

City of Capitola

City Council Meeting Agenda

Thursday, February 27, 2025 – 6:00 PM



City Council Chambers
420 Capitola Avenue, Capitola, CA 95010

Mayor: Joe Clarke

Vice Mayor: Alexander Pedersen

Council Members: Gerry Jensen, Margaux Morgan, Melinda Orbach

Regular Meeting of the Capitola City Council – 6 PM

All correspondence received prior to 5:00 p.m. on the Wednesday preceding a Council Meeting will be distributed to Councilmembers to review prior to the meeting. Information submitted after 5 p.m. on that Wednesday may not have time to reach Councilmembers, nor be read by them prior to consideration of an item.

1. Roll Call and Pledge of Allegiance

Council Members Gerry Jensen, Margaux Morgan, Melinda Orbach, Alexander Pedersen, and Mayor Joe Clarke

2. Additions and Deletions to the Agenda

3. Additional Materials

Additional information submitted to the City after distribution of the agenda packet.

- [A.](#) Item 6B - Correspondence Received
- [B.](#) Item 6C - Correspondence Received
- [C.](#) Item 6D - Staff Memorandum and Updated Attachment
- [D.](#) Item 7B - Correspondence Received
- [E.](#) Item 7C - Correspondence Received

4. Oral Communications by Members of the Public

*Oral Communications allows time for members of the Public to address the City Council on any "Consent Item" on tonight's agenda, or on any topic within the jurisdiction of the City that is not on the "General Government/Public Hearings" section of the Agenda. Members of the public may speak for up to three minutes, unless otherwise specified by the Mayor. Individuals may not speak more than once during Oral Communications. All speakers must address the entire legislative body and will not be permitted to engage in dialogue. **A maximum of 30 minutes** is set aside for Oral Communications.*

5. Staff / City Council Comments

Comments are limited to three minutes.

6. Consent Items

All items listed as "Consent Items" will be enacted by one motion in the form listed below. There will be no separate discussion on these items prior to the time the Council votes on the action unless

members of the City Council request specific items to be discussed for separate review. Items pulled for separate discussion will be considered following General Government. Note that all Ordinances which appear on the public agenda shall be determined to have been read by title and further reading waived.

A. City Council Meeting Minutes

Recommended Action: Approve minutes from the regular meeting on February 13, 2025, and the special meeting on February 19, 2025.

B. FY 2024-25 Pavement Maintenance Project

Recommended Action: Approve the plans, specifications, and construction budget of \$589,000 for the FY 2024-25 Pavement Management Project; and authorize the Department of Public Works to advertise for construction bids.

C. Public Art Fund Allocation

Recommended Action: Adopt a resolution allocating \$25,000 from the Public Art Fund as a matching contribution for an application for the National Endowment for the Arts Grant FY 2026 to support the creation of public art project at the Park at Rispin Mansion and amending the Fiscal Year 2024-25 Budget, as recommended by the Capitola Art and Cultural Commission.

D. MOU with the Capitola Police Officers Association

Recommended Action: Authorize the City Manager to sign a side letter agreement with the Capitola Police Officers Association from March 1, 2025, through June 30, 2027.

7. General Government / Public Hearings

All items listed in “General Government / Public Hearings” are intended to provide an opportunity for public discussion of each item listed. The following procedure pertains to each General Government item: 1) Staff explanation; 2) Council questions; 3) Public comment; 4) Council deliberation; 5) Decision.

A. Appointment of Capitola Representative to Measure Q Oversight Advisory Board

Recommended Action: Appoint a member of the public to serve as Capitola’s representative on the Measure Q Citizens Oversight Advisory Board.

B. Bay Avenue Corridor Study

Recommended Action: Staff recommends the City Council 1) identify Alternative 2 as the preferred long-term improvement alternative for the Bay Avenue corridor; 2) authorize staff to proceed with public engagement and conceptual design refinement; and 3) direct staff to pursue grant funding opportunities for final design and construction.

C. Bay Avenue and Hill Street Traffic Safety Update

Recommended Action: Provide direction on short-term modifications to the Bay Avenue and Hill Street intersection.

D. FY 2024-25 Mid-Year Budget Report

Recommended Action: Receive the Fiscal Year 2024-25 Mid-Year Budget Report and adopt a resolution amending the Fiscal Year 2024-25 Budget.

E. CDBG Program Income Funds

Recommended Action: 1) Conduct a public hearing and receive public comment regarding Program Income and its eligible uses; 2) adopt a resolution rescinding Resolution No. 4414 and allocating \$170,000 of Program Income for the Community Center Rehabilitation Project; and 3) adopt a resolution amending the FY 2024-25 budget.

8. Adjournment - *The next regularly scheduled City Council meeting is on March 13, 2025, at 6:00 PM.*

How to View the Meeting

Meetings are open to the public for in-person attendance at the Capitola City Council Chambers located at 420 Capitola Avenue, Capitola, California, 95010.

Other ways to Watch:

Spectrum Cable Television channel 8

City of Capitola, California YouTube Channel

To Join Zoom Application or Call in to Zoom:

Meeting

link: <https://us02web.zoom.us/j/83328173113?pwd=aVRwcWN3RU03Zzc2dkNpQzRWVXAydz09>

Or dial one of these phone numbers: **1 (669) 900 6833, 1 (408) 638 0968, 1 (346) 248 7799**

Meeting ID: **833 2817 3113**

Meeting Passcode: **678550**

How to Provide Comments to the City Council

Members of the public may provide public comments to the City Council in-person during the meeting. If you are unable to attend in-person, please email your comments to citycouncil@ci.capitola.ca.us and they will be included as a part of the record for the meeting. Please be aware that the City Council will not accept comments via Zoom.

Notice regarding City Council: The City Council meets on the 2nd and 4th Thursday of each month at 6:00 p.m. in the City Hall Council Chambers located at 420 Capitola Avenue, Capitola.

Agenda and Agenda Packet Materials: The City Council Agenda and the complete Agenda Packet are available for review on the City’s website and at Capitola City Hall prior to the meeting. Need more information? Contact the City Clerk’s office at 831-475-7300.

Agenda Materials Distributed after Distribution of the Agenda Packet: Pursuant to Government Code §54957.5, materials related to an agenda item submitted after distribution of the agenda packet are available for public inspection at the Reception Office at City Hall, 420 Capitola Avenue, Capitola, California, during normal business hours.

Americans with Disabilities Act: Disability-related aids or services are available to enable persons with a disability to participate in this meeting consistent with the Federal Americans with Disabilities Act of 1990. Assisted listening devices are available for individuals with hearing impairments at the meeting in the City Council Chambers. Should you require special accommodations to participate in the meeting due to a disability, please contact the City Clerk’s office at least 24 hours in advance of the meeting at 831-475-7300. In an effort to accommodate individuals with environmental sensitivities, attendees are requested to refrain from wearing perfumes and other scented products.

Si desea asistir a esta reunión pública y necesita ayuda - como un intérprete de lenguaje de señas americano, español u otro equipo especial - favor de llamar al Departamento de la Secretaría de la Ciudad al 831-475-7300 al menos tres días antes para que podamos coordinar dicha asistencia especial o envíe un correo electrónico a jgautho@ci.capitola.ca.us.

Televised Meetings: City Council meetings are cablecast “Live” on Charter Communications Cable TV Channel 8 and are recorded to be rebroadcasted at 8:00 a.m. on the Wednesday following the meetings and at 1:00 p.m. on Saturday following the first rebroadcast on Community

Television of Santa Cruz County (Charter Channel 71 and Comcast Channel 25). Meetings are streamed “Live” on the City’s website by clicking on the Home Page link “Meeting Agendas/Videos.” Archived meetings can be viewed from the website at any time.

Gautho, Julia

From: John <jxmlulry@gmail.com>
Sent: Friday, February 21, 2025 3:30 PM
To: City Council; Gautho, Julia
Subject: Item 6B

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Neighbors

We can improve the bike lanes here too with flex posts and some lane right sizing. These lanes need not be so big. Perceived and actual friction greatly enhance all users safety.

Warmly JM

Gautho, Julia

From: John <jxmlulry@gmail.com>
Sent: Friday, February 21, 2025 3:19 PM
To: City Council; Gautho, Julia
Subject: Item 6C

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Neighbors

25K is a lot of money for our small city. Such a budget change should be a public agenda item Imo.

Warmly JM



City Manager Department

Memo

To: City Council
From: Chloé Woodmansee, Assistant to the City Manager
Date: February 26, 2025
Re: Item 6D: MOU with the Capitola Police Officers Association

The proposed side letter, signed by the Capitola Police Officer Association President and Vice President is attached.

Attachment:

1. Side Letter

SIDE LETTER
BETWEEN CITY OF CAPITOLA AND
CAPITOLA POLICE OFFICERS ASSOCIATION

WHEREAS, the City of Capitola (City) and Capitola Police Officers Association (CPOA), have met and conferred in good faith regarding incentive pay; and

WHEREAS, the City and the Union have previously agreed on an MOU with a term beginning on June 9, 2024, and expiring on June 30, 2027; and

WHEREAS It was determined that the changes to the language will maintain three separate Specialty Pay Paths while also incentivizing education; and

WHEREAS All other provisions in the MOU remain unchanged and shall remain in effect.

IT IS HEREBY AGREED AS FOLLOWS: The following articles shall be amended to read:

14.01 EDUCATIONAL INCENTIVE PAY

After successful completion of the probationary period, sworn police personnel and the Records Manager shall be eligible to have base pay increased by an additional two and one-half (2.5%) for completion of thirty (30) college units, five (5%) percent for completion of sixty (60) college units, and ten (10%) percent for completion of a bachelor's degree from an accredited institution. College units may include graduate level work. Courses and degrees must be work related as approved by the Department Head and City Manager.

To receive Educational Incentive, Pay, the Employee shall write a memo to his/her supervisor and include a copy of transcripts as evidence of the number of units required for the appropriate incentive pay. The supervisor will review the memo and send it to the Police Chief, who, in turn, will review it and send it to the City Manager for approval.

14.04 P.O.S.T. CERTIFICATE PAY - POLICE SERGEANTS

Sergeants shall be eligible to receive 2.5% increase in base pay for completion of the intermediate P.O.S.T. Certificate; an additional 2.5% for completion of the Advanced P.O.S.T. Certificate; and an additional 2.5% for completion of the P.O.S.T. Supervisory Certificate provided the employee has an A.A., A.S. or equivalent Degree. This Certificate Pay may not be collected in addition to education incentive pay. This program became effective 7-1-85.

Officers receiving 2.5% P.O.S.T. certification pay for completion of the Advanced P.O.S.T. Certificate as of February 21, 2025, may continue to receive it; no other Officers are eligible.

To receive P.O.S.T. pay, the employee shall write a memo to his/her supervisor including a copy of the appropriate P.O.S.T. Certificate. The Supervisor shall review the memo and send it to the Police Chief, who, in turn, shall review it and send it to the City Manager for review, and, if approved, it will be effective the first of the month after approval.

19.05 RECORDS MANAGER SPECIALTY PAY


Those members serving in the position of Police Records Manager shall receive an additional half (.5) percent specialty pay per year added to base pay (totaling 1.5%) for routinely and consistently supervising the handling of police records/evidence. This provision expires July 1, 2027.

All other provisions in the MOU remain unchanged and shall remain in effect.

Signed:

Capitola Police Officers Association

City of Capitola

Signed by:

Aron Quotas, CPOA President

Jamie Goldstein, City Manager

Date: 2/26/2025

Date:

Signed by:

Noah Sherin, CPOA Vice President

Date: 2/26/2025

Gautho, Julia

From: John <jxmulry@gmail.com>
Sent: Friday, February 21, 2025 3:28 PM
To: City Council; Gautho, Julia
Subject: Item 7B

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Neighbors

Please listen to staff. A roundabout is the only non flow interruptive type of controlled intersection. It is safer for all users and greatly reduces traffic. It's almost aesthetically pleasing.

Studies also show stops of more than 4 ways, that is a 6 way used as an 8 way sometimes plus the Gayle's entrance, are near impossible for older humans to process. Our city has one of the oldest average ages of any comparable city in CA. We should build with our senior population in mind.

I recommend a protected separate bike lane and bollards everywhere, like Gayle's has bollards all over its property.

Also that Gayle's entrance is just so dangerous. It's superfluous. MORE parking could be added to that lot and its flow could be significantly improved by closing it. Wider sidewalks ever please. Watching strollers being diverted into the street because the sidewalks can't accommodate two way foot traffic makes me sad.

Warmly JM

Gautho, Julia

From: Kevin Maguire <kmaguire831@gmail.com>
Sent: Friday, February 21, 2025 4:17 PM
To: City Council
Subject: 2.27.2025 City Council Meeting Agenda Item 7b Based on the Bay Avenue Corridor Study, the roundabout option (Alternative 2) presents several negative impacts on side streets and other streets with stop signs: 1. Increased Traffic on Side Streets Traffi...

Follow Up Flag: Follow up
Flag Status: Flagged

I live on Monterey Ave, and traffic is backed up from about 445 pm till 5:45-6 pm down to Monterey Park, and NBMS on days with accidents or detours on the freeway.

Park Avenue is also backed up, and a lot of cut through traffic on Columbus, Sir Francis.

Right now we have a natural system that stops and then lets traffic flow. Stops and lets traffic flow.

By opening the flood gates at Bay/Hill, Bay and Capitola, Bay and Monterey. You will be impacting us down stream.

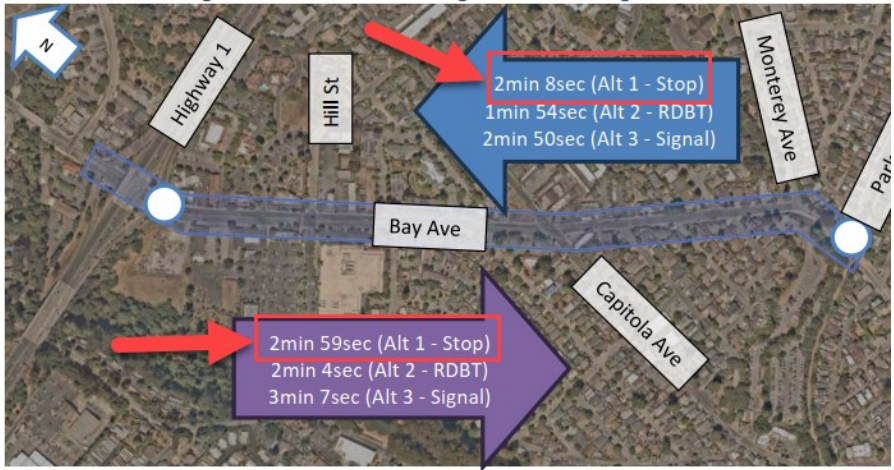
We need that data, and studied in the report. I know you are trying to make it better, but you also are making it worse for others.

It takes me 5-10 mins at times to turn into my driveway because traffic is at a standstill.

I found some flawed data, there might be more

efficiency and the facility is experiencing less frame congestion.

Figure 12: Year 2024 Existing Corridor Average Travel Times



Existing Conditions

Vehicles traveling northbound on the Alternative 1 Stop layout would have an average peak hour travel time of 2 minutes 9 seconds, and the estimated annual VHT from Park Avenue to SR1 is 62,501 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 1 minute 54 seconds and would have an annual VHT of 55,492 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 2 minute 50 seconds and would have an annual VHT of 82,726 vehicle-hours.

Similarly, vehicles traveling southbound on the Alternative 1 Stop layout would have an average peak hour travel time of 3 minutes 59 seconds, and the estimated annual VHT from SR1 to Park Avenue is 98,494 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 2 minutes 4 seconds and would have an annual VHT of 68,188 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 3 minutes 7 seconds and would have an annual VHT of 82,726 vehicle-hours.

My assistance ChatGPT 4.0 analyzed the 334 paged, Here are some of the major issues and some proposed resolutions. (i dont think Traffic lights are it, but there was a time at Monterey and Kennedy there was no stop sign, same at Kennedy and Sir Francis.

Remove those, and put a roundabout at Park and Kennedy. You need to address the full flow of traffic at the bottle neck points we already have. .

The Bay Avenue Traffic Study was conducted to analyze the impact of proposed roadway modifications, including the introduction of a roundabout. However, several key flaws were identified in the study’s methodology and reported data, potentially affecting the accuracy and reliability of its conclusions. This report consolidates these issues and provides targeted recommendations for improvement.

Key Identified Flaws and Recommendations

1. Data Collection Limitations

- **Flaw:** Data was collected on a **single day (May 16, 2024)**, failing to account for daily, weekly, or seasonal fluctuations.
- **Recommendation:** Conduct multi-day, multi-seasonal data collection, including school days, weekends, and holidays.

2. Inconsistent Peak Hour Selection

- **Flaw:** The PM peak (3:55 – 4:45 PM) does not align with standard peak congestion periods (typically 4:30 – 6:00 PM).
- **Recommendation:** Expand study periods to **two-hour windows** for AM and PM rush hours (**7:00 – 9:00 AM, 4:00 – 6:00 PM**), and include a late evening period (**6:00 – 8:00 PM**).

3. Drone-Based Data Collection Issues

- **Flaw:** Potential inaccuracies due to **obstructions (tree cover, shadows), AI misinterpretation of vehicle stops, and lack of ground-truth validation.**
- **Recommendation:** Cross-validate drone data with **manual counting or ground sensors** and integrate **multiple data collection methods** (loop detectors, radar, video analysis).

4. Lack of Side-Street Impact Analysis

- **Flaw:** The study primarily examines Bay Avenue and **fails to assess congestion at side streets and key intersections** (e.g., Monterey & Park, Monterey & Kennedy, Park & Kennedy).
- **Recommendation:** Conduct a **side-street traffic impact analysis** using **Synchro modeling** to estimate increased wait times at stop signs.

5. Gaps in Pedestrian and Bicycle Safety Assessment

- **Flaw:** No detailed evaluation of **pedestrian wait times, bicycle conflict zones, or traffic rerouting risks.**
- **Recommendation:** Implement a **pedestrian delay study** and **bike lane conflict analysis** to determine potential safety concerns and mitigate risks.

6. Inconsistent Level of Service (LOS) Reporting

- **Flaw:** The study **uses different software models** (Synchro for signals, Sidra for roundabouts, VISSIM for road diets), leading to inconsistency.
- **Recommendation:** Standardize LOS calculations using **one traffic modeling software** (Synchro or Sidra) for uniform comparisons.

Conclusion & Next Steps

While the Bay Avenue Traffic Study provides useful insights, these **methodological flaws** weaken its reliability. Addressing these issues through **expanded data collection, improved modeling consistency, and additional safety analyses** will lead to **better-informed transportation planning decisions.**

Next Steps:

1. Expand data collection across **multiple days and seasons.**

2. Standardize **two-hour peak period analysis**.
3. Validate AI-based traffic detection with **manual/sensor-based cross-checking**.
4. Conduct **side-street congestion modeling** to assess stop sign delays.
5. Enhance **pedestrian and bicycle safety assessments**.
6. Standardize **LOS calculations** across all traffic models.

Implementing these improvements will enhance the study's accuracy and effectiveness in guiding future transportation policies.

- Kevin Maguire

Cliffwood Heights
Capitola, CA

Gautho, Julia

From: Michael routh <qwakwak@icloud.com>
Sent: Saturday, February 22, 2025 9:46 AM
To: City Council
Subject: Roundabouts: Mixed Results for Pedestrian and Cyclist Safety | Smart Cities Dive

Follow Up Flag: Follow up
Flag Status: Flagged

Please read the attached article. If the goal is to improve pedestrian / cyclist safety at the Bay/Hill and Bay/Cap Ave intersections, a round-a-bout might not be the best configuration. Why not just eliminate the quick build and restore the Bay/Hill intersection to its previous configuration? The accident history at that intersection was nil and the fatality, to which the city over reacted, did not occur at that intersection. Once again, the city seems to be trying to solve a problem that doesn't exist.

Mick Routh

<https://www.smartcitiesdive.com/ex/sustainablecitiescollective/roundabout-safety-mixed-results-pedestrians-cyclists/122461/>

Sent from my iPad

Gautho, Julia

From: mpisanoful@gmail.com
Sent: Tuesday, February 25, 2025 9:05 AM
To: City Council
Subject: Bay Ave - Overhead Solar LED Lighting

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Capitola City Council,

In pavement lighting fixtures help keep pedestrians safe at crosswalks - links.

https://xwalk.com/?gclid=CjwKCAjw7rWKBhAtEiwAJ3CWLHUm7CJm00Ie7bdvDDQTu-6TfHE-QRvq5JTGCpd9AUsl05Bka3uhoC1GoQAvD_BwE

<https://lanelight.com/products/pedestrian-crosswalk-lights/>

Overhead crosswalk lighting - links;

<https://carmanah.com/overhead-lighting-crosswalks/>

<https://www.traffictechanologytoday.com/news/vulnerable-road-users/crosswalk-night-time-safety-system-launched-at-atssa-expo.html>



Thank you for your time
Michael Pisano – Soquel, CA

Gautho, Julia

From: Matt Miller <matt.miller@ecoact.org>
Sent: Wednesday, February 26, 2025 4:43 PM
To: City Council
Subject: [PDF] City Council Meeting 2/27, Item 7.B.
Attachments: City of Capitola - Letter of Support for Bay Avenue Corridor.pdf

Hello City of Capitola team,

Please find the attached letter of support for staff recommendations on Item 7.B.

Thank you for your time and consideration,

Matt Miller (he/him)
Director, Mobility Transformation

Office **831.515.1324** | Mobile **916.849.6220**
877 Cedar St. Suite 240, Santa Cruz, CA 95060
letsmodo.org | vamosmodo.org





2/26/25

City of Capitola City Council
420 Capitola Avenue
Capitola, CA 95010
RE: Item 7.B. Bay Avenue Corridor Study

Dear Mayor Clarke and Capitola City Council,

Ecology Action, a California environmental non-profit headquartered in Santa Cruz, works to advance equitable community climate solutions in high greenhouse gas emitting sectors, including transportation. Our Modo Active Transportation team offers youth pedestrian and bike safety education at schools across the county, including Capitola, transportation planning like Complete Streets to School and Active Transportation Plans, and hosts community events like Walk and Roll to School Day, and Bike to Work Day, Bike Month, and Biketober. While bicycle and pedestrian safety and encouragement programs are an important part of the local effort to increase walking and biking, we also appreciate that the physical infrastructure community members must navigate needs to be safe, easy, and accessible to use for all modes of transportation. Today that picture is incomplete in Capitola.

We support Capitola staff's recommendation to 1) identify Alternative 2 as the preferred long-term improvement alternative for the Bay Avenue corridor; 2) authorize staff to proceed with public engagement and conceptual design refinement; and 3) direct staff to pursue grant funding opportunities for final design and construction.

In the staff cited case study of La Jolla Boulevard in San Diego, it's notable that project saw a four-lane road reduced to a two-lane road and the traffic count remained approximately the same (23,000 vehicles per day before, 22,000 after), but walking, bicycling, transit use, on-street parking and retail sales all climbed to much higher levels, the accordingly to the City of San Diego. Retail sales rose 30 percent and noise levels dropped 77 percent. Because traffic moves slower, businesses report higher visibility. As a result of the roundabouts and traffic calming, speeds were reduced from 40–45 mph to 19 mph, according to city transportation engineers. Traffic crashes fell by 90 percent. Motorists understandably dreaded this change before it was made. But they found that instead of waiting 24 seconds for a pedestrian to cross 70 feet of road, they now only wait 3–4 seconds, or don't have to wait at all. Businesses that feared the loss of customers arriving in cars actually improved their trade. All those changes demonstrate that a traffic calmed street with roundabouts treatments can lead to improvements in safety, flow, emissions reduction, and more attractive spaces for to walk, bike, and roll which means higher quality of life for all.

When the Santa Cruz County Delegation traveled to the Netherlands for a study visit in June 2024, we studied roundabouts and learned they are a widely used Dutch strategy to reduce traffic casualties and serious injury, slow speed for all users, improve eye contact and interaction between road users, and once installed there is no operational cost. Compared to a four-way intersection with 32 conflict points, roundabouts have 8 conflict points. We encourage the exploration of Dutch style roundabouts in Capitola to ensure dedicated spaces for cars, bikes, and pedestrians.



This concept can improve inequities by closing a gap in existing multimodal infrastructure and expanding travel options for those who do not or cannot travel by vehicle. It encourages a mode shift from single-occupancy vehicles to bicycling and walking and reduces VMT and GHG emissions by providing a safer, comfortable, and accessible alternative to driving. For those who choose to or only have the option to drive, the experience for drivers will be improved with better flow and reduced likelihood of crashes. Residents and visitors will especially choose to bicycle and walk during periods of high automobile congestion to reduce travel times and provide reasonable alternatives.

Ecology Action strongly supports the implementation of the staff recommendation to proceed down this path of Alternative 2. If eventually implemented, it will greatly improve Capitola's active transportation network, increase safety, and improve the livability, equity, and quality of life for residents and visitors alike.

Sincerely,

A handwritten signature in black ink that reads "Matt Miller".

Matt Miller
Director, Mobility Transformation

Gautho, Julia

From: John <jxmuly@gmail.com>
Sent: Thursday, February 27, 2025 9:27 AM
To: City Council
Subject: Roundabout at Bay Capitola

Follow Up Flag: Follow up
Flag Status: Flagged

I cannot stress enough how bad traffic will be in a couple of years if we don't put a roundabout there.

We have nearly bricked the city. Voting for anything but a roundabout there will be the nail in our coffin. Roundabouts are scary only to people who have never been outside Santa Cruz. If you have traveled roundabouts are ubiquitous because long term they save jurisdictions SO much money.

Our Calpers UAL is gonna be 15% of our total budget by 2025. We need to be smart with our money and think like elite educated worldly folks do. ROI ROI ROI

Warmly JM

Gautho, Julia

From: John <jxmuly@gmail.com>
Sent: Friday, February 21, 2025 3:44 PM
To: City Council; Gautho, Julia
Subject: Item 7C

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Neighbors

Let's not spend 40K making everything more dangerous for all users for a perceived illusion of a problem that the data in the staff report shows isn't even a real problem. The highway ramp might eventually reopen. Capitola Ave in theory will someday reopen too. That will greatly relieve traffic there.

I understand how much folks hate driving. Being chained in a steel cage you can't leave or you'll die sucks. Let's be data driven. Build for wealth and the future. Raised crosswalks I am however into. Let's add that feature if we want to spend 40K.

Those crosswalks are SIGNIFICANTLY safer compared to the old design especially at night.

Mayor Brown was damn close to right just before the November election when she said 'We need to make it harder to own a car'. What we need to do is make it easier to walk and bike and exist without needing to drive everywhere. For all the reasons from the environment to health to budgets to wealth creation but most of all for our kids.

The sheer multitude of complainers about e-bikes. Build safe bike infrastructure is the solution to that also not real problem. Kids deserve some freedom. When I was a lad I was walking to my friends' houses and home and to school at 6 years old and that was commonplace. The cars are killing us folks.

Plus, and I'm going to say worse here because money motivates more than service as Yvette Brooks shows us, the cars are making us poor.

How are we still not paving Monterey into the village? Is the rail trail going to do it for us?

Warmly JM

Gautho, Julia

From: Mick <qwakwak@gmail.com>
Sent: Saturday, February 22, 2025 11:57 AM
To: City Council
Subject: Item 7C

Follow Up Flag: Follow up
Flag Status: Flagged

Council members-

How much money has been spent on staff time, studies, and the poor decision to build the “quick build” at the Bay / Hill intersection?

Keep in mind this all started with an over reaction by the council to an unfortunate fatal hit and run accident that didn’t even occur at this intersection.

The most cost effective and sensible solution is to return the intersection to the previous configuration prior to the quick build changes.

Mick Routh

Sent from my iPhone

RECEIVED
FEB 24 2025

Item 3 E.

Capitola City Council,

WM^L

I prepared this presentation for the meeting that was cancelled two weeks ago. I am unable to attend the meeting on February 27th, so I'm submitting this to you.

I believe the accident that occurred at the intersection of Bay Ave and Crossroads Loop was tragic.

The former City council was bombarded with an outcry from the public, and analysts moved to present a plan that would solve the problem.

That did not happen. The plan that was submitted handcuffed the intersection without addressing the real problem: **LIGHTING**.

The death that outcried did not even happen in the Bay/Hill Intersection, Yet, because of the constant complaints of the senior housing at Bay and Center, this intersection was targeted for traffic calming and other unproductive features.

The proximity of this intersection to Highway One makes it a critical piece of infrastructure.

The idea was ill thought out, and the results have been horrific. Unnecessary traffic with no goal other than let's try something.

Rule #1 in medicine (and life), do no harm. This was a harmful experiment.

What is needed in the intersection is the installation of Lighting. A lone PG & E provide LED light does not provide adequate lighting for pedestrian safety.

The placement of multiple light poles at this intersection with power readily available at Peets and Nob Hill market would improve the lighting, and save lives, at a fraction of the cost.

The other improvement is to install the long overdue 3-way stop & cross walk at the intersection of Bay and Center. This would end the constant drag strip racing from Nob Hill to Gayles by an overwhelming number of drivers. It would also provide a safe place for seniors to cross to get to the Nob Hill Center without interacting with 11 lanes at the Hill Street intersection. Lighting again is the key to the success of this intersection. I have also identified other intersections in the city where lighting is not only inadequate, but dangerous. Bank of America has adopted a new approach to patron safety. If you want to see what LED lights can do to an area, take a drive-by at night. In this type of forward envisioning pedestrians become visible and safe.

Please return the intersection and traffic to normal.

Please do not consider other non-effective options (traffic signal, roundabout, etc.) that would cost hundreds of thousands of dollars.

This remedy is an inexpensive simple solution.

Ed Bottorff

Bay Ave. 4 way stop improvement proposal

Problem: Resolve public concerns following pedestrian fatality.

Universal Rule #1: Do no harm

Flaws with current proposal:

- 1) Did not address original problem
- 2) Victim was killed in a different intersection
- 3) 4-way stop that is disliked by seniors was prioritized
- 4) Restricted vehicle flow crippled intersection & increased traffic
- 5) Solution caused cut through Nob Hill bypass of traffic
- 6) Did not resolve real reason for additional accidents/fatalities
- 7) Test plan involved frivolous spending of city funds
- 8) Does not address flaws with the main intersection

Factors to consider:

- 1) Desired outcome for intersection
- 2) Time frame for solution
- 3) Revenue for a solution
- 4) Key components for a solution
- 5) Long time desire to prevent Bay Ave speedway to/from Gayles
- 6) Senior Housing facility enhanced pedestrian access/safety.
- 7) PGE provided free lighting is inadequate for pedestrian safety.

Proposed Solution

- 1) Remove ALL Bay/Hill St calming additions
- 2) Address inadequate lighting at Bay/Hill
- 3) Install New 3-way stop/crosswalk at Bay/Center
- 4) Install adequate lighting at Bay/Center

*Inadequate lighting at intersections is the main cause of past, current, and future pedestrian fatalities and accidents.

*Increased LED Headlights in intersections can cause blinding of other drivers

*Focus is being returned to nighttime visibility and safety over lighting subtlety

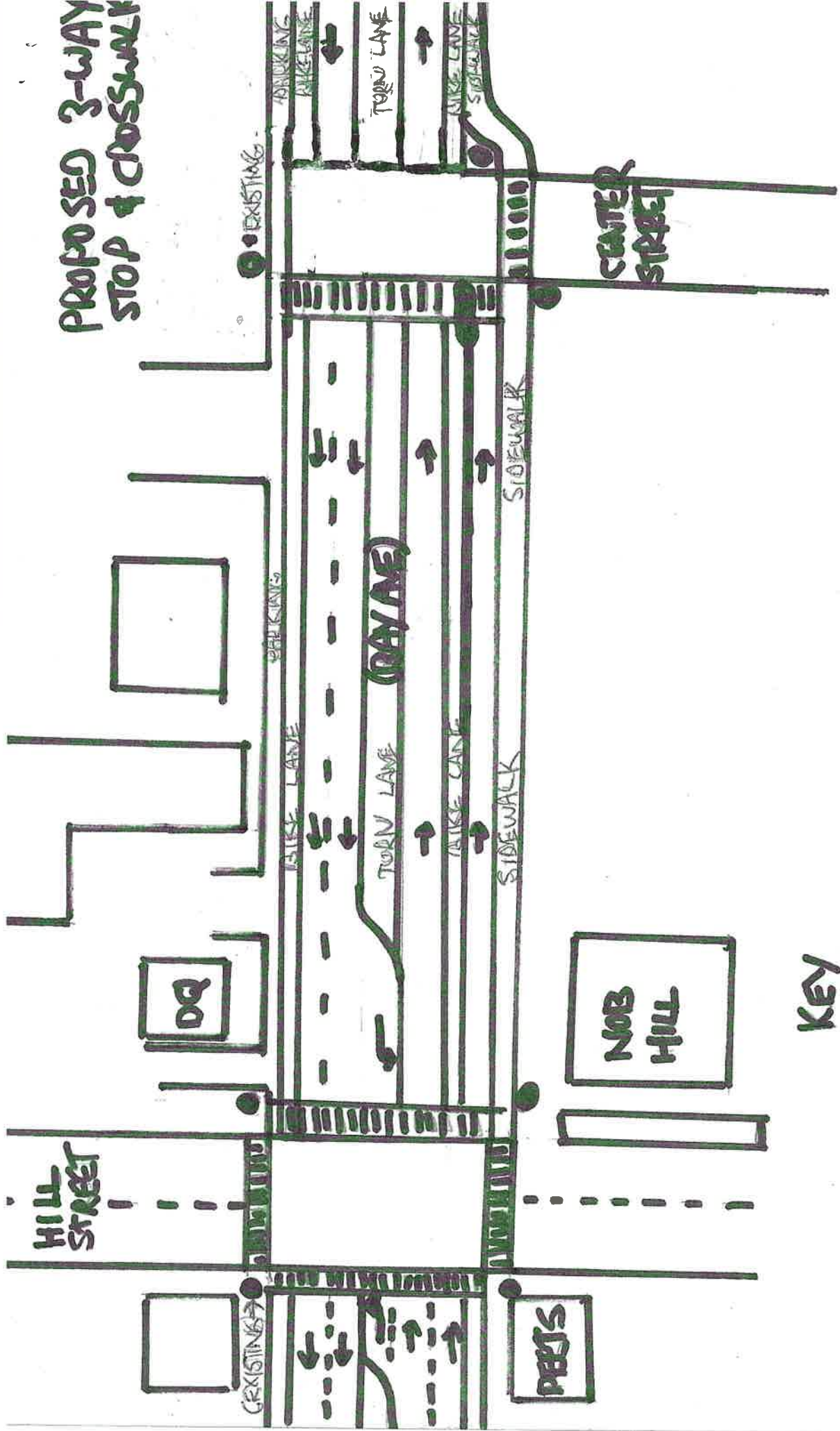
*Center St. Crosswalk/3 way stop allows senior access to Nob hill closer to their building main entrance and away from the congested Hill/Bay intersection, avoids all strip mall business and drive thru interactions, and ceases Gayles to Hill Street speedway.

*Adequate lighting outlets are available at all points.

*Prototype for 3 additional inadequate high pedestrian intersections located throughout the city. (Bay/Capitola Ave, Bay/Monterey, Monterey/Park,

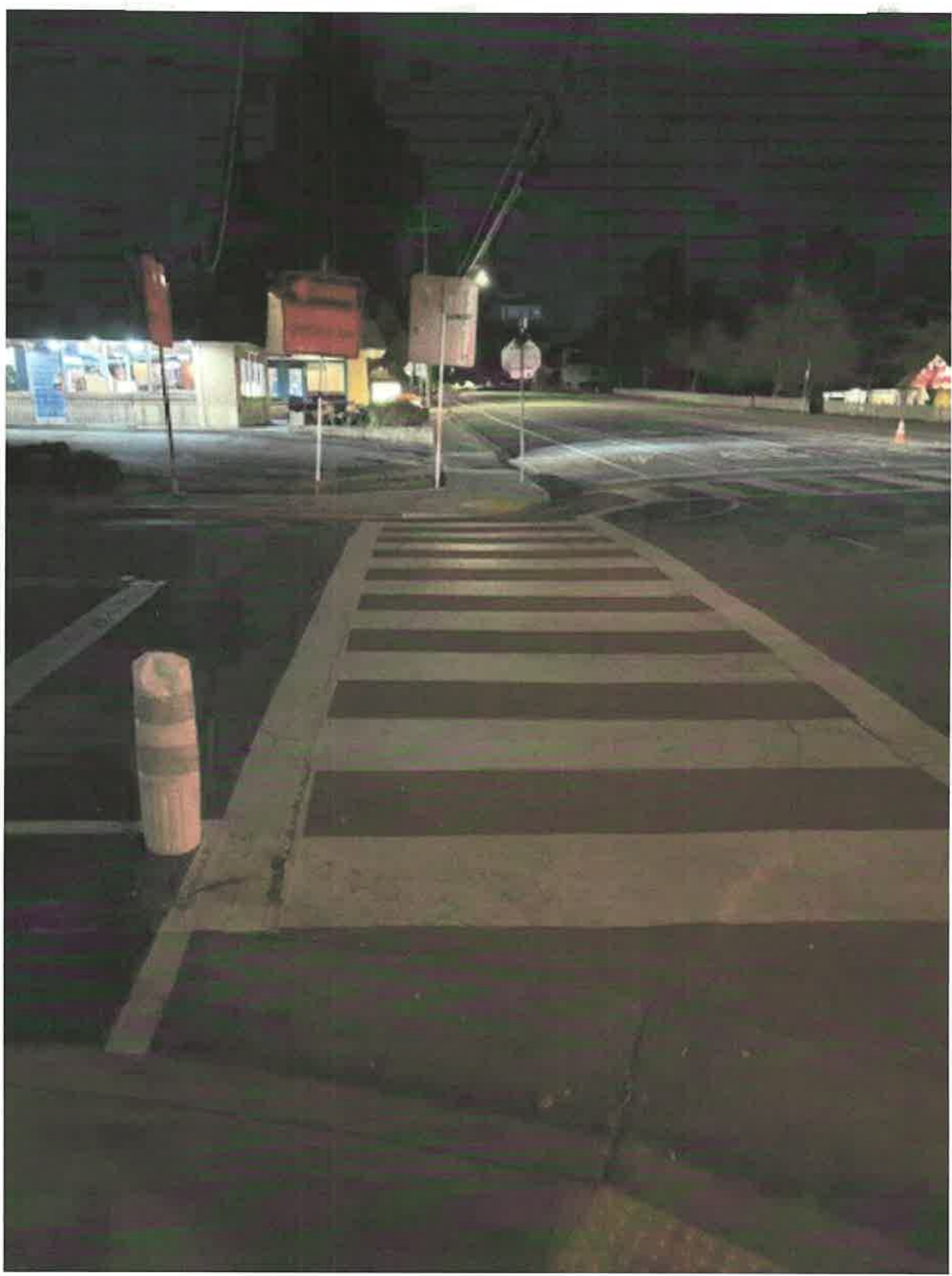
*4-way stop will allow for easier access to Bay Ave. from the Senior Housing parking lot.

PROPOSED 3-WAY
STOP & CROSSWALK



KEY
 ● LIGHTING POLES

BAY HILL CROSSWALK AT NIGHT



BAY HILL CROSSWALK AT NIGHT



BAY HILL CROSSWALK AT NIGHT



OVERHEAD LIGHTING AT NOB HILL



OVERHEAD LIGHTING AT NOB HILL AT NIGHT



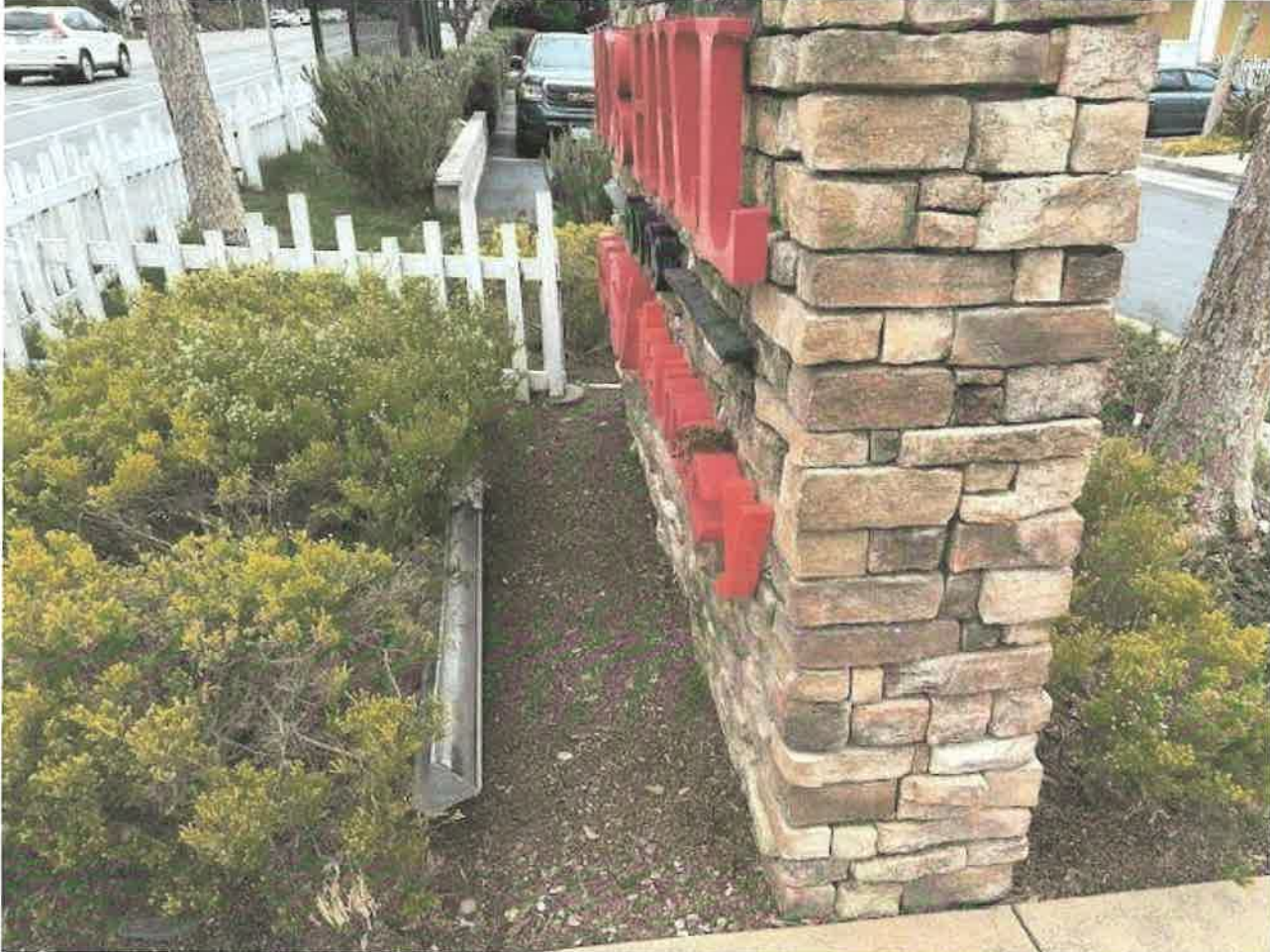
BANK OF AMERICA WITH NEWLY INSTALLED LED LIGHTS



READILY AVAILABLE POWER SOURCE FOR LIGHTS AT NOB HILL



READILY AVAILABLE POWER SOURCE FOR LIGHTS AT NOB HILL



BAY AND MONTEREY CROSSWALK AT NIGHT



BAY AND MONTEREY CROSSWALK AT NIGHT



Gautho, Julia

From: Teresa Maguire <tlcmaguire@gmail.com>
Sent: Tuesday, February 25, 2025 5:08 PM
To: City Council
Subject: Agenda item 7C - Please do more in-depth traffic analysis for us that are down stream that already have bad traffic issues!

Dear Capitola City Council,

I am writing to formally request a more in-depth traffic analysis regarding the negative downstream impacts of the Bay Avenue modifications, specifically the introduction of a roundabout and the resulting increased congestion on surrounding streets. As the owner and operator of a child care facility located in Capitola, I have observed significant traffic issues that have worsened during peak hours, particularly from **4:30 PM to 6:00 PM**, coinciding with our busiest pickup time.

The increased congestion in front of my house has **created hazardous conditions for families picking up their children**, with vehicles frequently stopping in unsafe locations, longer queue times, and heightened risks for pedestrians. Additionally, emergency vehicle access is often obstructed, which poses a serious concern for the safety of the children and families in our care. Many families have expressed frustration over the growing delays, making it harder for them to navigate pickup logistics safely and efficiently.

I kindly urge the city to conduct a **deeper traffic study** on the impact these changes have on nearby streets, including Monterey Avenue, Park Avenue, Kennedy Drive, and other surrounding residential streets.

Maybe the answer is to put a roundabout at Kennedy and Park Avenue first so traffic can flow to the freeway, and work your way back to Bay/Porter.

It's ok to ask for more time, and to do this the proper way. Please dont create more issues while trying to solve a problem someone else in town.

Comparing Bay/Porter right off of HW1 to Bird Rock which is over 4 miles away from the freeway is not a very good comparison. La Jolla Boulevard is longer and straight, and doesnt have the freeway traffic being dumped there.

Thank you for your attention to this urgent matter. I look forward to your response and hope to see proactive steps taken to ensure the safety and well-being of Capitola residents, particularly young children and families.

Sincerely,
 Teresa Maguire

Gautho, Julia

From: Team Wanderweggers <jxmuly@gmail.com>
Sent: Wednesday, February 26, 2025 6:22 PM
To: City Council; Gautho, Julia
Subject: Bay Hill Intersection Mayor Ed Letter

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Neighbors

Mayor Ed is entirely correct about needing more features like lighting at Bay/Hill. He's wrong about the other stuff imo but we do share an interest...

As many of you know a crosswalk at center there across Bay Ave is a longtime dream of mine. I see so many (often older) folks run that intersection there and at Oak Drive.

Center is a natural place for a crosswalk as Center connects to Peery Park, the Nob Hill Center, Rispin Park, the Library and is the obvious walking route to 41st and the Clares area.

A crosswalk there is a no brainer. Please add my voice to Mayor Ed's.

Warmly JM

Capitola City Council Agenda Report



Meeting: February 27, 2025

From: City Manager Department

Subject: City Council Meeting Minutes

Recommended Action: Approve minutes from the regular meeting on February 13, 2025, and the special meeting on February 19, 2025.

Background: Attached for City Council review and approval are the draft minutes from the regular meeting on February 13th and the special meeting on February 19th.

Attachments:

1. Regular Meeting Minutes 2/13/2025
2. Special Meeting Minutes 2/19/2025

Report Prepared By: Julia Gautho, City Clerk

Approved By: Jamie Goldstein, City Manager

City of Capitola

City Council Meeting Minutes

Thursday, February 13, 2025 – 6:00 PM



City Council Chambers

420 Capitola Avenue, Capitola, CA 95010

201 'Ōhūa Avenue, Honolulu, Hawaii 96815

Mayor: Joe Clarke

Vice Mayor: Alexander Pedersen

Council Members: Gerry Jensen, Margaux Morgan, Melinda Orbach

Closed Session – 5 PM

- i. CONERENCE WITH LABOR NEGOTIATORS (Gov. Code § 54957.6)
Negotiator: Jamie Goldstein, City Manager
Employee Organizations: Police Officers Association
- ii. CONFERENCE WITH REAL PROPERTY NEGOTIATORS (Gov't Code § 54956.8)
Property: Esplanade Park (APN 035-26-209)
City Negotiator: Jamie Goldstein, City Manager
Under Negotiation: Lease of Real Property

Regular Meeting of the Capitola City Council – 6 PM

1. **Roll Call and Pledge of Allegiance** – *The meeting was called to order at 6:00 PM. In attendance: Council Members Jensen, Morgan, Orbach, Persen, and Mayor Clarke. Council Member Orbach attended the meeting remotely.*
2. **Additions and Deletions to the Agenda** – *Staff continued Items 9A and 9B to the February 27, 2025, meeting.*
3. **Presentations**
 - A. *Public Works Project Manager Mozumder provided a presentation on the project completion of the Monte Foundation Pump Track.*
4. **Report on Closed Session** – *The City Council met and discussed two items on the Closed Session agenda. No reportable action was taken.*
5. **Additional Materials**
 - A. *Item 6 – One email received after publication of the agenda packet.*
 - B. *Item 9A - Staff Memo continuing the item to February 27th meeting & one email received after publication of the agenda packet.*
 - C. *Item 9B - Staff Memo continuing the item to February 27th meeting & one email received after publication of the agenda packet.*
 - D. *Item 9C - 220 emails received after publication of the agenda packet.*
 - E. *Item 9D - One email received after publication of the agenda packet.*
6. **Oral Communications by Members of the Public**

- Goran Klepic
- Clark Cochran
- Christine McBroom

7. Staff / City Council Comments

- Community Service and Recreation Department Director invited the City Council and members of the public to attend the dedication of the Begonia Public Art installation.
- Council Member Jensen thanked Public Works Department staff for their storm preparation work; he also shared that he had attended the Capitola Village and Wharf BIA meeting and discussed the fire incident in the Capitola Village.
- Mayor Clarke thanked the public for their attendance at an event held in the Sear's shopping center at the Capitola Mall.

8. Consent Items

- A. City Council Meeting Minutes
Recommended Action: Approve minutes from the regular meeting on January 30, 2025, and the special meeting on February 4, 2025.
- B. 2025 City Council Meeting Schedule
Recommended Action: Adopt a resolution amending the regular meeting schedule for 2025. (Resolution No. 4417)

Motion to approve the Consent Calendar: Council Member Morgan

Second: Council Member Jensen

Voting Yea: Council Members Jensen, Morgan, Orbach, Vice Mayor Pedersen, Mayor Clarke

9. General Government / Public Hearings

- A. Bay Avenue Corridor Study
Recommended Action: Staff recommends the City Council 1) identify Alternative 2 as the preferred long-term improvement alternative for the Bay Avenue corridor; 2) authorize staff to proceed with public engagement and conceptual design refinement; and 3) direct staff to pursue grant funding opportunities for final design and construction. **(Continued to February 27, 2025)**
- B. Bay Avenue and Hill Street Traffic Safety Update
Recommended Action: Provide direction on short-term modifications to the Bay Avenue and Hill Street intersection. **(Continued to February 27, 2025)**
- C. Park Avenue Traffic Calming Improvements with Coastal Rail Trail Options
Recommended Action: Review options for Coastal Rail Trail improvements in the Park Avenue right-of-way and identify Option A (as described in the staff report) as the preferred alternative for further analysis.

Vice Mayor Pedersen recused himself from this item due to the proximity of the project to his leased residence.

Public Works Department Director Kahn and Public Works Project Manager Mozumder presented the staff report. Rob Tidmore and Grace Blakeslee presented on behalf of Santa Cruz County staff.

The City Council took a three-minute recess at 7:27 PM. The meeting resumed at 7:32 PM.

Public Comments:

- **Tory Del Favero**
- **Jim Weller**
- **Carin Hanna**
- **Roxanne**
- **Debbie Hale**
- **Deb Molina**
- **Elizabeth Bertrand**
- **James Duzak**
- **Leslie Nielsen**
- **Lani Faulkner**
- **Michael Morrissey**
- **Terre Thomas**
- **Brian Peoples**
- **Keith Cahalen**
- **Susan Westman**
- **Sal Ideoseo**
- **Nels Westman**
- **Connie Welch**
- **TJ Welch**
- **Ted Downing**
- **Kevin Maguire**
- **Barry Scott**
- **Gia Colosi**
- **Samson**
- **Jacques Bertrand**

The City Council thanked the public for their comments. The Council weighed the benefits of postponing providing direction on this item to receive information from the County on the project budget and requested that staff conduct additional public outreach and host a town hall meeting to better inform the public. The Council requested further analysis from the City Attorney on potential litigation from violations of Measure L.

**Motion to postpone a decision on this item and host a Town Hall Meeting where staff from the City and County will provide updates on the use of the Trestle, review long-term impacts of the project, review impacts of potential litigation from Measure L, and an overview of Rail Trail Project impacts in Capitola: Council Member Morgan
 Second: Council Member Jensen
 Voting Yea: Council Members Jensen, Morgan, Mayor Clarke
 Voting Nay: Council Member Orbach
 Abstain: Vice Mayor Pedersen**

The Council took a brief recess. The meeting resumed at 9:01 PM.

- D. Appointments to City and Regional Advisory Bodies
Recommended Action: Review City Council appointments to regional and multi-jurisdictional advisory bodies; review City Council appointments to City advisory bodies; and review appointments of members of the public to City advisory bodies.

City Clerk Gautho presented the staff report.

