.9	0.645	6.8	LOS A	6.9	172.7	0.41	0.49	37.3
West: Cypress West Leg											
5	L2	100	0.9	0.312	12.2	LOS B	1.5	37.7	0.78	0.89	26.1
2	T1	6	0.9	0.312	7.1	LOS A	1.5	37.7	0.78	0.89	21.9
12	R2	43	0.9	0.312	7.8	LOS A	1.5	37.7	0.78	0.89	25.2
Approach		149	0.9	0.312	10.7	LOS B	1.5	37.7	0.78	0.89	25.7
All Vehicles		2752	0.9	0.645	6.9	LOS A	6.9	172.7	0.43	0.51	36.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [1 Lane Roundabout 2040 PM]

Highway 1 & Cypress Ave
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: RT 1 South Leg											
3	L2	57	1.5	1.127	79.6	LOS F	76.8	1943.2	1.00	1.74	13.0
8	T1	1120	1.5	1.127	73.6	LOS F	76.8	1943.2	1.00	1.74	14.0
18	R2	27	1.5	1.127	73.3	LOS F	76.8	1943.2	1.00	1.74	11.1
Approach		1204	1.5	1.127	73.8	LOS E	76.8	1943.2	1.00	1.74	13.9
East: Cypress East Leg											
1	L2	17	1.5	0.121	19.1	LOS B	0.9	22.1	1.00	0.91	22.9
6	T1	9	1.5	0.121	13.9	LOS B	0.9	22.1	1.00	0.91	19.5
16	R2	6	1.5	0.121	14.8	LOS B	0.9	22.1	1.00	0.91	22.5
Approach		32	1.5	0.121	16.8	LOS B	0.9	22.1	1.00	0.91	21.8
North: RT 1 North Leg											
7	L2	11	1.5	1.062	47.3	LOS F	78.8	1994.0	1.00	0.84	17.4
4	T1	1120	1.5	1.062	41.3	LOS F	78.8	1994.0	1.00	0.84	20.4
14	R2	155	1.5	1.062	40.9	LOS F	78.8	1994.0	1.00	0.84	17.6
Approach		1286	1.5	1.062	41.3	LOS D	78.8	1994.0	1.00	0.84	20.0
West: Cypress West Leg											
5	L2	165	1.5	0.716	35.6	LOS D	7.6	193.1	1.00	1.29	18.4
2	T1	10	1.5	0.716	30.4	LOS C	7.6	193.1	1.00	1.29	15.2
12	R2	46	1.5	0.716	31.3	LOS C	7.6	193.1	1.00	1.29	17.9
Approach		221	1.5	0.716	34.5	LOS C	7.6	193.1	1.00	1.29	18.1
All Vehicles		2743	1.5	1.127	54.7	LOS D	78.8	1994.0	1.00	1.27	16.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [2 Lane Roundabout 2040 PM]

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: RT 1 South Leg											
3	L2	57	1.5	0.541	12.5	LOS B	4.9	123.5	0.58	0.57	30.8
8	T1	1120	1.5	0.541	6.7	LOS A	4.9	123.5	0.56	0.57	36.9
18	R2	27	1.5	0.439	6.5	LOS A	3.4	86.1	0.54	0.56	29.5
Approach		1204	1.5	0.541	6.9	LOS A	4.9	123.5	0.56	0.57	36.4
East: Cypress East Leg											
1	L2	17	1.5	0.065	10.4	LOS B	0.3	7.2	0.72	0.79	27.8
6	T1	9	1.5	0.065	5.3	LOS A	0.3	7.2	0.72	0.79	23.0
16	R2	6	1.5	0.065	6.0	LOS A	0.3	7.2	0.72	0.79	27.1
Approach		32	1.5	0.065	8.1	LOS A	0.3	7.2	0.72	0.79	26.1
North: RT 1 North Leg											
7	L2	11	1.5	0.520	12.5	LOS B	4.6	116.0	0.37	0.48	35.0
4	T1	1120	1.5	0.520	6.6	LOS A	4.6	116.0	0.36	0.49	38.4
14	R2	155	1.5	0.422	6.2	LOS A	3.2	81.1	0.35	0.50	29.5
Approach		1286	1.5	0.520	6.6	LOS A	4.6	116.0	0.36	0.49	37.1
West: Cypress West Leg											
5	L2	165	1.5	0.378	11.0	LOS B	1.9	47.8	0.74	0.90	26.5
2	T1	10	1.5	0.378	6.0	LOS A	1.9	47.8	0.74	0.90	22.3
12	R2	46	1.5	0.378	6.7	LOS A	1.9	47.8	0.74	0.90	25.6
Approach		221	1.5	0.378	9.9	LOS A	1.9	47.8	0.74	0.90	26.1
All Vehicles		2743	1.5	0.541	7.1	LOS A	4.9	123.5	0.48	0.56	35.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Simtraffic
SR-1 Mitigated Buildout Report

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	0.6	8.8	0.1	43
Medio Ave	17	0.9	10.9	0.1	42
Magellan Ave	16	1.4	16.0	0.2	45
	55	1.0	21.3	0.3	48
	54	1.0	4.9	0.1	39
Coronado St	14	11.5	15.6	0.1	14
	53	6.6	10.9	0.1	19
	52	6.7	54.6	0.7	44
Capistrano Rd	13	18.8	27.5	0.1	16
	51	4.8	11.4	0.1	28
	50	0.4	4.1	0.1	44
Coral Reef Ave	12	1.6	14.0	0.2	46
	49	0.6	5.0	0.1	42
Capistrano Rd	11	0.6	8.4	0.1	54
St Etheldore St	10	6.5	84.7	1.3	54
Cypress Ave	9	12.3	35.0	0.3	34
Vermont Ave	8	2.1	21.4	0.2	27
Virginia Ave	7	3.0	7.0	0.1	28
California Ave	6	7.3	10.9	0.1	18
Vallemar St	5	0.9	14.4	0.1	27
Carlos St	4	7.7	43.7	0.5	42
16th St	58	4.6	7.2	0.0	17
8th St	3	2.4	39.9	0.4	38
7th St	2	1.0	5.2	0.0	34
2nd St	1	3.5	23.7	0.3	38
Total		108.2	506.4	5.4	39

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	1.1	7.8	0.1	40
	2	1.5	21.5	0.3	42
8th St	3	0.6	4.9	0.0	36
16th St	58	14.8	42.8	0.4	35
Carlos St	4	0.4	7.7	0.0	16
	5	156.8	200.2	0.5	9
California Ave	6	58.2	65.7	0.1	6
Virginia Ave	7	5.2	14.3	0.1	14
Vermont Ave	8	7.3	11.7	0.1	17
Cypress Ave	9	47.2	73.4	0.2	10
St Etheldore St	10	3.2	34.3	0.3	35
Capistrano Rd	11	6.0	75.2	1.3	61
	49	1.4	10.4	0.1	43
Coral Reef Ave	12	2.0	5.4	0.1	42
	50	2.4	15.2	0.2	42
	51	0.8	4.5	0.1	41
Capistrano Rd	13	15.6	21.4	0.1	15
	52	4.4	13.8	0.1	32
	53	5.9	54.0	0.7	45
Coronado St	14	14.9	19.0	0.1	11
	54	14.9	19.3	0.1	11
	55	4.2	8.2	0.1	24
Magellan Ave	16	6.4	26.3	0.3	39
Medio Ave	17	4.7	20.8	0.2	35
Miramar Dr	18	2.9	13.3	0.1	34
Total		382.8	790.9	5.4	25

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	2.4	11.8	0.1	35
Medio Ave	17	3.1	13.1	0.1	35
Magellan Ave	16	3.7	18.6	0.2	39
	55	1.5	21.7	0.3	47
	54	1.2	5.1	0.1	38
Coronado St	14	10.0	14.2	0.1	15
	53	8.0	12.3	0.1	17
	52	8.5	56.0	0.7	43
Capistrano Rd	13	28.3	36.8	0.1	12
	51	5.7	12.2	0.1	26
	50	0.5	4.2	0.1	43
Coral Reef Ave	12	2.4	14.8	0.2	43
	49	0.9	5.2	0.1	41
Capistrano Rd	11	0.8	8.6	0.1	52
St Etheldore St	10	8.5	89.4	1.3	51
Cypress Ave	9	14.7	38.0	0.3	32
Vermont Ave	8	2.9	22.2	0.2	26
Virginia Ave	7	3.5	7.5	0.1	27
California Ave	6	7.2	11.1	0.1	18
Vallemar St	5	0.9	14.5	0.1	27
Carlos St	4	8.0	44.1	0.5	41
16th St	58	4.5	7.0	0.0	18
8th St	3	2.6	40.3	0.4	37
7th St	2	1.2	5.4	0.0	33
2nd St	1	3.1	22.9	0.3	40
Total		134.2	537.1	5.4	36