Public Comments:

- **Keith Cahalen**

Council Discussion:

**Motion to make the appointments below to various regional and City advisory bodies:
 Council Member Jensen
 Second: Council Member Morgan
 Voting Yea: Council Members Jensen, Morgan, Orbach, Vice Mayor Pedersen, Mayor Clarke**

- **AMBAG: Council Member Orbach, Council Member Morgan (Alternate)**
- **COE: Mayor Clarke**

- **FAC: Vice Mayor Pedersen, Council Member Morgan**
- **Arts Council Santa Cruz: Art and Cultural Commissioner Roy Holmberg**

10. Adjournment – *The meeting adjourned at 9:06 PM. The next regularly scheduled City Council meeting is on February 27, 2025, at 6:00 PM.*

ATTEST:

Joe Clarke, Mayor

Julia Gautho, City Clerk

DRAFT

City of Capitola

Special City Council Meeting Minutes

Wednesday, February 19, 2025 – 6:00 PM



City Council Chambers
420 Capitola Avenue, Capitola, CA 95010

Mayor: Joe Clarke

Vice Mayor: Alexander Pedersen

Council Members: Gerry Jensen, Margaux Morgan, Melinda Orbach

Closed Session – 6 PM

1. Roll Call – *The meeting was called to order at 6:00 PM. In attendance: Council Members Jensen, Morgan, Orbach, and Mayor Clarke. Absent: Vice Mayor Pedersen.*

2. Oral Communications by Members of the Public

A. *Additional Materials - Item 3A – Three emails received after publication of the agenda packet.*

- TJ Welch
- Speaker
- Leslie Nielsen
- John Mulry
- Dean Cutter
- Speaker
- Kevin Maguire
- Gayle Ortiz
- Keith Cahalen
- Christine McBroom
- Susan Westman
- Tory Del Favero
- Elizabeth Bertrand
- Grace Gretzly

3. Closed Session Items

A. CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION
Significant Exposure to Litigation Pursuant to Govt. Code § 54956.9(d)(2)
One Case

The City Council adjourned to Closed Session at 6:24 PM. The City Council reconvened at 8:07 PM.

4. Report on Closed Session – *The City Council discussed one item on the Closed Session agenda. No reportable action was taken.*

5. Adjournment - *The meeting adjourned at 8:07 PM. The City Council will hold a special meeting on February 26, 2025, at 5:30 PM.*

ATTEST:

Joe Clarke, Mayor

Julia Gautho, City Clerk

Capitola City Council

Agenda Report

Meeting: February 27, 2025

From: Public Works Department

Subject: FY 2024-25 Pavement Maintenance Project



Recommended Action: Approve the plans, specifications, and construction budget of \$589,000 for the FY 2024-25 Pavement Management Project; and authorize the Department of Public Works to advertise for construction bids.

Background: On June 9, 2022, the City Council approved the 2022 Pavement Management Project Update (PMP), which outlines specific streets scheduled for rehabilitation based on pavement conditions and long-term maintenance planning. The project list was amended in 2022, replacing Terrace Way and San Jose Avenue (originally scheduled for FY 2025-26) with Reposa Avenue and the southernmost portion of 41st Avenue in FY 2024-25, as directed by the Council.

The FY 2024-25 Pavement Management Project is funded exclusively by Measure D and SB1 revenues, estimated at \$621,000 for this fiscal year. The planned streets for rehabilitation in FY 2024-25, per the 2022 PMP, include:

Adopted 2022 PMP FY 2024-25 Street List

| Road Name | Begin Location | End Location |
|---------------|------------------|------------------|
| 42ND AV | CAPITOLA RD | CLARES ST |
| 47TH AV | PORTOLA DR | TOPAZ ST |
| ALMA LN | ROSEDALE AV | East End |
| BEVERLY AV | RIVERVIEW DR | CAPITOLA AVE |
| CARL LN | ROSEDALE AV | East End |
| CHERRY AV | FANMAR WY | PARK PL |
| CLIFF DR | WHARF RD | OPAL CLIFF DR |
| FRANCESCO CR | FRANCESCO CR (S) | FRANCESCO CR (N) |
| FRANCESCO CR | FRANCESCO CR (N) | CLARES ST |
| HILL ST | BAY AV | East End |
| OAK DR | RIVERVIEW DR | BAY AV |
| OPAL CLIFF DR | CLIFF DR | City Limit |
| PLUM ST | ROSEDALE AV | East End |
| PORTOLA DR | OPAL CLIFF DR | City Limit |
| RIVERVIEW AV | TRESTLES | BAY AV |
| ROSEDALE AV | HILL ST | PINE ST |
| ROSEDALE CT | West End | ROSEDALE AVE |
| SAN JOSE AV | CAPITOLA AV | TERRACE WY |
| STOCKTON AV | CAPITOLA AV | CLIFF DR |
| SUNSET DR | RIVERVIEW DR | CENTER ST |
| TERRACE WY | SAN JOSE AV | FANMAR WY |

Most of these streets are scheduled for light maintenance treatments, such as slurry seal and isolated dig-outs as needed. The goal is to preserve streets in good condition following the PMP's approach of maintaining roads before major deterioration occurs.

Discussion: Since the 2022 PMP's approval, several additional roadway projects have required scope adjustments:

- Cliff Drive, Opal Cliffs, and Portola Drive will not be repaved this year due to their inclusion in the upcoming Cliff Drive Resiliency Project, a long-term infrastructure improvement effort.

- Stockton Avenue has been removed from the FY 2024-25 scope due to upcoming utility projects, which will require significant roadway work.
- San Jose Avenue was repaved ahead of winter 2025 due to its designation of “extremely poor” condition.

Reposa Avenue is proposed as an add alternate in the project scope for FY 2024-25, currently deferred to FY 2025-26 and can be added to the project if bids are received under budget.

Looking ahead, 41st Avenue rehabilitation between Clares Street and the northern city limits is being advanced to FY 2025-26 from its original FY 2027-28 schedule, due to additional funding awarded in the 2023 Consolidated Grant Program from the Regional Transportation Commission (RTC). On September 12, 2024, the Council approved a budget amendment to obtain a Caltrans permit for this project. Staff is currently working on securing the permit, with construction planned for FY 2025-26. Additionally, the FY 2025-26 street list may be adjusted, pushing certain Village area streets to FY 2027-28 due to expected utility work.

Recommended PMP FY 2024-25 Street List

| Road Name | Begin Location | End Location |
|---------------------|------------------|------------------|
| 42ND AV | CAPITOLA RD | CLARES ST |
| 47TH AV | PORTOLA DR | TOPAZ ST |
| ALMA LN | ROSEDALE AV | East End |
| BEVERLY AV | RIVERVIEW DR | CAPITOLA AVE |
| CARL LN | ROSEDALE AV | East End |
| CHERRY AV | FANMAR WY | PARK PL |
| FRANCESCO CR | FRANCESCO CR (S) | FRANCESCO CR (N) |
| FRANCESCO CR | FRANCESCO CR (N) | CLARES ST |
| HILL ST | BAY AV | East End |
| OAK DR | RIVERVIEW DR | BAY AV |
| PLUM ST | ROSEDALE AV | East End |
| RIVERVIEW AV | TRESTLES | BAY AV |
| REPOSA AV (ADD ALT) | 38TH AV | 41ST AV |
| ROSEDALE AV | HILL ST | PINE ST |
| ROSEDALE CT | West End | ROSEDALE AVE |
| SUNSET DR | RIVERVIEW DR | CENTER ST |
| TERRACE WY | SAN JOSE AV | FANMAR WY |

Fiscal Impact: The FY 2024-25 budget includes \$621,161 for general pavement maintenance. Of this amount, \$32,380 was spent earlier in the fiscal year on San Jose Avenue, leaving approximately \$589,000 available for the PMP. The engineer’s estimate for this project is \$589,546 (Attachment 2).

California Environmental Quality Act (CEQA): This project is categorically exempt under CEQA Guidelines Section 15301(c) for the maintenance, repair, or minor alteration of existing facilities, as it consists of repair and maintenance of existing public infrastructure with negligible or no expansion of use.

Attachments:

1. Project Plans
2. Engineer’s Estimate

Report Prepared By: Jessica Kahn, Public Works Director;

Reviewed By: Julia Gautho, City Clerk; Samantha Zutler, City Attorney

Approved By: Jamie Goldstein, City Manager

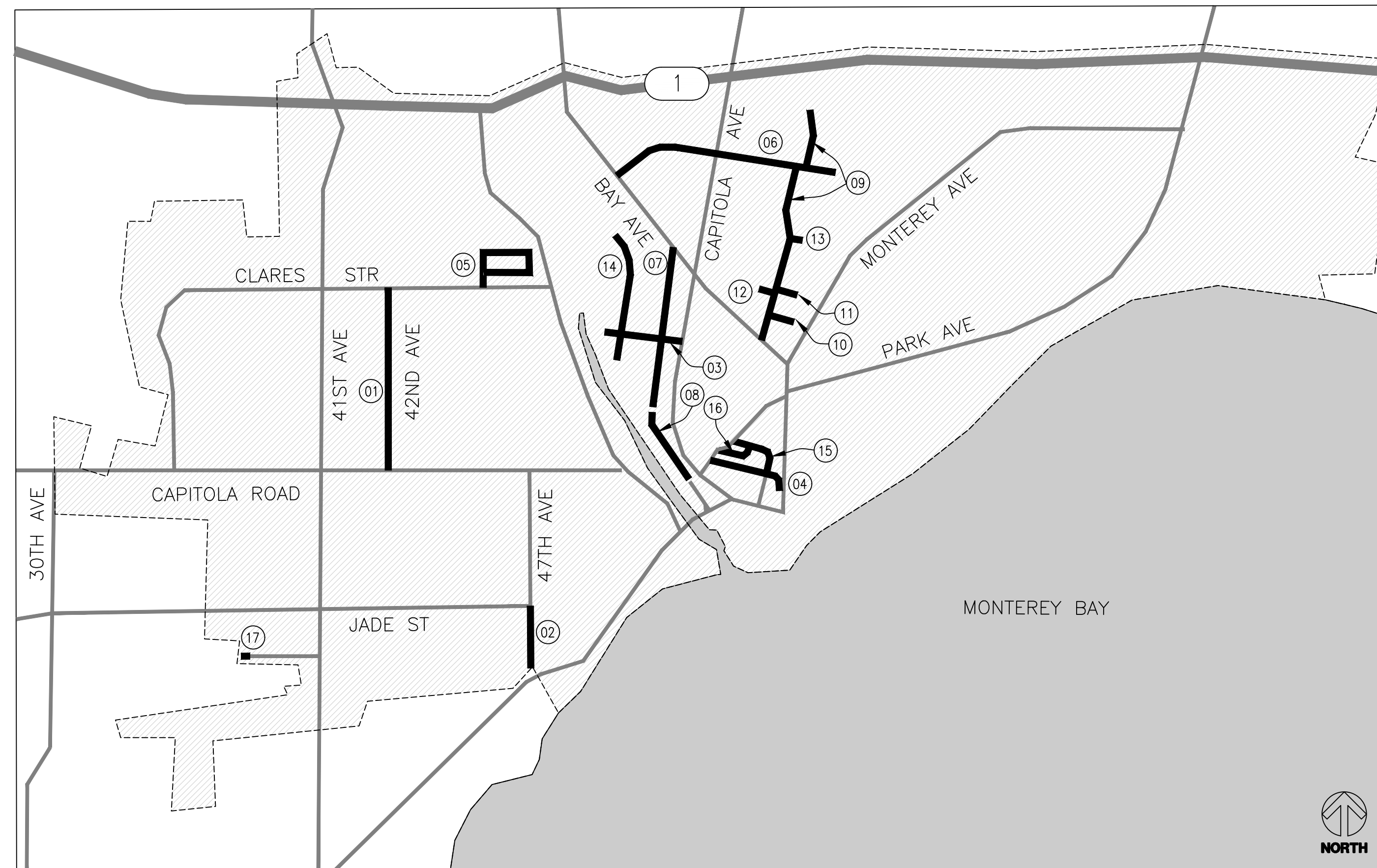
CITY OF CAPITOLA

2025 PAVEMENT MAINTENANCE PROJECT

DPW PROJECT NO. CS0095

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS TO COMPLETE WORK.
2. FOR AREAS TO BE REMOVED & REPLACED, CONTRACTOR SHALL ONLY REMOVE MATERIAL QUANTITIES THAT CAN BE REPLACED DURING THE SAME WORK DAY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING DAMAGE TO ANY PUBLIC OR PRIVATE UTILITIES AND/OR STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS. CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES BEFORE STARTING WORK (2 BUSINESS DAYS ADVANCE NOTICE REQUIRED).
4. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT 811 AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO ALLOW UTILITY OWNERS TO MARK THE LOCATION OF THEIR RESPECTIVE UNDERGROUND FACILITIES/UTILITIES, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN ON THESE PLANS.
5. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE DIVISION OF INDUSTRIAL RELATIONS (CAL-OSHA) SAFETY STANDARDS, IN ACCORDANCE WITH SECTION 7-10.4 OF THE SSPWC. IF REQUESTED BY THE INSPECTOR, THE CONTRACTOR SHALL PROVIDE PROOF OF A PERMIT FROM CAL-OSHA.
6. PRIOR TO COMMENCEMENT OF WORK, EXISTING GRASS AND WEEDS IN THE PROJECT ROADWAYS SHALL BE DESTROYED BY APPLICATION OF WEED KILLER. (SEE ROADWAY PREPARATION IN TECHNICAL SPECIFICATIONS.)
7. CONTRACTOR IS RESPONSIBLE FOR TRIMMING ALL VEGETATION WITHIN WORK ZONE THAT WILL INTERFERE WITH WORK. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS.
8. CONTRACTOR SHALL DISPOSE OF ALL CONSTRUCTION WASTE IN A LEGAL MANNER.
9. STATIONING SHOWN ON PLANS IS FOR REFERENCE ONLY.



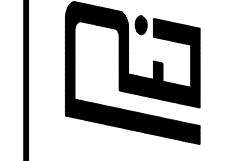
LOCATION MAP
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| SHEET INDEX | | |
|-------------|---------------------------------|------------------------------------|
| STREET NAME | LIMITS | SHEET |
| TITLE SHEET | | |
| 01 | 42ND AVENUE | CLARES STREET TO CAPITOLA ROAD |
| 02 | 47TH AVENUE | PORTOLA DRIVE TO TOPAZ STREET |
| 03 | BEVERLY AVENUE | CAPITOLA AVENUE TO RIVERVIEW DRIVE |
| 04 | CHERRY AVENUE | FANMAR WAY TO PARK PLACE |
| 05 | FRANCESCO CIRCLE | FRANCESCO CIRCLE TO CLARES STREET |
| 06 | HILL STREET | BAY AVENUE TO END |
| 07 | OAK DRIVE | BAY AVENUE TO RIVERVIEW DRIVE |
| 08 | RIVERVIEW AVENUE | TRESTLES TO RIVERVIEW DRIVE |
| 09 | ROSEDALE AVENUE | BAY AVENUE TO NORTH END |
| 10 | CARL LANE | ROSEDALE AVENUE TO END |
| 11 | ALMA LANE | ROSEDALE AVENUE TO END |
| 12 | ROSEDALE COURT | ROSEDALE AVENUE TO END |
| 13 | PLUM STREET | ROSEDALE AVENUE TO END |
| 14 | SUNSET DRIVE | RIVERVIEW DRIVE TO CENTER STREET |
| 15 | TERRACE WAY/ SAN JOSE AVENUE | FANMAR WAY TO CHERRY AVENUE |
| 16 | ALLEY | TERRACE WAY TO FANMAR WAY |
| 17 | REPOSA AVENUE | 38TH AVENUE TO 3825 REPOSA AVENUE |

| UTILITY CONTACT LIST | | |
|---------------------------------------|---------|--------------|
| UTILITY | CONTACT | PHONE NUMBER |
| AT&T | | |
| CHARTER COMMUNICATIONS | | |
| PACIFIC GAS & ELECTRIC | | |
| SOQUEL CREEK WATER DISTRICT | | |
| SANTA CRUZ COUNTY SANITATION DISTRICT | | |



Pavement Engineering Inc.
You can ride on our reputation
Corporate Office:
3485 Sacramento Drive, Suite A
San Luis Obispo, CA 93401
805.781.2265



CITY OF CAPITOLA
2025 PAVEMENT MAINTENANCE PROJECT
TITLE SHEET



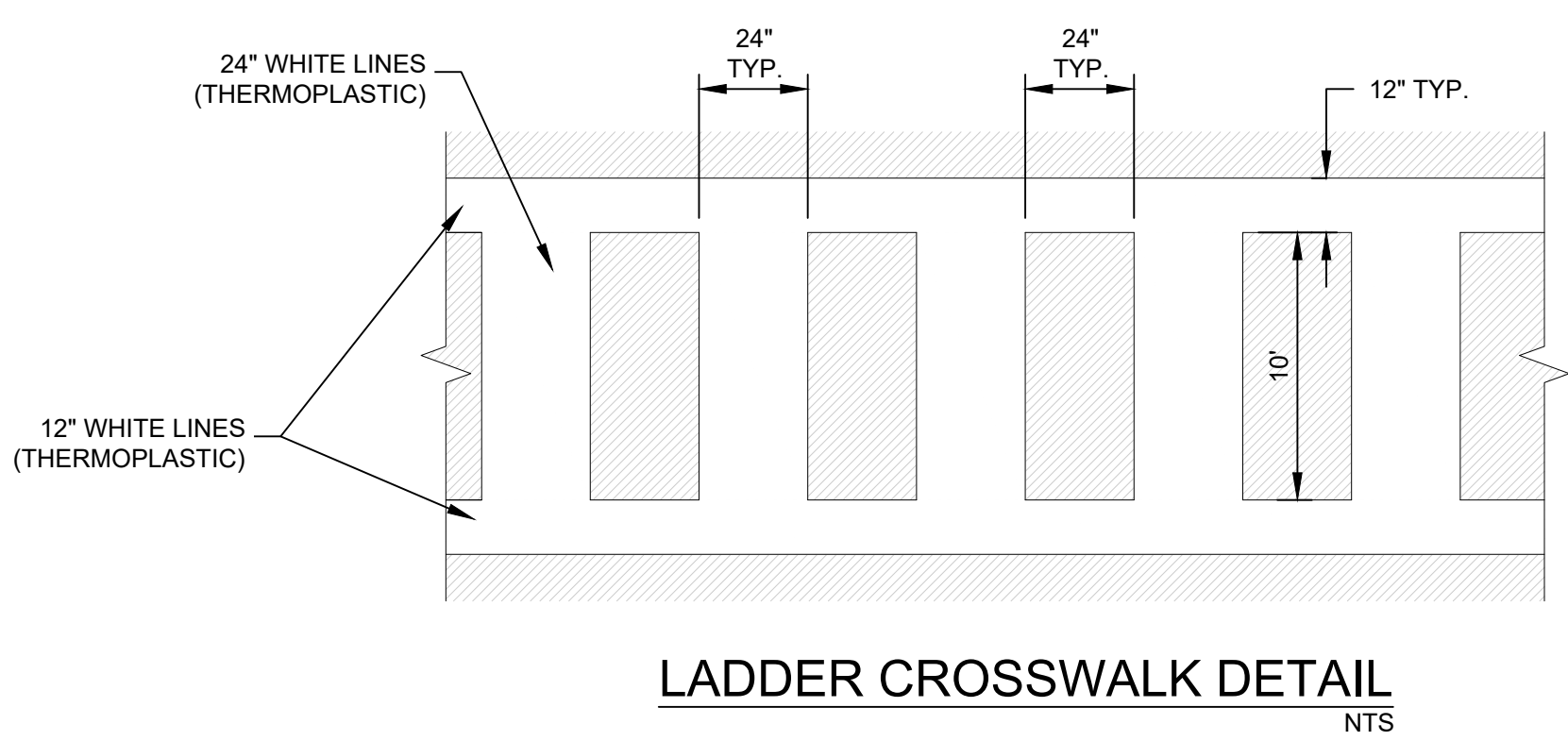
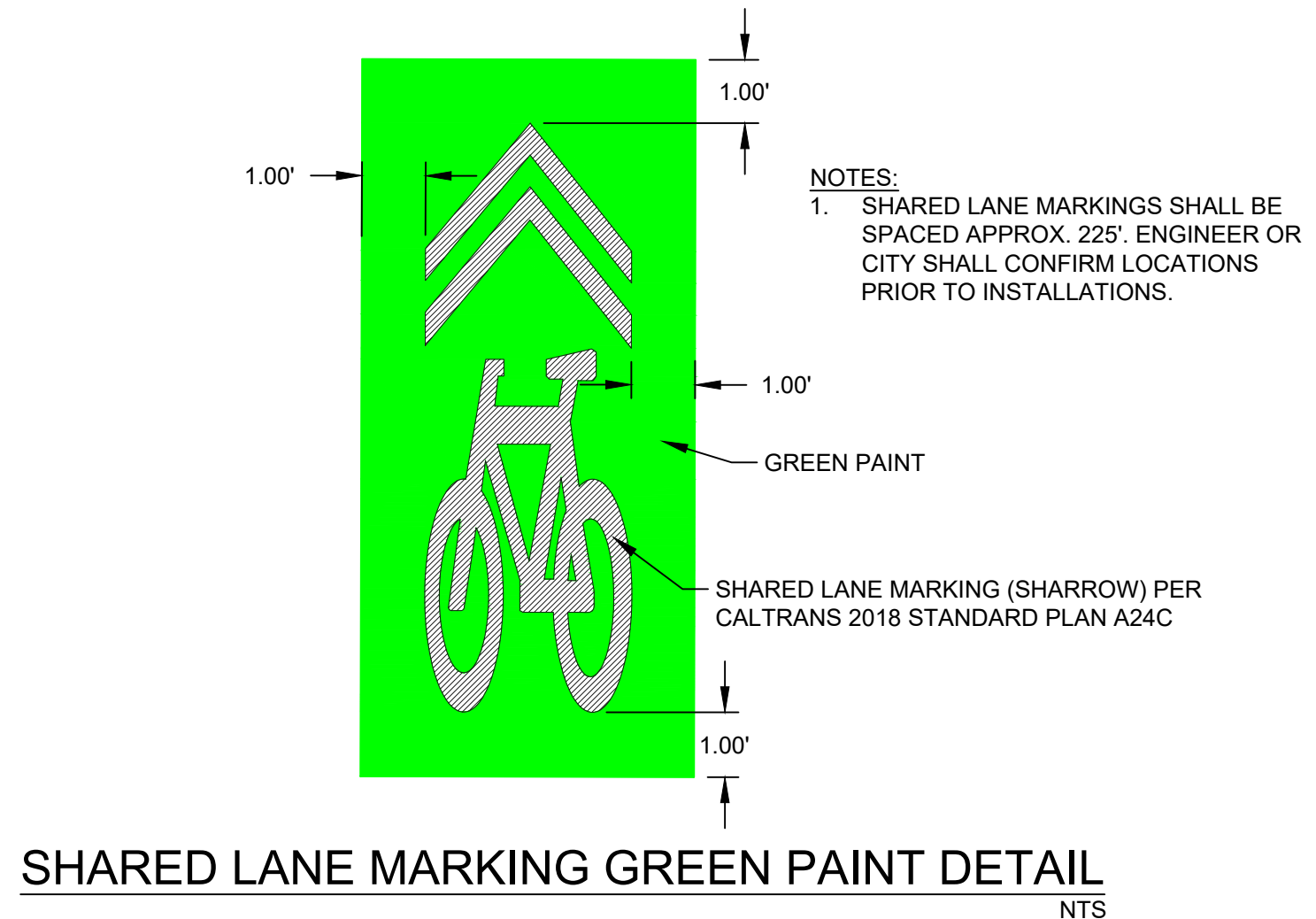
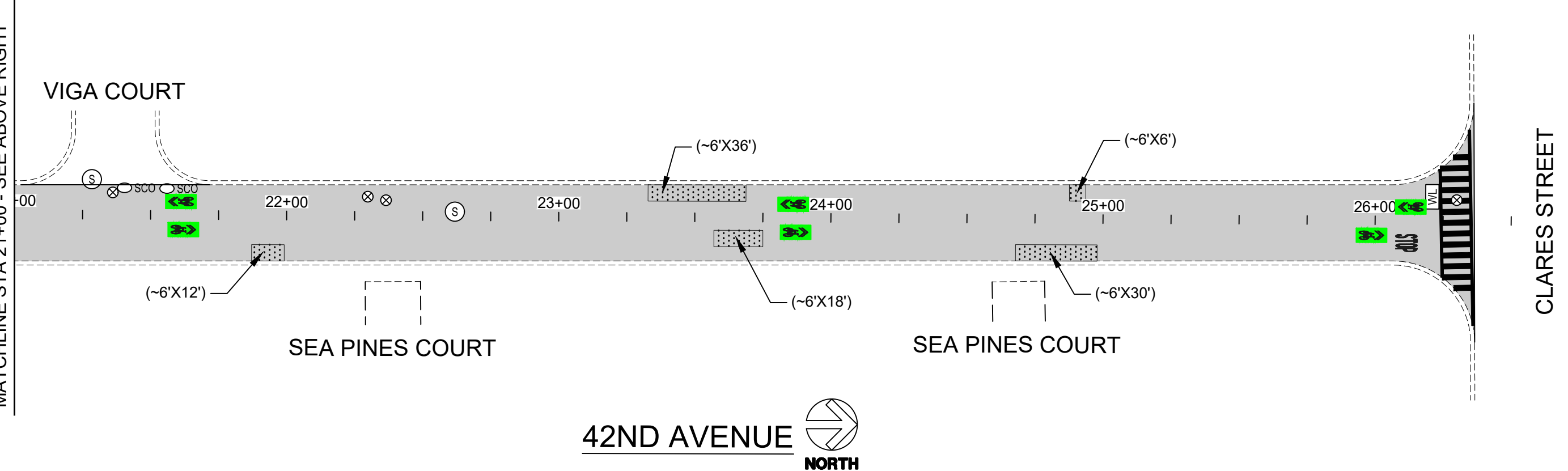
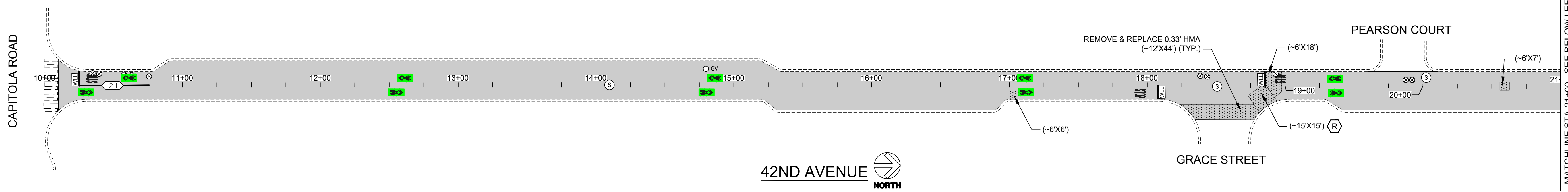
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DATE: **FEBRUARY 2025**
SHEET NUMBER:

RECEIVED BY: _____
CITY ENGINEER _____ DATE _____
ORIGINAL SIGNED DATE _____

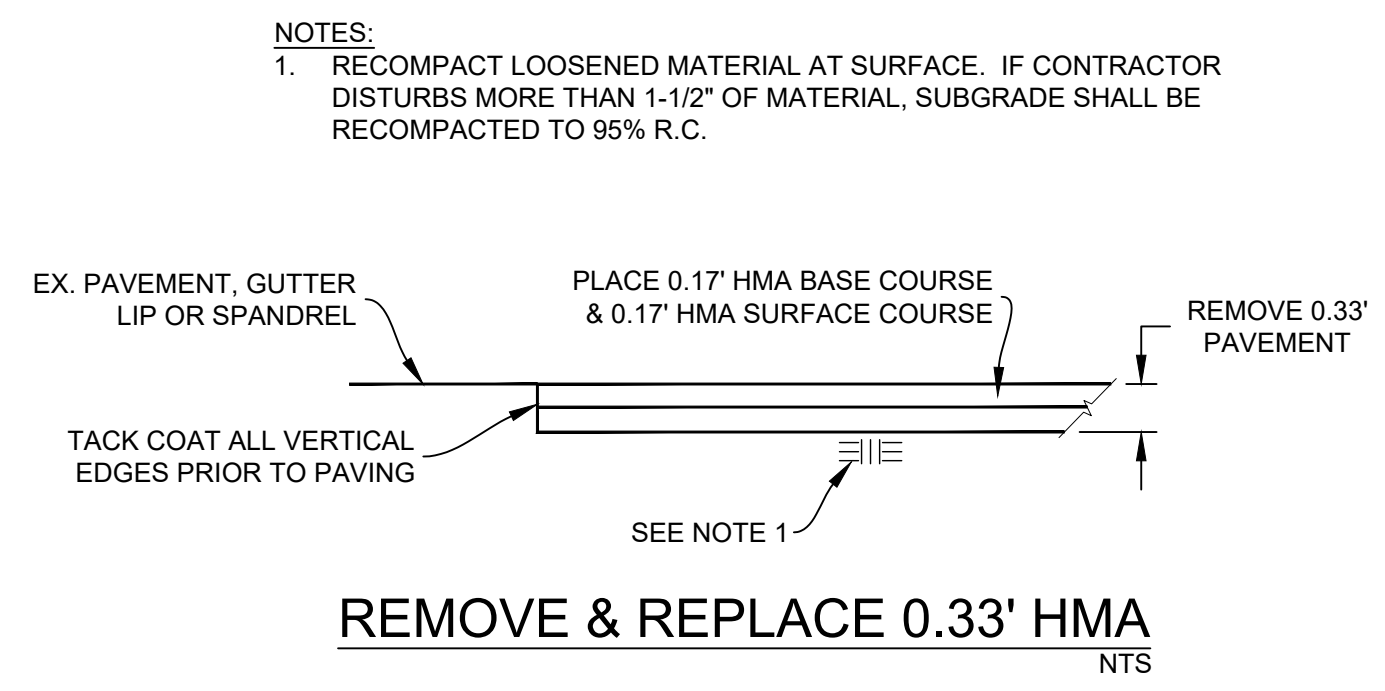
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- LEGEND**
- REMOVE & REPLACE 0.33' HMA
 - CRACK SEAL & SLURRY SEAL (TYPE II)
 - PRUNE & REMOVE TREE ROOTS
 - SANITARY SEWER MANHOLE
 - WATER VALVE
 - SEWER CLEANOUT (EX.)
 - CALTRANS STRIPING DETAIL "XX"
 - 12" WHITE LIMIT LINE (THERMOPLASTIC)
 - WHITE LADDER CROSSWALK (THERMOPLASTIC)



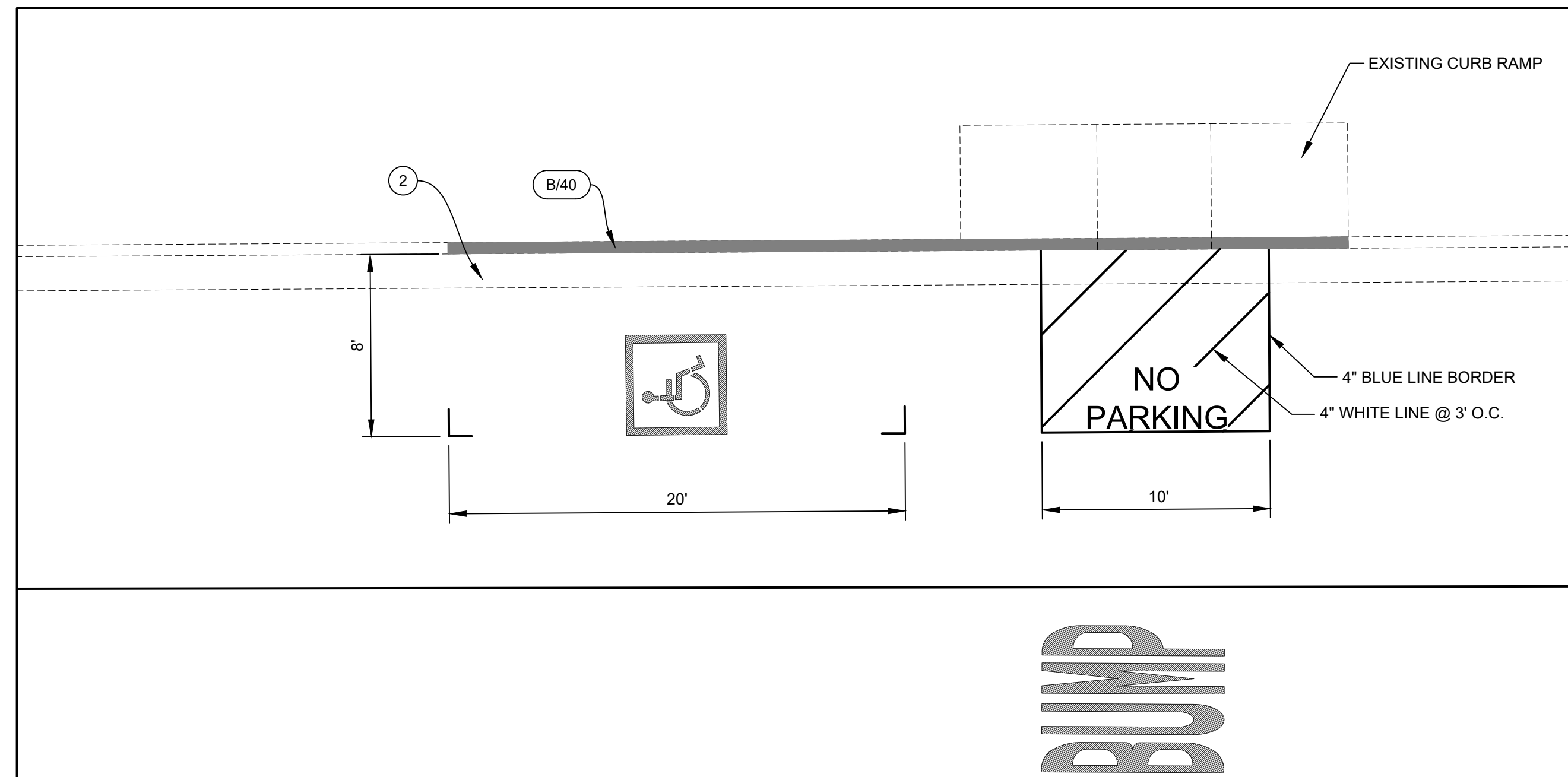
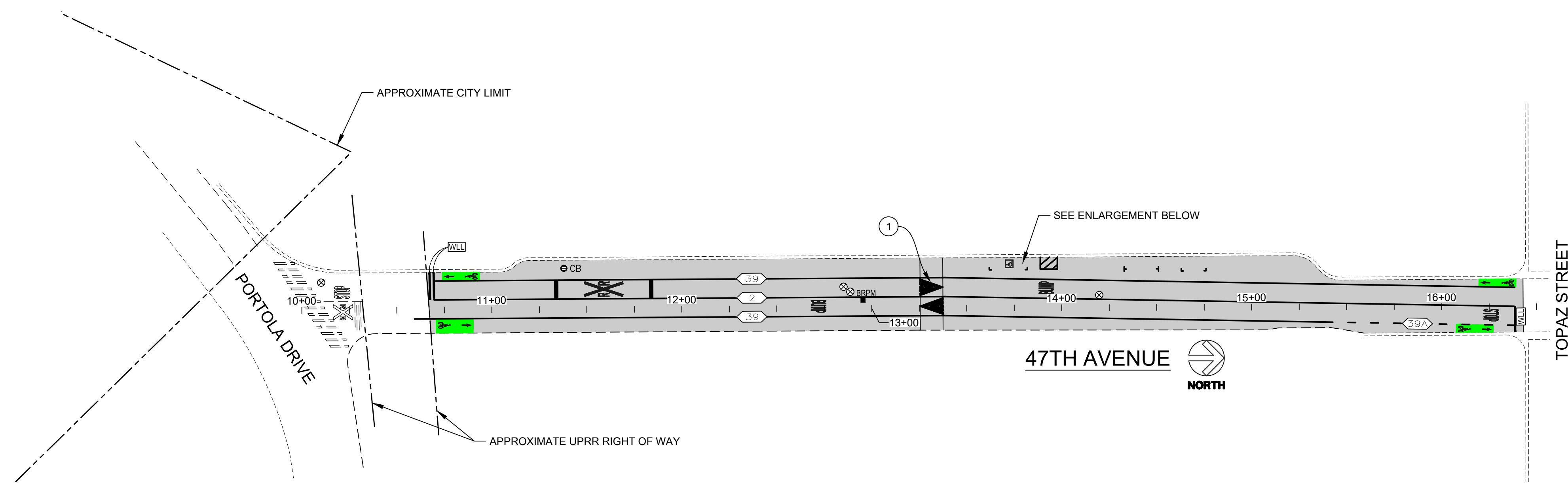
Pavement Engineering Inc.
You can ride on our reputation
Corporate Office:
3485 Sacramento Drive, Suite A
San Luis Obispo, CA 93401
805.781.2265



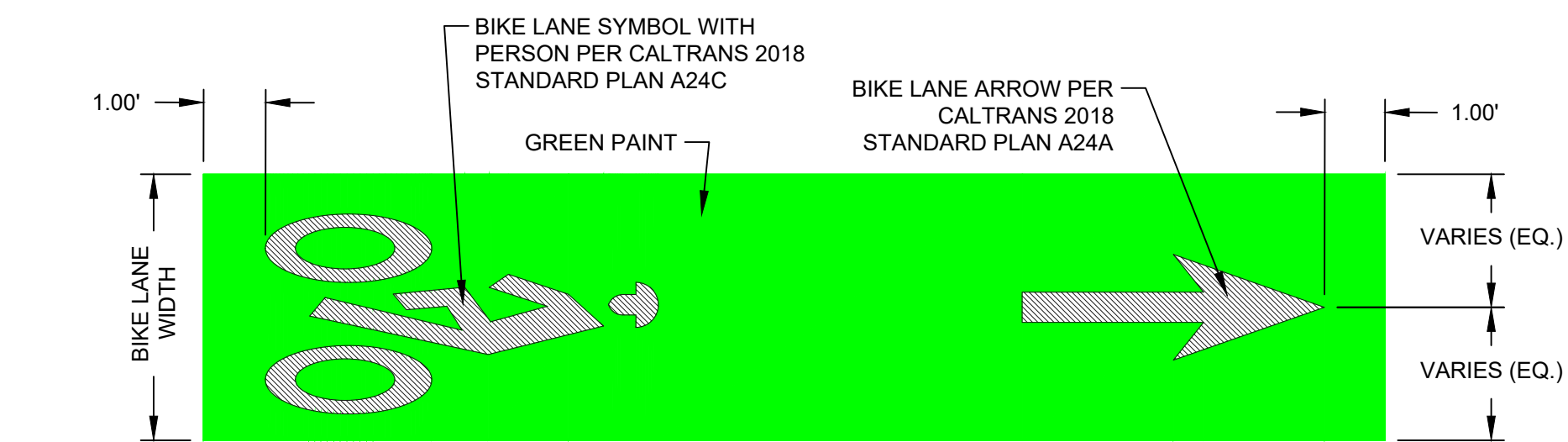
CITY OF CAPITOLA
2025 PAVEMENT MAINTENANCE PROJECT
42ND AVENUE



DRAWN BY: **CM**
PROJECT NUMBER: **230180-01**
SCALE: **1" = 40'**
VERIFY SCALE
BAR REPRESENTS
1" ON ORIGINAL
DATE: **FEBRUARY 2025**
SHEET NUMBER:



ACCESSIBLE ON-STREET PARKING ENLARGEMENT
1" = 5'



BIKE LANE SYMBOL WITH PERSON & ARROW GREEN PAINT DETAIL
NTS

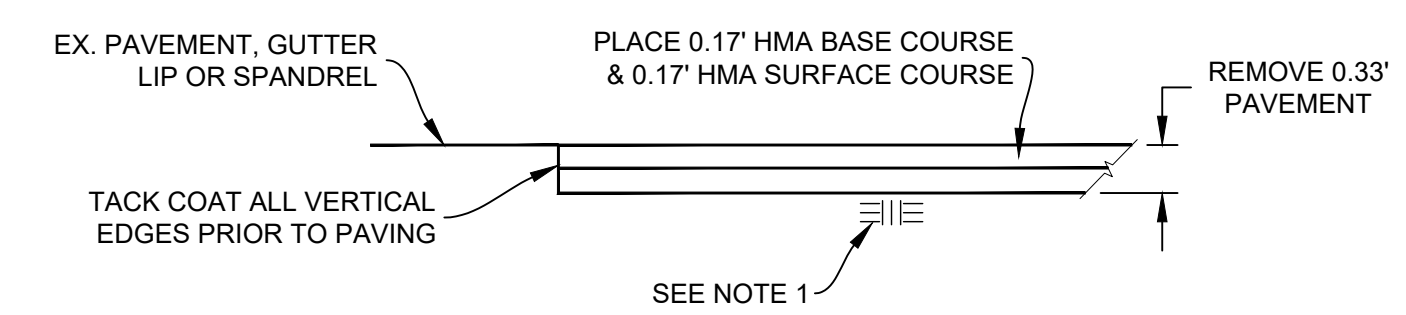
LEGEND

- CRACK SEAL & SLURRY SEAL (TYPE II)
- SANITARY SEWER MANHOLE
- WATER VALVE
- CATCH BASIN
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- 12" WHITE LIMIT LINE (THERMOPLASTIC)
- CALTRANS STRIPING DETAIL "XX"
- CURB PAINT COLOR "X" (B=BLUE) / CURB PAINT LENGTH "YY" (LF)

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL APPLY SLURRY SEAL ON EX. SPEED HUMP, THEN INSTALL SPEED HUMP PAVEMENT MARKINGS PER CA MUTCD (2014 EDITION), FIGURE 3B-29, "PAVEMENT MARKINGS FOR SPEED HUMPS WITHOUT CROSSWALKS," OPTION C.
2. ACCESSIBLE ON-STREET PARKING SHALL BE INSTALLED PER 2018 CALTRANS STANDARD DETAIL A90B.

NOTES:
1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



REMOVE & REPLACE 0.33' HMA
NTS

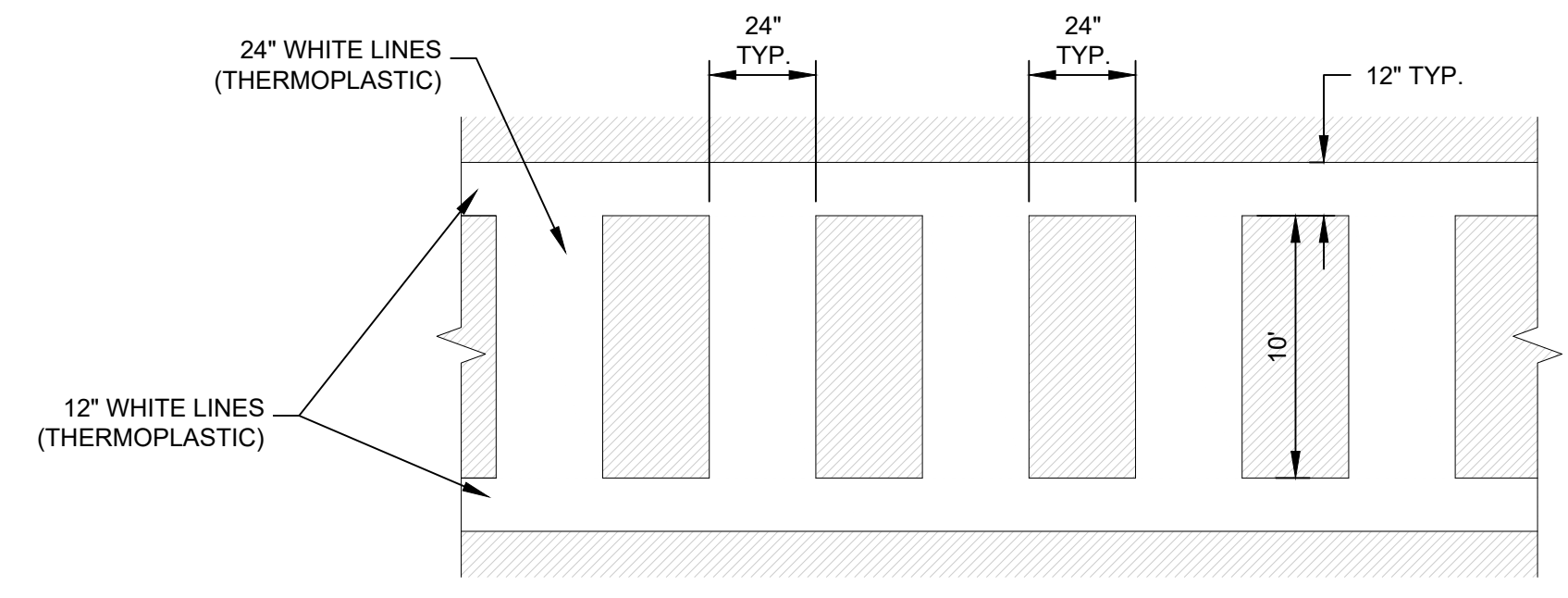
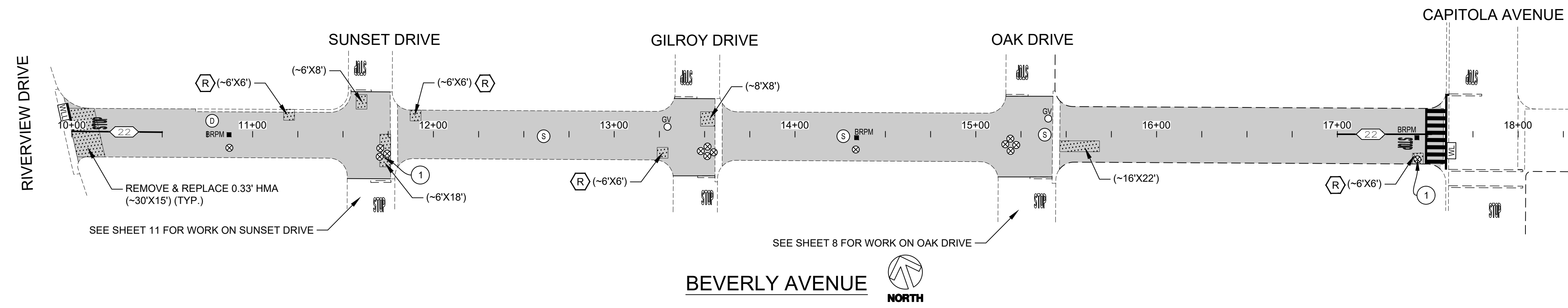
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805.781.2265

CITY OF CAPITOLA
2025 PAVEMENT MAINTENANCE PROJECT
47TH AVENUE



DRAWN BY: CM
PROJECT NUMBER: 230180-01
SCALE: 1" = 40'
VERIFY SCALE
BAR REPRESENTS 1" ON ORIGINAL
DATE: FEBRUARY 2025
SHEET NUMBER:

P:\R\Z\SHAREDR\DRIVEACTIVE PROJECTS\CAPITOLA CITY OF\230180\TASK 01\DRAWINGS\230180\01_SIT01_47TH AVE.DWG Pkg Date: 2/20/2025 11:46 AM



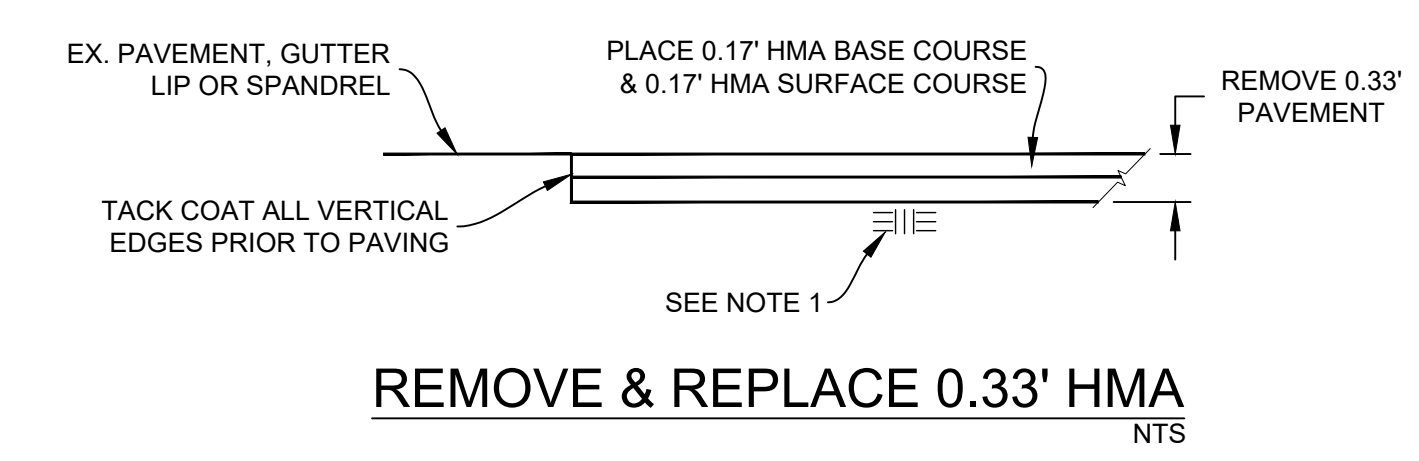
LADDER CROSSWALK DETAIL
NTS

CONSTRUCTION NOTES:
 ① LOWER UTILITY COVER PRIOR TO COLD PLANE.