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	3.6	12.8	0.1	30
	2	5.6	25.5	0.3	36
8th St	3	1.2	5.5	0.0	32
16th St	58	11.3	36.6	0.4	41
Carlos St	4	0.2	7.7	0.0	16
	5	6.3	43.3	0.5	42
California Ave	6	20.4	28.0	0.1	14
Virginia Ave	7	1.9	11.0	0.1	18
Vermont Ave	8	2.8	7.2	0.1	28
Cypress Ave	9	25.5	38.6	0.2	16
St Etheldore St	10	4.4	31.3	0.3	39
Capistrano Rd	11	8.4	83.5	1.3	55
	49	2.6	11.6	0.1	38
Coral Reef Ave	12	2.9	7.0	0.1	33
	50	3.7	16.6	0.2	38
	51	1.3	5.0	0.1	36
Capistrano Rd	13	19.3	25.1	0.1	13
	52	5.0	14.4	0.1	31
	53	7.4	55.3	0.7	44
Coronado St	14	19.2	26.1	0.1	9
	54	17.6	22.0	0.1	10
	55	4.6	8.5	0.1	23
Magellan Ave	16	7.4	27.6	0.3	37
Medio Ave	17	5.6	21.7	0.2	33
Miramar Dr	18	3.6	13.9	0.1	33
Total		191.9	586.1	5.4	34

Arterial Level of Service: NB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Miramar Dr	18	2.6	12.9	0.1	35
Medio Ave	17	4.2	14.1	0.1	32
Magellan Ave	16	4.4	19.3	0.2	37
	55	1.6	21.9	0.3	47
	54	1.4	5.3	0.1	36
Coronado St	14	9.8	14.1	0.1	15
	53	8.3	12.6	0.1	17
	52	8.7	56.5	0.7	43
Capistrano Rd	13	20.8	28.2	0.1	16
	51	5.9	12.5	0.1	26
	50	0.6	4.3	0.1	43
Coral Reef Ave	12	2.6	14.9	0.2	43
	49	0.9	5.3	0.1	40
Capistrano Rd	11	0.7	8.7	0.1	51
St Etheldore St	10	8.3	90.0	1.3	51
Cypress Ave	9	16.9	39.4	0.3	31
Vermont Ave	8	3.0	21.8	0.2	26
Virginia Ave	7	3.6	7.6	0.1	26
California Ave	6	7.5	11.1	0.1	18
Vallemar St	5	0.8	14.6	0.1	27
Carlos St	4	7.2	43.2	0.5	42
16th St	58	4.6	7.2	0.0	17
8th St	3	2.1	37.9	0.4	40
7th St	2	1.1	5.3	0.0	34
2nd St	1	2.9	23.0	0.3	40
Total		130.5	531.7	5.4	37

Arterial Level of Service: SB SR-1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	3.3	11.6	0.1	30
	2	2.6	22.5	0.3	40
8th St	3	0.6	4.9	0.0	36
16th St	58	22.5	50.0	0.4	30
Carlos St	4	0.9	8.3	0.0	15
	5	81.4	117.4	0.5	15
California Ave	6	48.6	56.6	0.1	7
Virginia Ave	7	1.6	10.9	0.1	18
Vermont Ave	8	1.2	5.7	0.1	35
Cypress Ave	9	20.1	31.1	0.2	18
St Etheldore St	10	1.9	33.7	0.3	36
Capistrano Rd	11	6.8	80.7	1.3	57
	49	1.7	10.7	0.1	42
Coral Reef Ave	12	2.2	5.8	0.1	39
	50	2.7	15.6	0.2	41
	51	1.1	4.8	0.1	38
Capistrano Rd	13	19.6	25.1	0.1	13
	52	5.1	14.5	0.1	31
	53	6.1	54.0	0.7	45
Coronado St	14	8.4	12.6	0.1	17
	54	9.6	14.0	0.1	15
	55	3.1	7.1	0.1	27
Magellan Ave	16	5.3	25.5	0.3	40
Medio Ave	17	3.8	19.9	0.2	36
Miramar Dr	18	2.1	12.5	0.1	37
Total		262.4	655.5	5.4	30