LEGEND

- REMOVE & REPLACE 0.33' HMA
- CRACK SEAL & SLURRY SEAL (TYPE II)
- PRUNE & REMOVE TREE ROOTS
- SANITARY SEWER MANHOLE
- WATER VALVE
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- GAS VALVE
- 12" WHITE LIMIT LINE (THERMOPLASTIC)
- WHITE LADDER CROSSWALK (THERMOPLASTIC)
- CALTRANS STRIPING DETAIL "XX"

NOTES:
 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



REMOVE & REPLACE 0.33' HMA
NTS

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CITY OF CAPITOLA
 2025 PAVEMENT MAINTENANCE PROJECT
BEVERLY AVENUE

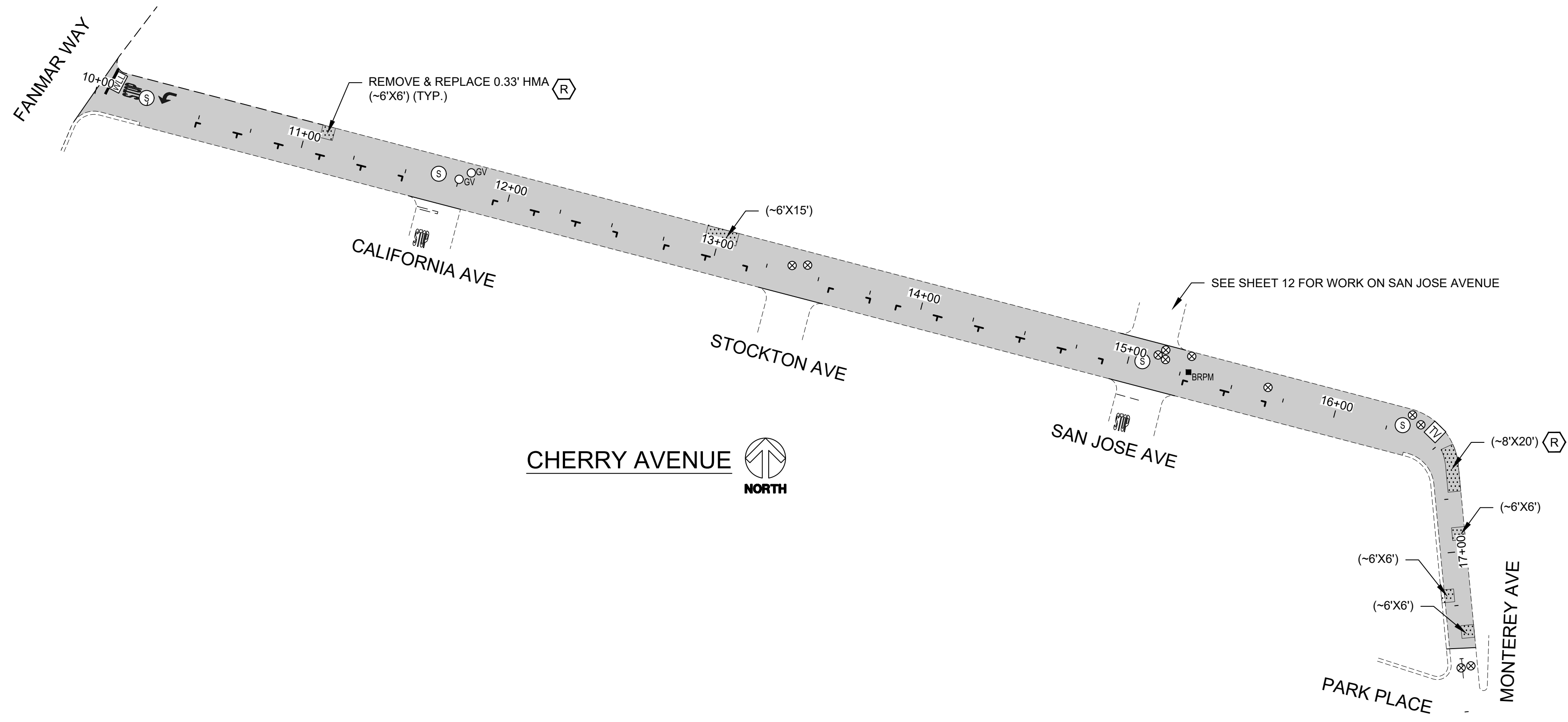


DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 40'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

4 of 13

Path: Z:\SHAREDR\DRIVE\ACTIVE PROJECTS\CAPITOLA CITY OF 230180\TASK 01\DRAWINGS\230180\01_SIT01_BEVERLY AVENUE_BASE MAPS.DWG Plot Date: 2/20/2025 11:46 AM

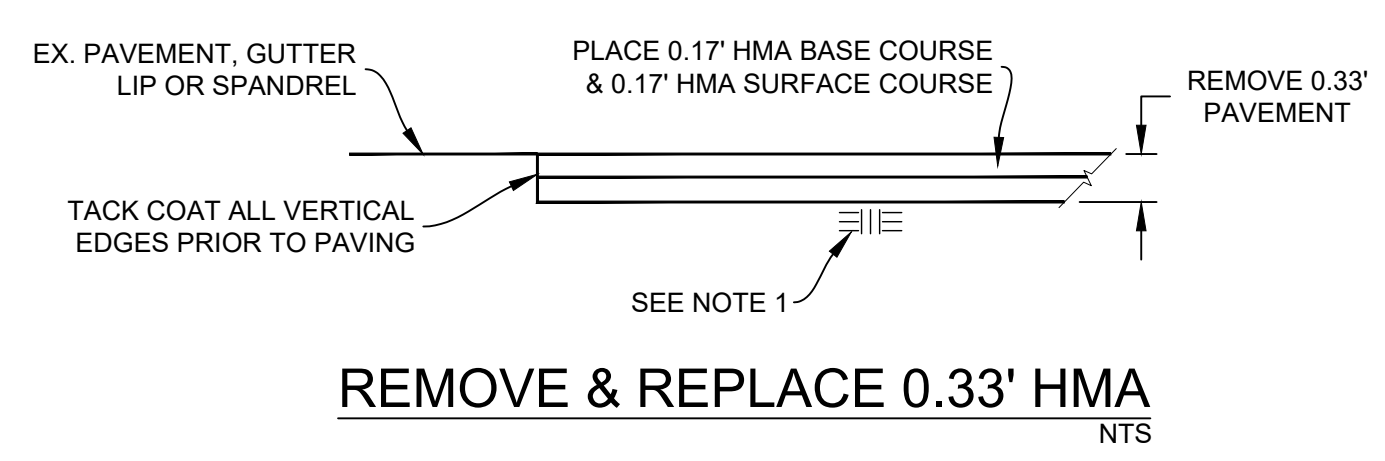
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LEGEND

- REMOVE & REPLACE 0.33' HMA
- CRACK SEAL & SLURRY SEAL (TYPE II)
- PRUNE & REMOVE TREE ROOTS
- SANITARY SEWER MANHOLE
- WATER VALVE
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- SURVEY MONUMENT
- GAS VALVE
- 12" WHITE LIMIT LINE (THERMOPLASTIC)
- TV CABLE BOX

NOTES:
 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



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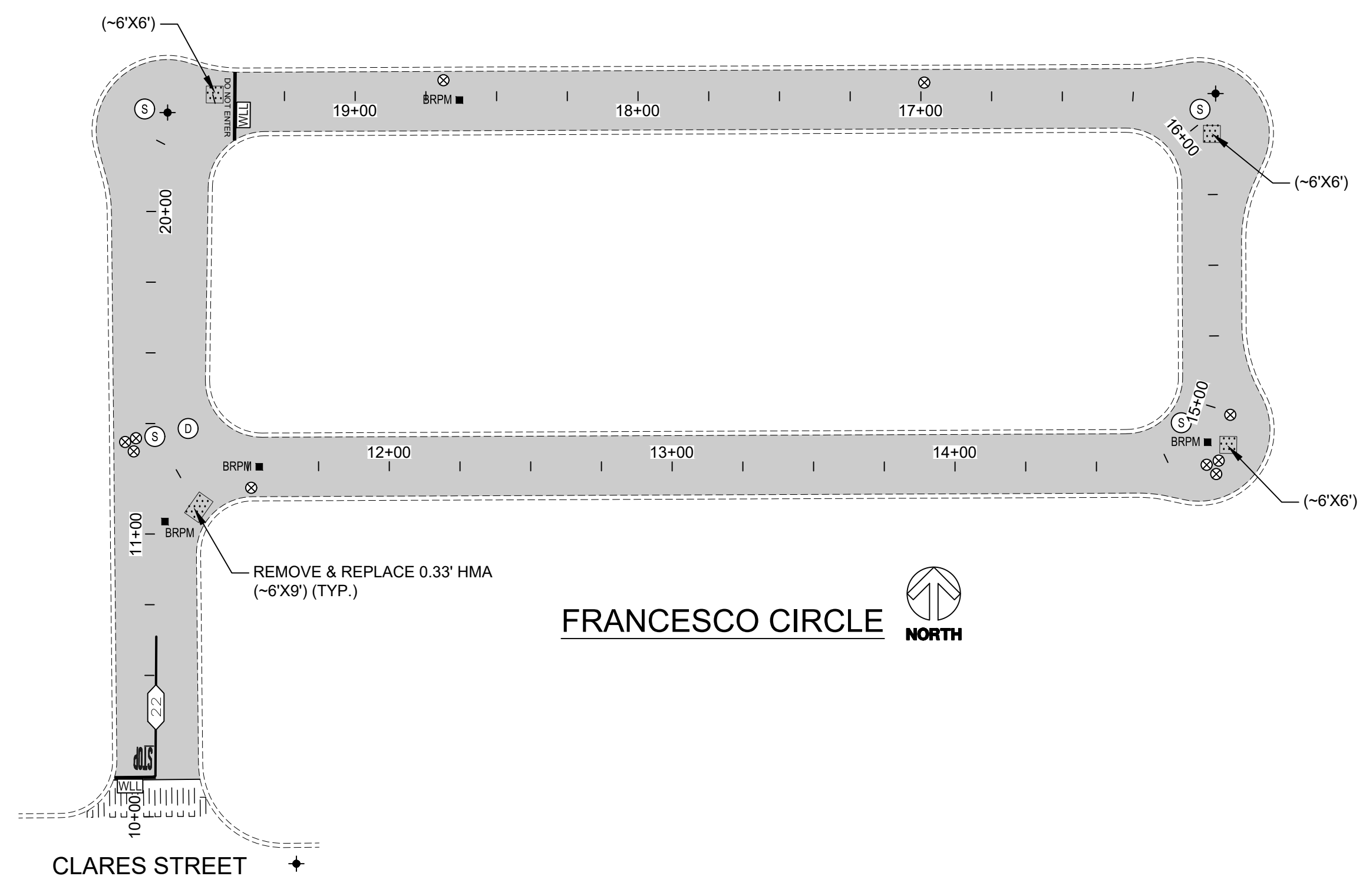
CITY OF CAPITOLA
 2025 PAVEMENT MAINTENANCE PROJECT
CHERRY AVENUE



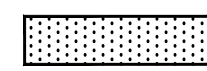







DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 40'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

5 of 13

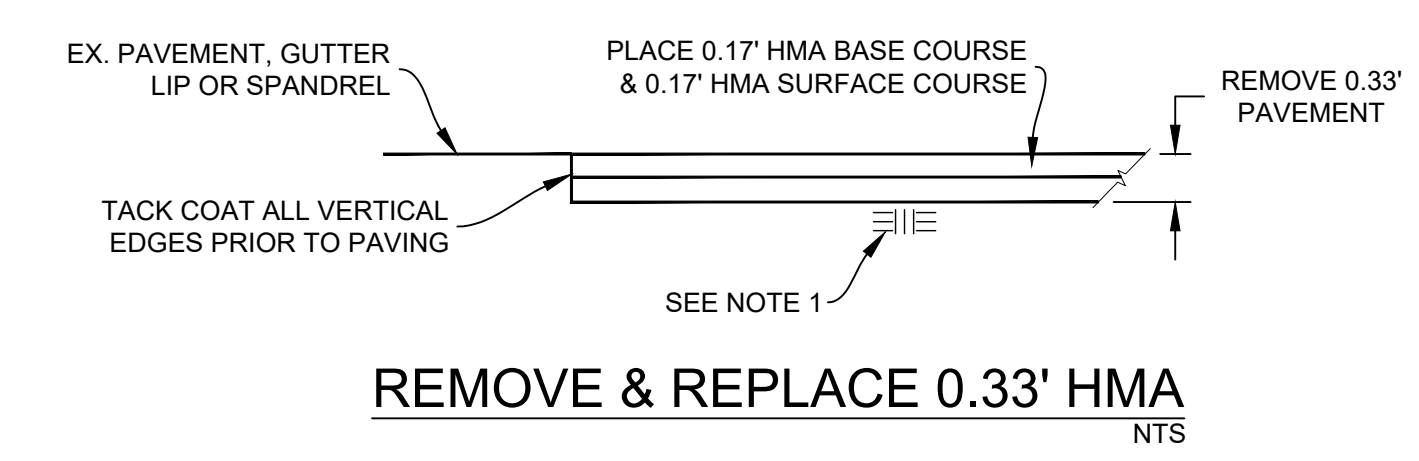
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LEGEND

-  REMOVE & REPLACE 0.33' HMA
-  CRACK SEAL & SLURRY SEAL (TYPE II)
-  SANITARY SEWER MANHOLE
-  WATER VALVE
-  BLUE RETROREFLECTIVE PAVEMENT MARKER
-  SURVEY MONUMENT
-  12" WHITE LIMIT LINE (THERMOPLASTIC)
-  CALTRANS STRIPING DETAIL "XX"

NOTES:
 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



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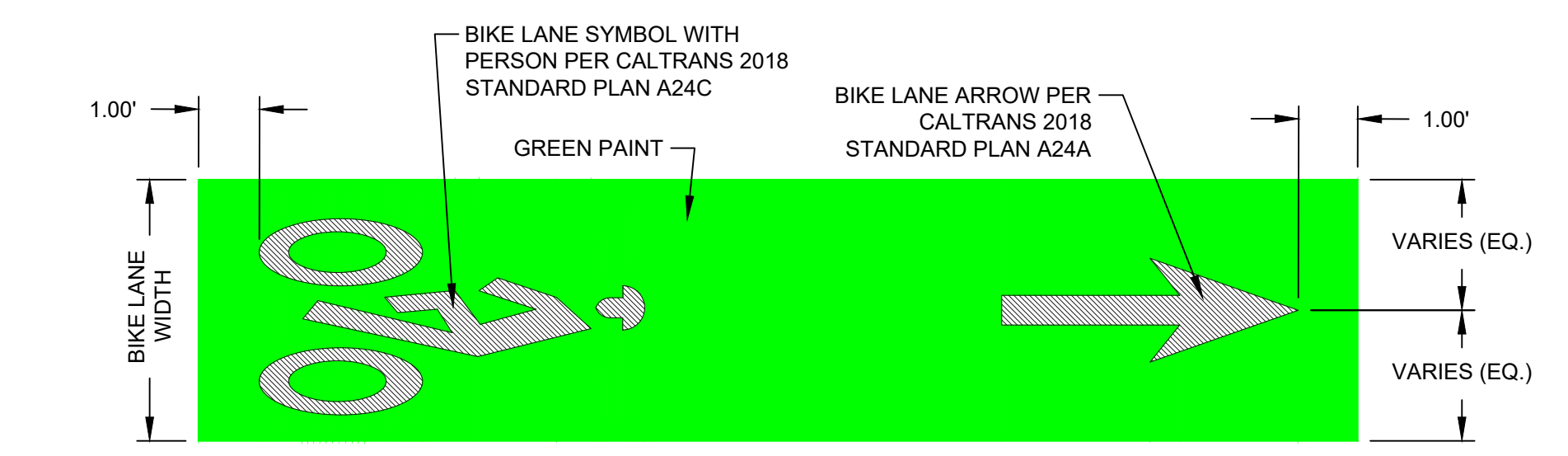
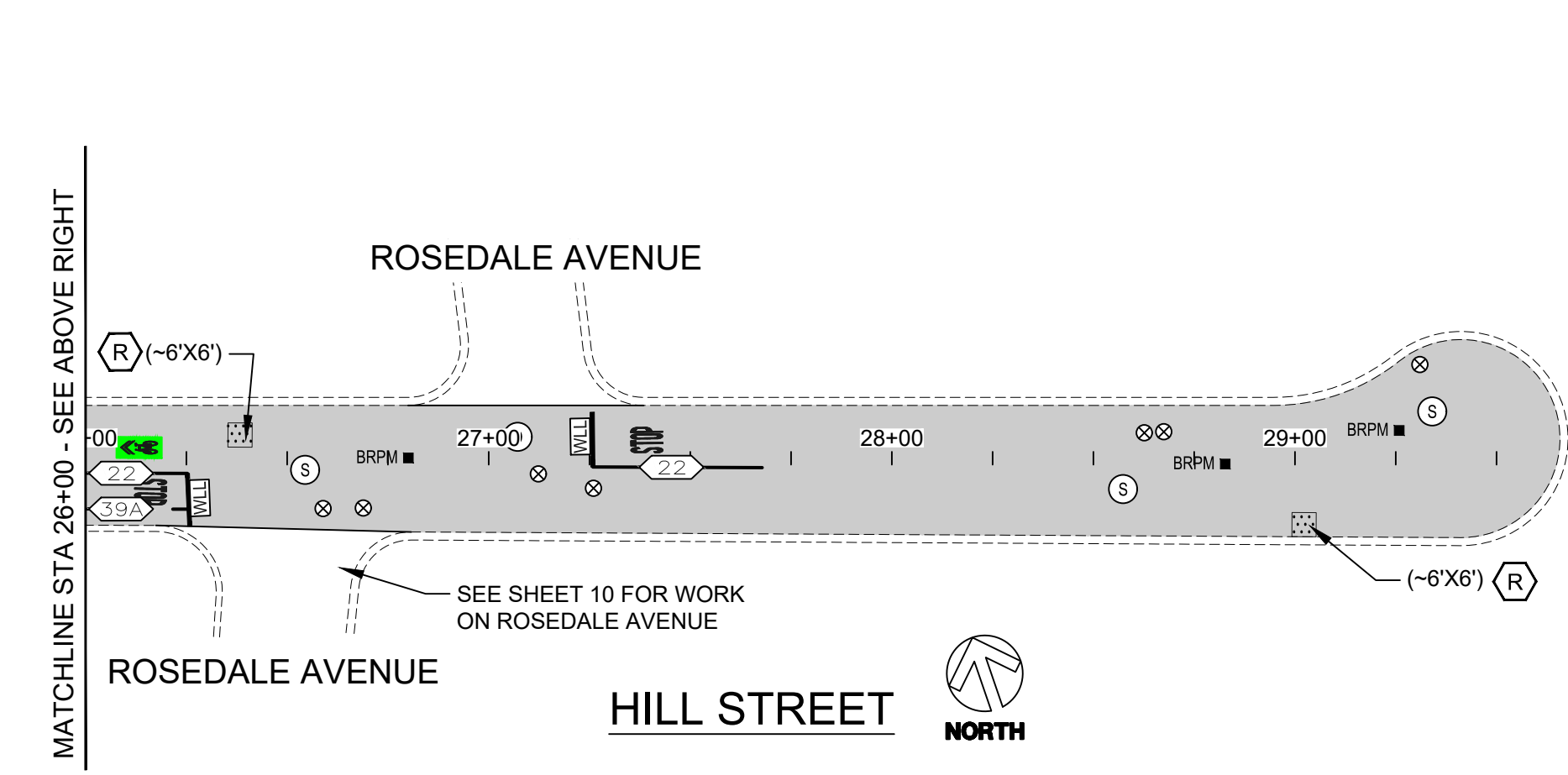
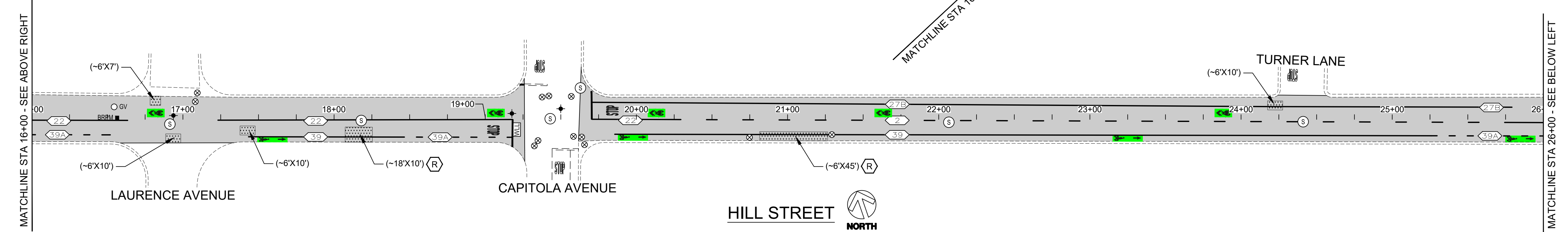
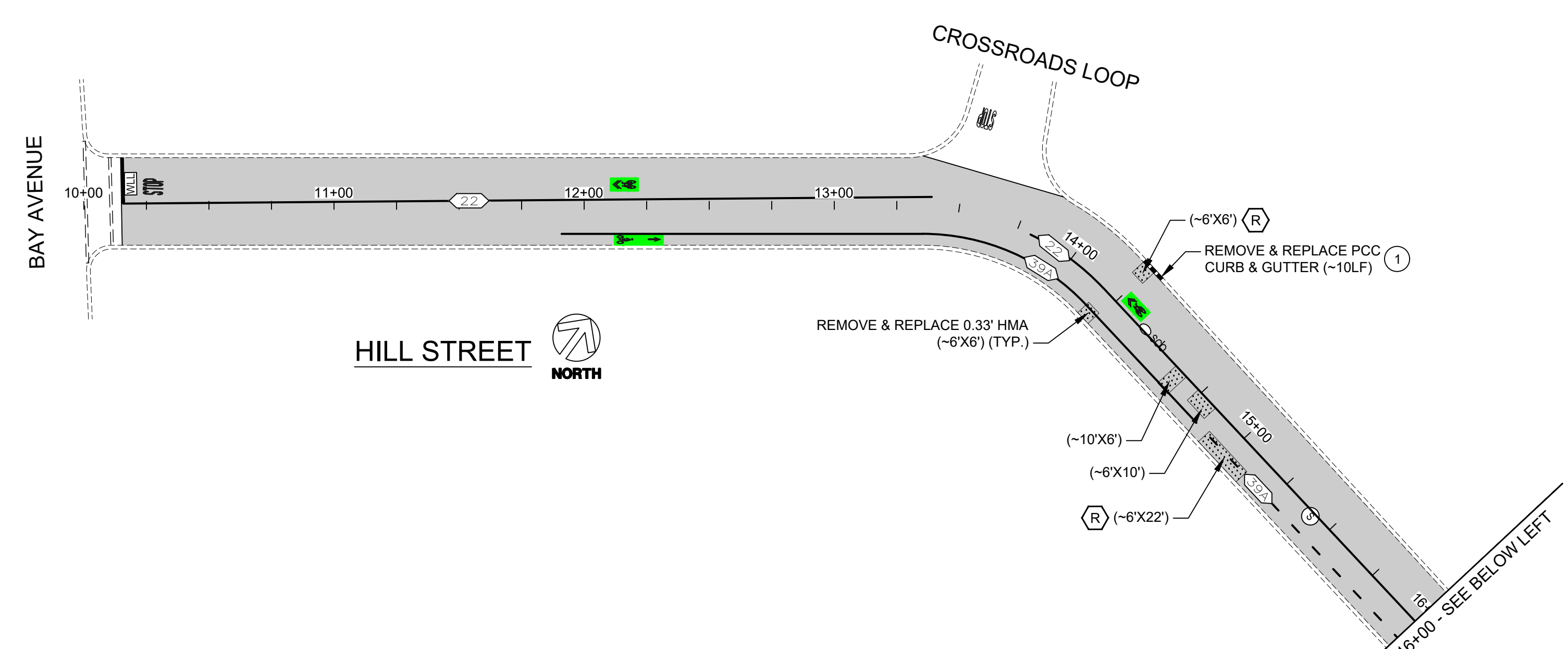
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CITY OF CAPITOLA
2025 PAVEMENT MAINTENANCE PROJECT
FRANCESCO CIRCLE

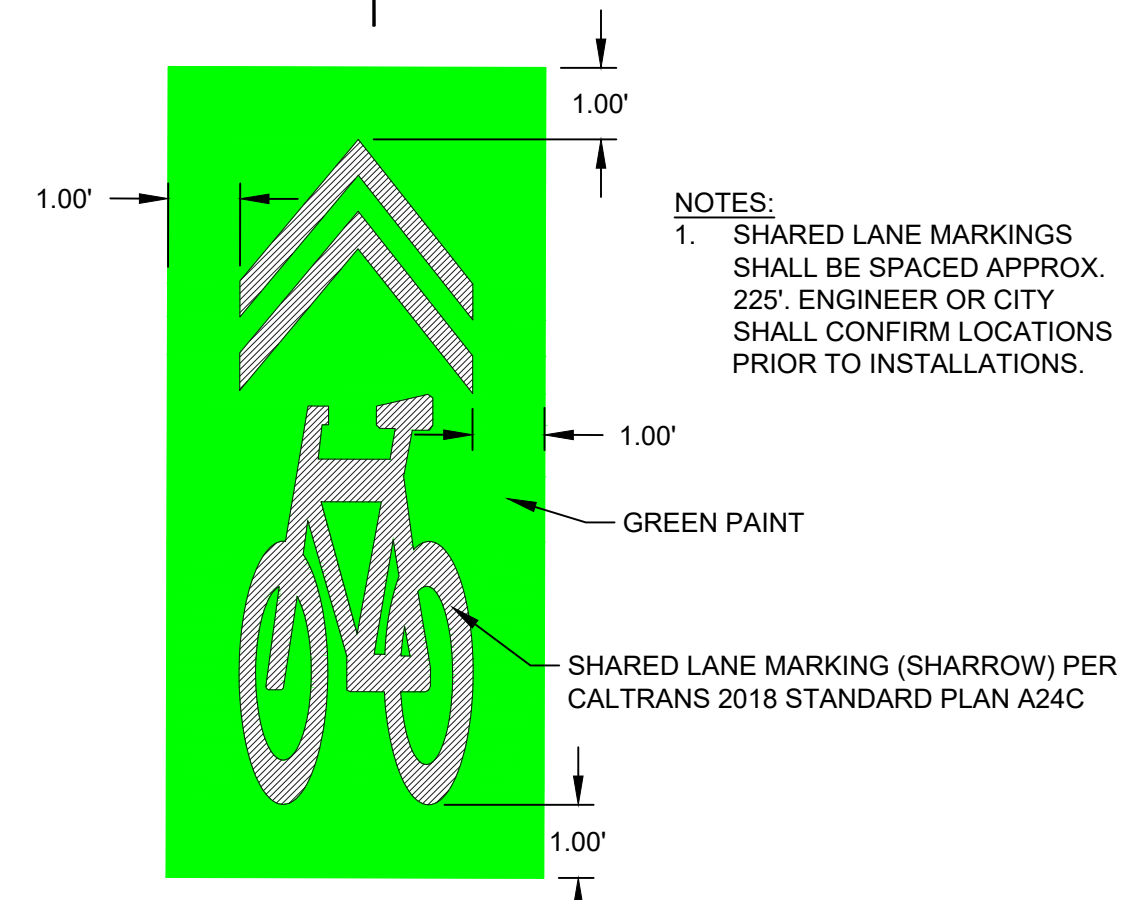


DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 40'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

P:\R\Z\SHARED\DRIVE\ACTIVE PROJECTS\CAPITOLA CITY OF 230180\TASK 01\DRAWINGS\230180-01_SHEET01_HILL STREET_BASE MAPS.DWG, Pld Date: 2/20/2025 11:46 AM



BIKE LANE SYMBOL WITH PERSON & ARROW GREEN PAINT DETAIL
NTS



SHARED LANE MARKING GREEN PAINT DETAIL
NTS

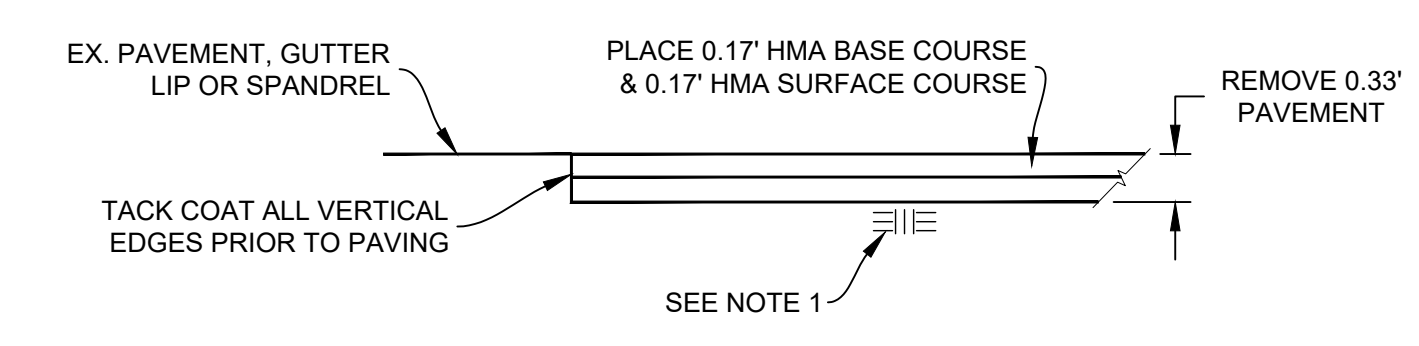
LEGEND

- REMOVE & REPLACE 0.33' HMA
- CRACK SEAL & SLURRY SEAL (TYPE II)
- REMOVE & REPLACE PCC CURB & GUTTER
- PRUNE & REMOVE TREE ROOTS
- SANITARY SEWER MANHOLE
- WATER VALVE
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- SURVEY MONUMENT
- 12" WHITE LIMIT LINE (THERMOPLASTIC)
- 12" WHITE CROSSWALK LINE (THERMOPLASTIC)
- CALTRANS STRIPING DETAIL "XX"

CONSTRUCTION NOTES:

- ① REMOVE & REPLACE PCC CURB & GUTTER PER CITY OF CAPITOLA STANDARD DRAWING CAP - 003.

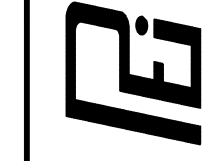
- NOTES:
- 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



REMOVE & REPLACE 0.33' HMA
NTS

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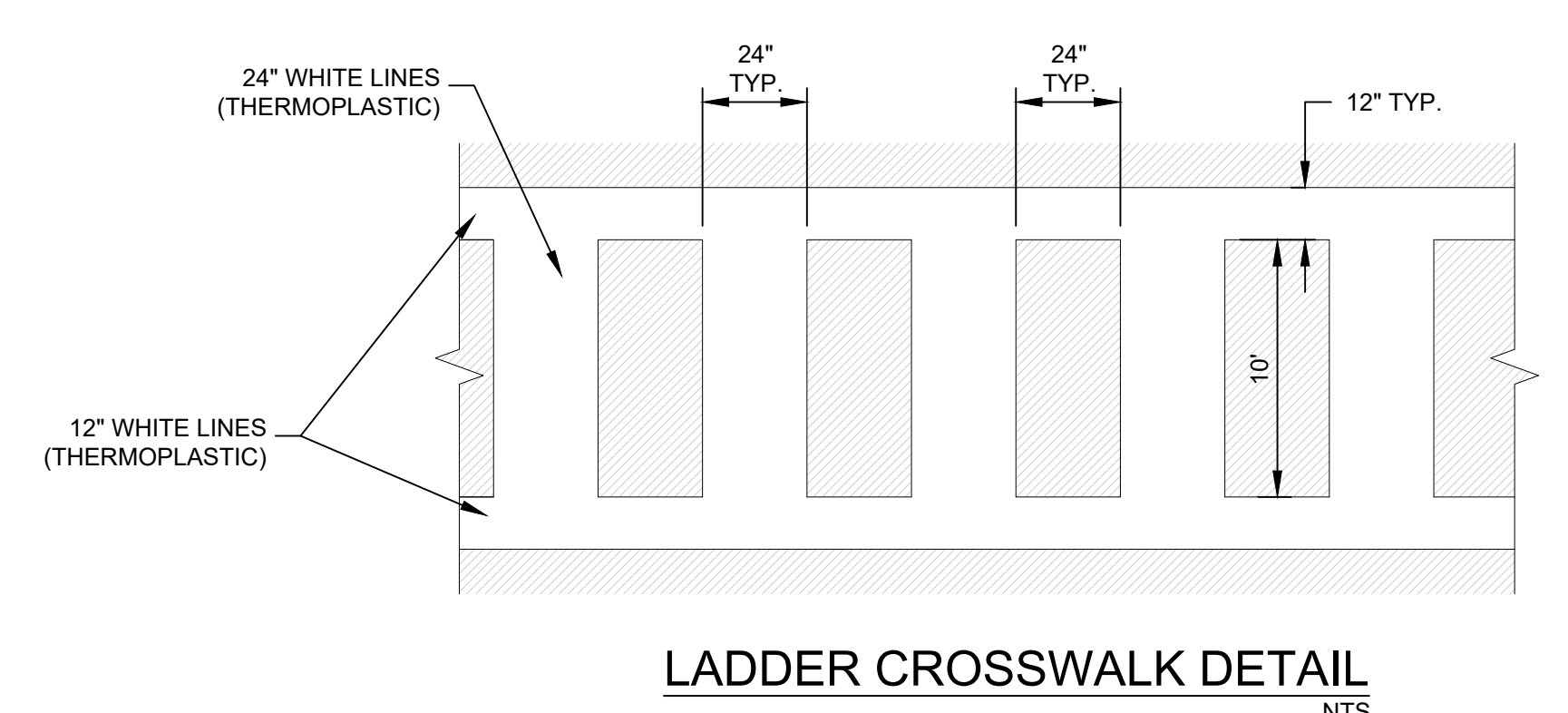
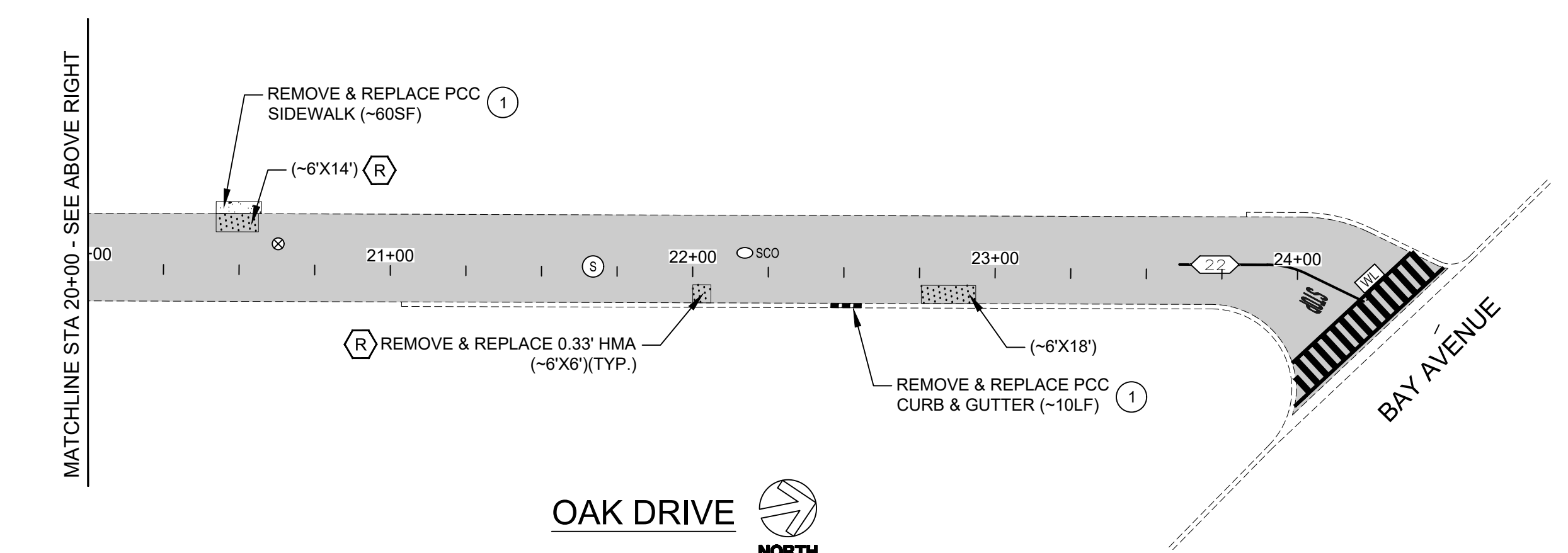
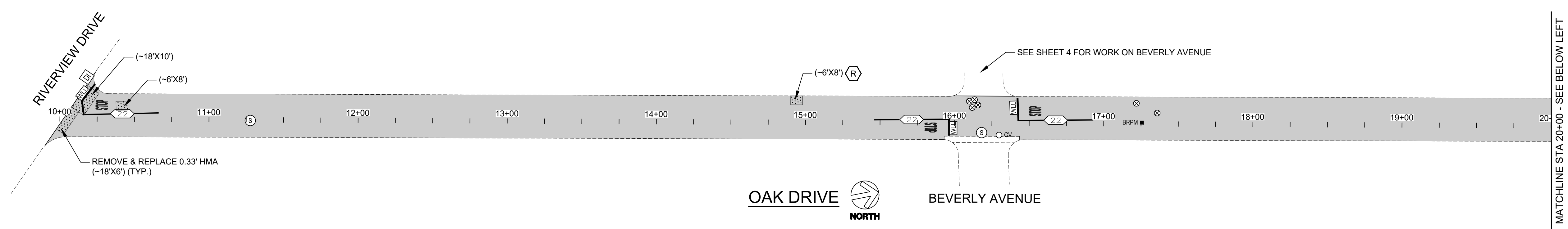
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CITY OF CAPITOLA
2025 PAVEMENT MAINTENANCE PROJECT
HILL STREET



DRAWN BY: **CM**
PROJECT NUMBER: **230180-01**
SCALE: **1" = 40'**
VERIFY SCALE
BAR REPRESENTS
1" ON ORIGINAL
DATE: **FEBRUARY 2025**
SHEET NUMBER:

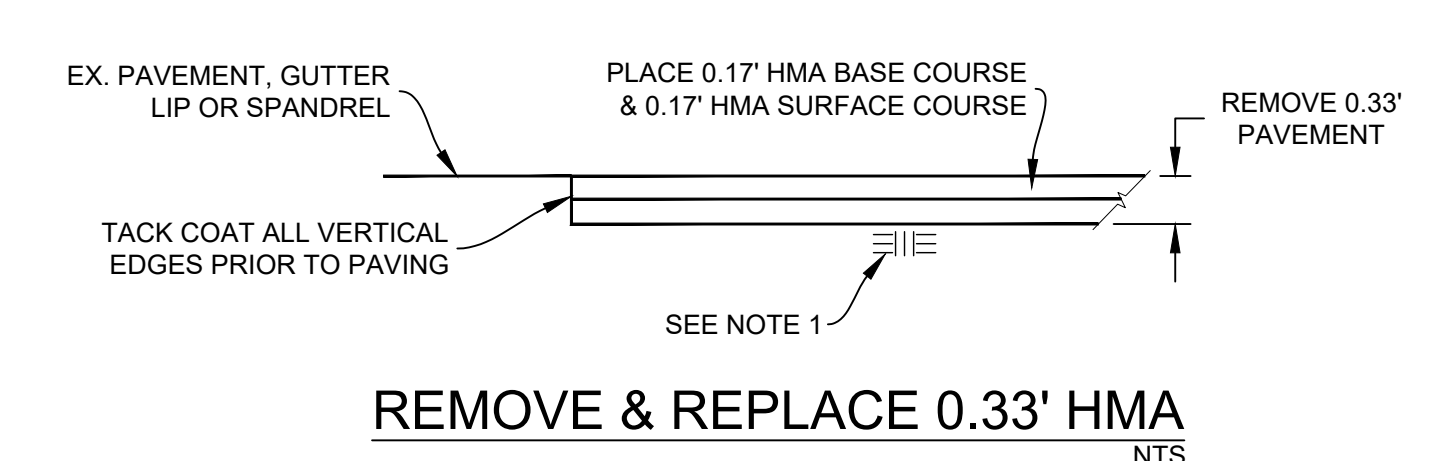


LEGEND

- REMOVE & REPLACE 0.33' HMA
- CRACK SEAL & SLURRY SEAL (TYPE II)
- REMOVE & REPLACE PCC SIDEWALK
- REMOVE & REPLACE PCC CURB & GUTTER
- PRUNE & REMOVE TREE ROOTS
- SANITARY SEWER MANHOLE
- WATER VALVE
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- DRAIN INLET
- 12" WHITE LIMIT LINE (THERMOPLASTIC)
- WHITE LADDER CROSSWALK (THERMOPLASTIC)
- CALTRANS STRIPING DETAIL "XX"

CONSTRUCTION NOTES:
 ① REMOVE & REPLACE PCC CURB, GUTTER & SIDEWALK PER CITY OF CAPITOLA STANDARD DRAWING CAP - 003.

NOTES:
 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



P:\R\Z\SHARED\DRIVE\ACTIVE PROJECTS\CAPITOLA CITY OF\230180\TASK 01\DRAWINGS\230180\01_SITED01_OAK_DRIVE_BASE_MAPS.DWG Plot Date: 2/20/2025 1:47 AM

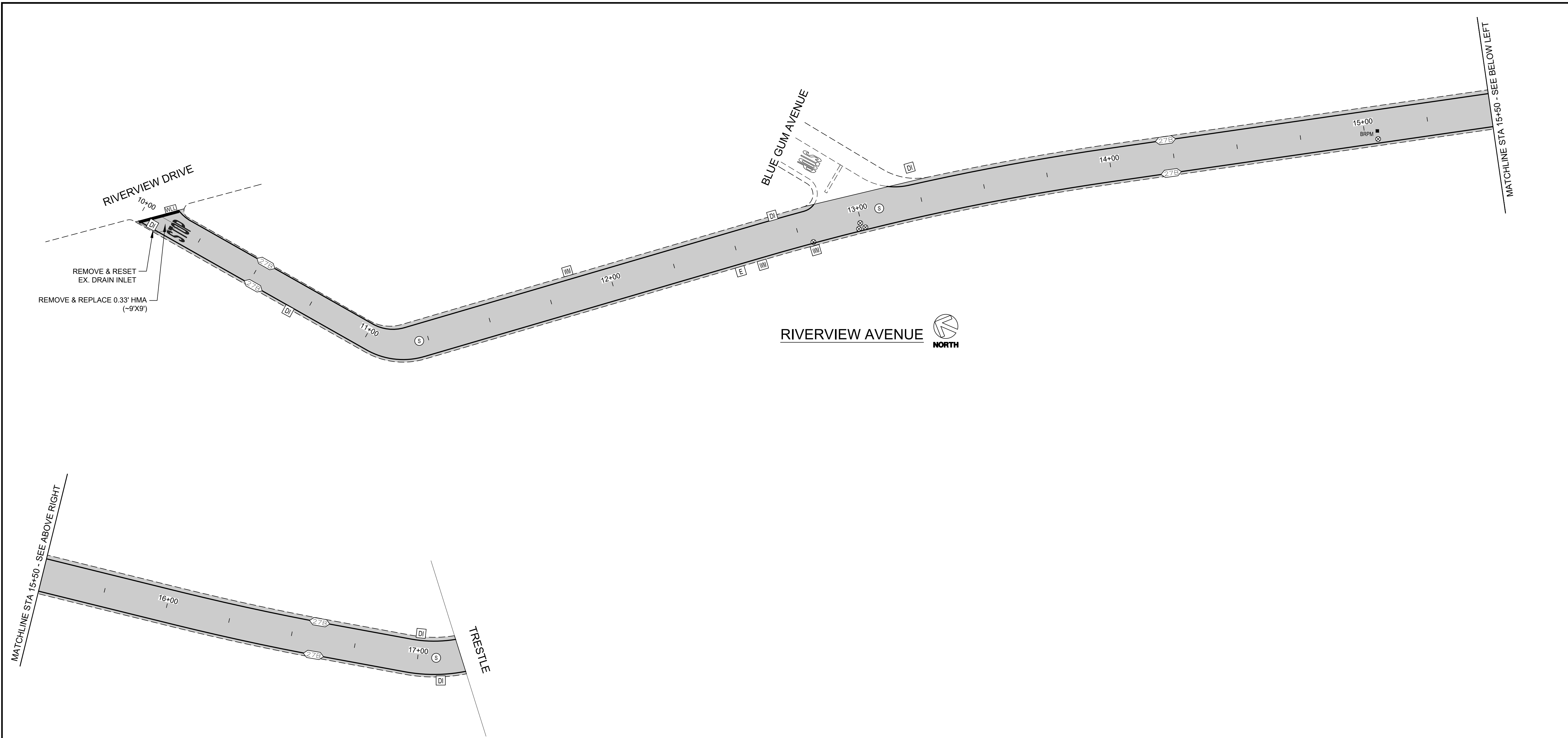
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CITY OF CAPITOLA
 2025 PAVEMENT MAINTENANCE PROJECT
OAK DRIVE



DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 40'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

Path: Z:\SHAREDR\DRIVEACTIVE PROJECTS\CAPITOLA CITY OF 230180\TASK 01\DRAWINGS\230180-01_SITED01_RIVERVIEW AVENUE_BASE MAPS.DWG Plotted: 2/20/2025 11:47 AM

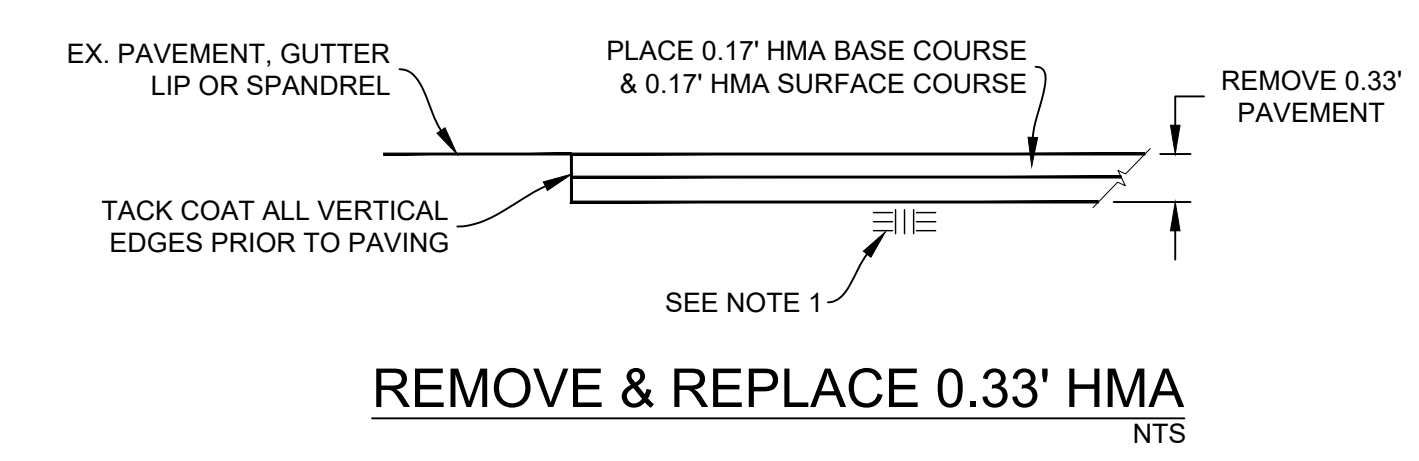


RIVERVIEW AVENUE NORTH

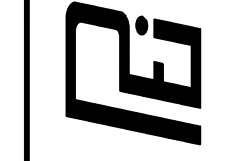
LEGEND

- REMOVE & REPLACE 0.33' HMA
- CRACK SEAL & SLURRY SEAL (TYPE II)
- SANITARY SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT (EX.)
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- DRAIN INLET
- WATER METER
- CALTRANS STRIPING DETAIL "XX"
- 12" WHITE LIMIT LINE (THERMOPLASTIC)

NOTES:
 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



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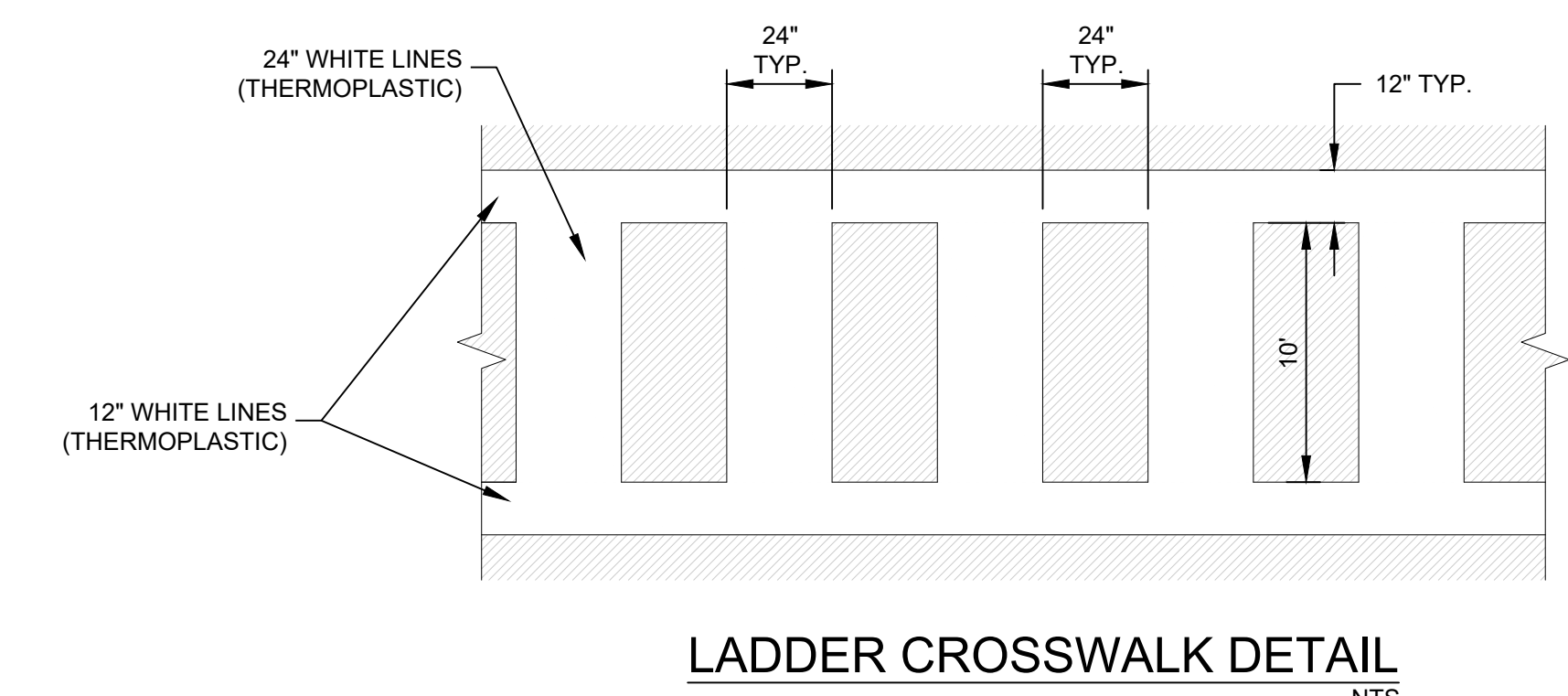
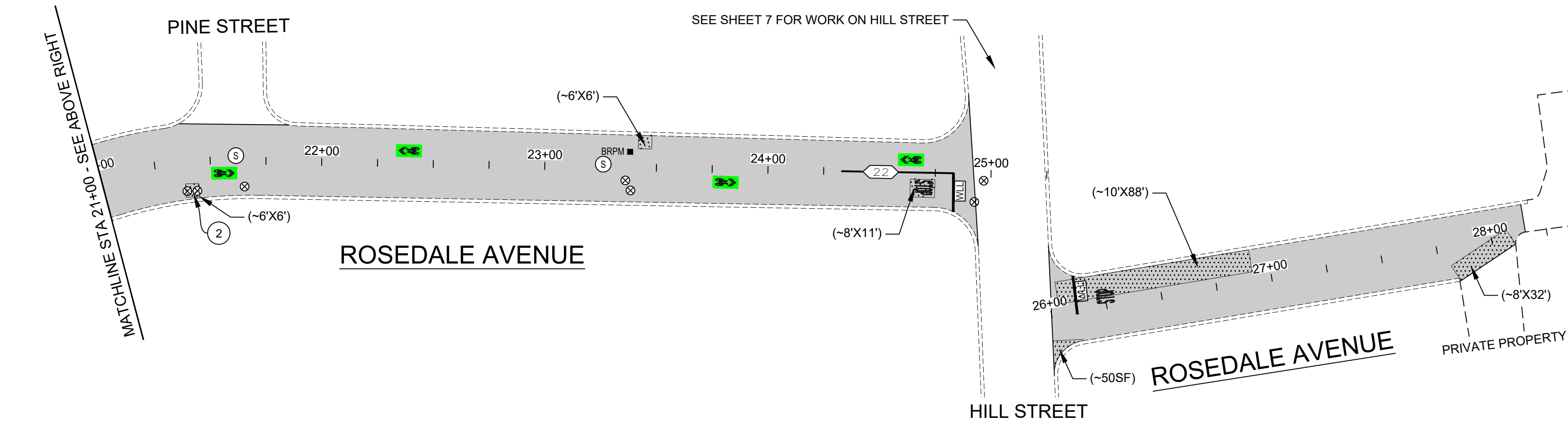
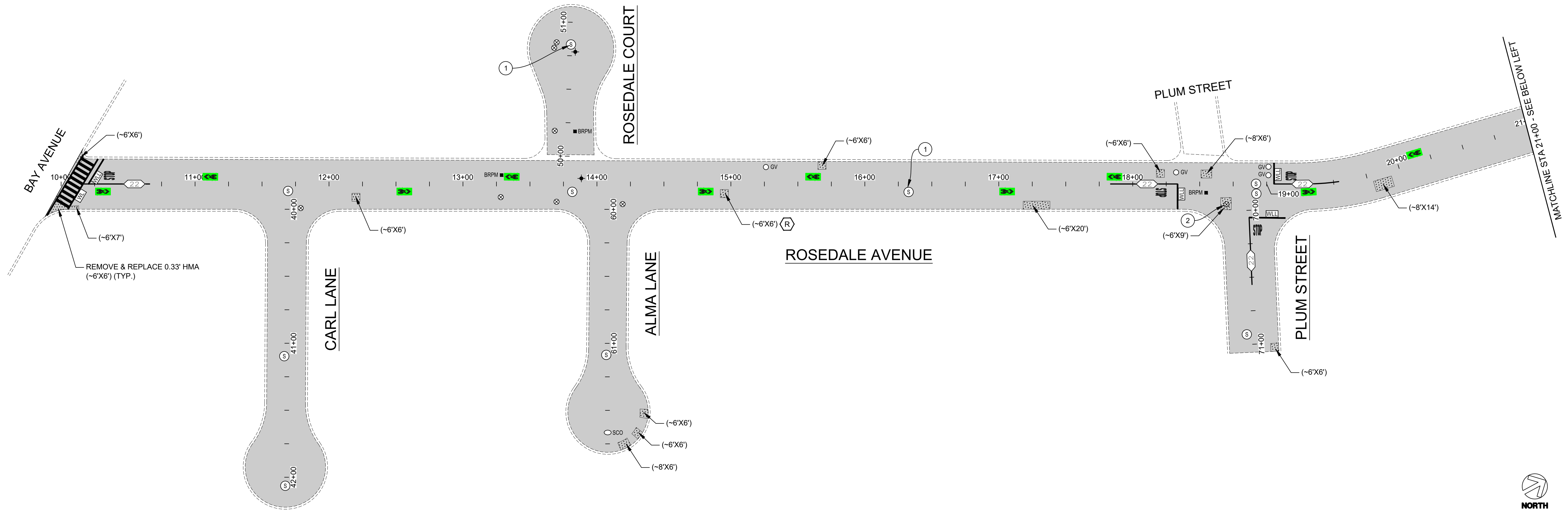
CITY OF CAPITOLA
 2025 PAVEMENT MAINTENANCE PROJECT
RIVERVIEW AVENUE



DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 20'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

9 of 13

P:\R\Z\SHARED\DRIVE\ACTIVE PROJECTS\CAPITOLA CITY OF 230180\TASK 01\DRAWINGS\230180\01_SITING\ROSEDALE AVENUE_BASE MAPS.DWG Pkx Date: 2/20/2025 11:47 AM



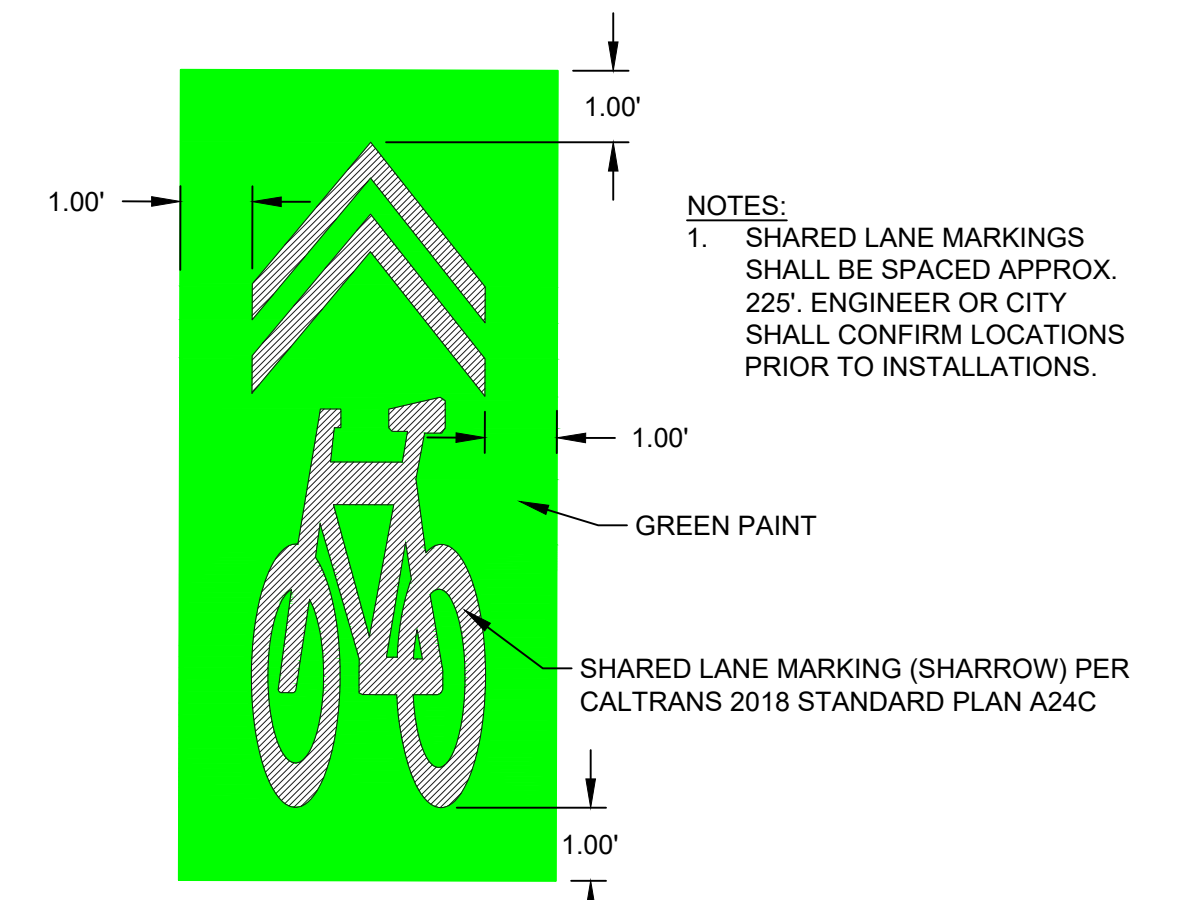
LADDER CROSSWALK DETAIL
NTS

CONSTRUCTION NOTES:

- 1 RESET CONCRETE COLLAR AROUND UTILITY COVER.
- 2 LOWER UTILITY COVER PRIOR TO COLD PLANE.

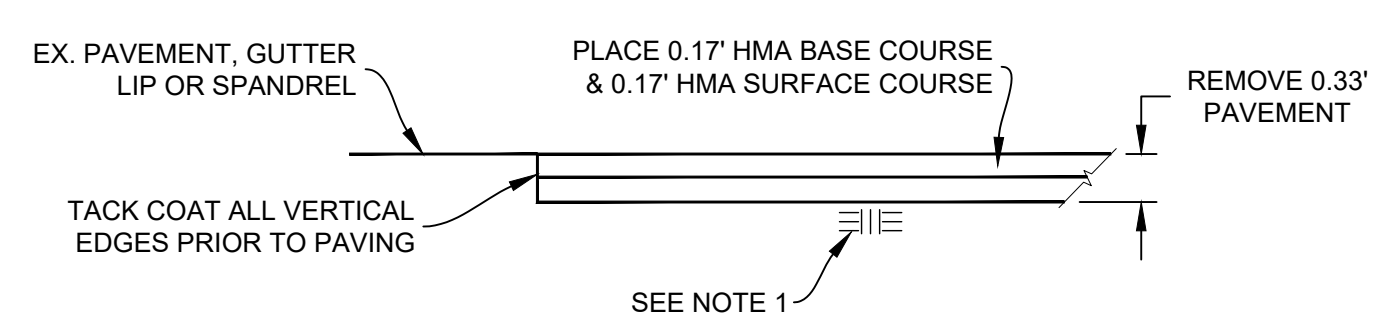
LEGEND

- REMOVE & REPLACE 0.33' HMA
- CRACK SEAL & SLURRY SEAL (TYPE II)
- PRUNE & REMOVE TREE ROOTS
- SANITARY SEWER MANHOLE
- WATER VALVE
- GAS VALVE
- SURVEY MONUMENT
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- 12" WHITE LIMIT LINE (THERMOPLASTIC)
- WHITE LADDER CROSSWALK (THERMOPLASTIC)
- CALTRANS STRIPING DETAIL "XX"



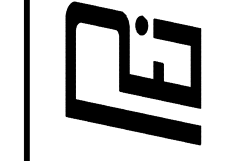
SHARED LANE MARKING GREEN PAINT DETAIL
NTS

- NOTES:**
- 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



REMOVE & REPLACE 0.33' HMA
NTS

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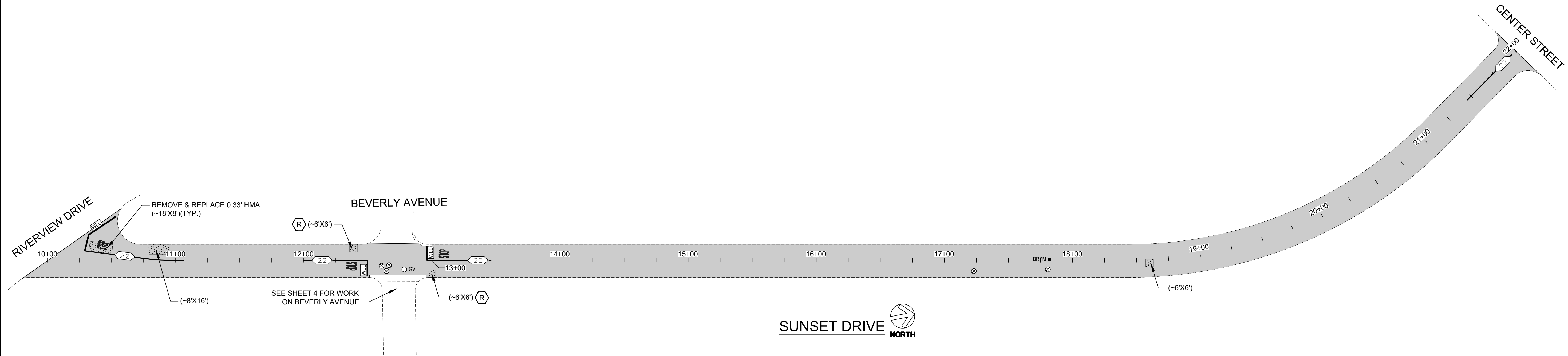


CITY OF CAPITOLA
 2025 PAVEMENT MAINTENANCE PROJECT
**ROSEDALE AVENUE, CARL LANE, ROSEDALE COURT,
 ALMA LANE, & PLUM STREET**












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 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 40'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

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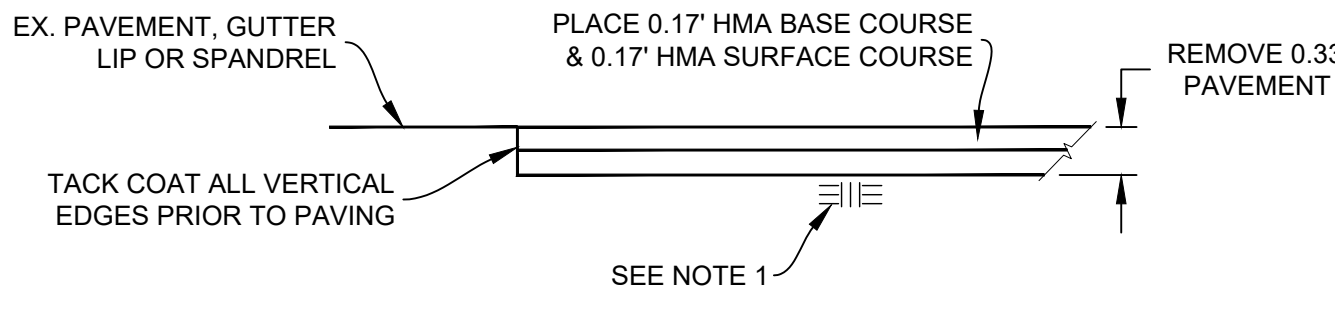


SUNSET DRIVE NORTH

LEGEND

-  REMOVE & REPLACE 0.33' HMA
-  CRACK SEAL & SLURRY SEAL (TYPE II)
-  PRUNE & REMOVE TREE ROOTS
-  SANITARY SEWER MANHOLE
-  WATER VALVE
-  GAS VALVE
-  BLUE RETROREFLECTIVE PAVEMENT MARKER
-  12" WHITE LIMIT LINE (THERMOPLASTIC)
-  CALTRANS STRIPING DETAIL "XX"

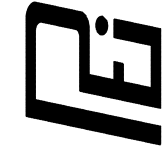
NOTES:
 1. RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



REMOVE & REPLACE 0.33' HMA
NTS

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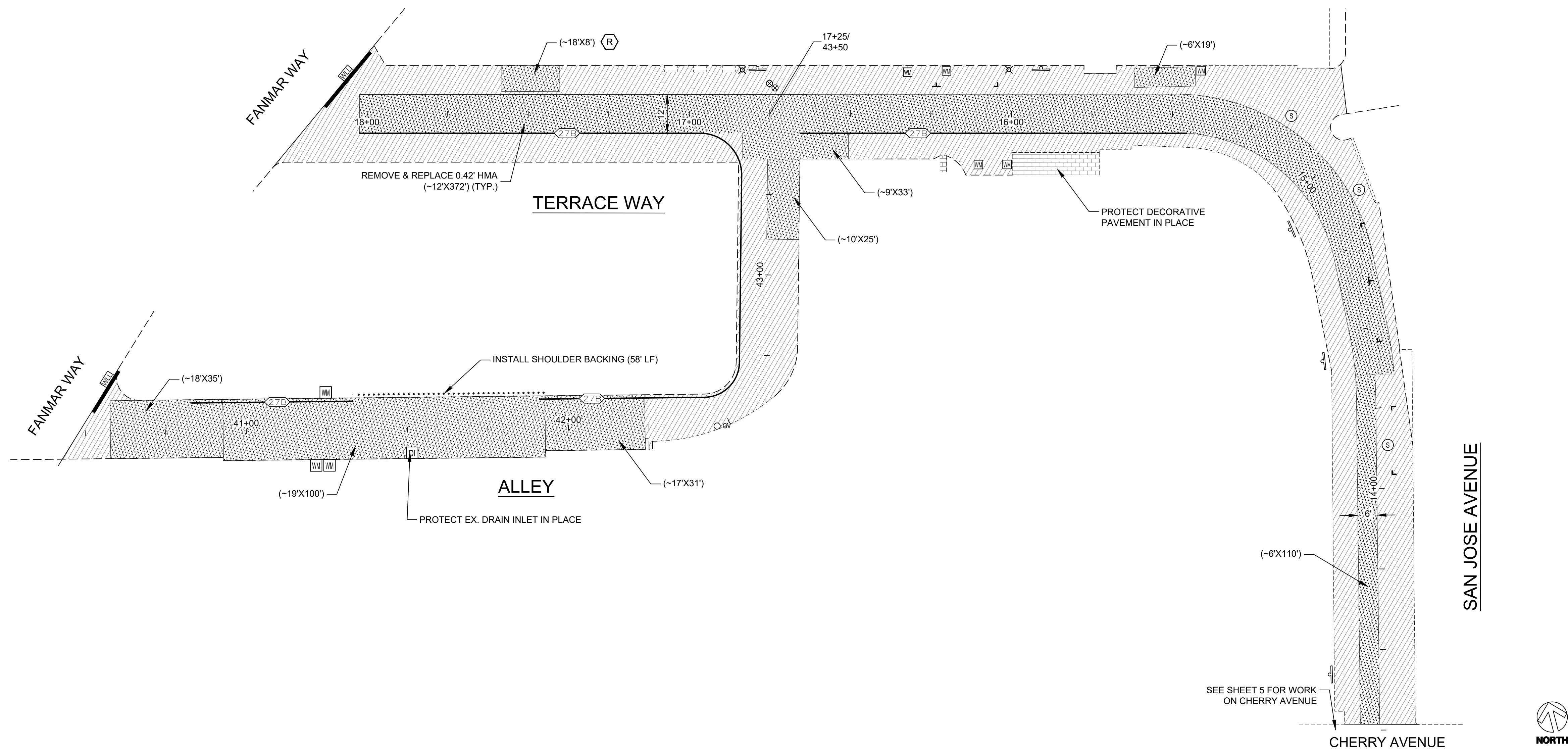
CITY OF CAPITOLA
2025 PAVEMENT MAINTENANCE PROJECT
SUNSET DRIVE



DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 40'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

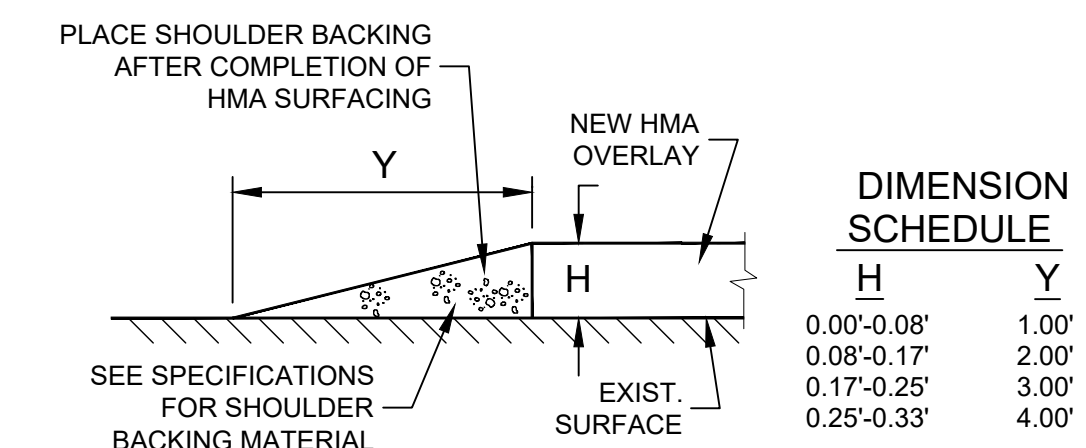
11 of 13

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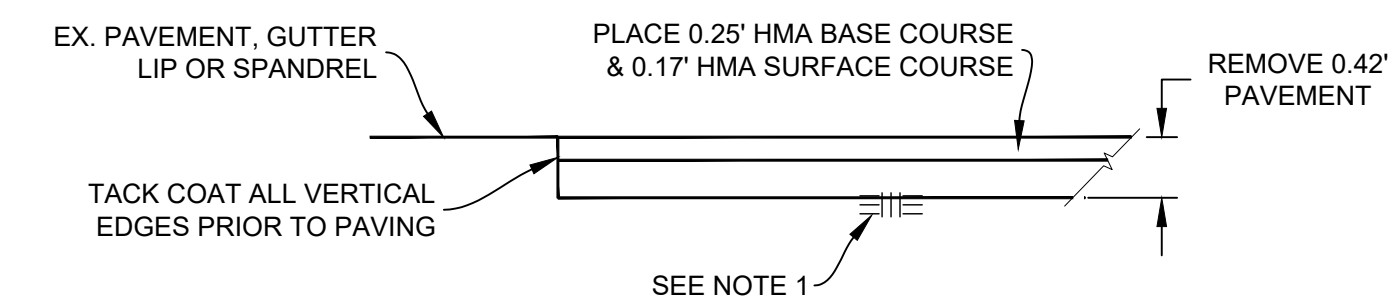
LEGEND

- REMOVE & REPLACE 0.42' HMA
- CAPE SEAL
- DECORATIVE PAVEMENT (EX.)
- INSTALL SHOULDER BACKING
- PRUNE & REMOVE TREE ROOTS
- SANITARY SEWER MANHOLE
- SEWER CLEANOUT (EX.)
- WATER VALVE
- DRAIN INLET
- WATER METER
- LIGHT STANDARD (EX.)
- SURVEY MONUMENT
- GAS VALVE
- CALTRANS STRIPING DETAIL "XX"
- 12" WHITE LIMIT LINE (THERMOPLASTIC)



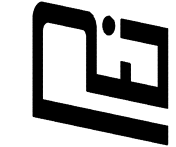
SHOULDER BACKING DETAIL
 NTS

- NOTES:**
- RECOMPACT LOOSENED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.
 - HMA MAY BE REPLACED IN A SINGLE 0.33' LIFT IF REPAIR IS LOCATED UNDER AN OVERLAY.



REMOVE & REPLACE 0.42' HMA
 NTS

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CITY OF CAPITOLA

2025 PAVEMENT MAINTENANCE PROJECT

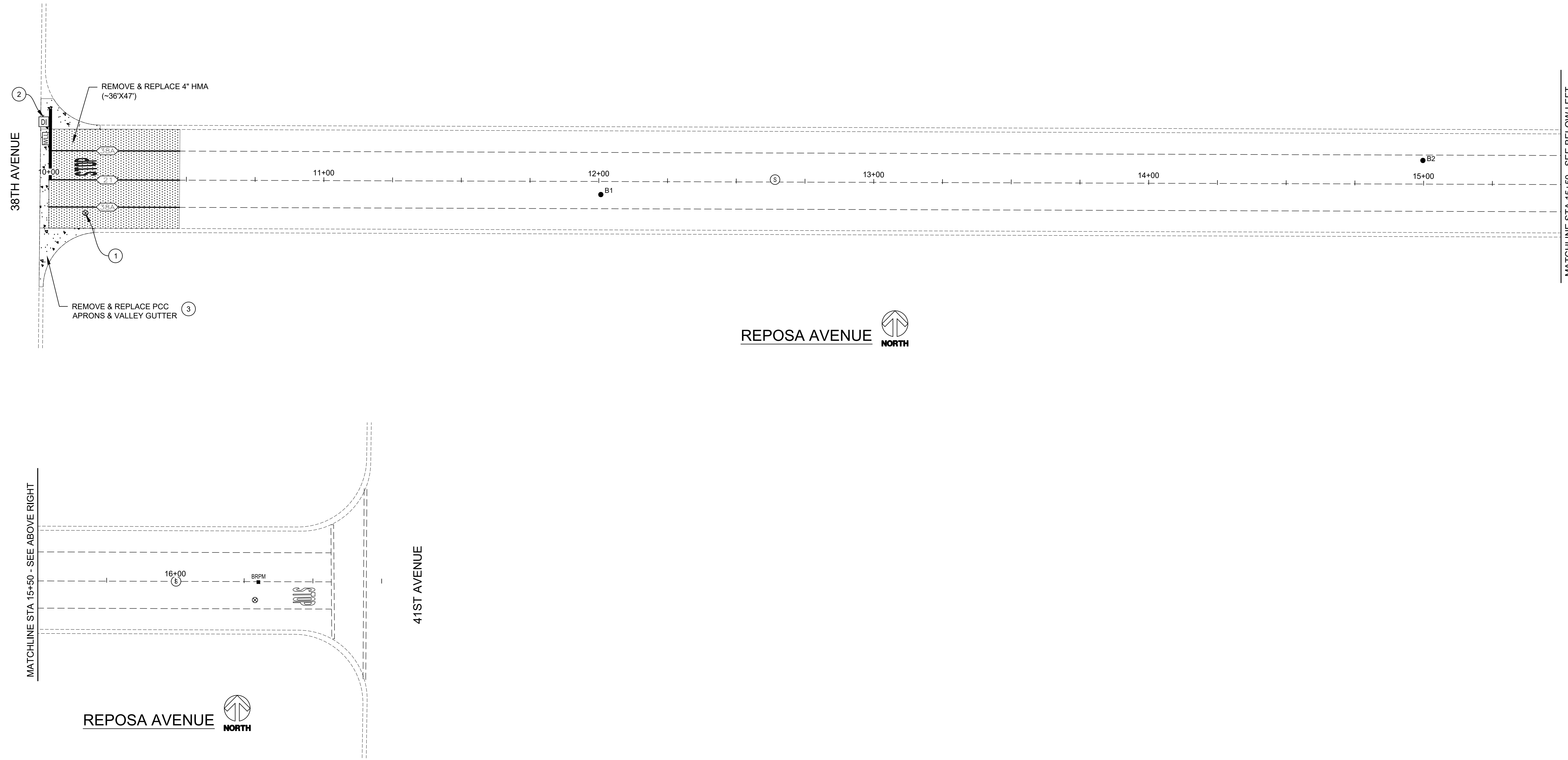
TERRACE WAY / ALLEY / SAN JOSE AVENUE



DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 20'**
 VERIFY SCALE
 BAR REPRESENTS 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

12 of 13

P:\R\Z\SHARED\DRIVE\ACTIVE PROJECTS\CAPITOLA CITY OF 230180\TASK 01\DRAWINGS\230180\01_SITED01_REPOSA AVENUE_BASE MAPS.DWG Pk1 Dwg: 2/20/2025 11:47 AM



REPOSA AVENUE NORTH

REPOSA AVENUE NORTH

BORING LOG

| NO. | AC | AB | R-VALUE | FABRIC (Y/N) |
|-----|--------|--------|---------|--------------|
| B1 | 1-1/2" | 5-1/2" | - | N |
| B2 | 2" | 4-1/2" | 10 | N |

*CORING DATA IS FOR INFORMATION ONLY. EXISTING SECTION MAY VARY FROM SECTION(S) FOUND AT CORING LOCATION(S). FABRIC MAY BE PRESENT IN SECTIONS EVEN IF NOT FOUND AT CORING LOCATION(S).

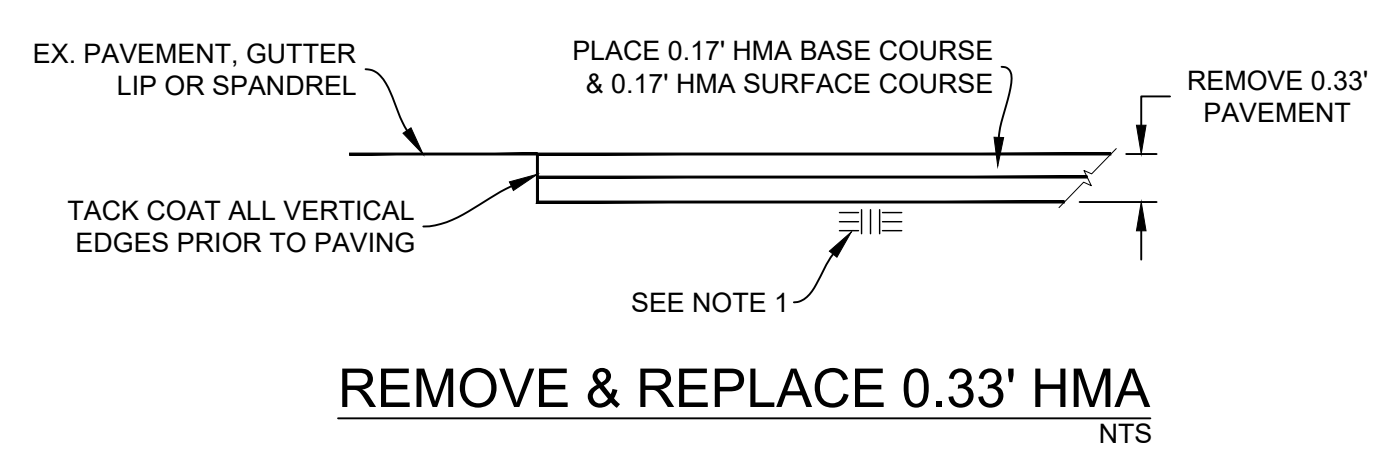
CONSTRUCTION NOTES:

- ① LOWER UTILITY PRIOR TO COLD PLANE.
- ② ADJUST DRAIN INLET TO FINISH GRADE.
- ③ REMOVE & REPLACE PCC APRONS & VALLEY GUTTER PER CITY OF CAPITOLA STANDARD DRAWINGS CAP - 004 & CAP - 005.

LEGEND

- REMOVE & REPLACE 4" HMA
- REMOVE & REPLACE PCC APRONS & VALLEY GUTTER
- WATER VALVE
- SANITARY SEWER MANHOLE
- BLUE RETROREFLECTIVE PAVEMENT MARKER
- BORING LOCATION
- DRAIN INLET
- 12" WHITE LIMIT LINE (THERMO)
- CALTRANS STRIPING DETAIL "XX"

NOTES:
 1. RECOMPACT LOOSENEED MATERIAL AT SURFACE. IF CONTRACTOR DISTURBS MORE THAN 1-1/2" OF MATERIAL, SUBGRADE SHALL BE RECOMPACTED TO 95% R.C.



Pavement Engineering Inc.
 You can ride on our reputation
 Corporate Office:
 3485 Sacramento Drive, Suite A
 San Luis Obispo, CA 93401
 805.781.2265



CITY OF CAPITOLA
 2025 PAVEMENT MAINTENANCE PROJECT
 REPOSA AVENUE



DRAWN BY: **CM**
 PROJECT NUMBER: **230180-01**
 SCALE: **1" = 20'**
 VERIFY SCALE
 BAR REPRESENTS
 1" ON ORIGINAL
 DATE: **FEBRUARY 2025**
 SHEET NUMBER:

13 of 13

**CITY OF CAPITOLA
2025 PAVEMENT MAINTENANCE PROJECT
ENGINEER'S ESTIMATE**

| BID ITEM NO. | BID ITEM | UNIT | TOTAL ESTIMATED QUANTITY | APPROXIMATE UNIT COST | EXTENSION |
|--------------------|---|------|--------------------------|-----------------------|--------------|
| 1 | Mobilization, Bonds & Insurance | LS | 1 | \$ 50,000.00 | \$ 50,000.00 |
| 2 | Notification of Residents, Businesses & Agencies | LS | 1 | \$ 3,997.75 | \$ 3,997.75 |
| 3 | Bicycle, Pedestrian & Traffic Control | LS | 1 | \$ 45,000.00 | \$ 45,000.00 |
| 4 | Storm Water Pollution Control Program | LS | 1 | \$ 9,518.44 | \$ 9,518.44 |
| 5 | Remove & Replace 0.33' HMA | SF | 7,824 | \$ 10.00 | \$ 78,240.00 |
| 6 | Remove & Replace 0.42' HMA | SF | 9,368 | \$ 12.50 | \$117,100.00 |
| 7 | 0.50' Deep Lift Stabilization (Allowance) | SF | 948 | \$ 17.50 | \$ 16,590.00 |
| 8 | Crack Seal & Slurry Seal | TN | 347 | \$ 400.00 | \$138,600.00 |
| 9 | Cape Seal | SF | 18,445 | \$ 1.25 | \$ 23,056.25 |
| 10 | Prune & Remove Tree Roots under HMA Repair | SF | 1,683 | \$ 15.00 | \$ 25,245.00 |
| 11 | Install Shoulder Backing | LF | 58 | \$ 40.00 | \$ 2,320.00 |
| 12 | Remove & Replace PCC Curb & Gutter | LF | 20 | \$ 100.00 | \$ 2,000.00 |
| 13 | Remove & Replace PCC Sidewalk | SF | 60 | \$ 30.00 | \$ 1,800.00 |
| 14 | Remove & Replace PCC Apron | SF | 0 | \$ 20.00 | \$ - |
| 15 | Remove & Replace PCC Valley Gutter | SF | 0 | \$ 20.00 | \$ - |
| 16 | Lower & Adjust Manhole Cover to Finish Grade | EA | 3 | \$ 1,500.00 | \$ 4,500.00 |
| 17 | Lower & Adjust Water Valve Cover to Finish Grade | EA | 1 | \$ 1,000.00 | \$ 1,000.00 |
| 18 | Reset Concrete Collar Around Utility | EA | 2 | \$ 1,000.00 | \$ 2,000.00 |
| 19 | Remove & Reset Drain Inlet | EA | 1 | \$ 1,500.00 | \$ 1,500.00 |
| 20 | Install Blue RPM @ Hydrant | EA | 18 | \$ 20.00 | \$ 360.00 |
| 21 | Red Curb Paint | LF | 2,550 | \$ 5.00 | \$ 12,750.00 |
| 22 | Gray Curb Paint | LF | 18 | \$ 5.00 | \$ 90.00 |
| 23 | Blue Curb Paint | LF | 40 | \$ 5.00 | \$ 200.00 |
| 24 | 4" White Line (Thermoplastic) | LF | 40 | \$ 3.00 | \$ 120.00 |
| 25 | 4" Blue Line (Thermoplastic) | LF | 27 | \$ 3.00 | \$ 81.00 |
| 26 | 12" White Crosswalk/Limit Line (Thermoplastic) | LF | 984 | \$ 5.00 | \$ 4,920.00 |
| 27 | 24" White Crosswalk Line (Thermoplastic) | LF | 514 | \$ 10.00 | \$ 5,140.00 |
| 28 | 6" Chevron Line (Thermoplastic) | LF | 90 | \$ 4.00 | \$ 360.00 |
| 29 | Striping Detail #2 (Thermoplastic) | LF | 1,176 | \$ 3.50 | \$ 4,116.00 |
| 30 | Striping Detail #21 (Thermoplastic) | LF | 0 | \$ 3.50 | \$ - |
| 31 | Striping Detail #22 (Thermoplastic) | LF | 1,804 | \$ 3.50 | \$ 6,314.00 |
| 32 | Striping Detail #27B (Thermoplastic) | LF | 1,873 | \$ 3.50 | \$ 6,555.50 |
| 33 | Striping Detail #38A (Thermoplastic) | LF | 0 | \$ 3.50 | \$ - |
| 34 | Striping Detail #39 (Thermoplastic) | LF | 2,067 | \$ 3.50 | \$ 7,234.50 |
| 35 | Striping Detail #39A (Thermoplastic) | LF | 448 | \$ 3.50 | \$ 1,568.00 |
| 36 | Install "STOP" Legend (Thermoplastic) | EA | 25 | \$ 150.00 | \$ 3,750.00 |
| 37 | Install "BUMP" Legend (Thermoplastic) | EA | 2 | \$ 150.00 | \$ 300.00 |
| 38 | Install "DO NOT ENTER" Legend (Thermoplastic) | EA | 1 | \$ 150.00 | \$ 150.00 |
| 39 | Install "NO PARKING" Legend (Thermoplastic) | EA | 1 | \$ 150.00 | \$ 150.00 |
| 40 | Install Speed Hump Pavement Markings (Thermoplastic) | EA | 1 | \$ 300.00 | \$ 300.00 |
| 41 | Install Parking Stall Pavement Markings (Thermoplastic) | EA | 38 | \$ 15.00 | \$ 570.00 |
| 42 | Install Internation Symbol of Accessibility Marking (Thermoplastic) | EA | 1 | \$ 150.00 | \$ 150.00 |
| 43 | Install Railroad Crossing Symbol (Thermoplastic) | EA | 1 | \$ 200.00 | \$ 200.00 |
| 44 | Install Shared Roadway Bicycle Marking (Thermoplastic) with Green Paint Backing | EA | 38 | \$ 225.00 | \$ 8,550.00 |
| 45 | Install Bike Lane Symbol w/ Person (Thermoplastic) with Green Paint Backing | EA | 9 | \$ 200.00 | \$ 1,800.00 |
| 46 | Install Bike Lane Arrow (Thermoplastic) with Green Paint Backing | EA | 9 | \$ 150.00 | \$ 1,350.00 |
| GRAND TOTAL | | | | \$589,546.44 | |

| Reposa Avenue | |
|-----------------------------------|--------------------|
| 38th Avenue to 3825 Reposa Avenue | |
| STREET QUANTITY | STREET COST |
| 1 | \$ 382.85 |
| 1 | \$ 25.39 |
| 1 | \$ 342.55 |
| 1 | \$ 60.45 |
| 1,777 | \$ 17,766.00 |
| 89 | \$ 1,554.53 |
| 644 | \$ 12,880.00 |
| 144 | \$ 2,880.00 |
| 1 | \$ 1,000.00 |
| 1 | \$ 1,500.00 |
| 25 | \$ 125.00 |
| 50 | \$ 175.00 |
| 100 | \$ 350.00 |
| 1 | \$ 150.00 |
| AD ALT | \$39,191.75 |

Capitola City Council

Agenda Report

Meeting: February 27, 2025

From: Community Services and Recreation Department

Subject: Public Art Fund Allocation



Recommended Action: Adopt a resolution allocating \$25,000 from the Public Art Fund as a matching contribution for an application for the National Endowment for the Arts Grant FY 2026 to support the creation of public art project at the Park at Rispin Mansion and amending the Fiscal Year 2024-25 Budget, as recommended by the Capitola Art and Cultural Commission.

Background: Chapter 2.58 of the Capitola Municipal Code (Funding the Public Art Program) establishes a Public Art Fund to enrich the City's cultural and aesthetic environment through public art initiatives. This fund is supported by commercial construction projects exceeding \$250,000, where developers contribute either 2% of the project cost for on-site public art or 1% directly to the Public Art Fund.

The Art and Cultural Commission, established by Capitola Municipal Code Chapter 2.56, advises the City Council on public art fund allocations and presents annual recommendations for cultural and artistic goals. The Commission has identified the Park at Rispin Mansion as a site for a public art project, prioritizing the Fountain Project as one of their goals for this year.

The Public Works Department seeks to apply for a National Endowment for the Arts (NEA) FY 2026 Grants for Arts Projects (GAP) to fund the enhancement of the historic fountain at the Park at Rispin Mansion. This project will transform the 800-square-foot historic fountain into a vibrant artist-designed mosaic, celebrating Capitola's cultural heritage, natural beauty, and community identity through historical themes, regional landscapes, and environmental motifs inspired by Soquel Creek.

Discussion: The NEA grant requires a 1:1 funding match, with \$50,000 provided through City in-kind staff time and resources. The Art and Cultural Commission recommends that the City Council allocate \$25,000 from the Public Art Fund to support this match. The total project budget is \$150,000, with \$75,000 coming from the NEA grant and \$75,000 in matched City funds (\$50,000 in-kind and \$25,000 from the Public Art Fund).

Proposed Grant In-Kind Costs:

- Mosaic Design & Installation: \$100,000 (Grant and Public Art Fund)
- Community Workshops & Outreach: \$11,000
- Project Management: \$10,000
- Grant Administration: \$9,000
- Interpretive Signage & Accessibility Features: \$5,000
- Public Works Staff & Materials: \$15,000

While the NEA GAP grant allows up to \$100,000 in funding requests, any additional match beyond \$50,000 would require other funding sources. Approval of this recommendation ensures \$75,000 in matching funds for the grant application. The \$25,000 from the Public Art Fund and the \$75,000 NEA award would cover all art-related expenses, excluding staff time provided by the City.

This 18-month project will involve artist selection, community workshops, design approval, fabrication, installation, and a public dedication event. It aligns with Capitola's cultural objectives by fostering community engagement. Should the grant application be unsuccessful, the \$25,000 Public Art Fund allocation will remain available for future projects.

Fiscal Impact: The current balance of the Public Art Fund is \$95,850, with \$50,000 committed to existing projects. Allocating \$25,000 for this grant match leaves \$20,850 for other public art initiatives. There are sufficient funds to support the recommended action.

Attachments:

1. Resolution Amending the FY 2024-25 Budget

Report Prepared By: Nikki Bryant; Community Services and Recreation Director

Reviewed By: Julia Gautho, City Clerk; Jim Malberg, Finance Director, Jessica Kahn, Public Works Director; Samantha Zutler, City Attorney

Approved By: Jamie Goldstein, City Manager

RESOLUTION NO. _____

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CAPITOLA
AMENDING THE 2024-25 FISCAL YEAR CITY BUDGET AND CAPITAL IMPROVEMENT
PROGRAM BUDGET**

WHEREAS, it is necessary to adopt the 2024-25 Fiscal Year Budget for all City funds and Capital Improvement Program; and

WHEREAS, the City Council conducted budget study sessions, heard and considered public comments, had modified and proposed a budget accordingly, and on June 27, 2024, adopted such budget for the Fiscal Year July 1, 2024, through June 30, 2025; and

WHAREAS, the City Council previously amended the FY 2024-25 Fiscal Year Budget on September 24, 2024, and January 30, 2025; and

WHEREAS, since the adoption of the budget Art & Cultural Commission is recommending allocating \$25,000 from the Public Art Fund as matching funds for the National Endowment for the Arts FY2026 grant application; and

WHEREAS, it is necessary to amend the Fiscal Year 2024-25 Adopted Budget to allocate \$25,000 as matching funds for the National Endowment for the Arts FY2026 grant application; and

NOW, THEREFORE, BE IT HEREBY RESOLVED by the City Council of the City of Capitola that the 2024-25 Fiscal Year Budget is hereby amended, including Exhibit A (Budget Amendment) to this Resolution; and

BE IT FURTHER RESOLVED that the Finance Director is directed to enter the budget into the City's accounting records in accordance with appropriate accounting practices, and the City Manager, with the Finance Director's assistance, shall assure compliance therewith.

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the City Council of the City of Capitola on the 27th day of February 2025, by the following vote:

- AYES:**
- NOES:**
- ABSENT:**
- ABSTAIN:**

Joe Clarke, Mayor

ATTEST:

Julia Gautho, City Clerk



Budget Adjustment Request

Date

02/18/2025

Requesting Department *

Community Services & Recreation

Type of Adjustment

- Administrative
- Council

Item #

Council Date

2/27/25

Council Approval

Revenues

Search

| Account Number | Account Description | Increase/Decrease |
|----------------------|----------------------|-------------------------|
| <input type="text"/> | <input type="text"/> | \$ <input type="text"/> |

[+ Add](#)

Total Revenues

\$ 0.00

Expenditures

Search

| Account Number | Account Description | Increase/Decrease |
|-------------------------|---------------------------|-------------------|
| 1315-00-00-000-4305.900 | Admin Contracts - general | \$ 25,000.00 |

[+ Add](#)

Total Expenditures

\$ 25,000.00

Net Impact

\$ -25,000.00

Purpose

To provide matching funds for the National Endowment for the Arts (NEA) FY26 grant application.

Department Head Approval

Nikki Bryant

Finance Director Approval

Jim Malberg

City Manager Approval

Jamie Goldstein

Comments:

Submit

Capitola City Council

Agenda Report

Meeting: February 27, 2025

From: City Manager Department

Subject: MOU with the Capitola Police Officers Association



Recommended Action: Authorize the City Manager to sign a side letter agreement with the Capitola Police Officers Association from March 1, 2025, through June 30, 2027.

Background/Discussion: On May 30, 2024, the City Council authorized the City Manager to execute a Memorandum of Understanding (MOU) with the Capitola Police Officers Association (POA). Changes outlined within the MOU went into effect the next pay period and included a 3% percent Cost of Living Adjustment (COLA) for most positions represented by the bargaining unit. Consistent with other MOUs, the agreement with the POA included several other economic benefits contingent on the passage of Measure Y in November 2024, effective the first full pay period after the Council certified election results. These economic benefits were referred to as contingencies throughout negotiations, and all five labor units and associated agreements included contingencies.

With the passage of Measure Y in November, and certification of election results on December 12, 2024, most economic benefits became effective in the pay period that began December 29 and were reflected in January 10, 2025, employee paychecks.

The current POA MOU includes the following three independent incentive pays in Article 14: Educational Programs:

- Education Incentive Pay (Officers and Sergeants)
 - 30 units: 2.5%
 - 60 units: 5%
 - BA/BS: 7.5%
- P.O.S.T. Certification Pay (traditionally, only Sergeants)
 - Intermediate: 2.5%
 - Advanced: 5%
 - Supervisory: 7.5%
- Career Officer Pay (Officers only)
 - Senior Officer: 2.5%
 - Senior Officer II: 5%
 - Corporal: 7.5%

The 2024 MOU allowed for Police Officers with Advanced P.O.S.T. Certifications to qualify for 2.5% P.O.S.T. Certification Pay; however, only if the Officer was currently not receiving any level of Education Incentive Pay (ie: qualifying educational credits/degrees). In January, upon implementation of the new MOU, it became clear that no language prohibits Officers receiving Career Officer Incentive Pay to also receive the Advanced P.O.S.T. Certification Pay; increasing their overall incentive pay by 2.5% (for a total of 10%), which is higher than the maximum potential education incentive pay.

After meeting with the POA, City staff analyzed potential options to rectify the situation. Staff then negotiated with the POA to come to this proposed solution:

- Increasing Education Incentive Pay at the Bachelor's Degree level by 2.5%
- Ending the new 2.5% Advanced P.O.S.T. Certification incentive but allowing the two officers currently receiving the benefit to continue to do so.

A side letting with language reflecting this solution will be included as additional materials before the Thursday, February 27, City Council meeting.

Fiscal Impact: Increasing Education Incentive Pay (at the bachelor's degree level) by 2.5% will impact seven City employees and will cost an estimated \$23,000 each fiscal year. A similar cost of \$24,000 was estimated when projecting the FY 2024-25 Budget based on negotiations at that time.

Report Prepared By: Chloe Woodmansee, Assistant to the City Manager

Reviewed By: Julia Gautho, City Clerk; Samantha Zutler, City Attorney

Approved By: Jamie Goldstein, City Manager

Capitola City Council

Agenda Report



Meeting: February 27, 2025

From: City Manager Department

Subject: Appointment of Capitola Representative to Measure Q Oversight Advisory Board

Recommended Action: Appoint a member of the public to serve as Capitola's representative on the Measure Q Citizens Oversight Advisory Board.

Background: Approved by Santa Cruz County voters in November 2024, the Santa Cruz County Safe Drinking Water, Clean Beaches, Wildfire Risk Reduction, and Wildlife Protection Initiative (Measure Q) is a transformative local effort aimed at protecting and enhancing the county's precious natural resources. This initiative prioritizes water quality, wildfire prevention, habitat restoration, and the creation of resilient ecosystems to ensure the health and well-being of Santa Cruz County's environment and its residents for generations to come.

Measure Q is funded through a modest annual parcel tax of \$87 and is expected to generate more than \$7 million annually.

Discussion: Measure Q establishes a nine-member Citizens Oversight Advisory Board (COAB) to ensure transparency and alignment with community goals. The COAB also engages with the community, helps develop Vision Plans to guide awards and provides annual reporting to the Board of Supervisors. All meetings are open to the public.

The composition of the COAB is as follows:

- Nine subject-matter experts – five appointed by the County's Board of Supervisors and four appointed by the cities with one selection per city
- Members are required to have expertise in water quality or flood protection, wildfire reduction or forest management, parks or natural resources management, working lands, environmental justice or park equity, or knowledge of evaluating financial transactions
- Members are not required to live in any specific area
- Members cannot hold an elected office

The COAB's responsibilities include the following:

- Choose land stewardship implementation partner
- May provide recommendations to the Office of Response, Recovery & Resilience (OR3) and County Parks on the development of the Vision Plan.
- Approve the 5-Year Vision Plan prepared by OR3 and County Parks, synthesizing local climate, recreation, and resource management strategies to support grant criteria and awards
- Receive reports on projects funded and provide annual reports to the County's Board of Supervisors on project outcomes and leveraging of Measure Q funds

As of Friday, February 21st, the City received one application to serve as a representative of Capitola on the COAB from Jed Wilson (Attachment 1). Interested members of the public may apply through the County website:

(<https://www.santacruzcountyca.gov/Government/Commissions,CommitteesAdvisoryBodies/CommissionsAppointmentApplication.aspx>) until February 26th.

Fiscal Impact: None.

Attachments:

1. Application

Report Prepared By: Julia Gautho, City Clerk

Approved By: Jamie Goldstein, City Manager

Gautho, Julia

From: bdscc <bdscc@santacruzcountyca.gov>
Sent: Thursday, January 30, 2025 12:00 PM
To: Gautho, Julia
Subject: [PDF] FW: Commissions Appointment Application - from Jed Wilson
Attachments: Wilson - Resume.docx.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Julia,

I don't know if your aware of the County's new WWWPA Citizen's Oversight Board (aka Measure Q). Our office has received the attached application. Jed Wilson is interested in being the Capitola City Representative on this Board. If you'd like to move forward in appointing Mr. Wilson, he will need to be nominated at your next City Council meeting. Once I receive confirmation of his nomination, the Board will approve nomination at our March 11th, Board meeting.

If our office receives more application for the Capitola City rep position, I will send them your way for review.

Thank you,
 Jesseka



Jesseka Rodriguez

Office Assistant III

Santa Cruz County Board of Supervisors

701 Ocean Street, Room 500, Santa Cruz, CA 95060

Office: 831-454-2200

From: CommissionsApplication_DoNotReply@santacruzcountyca.gov
 <CommissionsApplication_DoNotReply@santacruzcountyca.gov>
Sent: Monday, January 27, 2025 9:38 AM
To: bdscc <bdscc@santacruzcountyca.gov>
Subject: Commissions Appointment Application - from Jed Wilson

Appointment to a County Advisory Body

Commission, Committee, or Board:

WWWPA Citizen's Oversight Advisory Board (aka Measure Q)

If applicable, please indicate the seat or category of representation for which you are seeking appointment:

Capitola City

APPLICANT INFORMATION**Name:**

Jed Wilson

Street:

[REDACTED]

City:

Capitola

State:

CA

Zip Code:

95010

Email Address:jedwilson17@gmail.com**Phone:**

[REDACTED]

Preferred Correspondence:

Email

Supervisory District:

5

Do you currently hold elected office?

No

CURRENT/PREVIOUS COMMISSION OR COMMITTEE SERVICE

List your current or previous service on any advisory bodies and state where you served. Previous service is not required.

| Advisory Body | Region/County | Term |
|------------------------------------|---------------|-----------|
| Statewide Training Group (CALFIRE) | State | 2006-2017 |

CA

EDUCATION AND/OR TRAINING

Include any education and/or training related to the advisory body for which you are applying for. This is optional information but beneficial.

| Institution/Program | Major/Field | Degree/Certificate | Year |
|--------------------------|--------------|--------------------|------|
| College of the Siskiyous | Fire Science | AS | 2002 |

Please select all fields in which you have relevant, demonstrable expertise:

Wildfire or forest management, Wildlife, parks or natural resources stewardship, Working lands or agriculture, Financial and/or program analysis

WORK/VOLUNTEER EXPERIENCE

Include your current or most recent employer as well as any previous employment, volunteer, and community activities you've participated in which are related to the advisory body for which you are applying for.

| Organization | Address | Position | Years |
|--------------|------------------------------------|------------|-------|
| CALFIRE | 6059 Highway 9, Felton CA 95018 | Unit Chief | 18 |
| FEEJAYS | Swift St, Santa Cruz, CA | CEO | 4 |

STATEMENT OF INTEREST/QUALIFICATIONS

Complete a brief statement indicating why you are interested in serving on the advisory body in question and why you are qualified through personal, lived, and/or professional experience(s) for the appointment. What do you hope to contribute or gain from your participation in the commission?

I am writing to express my interest in being considered for the upcoming appointment to the Measure Q Board. With my extensive experience in both operational and administrative roles within the fire service, I believe I would bring a unique perspective to the board. In particular, I offer a strong understanding of fuel management practices, forest regulations, and prescribed fire—areas in which I work daily as part of my professional responsibilities.

I am deeply committed to collaboration and would aim to work cohesively with fellow board members to maximize the effectiveness of Measure Q funds, ensuring that they are used in line with the intentions outlined to the public. This measure specifically addresses fire safety and watershed protection—two critical issues for our community. I am passionate about making sure the funds are directed toward maintaining public safety, protecting our natural resources, and ensuring clean water for future generations.

Please upload your CV or resume:

Wilson - Resume.docx.pdf

REASONABLE ACCOMODATIONS

Please identify any reasonable accommodations needed for equal participation. This information is not a consideration nor a factor in any possible appointment and is used only for planning and technology purposes.

None

COMMISSIONS POLICY ORDINANCE OF SANTA CRUZ COUNTY

Please review Santa Cruz County Code (SCCC) Chapter 2.38, also known as the “Commissions Policy Ordinance of Santa Cruz County” available at <https://www.codepublishing.com/CA/SantaCruzCounty/> which applies to any advisory board, commission, committee or department advisory group over which the County has appointing authority or jurisdiction.

In accordance with SCCC Chapter 2.38 and Santa Cruz County Conflict of Interest Code, I agree to:

Initials: **jw** Attend meetings regularly and devote the time necessary to fulfill my duties as a member

Initials: **jw** Comply with the Ralph M. Brown Act and California Public Records Act

Initials: **jw** If required under state and local conflict of interest laws, file a public statement (Form 700) disclosing certain types of economic information

CERTIFICATION

By checking this box and entering the date and my initials, I certify that the above information is true and correct and authorize the verification of the information in the application in the event I am a finalist for the appointment.

Certified

Date: 2025-01-27

Initials: jw

Jedidiah A. Wilson

•  • jedwilson17@gmail.com •

EDUCATION:

2001-2016

Cabrillo College • Aptos, CA • Part Time Student

2000-2003

College of the Siskiyous • Weed, CA • AS Fire Science

1999-2000

Columbia College • Sonora, CA • Part Time Student

1996-2000

Mariposa County High School • Mariposa, CA • Full Time Student

WORK EXPERIENCE:

8/2024-Current

CAL-FIRE • San Mateo - Santa Cruz • TAU Unit Chief

As a Unit Chief of CZU, I am responsible for overseeing the operations and management of a specific geographic unit within California. My role involves ensuring that fire protection services, emergency response efforts, and prevention programs are effectively carried out in our area. I lead a team of dedicated fire personnel, coordinate resources during large incidents, and work closely with local governments, agencies, and communities to reduce wildfire risks. Additionally, I play a key role in strategic planning, budgeting, and implementing CAL FIRE's policies and objectives to ensure public safety while supporting environmental stewardship and resource management.

Assistant Region Chief, Jeff Veik, wk. (707)217-9001

6/2022-8/2024

CAL-FIRE • San Mateo - Santa Cruz • Deputy Chief

Unit operations, I assure that emergency resources, personnel, and equipment are trained, available, and ready to respond to fires and other emergencies; establish incident objectives and ensure the effective management and mitigation of emergencies; coordinate, develop, and implement the unit's Emergency Resource Directory, County Emergency Response Plan, Local Government Mutual Aid Plans, Local Government Automatic Aid Plans, and Interagency Operational Plans. I oversee both Santa Cruz County Fire Department and Pajaro Valley Fire District contracts with CAL FIRE. This includes budgeting, staffing, LG-1 creation and approval.

Unit Chief, Nate Armstrong, wk. (831)254-1700

2/2022-6/2022

CAL-FIRE • San Mateo - Santa Cruz • Battalion Chief (Santa Cruz County Fire)

As a Battalion Chief my job entails providing program management and managing all personnel assigned to Santa Cruz County Fire. I am involved in resolving many different type incidents that fall under the department's ALL RISK mission and providing field battalion coverage. As the Santa Cruz County Fire Battalion Chief, I work in close cooperation with Unit Management, Santa Cruz County and Local Departments .

Unit Chief, Nate Armstrong, wk. (831)254-1700

2016-2022

Feejays • CEO

As CEO I was responsible for managing the companies' overall operations. This includes delegating and directing agendas, driving the company's profitability, managing the company's organizational structure, strategies and communicating directly with the owners.

Owner, TJ Moran, (831)425-1292

2013-2016

CAL-FIRE • San Mateo - Santa Cruz • Battalion Chief (Training)

As a Battalion Chief my job entailed providing program management and managing all personnel assigned to the Training Department. I was involved in resolving many different type incidents that fall under the department's ALL RISK mission and providing field battalion coverage. As the Unit's Training Officer, I worked in close cooperation with Management, Region Training and Local Departments to provide the mandated and career enhancement courses. I was the Santa Cruz County Training Officers Secretary/Treasurer and the Unit Instructor of Record for the JAC program.

Assignments: CZU Training Battalion – (July 2013 – May 2016)

Retired Unit Chief, Ian Larkin, wk. (831)254-1700

2012-2013

CAL-FIRE • San Mateo - Santa Cruz • Fire Captain (Training)

As the Santa Cruz County Training Officer, I conducted weekly/monthly/annual training for all paid staff along with conducting the volunteer academy. I oversaw the Training Battalion operations during this period of a vacant position of Battalion Chief. I was the Units Instructor of Record for the JAC Program. I was the Santa Cruz County Training Officers Secretary/Treasurer for the 2012/2013 calendar year.