SR-92 Mitigated Buildout Report

Intersection												
Int Delay, s/veh	0.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1315	0	0	3	774	1	0	2	14	0	1
Future Vol, veh/h	2	1315	0	0	3	774	1	0	2	14	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	55	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1429	0	0	3	841	1	0	2	15	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	844	0	0	1429	0	0	1857	2277	1429	1437	1436	3
Stage 1	-	-	-	-	-	-	1433	1433	-	3	3	-
Stage 2	-	-	-	-	-	-	424	844	-	1434	1433	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	792	-	-	476	-	-	56	40	165	111	133	1081
Stage 1	-	-	-	-	-	-	166	200	-	1020	893	-
Stage 2	-	-	-	-	-	-	608	379	-	166	200	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	792	-	-	476	-	-	56	40	165	109	133	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	40	-	109	133	-
Stage 1	-	-	-	-	-	-	166	199	-	1017	893	-
Stage 2	-	-	-	-	-	-	607	379	-	163	199	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	42.2	41
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	100	792	-	-	476	-	-	116
HCM Lane V/C Ratio	0.033	0.003	-	-	-	-	-	0.141
HCM Control Delay (s)	42.2	9.6	-	-	0	-	-	41
HCM Lane LOS	E	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1205	0	120	340	116	304
Future Volume (veh/h)	1205	0	120	340	116	304
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	1310	0	130	370	126	0
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1348	1146	143	1564	157	141
Arrive On Green	0.72	0.00	0.08	0.84	0.09	0.00
Sat Flow, veh/h	1863	1583	1774	1863	1774	1583
Grp Volume(v), veh/h	1310	0	130	370	126	0
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1863	1774	1583
Q Serve(g_s), s	73.3	0.0	8.1	4.4	7.8	0.0
Cycle Q Clear(g_c), s	73.3	0.0	8.1	4.4	7.8	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1348	1146	143	1564	157	141
V/C Ratio(X)	0.97	0.00	0.91	0.24	0.80	0.00
Avail Cap(c_a), veh/h	1382	1174	143	1598	254	226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.4	0.0	51.1	1.8	50.0	0.0
Incr Delay (d2), s/veh	17.7	0.0	49.7	0.1	9.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.7	0.0	6.0	2.3	4.2	0.0
LnGrp Delay(d),s/veh	32.1	0.0	100.7	1.9	59.0	0.0
LnGrp LOS	C		F	A	E	
Approach Vol, veh/h	1310			500	126	
Approach Delay, s/veh	32.1			27.6	59.0	
Approach LOS	C			C	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		13.9	13.0	85.0				98.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		16.0	9.0	83.0				96.0
Max Q Clear Time (g_c+I1), s		9.8	10.1	75.3				6.4
Green Ext Time (p_c), s		0.1	0.0	5.7				2.2