Assignments: CZU Training Battalion – Fire Captain (Feb 2012 –July 2013)

Retired Unit Chief, Ian Larkin, wk. (831)254-1700

2011-2012

CAL-FIRE • San Mateo - Santa Cruz • TAU Battalion Chief (Training)

As a Battalion Chief my job entailed providing program management and managing all personnel assigned to the Training Department. I was involved in resolving many different type incidents that fall under the department's ALL RISK mission and providing field battalion coverage. As the Unit's Training Officer, I worked in close cooperation Management, Region Training and Local Departments to provide the mandated and career enhancement courses. I was also assigned the Unit Safety Officer Position.

Assignments: CZU Training Battalion – (July 2011-Feb 2012)

Retired Unit Chief, Scott Jalbert, wk. (831)254-1700

2008-2011

CAL-FIRE • San Mateo - Santa Cruz • Fire Captain

As a Fire Captain my job entailed providing station management and managing all personnel assigned to the station. I was involved in resolving many different type incidents that fall under the department's ALL RISK mission. I also took part in letting the local community know of the fire danger by conducting LE-100 inspections and putting on fire prevention programs. As the Santa Cruz County Training Officer, I conduct weekly/monthly/annual training for all paid staff. I was the JAC Coordinator and Units Instructor of Record for the JAC Program. Implemented a County wide Volunteer Academy for Multi-Agency participation.

Assignments: Battalion 4 Relief Captain (June 2008 – May 2009) CZU Training Battalion – Fire Captain (May 2009 – July 2011)

Retired Assistant Region Chief, Jake Hess, wk. (707)217-9001

2003-2008

CAL-FIRE • San Mateo - Santa Cruz • Fire Apparatus Engineer

As a Fire Apparatus Engineer my job entailed current upkeep of the department's apparatus and to provide station management. I was involved in resolving many different type incidents that fall under the department's ALL RISK mission. I also took part in letting the local community know of the fire danger by conducting LE-100 inspections and putting on fire prevention programs.

Assignments: Pajaro Valley FS Sch. "A", Saratoga Summit FS Sch. "B", Belmont FS Sch. "A", Ben Lomond Camp CYA "In-Camp Crew/VMP Projects" Corralitos FS Sch. "B".

Retired Captain Scott Agnelli, wk. (831)722-6122

2001-2002 Fire Seasons

CAL-FIRE • San Mateo - Santa Cruz • Firefighter I

As an Amador Firefighter One my job entailed assisting in the upkeep of department apparatus and station maintenance. I was involved in carrying out tasks that were delegated to me from my supervisor. These ranged from fire suppression tactics to duties around the station.

Assignments: Big Creek FS Sch. "B"/Amador

Retired Captain Michael Brunson, wk. (831)722-7179

2000-2001

Hammond Ranch Fire Company • Weed, CA • Firefighter/EMT

As a firefighter/EMT (Sleeper), my job entailed current upkeep of the station maintenance and department equipment. I was involved in resolving incidents including medical aids, structure fires, vehicle accidents, wildland fires, and public assist. I was also part of many committees such as:

(530)938-4200

CERTIFICATES AND LICENSES:

STATE FIRE TRAINING

- Firefighter One
- Firefighter Two
- Fire Officer
- Fire Investigator One
- Fire Instructor One
- Fire Command 1A
- Fire Command 1B
- Fire Command 1C
- Fire Prevention 1A
- Fire Prevention 1B
- Fire Management 1
- Fire Investigation 1A
- Fire Investigation 1B
- Fire Instructor 1A
- Fire Instructor 1B
- Auto Extrication
- Basic Pump Operations
- Emergency Vehicle Operations
- Rapid Intervention Crew Tactics (RIC)
- Firefighter Survival
- Ethical Leadership in the Classroom
- Region Instructor Orientation (RIO)
- ICS-200
- Mandated Instructor Update (2012)

FEMA

- I-700
- I-800

CSTI

- HAZMAT 1A
- HAZMAT 1B
- HAZMAT 1C
- HAZMAT 1D

CALFIRE/NWCG

- Supervision 2
- Supervision 3
- Incident Management 2
- Incident Management 3
- C-234 & S-234 Firing Operations
- Confined Space Awareness
- Confined Space Entry & Rescue
- S-290
- Basic 67 Hour Academy
- ICS-100
- Basic Firing Operations

- Commanding the Initial Response
- CALCARD – Certified Purchasing
- Defensive Driver Train-the-Trainer
- Chipper Orientation & Safety
- GPS/Basic Land Navigation
- Helicopter Rescue Awareness
- Module 2A
- Module 2B
- CALFIRE FFA
- S-212 “Level B”
- I-300
- I-400
- Certified Purchaser
- FI-110
- FI-210
- S-130
- SA-130
- S-190
- S-203 Introduction to Information Officer
- S-244 Field Observer
- S-245 Display Processor
- S-330 Task Force/Strike Team Leader
- S-339 Division/Group Supervisor
- S-404 Safety Officer
- AREP/LOFR
- SITL

OTHER

- Member of 4300 TAWG 2006-2016
- Member of BFC TAWG 2009-2016
- Swift Water Awareness
- Swift Water Technician 1
- PC 832 Reserve Officer Training w/ Firearms
- Commanding the Mayday and RIC Operation
- California Vocational Teaching Credential
- Santa Cruz County Training Officers S/T
- Unit Instructor of Record (JAC Program)
- Registered State Fire Marshall Instructor

IROC

- DIVS (Q)
- STEN (Q)
- LOFR(T)
- FOBS (T)
- SOF2 (T)
- PIOF (T)

Member of the following:

2005-2016 Training Advisory Working Group (TAWG)

2023-Current 7700 Working Group

OTHER CERTIFICATES AND LICENSES AVAILABLE UPON REQUEST

REFERENCES:

- Retired Unit Chief Ian Larkin, wk. (831)254-1700
- Retired Assistant Region Chief Jake Hess, wk. (707)217-9001
- Retired Battalion Chief Greg Estrada, wk. (831)601-1007

Capitola City Council

Agenda Report

Meeting: February 27, 2025

From: Public Works Department

Subject: Bay Avenue Corridor Study



Recommended Action: Staff recommends the City Council 1) identify Alternative 2 as the preferred long-term improvement alternative for the Bay Avenue corridor; 2) authorize staff to proceed with public engagement and conceptual design refinement; and 3) direct staff to pursue grant funding opportunities for final design and construction.

Background: This item was originally scheduled for the February 13 City Council meeting; the item was not heard at that meeting and was continued to February 27. The Bay Avenue Corridor Study was initiated to evaluate potential long-term improvements along Bay Avenue, from Highway 1 to Monterey Avenue. The study examines multimodal safety, traffic operations, and community livability. The corridor is a key arterial that supports local businesses, residential neighborhoods, and regional traffic, with existing challenges related to congestion, multimodal safety, and access.

In 2024, a “quick-build” project at the Bay Avenue and Hill Street intersection was implemented to test a road diet and gather feedback. This interim project involved reducing travel lanes, modifying striping, and adding pedestrian safety measures. The feedback from this project, combined with detailed traffic analysis and engineering assessments, has informed the alternatives considered in this study. The study aligns with Capitola’s General Plan goals to enhance mobility and economic development along Bay Avenue while improving safety for all users.

The study also includes traffic projections for 2045, indicating that several intersections will exceed acceptable congestion thresholds under current conditions. Without improvements, key intersections, such as Bay Avenue at Hill Street and Capitola Avenue, are projected to operate at LOS E or worse, leading to increased delays and longer vehicle queues.

Discussion: The Bay Avenue Corridor Study evaluates three primary alternatives, each with distinct benefits and trade-offs.

The study utilized multiple data sources and analytical methods to assess current and future traffic conditions. Existing conditions were analyzed using traffic count data from 2024, including peak-hour intersection movements and roadway classifications. Data collection included automated and manual counts at key intersections, as well as pedestrian and bicycle counts. The analysis also incorporated projected growth rates, future development impacts, and traffic simulation models to estimate how corridor operations would evolve under each alternative. Traffic operations were analyzed using Synchro, Sidra, and VISSIM software to model vehicle delay, intersection queuing, and multimodal interactions under different scenarios. A detailed breakdown of methodology is included in Attachment 1 (Bay Avenue Corridor Study Report).

Alternative 1: Stop Control & Road Diet

- Converts current quick build configuration into permanent improvements, implementing a “road diet” to calm traffic and improve bicycle and pedestrian access.
- Includes concrete curb bulb-outs to shorten pedestrian crossing distances and enhanced striping for improved visibility.
- Buffered bike lanes provide a dedicated space for cyclists, improving safety and encouraging multimodal travel.
- Trade-offs include increased vehicle travel times and longer queues at intersections. This alternative is the most cost-effective but does not improve vehicle congestion.

Alternative 2: Roundabout Control

- Converts key intersections at Bay/Hill and Bay/Capitola into single-lane roundabouts to reduce vehicle delay and conflict points.
- Provides a continuous flow of traffic, improving efficiency and reducing emissions by minimizing idling.
- Enhances pedestrian and bicycle safety through protected crossings and designated bike facilities.
- Requires higher upfront capital investment and potential right-of-way acquisition.
- High potential for grant funding
- Similar projects, such as the La Jolla Boulevard corridor redesign in San Diego, have shown significant safety and operational benefits from roundabouts.

Alternative 3: Signal Control

- Installs new traffic signals with designated pedestrian crossing phases at key intersections.
- Provides clear right-of-way assignments to improve traffic efficiency and multimodal safety.
- Increases vehicle queuing at signals, leading to higher vehicle idling and emissions.
- Higher ongoing maintenance costs due to required signal equipment upkeep.
- Less impact on existing right-of-way but may require upgrades to sidewalk and crossing infrastructure.
- Highest potential for high severity collisions.

The alternatives were analyzed based on multiple performance metrics. The staff report simplifies this into a summary table; however, the full analysis (see Table ES-1 in the study) also includes right-of-way impacts, economic effects, and aesthetic considerations.

Table 1. Operations Summary Comparison

| Criteria | Alternative 1 Stop Control & Road Diet | Alternative 2 Roundabout | Alternative 3 Signal Control |
|--------------------------|---|-----------------------------|---------------------------------|
| Vehicle Delay | High | Low | Moderate |
| Pedestrian Safety | Moderate | Good | Moderate |
| Bicycle Safety | Moderate | Good | Moderate |
| Capital Cost | Low | High | High |
| Maintenance Cost | Low | Moderate | High |
| Greenhouse Gas Emissions | Moderate | Low | Moderate |

Based on the analysis, Alternative 2 (Roundabout Control) provides the greatest safety benefits and operational efficiency but comes with the highest capital cost (grant funding may potentially offset some costs) and potential right-of-way impacts. Alternative 1 (Stop Control & Road Diet) offers an incremental improvement at a lower cost but does not significantly enhance traffic flow. Alternative 3 (Signal Control) improves operations but introduces maintenance, potential safety and aesthetic challenges.

Public Engagement Plan

The Bay Avenue corridor serves as a key regional connector, linking Highway 1 to multiple destinations, including the Capitola Village, local schools, and surrounding neighborhoods. Given its broader impact beyond the immediate area, staff recommends an engagement strategy that reaches a wider community audience while maintaining targeted outreach to directly affected properties.

Pending Council direction, to gather broad input, staff will conduct an online survey, which has proven to be an effective engagement tool in recent traffic projects to reach a broader audience. This approach ensures accessibility and allows for participation from residents, business owners, and commuters who regularly use the corridor.

Additionally, staff has held stakeholder meetings with property owners at the Hill St. and Bay Ave. intersection, and has scheduled a stakeholder meeting for the Bay Ave. and Capitola Ave. intersection prior to this meeting. Pending Council direction, staff will continue outreach with intersections potentially affected by the Corridor Plan.

Regular updates will also be provided at City Council meetings, ensuring ongoing opportunities for public comment.

Following Council direction, staff will refine the conceptual layouts and incorporate public feedback, and stakeholder input before advancing to preliminary engineering and funding identification.

Fiscal Impact: The cost to finalize the conceptual design will depend on the preferred alternative selected. Staff is coordinating with consultants to develop more precise cost estimates. Preliminary cost estimates from the study indicate that roundabout installations could range from \$3 million to \$5 million per intersection, while traffic signals would require an estimated \$1.2 million per intersection, with additional long-term maintenance expenses.

Potential funding sources include:

- **State and Federal Grants** – Opportunities such as the Active Transportation Program (ATP) and Highway Safety Improvement Program (HSIP).
- **Regional Transportation Funds** – Allocations from the Santa Cruz County Regional Transportation Commission (SCCRTC).
- **Local Capital Improvement Budget** – Consideration for phased implementation as funding becomes available.

No immediate budget allocation is requested at this time. Staff will return with detailed cost estimates and funding strategies based on Council direction.

Attachments:

1. Bay Avenue Corridor Study

Report Prepared By: Jessica Kahn, Public Works Director

Reviewed By: Julia Gautho, City Clerk; Samantha Zutler, City Attorney

Approved By: Jamie Goldstein, City Manager

Bay Avenue Corridor Study

Transportation Analysis

February 2025

Prepared for



Prepared by



10 South Almaden Boulevard, Suite 1250
San Jose, CA 95113

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Executive Summary

Project Overview:

The Bay Avenue Corridor Study, conducted by Kimley-Horn in partnership with the City of Capitola, aims to analyze and propose improvements for the Bay Avenue corridor stretching from Highway 1 to Park Avenue. The primary objectives are to enhance mobility, economic development, traffic operations, and multimodal safety through long-term roadway and intersection modifications. It is intended that the proposed corridor improvements would be funded through grant opportunities.

Study Scope and Methodology:

A traffic operations analysis for existing (Year 2024) and cumulative (Year 2045) conditions was conducted to assess the feasibility of multiple alternative configurations:

- Alternative 0 – No Build: Maintain current traffic control and roadway geometry.
- Alternative 1 – Stop Control and Road Diet: Convert a portion of Bay Avenue from a four-lane to a two-lane road with enhanced multimodal crossings at the existing all-way stop intersections.
- Alternative 2 – Roundabout: Implement single-lane roundabouts at key intersections.
- Alternative 3 – Signal: Implement traffic signals at key intersections.

Traffic data, including intersection volumes, daily traffic, speed, and collision statistics, were collected and analyzed using Synchro, Sidra, and VISSIM software.

Existing Conditions (Year 2024) Analysis Results:

- Most intersections operate at an acceptable level of service (LOS).
- The roundabout alternative (Alt 2) demonstrates better LOS operations compared to the stop control (Alt 1) and signal (Alt 3) configurations.
- Significant vehicle queues were observed at some intersections, particularly the Bay Avenue/Highway 1 ramps and Hill Street.

Cumulative Conditions (Year 2045) Analysis Results:

- Several intersections are anticipated to exceed acceptable LOS thresholds.
- The roundabout alternative (Alt 2) consistently provides the best performance in terms of vehicle delay and travel times.
- Signalized intersections (Alt 3) yields acceptable LOS but with increased vehicle queues compared to roundabouts.

Multimodal Access and Safety Improvements

The proposed improvements for each alternative configuration would aim to enhance safety for pedestrians and cyclists through various measures:

- General Multimodal Enhancements:
 - Traffic Calming Features: All alternatives incorporate traffic calming features like narrower lanes and improved intersection design, which inherently enhance safety for all road users.
 - Visibility Improvements: Enhanced lighting, signage, and marked crosswalks improve visibility for pedestrians and cyclists, especially at night or during adverse weather conditions.

- Collision Mitigation: Historical collision data and near-miss analysis inform the design to specifically address risky driver behaviors and common collision types, further ensuring pedestrian and cyclist safety.
- Summary of Multimodal Safety Benefits:
 - Reduced Vehicle Speeds: Slower travel speeds generally lead to decreased collision severity for vehicles, cyclists and pedestrians.
 - Clear Right-of-Way: Signal and roundabout controls provide structured and predictable movement patterns.
 - Protected Space: Buffered and clearly marked spaces for pedestrians and cyclists reduce the risk of conflicts with vehicles.
 - Improved Crossings: Shorter and more visible crossing areas make it safer and easier for pedestrians to navigate intersections.
 - Enhanced Visibility and Lighting: Increased visibility through better lighting and clear signage reduces the risk of accidents.

Conclusion and Recommendations:

The roundabout configuration (Alternative 2) offers the most optimal solution for minimizing vehicle delays, enhancing traffic safety, and improving multimodal access. This option, however, requires significant infrastructure investment and potential right-of-way acquisition.

The stop control and road diet alternative (Alternative 1) would improve pedestrian and cyclist safety with minimal initial capital costs but result in poor corridor operations and long vehicle delay.

The signalized intersection configuration (Alternative 3) presents an intermediate solution, providing moderate operation and multimodal improvements at the expense of infrastructure investment and high ongoing maintenance costs.

Based on the analysis results, the study recommends pursuing the roundabout configuration at key intersections for long-term benefits in traffic operations, safety, economic development, and multimodal accessibility. Compared to the no-build alternative, the stop control and signal control alternatives could also be considered feasible based on budgetary constraints and immediate needs.

ES-1: Qualitative Corridor Operations Summary Comparison

| Criteria | Alternative 0 – No Build | Alternative 1 – Stop & Road Diet | Alternative 2 – Roundabout | Alternative 3 - Signal |
|--|---|---|--|---|
| Operations | | | | |
| Vehicle Delay | <u>High</u> Stop control creates delay for intersection approaches | <u>High</u> Stop control creates delay for intersection approaches | <u>Low</u> Yield control reduces average delay | <u>Moderate</u> Signal control reduces average delay |
| Vehicle Travel Time | <u>Long</u> Stop control creates delay for intersection approaches | <u>Long</u> Stop control creates delay for intersection approaches | <u>Short</u> Yield control reduces average delay | <u>Moderate</u> Signal control reduces average delay |
| Vehicle Queue Length | <u>Long</u> Long queues and spillback into adjacent intersection | <u>Long</u> Long queues and spillback into adjacent intersection | <u>Moderate</u> Yield control generates average queues | <u>Moderate</u> Signal control generates average queues |
| Transit and Emergency Vehicle Access Improvement | <u>Poor</u> Slower average travel times and higher VHT | <u>Poor</u> Slower average travel times and higher VHT | <u>Moderate</u> Faster average travel times and lower VHT | <u>Moderate</u> Opportunity for emergency vehicle preemption |
| Driver Adaptation Time | <u>Low</u> Existing conditions on corridor | <u>Low</u> Existing conditions on corridor | <u>High</u> New traffic control in City for users | <u>Moderate</u> Existing conditions on corridor |
| Safety | | | | |
| Collision Severity Potential | <u>Moderate</u> Numerous conflict points with stop control at intersection | <u>Moderate</u> Numerous conflict points with stop control at intersection | <u>Low</u> Fewer conflict points and controlled lower speeds at intersection | <u>High</u> Higher vehicle speeds and numerous conflict points at intersection |
| Bicycle Access Improvement | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Buffered bike lanes and markings | <u>Good</u> Buffered bike lanes and markings. Shorter and protected crossings | <u>Moderate</u> Buffered bike lanes and markings. Designated crossing phases |
| Pedestrian Access Improvement | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Shorter crossings with traffic calming | <u>Good</u> Shorter and protected crossings | <u>Moderate</u> Designated crossing phases |
| Economic | | | | |
| Capital Construction Cost | <u>Low</u> No Build scenario would not improve conditions | <u>Low</u> Updates to existing infrastructure | <u>High</u> New infrastructure and utility coordination | <u>High</u> New infrastructure and signal equipment |
| Right of Way Impact | <u>Low</u> | <u>Low</u> | <u>High</u> | <u>Moderate</u> |

| Criteria | Alternative 0 – No Build | Alternative 1 – Stop & Road Diet | Alternative 2 – Roundabout | Alternative 3 - Signal |
|--|--|---|--|---|
| | No change to existing conditions | Updates to existing infrastructure | Property impacts to accommodate design | New infrastructure and signal equipment |
| Operation & Maintenance Costs | <u>Low</u> No Build scenario would not improve conditions | <u>Low</u> Landscaping | <u>Moderate</u> Landscaping | <u>High</u> Signal equipment, electricity |
| Greenhouse Gas Emissions | <u>Moderate</u> Vehicle idling with stop traffic control | <u>Moderate</u> Vehicle idling with stop traffic control | <u>Low</u> Less vehicle idling with yield traffic control | <u>Moderate</u> Higher speeds & vehicle idling with signal traffic control |
| Aesthetics & Community Character Improvement | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Opportunities for art and landscaping with traffic calming | <u>Good</u> Opportunities for art and landscaping at intersection | <u>Moderate</u> Requires signal poles and cabinets |
| Grant Funding Opportunity | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Multimodal safety improvement | <u>Good</u> Multimodal safety improvement, traffic congestion reduction, environmental impact | <u>Moderate</u> Traffic congestion reduction |
| General Benefits | <ul style="list-style-type: none"> Lower initial capital cost and ongoing maintenance | <ul style="list-style-type: none"> Improved driver certainty Lower initial capital cost Improved bike & ped safety | <ul style="list-style-type: none"> Reduction collision severity Improved bike & ped safety Improved operations Reduced GHG emissions | <ul style="list-style-type: none"> Improved operations & capacity Provides designated crossing times and driver certainty |
| General Challenges | <ul style="list-style-type: none"> Decreased operations Increased queues | <ul style="list-style-type: none"> Decreased operations Increased queues | <ul style="list-style-type: none"> High initial capital cost and potential ROW impact Driver adaptation to new traffic operations | <ul style="list-style-type: none"> High capital and maintenance costs Increased queues and collision severity potential |

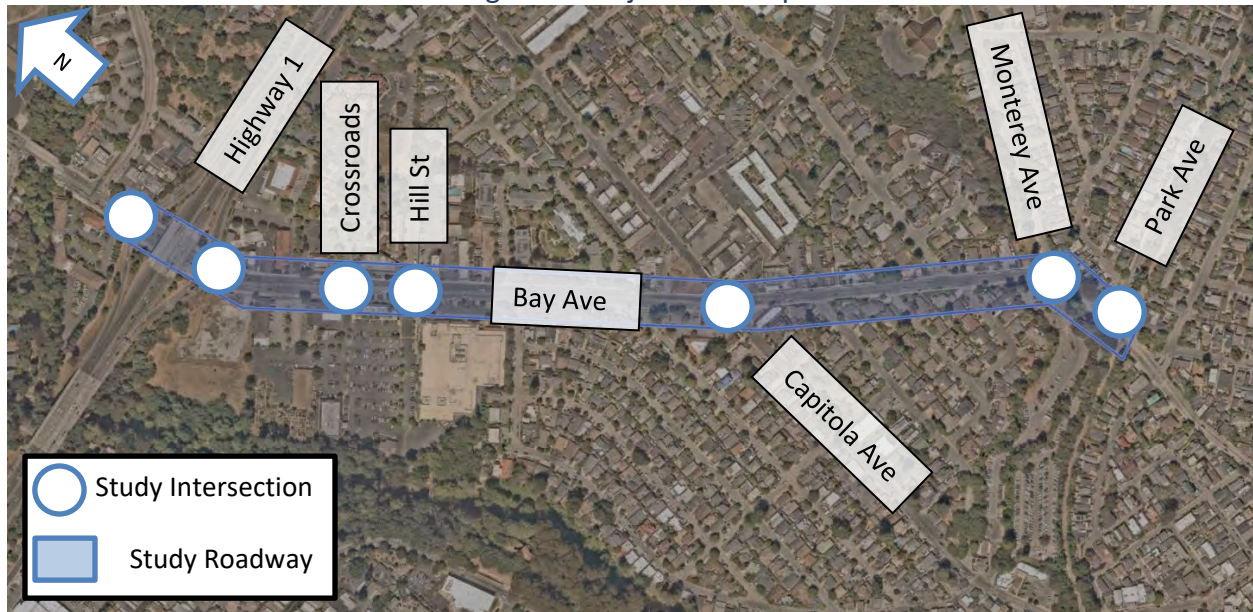
1. Project Description and Corridor Study Scope

Kimley-Horn and Associates, Inc. (Kimley-Horn) is working with the City of Capitola (City) to conduct a traffic operations analysis and corridor study along Bay Avenue from Highway 1 to Park Avenue. This planning study was prepared to assess current and future needs of the Bay Avenue corridor to improve mobility, safety, operations, and economic development for all users.

The study investigates feasible long-term roadway and intersection improvements that could enhance traffic operations and safety for vehicles, bicyclists, and pedestrians through a traffic analysis and intersection control evaluation (ICE) for the Bay Avenue corridor. The overall recommendations of the corridor study are consistent with the Bay Avenue Vision, mobility, and economic goals in the Capitola General Plan. It is anticipated these long-term future improvements would consist of permanent hardscape and geometric roadway changes that would be funded through grant opportunities.

Figure 1 presents an overview map of the Bay Avenue corridor study area.

Figure 1: Project Site Map



1.1 Corridor Study Scenarios

Traffic conditions for Bay Avenue was analyzed during the 7:00 – 9:00 AM and 4:00 – 6:00 PM peak hours of traffic which represent the most heavily congested traffic on a typical weekday. The study area was assessed under the following study scenarios.

- Existing Scenario:** Existing AM and PM peak-hour traffic volumes from Year 2024 traffic count data and utilizing roadway geometry and intersection traffic control from proposed corridor alternatives aimed to enhance multimodal operations.

- **Cumulative Scenario:** Peak-hour traffic volumes based on the Santa Cruz County Regional Transportation Commission (SCCRTC) Travel Demand Model for Year 2045 and utilizing roadway geometry and intersection traffic control from proposed corridor alternatives aimed to enhance multimodal operations.

1.2 Proposed Corridor Alternatives

The corridor operations and intersection control evaluation (ICE) analysis investigated potential improvements that could improve access and safety for vehicles, bicycles, and pedestrians. Based on internal discussion and direction from City staff, the lane intersection improvement and lane configuration alternatives were evaluated under the Existing Year 2024 and Cumulative Year 2045 study scenarios. Exhibits and tables detailing the general operations, traffic control, and roadway geometry of the conceptual Bay Avenue corridor alternatives are included in **Figure 2**.

Alternative 0 – No Build

- All study intersections and roadways segments are analyzed with its existing traffic control and lane geometry to provide a comparison with the proposed corridor alternatives.

Alternative 1 – Stop Control and Road Diet

- Roadway between Crossroads Loop and Center Street
 - Convert Bay Avenue from a 4-lane roadway into a 2-lane roadway with road diet transition
- Bay Avenue / Crossroads Loop Intersection
 - Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet
- Bay Avenue / Hill Street Intersection
 - Install curb bulb-outs and enhanced pedestrian crossings with 2-lane road diet
- Assumes improvements can fit within existing City intersection footprint and right-of-way.
- All other study intersections are analyzed with its existing traffic control and lane geometry

Alternative 2 – Roundabout

For the purposes of this study, a qualitative right-of-way evaluation for the Existing and Cumulative condition was conducted to determine if a roundabout is feasible for any of the existing Bay Avenue stop-controlled study intersections.

- Roadway between Crossroads Loop and Center Street
 - Convert Bay Avenue from a 4-lane roadway into a 2-lane roadway with road diet transition
- Bay Avenue / Crossroads Loop Intersection
 - Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet
- Bay Avenue / Hill Street Intersection
 - Convert intersection into single lane roundabout layout with yield control with 2-lane road diet
- Bay Avenue / Capitola Avenue Intersection
 - Convert intersection into single lane roundabout layout with yield control
- Bay Avenue / Monterey Avenue Intersection
 - Convert intersection into single lane roundabout layout with yield control

- It should be noted that for existing and cumulative conditions, the intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout.
- Monterey Avenue / Park Avenue Intersection
 - Convert intersection into single lane roundabout layout with yield control
 - It should be noted that for existing and cumulative conditions, the intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout.
- Assumes roundabout improvements would have minor impacts outside of City right-of-way.
- All other study intersections are analyzed with its existing traffic control and lane geometry

Alternative 3 – Signal

For the purposes of this study and based on the collected traffic volumes, MUTCD peak hour signal warrant #3 was evaluated for the Existing and Cumulative condition to determine if a signal is warranted for any of the existing Bay Avenue stop-controlled study intersections. See Section 3 for analysis.

- Roadway between Crossroads Loop and Center Street
 - Convert Bay Avenue from a 4-lane roadway into a 2-lane roadway with road diet transition
- Bay Avenue / Crossroads Loop Intersection
 - Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet
- Bay Avenue / Hill Street Intersection
 - Convert intersection into signal control with 2-lane road diet
- Bay Avenue / Capitola Avenue Intersection
 - Convert intersection into signal control
 - It should be noted that for existing and cumulative conditions, the Bay/Capitola intersection does not meet the Warrant 3 volume criteria for a signal; however for consistency and ICE comparison purposes, this intersection was analyzed as signal for the Alternative 3 layout.
- Bay Avenue / Monterey Avenue Intersection
 - Convert intersection into signal control
- Monterey Avenue / Park Avenue Intersection
 - Convert intersection into signal control
- Assumes signal equipment can fit within existing City intersection footprint and right-of-way, no physical improvements needed.
- All other study intersections are analyzed with its existing traffic control and lane geometry

It should be noted that a combination of the intersection control alternatives, such as an all-way stop at one location and a roundabout/signal at another location, may be considered along the Bay Avenue corridor pending City direction and public outreach. A detailed analysis of all the possible intersection control combinations is outside the scope of this planning study; however, , While I don't think we need to run a detailed analysis on this, having a general answer prepared would be helpful.

Figure 2: Corridor Alternatives Summary

| Intersection | | | | | | | | | |
|--------------|---------------------------------|--------------------------|--|----------------------------------|--|----------------------------|---|------------------------|--|
| # | Intersection Name | Alternative 0 - No Build | | Alternative 1 - Stop & Road Diet | | Alternative 2 - Roundabout | | Alternative 3 - Signal | |
| | | Traffic Control | Intersection Geometry and Operations | Traffic Control | Intersection Geometry and Operations | Traffic Control | Intersection Geometry and Operations | Traffic Control | Intersection Geometry and Operations |
| 1 | Bay Avenue / Highway 1 NB Ramps | Signal | No changes to current condition (Intersection in Caltrans right-of-way) 3 NB, 2 SB, 2 WB Lanes | Signal | Same as Alt 0 - No Build | Signal | Same as Alt 0 - No Build | Signal | Same as Alt 0 - No Build |
| 2 | Bay Avenue / Highway 1 SB Ramps | Signal | No changes to current conditions (Intersection in Caltrans right-of-way) 2 NB, 3 SB, 3 EB Lanes | Signal | Same as Alt 0 - No Build | Signal | Same as Alt 0 - No Build | Signal | Same as Alt 0 - No Build |
| 3 | Bay Avenue / Crossroads Loop | TWSC | No changes to current condition (Minor street access to private driveways) 2 NB, 3 SB, 2 EB, 1 WB Lanes | TWSC | Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet -1 left lane, 1 through lane, 1 right lane -Buffered Class II bike lanes | TWSC | Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet -1 left lane, 1 through lane, 1 right lane -Buffered Class II bike lanes -It should be noted that for existing and cumulative conditions, the Bay/Crossroads intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout | TWSC | Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet -1 left lane, 1 through lane, 1 right lane -Buffered Class II bike lanes -It should be noted that for existing and cumulative conditions, the Bay/Crossroads intersection does not meet the MUTCD Warrant 3 volume criteria for a signal |
| 4 | Bay Avenue / Hill Street | AWSC | No changes to current condition 3 NB, 3 SB, 2 EB, 1 WB Lanes | AWSC | Install curb bulb-outs and enhanced pedestrian crossings with 2-lane road diet -Buffered Class II bike lanes -Bay Avenue Major Approach (Northbound and Southbound directions) --1 left lane, 1 shared through-right lane -Hill Street Minor Approach (Westbound direction) --1 shared left-through-right lane -Nob Hill Driveway Minor Approach (Eastbound direction) --1 shared left-through lane, 1 right lane | RDBT | Convert intersection into single lane roundabout layout with yield control with 2-lane road diet -Bay Avenue Major Approach (Northbound and Southbound directions) --1 shared left-through-right lane --Lane drop transition prior to roundabout intersection --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection --Santa Cruz Metro bus stop and commercial driveway access is maintained along Bay Avenue corridor -Hill Street Minor Approach (Westbound direction) --1 shared left-through-right lane --Pedestrian crossing relocated before roundabout intersection -Nob Hill Driveway Minor Approach (Eastbound direction) --1 shared left-through-right lane --Pedestrian crossing and pathway relocated inside plaza parking lot before roundabout intersection | Signal | Convert intersection into signal control with 2-lane road diet -Bay Avenue Major Approach (Northbound and Southbound directions) --1 left lane, 1 shared through-right lane --Protected left turn operations for Northbound and Southbound approaches -Nob Hill Driveway and Hill Street Minor Approach (Eastbound and Westbound directions) --Lane geometry same as existing condition --Permissive yield left turn operations for Eastbound and Westbound approaches |
| 5 | Bay Avenue / Capitola Avenue | AWSC | No changes to current condition 2 NB, 2 SB, 2 EB, 1 WB Lanes | AWSC | Same as Alt 0 - No Build | RDBT | Convert intersection into single lane roundabout layout with yield control -Bay Avenue Major Approach (Northbound and Southbound directions) --1 shared left-through-right lane --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection -Capitola Avenue Minor Approach (Westbound and Eastbound directions) --1 shared left-through-right lane --Pedestrian crossing relocated before roundabout intersection | Signal | Convert intersection into signal control -It should be noted that for existing and cumulative conditions, the Bay/Capitola intersection does not meet the MUTCD Warrant 3 volume criteria for a signal; however for consistency and ICE comparison purposes, this intersection was analyzed as signal for the Alternative 3 layout. -Lane geometry same as existing condition for all intersection leg approaches --Permissive yield left turn operations for all approaches |

| Intersection | | | | | | | | | |
|--------------|-------------------------------|--------------------------|---|----------------------------------|--------------------------------------|----------------------------|---|------------------------|---|
| # | Intersection Name | Alternative 0 - No Build | | Alternative 1 - Stop & Road Diet | | Alternative 2 - Roundabout | | Alternative 3 - Signal | |
| | | Traffic Control | Intersection Geometry and Operations | Traffic Control | Intersection Geometry and Operations | Traffic Control | Intersection Geometry and Operations | Traffic Control | Intersection Geometry and Operations |
| 6 | Bay Avenue / Monterey Avenue | AWSC | No changes to current condition 1 NB, 1 SB, 1 WB Lanes | AWSC | Same as Alt 0 - No Build | RDBT | Convert intersection into single lane roundabout layout with yield control -It should be noted that for existing and cumulative conditions, the Bay/Monterey intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout. -All roadway approaches --1 shared left-through-right lane --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection | Signal | Convert intersection into signal control -Lane geometry same as existing condition for all intersection leg approaches --Permissive yield left turn operations for all approaches |
| 7 | Monterey Avenue / Park Avenue | AWSC | No changes to current condition 2 NB, 2 SB, 1 EB, 1 WB Lanes | AWSC | Same as Alt 0 - No Build | RDBT | Convert intersection into single lane roundabout layout with yield control -It should be noted that for existing and cumulative conditions, the Monterey/Park intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout. -All roadway approaches --1 shared left-through-right lane --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection | Signal | Convert intersection into signal control -Lane geometry same as existing condition for all intersection leg approaches --Permissive yield left turn operations for all approaches |

| Roadway | | | | | | | | | |
|---------|------------------------------------|--------------------------|--|----------------------------------|---|----------------------------|---|------------------------|---|
| # | Roadway Segment (Bay Avenue) | Alternative 0 - No Build | | Alternative 1 - Stop & Road Diet | | Alternative 2 - Roundabout | | Alternative 3 - Signal | |
| | | # Travel Lanes | Roadway Geometry and Operations | # Travel Lanes | Roadway Geometry and Operations | # Travel Lanes | Roadway Geometry and Operations | # Travel Lanes | Roadway Geometry and Operations |
| A | Highway 1 to Crossroads Loop | 4 | 2 NB, 2 SB, Center left turn lane, Class II Bike | 4 | Same as Alt 0 - No Build | 4 | Same as Alt 0 - No Build | 4 | Same as Alt 0 - No Build |
| B | Crossroads Loop to Hill Street | 4 | 2 NB, 2 SB, Center left turn lane, Class II Bike | 2 | Convert from a 4-lane roadway into a 2-lane roadway with road diet transition | 2 | Convert from a 4-lane roadway into a 2-lane roadway with road diet transition | 2 | Convert from a 4-lane roadway into a 2-lane roadway with road diet transition |
| C | Hill Street to Center Street | 4 | 2 NB, 2 SB, Center left turn lane, Class II Bike | 2 | Convert from a 4-lane roadway into a 2-lane roadway with road diet transition | 2 | Convert from a 4-lane roadway into a 2-lane roadway with road diet transition | 2 | Convert from a 4-lane roadway into a 2-lane roadway with road diet transition |
| D | Center Street to Capitola Avenue | 2 | 1 NB, 1 SB, Class II Bike, On-Street Parking | 2 | Same as Alt 0 - No Build | 2 | Same as Alt 0 - No Build | 2 | Same as Alt 0 - No Build |
| E | Capitola Avenue to Monterey Avenue | 2 | 1 NB, 1 SB, Class II Bike, On-Street Parking | 2 | Same as Alt 0 - No Build | 2 | Same as Alt 0 - No Build | 2 | Same as Alt 0 - No Build |
| F | Monterey Avenue to Park Avenue | 2 | 1 NB, 1 SB, Class II Bike | 2 | Same as Alt 0 - No Build | 2 | Same as Alt 0 - No Build | 2 | Same as Alt 0 - No Build |

1.3 Capitola General Plan Consistency

The objectives of the Bay Avenue Corridor Study were prepared to be consistent with the following land use, mobility, and economic goals identified in the City's latest General Plan.

- Goal LU-10 Maintain and enhance Bay Avenue commercial district as a thriving destination with businesses that serve Capitola residents and visitors.
 - Policy LU-10.2 Bay Avenue Streetscape. Enhance the Bay Avenue streetscape in a way that improves the appearance of Bay Avenue, increases safety for bicyclists and pedestrians, and stimulates private investment within the area.
 - Policy LU-10.3 Tree-Lined Boulevard. Encourage a tree-lined boulevard streetscape character along Bay Avenue north of the Capitola Produce property. Encourage installation of drought tolerant and non-invasive street trees and landscaping along the Bay Avenue property frontage in conjunction with capital improvement or redevelopment projects.
 - Action LU-10.1 Medians. Explore opportunities to install medians on Bay Avenue in locations where left turn movements for vehicles would not be restricted.
 - Action LU-10.2 Roundabout. Conduct a public process to study the feasibility of installing a roundabout at the Bay Avenue/Capitola Avenue intersection. The study shall consider impacts on traffic speeds, delays, and air quality.
 - Action LU-10.3 Streetscape Master Plan. Prepare a streetscape master plan for Bay Avenue that presents a unified design theme for the corridors and identifies specific improvements needed to implement this vision.

- Goal MO-4 Provide a roadway system that enhances community aesthetics and promotes a high quality of life
 - Action MO-4.1 Bay Avenue Roundabout. Prepare a study and conduct outreach with business stakeholders and the public to evaluate the feasibility of constructing a roundabout at the intersection of Bay Avenue and Capitola Avenue.

- Goal ED-2 Provide businesses and jobs that create a healthy and stable local economy.
 - Policy ED-2.8 Major Bay Avenue Development Projects. Ensure that major development projects contribute to the vitality and enhance the function of Bay Avenue as a thriving commercial district.



Bay Avenue Vision in the Capitola General Plan

1.4 Level-of-Service Criteria and Thresholds

Analysis of potential adverse effects at roadway intersections is based on the concept of level-of-service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS A (best) represents minimal delay, while LOS F (worst) represents heavy delay and a facility that is operating at or near its functional capacity.

This LOS analysis uses methods defined in the Highway Capacity Manual (HCM) Seventh Edition. HCM 7th Edition methodologies include procedures for analyzing side-street stop-controlled (“SSSC”), all-way stop-controlled (“AWSC”), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the overall intersection.

Table 1 relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 1: Intersection Operation Standards at Signalized and Unsignalized Intersections

| Level of Service | Description | Signalized (Avg. control delay per vehicle sec/veh.) | Unsignalized (Avg. control delay per vehicle sec/veh.) |
|------------------|---|---|---|
| A | Free flow with no delays. Users are virtually unaffected by others in the traffic stream | less than 10 | less than 10 |
| B | Stable traffic. Traffic flows smoothly with few delays. | less than or equal to 10 to 20 | less than or equal to 10 to 15 |
| C | Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays. | less than or equal to 20 to 35 | less than or equal to 15 to 25 |
| D | Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours. | less than or equal to 35 to 55 | less than or equal to 25 to 35 |
| E | Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing. | less than or equal to 55 to 80 | less than or equal to 35 to 50 |
| F | Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing. | greater than or equal to 80 | greater than or equal to 50 |

Sources: Transportation Research Board, Highway Capacity Manual 6th Edition, National Research Council.

City of Capitola LOS Threshold

The City of Capitola General Plan (adopted June 26, 2014, and updated March 13, 2019) (Policy MO-3.3) establishes a minimum LOS C traffic operation standard at intersections throughout the City, with the exception of the Village Area, Bay Avenue, and 41st Avenue where LOS D is the minimum acceptable standard.

Capitola General Plan Policy MP-3.4 permits a lower LOS and higher congestion at major regional intersections, if necessary, improvements are considered infeasible, as determined by the City’s Public Works Director, or result in significant, unacceptable environmental impacts. Any evaluation of the Project’s LOS impact on City of Capitola streets follows the City’s General Plan.

California Department of Transportation (Caltrans) LOS Threshold

An LOS-based analysis of Caltrans facilities is provided using the previously applied LOS standard combined with the County v/c standard for significance criteria purposes. Deficiencies at Caltrans study intersections occur when:

- Cause operations to deteriorate from an acceptable level (LOS C or better) to an unacceptable level (LOS D or worse); or
- Causes the existing measure of effectiveness (average delay) to deteriorate at a State-operated intersection operating at LOS D or worse.

Roundabout Analysis – FHWA Requirements

Roundabouts: An Information Guide (June 2000) by the Federal Highway Administration (FHWA) was used for guidance. The FHWA recommends that no approach to a roundabout should handle more than 85% of its capacity, even if the level of service is still acceptable. This helps ensure that each entrance runs smoothly, preventing congestion and keeping traffic flowing efficiently. The analysis takes this design standard into account.

1.5 Traffic Analysis Methodology

For the Bay Avenue Corridor (Alternative 0 – No Build, Alternative 1 - Stop, Alternative 2 – Roundabout, and Alternative 3 – Signal), the LOS, vehicle delay, and critical vehicle queues were determined using Synchro 12 traffic analysis software. Sidra 9 traffic analysis software was also used to estimate the LOS, vehicle delay, and critical vehicle queues for the proposed roundabout geometry along Bay Avenue.

For the Alternative 1 – Stop and Alternative 2 – Roundabout layouts, a microsimulation analysis using VISSIM software was also conducted for operation comparison purposes. VISSIM was used because the software is the most appropriate tool to simulate the pedestrian, bicycle, vehicular traffic movements, and driver behavior through various traffic control devices. **Figure 3** illustrates the VISSIM model used for the traffic analysis.

Figure 3: Illustrative VISSIM Model for Project Study Area





2. Existing Transportation Conditions

2.1 Study Intersections

Study intersections for the project were selected in consultation with City staff. The intersections evaluated in this study are listed below.

1. Bay Avenue / Highway 1 NB Ramps
2. Bay Avenue / Highway 1 SB Ramps
3. Bay Avenue / Crossroads Loop
4. Bay Avenue / Hill Street
5. Bay Avenue / Capitola Avenue
6. Bay Avenue / Monterey Avenue
7. Monterey Avenue / Park Avenue

2.2 Roadway Network

The following local and regional roadways provide access to the project study area:

Highway 1 is 4-lane freeway (that connects with State Route 17 and State Route 156) in the north-south direction. Within Capitola, Highway 1 travels in an east-west direction. Access to and from the project study area is provided by ramp terminals at Porter Street / Bay Avenue.

Bay Avenue is an arterial in the northwest-southeast direction between Highway 1 and Monterey Avenue, and the road is classified as a minor arterial per the City's General Plan. Class II bike lanes and sidewalks exist along both sides of the roadway. The posted speed limit is 25 miles per hour and provides direct access to commercial and residential land uses. Between Highway 1 and Center Street, Bay Avenue is a four-lane facility with a center two-way left-turn lane (TWLTL), and on-street parking is prohibited along this section. Between Center Street and Park Avenue, Bay Avenue is a two-lane facility, and on-street parking is allowed in marked areas next to commercial and residential uses.

Crossroads Loop is a private two-lane street in the east-west direction that provides direct driveway access to commercial uses at the Nob Hill plaza on the westside and at the Crossroads center on the eastside. The roadway provides sidewalks for pedestrians and on-street parking on the private road east of Bay Avenue. Crossroads Loop is located approximately 175-feet north of Hill Street.

Hill Street is a two-lane local street in the east-west direction that provides access to some retail and mostly residential land uses east of Bay Avenue. The roadway provides sidewalks between Bay Avenue and Crossroads Loop. Class II bike lanes are provided in the eastbound direction and Class III shared bike sharrows are provided in the westbound direction from Bay Avenue to Capitola Avenue.

Capitola Avenue is a two-lane street in the north-south direction that provides access to the project study area as well as various commercial and residential land uses between Soquel Drive and Monterey Avenue. The roadway provides sidewalks and Class III shared bike sharrows on both sides of the street. The posted speed limit is 25 miles per hour. Per the General Plan, the road is classified as a minor arterial south of Bay Street and a collector street north of Bay Street.

Monterey Avenue is a two-lane street in the north-south direction that provides access to the project study area as well as various commercial and residential land uses between Kennedy Drive and Esplanade. The roadway provides sidewalks, Class II bike lanes, and Class III shared bike sharrows on both sides of the street. The posted speed limit is 25 miles per hour. Per the General Plan, the road is classified as an arterial south of Bay Street and a collector street north of Bay Street.

Park Avenue is a two-lane street in the east-west direction that provides access to the project study area as well as residential land uses between Monterey Avenue and Soquel Drive. The roadway provides sidewalks and Class II bike lanes, and the posted speed limit is 25 miles per hour. Per the General Plan, the road is classified as an arterial.

2.3 Pedestrian and Bicycle Facilities

Pedestrian and bicycle activity within project vicinity are active along Bay Avenue, Capitola Avenue, and Monterey Avenue with an established pedestrian and bicycle infrastructure. Connected sidewalks at least four (4) feet wide are available on at least one side of all roadways in the study area with adequate lighting and signing. At the Highway 1 ramp signalized intersections, marked crosswalks, Americans with Disabilities Act (ADA) standard curb ramps, and count down pedestrian signals provide improved pedestrian visibility and safety.

Bicycle facilities in the area include Bay Avenue, Hill Street, and Monterey Avenue which consist of Class II bike lanes with buffered striping to separate the vehicle and bike travel way, and Capitola Avenue, which consists of Class III shared bike sharrows. Bay Avenue features green paint markings in potential conflict areas at the Highway 1 ramp signalized intersections. Bicycle parking in the area is limited to private commercial and industrial lots.

Overall, the existing pedestrian and bicycle facilities near the project have adequate connectivity and provide pedestrian and bicyclists with routes to the surrounding land uses. The City of Capitola Bicycle Transportation Plan 2011 does not indicate any future bicycle facilities planned within the study area.

A discussion of potential bike and pedestrian improvements along the Bay Avenue corridor are provided in Section 4.

2.4 Transit Facilities

Transit services in the study area include a bus route provided by the Santa Cruz Metro Transit District (SCMTD). Per the updated latest service schedule, the project study area is served by the following major transit route.

- Mid-County Bus Route 55
 - Capitola Mall Transit Center – Seascape Blvd/Via Pacifica
 - Mid-county service approximately every 60-100 minutes on weekdays and approximately every 4 to 5 hours on weekends
 - This bus route travels through the following study intersections:
 - Bay Avenue / Highway 1 NB Ramps
 - Bay Avenue / Highway 1 SB Ramps
 - Bay Avenue / Crossroads Loop
 - Bay Avenue / Hill Street

- Bay Avenue / Capitola Avenue

Several bus stops with a bench are located along the Bay Avenue corridor which include the intersections of Bay Avenue / Hill Street and Bay Avenue / Capitola Avenue.

2.5 Roadway Cross Section

The existing roadway cross section of Bay Avenue varies along the corridor with different lane configurations, widths, and multi-modal facilities. **Figures 4-8** summarize the typical roadway cross-section along Bay Avenue.

Figure 4: Existing Section – Highway 1 to Center St (80-ft ROW)



Figure 5: Existing Section – Center St to Capitola Ave (65-ft ROW)

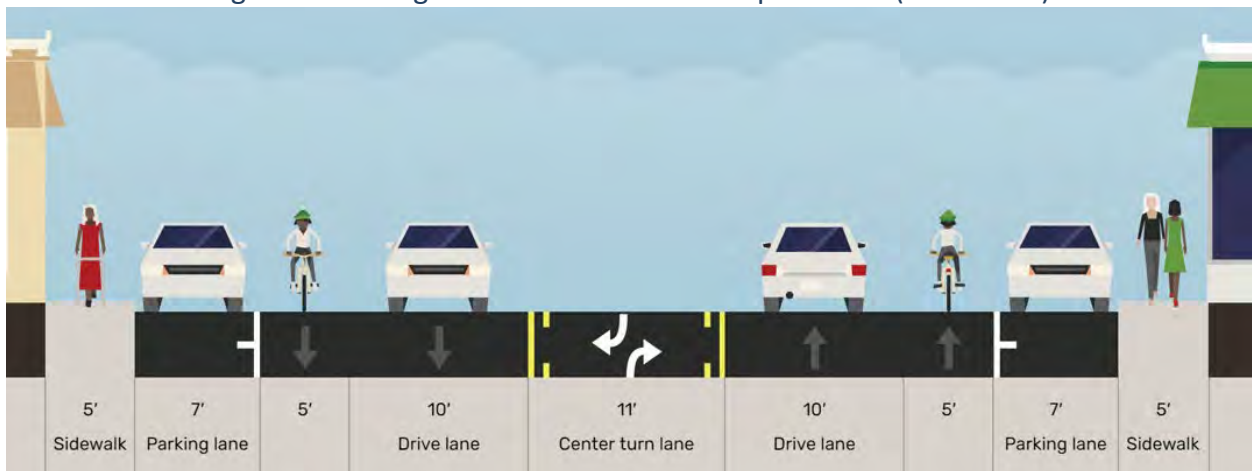


Figure 6: Existing Section – Capitola Ave to Burlingame Ave (56-ft ROW)



Figure 7: Existing Section – Burlingame Ave to Monterey Ave (56-ft ROW)

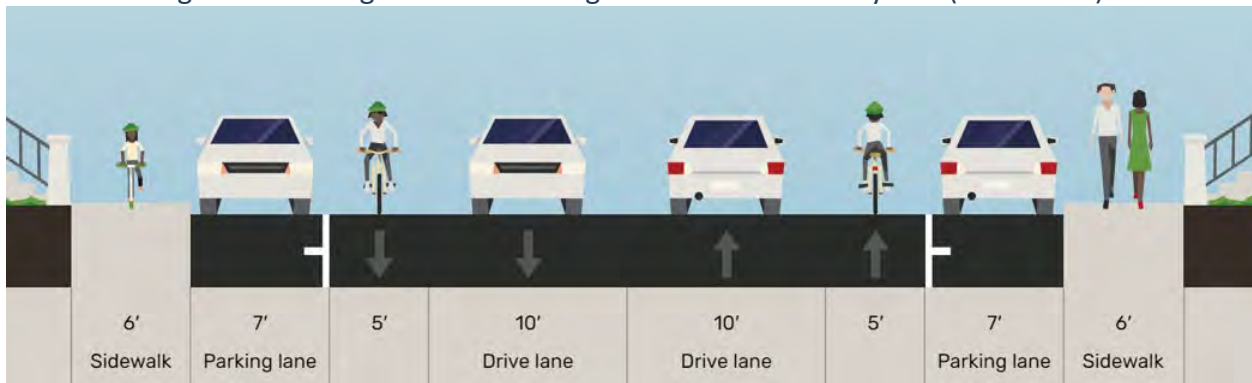
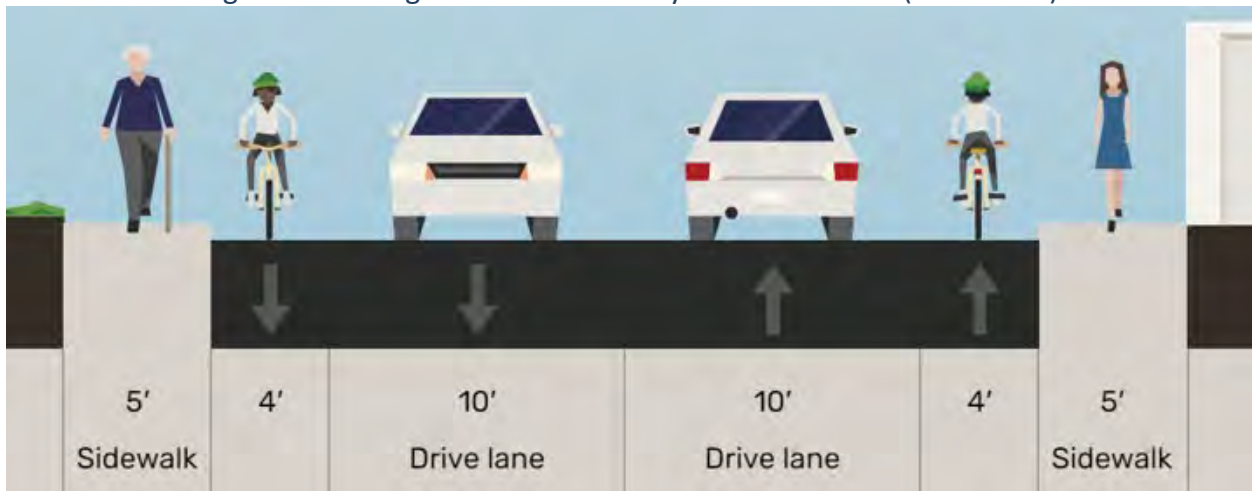


Figure 8: Existing Section – Monterey Ave to Park Ave (38-ft ROW)



3. Traffic Data Collection

3.1 Year 2024 Existing Intersection Volumes

Year 2024 existing turning movement counts during the 7-9 AM peak, 2-4 PM Midday peak, and 4-6 PM peak hours at the project study intersections were collected by Retkor / All Traffic Data Service. These traffic counts were collected on 3/7/2024 when school was in session and during favorable weather conditions. The collected intersection traffic volume data is provided in **Table 2** and **Attachment A**.