Intersection Summary		
HCM 2010 Ctrl Delay		32.7
HCM 2010 LOS		C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	448	1081	992	36	41	111
Future Volume (vph)	448	1081	992	36	41	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	3539	1550	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	3539	1550	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	1175	1078	39	45	121
RTOR Reduction (vph)	0	0	0	23	0	53
Lane Group Flow (vph)	487	1175	1078	16	45	68
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA	Perm	Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	20.3	50.0	25.7	25.7	5.3	25.6
Effective Green, g (s)	20.3	50.0	25.7	25.7	5.3	25.6
Actuated g/C Ratio	0.32	0.79	0.41	0.41	0.08	0.40
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	567	1471	1436	629	148	727
v/s Ratio Prot	c0.28	c0.63	0.30		c0.03	0.01
v/s Ratio Perm				0.01		0.04
v/c Ratio	0.86	0.80	0.75	0.03	0.30	0.09
Uniform Delay, d1	20.2	3.8	16.1	11.3	27.3	11.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.9	2.9	2.0	0.0	0.4	0.0
Delay (s)	32.0	6.7	18.1	11.3	27.7	11.7
Level of Service	C	A	B	B	C	B
Approach Delay (s)		14.1	17.8		16.0	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	926	4	1	1350	5	0	0	2	2	0	12
Future Vol, veh/h	4	926	4	1	1350	5	0	0	2	2	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	55	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1007	4	1	1467	5	0	0	2	2	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1472	0	0	1011	0	0	2495	2491	1009	2487	2488	1467
Stage 1	-	-	-	-	-	-	1017	1017	-	1469	1469	-
Stage 2	-	-	-	-	-	-	1478	1474	-	1018	1019	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	458	-	-	686	-	-	20	29	292	20	29	157
Stage 1	-	-	-	-	-	-	287	315	-	159	192	-
Stage 2	-	-	-	-	-	-	157	191	-	286	314	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	458	-	-	686	-	-	18	29	292	20	29	157
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	29	-	20	29	-
Stage 1	-	-	-	-	-	-	284	312	-	158	190	-
Stage 2	-	-	-	-	-	-	143	189	-	281	311	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	17.4	61.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	292	458	-	-	686	-	-	79
HCM Lane V/C Ratio	0.007	0.009	-	-	0.002	-	-	0.193
HCM Control Delay (s)	17.4	12.9	-	-	10.3	0	-	61.1
HCM Lane LOS	C	B	-	-	B	A	-	F
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	765	70	482	1463	134	461
Future Volume (veh/h)	765	70	482	1463	134	461
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	832	0	524	1590	146	0
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	917	779	546	1553	175	156
Arrive On Green	0.49	0.00	0.31	0.83	0.10	0.00
Sat Flow, veh/h	1863	1583	1774	1863	1774	1583
Grp Volume(v), veh/h	832	0	524	1590	146	0
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1863	1774	1583
Q Serve(g_s), s	48.7	0.0	34.4	99.0	9.6	0.0
Cycle Q Clear(g_c), s	48.7	0.0	34.4	99.0	9.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	917	779	546	1553	175	156
V/C Ratio(X)	0.91	0.00	0.96	1.02	0.83	0.00
Avail Cap(c_a), veh/h	917	779	553	1553	239	213
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.7	0.0	40.3	9.9	52.5	0.0
Incr Delay (d2), s/veh	12.6	0.0	28.1	29.0	16.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.2	0.0	21.1	61.7	5.5	0.0
LnGrp Delay(d),s/veh	40.3	0.0	68.4	38.9	69.0	0.0
LnGrp LOS	D		E	F	E	
Approach Vol, veh/h	832			2114	146	
Approach Delay, s/veh	40.3			46.2	69.0	
Approach LOS	D			D	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.7	40.6	62.4				103.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		16.0	37.0	58.0				99.0
Max Q Clear Time (g_c+I1), s		11.6	36.4	50.7				101.0
Green Ext Time (p_c), s		0.1	0.1	3.1				0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.7
HCM 2010 LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	312	865	1688	91	19	257
Future Volume (vph)	312	865	1688	91	19	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	3539	1551	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	3539	1551	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	339	940	1835	99	21	279
RTOR Reduction (vph)	0	0	0	30	0	9
Lane Group Flow (vph)	339	940	1835	69	21	270
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA	Perm	Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	18.3	69.3	47.0	47.0	7.2	25.5
Effective Green, g (s)	18.3	69.3	47.0	47.0	7.2	25.5
Actuated g/C Ratio	0.22	0.82	0.56	0.56	0.09	0.30
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	383	1527	1968	862	150	543
v/s Ratio Prot	c0.19	0.50	c0.52		0.01	c0.04
v/s Ratio Perm				0.04		0.13
v/c Ratio	0.89	0.62	0.93	0.08	0.14	0.50
Uniform Delay, d1	32.1	2.8	17.3	8.7	35.8	24.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.4	0.5	8.6	0.0	0.2	0.3
Delay (s)	52.4	3.3	25.9	8.7	35.9	24.5
Level of Service	D	A	C	A	D	C
Approach Delay (s)		16.3	25.0		25.3	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	861	4	3	1511	3	0	0	2	11	0	13
Future Vol, veh/h	1	861	4	3	1511	3	0	0	2	11	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	55	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	936	4	3	1642	3	0	0	2	12	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1645	0	0	940	0	0	2597	2591	938	2589	2590	1642
Stage 1	-	-	-	-	-	-	940	940	-	1648	1648	-
Stage 2	-	-	-	-	-	-	1657	1651	-	941	942	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	393	-	-	729	-	-	17	25	321	17	25	123
Stage 1	-	-	-	-	-	-	316	342	-	125	157	-
Stage 2	-	-	-	-	-	-	124	156	-	316	342	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	393	-	-	729	-	-	14	24	321	16	24	123
Mov Cap-2 Maneuver	-	-	-	-	-	-	14	24	-	16	24	-
Stage 1	-	-	-	-	-	-	315	341	-	125	149	-
Stage 2	-	-	-	-	-	-	104	149	-	313	341	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	16.3	$ 314.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	321	393	-	-	729	-	-	30
HCM Lane V/C Ratio	0.007	0.003	-	-	0.004	-	-	0.87
HCM Control Delay (s)	16.3	14.2	-	-	10	0	-	$ 314.3
HCM Lane LOS	C	B	-	-	A	A	-	F
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	2.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	802	74	411	1476	97	383
Future Volume (veh/h)	802	74	411	1476	97	383
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	872	0	447	1604	105	0
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1075	914	472	1623	129	115
Arrive On Green	0.58	0.00	0.27	0.87	0.07	0.00
Sat Flow, veh/h	1863	1583	1774	1863	1774	1583
Grp Volume(v), veh/h	872	0	447	1604	105	0
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1863	1774	1583
Q Serve(g_s), s	53.4	0.0	35.5	114.4	8.4	0.0
Cycle Q Clear(g_c), s	53.4	0.0	35.5	114.4	8.4	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1075	914	472	1623	129	115
V/C Ratio(X)	0.81	0.00	0.95	0.99	0.81	0.00
Avail Cap(c_a), veh/h	1075	914	532	1636	198	177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	0.0	51.6	8.6	65.5	0.0
Incr Delay (d2), s/veh	4.8	0.0	24.9	19.4	13.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.8	0.0	20.6	64.9	4.6	0.0
LnGrp Delay(d),s/veh	28.9	0.0	76.5	27.9	79.1	0.0
LnGrp LOS	C		E	C	E	
Approach Vol, veh/h	872			2051	105	
Approach Delay, s/veh	28.9			38.5	79.1	
Approach LOS	C			D	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		14.5	42.2	86.8				129.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		16.0	43.0	79.0				126.0
Max Q Clear Time (g_c+I1), s		10.4	37.5	55.4				116.4
Green Ext Time (p_c), s		0.1	0.7	6.4				8.5