Table 2: Year 2024 Existing Intersection Volumes

| ID | NB/SB Street | WB/EB Street | Peak Hour | NBL | NBT | NBR | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
|----|--------------|-----------------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | Bay Ave | Hwy 1 NB Ramps | 7 AM | 369 | 516 | 0 | 0 | 431 | 478 | 0 | 0 | 0 | 59 | 12 | 107 |
| 2 | Bay Ave | Hwy 1 SB Ramps | 7 AM | 0 | 572 | 111 | 176 | 314 | 0 | 313 | 0 | 296 | 0 | 0 | 0 |
| 3 | Bay Ave | Crossroads Loop | 7 AM | 1 | 616 | 9 | 39 | 462 | 109 | 53 | 0 | 21 | 0 | 1 | 14 |
| 4 | Bay Ave | Hill St | 7 AM | 57 | 441 | 10 | 75 | 377 | 31 | 43 | 19 | 39 | 9 | 28 | 142 |
| 5 | Bay Ave | Capitola Ave | 7 AM | 27 | 312 | 55 | 74 | 183 | 128 | 70 | 67 | 6 | 83 | 94 | 42 |
| 6 | Bay Ave | Monterey Ave | 7 AM | 0 | 162 | 61 | 219 | 84 | 0 | 0 | 0 | 0 | 87 | 0 | 282 |
| 7 | Monterey Ave | Park Ave | 7 AM | 1 | 123 | 225 | 41 | 126 | 4 | 0 | 9 | 1 | 418 | 3 | 100 |
| 1 | Bay Ave | Hwy 1 NB Ramps | 5 PM | 290 | 401 | 0 | 0 | 642 | 316 | 0 | 0 | 0 | 107 | 1 | 195 |
| 2 | Bay Ave | Hwy 1 SB Ramps | 5 PM | 0 | 457 | 91 | 276 | 473 | 0 | 234 | 208 | 347 | 0 | 0 | 0 |
| 3 | Bay Ave | Crossroads Loop | 5 PM | 4 | 462 | 9 | 50 | 658 | 112 | 49 | 2 | 38 | 4 | 1 | 37 |
| 4 | Bay Ave | Hill St | 5 PM | 46 | 307 | 21 | 146 | 505 | 49 | 92 | 45 | 84 | 18 | 33 | 76 |
| 5 | Bay Ave | Capitola Ave | 5 PM | 29 | 200 | 23 | 56 | 337 | 124 | 72 | 84 | 8 | 61 | 72 | 31 |
| 6 | Bay Ave | Monterey Ave | 5 PM | 0 | 124 | 85 | 304 | 141 | 0 | 0 | 0 | 0 | 35 | 0 | 104 |
| 7 | Monterey Ave | Park Ave | 5 PM | 1 | 165 | 498 | 92 | 83 | 1 | 5 | 3 | 3 | 203 | 3 | 39 |

It should be noted that the during the morning and mid-day afternoon school drop off times, the Bay Avenue corridor experiences a period of congestion in the northbound and southbound directions from the influx of vehicles accessing the Soquel Elementary School and New Brighton Middle School. Field observations cite that during these times, the average vehicle delay increases, and vehicle queues are longer at the existing stop control intersections at Hill Street and Capitola Avenue.

3.2 Year 2045 Cumulative Intersection Volumes

Cumulative volumes in the study area were determined based on the SCCRTC Travel Demand Model, which was updated for 2019 “base year” conditions and 2045 “future year” condition. Land uses for the cumulative condition include reasonable growth consistent with the growth nodes in the Sustainable Santa Cruz County Plan (2014) and some major projects such as the proposed redevelopment of the Capitola Mall, the redevelopment of the Farmers Market site, and the expansion of the Dignity Healthcare Campus.

2045 future year condition roadway segment volumes from the SCCRTC Travel Demand Model were obtained for Cumulative traffic volume growth estimates. The same Model was used to plot bi-directional AM and PM peak-hour traffic volumes on each segment along roadways within the Project study area. The 2019 base year (2019) and future year (2045) forecast volumes were compared to

determine the annual incremental growth in traffic volumes at study intersection approach and departure links. 2045 future year turning movement volumes were calculated by adding the growth increment to the base year traffic count volumes to calculate the final adjusted roadway link forecast volume. Final adjusted forecast volumes were then converted to Cumulative intersection turning movement volumes using a process commonly referred to as the Furness Method. The Furness Method uses an iterative process to derive future turning movement volumes based on future year roadway link volumes and an initial estimate of turning percentages (obtained from the existing intersection turning movement counts). The Cumulative traffic volumes are a conservative estimate of future vehicle traffic, and the cumulative scenario traffic volume data is provided in **Table 3**.

Table 3: Year 2045 Cumulative Intersection Volumes

| ID | NB/SB Street | WB/EB Street | Peak Hour | NBL | NBT | NBR | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
|----|--------------|-----------------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | Bay Ave | Hwy 1 NB Ramps | 7 AM | 321 | 392 | 0 | 0 | 436 | 536 | 0 | 0 | 0 | 161 | 12 | 379 |
| 2 | Bay Ave | Hwy 1 SB Ramps | 7 AM | 0 | 465 | 61 | 251 | 346 | 0 | 248 | 0 | 586 | 0 | 0 | 0 |
| 3 | Bay Ave | Crossroads Loop | 7 AM | 1 | 394 | 9 | 69 | 754 | 109 | 53 | 0 | 21 | 0 | 1 | 79 |
| 4 | Bay Ave | Hill St | 7 AM | 57 | 293 | 4 | 75 | 669 | 31 | 43 | 19 | 39 | 13 | 28 | 68 |
| 5 | Bay Ave | Capitola Ave | 7 AM | 27 | 312 | 55 | 74 | 183 | 128 | 78 | 67 | 6 | 83 | 94 | 42 |
| 6 | Bay Ave | Monterey Ave | 7 AM | 0 | 162 | 61 | 219 | 239 | 0 | 0 | 0 | 0 | 87 | 0 | 282 |
| 7 | Monterey Ave | Park Ave | 7 AM | 1 | 123 | 238 | 201 | 121 | 4 | 0 | 9 | 1 | 418 | 3 | 100 |
| 1 | Bay Ave | Hwy 1 NB Ramps | 5 PM | 683 | 726 | 0 | 0 | 644 | 149 | 0 | 0 | 0 | 77 | 1 | 406 |
| 2 | Bay Ave | Hwy 1 SB Ramps | 5 PM | 0 | 992 | 104 | 370 | 351 | 0 | 417 | 208 | 640 | 0 | 0 | 0 |
| 3 | Bay Ave | Crossroads Loop | 5 PM | 4 | 988 | 9 | 92 | 787 | 112 | 49 | 2 | 38 | 4 | 1 | 59 |
| 4 | Bay Ave | Hill St | 5 PM | 46 | 717 | 34 | 146 | 634 | 49 | 92 | 45 | 84 | 22 | 33 | 192 |
| 5 | Bay Ave | Capitola Ave | 5 PM | 29 | 200 | 23 | 61 | 337 | 171 | 190 | 63 | 8 | 17 | 65 | 73 |
| 6 | Bay Ave | Monterey Ave | 5 PM | 0 | 305 | 85 | 304 | 251 | 0 | 0 | 0 | 0 | 35 | 0 | 104 |
| 7 | Monterey Ave | Park Ave | 5 PM | 1 | 148 | 619 | 202 | 83 | 1 | 5 | 3 | 3 | 203 | 3 | 237 |

3.3 Roadway Daily Traffic and Speed Data

Average daily traffic (ADT) and speed counts were collected along the Bay Avenue corridor and are summarized in **Table 4** and **Attachment A**.

Table 4: Bay Avenue ADT & Vehicle Speed Summary

| Traffic Criteria | From Hill St to Capitola Ave | | From Capitola Ave to Montrey Ave | |
|---|------------------------------|------------|----------------------------------|------------|
| | 3/7/2024 | | 3/7/2024 | |
| | Northbound | Southbound | Northbound | Southbound |
| Average Daily Traffic | 4,801 | 5,415 | 3,145 | 3,182 |
| Posted Speed Limit (mph) | 25 | 25 | 25 | 25 |
| 50 th Percentile Speed (mph) | 26 | 26.7 | 25.5 | 27 |
| 85 th Percentile Speed (mph) | 29.6 | 30.6 | 29.4 | 30.7 |
| 95 th Percentile Speed (mph) | 32.2 | 33.3 | 32.1 | 33.4 |

As shown in the table above, the posted speed limit on Bay Avenue is 25 mph, and the 85th percentile (critical) speed is about 30 mph in both the northbound and southbound directions.

3.4 Collision Data

Collision data from 2013 to 2024 along Bay Avenue was obtained using the Transportation Injury Mapping System (TIMS). TIMS is a tool which geocodes, maps, and presents various types of statistical collision reports from the California Statewide Integrated Traffic Records System (SWITRS) database. A heat map showing the location of the reported collisions is shown in **Figure 9** and a summary of the collision types is shown in **Figure 10**. **Table 5** and **Attachment B** summarizes the reported traffic collisions along the study corridor.

Figure 9: Bay Avenue Collision Heat Map (2013 to 2024)

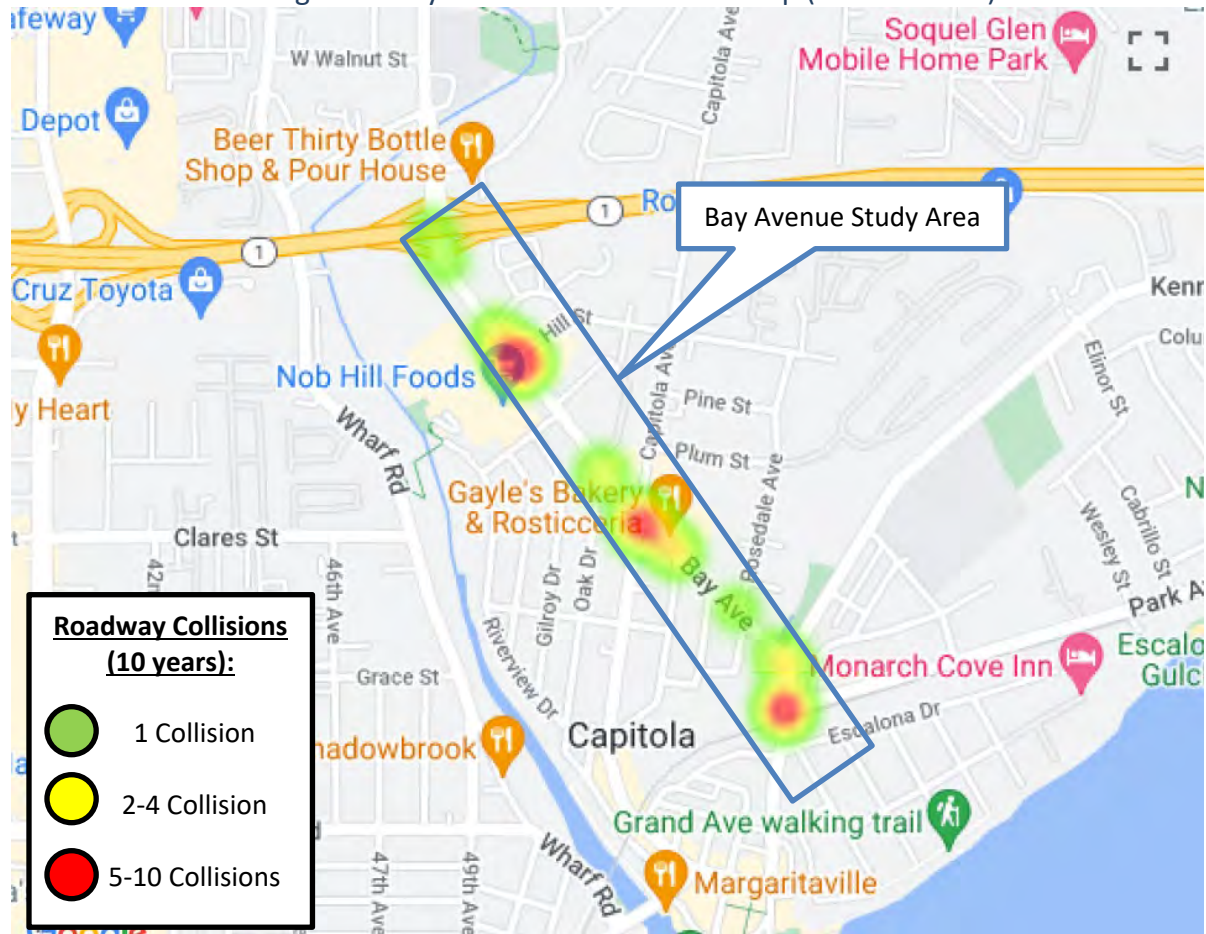
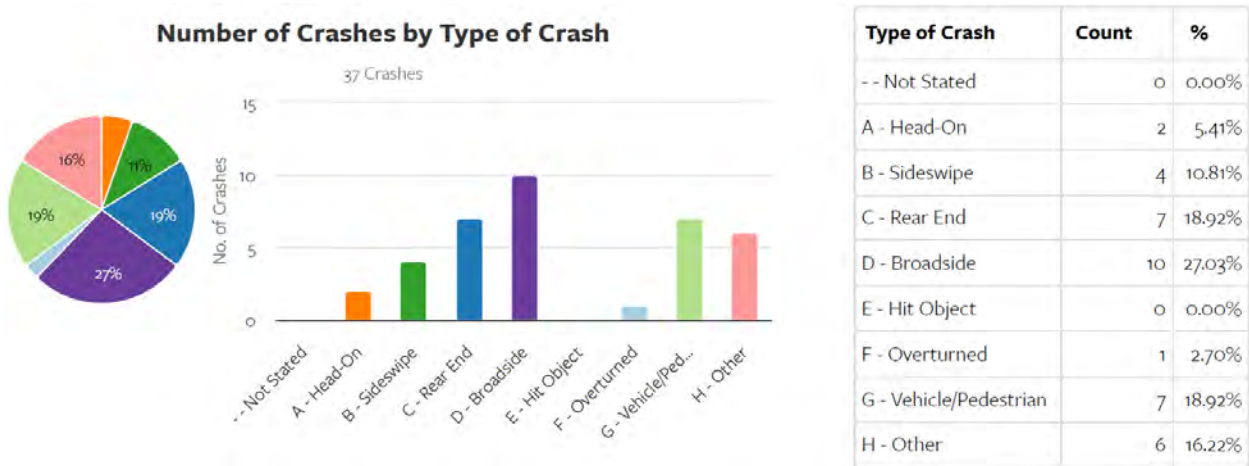


Figure 10: Bay Avenue Collision Types (2013 to 2024)



Between January 2013 and December 2024, there were 36 total reported collisions along the Bay Avenue study corridor which include ten (10) bicycle and eight (8) pedestrian recorded collisions. One (1) of the collisions was a fatal accident with a pedestrian and the remaining collisions resulted in injuries. Approximately ten (10) of the bike and pedestrian collisions along the Bay Avenue corridor occurred within an intersection. The most common primary crash factors (PCF) that caused the reported bike and pedestrian collisions include unsafe speed, improper turning, and right-of-way violation.

Table 5: Bay Avenue Collision Data (2013 to 2024)

| # | Case ID | Date | Primary Road | Secondary Rd | Distance & Direction from Intersection | Bike Collision | Pedestrian Collision | Killed | Injured |
|--------------|----------|------------|--------------|----------------|--|----------------|----------------------|----------|-----------|
| 1 | 5737844 | 5/25/2012 | Bay Ave | Hill St | 90ft South | No | No | 0 | 1 |
| 2 | 5769463 | 7/30/2012 | Capitola Ave | Bay Ave | 80ft West | No | No | 0 | 1 |
| 3 | 5926906 | 2/2/2013 | Highway 1 | Bay Ave | 200ft North | No | No | 0 | 1 |
| 4 | 6483008 | 4/24/2014 | Bay Ave | Capitola Ave | At Intersection | No | Yes | 0 | 1 |
| 5 | 6494114 | 4/30/2014 | Bay Ave | Capitola Ave | At Intersection | No | No | 0 | 1 |
| 6 | 6487930 | 5/6/2014 | Oak Dr | Bay Ave | 37ft South | Yes | No | 0 | 1 |
| 7 | 6487941 | 5/9/2014 | Bay Ave | Hill St | At Intersection | No | No | 0 | 1 |
| 8 | 6511924 | 6/3/2014 | Bay Ave | Hill St | At Intersection | No | Yes | 0 | 1 |
| 9 | 6724062 | 11/17/2014 | Bay Ave | Monterey Ave | 26ft South | No | No | 0 | 1 |
| 10 | 6748318 | 12/3/2014 | Monterey Ave | Park Ave | 18ft South | No | Yes | 0 | 1 |
| 11 | 6864222 | 3/19/2015 | Bay Ave | Capitola Ave | 83ft East | No | Yes | 0 | 1 |
| 12 | 6870050 | 3/19/2015 | Monterey Ave | Park Ave | At Intersection | No | No | 0 | 1 |
| 13 | 6889427 | 4/4/2015 | Bay Ave | Bay Ave | At Intersection | Yes | No | 0 | 1 |
| 14 | 6940786 | 6/7/2015 | Monterey Ave | Bay Ave | At Intersection | No | No | 0 | 1 |
| 15 | 7063888 | 7/20/2015 | Monterey Ave | Park Ave | At Intersection | Yes | No | 0 | 1 |
| 16 | 7075959 | 9/9/2015 | Monterey Ave | Park Ave | At Intersection | No | No | 0 | 1 |
| 17 | 8152095 | 10/7/2016 | Bay Ave | Hill St | At Intersection | No | Yes | 0 | 1 |
| 18 | 8339317 | 3/26/2017 | Bay Ave | Burlingame Ave | 90ft North | Yes | No | 0 | 1 |
| 19 | 8373999 | 4/29/2017 | Bay Ave | Hill St | At Intersection | No | No | 0 | 1 |
| 20 | 8506493 | 11/25/2017 | Bay Ave | Hill St | 40ft North | No | No | 0 | 1 |
| 21 | 8593314 | 2/13/2018 | Bay Ave | Hill St | 203ft North | No | No | 0 | 1 |
| 22 | 90781844 | 7/21/2018 | Bay Ave | Monterey Ave | 100ft North | Yes | No | 0 | 1 |
| 23 | 8701088 | 8/13/2018 | Bay Ave | Hill St | 213ft North | Yes | No | 0 | 1 |
| 24 | 8648318 | 10/6/2018 | Bay Ave | Highway 1 | 218ft South | No | Yes | 1 | 0 |
| 25 | 9007558 | 11/22/2019 | Monterey Ave | Park Ave | At Intersection | Yes | No | 0 | 1 |
| 26 | 9174869 | 10/8/2020 | Bay Ave | Hill St | At Intersection | No | No | 0 | 1 |
| 27 | 9355886 | 9/24/2021 | Bay Ave | Rosedale Ave | 44ft North | No | No | 0 | 1 |
| 28 | 9472209 | 5/5/2022 | Bay Ave | Oak Dr | At Intersection | Yes | No | 0 | 1 |
| 29 | 9472208 | 5/7/2022 | Bay Ave | Hill St | At Intersection | No | No | 0 | 1 |
| 30 | 9495729 | 8/1/2022 | Monterey Ave | Park Ave | At Intersection | No | No | 0 | 1 |
| 31 | 9495924 | 9/4/2022 | Capitola Ave | Bay Ave | 58ft South | Yes | No | 0 | 1 |
| 32 | 9534052 | 12/9/2022 | Bay Ave | Hill St | At Intersection | No | Yes | 0 | 1 |
| 33 | 9549472 | 2/1/2023 | Bay Ave | Burlingame Ave | At Intersection | Yes | No | 0 | 1 |
| 34 | 9625429 | 8/11/2023 | Monterey Ave | Park Ave | 35ft South | No | No | 0 | 1 |
| 35 | 9625425 | 8/24/2023 | Bay Ave | Hill St | At Intersection | No | Yes | 0 | 1 |
| 36 | 9646836 | 10/12/2023 | Bay Ave | Burlingame Ave | 47ft North | No | No | 0 | 1 |
| Total | | | | | | 10 | 8 | 1 | 35 |

Note: Bicycle Collision = Green, Pedestrian Collision = Yellow

3.5 Signal Warrant Analysis

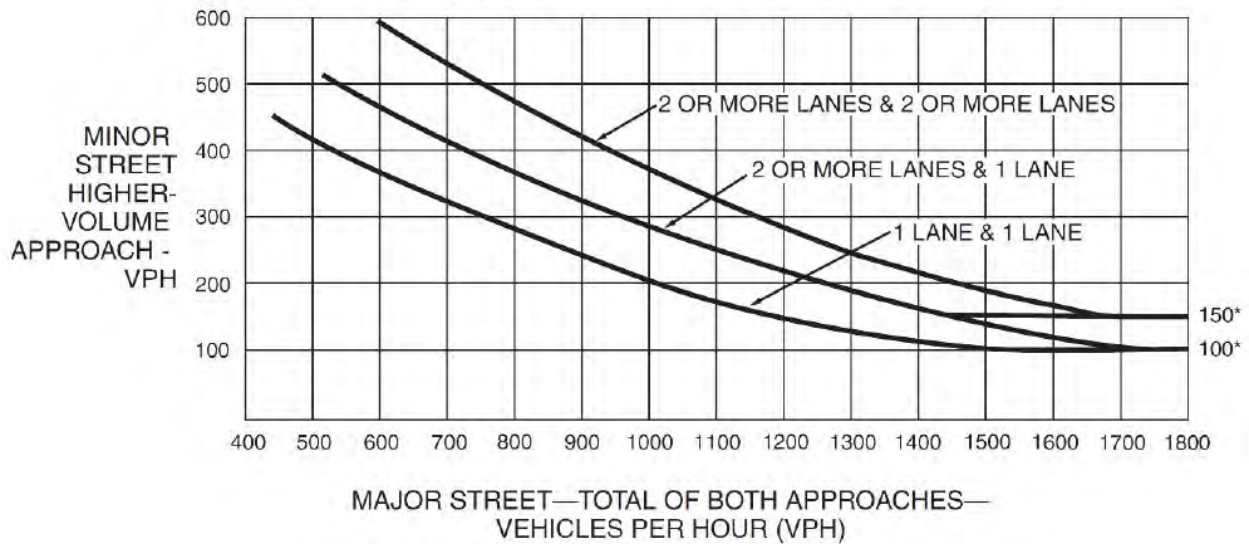
Chapter 4C of the California Manual on Uniform Traffic Control Devices (CAMUTCD) states that an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location. The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions using applicable factors contained in traffic signal warrants.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. On local streets and highways, the engineering study should include consideration of a roundabout (yield control). If a roundabout is determined to provide a viable and practical solution, it should be studied in lieu of, or in addition to a traffic control signal.

For the purposes of this study and based on the collected traffic volumes, peak hour signal warrant #3 was evaluated for the Existing and Cumulative condition to determine if a signal is warranted for any of the Bay Avenue stop-controlled study intersections. To be warranted under Warrant #3, peak hour traffic volumes must plot above the corresponding threshold provided in **Figure 10**. The AM and PM peak hour volumes were analyzed using the following assumptions as shown in **Table 6** and **Table 7**.

Figure 11: CA MUTCD Signal Warrant 3

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Table 6: CA MUTCD Signal Warrant #3 Assumptions – Year 2024 Existing Conditions

| Major Street | | | Minor Street | | | Meets MUTCD Warrant 3 Criteria? |
|----------------|---------|-----------------------------------|---------------|---------|---------------------------------|---------------------------------|
| Street Name | # Lanes | Volume (Total of Both Approaches) | Street Name | # Lanes | Volume (Higher Volume Approach) | |
| AM Peak | | | | | | |
| Bay Ave | 2 | 1236 | Crossroads Lp | 1 | 109 | No |
| Bay Ave | 2 | 991 | Hill St | 1 | 179 | No |
| Bay Ave | 1 | 779 | Capitola Ave | 1 | 219 | No |
| Bay Ave | 1 | 526 | Monterey Ave | 1 | 369 | No |
| Monterey Ave | 1 | 520 | Park Ave | 1 | 521 | Yes |
| PM Peak | | | | | | |
| Bay Ave | 2 | 1295 | Crossroads Lp | 1 | 89 | No |
| Bay Ave | 2 | 1074 | Hill St | 1 | 221 | No |
| Bay Ave | 1 | 769 | Capitola Ave | 1 | 164 | No |
| Bay Ave | 1 | 654 | Monterey Ave | 1 | 139 | No |
| Monterey Ave | 1 | 840 | Park Ave | 1 | 245 | No |

Table 7: CA MUTCD Signal Warrant #3 Assumptions – Year 2045 Cumulative Conditions

| Major Street | | | Minor Street | | | Meets MUTCD Warrant 3 Criteria? |
|----------------|---------|-----------------------------------|---------------|---------|---------------------------------|---------------------------------|
| Street Name | # Lanes | Volume (Total of Both Approaches) | Street Name | # Lanes | Volume (Higher Volume Approach) | |
| AM Peak | | | | | | |
| Bay Ave | 2 | 1336 | Crossroads Lp | 1 | 80 | No |
| Bay Ave | 2 | 1129 | Hill St | 1 | 109 | No |
| Bay Ave | 1 | 779 | Capitola Ave | 1 | 219 | No |
| Bay Ave | 1 | 681 | Monterey Ave | 1 | 369 | Yes |
| Monterey Ave | 1 | 688 | Park Ave | 1 | 521 | Yes |
| PM Peak | | | | | | |
| Bay Ave | 2 | 2002 | Crossroads Lp | 1 | 89 | No |
| Bay Ave | 2 | 1626 | Hill St | 1 | 247 | Yes |
| Bay Ave | 1 | 821 | Capitola Ave | 1 | 261 | No |
| Bay Ave | 1 | 945 | Monterey Ave | 1 | 139 | No |
| Monterey Ave | 1 | 1054 | Park Ave | 1 | 443 | Yes |

Under existing conditions, the Monterey/Park intersection would meet Warrant 3 volume criteria for the AM peak hour. Under cumulative conditions, the peak hour traffic volumes along Bay Avenue would meet the Warrant 3 volume criteria for the Bay/Hill, Bay/Monterey, and Monterey/Park intersections. These intersections were analyzed as a signal for the Alternative 3 layout. It should be noted that for existing and cumulative conditions, the Bay/Capitola intersection does not meet the Warrant 3 volume criteria for a signal; however for consistency and ICE comparison purposes, this intersection was analyzed as signal for the Alternative 3 layout.

4. Corridor Operations and Intersection Control Evaluation Results

4.1 Year 2024 Existing ICE Operations

Traffic operations and ICE analysis were evaluated at the study intersections under Existing conditions based on Existing conditions and utilizing roadway geometry and intersection traffic control from developed corridor concepts to enhance multimodal operations. Traffic operations for the study intersections with Synchro software between the various corridor alternatives are shown below in **Table 8** and **Table 9**. The LOS calculations are included in **Attachment C** and **Attachment D**.

Operations Summary

Under Existing conditions, most of the Bay Avenue corridor is anticipated to operate at acceptable LOS. Compared to the Alt 0 no build and Alt 1 stop configuration, the Alt 2 roundabout option at the Bay/Hill and Bay/Capitola intersections would operate with better LOS and reduced overall intersection delay during the peak periods. The Alt 3 signal layout would also yield acceptable intersection LOS with reduced intersection delay compared to the Alt 1 stop; however, the Alt 3 signal operates at similar LOS to the Alt 2 roundabout layout for the Bay/Hill and Bay/Capitola intersections.

Deficient Operations

- **Bay Avenue / Crossroads Loop (Intersection #3)**
 - TWSC operates at LOS E during the PM peak.
 - Alt 0 No Build, Alt 1 Stop, Alt 2 Roundabout, Alt 3 Signal
 - Vehicle queues spillback into the Crossroads Loop intersection and cause delay for the minor leg approach



- **Bay Avenue / Hill Street (Intersection #4)**
 - AWSC operates at LOS E during the PM peak.
 - Alt 1 Stop
 - Vehicle queues and delay on southbound approach spillback into the Crossroads Loop intersection and cause delay for the intersection

Table 8: Year 2024 Existing Intersection LOS – AM Peak

| No. | Intersection | Alternative 0 No Build | | | | Alternative 1 Stop & Road Diet | | | | Alternative 2 Roundabout | | | | Alternative 3 Signal | | | |
|-----|---------------------------|---------------------------|------------------------|-------------|-----|-----------------------------------|------------------------|-------------|-----|-----------------------------|------------------------|-------------|-----|-------------------------|------------------------|-------------|-----|
| | | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS |
| 1 | Bay Ave & Hwy 1 NB Ramps | Signal | - | 25.2 | C | Signal | - | 26.8 | C | Signal | - | 26.8 | C | Signal | - | 21.0 | C |
| 2 | Bay Ave & Hwy 1 SB Ramps | Signal | - | 17.0 | B | Signal | - | 17.1 | B | Signal | - | 17.1 | B | Signal | - | 30.7 | C |
| 3 | Bay Ave & Crossroads Loop | TWSC | EB | 26.9 | D | TWSC | EB | 24.0 | C | TWSC | EB | 24.0 | C | TWSC | EB | 23.3 | C |
| 4 | Bay Ave & Hill St | AWSC | - | 18.2 | C | AWSC | - | 28.5 | D | RAB | 0.482 | 7.8 | A | Signal | - | 13.4 | B |
| 5 | Bay Ave & Capitola Ave | AWSC | - | 27.7 | D | AWSC | - | 27.7 | D | RAB | 0.407 | 7.4 | A | Signal | - | 7.6 | A |
| 6 | Bay Ave & Monterey Ave | AWSC | - | 19.7 | C | AWSC | - | 19.6 | C | RAB | 0.36 | 6.1 | A | Signal | - | 17.4 | B |
| 7 | Monterey Ave & Park Ave | AWSC | - | 25.1 | D | AWSC | - | 24.9 | D | RAB | 0.488 | 7.2 | A | Signal | - | 10.1 | B |

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

Table 9: Year 2024 Existing Intersection LOS – PM Peak

| No. | Intersection | Alternative 0 No Build | | | | Alternative 1 Stop & Road Diet | | | | Alternative 2 Roundabout | | | | Alternative 3 Signal | | | |
|-----|---------------------------|---------------------------|------------------------|-------------|-----|-----------------------------------|------------------------|-------------|-----|-----------------------------|------------------------|-------------|-----|-------------------------|------------------------|-------------|-----|
| | | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS |
| 1 | Bay Ave & Hwy 1 NB Ramps | Signal | - | 28.7 | C | Signal | - | 23.1 | C | Signal | - | 28.7 | C | Signal | - | 28.7 | C |
| 2 | Bay Ave & Hwy 1 SB Ramps | Signal | - | 20.4 | C | Signal | - | 22.7 | C | Signal | - | 20.4 | C | Signal | - | 20.4 | C |
| 3 | Bay Ave & Crossroads Loop | TWSC | EB | 39.7 | E | TWSC | EB | 35.3 | E | TWSC | EB | 35.3 | E | TWSC | EB | 33.0 | D |
| 4 | Bay Ave & Hill St | AWSC | - | 22.5 | C | AWSC | - | 44.2 | E | RAB | 0.634 | 10.1 | B | Signal | - | 14.1 | B |
| 5 | Bay Ave & Capitola Ave | AWSC | - | 20.5 | C | AWSC | - | 20.5 | C | RAB | 0.505 | 7.5 | A | Signal | - | 6.7 | A |
| 6 | Bay Ave & Monterey Ave | AWSC | - | 12.1 | B | AWSC | - | 11.9 | B | RAB | 0.376 | 5.9 | A | Signal | - | 6.4 | A |
| 7 | Monterey Ave & Park Ave | AWSC | - | 15.4 | C | AWSC | - | 15.4 | C | RAB | 0.604 | 8.5 | A | Signal | - | 7.7 | A |

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

4.2 Year 2045 Cumulative ICE Operations

Traffic operations and ICE analysis were evaluated at the study intersections under Cumulative conditions based on roadway geometry and intersection traffic control from developed corridor concepts to enhance multimodal operations. Traffic operations for the study intersections with Synchro software between the various corridor alternatives are shown below in **Table 10** and **Table 11**. The LOS results are included in **Attachment C** and **Attachment D**.

Operations Summary

Under Cumulative conditions, several intersections along the Bay Avenue corridor are anticipated to operate at a level of service above the City’s LOS threshold. Compared to the Alt 0 no build and Alt 1 stop configuration, the Alt 2 roundabout option at the Bay/Hill and Bay/Capitola intersections would operate with better LOS and reduced overall intersection delay during the peak periods. The Alt 3 signal layout would also yield acceptable intersection LOS with reduced intersection delay compared to the Alt 1 stop; however, the Alt 3 signal operates at similar LOS to the Alt 2 roundabout layout for the Bay/Hill and Bay/Capitola intersections.

Deficient Operations

- **Bay Avenue / Highway 1 NB Ramps (Intersection #1)**
 - Signal operates at LOS E during the AM and PM peak.
 - Alt 0 No Build, Alt 1 Stop, Alt 2 Roundabout, Alt 3 Signal
 - High traffic volumes from the Bay Avenue southbound approach creates delay and long queues with the signal control.
 - Delay and long queues for southbound vehicles wanting to access the Caltrans freeway on-ramp.

- **Bay Avenue / Crossroads Loop (Intersection #3)**
 - TWSC operates at LOS E during the AM and PM peak.
 - Alt 0 No Build, Alt 1 Stop, Alt 2 Roundabout, Alt 3 Signal
 - Vehicle queues spillback into the Crossroads Loop intersection and cause delay for the minor leg approach



- **Bay Avenue / Hill Street (Intersection #4)**
 - AWSC operates at LOS F during the AM and PM peak.
 - Alt 0 No Build, Alt 1 Stop
 - Vehicle queues and delay on southbound approach spillback into the Crossroads Loop intersection and cause delay for the intersection

- **Montrey Avenue / Park Avenue (Intersection #7)**
 - AWSC operates at LOS F during the PM peak.
 - Alt 0 No Build, Alt 1 Stop
 - For the AM peak, high traffic volumes from the Park Avenue westbound approach creates delay and long vehicle queues with the stop control.
 - For the PM peak, high right-turn traffic volumes from the Monterey Avenue NB approach creates delay and long vehicle queues with the stop control.



Table 10: Year 2045 Cumulative Intersection LOS – AM Peak

| No. | Intersection | Alternative 0 No Build | | | | Alternative 1 Stop & Road Diet | | | | Alternative 2 Roundabout | | | | Alternative 3 Signal | | | |
|-----|---------------------------|---------------------------|------------------------|-------------|-----|-----------------------------------|------------------------|-------------|-----|-----------------------------|------------------------|-------------|-----|-------------------------|------------------------|-------------|-----|
| | | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS |
| 1 | Bay Ave & Hwy 1 NB Ramps | Signal | - | 71.2 | E | Signal | - | 71.2 | E | Signal | - | 71.2 | E | Signal | - | 71.2 | E |
| 2 | Bay Ave & Hwy 1 SB Ramps | Signal | - | 32.8 | C | Signal | - | 32.8 | C | Signal | - | 32.8 | C | Signal | - | 32.8 | C |
| 3 | Bay Ave & Crossroads Loop | TWSC | EB | 48.0 | E | TWSC | EB | 44.2 | E | TWSC | EB | 44.2 | E | TWSC | EB | 39.1 | E |
| 4 | Bay Ave & Hill St | AWSC | - | 22.2 | C | AWSC | - | 73.2 | F | RAB | 0.703 | 10.5 | B | Signal | - | 12.8 | B |
| 5 | Bay Ave & Capitola Ave | AWSC | - | 18.4 | C | AWSC | - | 18.4 | C | RAB | 0.41 | 7.4 | A | Signal | - | 6.9 | A |
| 6 | Bay Ave & Monterey Ave | AWSC | - | 18.2 | C | AWSC | - | 18.2 | C | RAB | 0.41 | 6.7 | A | Signal | - | 10.7 | B |
| 7 | Monterey Ave & Park Ave | AWSC | - | 33.0 | D | AWSC | - | 33.0 | D | RAB | 0.488 | 8.4 | A | Signal | - | 12.9 | B |

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

Table 11: Year 2045 Cumulative Intersection LOS – PM Peak

| No. | Intersection | Alternative 0 No Build | | | | Alternative 1 Stop & Road Diet | | | | Alternative 2 Roundabout | | | | Alternative 3 Signal | | | |
|-----|---------------------------|---------------------------|------------------------|-------------|-----|-----------------------------------|------------------------|-------------|-----|-----------------------------|------------------------|-------------|-----|-------------------------|------------------------|-------------|-----|
| | | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS | Control Type | Worst Mvmt or RDBT v/c | Delay (sec) | LOS |
| 1 | Bay Ave & Hwy 1 NB Ramps | Signal | - | 71.1 | E | Signal | - | 64.7 | E | Signal | - | 76.0 | E | Signal | - | 71.1 | E |
| 2 | Bay Ave & Hwy 1 SB Ramps | Signal | - | 46.5 | D | Signal | - | 34.7 | C | Signal | - | 34.6 | C | Signal | - | 46.5 | D |
| 3 | Bay Ave & Crossroads Loop | TWSC | EB | 65.9 | F | TWSC | EB | 63.4 | F | TWSC | EB | 63.4 | F | TWSC | EB | 119.1 | F |
| 4 | Bay Ave & Hill St | AWSC | - | 98.7 | F | AWSC | - | 109.6 | F | RAB | 0.893 | 21.0 | C | Signal | - | 26.5 | C |
| 5 | Bay Ave & Capitola Ave | AWSC | - | 21.7 | C | AWSC | - | 21.3 | C | RAB | 0.524 | 8.1 | A | Signal | - | 7.3 | A |
| 6 | Bay Ave & Monterey Ave | AWSC | - | 20.3 | C | AWSC | - | 24.4 | C | RAB | 0.469 | 7.8 | A | Signal | - | 7.1 | A |
| 7 | Monterey Ave & Park Ave | AWSC | - | 55.5 | F | AWSC | - | 60.8 | F | RAB | 0.792 | 13.1 | B | Signal | - | 22.7 | C |

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

4.3 Intersection Queuing Analysis

A queuing analysis with the VISSIM and Synchro software was also performed along the Bay Avenue roadway corridor to determine the queuing effect for each of the alternative layouts. The micro-simulation was conducted to obtain the average and maximum vehicle queue on each approach during the AM and PM peak hour period. The results of the vehicles queues observed in the analysis for the existing and cumulative conditions are summarized in **Table 12**, **Table 13**, and **Attachment C** and **Attachment D**.

Table 12: Year 2024 Existing Intersection Queue Summary

| ID | Intersection | Intersection Approaches with Max Queue that Exceeds Storage Capacity | | | |
|----|-------------------------|--|--------------------|--------------------------|----------------------|
| | | Control Type | AM Peak | | |
| | | | Alternative 1 Stop | Alternative 2 Roundabout | Alternative 3 Signal |
| 1 | Bay Ave / SR1 NB Ramps | Signal | NB, SB | NB, SB | NB, SB |
| 2 | Bay Ave / SR1 SB Ramps | Signal | | | |
| 3 | Bay Ave / Crossroads | TWSC | | | |
| 4 | Bay Ave / Hill St | Varies | SB | SB | SB, EB |
| 5 | Bay Ave / Capitola Ave | Varies | | | WB |
| 6 | Bay Ave / Monterey Ave | Varies | | | |
| 7 | Monterey Ave / Park Ave | Varies | WB | WB | NB, SB, WB |

| ID | Intersection | Intersection Approaches with Max Queue that Exceeds Storage Capacity | | | |
|----|-------------------------|--|--------------------|--------------------------|----------------------|
| | | Control Type | PM Peak | | |
| | | | Alternative 1 Stop | Alternative 2 Roundabout | Alternative 3 Signal |
| 1 | Bay Ave / SR1 NB Ramps | Signal | NB, SB | NB, SB | NB, SB |
| 2 | Bay Ave / SR1 SB Ramps | Signal | | | |
| 3 | Bay Ave / Crossroads | TWSC | | | |
| 4 | Bay Ave / Hill St | Varies | SB | SB | SB, EB |
| 5 | Bay Ave / Capitola Ave | Varies | | | WB |
| 6 | Bay Ave / Monterey Ave | Varies | | | |
| 7 | Monterey Ave / Park Ave | Varies | WB | WB | NB, SB, WB |

Note: NB=northbound, SB=southbound, EB=eastbound, WB=westbound

Under existing conditions, each corridor layout option would generate maximum vehicle queues that exceed the storage capacity at several intersection approaches which include the SR1 Caltrans ramps, Hill Street, and Park Avenue. The Alternative 1 AWSC and Alternative 2 roundabout would have similar vehicle queues; however, the Alternative 3 signal would have additional queue impacts due to the nature of signal operations that generate longer queues for vehicles during the red signal phase.

Table 13: Year 2045 Cumulative Intersection Queue Summary

| ID | Intersection | Intersection Approaches with Max Queue that Exceeds Storage Capacity | | | |
|----|-------------------------|--|--------------------|--------------------------|----------------------|
| | | Control Type | AM Peak | | |
| | | | Alternative 1 Stop | Alternative 2 Roundabout | Alternative 3 Signal |
| 1 | Bay Ave / SR1 NB Ramps | Signal | NB, SB | NB, SB | NB, SB |
| 2 | Bay Ave / SR1 SB Ramps | Signal | SB, EB | SB | EB |
| 3 | Bay Ave / Crossroads | TWSC | SB | | SB |
| 4 | Bay Ave / Hill St | Varies | SB | SB | SB, EB |
| 5 | Bay Ave / Capitola Ave | Varies | | | |
| 6 | Bay Ave / Monterey Ave | Varies | SB | | SB |
| 7 | Monterey Ave / Park Ave | Varies | WB | | NB, SB, WB |

| ID | Intersection | Intersection Approaches with Max Queue that Exceeds Storage Capacity | | | |
|----|-------------------------|--|--------------------|--------------------------|----------------------|
| | | Control Type | PM Peak | | |
| | | | Alternative 1 Stop | Alternative 2 Roundabout | Alternative 3 Signal |
| 1 | Bay Ave / SR1 NB Ramps | Signal | NB, SB | NB, SB | NB, SB |
| 2 | Bay Ave / SR1 SB Ramps | Signal | NB, SB, EB | NB, SB, EB | NB, SB, EB |
| 3 | Bay Ave / Crossroads | TWSC | SB, WB | NB, SB | NB, SB, EB, WB |
| 4 | Bay Ave / Hill St | Varies | NB, SB, EB | SB, EB | NB, SB, EB |
| 5 | Bay Ave / Capitola Ave | Varies | SB | SB | NB, SB, EB, WB |
| 6 | Bay Ave / Monterey Ave | Varies | SB | | SB, WB |
| 7 | Monterey Ave / Park Ave | Varies | NB, WB | NB | NB, SB, WB |

Note: NB=northbound, SB=southbound, EB=eastbound, WB=westbound

Under cumulative conditions, each corridor layout option would generate maximum vehicle queues that exceed the storage capacity for at least one intersection approach for all the study intersections. The Alternative 1 AWSC and Alternative 2 roundabout would have similar vehicle queues; however, the Alternative 3 signal would have additional queue impacts due to the nature of signal operations that generate longer queues for vehicles during the red signal phase.

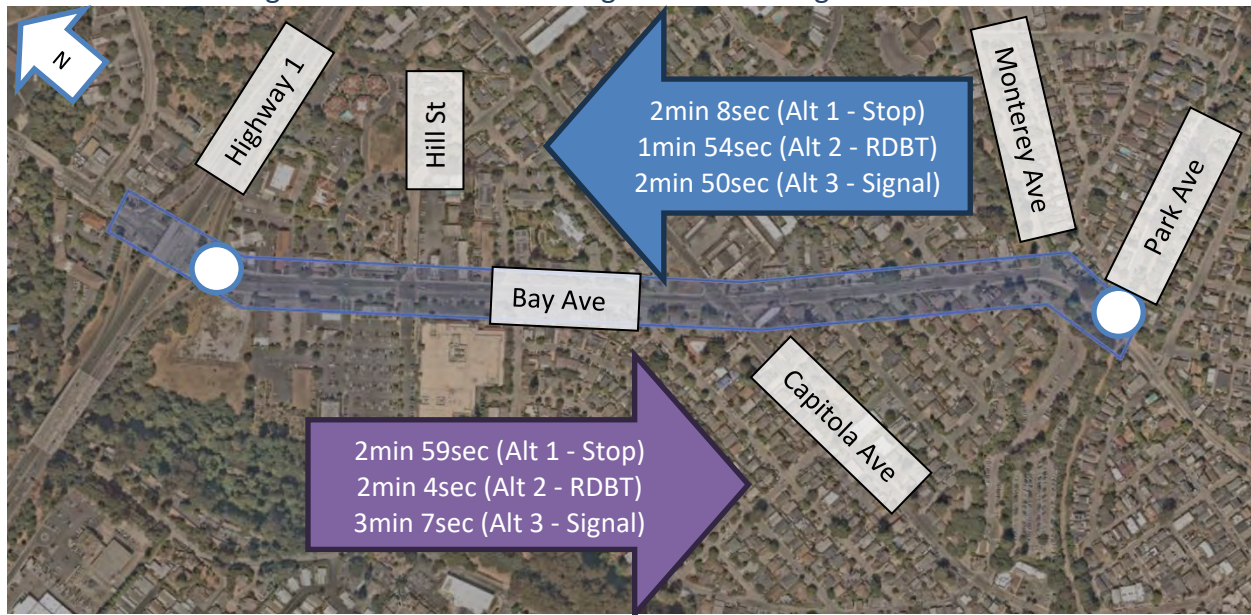
Overall, for the Existing and Cumulative scenarios, the Alternative 2 roundabout option would provide the most optimal intersection configuration to accommodate and minimize the anticipated peak hour vehicle queues along the Bay Avenue corridor.

4.4 Corridor Travel Time Summary

The VISSIM model (Alternative 1 and Alternative 2) and Synchro model (Alternative 3) performed an average travel time comparison for vehicles traveling through Bay Avenue between the Highway 1 SB Ramp and Park Avenue intersections. A summary of the average travel time, average speed, and annual vehicle hours traveled (VHT) results between the Alternative 1 AWSC and Alternative 2 Roundabout layouts is shown in **Figure 12, Figure 13, Table 14, and Table 15.**

Vehicle hours traveled (VHT) is a key metric in transportation planning that calculates the total travel time for all vehicles. Since time is a non-renewable resource and is the largest economic cost of traveling and shipping, VHT is used to measure the quality of travel service on a roadway facility. When comparing VHT results, a lower VHT indicates vehicles are traveling through the roadway facility more efficiently and the facility is experiencing less traffic congestion.

Figure 12: Year 2024 Existing Corridor Average Travel Times



Existing Conditions

Vehicles traveling northbound on the Alternative 1 Stop layout would have an average peak hour travel time of 2 minutes 9 seconds, and the estimated annual VHT from Park Avenue to SR1 is 62,501 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 1 minute 54 seconds and would have an annual VHT of 55,492 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 2 minute 50 seconds and would have an annual VHT of 82,726 vehicle-hours.

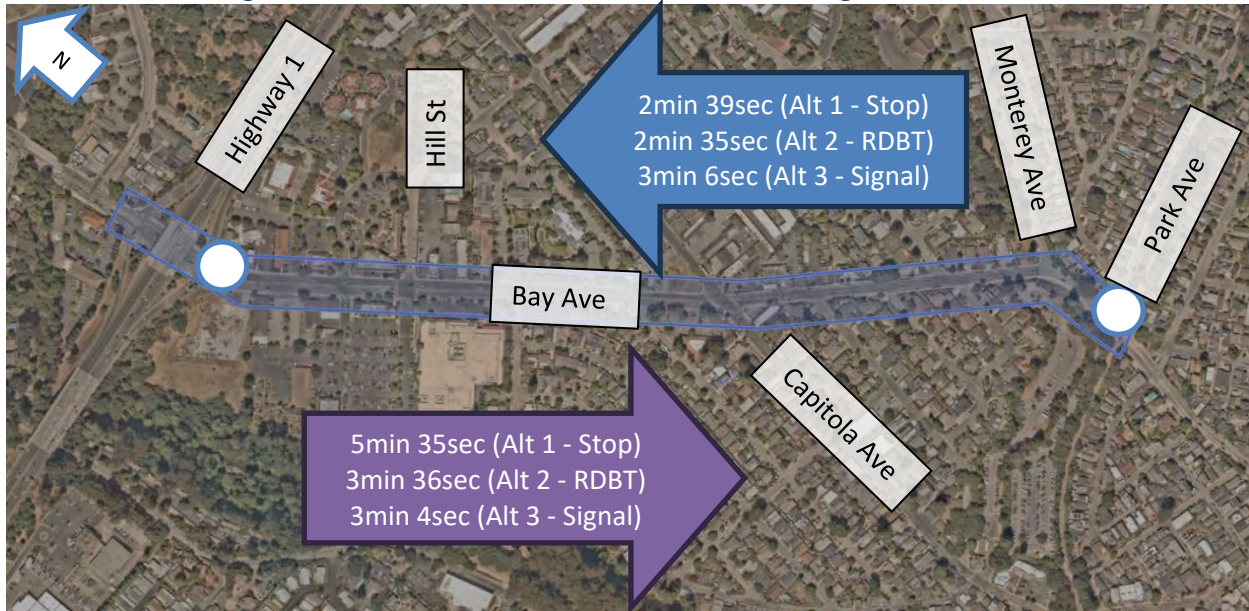
Similarly, vehicles traveling southbound on the Alternative 1 Stop layout would have an average peak hour travel time of 3 minutes 59 seconds, and the estimated annual VHT from SR1 to Park Avenue is 98,494 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 2 minute 4 seconds and would have an annual VHT of 68,188 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 3 minute 7 seconds and would have an annual VHT of 102,557 vehicle-hours.

For both travel directions, the Alternative 2 Roundabout layout would generate fewer VHT and provide a faster average travel time compared to the Alternative 1 Stop and Alternative 3 signal layout. This is because roundabouts are yield controlled and allow for faster continuous movement of vehicles compared to an all-way stop and signal control where vehicles are required to stop completely at the intersection approach.