Intersection Summary			
HCM 2010 Ctrl Delay			37.2
HCM 2010 LOS			D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	338	772	1627	77	22	213
Future Volume (vph)	338	772	1627	77	22	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	3539	1551	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	3539	1551	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	367	839	1768	84	24	232
RTOR Reduction (vph)	0	0	0	27	0	11
Lane Group Flow (vph)	367	839	1768	57	24	221
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA	Perm	Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases				2		1
Actuated Green, G (s)	19.2	69.0	45.8	45.8	7.2	26.4
Effective Green, g (s)	19.2	69.0	45.8	45.8	7.2	26.4
Actuated g/C Ratio	0.23	0.82	0.54	0.54	0.09	0.31
Clearance Time (s)	3.5	4.5	5.0	5.0	3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	403	1526	1925	843	151	562
v/s Ratio Prot	c0.21	0.45	c0.50		0.01	c0.03
v/s Ratio Perm				0.04		0.11
v/c Ratio	0.91	0.55	0.92	0.07	0.16	0.39
Uniform Delay, d1	31.7	2.5	17.5	9.1	35.7	22.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.9	0.2	7.4	0.0	0.2	0.2
Delay (s)	55.6	2.7	24.8	9.1	35.9	22.8
Level of Service	E	A	C	A	D	C
Approach Delay (s)		18.8	24.1		24.0	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Simtraffic
SR-92 Mitigated Buildout Report

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.6	8.9	0.1	28
	12	2.9	29.9	0.2	27
	13	0.9	8.1	0.1	26
	14	4.6	37.6	0.3	26
	15	2.4	18.6	0.1	26
	16	1.2	9.4	0.1	26
	17	1.1	8.6	0.1	26
	45	11.4	85.9	0.6	26
	19	6.9	51.1	0.4	26
	20	1.4	10.1	0.1	26
	21	8.0	47.4	0.3	25
	22	15.5	38.2	0.2	18
	23	16.7	29.6	0.1	13
	24	36.0	57.5	0.2	11
	25	45.8	68.2	0.2	10
	26	63.3	86.9	0.2	8
	27	63.0	85.4	0.2	8
Skyline Blvd (West)	48	46.0	56.3	0.1	8
	28	3.9	19.2	0.1	24
	29	1.2	11.7	0.1	26
	30	2.1	17.8	0.1	26
	31	1.3	10.8	0.1	26
	32	1.0	7.7	0.1	27
	33	3.2	25.1	0.2	26
	34	1.9	14.7	0.1	25
	35	2.6	19.4	0.1	26
	36	2.4	18.0	0.1	26
	37	4.3	31.9	0.2	26
	38	3.8	28.1	0.2	26
	39	3.3	24.4	0.2	26
	40	2.2	15.8	0.1	26
	46	4.8	33.9	0.2	26
SR-35 (East)	49	6.0	15.7	0.1	25
Total		371.8	1031.9	5.6	19

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	8.1	21.7	0.1	18
	40	2.9	32.0	0.2	27
	39	1.7	15.5	0.1	26
	38	2.6	23.6	0.2	27
	37	3.2	27.4	0.2	26
	36	3.9	31.4	0.2	26
	35	2.3	18.1	0.1	26
	34	2.5	19.7	0.1	26
	33	1.8	14.2	0.1	26
	32	3.3	25.2	0.2	26
	31	1.0	8.0	0.1	26
	30	1.4	10.7	0.1	26
	29	2.4	18.0	0.1	26
	28	1.6	11.8	0.1	26
Skyline Blvd (West)	48	3.0	11.3	0.1	40
	27	0.7	15.9	0.1	29
	26	1.2	24.3	0.2	28
	25	1.7	25.4	0.2	28
	24	1.9	24.7	0.2	27
	23	2.0	23.3	0.2	28
	22	1.3	14.3	0.1	27
	21	2.4	25.1	0.2	27
	20	4.3	43.7	0.3	27
	19	1.0	9.8	0.1	27
	45	5.3	50.1	0.4	27
	17	9.2	83.1	0.6	27
	16	1.0	8.7	0.1	26
	15	1.0	9.0	0.1	27
	14	2.1	18.3	0.1	26
	13	4.4	37.5	0.3	27
	12	1.0	8.2	0.1	26
	11	3.9	30.7	0.2	26
Ox Mt Landfill Rd	47	4.5	11.4	0.1	26
Total		90.5	752.2	5.6	27

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.4	8.7	0.1	29
	12	2.2	29.1	0.2	28
	13	0.7	7.9	0.1	27
	14	3.8	36.8	0.3	27
	15	2.0	18.2	0.1	27
	16	1.1	9.2	0.1	26
	17	1.0	8.5	0.1	27
	45	10.4	84.8	0.6	27
	19	6.4	50.5	0.4	27
	20	1.3	10.1	0.1	26
	21	5.9	45.2	0.3	26
	22	3.4	26.2	0.2	26
	23	2.0	15.0	0.1	26
	24	3.3	24.8	0.2	26
	25	3.5	26.0	0.2	26
	26	3.7	27.6	0.2	26
	27	4.8	27.5	0.2	25
Skyline Blvd (West)	48	30.9	41.5	0.1	11
	28	3.4	18.7	0.1	24
	29	1.1	11.6	0.1	27
	30	1.9	17.7	0.1	27
	31	1.3	10.7	0.1	26
	32	0.9	7.7	0.1	27
	33	3.1	25.0	0.2	26
	34	1.9	14.7	0.1	26
	35	2.5	19.3	0.1	27
	36	2.3	17.9	0.1	26
	37	4.2	31.8	0.2	26
	38	3.7	27.9	0.2	26
	39	3.3	24.4	0.2	26
	40	2.1	15.8	0.1	26
	46	4.7	33.8	0.2	26
SR-35 (East)	49	5.6	15.2	0.1	26
Total		129.0	789.8	5.6	25