Table 14: Year 2024 Existing Corridor Travel Times

| Scenario | Analysis Criteria | Alternative 1 Stop & Road Diet [VISSIM] | Alternative 2 Roundabout [VISSIM] | Alternative 3 Signal [Synchro] |
|--|---------------------------------------|---|---|--------------------------------------|
| NB - N. of Park Ave to S. of Highway 1 SB Ramps | | 0.62 Travel Distance (mi) | | |
| AM Peak | Avg Travel Time (sec) | 136.2 | 114.6 | 174.8 |
| | Avg Travel Time (min & sec) | 2 min 16 sec | 1 min 55 sec | 2 min 55 sec |
| | Avg Travel Speed (mph) | 16.3 | 19.5 | 12.3 |
| PM Peak | Avg Travel Time (sec) | 120.6 | 113.4 | 165.1 |
| | Avg Travel Time (min & sec) | 2 min 1 sec | 1 min 53 sec | 2 min 45 sec |
| | Avg Travel Speed (mph) | 18.4 | 19.7 | 13.4 |
| VHT Estimation | Avg Peak Hour Travel Time (sec) | 128.4 | 114.0 | 170.0 |
| | Avg Peak Hour Travel Time (min & sec) | 2 min 8 sec | 1 min 54 sec | 2 min 50 sec |
| | Avg Daily Traffic (vehicles) | 4801 | 4801 | 4801 |
| | Vehicle Hours Traveled (veh-hr/year) | 62,501 | 55,492 | 82,726 |
| Scenario | Analysis Criteria | Alternative 1 Stop & Road Diet [VISSIM] | Alternative 2 Roundabout [VISSIM] | Alternative 3 Signal [Synchro] |
| SB - S. of Highway 1 SB Ramps to N. of Park Ave | | 0.62 Travel Distance (mi) | | |
| AM Peak | Average Travel Time (sec) | 126.6 | 113.4 | 191.2 |
| | Average Travel Time (min & sec) | 2 min 7 sec | 1 min 53 sec | 3 min 11 sec |
| | Average Travel Speed (mph) | 17.7 | 20.0 | 10.9 |
| PM Peak | Average Travel Time (sec) | 232.2 | 135 | 182.4 |
| | Average Travel Time (min & sec) | 3 min 52 sec | 2 min 15 sec | 3 min 2 sec |
| | Average Travel Speed (mph) | 9.6 | 16.7 | 12.0 |
| VHT Estimation | Avg Peak Hour Travel Time (sec) | 179.4 | 124.2 | 186.8 |
| | Avg Peak Hour Travel Time (min & sec) | 2 min 59 sec | 2 min 4 sec | 3 min 7 sec |
| | Avg Daily Traffic (vehicles) | 5415 | 5415 | 5415 |
| | Vehicle Hours Traveled (veh-hr/year) | 98,494 | 68,188 | 102,557 |

Figure 13: Year 2045 Cumulative Corridor Average Travel Times



Cumulative Conditions

Vehicles traveling northbound on the Alternative 1 Stop layout would have an average peak hour travel time of 2 minutes 39 seconds, and the estimated annual VHT from Park Avenue to SR1 is 104,314 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 2 minute 35 seconds and would have an annual VHT of 101,948 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 3 minute 6 seconds and would have an annual VHT of 122,259 vehicle-hours.

For vehicles traveling southbound on the Alternative 1 Stop layout would have an average peak hour travel time of 5 minutes 35 seconds, and the estimated annual VHT from SR1 to Park Avenue is 271,317 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 3 minute 36 seconds and would have an annual VHT of 175,200 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 3 minute 4 seconds and would have an annual VHT of 149,285 vehicle-hours.

For vehicles traveling northbound on Bay Avenue, the Alternative 2 Roundabout layout would generate fewer VHT and provide a faster average travel time; however, for vehicles traveling southbound on Bay Avenue, the Alternative 3 Signal layout would generate fewer VHT and provide a faster average travel time.

Table 15: Year 2045 Cumulative Corridor Travel Times

| Scenario | Analysis Criteria | Alternative 1 Stop & Road Diet [VISSIM] | Alternative 2 Roundabout [VISSIM] | Alternative 3 Signal [Synchro] |
|--|---------------------------------------|---|---|--------------------------------------|
| NB - N. of Park Ave to S. of Highway 1 SB Ramps | | 0.62 Travel Distance (mi) | | |
| AM Peak | Avg Travel Time (sec) | 125.4 | 112.8 | 162.4 |
| | Avg Travel Time (min & sec) | 2 min 5 sec | 1 min 53 sec | 2 min 42 sec |
| | Avg Travel Speed (mph) | 17.6 | 19.8 | 15.6 |
| PM Peak | Avg Travel Time (sec) | 192 | 197.4 | 209.6 |
| | Avg Travel Time (min & sec) | 3 min 12 sec | 3 min 17 sec | 3 min 30 sec |
| | Avg Travel Speed (mph) | 11.5 | 11.3 | 11.7 |
| VHT Estimation | Avg Peak Hour Travel Time (sec) | 158.70 | 155.10 | 186.00 |
| | Avg Peak Hour Travel Time (min & sec) | 2 min 39 sec | 2 min 35 sec | 3 min 6 sec |
| | Avg Daily Traffic (vehicles) | 6483 | 6483 | 6483 |
| | Vehicle Hours Traveled (veh-hr/year) | 104,314 | 101,948 | 122,259 |
| Scenario | Analysis Criteria | Alternative 1 Stop & Road Diet [VISSIM] | Alternative 2 Roundabout [VISSIM] | Alternative 3 Signal [Synchro] |
| SB - S. of Highway 1 SB Ramps to N. of Park Ave | | 0.62 Travel Distance (mi) | | |
| AM Peak | Avg Travel Time (sec) | 315.6 | 132.6 | 182.8 |
| | Avg Travel Time (min & sec) | 5 min 16 sec | 2 min 13 sec | 3 min 3 sec |
| | Avg Travel Speed (mph) | 7.1 | 17.0 | 10.7 |
| PM Peak | Avg Travel Time (sec) | 353.4 | 299.4 | 185.3 |
| | Avg Travel Time (min & sec) | 5 min 53 sec | 4 min 59 sec | 3 min 5 sec |
| | Avg Travel Speed (mph) | 6.3 | 7.5 | 10.3 |
| VHT Estimation | Avg Peak Hour Travel Time (sec) | 334.50 | 216.00 | 184.05 |
| | Avg Peak Hour Travel Time (min & sec) | 5 min 35 sec | 3 min 36 sec | 3 min 4 sec |
| | Avg Daily Traffic (vehicles) | 8000 | 8000 | 8000 |
| | Vehicle Hours Traveled (veh-hr/year) | 271,317 | 175,200 | 149,285 |

Travel Time Impact to Driver Behavior, Transit Access, and Emergency Vehicle Response

Optimizing the travel time along Bay Avenue provides several benefits to multimodal access and safety. Long vehicle delays and queues at intersections typically increases driver frustration and increases risky driver behavior to rush towards their destination. This frustration and risky driver behavior can increase the likelihood and severity of a motor vehicle collision which can jeopardize the safety of vulnerable users such as bikes and pedestrians.

Roadway facilities with travel times optimized to the intended design speed also improves consistency and access of transit services and emergency vehicle response.

4.5 Driver Behavior & Drone Video Analysis at Bay/Capitola Intersection

The current all-way stop intersection of Bay Avenue / Capitola Avenue was evaluated using aerial video collection by drone and processed using video analytics to observe driver behavior and determine vehicle stopping rate, measured speeds, deceleration, and near miss collisions between vehicles, pedestrians, and bicyclists. The drone video collection was conducted by Kimley-Horn on Thursday May 16, 2024, when school was in session and during favorable weather conditions, and the data is representative of the AM peak, school mid-day peak, and PM peak commute times. The technical memo and results of the drone video analysis is provided in **Attachment E**.

The near-miss collision analysis was conducted by calculating the post encroachment time (PET) between vehicles which is the critical or minimum gap between the intersection point of two or more objects on their intended trajectory. For the study, a near-miss collision at the Bay/Capitola is recorded when the PET is equal or less than 1.5 seconds from where objects would collide. A total of 35 near miss-collisions were observed at the Bay/Capitola all-way stop controlled intersection with the most common near miss occurring on Bay Avenue between vehicles making a southbound left turn to access Capitola Avenue and the Gayles driveway and vehicles making a northbound through movement towards Highway 1.

Based on the observed driver behavior and near-miss collisions at the existing all-way stop controlled intersection at Bay/Capitola, the recommended measures to address these intersection challenges may include:

- Convert the intersection into a roundabout. Vehicles entering a roundabout all travel in one direction around a raised center island at a controlled lower speed which reduces the number of conflict points and the severity of potential collisions between vehicles, pedestrians, and bicyclists.
- Convert the intersection into a signal. Signal control provides clear right-of-way instructions to all users and improve driver certainty when traveling through the intersection.

4.6 Multimodal Safety and Access Improvements

This section provides an overview of the potential long-term roadway improvements that may be implemented along the Bay Avenue corridor to enhance multimodal safety and access. The intersection control investigated for each roadway alternative would introduce geometric changes that would benefit bicycle and pedestrian facilities.

Alternative 1: Stop Control and Road Diet

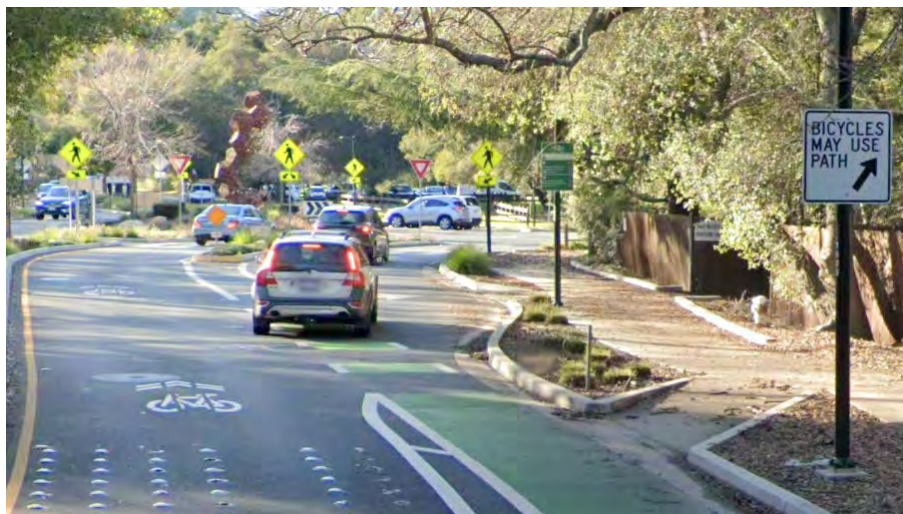
- Road Diet Transition: Converting Bay Avenue from a four-lane to a two-lane roadway reduces vehicle speeds and minimizes the number of lanes pedestrians and cyclists must cross.
- Enhanced Pedestrian Crossings: Installation of curb bulb-outs and enhanced pedestrian crossings shortens the crossing distance and increases visibility.
- Buffered Class IV Bike Facilities: Adding buffered bike lanes separates cyclists from vehicular traffic, enhancing safety and comfort.



Example road diet and traffic calming features implemented at the existing all-way stop at Bay/Hill (Capitola)

Alternative 2: Roundabout

- Reduced Conflict Points: Roundabouts reduce the number of conflict points compared to traditional intersections, lowering the likelihood of collisions.
- Slower Vehicle Speeds: Vehicles travel at lower speeds through roundabouts, reducing the severity of any potential collisions.
- Bike and Pedestrian Pathways: The design includes bike lane transitions and curb ramps onto Class I shared bike/ped pathways, providing a safer and more direct route for cyclists and pedestrians.
- Shorter and Protected Crossings: Pedestrians benefit from shorter crossing distances and protected refuge areas within the roundabout design.



Example bike and pedestrian facilities at a roundabout approach (Lafayette)

Alternative 3: Signal

- Signal Control: Traffic signals provide clear right-of-way instructions, thereby improving driver predictability and reducing confusion at intersections.
- Designated Crossing Times: Pedestrian signals provide designated crossing times, ensuring safe passage across intersections.
- Buffered Bike Lanes: Similar to Alternative 1, buffered bike lanes protect cyclists from the main traffic stream.
- Pedestrian Countdown Signals: These signals improve pedestrian safety by providing clear timing information for crossing.
- Protected Intersection Design: Installation of curb bulb-outs that separate travel areas and shorten the pedestrian and bicycle crossings improves multimodal safety and access.



Example protected intersection features for bikes and peds at a signalized intersection (Fremont)

Other Roadway Considerations and Enhancements

- Class IV protected bikeways: Where possible, restripe the existing Class II bike lanes on Bay Avenue with buffered bike lanes via striping and/or raised bollards to increase the physical separation between the vehicle and bicycle travel lanes. The added comfort and visibility of the bikeway improves bicycle safety along the roadway.
- Mid-block crossings: Where feasible and warranted, install mid-block crossings to enhance pedestrian connectivity and safety. Crossing augmented with median refuge areas, flashing signs, and high contrast striping provides shorter crossing distance and improves visibility to pedestrians crossing the street.
- Landscaped medians: Where feasible, implement raised medians with opportunities for landscaping to enhance the Bay Avenue streetscape in a way that improves the appearance of Bay Avenue, increases safety for bicyclists and pedestrians, and stimulates private investment within the area per the Capitola General Plan.



Example of mid-block crosswalk and buffered bike lanes

General Safety Enhancements:

- Traffic Calming Features: All alternatives incorporate traffic calming features like narrower lanes and improved intersection design, which inherently enhance safety for all road users.
- Visibility Improvements: Enhanced lighting, signage, and marked crosswalks improve visibility for pedestrians and cyclists, especially at night or during adverse weather conditions.
- Collision Mitigation: Historical collision data and near-miss analysis inform the design to specifically address risky driver behaviors and common collision types, further ensuring pedestrian and cyclist safety.

Summary of Safety Benefits:

- Reduced Vehicle Speeds: Slower travel speeds generally lead to decreased collision severity for vehicles, cyclists and pedestrians.
- Clear Right-of-Way: Signal and roundabout controls provide structured and predictable movement patterns.
- Protected Space: Buffered and clearly marked spaces for pedestrians and cyclists reduce the risk of conflicts with vehicles.
- Improved Crossings: Shorter and more visible crossing areas make it safer and easier for pedestrians to navigate intersections.
- Enhanced Visibility and Lighting: Increased visibility through better lighting and clear signage reduces the risk of accidents.

5. Corridor Study Conclusions and Recommendations

Table 16 provides a qualitative comparison of the proposed corridor alternatives from an economic, operations, and safety assessment. Based on the analysis results, the study recommends pursuing the roundabout configuration at key intersections for long-term benefits in traffic operations, safety, economic development, and multi-modal accessibility.

Operations

From an intersection operations perspective, the Alternative 2 roundabout configuration would provide the lowest average vehicle LOS delay and shortest average travel time along the Bay Avenue corridor. As a result, improved intersection operations benefit transit and emergency vehicle access. The introduction of roundabouts as a new traffic control in the City would require a longer adjustment period for drivers to adapt to the new infrastructure compared to existing signals or stop control.

The Alternative 1 stop configuration with road diet would result in the worst LOS, longest travel times, and vehicle queues operating similar to the Alternative 0 no build scenario. Forecasted traffic growth from the county travel demand model would cause operation deficiencies with the stop control alternative. With keeping the existing road condition, there is little driver adaptation time.

The Alternative 3 signal configuration would provide acceptable operations for average vehicle delay, queues, and travel time but not to the same level as the roundabout option. It is worth noting that while the LOS would be improved with a signal-controlled intersection, the typical delay for a vehicle to traverse through the intersection would actually increase compared to a roundabout option.

Multimodal Safety

As discussed in Section 4, each potential corridor alternative would introduce geometric changes that would benefit bicycle and pedestrian facilities for safety improvement and access. The Alternative 2 roundabout configuration would have the fewest vehicle conflict points for bikes and pedestrians crossing the street as well as shorter and protected crossings with the roundabout layout introducing raised medians and separated pathways. These features plus slower overall vehicle speeds through the intersection generates the lowest collision severity potential compared to the other alternatives. Based on the observed driver behavior and near-miss collision analysis at the Bay/Capitola all-way stop controlled intersection, a roundabout layout would improve overall safety at the skewed roadway approaches.

The Alternative 1 stop configuration would introduce curb bulb-outs at the stop intersections and road diet traffic calming effects that reduce the crossing distances and enhance visibility of bikes and peds crossing the vehicle conflict areas. These features help reduce the number of vehicle conflict points and provide a moderate safety improvement compared to the roundabout and signal alternatives.

The Alternative 3 signal configuration helps facilitate designated crossing phases for all transportation modes and the infrastructure can be designed with a protected intersection layout to separate and shorten the bike and pedestrian crossings at the corners. These features improve bike and pedestrian access, but the number of vehicle conflict points remains similar with the existing stop layout. For a signal during a green light, vehicles will typically travel at higher speeds than the stop and roundabout alternatives which increases the collision severity potential with more vulnerable users.

Economic Development

For the Alternative 2 roundabout layout to be feasible, substantial infrastructure and construction improvements would be required to convert the existing stop control into a roundabout throughout the corridor. Compared to the other alternatives, the roundabout would have the highest upfront capital costs and potential right-of-way impacts to implement due to the larger geometric footprint needed for designing acceptable operations and the multimodal features. Typical rough order of magnitude (ROM) costs for a single lane roundabout range between \$2 to \$3.5 million per location. Once constructed however, the roundabout would have lower long-term maintenance costs and better environmental benefits than a signal option due to no electrical equipment, lower vehicle emissions, and opportunities for art and landscaping within the intersection. Grant funding opportunities with roundabouts are also advantageous since many state and federal grant programs are focused on active transportation and improving safety for cyclists and pedestrians which are elements that roundabouts provide.

The Alternative 1 stop layout would have the lowest capital costs, right-of-way impact, and ongoing maintenance compared to the roundabout and signal alternatives. Typical ROM costs for a road diet and traffic calming improvements range between \$100,00 to \$500,000 per location. Depending on the traffic calming design, aesthetics can also be improved along the streetscape corridor with landscaping and decorative art. Grant funding opportunities with Alternative 1 are also good with the safety benefits to pedestrians and cyclists from the potential road diet and traffic calming features.

The Alternative 3 signal layout would have high capital costs and high ongoing maintenance costs to support the electrical and signal infrastructure compared to the roundabout and stop alternatives. Typical ROM costs for a signal varies based on the number of travel lanes and approaches and can range between \$500,000 to \$2 million per location.

Table 16: Qualitative Corridor Operations Summary Comparison

| Criteria | Alternative 0 – No Build | Alternative 1 – Stop & Road Diet | Alternative 2 – Roundabout | Alternative 3 - Signal |
|--|---|---|--|---|
| Operations | | | | |
| Vehicle Delay | <u>High</u> Stop control creates delay for intersection approaches | <u>High</u> Stop control creates delay for intersection approaches | <u>Low</u> Yield control reduces average delay | <u>Moderate</u> Signal control reduces average delay |
| Vehicle Travel Time | <u>Long</u> Stop control creates delay for intersection approaches | <u>Long</u> Stop control creates delay for intersection approaches | <u>Short</u> Yield control reduces average delay | <u>Moderate</u> Signal control reduces average delay |
| Vehicle Queue Length | <u>Long</u> Long queues and spillback into adjacent intersection | <u>Long</u> Long queues and spillback into adjacent intersection | <u>Moderate</u> Yield control generates average queues | <u>Moderate</u> Signal control generates average queues |
| Transit and Emergency Vehicle Access Improvement | <u>Poor</u> Slower average travel times and higher VHT | <u>Poor</u> Slower average travel times and higher VHT | <u>Moderate</u> Faster average travel times and lower VHT | <u>Moderate</u> Opportunity for emergency vehicle preemption |

| Criteria | Alternative 0 – No Build | Alternative 1 – Stop & Road Diet | Alternative 2 – Roundabout | Alternative 3 - Signal |
|--|---|---|--|---|
| Driver Adaptation Time | <u>Low</u> Existing conditions on corridor | <u>Low</u> Existing conditions on corridor | <u>High</u> New traffic control in City for users | <u>Moderate</u> Existing conditions on corridor |
| Safety | | | | |
| Collision Severity Potential | <u>Moderate</u> Numerous conflict points with stop control at intersection | <u>Moderate</u> Numerous conflict points with stop control at intersection | <u>Low</u> Fewer conflict points and controlled lower speeds at intersection | <u>High</u> Higher vehicle speeds and numerous conflict points at intersection |
| Bicycle Access Improvement | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Buffered bike lanes and markings | <u>Good</u> Buffered bike lanes and markings. Shorter and protected crossings | <u>Moderate</u> Buffered bike lanes and markings. Designated crossing phases |
| Pedestrian Access Improvement | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Shorter crossings with traffic calming | <u>Good</u> Shorter and protected crossings | <u>Moderate</u> Designated crossing phases |
| Economic | | | | |
| Capital Construction Cost | <u>Low</u> No Build scenario would not improve conditions | <u>Low</u> Updates to existing infrastructure | <u>High</u> New infrastructure and utility coordination | <u>High</u> New infrastructure and signal equipment |
| Right of Way Impact | <u>Low</u> No change to existing conditions | <u>Low</u> Updates to existing infrastructure | <u>High</u> Property impacts to accommodate design | <u>Moderate</u> New infrastructure and signal equipment |
| Operation & Maintenance Costs | <u>Low</u> No Build scenario would not improve conditions | <u>Low</u> Landscaping | <u>Moderate</u> Landscaping | <u>High</u> Signal equipment, electricity |
| Greenhouse Gas Emissions | <u>Moderate</u> Vehicle idling with stop traffic control | <u>Moderate</u> Vehicle idling with stop traffic control | <u>Low</u> Less vehicle idling with yield traffic control | <u>Moderate</u> Higher speeds & vehicle idling with signal traffic control |
| Aesthetics & Community Character Improvement | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Opportunities for art and landscaping with traffic calming | <u>Good</u> Opportunities for art and landscaping at intersection | <u>Moderate</u> Requires signal poles and cabinets |
| Grant Funding Opportunity | <u>Poor</u> No Build scenario would not improve conditions | <u>Moderate</u> Multimodal safety improvement | <u>Good</u> Multimodal safety improvement, traffic congestion reduction, environmental impact | <u>Moderate</u> Traffic congestion reduction |

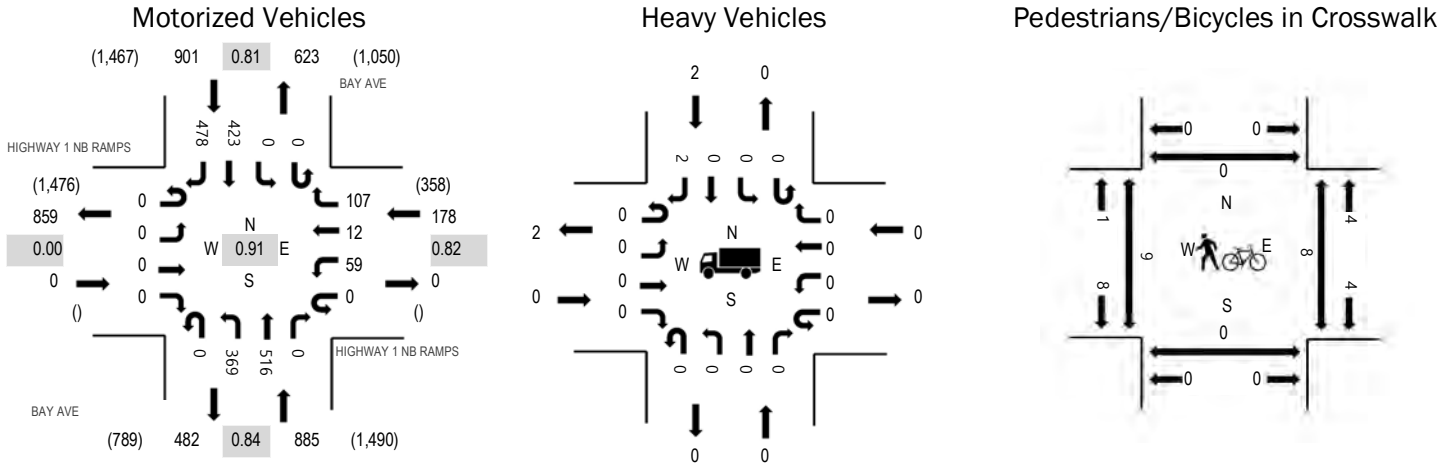
| Criteria | Alternative 0 – No Build | Alternative 1 – Stop & Road Diet | Alternative 2 – Roundabout | Alternative 3 - Signal |
|--------------------|--|---|--|---|
| General Benefits | <ul style="list-style-type: none"> • Lower initial capital cost and ongoing maintenance | <ul style="list-style-type: none"> • Improved driver certainty • Lower initial capital cost • Improved bike & ped safety | <ul style="list-style-type: none"> • Reduction collision severity • Improved bike & ped safety • Improved operations • Reduced GHG emissions | <ul style="list-style-type: none"> • Improved operations & capacity • Provides designated crossing times and driver certainty |
| General Challenges | <ul style="list-style-type: none"> • Decreased operations • Increased queues | <ul style="list-style-type: none"> • Decreased operations • Increased queues | <ul style="list-style-type: none"> • High initial capital cost and potential ROW impact • Driver adaptation to new traffic operations | <ul style="list-style-type: none"> • High capital and maintenance costs • Increased queues and collision severity potential |

6. Appendix

- Attachment A – Year 2024 Existing Traffic Count Data
- Attachment B – Bike and Pedestrian Collision Data
- Attachment C – VISSIM & SIDRA LOS Results (Stop and Roundabout Alternatives)
- Attachment D – Synchro LOS Results (No Build, Stop, and Signal Alternatives)
- Attachment E – Existing Intersection Observed Driver Behavior at Bay/Capitola Technical Memo

Attachment A – Year 2024 Existing Traffic Count Data

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.00 |
| WB | 0.0% | 0.82 |
| NB | 0.0% | 0.84 |
| SB | 0.2% | 0.81 |
| All | 0.1% | 0.91 |

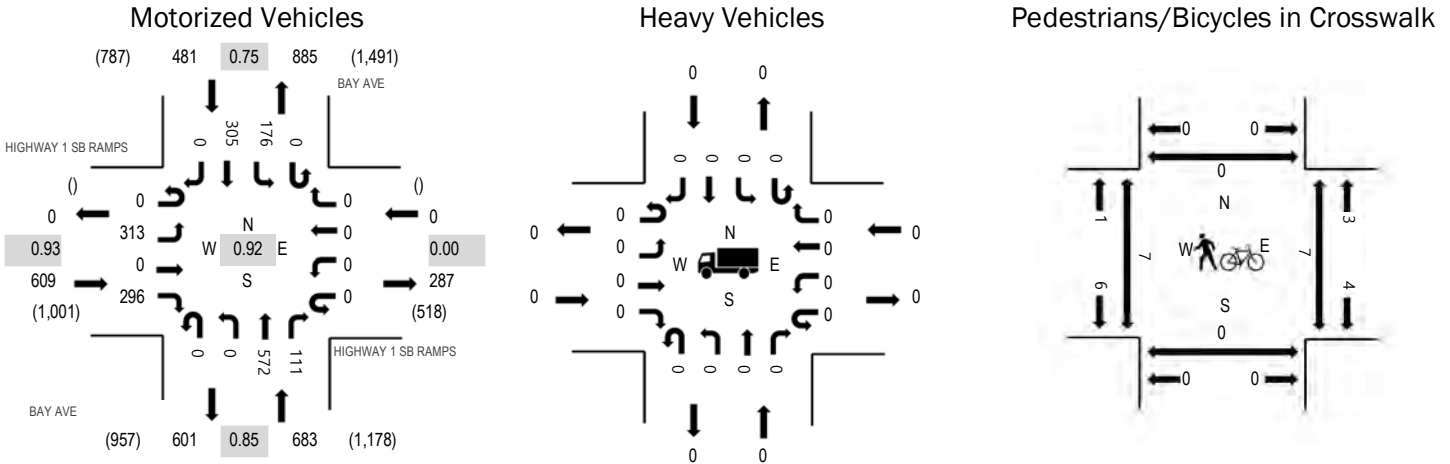
Traffic Counts - Motorized Vehicles

| Interval Start Time | HIGHWAY 1 NB RAMPS Eastbound | | | | HIGHWAY 1 NB RAMPS Westbound | | | | BAY AVE Northbound | | | | BAY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|------------------------------|------|------|-------|------------------------------|------|------|-------|--------------------|------|------|-------|--------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 25 | 0 | 43 | 56 | 0 | 0 | 0 | 52 | 38 | 234 | 1,351 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 40 | 0 | 69 | 68 | 0 | 0 | 0 | 52 | 87 | 331 | 1,639 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 30 | 0 | 91 | 77 | 0 | 0 | 0 | 80 | 99 | 394 | 1,848 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 7 | 5 | 21 | 0 | 91 | 110 | 0 | 0 | 0 | 64 | 94 | 392 | 1,892 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 14 | 4 | 23 | 0 | 105 | 158 | 0 | 0 | 0 | 104 | 114 | 522 | 1,964 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 12 | 4 | 24 | 0 | 90 | 132 | 0 | 0 | 0 | 147 | 131 | 540 | |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 13 | 1 | 33 | 0 | 87 | 102 | 0 | 0 | 0 | 89 | 113 | 438 | |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 20 | 3 | 27 | 0 | 87 | 124 | 0 | 0 | 0 | 83 | 120 | 464 | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 118 | 17 | 223 | 0 | 663 | 827 | 0 | 0 | 0 | 671 | 796 | 3,315 | |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 59 | 12 | 107 | 0 | 369 | 516 | 0 | 0 | 0 | 423 | 478 | 1,964 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 1 | 0 | 1 | 2 | 7:00 AM | 0 | 0 | 0 | 1 | 1 | 7:00 AM | 2 | 0 | 1 | 0 | 3 |
| 7:15 AM | 0 | 1 | 1 | 0 | 2 | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 0 | 3 | 0 | 3 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 3 | 0 | 0 | 0 | 3 |
| 7:45 AM | 0 | 1 | 0 | 1 | 2 | 7:45 AM | 0 | 0 | 0 | 2 | 2 | 7:45 AM | 2 | 0 | 1 | 0 | 3 |
| 8:00 AM | 0 | 0 | 0 | 1 | 1 | 8:00 AM | 0 | 2 | 0 | 4 | 6 | 8:00 AM | 4 | 0 | 1 | 0 | 5 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 0 | 2 | 0 | 8 | 10 | 8:15 AM | 4 | 0 | 2 | 0 | 6 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 1 | 0 | 0 | 1 | 8:30 AM | 1 | 0 | 4 | 0 | 5 |
| 8:45 AM | 0 | 0 | 0 | 1 | 1 | 8:45 AM | 0 | 1 | 0 | 0 | 1 | 8:45 AM | 0 | 0 | 1 | 0 | 1 |
| Count Total | 0 | 3 | 1 | 4 | 8 | Count Total | 0 | 6 | 0 | 15 | 21 | Count Total | 16 | 0 | 13 | 0 | 29 |
| Peak Hour | 0 | 0 | 0 | 2 | 2 | Peak Hour | 0 | 6 | 0 | 12 | 18 | Peak Hour | 9 | 0 | 8 | 0 | 17 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.93 |
| WB | 0.0% | 0.00 |
| NB | 0.0% | 0.85 |
| SB | 0.0% | 0.75 |
| All | 0.0% | 0.92 |

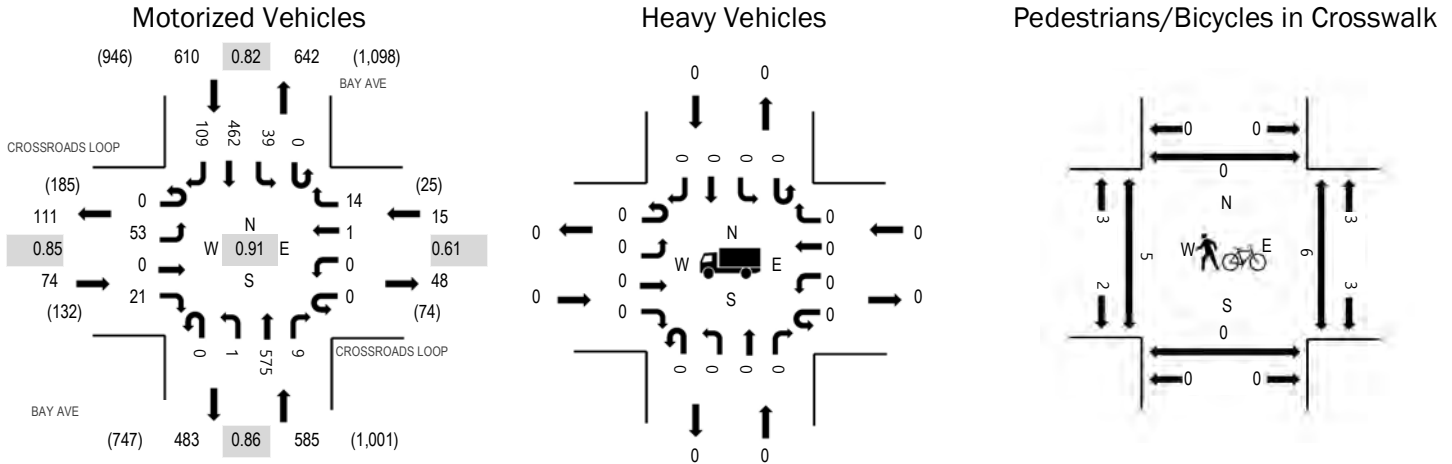
Traffic Counts - Motorized Vehicles

| Interval Start Time | HIGHWAY 1 SB RAMPS Eastbound | | | | HIGHWAY 1 SB RAMPS Westbound | | | | BAY AVE Northbound | | | | BAY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|------------------------------|------|------|-------|------------------------------|------|------|-------|--------------------|------|------|-------|--------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 36 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 12 | 1 | 32 | 35 | 0 | 220 | 1,193 |
| 7:15 AM | 0 | 50 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 92 | 18 | 0 | 34 | 35 | 0 | 278 | 1,455 |
| 7:30 AM | 0 | 42 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 124 | 31 | 0 | 38 | 58 | 0 | 342 | 1,655 |
| 7:45 AM | 0 | 71 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 28 | 0 | 38 | 35 | 0 | 353 | 1,713 |
| 8:00 AM | 0 | 96 | 0 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 167 | 35 | 0 | 41 | 75 | 0 | 482 | 1,773 |
| 8:15 AM | 0 | 81 | 0 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 141 | 21 | 0 | 56 | 104 | 0 | 478 | |
| 8:30 AM | 0 | 55 | 0 | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 139 | 30 | 0 | 33 | 70 | 0 | 400 | |
| 8:45 AM | 0 | 81 | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 25 | 0 | 46 | 56 | 0 | 413 | |
| Count Total | 0 | 512 | 0 | 489 | 0 | 0 | 0 | 0 | 0 | 0 | 978 | 200 | 1 | 318 | 468 | 0 | 2,966 | |
| Peak Hour | 0 | 313 | 0 | 296 | 0 | 0 | 0 | 0 | 0 | 0 | 572 | 111 | 0 | 176 | 305 | 0 | 1,773 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 1 | 0 | 0 | 0 | 1 | 7:00 AM | 0 | 0 | 0 | 1 | 1 | 7:00 AM | 2 | 0 | 1 | 0 | 3 |
| 7:15 AM | 0 | 1 | 0 | 0 | 1 | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 1 | 0 | 1 | 0 | 2 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 2 | 0 | 0 | 0 | 2 |
| 7:45 AM | 0 | 1 | 0 | 0 | 1 | 7:45 AM | 0 | 0 | 0 | 2 | 2 | 7:45 AM | 2 | 0 | 1 | 0 | 3 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 0 | 2 | 0 | 4 | 6 | 8:00 AM | 3 | 0 | 2 | 0 | 5 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 0 | 2 | 0 | 8 | 10 | 8:15 AM | 4 | 0 | 2 | 0 | 6 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 1 | 0 | 1 | 1 | 8:30 AM | 0 | 0 | 3 | 0 | 3 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8:45 AM | 0 | 1 | 0 | 1 | 1 | 8:45 AM | 0 | 0 | 0 | 0 | 0 |
| Count Total | 1 | 2 | 0 | 0 | 3 | Count Total | 0 | 6 | 0 | 15 | 21 | Count Total | 14 | 0 | 10 | 0 | 24 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 0 | 6 | 0 | 12 | 18 | Peak Hour | 7 | 0 | 7 | 0 | 14 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.85 |
| WB | 0.0% | 0.61 |
| NB | 0.0% | 0.86 |
| SB | 0.0% | 0.82 |
| All | 0.0% | 0.91 |

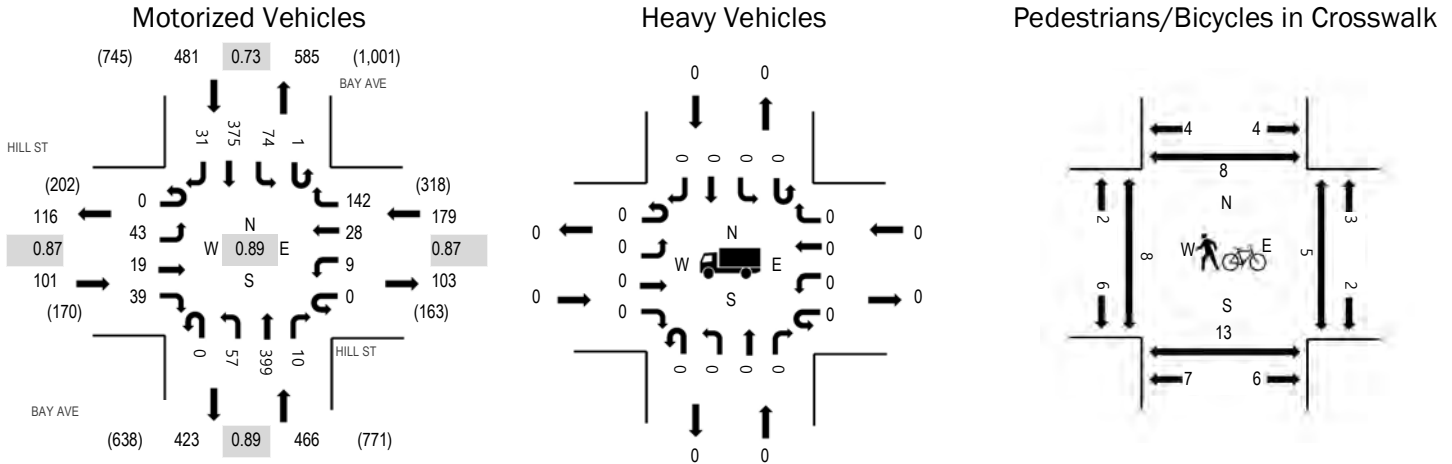
Traffic Counts - Motorized Vehicles

| Interval Start Time | CROSSROADS LOOP Eastbound | | | | CROSSROADS LOOP Westbound | | | | BAY AVE Northbound | | | | BAY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|--------------------|------|------|-------|--------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 61 | 0 | 0 | 2 | 44 | 12 | 130 | 820 |
| 7:15 AM | 0 | 8 | 0 | 6 | 0 | 1 | 0 | 3 | 0 | 0 | 90 | 1 | 0 | 10 | 60 | 18 | 197 | 1,033 |
| 7:30 AM | 0 | 8 | 0 | 5 | 0 | 0 | 0 | 3 | 0 | 0 | 136 | 1 | 0 | 5 | 64 | 26 | 248 | 1,187 |
| 7:45 AM | 0 | 15 | 0 | 8 | 0 | 0 | 0 | 3 | 0 | 1 | 122 | 1 | 0 | 6 | 75 | 14 | 245 | 1,248 |
| 8:00 AM | 0 | 9 | 0 | 2 | 0 | 0 | 0 | 7 | 0 | 0 | 167 | 3 | 0 | 8 | 116 | 31 | 343 | 1,284 |
| 8:15 AM | 0 | 13 | 0 | 10 | 0 | 0 | 0 | 2 | 0 | 0 | 137 | 2 | 0 | 6 | 155 | 26 | 351 | |
| 8:30 AM | 0 | 15 | 0 | 6 | 0 | 0 | 1 | 4 | 0 | 1 | 147 | 2 | 0 | 10 | 94 | 29 | 309 | |
| 8:45 AM | 0 | 16 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 124 | 2 | 0 | 15 | 97 | 23 | 281 | |
| Count Total | 0 | 91 | 0 | 41 | 0 | 1 | 1 | 23 | 0 | 5 | 984 | 12 | 0 | 62 | 705 | 179 | 2,104 | |
| Peak Hour | 0 | 53 | 0 | 21 | 0 | 0 | 1 | 14 | 0 | 1 | 575 | 9 | 0 | 39 | 462 | 109 | 1,284 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 0 | 0 | 0 | 1 | 1 | 7:00 AM | 2 | 1 | 0 | 0 | 3 |
| 7:15 AM | 0 | 1 | 0 | 0 | 1 | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 1 | 0 | 0 | 0 | 1 |
| 7:45 AM | 0 | 1 | 0 | 0 | 1 | 7:45 AM | 0 | 0 | 0 | 2 | 2 | 7:45 AM | 2 | 0 | 1 | 0 | 3 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 0 | 2 | 0 | 4 | 6 | 8:00 AM | 1 | 0 | 1 | 0 | 2 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 0 | 2 | 0 | 8 | 10 | 8:15 AM | 1 | 0 | 2 | 0 | 3 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 1 | 0 | 0 | 1 | 8:30 AM | 1 | 0 | 3 | 0 | 4 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8:45 AM | 0 | 1 | 0 | 0 | 1 | 8:45 AM | 2 | 0 | 0 | 0 | 2 |
| Count Total | 0 | 2 | 0 | 0 | 2 | Count Total | 0 | 6 | 0 | 15 | 21 | Count Total | 10 | 1 | 7 | 0 | 18 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 0 | 6 | 0 | 12 | 18 | Peak Hour | 5 | 0 | 6 | 0 | 11 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.87 |
| WB | 0.0% | 0.87 |
| NB | 0.0% | 0.89 |
| SB | 0.0% | 0.73 |
| All | 0.0% | 0.89 |

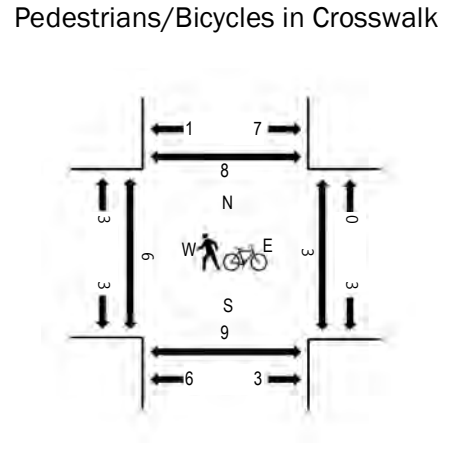
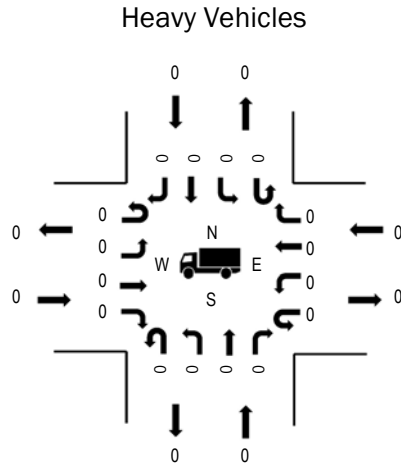
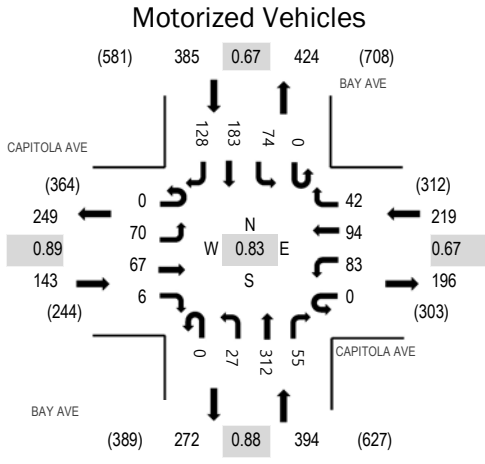
Traffic Counts - Motorized Vehicles

| Interval Start Time | HILL ST Eastbound | | | | HILL ST Westbound | | | | BAY AVE Northbound | | | BAY AVE Southbound | | | | Total | Rolling Hour | |
|---------------------|-------------------|------|------|-------|-------------------|------|------|-------|--------------------|------|------|--------------------|--------|------|------|-------|--------------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | | | Right |
| 7:00 AM | 0 | 10 | 3 | 1 | 0 | 0 | 6 | 18 | 0 | 5 | 37 | 0 | 0 | 10 | 31 | 6 | 127 | 777 |
| 7:15 AM | 0 | 7 | 2 | 5 | 0 | 2 | 6 | 28 | 0 | 6 | 56 | 0 | 0 | 14 | 42 | 11 | 179 | 976 |
| 7:30 AM | 0 | 11 | 4 | 5 | 0 | 3 | 5 | 30 | 0 | 11 | 95 | 1 | 0 | 9 | 53 | 3 | 230 | 1,141 |
| 7:45 AM | 0 | 11 | 2 | 8 | 0 | 1 | 7 | 33 | 0 | 12 | 80 | 2 | 0 | 13 | 64 | 8 | 241 | 1,209 |
| 8:00 AM | 0 | 12 | 4 | 10 | 0 | 0 | 11 | 42 | 0 | 13 | 116 | 2 | 0 | 16 | 96 | 4 | 326 | 1,227 |
| 8:15 AM | 0 | 12 | 6 | 9 | 0 | 3 | 5 | 34 | 0 | 15 | 92 | 4 | 1 | 19 | 137 | 7 | 344 | |
| 8:30 AM | 0 | 10 | 2 | 7 | 0 | 1 | 8 | 40 | 0 | 17 | 106 | 3 | 0 | 14 | 81 | 9 | 298 | |
| 8:45 AM | 0 | 9 | 7 | 13 | 0 | 5 | 4 | 26 | 0 | 12 | 85 | 1 | 0 | 25 | 61 | 11 | 259 | |
| Count Total | 0 | 82 | 30 | 58 | 0 | 15 | 52 | 251 | 0 | 91 | 667 | 13 | 1 | 120 | 565 | 59 | 2,004 | |
| Peak Hour | 0 | 43 | 19 | 39 | 0 | 9 | 28 | 142 | 0 | 57 | 399 | 10 | 1 | 74 | 375 | 31 | 1,227 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 1 | 0 | 0 | 1 | 2 | 7:00 AM | 3 | 2 | 1 | 1 | 7 |
| 7:15 AM | 0 | 1 | 0 | 0 | 1 | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 1 | 0 | 0 | 1 |
| 7:45 AM | 0 | 1 | 0 | 0 | 1 | 7:45 AM | 0 | 0 | 0 | 2 | 2 | 7:45 AM | 2 | 0 | 1 | 1 | 4 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 0 | 2 | 0 | 4 | 6 | 8:00 AM | 3 | 2 | 0 | 2 | 7 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 1 | 1 | 0 | 8 | 10 | 8:15 AM | 0 | 3 | 2 | 2 | 7 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 1 | 1 | 0 | 2 | 8:30 AM | 1 | 4 | 1 | 3 | 9 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8:45 AM | 0 | 0 | 1 | 0 | 1 | 8:45 AM | 4 | 4 | 2 | 1 | 11 |
| Count Total | 0 | 2 | 0 | 0 | 2 | Count Total | 2 | 4 | 2 | 15 | 23 | Count Total | 13 | 16 | 7 | 10 | 46 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 1 | 4 | 2 | 12 | 19 | Peak Hour | 8 | 13 | 5 | 8 | 34 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.89 |
| WB | 0.0% | 0.67 |
| NB | 0.0% | 0.88 |
| SB | 0.0% | 0.67 |
| All | 0.0% | 0.83 |

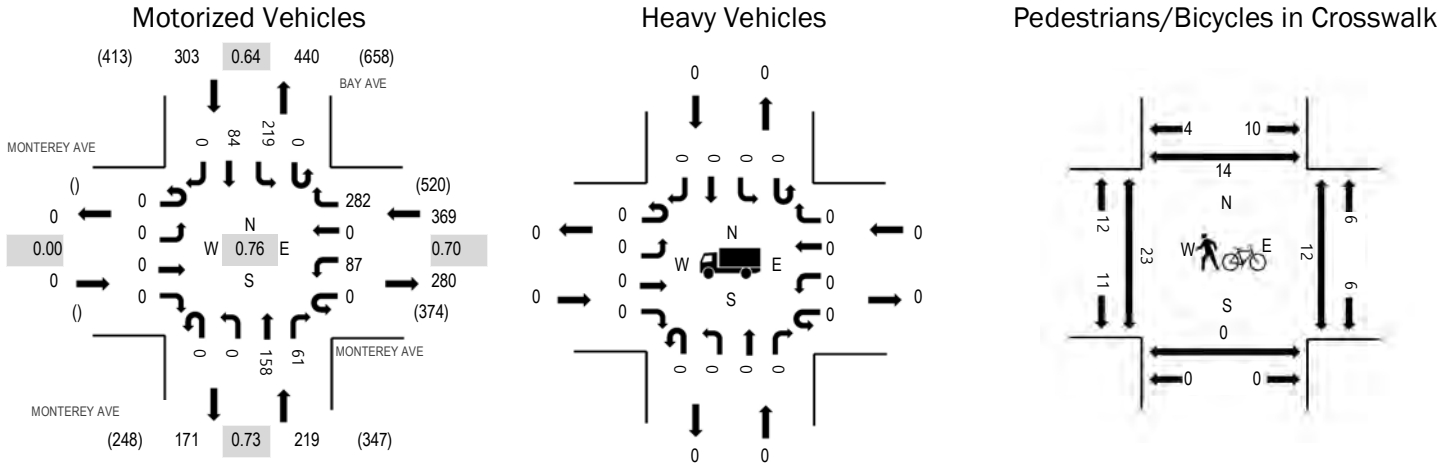
Traffic Counts - Motorized Vehicles

| Interval Start Time | CAPITOLA AVE Eastbound | | | | CAPITOLA AVE Westbound | | | | BAY AVE Northbound | | | BAY AVE Southbound | | | | Total | Rolling Hour | |
|---------------------|------------------------|------|------|-------|------------------------|------|------|-------|--------------------|------|------|--------------------|--------|------|------|-------|--------------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | | | Right |
| 7:00 AM | 0 | 12 | 8 | 1 | 0 | 2 | 4 | 5 | 0 | 0 | 18 | 4 | 0 | 10 | 7 | 11 | 82 | 623 |
| 7:15 AM | 0 | 17 | 10 | 1 | 0 | 2 | 7 | 4 | 0 | 4 | 37 | 8 | 0 | 7 | 24 | 12 | 133 | 821 |
| 7:30 AM | 0 | 18 | 11 | 0 | 0 | 7 | 13 | 9 | 0 | 0 | 78 | 2 | 0 | 8 | 33 | 15 | 194 | 1,032 |
| 7:45 AM | 0 | 10 | 12 | 1 | 0 | 6 | 24 | 10 | 0 | 6 | 66 | 10 | 0 | 17 | 33 | 19 | 214 | 1,118 |
| 8:00 AM | 0 | 21 | 12 | 4 | 0 | 18 | 21 | 15 | 0 | 3 | 82 | 15 | 0 | 18 | 47 | 24 | 280 | 1,141 |
| 8:15 AM | 0 | 12 | 15 | 1 | 0 | 45 | 26 | 12 | 0 | 5 | 71 | 12 | 0 | 17 | 85 | 43 | 344 | |
| 8:30 AM | 0 | 18 | 20 | 0 | 0 | 15 | 26 | 6 | 0 | 7 | 91 | 14 | 0 | 15 | 36 | 32 | 280 | |
| 8:45 AM | 0 | 19 | 20 | 1 | 0 | 5 | 21 | 9 | 0 | 12 | 68 | 14 | 0 | 24 | 15 | 29 | 237 | |
| Count Total | 0 | 127 | 108 | 9 | 0 | 100 | 142 | 70 | 0 | 37 | 511 | 79 | 0 | 116 | 280 | 185 | 1,764 | |
| Peak Hour | 0 | 70 | 67 | 6 | 0 | 83 | 94 | 42 | 0 | 27 | 312 | 55 | 0 | 74 | 183 | 128 | 1,141 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 0 | 1 | 0 | 0 | 1 | 7:00 AM | 1 | 0 | 0 | 1 | 2 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 0 | 1 | 1 | 2 | 7:15 AM | 2 | 2 | 1 | 3 | 8 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 1 | 2 | 3 | 7:30 AM | 0 | 1 | 0 | 1 | 2 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 7:45 AM | 0 | 0 | 0 | 4 | 4 | 7:45 AM | 0 | 3 | 0 | 0 | 3 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 2 | 0 | 1 | 4 | 7 | 8:00 AM | 1 | 3 | 0 | 1 | 5 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 1 | 2 | 1 | 12 | 16 | 8:15 AM | 0 | 1 | 1 | 2 | 4 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 0 | 1 | 2 | 3 | 8:30 AM | 3 | 4 | 1 | 4 | 12 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8:45 AM | 1 | 0 | 0 | 0 | 1 | 8:45 AM | 2 | 1 | 1 | 1 | 5 |
| Count Total | 0 | 0 | 0 | 0 | 0 | Count Total | 4 | 3 | 5 | 25 | 37 | Count Total | 9 | 15 | 4 | 13 | 41 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 4 | 2 | 3 | 18 | 27 | Peak Hour | 6 | 9 | 3 | 8 | 26 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.00 |
| WB | 0.0% | 0.70 |
| NB | 0.0% | 0.73 |
| SB | 0.0% | 0.64 |
| All | 0.0% | 0.76 |