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	14.4	27.9	0.1	14
	40	3.5	32.5	0.2	27
	39	2.0	15.9	0.1	26
	38	3.1	24.1	0.2	26
	37	3.7	27.9	0.2	26
	36	4.3	31.9	0.2	26
	35	2.5	18.4	0.1	25
	34	2.7	19.9	0.1	26
	33	2.0	14.4	0.1	26
	32	3.5	25.4	0.2	26
	31	1.1	8.1	0.1	25
	30	1.5	10.8	0.1	26
	29	2.6	18.2	0.1	26
	28	1.9	12.1	0.1	25
Skyline Blvd (West)	48	9.1	20.3	0.1	22
	27	2.1	17.5	0.1	27
	26	2.6	25.7	0.2	27
	25	3.2	26.8	0.2	27
	24	3.3	26.0	0.2	26
	23	3.2	24.4	0.2	26
	22	2.0	15.0	0.1	26
	21	3.5	26.2	0.2	26
	20	6.1	45.6	0.3	26
	19	1.4	10.1	0.1	26
	45	7.0	51.6	0.4	26
	17	11.9	86.3	0.6	26
	16	1.2	8.9	0.1	25
	15	1.3	9.2	0.1	26
	14	2.6	18.8	0.1	26
	13	5.3	38.4	0.3	26
	12	1.2	8.4	0.1	25
	11	4.4	31.2	0.2	26
Ox Mt Landfill Rd	47	2.3	8.6	0.1	30
Total		122.5	786.4	5.6	26

Arterial Level of Service: EB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	11	0.4	8.7	0.1	29
	12	2.1	29.2	0.2	28
	13	0.7	7.9	0.1	27
	14	3.8	36.8	0.3	27
	15	2.0	18.3	0.1	26
	16	1.0	9.3	0.1	26
	17	1.0	8.5	0.1	27
	45	10.2	85.0	0.6	27
	19	6.4	50.7	0.4	26
	20	1.3	10.1	0.1	26
	21	5.9	45.4	0.3	26
	22	3.4	26.2	0.2	26
	23	2.0	15.0	0.1	26
	24	3.3	24.9	0.2	26
	25	3.4	26.0	0.2	26
	26	3.8	27.8	0.2	26
	27	5.4	28.2	0.2	24
Skyline Blvd (West)	48	29.6	40.7	0.1	11
	28	3.4	18.7	0.1	24
	29	1.1	11.6	0.1	27
	30	2.0	17.7	0.1	26
	31	1.3	10.8	0.1	26
	32	0.9	7.7	0.1	27
	33	3.1	25.0	0.2	26
	34	1.9	14.7	0.1	26
	35	2.5	19.4	0.1	26
	36	2.3	17.9	0.1	26
	37	4.2	31.8	0.2	26
	38	3.7	28.0	0.2	26
	39	3.3	24.4	0.2	26
	40	2.1	15.8	0.1	26
	46	5.5	34.6	0.2	25
SR-35 (East)	49	5.9	15.3	0.1	26
Total		128.6	792.0	5.6	25

Arterial Level of Service: WB SR-92

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	46	13.9	27.5	0.1	15
	40	3.4	32.5	0.2	27
	39	1.9	15.8	0.1	26
	38	3.0	24.0	0.2	26
	37	3.6	27.8	0.2	26
	36	4.2	31.8	0.2	26
	35	2.5	18.3	0.1	25
	34	2.7	19.8	0.1	26
	33	2.0	14.3	0.1	26
	32	3.5	25.4	0.2	26
	31	1.1	8.1	0.1	25
	30	1.5	10.8	0.1	26
	29	2.5	18.1	0.1	26
	28	1.9	12.1	0.1	26
Skyline Blvd (West)	48	8.7	19.8	0.1	23
	27	2.2	17.5	0.1	27
	26	2.6	25.7	0.2	27
	25	3.2	26.8	0.2	27
	24	3.2	25.8	0.2	26
	23	3.1	24.4	0.2	26
	22	1.9	14.9	0.1	26
	21	3.5	26.2	0.2	26
	20	6.1	45.5	0.3	26
	19	1.4	10.1	0.1	26
	45	7.0	51.5	0.4	26
	17	11.8	85.8	0.6	26
	16	1.2	8.9	0.1	25
	15	1.3	9.2	0.1	26
	14	2.6	18.8	0.1	26
	13	5.3	38.4	0.3	26
	12	1.2	8.4	0.1	25
	11	4.4	31.2	0.2	26
Ox Mt Landfill Rd	47	2.9	9.4	0.1	27
Total		121.4	784.9	5.6	26