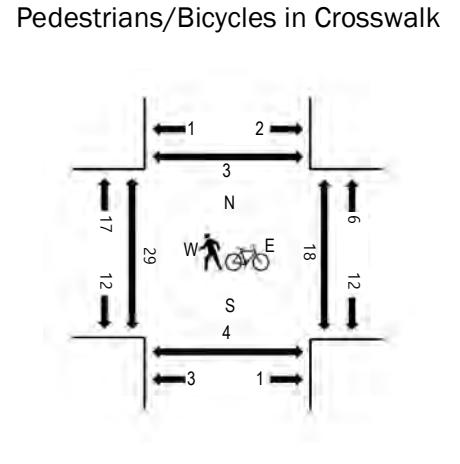
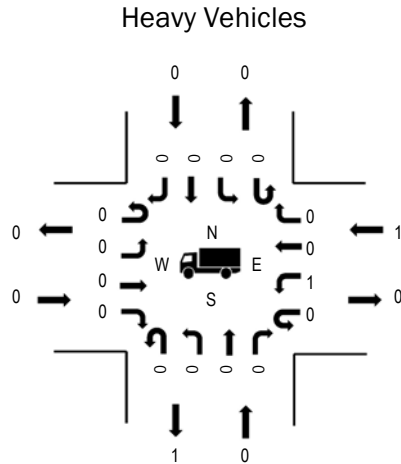
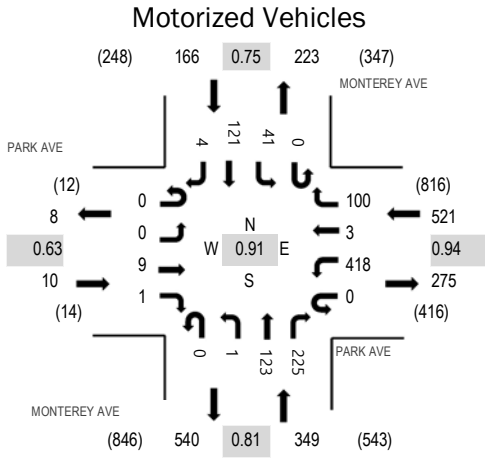
Traffic Counts - Motorized Vehicles

| Interval Start Time | MONTEREY AVE Eastbound | | | | MONTEREY AVE Westbound | | | | MONTEREY AVE Northbound | | | | BAY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|------------------------|------|------|-------|------------------------|------|------|-------|-------------------------|------|------|-------|--------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 8 | 0 | 0 | 16 | 5 | 0 | 5 | 5 | 0 | 45 | 412 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 28 | 0 | 0 | 22 | 4 | 0 | 18 | 5 | 0 | 85 | 560 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 43 | 0 | 0 | 26 | 7 | 0 | 34 | 10 | 0 | 137 | 768 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 45 | 0 | 0 | 38 | 6 | 0 | 23 | 17 | 0 | 145 | 891 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 65 | 0 | 0 | 38 | 9 | 0 | 45 | 24 | 0 | 193 | 868 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 74 | 0 | 0 | 45 | 31 | 0 | 97 | 21 | 0 | 293 | |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 98 | 0 | 0 | 37 | 15 | 0 | 54 | 22 | 0 | 260 | |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 33 | 0 | 0 | 42 | 6 | 0 | 15 | 18 | 0 | 122 | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 126 | 0 | 394 | 0 | 0 | 264 | 83 | 0 | 291 | 122 | 0 | 1,280 | |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 87 | 0 | 282 | 0 | 0 | 158 | 61 | 0 | 219 | 84 | 0 | 891 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 0 | 0 | 0 | 1 | 1 | 7:00 AM | 3 | 0 | 1 | 1 | 5 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 1 | 2 | 0 | 3 | 7:15 AM | 5 | 0 | 0 | 3 | 8 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 1 | 2 | 3 | 7:30 AM | 2 | 0 | 2 | 0 | 4 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 7:45 AM | 0 | 2 | 1 | 5 | 8 | 7:45 AM | 6 | 0 | 2 | 1 | 9 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 0 | 1 | 1 | 6 | 8 | 8:00 AM | 6 | 0 | 2 | 5 | 13 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 0 | 3 | 3 | 15 | 21 | 8:15 AM | 4 | 0 | 5 | 4 | 13 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 1 | 2 | 4 | 7 | 8:30 AM | 7 | 0 | 3 | 4 | 14 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8:45 AM | 0 | 0 | 1 | 1 | 2 | 8:45 AM | 8 | 0 | 5 | 6 | 19 |
| Count Total | 0 | 0 | 0 | 0 | 0 | Count Total | 0 | 8 | 11 | 34 | 53 | Count Total | 41 | 0 | 20 | 24 | 85 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 0 | 7 | 7 | 30 | 44 | Peak Hour | 23 | 0 | 12 | 14 | 49 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.63 |
| WB | 0.2% | 0.94 |
| NB | 0.0% | 0.81 |
| SB | 0.0% | 0.75 |
| All | 0.1% | 0.91 |

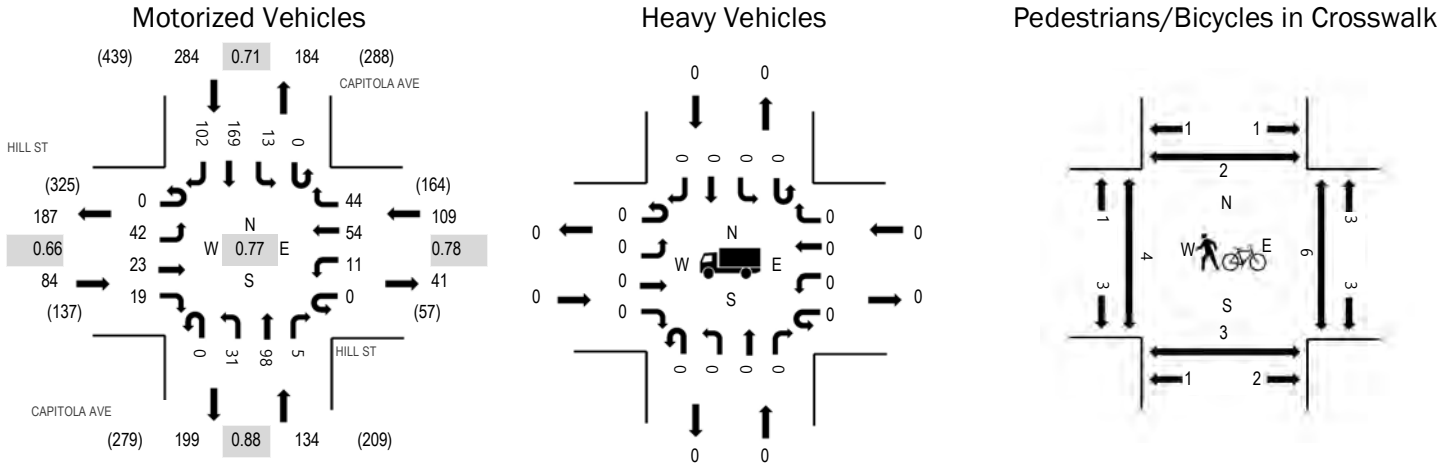
Traffic Counts - Motorized Vehicles

| Interval Start Time | PARK AVE Eastbound | | | | PARK AVE Westbound | | | | MONTEREY AVE Northbound | | | | MONTEREY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|--------------------|------|------|-------|--------------------|------|------|-------|-------------------------|------|------|-------|-------------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 8 | 0 | 0 | 13 | 10 | 0 | 0 | 10 | 0 | 76 | 575 |
| 7:15 AM | 0 | 1 | 0 | 0 | 0 | 46 | 1 | 12 | 0 | 1 | 13 | 26 | 0 | 1 | 13 | 0 | 114 | 739 |
| 7:30 AM | 0 | 0 | 1 | 1 | 0 | 71 | 1 | 14 | 0 | 0 | 19 | 34 | 0 | 2 | 24 | 0 | 167 | 912 |
| 7:45 AM | 0 | 1 | 0 | 0 | 0 | 83 | 1 | 23 | 0 | 0 | 20 | 58 | 0 | 9 | 23 | 0 | 218 | 1,028 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 94 | 2 | 27 | 0 | 1 | 22 | 57 | 0 | 11 | 25 | 1 | 240 | 1,046 |
| 8:15 AM | 0 | 0 | 4 | 0 | 0 | 101 | 0 | 28 | 0 | 0 | 46 | 63 | 0 | 13 | 32 | 0 | 287 | |
| 8:30 AM | 0 | 0 | 3 | 0 | 0 | 116 | 0 | 22 | 0 | 0 | 30 | 55 | 0 | 12 | 44 | 1 | 283 | |
| 8:45 AM | 0 | 0 | 2 | 1 | 0 | 107 | 1 | 23 | 0 | 0 | 25 | 50 | 0 | 5 | 20 | 2 | 236 | |
| Count Total | 0 | 2 | 10 | 2 | 0 | 653 | 6 | 157 | 0 | 2 | 188 | 353 | 0 | 53 | 191 | 4 | 1,621 | |
| Peak Hour | 0 | 0 | 9 | 1 | 0 | 418 | 3 | 100 | 0 | 1 | 123 | 225 | 0 | 41 | 121 | 4 | 1,046 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 0 | 0 | 1 | 1 | 2 | 7:00 AM | 5 | 1 | 1 | 0 | 7 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 0 | 2 | 1 | 3 | 7:15 AM | 6 | 1 | 3 | 1 | 11 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 5 | 2 | 0 | 7 | 7:30 AM | 3 | 1 | 4 | 2 | 10 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 7:45 AM | 0 | 2 | 2 | 1 | 5 | 7:45 AM | 7 | 2 | 2 | 3 | 14 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 0 | 6 | 2 | 3 | 11 | 8:00 AM | 7 | 2 | 2 | 0 | 11 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 0 | 4 | 6 | 1 | 11 | 8:15 AM | 4 | 1 | 8 | 0 | 13 |
| 8:30 AM | 0 | 0 | 1 | 0 | 1 | 8:30 AM | 0 | 4 | 2 | 0 | 6 | 8:30 AM | 8 | 0 | 4 | 2 | 14 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8:45 AM | 0 | 0 | 0 | 1 | 1 | 8:45 AM | 10 | 1 | 4 | 1 | 16 |
| Count Total | 0 | 0 | 1 | 0 | 1 | Count Total | 0 | 21 | 17 | 8 | 46 | Count Total | 50 | 9 | 28 | 9 | 96 |
| Peak Hour | 0 | 0 | 1 | 0 | 1 | Peak Hour | 0 | 14 | 10 | 5 | 29 | Peak Hour | 29 | 4 | 18 | 3 | 54 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.66 |
| WB | 0.0% | 0.78 |
| NB | 0.0% | 0.88 |
| SB | 0.0% | 0.71 |
| All | 0.0% | 0.77 |

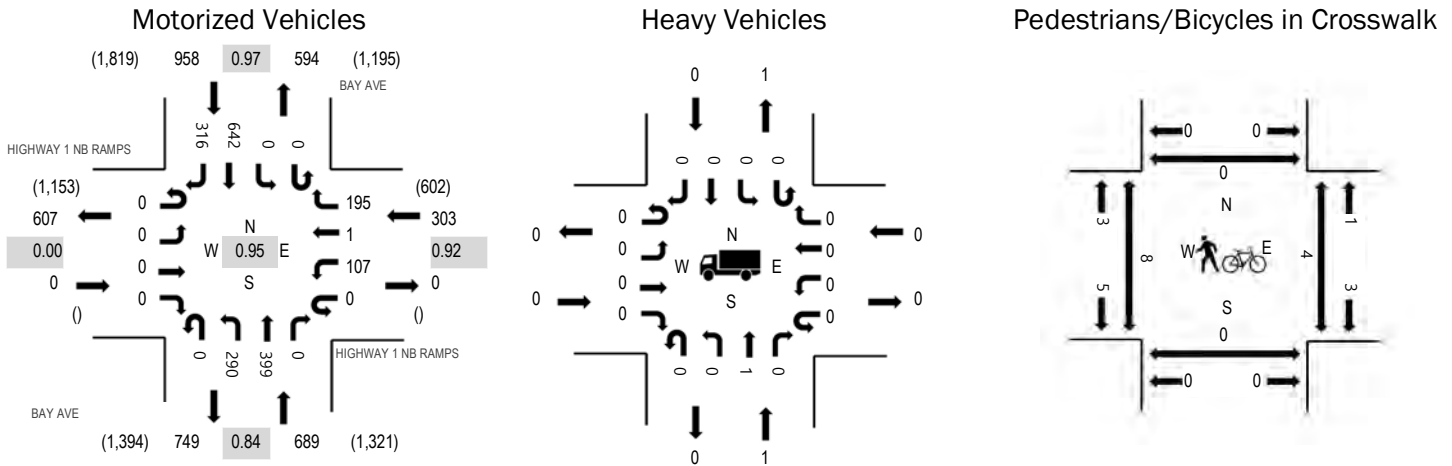
Traffic Counts - Motorized Vehicles

| Interval Start Time | HILL ST Eastbound | | | | HILL ST Westbound | | | | CAPITOLA AVE Northbound | | | | CAPITOLA AVE Southbound | | | | Total | Rolling Hour |
|---------------------|-------------------|------|------|-------|-------------------|------|------|-------|-------------------------|------|------|-------|-------------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 9 | 0 | 3 | 0 | 0 | 3 | 4 | 0 | 2 | 8 | 0 | 0 | 2 | 9 | 18 | 58 | 338 |
| 7:15 AM | 0 | 10 | 3 | 1 | 0 | 0 | 11 | 3 | 0 | 6 | 14 | 1 | 0 | 2 | 13 | 19 | 83 | 428 |
| 7:30 AM | 0 | 8 | 4 | 0 | 0 | 1 | 12 | 3 | 0 | 8 | 10 | 1 | 0 | 0 | 20 | 21 | 88 | 543 |
| 7:45 AM | 0 | 12 | 2 | 1 | 0 | 1 | 13 | 4 | 0 | 6 | 19 | 0 | 0 | 1 | 31 | 19 | 109 | 605 |
| 8:00 AM | 0 | 7 | 6 | 4 | 0 | 3 | 19 | 14 | 0 | 9 | 18 | 1 | 0 | 0 | 37 | 30 | 148 | 611 |
| 8:15 AM | 0 | 13 | 12 | 7 | 0 | 5 | 9 | 13 | 0 | 11 | 27 | 0 | 0 | 10 | 75 | 16 | 198 | 611 |
| 8:30 AM | 0 | 12 | 1 | 3 | 0 | 1 | 17 | 14 | 0 | 4 | 27 | 3 | 0 | 2 | 33 | 33 | 150 | 611 |
| 8:45 AM | 0 | 10 | 4 | 5 | 0 | 2 | 9 | 3 | 0 | 7 | 26 | 1 | 0 | 1 | 24 | 23 | 115 | 611 |
| Count Total | 0 | 81 | 32 | 24 | 0 | 13 | 93 | 58 | 0 | 53 | 149 | 7 | 0 | 18 | 242 | 179 | 949 | 611 |
| Peak Hour | 0 | 42 | 23 | 19 | 0 | 11 | 54 | 44 | 0 | 31 | 98 | 5 | 0 | 13 | 169 | 102 | 611 | 611 |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 1 | 0 | 3 | 2 | 6 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 0 | 0 | 1 | 1 | 7:15 AM | 0 | 2 | 2 | 1 | 5 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 0 | 1 | 1 | 7:30 AM | 0 | 0 | 3 | 0 | 3 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 7:45 AM | 0 | 0 | 7 | 0 | 7 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 1 | 1 | 1 | 2 | 5 | 8:00 AM | 3 | 1 | 1 | 1 | 6 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 8:15 AM | 1 | 1 | 0 | 4 | 6 | 8:15 AM | 0 | 2 | 3 | 1 | 6 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 0 | 1 | 2 | 3 | 8:30 AM | 1 | 0 | 0 | 0 | 1 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8:45 AM | 0 | 0 | 0 | 1 | 1 | 8:45 AM | 0 | 0 | 2 | 0 | 2 |
| Count Total | 0 | 0 | 0 | 0 | 0 | Count Total | 2 | 2 | 2 | 11 | 17 | Count Total | 5 | 5 | 21 | 5 | 36 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 2 | 2 | 2 | 9 | 15 | Peak Hour | 4 | 3 | 6 | 2 | 15 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.00 |
| WB | 0.0% | 0.92 |
| NB | 0.1% | 0.84 |
| SB | 0.0% | 0.97 |
| All | 0.1% | 0.95 |

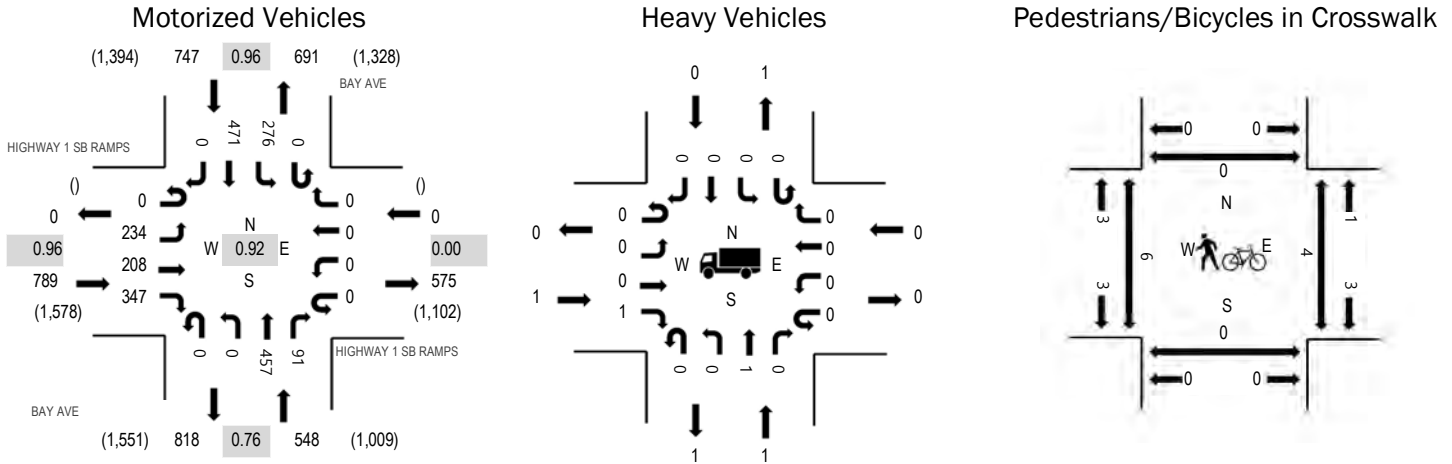
Traffic Counts - Motorized Vehicles

| Interval Start Time | HIGHWAY 1 NB RAMPS Eastbound | | | | HIGHWAY 1 NB RAMPS Westbound | | | | BAY AVE Northbound | | | | BAY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|------------------------------|------|------|-------|------------------------------|------|------|-------|--------------------|------|------|-------|--------------------|------|-------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 51 | 0 | 88 | 116 | 0 | 0 | 0 | 154 | 70 | 511 | 1,950 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 23 | 1 | 48 | 0 | 69 | 100 | 0 | 0 | 0 | 169 | 84 | 494 | 1,948 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 43 | 0 | 64 | 82 | 0 | 0 | 0 | 157 | 83 | 452 | 1,935 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 53 | 0 | 69 | 101 | 0 | 0 | 0 | 162 | 79 | 493 | 1,883 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 58 | 0 | 73 | 103 | 0 | 0 | 0 | 167 | 83 | 509 | 1,792 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 68 | 0 | 50 | 102 | 0 | 0 | 0 | 170 | 72 | 481 | |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 47 | 0 | 65 | 83 | 0 | 0 | 0 | 117 | 68 | 400 | |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 43 | 0 | 59 | 97 | 0 | 0 | 0 | 108 | 76 | 402 | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 190 | 1 | 411 | 0 | 537 | 784 | 0 | 0 | 0 | 1,204 | 615 | 3,742 | |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 107 | 1 | 195 | 0 | 290 | 399 | 0 | 0 | 0 | 642 | 316 | 1,950 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 1 | 0 | 0 | 1 | 4:00 PM | 0 | 0 | 0 | 2 | 2 | 4:00 PM | 1 | 0 | 3 | 0 | 4 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 4:15 PM | 0 | 1 | 0 | 2 | 3 | 4:15 PM | 5 | 0 | 0 | 0 | 5 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 0 | 0 | 3 | 3 | 4:30 PM | 1 | 0 | 1 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 3 | 0 | 1 | 4 | 4:45 PM | 1 | 0 | 0 | 0 | 1 |
| 5:00 PM | 0 | 0 | 0 | 1 | 1 | 5:00 PM | 0 | 2 | 0 | 1 | 3 | 5:00 PM | 1 | 0 | 2 | 0 | 3 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 0 | 0 | 0 | 2 | 2 | 5:15 PM | 0 | 0 | 6 | 0 | 6 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 1 | 0 | 0 | 0 | 1 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 0 | 0 | 4 | 4 | 5:45 PM | 0 | 0 | 2 | 0 | 2 |
| Count Total | 0 | 1 | 0 | 1 | 2 | Count Total | 0 | 6 | 0 | 15 | 21 | Count Total | 10 | 0 | 14 | 0 | 24 |
| Peak Hour | 0 | 1 | 0 | 0 | 1 | Peak Hour | 0 | 4 | 0 | 8 | 12 | Peak Hour | 8 | 0 | 4 | 0 | 12 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.1% | 0.96 |
| WB | 0.0% | 0.00 |
| NB | 0.2% | 0.76 |
| SB | 0.0% | 0.96 |
| All | 0.1% | 0.92 |

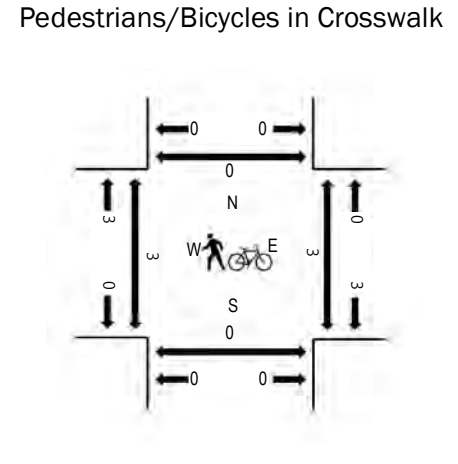
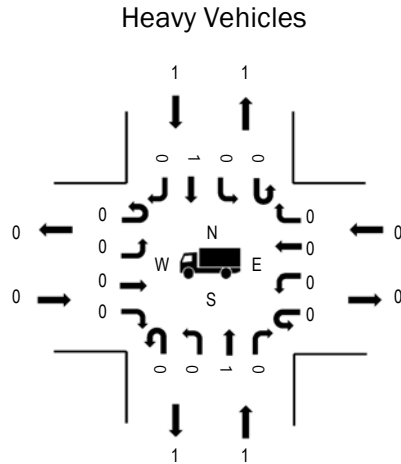
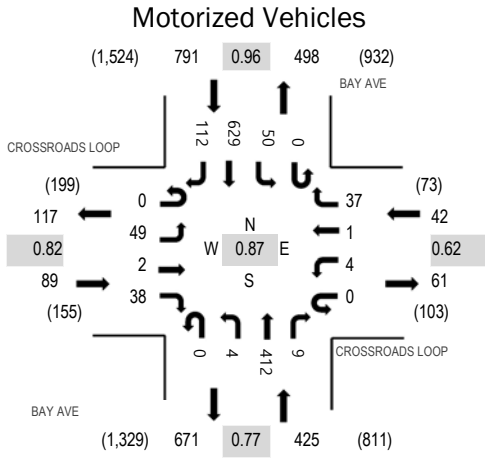
Traffic Counts - Motorized Vehicles

| Interval Start Time | HIGHWAY 1 SB RAMPS Eastbound | | | | HIGHWAY 1 SB RAMPS Westbound | | | | BAY AVE Northbound | | | | BAY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|------------------------------|------|------|-------|------------------------------|------|------|-------|--------------------|------|------|-------|--------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 4:00 PM | 0 | 56 | 57 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 151 | 30 | 0 | 58 | 132 | 0 | 567 | 2,084 |
| 4:15 PM | 0 | 52 | 52 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 119 | 19 | 0 | 71 | 120 | 0 | 519 | 2,048 |
| 4:30 PM | 0 | 53 | 57 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 88 | 25 | 0 | 74 | 109 | 0 | 488 | 2,034 |
| 4:45 PM | 0 | 73 | 42 | 96 | 0 | 0 | 0 | 0 | 0 | 0 | 99 | 17 | 0 | 73 | 110 | 0 | 510 | 1,998 |
| 5:00 PM | 0 | 60 | 53 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 27 | 0 | 72 | 125 | 0 | 531 | 1,897 |
| 5:15 PM | 0 | 67 | 53 | 92 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 20 | 0 | 83 | 100 | 0 | 505 | |
| 5:30 PM | 0 | 49 | 56 | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 94 | 13 | 0 | 52 | 91 | 0 | 452 | |
| 5:45 PM | 0 | 75 | 40 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 88 | 15 | 0 | 43 | 81 | 0 | 409 | |
| Count Total | 0 | 485 | 410 | 683 | 0 | 0 | 0 | 0 | 0 | 0 | 843 | 166 | 0 | 526 | 868 | 0 | 3,981 | |
| Peak Hour | 0 | 234 | 208 | 347 | 0 | 0 | 0 | 0 | 0 | 0 | 457 | 91 | 0 | 276 | 471 | 0 | 2,084 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 1 | 0 | 0 | 1 | 4:00 PM | 0 | 0 | 0 | 2 | 2 | 4:00 PM | 0 | 0 | 2 | 0 | 2 |
| 4:15 PM | 1 | 0 | 0 | 0 | 1 | 4:15 PM | 0 | 1 | 0 | 2 | 3 | 4:15 PM | 4 | 0 | 1 | 0 | 5 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 0 | 0 | 3 | 3 | 4:30 PM | 1 | 0 | 1 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 3 | 0 | 1 | 4 | 4:45 PM | 1 | 0 | 0 | 0 | 1 |
| 5:00 PM | 0 | 0 | 0 | 1 | 1 | 5:00 PM | 0 | 2 | 0 | 1 | 3 | 5:00 PM | 1 | 0 | 2 | 0 | 3 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 0 | 0 | 0 | 2 | 2 | 5:15 PM | 0 | 0 | 5 | 0 | 5 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 1 | 0 | 0 | 0 | 1 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 0 | 0 | 4 | 4 | 5:45 PM | 0 | 0 | 2 | 0 | 2 |
| Count Total | 1 | 1 | 0 | 1 | 3 | Count Total | 0 | 6 | 0 | 15 | 21 | Count Total | 8 | 0 | 13 | 0 | 21 |
| Peak Hour | 1 | 1 | 0 | 0 | 2 | Peak Hour | 0 | 4 | 0 | 8 | 12 | Peak Hour | 6 | 0 | 4 | 0 | 10 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.82 |
| WB | 0.0% | 0.62 |
| NB | 0.2% | 0.77 |
| SB | 0.1% | 0.96 |
| All | 0.1% | 0.87 |

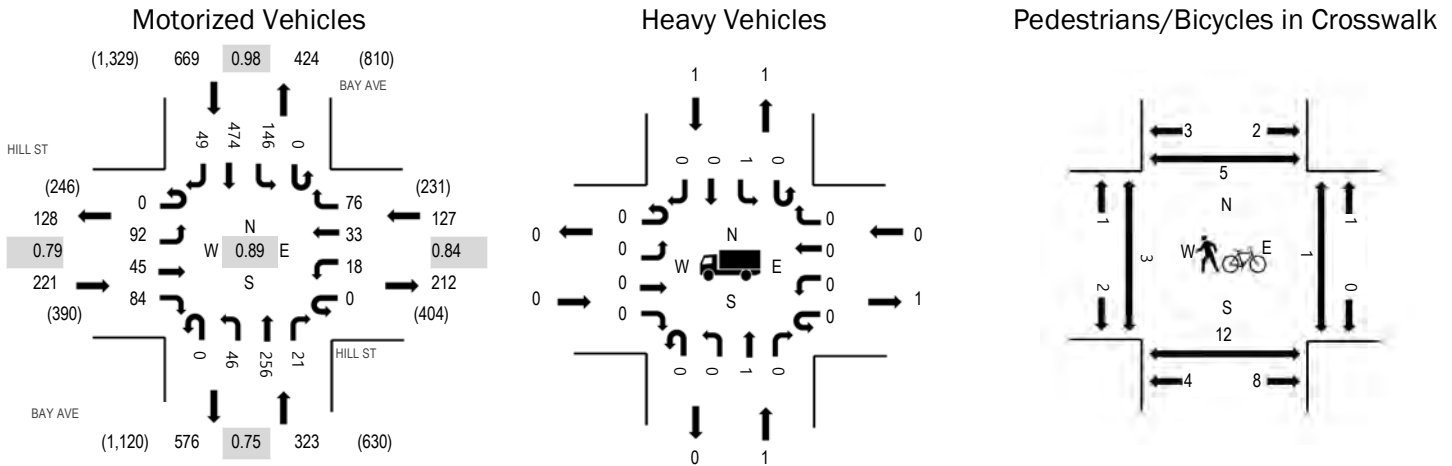
Traffic Counts - Motorized Vehicles

| Interval Start Time | CROSSROADS LOOP Eastbound | | | | CROSSROADS LOOP Westbound | | | | BAY AVE Northbound | | | BAY AVE Southbound | | | | Total | Rolling Hour | |
|---------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|--------------------|------|------|--------------------|--------|------|-------|-------|--------------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | | | Right |
| 4:00 PM | 0 | 14 | 1 | 10 | 0 | 1 | 1 | 15 | 0 | 0 | 135 | 3 | 0 | 11 | 151 | 43 | 385 | 1,347 |
| 4:15 PM | 0 | 15 | 1 | 11 | 0 | 2 | 0 | 8 | 0 | 1 | 91 | 0 | 0 | 13 | 165 | 25 | 332 | 1,306 |
| 4:30 PM | 0 | 9 | 0 | 8 | 0 | 1 | 0 | 7 | 0 | 0 | 93 | 5 | 0 | 13 | 140 | 30 | 306 | 1,286 |
| 4:45 PM | 0 | 11 | 0 | 9 | 0 | 0 | 0 | 7 | 0 | 3 | 93 | 1 | 0 | 13 | 173 | 14 | 324 | 1,287 |
| 5:00 PM | 0 | 16 | 0 | 7 | 0 | 0 | 0 | 12 | 0 | 1 | 100 | 3 | 0 | 8 | 170 | 27 | 344 | 1,216 |
| 5:15 PM | 0 | 11 | 0 | 8 | 0 | 3 | 0 | 3 | 0 | 1 | 87 | 2 | 0 | 10 | 175 | 12 | 312 | |
| 5:30 PM | 0 | 6 | 0 | 10 | 0 | 4 | 0 | 4 | 0 | 1 | 94 | 2 | 0 | 10 | 160 | 16 | 307 | |
| 5:45 PM | 0 | 7 | 0 | 1 | 0 | 1 | 1 | 3 | 0 | 2 | 91 | 2 | 0 | 5 | 119 | 21 | 253 | |
| Count Total | 0 | 89 | 2 | 64 | 0 | 12 | 2 | 59 | 0 | 9 | 784 | 18 | 0 | 83 | 1,253 | 188 | 2,563 | |
| Peak Hour | 0 | 49 | 2 | 38 | 0 | 4 | 1 | 37 | 0 | 4 | 412 | 9 | 0 | 50 | 629 | 112 | 1,347 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 1 | 0 | 0 | 1 | 4:00 PM | 0 | 0 | 1 | 2 | 3 | 4:00 PM | 0 | 0 | 1 | 0 | 1 |
| 4:15 PM | 0 | 0 | 0 | 1 | 1 | 4:15 PM | 1 | 0 | 0 | 2 | 3 | 4:15 PM | 0 | 0 | 1 | 0 | 1 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 0 | 0 | 3 | 3 | 4:30 PM | 2 | 0 | 1 | 0 | 3 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 4 | 0 | 1 | 5 | 4:45 PM | 1 | 0 | 0 | 0 | 1 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 5:00 PM | 0 | 2 | 0 | 1 | 3 | 5:00 PM | 0 | 0 | 3 | 0 | 3 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 0 | 0 | 0 | 2 | 2 | 5:15 PM | 0 | 0 | 5 | 0 | 5 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 3 | 0 | 0 | 0 | 3 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 0 | 1 | 4 | 5 | 5:45 PM | 0 | 0 | 2 | 0 | 2 |
| Count Total | 0 | 1 | 0 | 1 | 2 | Count Total | 1 | 6 | 2 | 15 | 24 | Count Total | 6 | 0 | 13 | 0 | 19 |
| Peak Hour | 0 | 1 | 0 | 1 | 2 | Peak Hour | 1 | 4 | 1 | 8 | 14 | Peak Hour | 3 | 0 | 3 | 0 | 6 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.79 |
| WB | 0.0% | 0.84 |
| NB | 0.3% | 0.75 |
| SB | 0.1% | 0.98 |
| All | 0.1% | 0.89 |

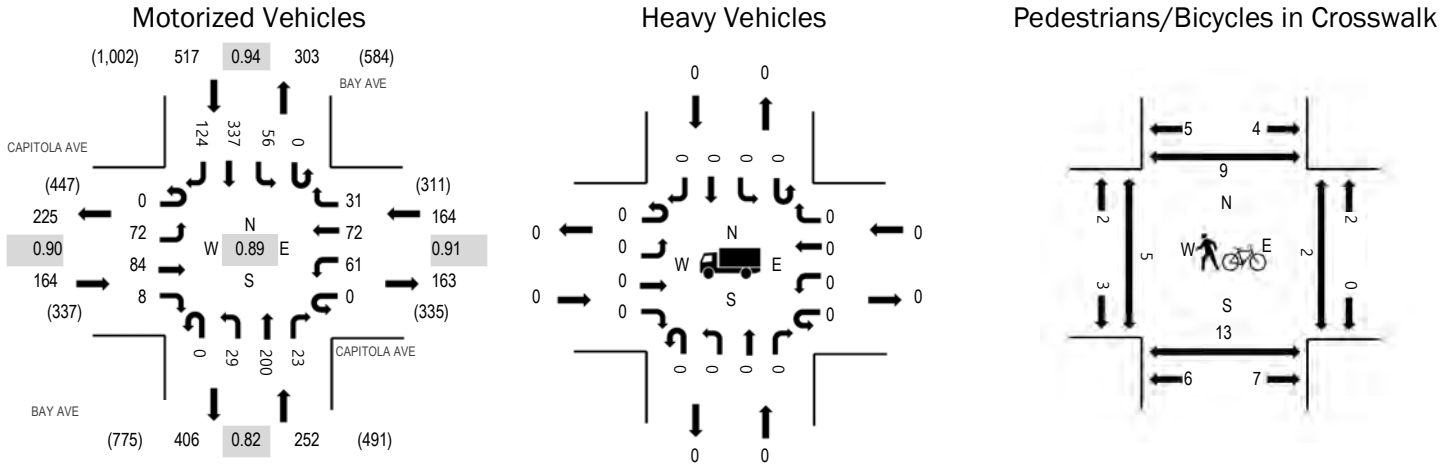
Traffic Counts - Motorized Vehicles

| Interval Start Time | HILL ST Eastbound | | | | HILL ST Westbound | | | | BAY AVE Northbound | | | BAY AVE Southbound | | | Total | Rolling Hour | | |
|---------------------|-------------------|------|------|-------|-------------------|------|------|-------|--------------------|------|------|--------------------|--------|------|-------|--------------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | | | Thru | Right |
| 4:00 PM | 0 | 30 | 12 | 28 | 0 | 5 | 11 | 22 | 0 | 16 | 85 | 7 | 0 | 35 | 113 | 12 | 376 | 1,340 |
| 4:15 PM | 0 | 19 | 12 | 19 | 0 | 4 | 11 | 17 | 0 | 6 | 57 | 6 | 0 | 37 | 129 | 14 | 331 | 1,293 |
| 4:30 PM | 0 | 20 | 11 | 20 | 0 | 5 | 7 | 25 | 0 | 12 | 52 | 4 | 0 | 35 | 101 | 12 | 304 | 1,278 |
| 4:45 PM | 0 | 23 | 10 | 17 | 0 | 4 | 4 | 12 | 0 | 12 | 62 | 4 | 0 | 39 | 131 | 11 | 329 | 1,289 |
| 5:00 PM | 0 | 24 | 7 | 18 | 0 | 2 | 6 | 15 | 0 | 10 | 69 | 0 | 0 | 43 | 122 | 13 | 329 | 1,240 |
| 5:15 PM | 0 | 18 | 5 | 23 | 0 | 3 | 6 | 14 | 0 | 13 | 53 | 1 | 1 | 44 | 128 | 7 | 316 | |
| 5:30 PM | 0 | 11 | 10 | 12 | 0 | 2 | 7 | 19 | 0 | 13 | 68 | 2 | 0 | 35 | 127 | 9 | 315 | |
| 5:45 PM | 0 | 15 | 11 | 15 | 0 | 4 | 11 | 15 | 0 | 12 | 64 | 2 | 0 | 32 | 88 | 11 | 280 | |
| Count Total | 0 | 160 | 78 | 152 | 0 | 29 | 63 | 139 | 0 | 94 | 510 | 26 | 1 | 300 | 939 | 89 | 2,580 | |
| Peak Hour | 0 | 92 | 45 | 84 | 0 | 18 | 33 | 76 | 0 | 46 | 256 | 21 | 0 | 146 | 474 | 49 | 1,340 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 1 | 0 | 0 | 1 | 4:00 PM | 0 | 0 | 0 | 2 | 2 | 4:00 PM | 0 | 6 | 0 | 2 | 8 |
| 4:15 PM | 0 | 0 | 0 | 1 | 1 | 4:15 PM | 0 | 0 | 0 | 2 | 2 | 4:15 PM | 1 | 1 | 0 | 1 | 3 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 1 | 0 | 0 | 3 | 4 | 4:30 PM | 1 | 2 | 1 | 2 | 6 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 2 | 2 | 2 | 1 | 7 | 4:45 PM | 1 | 3 | 0 | 0 | 4 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 5:00 PM | 0 | 3 | 0 | 1 | 4 | 5:00 PM | 0 | 4 | 7 | 0 | 11 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 1 | 0 | 0 | 2 | 3 | 5:15 PM | 1 | 7 | 2 | 2 | 12 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 3 | 0 | 1 | 0 | 4 | 5:30 PM | 1 | 0 | 1 | 2 | 4 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 0 | 0 | 4 | 4 | 5:45 PM | 0 | 4 | 1 | 0 | 5 |
| Count Total | 0 | 1 | 0 | 1 | 2 | Count Total | 7 | 5 | 3 | 15 | 30 | Count Total | 5 | 27 | 12 | 9 | 53 |
| Peak Hour | 0 | 1 | 0 | 1 | 2 | Peak Hour | 3 | 2 | 2 | 8 | 15 | Peak Hour | 3 | 12 | 1 | 5 | 21 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.90 |
| WB | 0.0% | 0.91 |
| NB | 0.0% | 0.82 |
| SB | 0.0% | 0.94 |
| All | 0.0% | 0.89 |

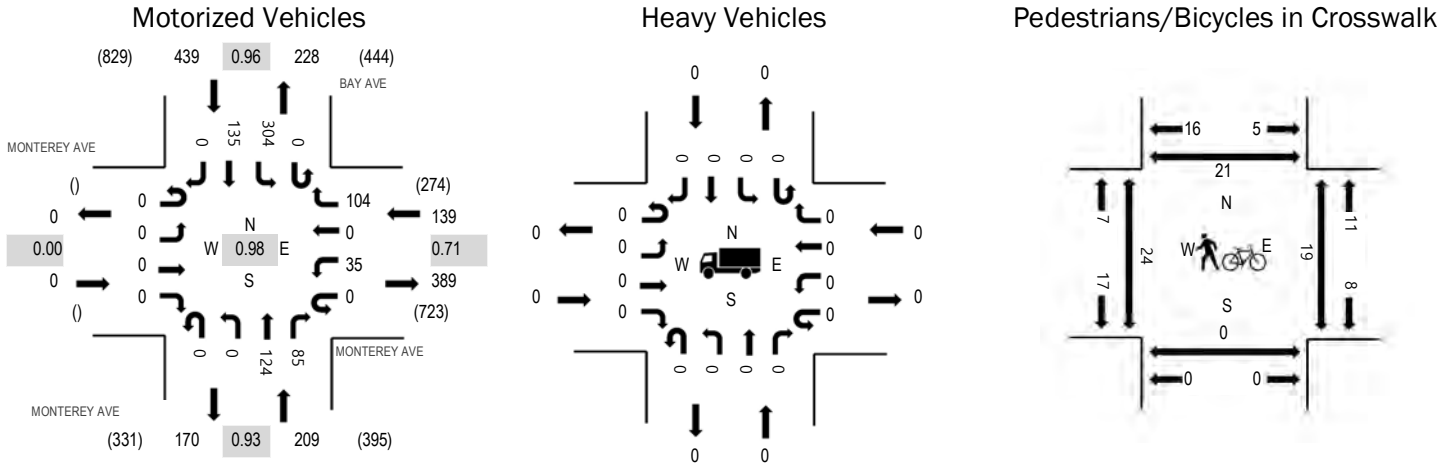
Traffic Counts - Motorized Vehicles

| Interval Start Time | CAPITOLA AVE Eastbound | | | | CAPITOLA AVE Westbound | | | | BAY AVE Northbound | | | BAY AVE Southbound | | | Total | Rolling Hour | | |
|---------------------|------------------------|------|------|-------|------------------------|------|------|-------|--------------------|------|------|--------------------|--------|------|-------|--------------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | | | Thru | Right |
| 4:00 PM | 0 | 28 | 23 | 4 | 0 | 19 | 14 | 12 | 0 | 6 | 66 | 5 | 0 | 18 | 80 | 34 | 309 | 1,097 |
| 4:15 PM | 0 | 16 | 19 | 1 | 0 | 16 | 21 | 4 | 0 | 9 | 40 | 11 | 0 | 13 | 91 | 29 | 270 | 1,064 |
| 4:30 PM | 0 | 11 | 19 | 1 | 0 | 13 | 21 | 10 | 0 | 6 | 45 | 2 | 0 | 13 | 71 | 29 | 241 | 1,063 |
| 4:45 PM | 0 | 17 | 23 | 2 | 0 | 13 | 16 | 5 | 0 | 8 | 49 | 5 | 0 | 12 | 95 | 32 | 277 | 1,090 |
| 5:00 PM | 0 | 22 | 14 | 6 | 0 | 14 | 26 | 5 | 0 | 7 | 47 | 11 | 0 | 19 | 74 | 31 | 276 | 1,044 |
| 5:15 PM | 0 | 14 | 24 | 5 | 0 | 13 | 19 | 7 | 0 | 8 | 42 | 5 | 0 | 22 | 83 | 27 | 269 | |
| 5:30 PM | 0 | 19 | 18 | 3 | 0 | 12 | 18 | 6 | 0 | 6 | 51 | 5 | 0 | 12 | 86 | 32 | 268 | |
| 5:45 PM | 0 | 24 | 22 | 2 | 0 | 4 | 16 | 7 | 0 | 9 | 37 | 11 | 0 | 9 | 67 | 23 | 231 | |
| Count Total | 0 | 151 | 162 | 24 | 0 | 104 | 151 | 56 | 0 | 59 | 377 | 55 | 0 | 118 | 647 | 237 | 2,141 | |
| Peak Hour | 0 | 72 | 84 | 8 | 0 | 61 | 72 | 31 | 0 | 29 | 200 | 23 | 0 | 56 | 337 | 124 | 1,097 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 4:00 PM | 2 | 5 | 0 | 1 | 8 | 4:00 PM | 0 | 3 | 2 | 4 | 9 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 4:15 PM | 0 | 3 | 2 | 1 | 6 | 4:15 PM | 2 | 2 | 0 | 1 | 5 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 0 | 1 | 4 | 5 | 4:30 PM | 2 | 7 | 0 | 2 | 11 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 2 | 1 | 2 | 5 | 4:45 PM | 1 | 1 | 0 | 2 | 4 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 5:00 PM | 0 | 2 | 1 | 2 | 5 | 5:00 PM | 4 | 4 | 2 | 2 | 12 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 0 | 0 | 0 | 2 | 2 | 5:15 PM | 2 | 5 | 1 | 3 | 11 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 0 | 0 | 1 | 0 | 1 | 5:30 PM | 2 | 2 | 2 | 2 | 8 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 0 | 1 | 5 | 6 | 5:45 PM | 2 | 3 | 4 | 1 | 10 |
| Count Total | 0 | 0 | 0 | 0 | 0 | Count Total | 2 | 12 | 7 | 17 | 38 | Count Total | 15 | 27 | 11 | 17 | 70 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 2 | 10 | 4 | 8 | 24 | Peak Hour | 5 | 13 | 2 | 9 | 29 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.00 |
| WB | 0.0% | 0.71 |
| NB | 0.0% | 0.93 |
| SB | 0.0% | 0.96 |
| All | 0.0% | 0.98 |

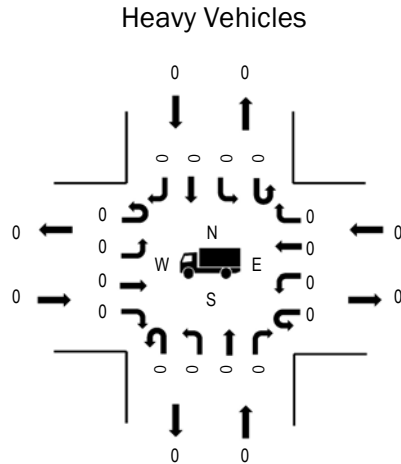
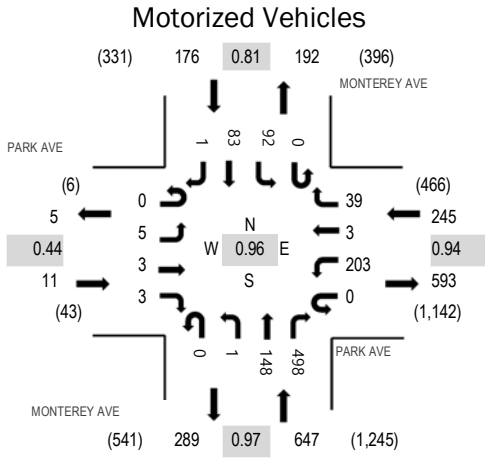
Traffic Counts - Motorized Vehicles

| Interval Start Time | MONTEREY AVE Eastbound | | | | MONTEREY AVE Westbound | | | | MONTEREY AVE Northbound | | | | BAY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|------------------------|------|------|-------|------------------------|------|------|-------|-------------------------|------|------|-------|--------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 40 | 0 | 0 | 26 | 17 | 0 | 63 | 39 | 0 | 201 | 753 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 26 | 0 | 0 | 32 | 15 | 0 | 78 | 43 | 0 | 200 | 753 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 18 | 0 | 0 | 24 | 21 | 0 | 63 | 27 | 0 | 158 | 748 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 17 | 0 | 0 | 33 | 23 | 0 | 78 | 36 | 0 | 194 | 787 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 36 | 0 | 0 | 28 | 17 | 0 | 81 | 26 | 0 | 201 | 745 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 22 | 0 | 0 | 31 | 24 | 0 | 70 | 42 | 0 | 195 | |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 29 | 0 | 0 | 32 | 21 | 0 | 75 | 31 | 0 | 197 | |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 20 | 0 | 0 | 30 | 21 | 0 | 56 | 21 | 0 | 152 | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 66 | 0 | 208 | 0 | 0 | 236 | 159 | 0 | 564 | 265 | 0 | 1,498 | |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 104 | 0 | 0 | 124 | 85 | 0 | 304 | 135 | 0 | 787 | |

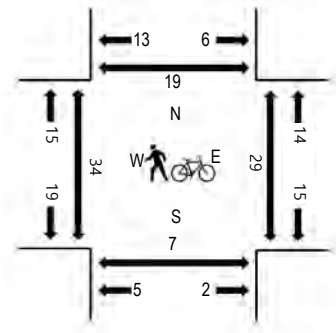
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 4:00 PM | 0 | 0 | 7 | 2 | 9 | 4:00 PM | 7 | 0 | 3 | 5 | 15 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 4:15 PM | 0 | 0 | 6 | 1 | 7 | 4:15 PM | 3 | 0 | 6 | 2 | 11 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 1 | 0 | 4 | 5 | 4:30 PM | 6 | 0 | 0 | 2 | 8 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 1 | 3 | 2 | 6 | 4:45 PM | 3 | 0 | 5 | 3 | 11 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 5:00 PM | 0 | 1 | 1 | 1 | 3 | 5:00 PM | 7 | 0 | 5 | 3 | 15 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 0 | 1 | 2 | 2 | 5 | 5:15 PM | 10 | 0 | 8 | 11 | 29 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 0 | 0 | 3 | 1 | 4 | 5:30 PM | 4 | 0 | 1 | 4 | 9 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 1 | 0 | 2 | 3 | 5:45 PM | 7 | 1 | 1 | 4 | 13 |
| Count Total | 0 | 0 | 0 | 0 | 0 | Count Total | 0 | 5 | 22 | 15 | 42 | Count Total | 47 | 1 | 29 | 34 | 111 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 0 | 3 | 9 | 6 | 18 | Peak Hour | 24 | 0 | 19 | 21 | 64 |

Peak Hour



Pedestrians/Bicycles in Crosswalk



| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.44 |
| WB | 0.0% | 0.94 |
| NB | 0.0% | 0.97 |
| SB | 0.0% | 0.81 |
| All | 0.0% | 0.96 |

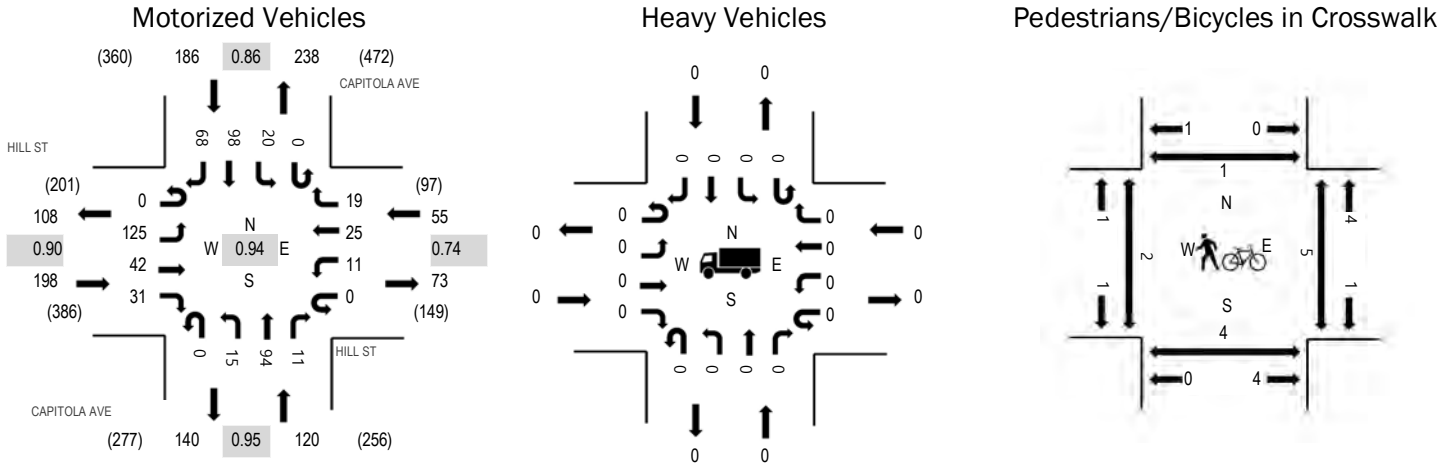
Traffic Counts - Motorized Vehicles

| Interval Start Time | PARK AVE Eastbound | | | | PARK AVE Westbound | | | | MONTEREY AVE Northbound | | | | MONTEREY AVE Southbound | | | | Total | Rolling Hour |
|---------------------|--------------------|------|------|-------|--------------------|------|------|-------|-------------------------|------|------|-------|-------------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 4:00 PM | 0 | 4 | 1 | 0 | 0 | 51 | 0 | 6 | 0 | 0 | 34 | 128 | 0 | 22 | 31 | 1 | 278 | 1,079 |
| 4:15 PM | 0 | 0 | 0 | 3 | 0 | 57 | 0 | 10 | 0 | 0 | 37 | 122 | 0 | 27 | 24 | 0 | 280 | 1,063 |
| 4:30 PM | 0 | 0 | 2 | 0 | 0 | 47 | 3 | 7 | 0 | 0 | 37 | 130 | 0 | 20 | 11 | 0 | 257 | 1,040 |
| 4:45 PM | 0 | 1 | 0 | 0 | 0 | 48 | 0 | 16 | 0 | 1 | 40 | 118 | 0 | 23 | 17 | 0 | 264 | 1,036 |
| 5:00 PM | 0 | 7 | 9 | 2 | 0 | 53 | 0 | 10 | 0 | 0 | 27 | 116 | 0 | 19 | 19 | 0 | 262 | 1,006 |
| 5:15 PM | 0 | 2 | 5 | 1 | 0 | 41 | 0 | 12 | 0 | 0 | 42 | 108 | 0 | 27 | 19 | 0 | 257 | |
| 5:30 PM | 0 | 0 | 5 | 0 | 0 | 40 | 0 | 10 | 0 | 0 | 42 | 114 | 0 | 21 | 20 | 1 | 253 | |
| 5:45 PM | 0 | 0 | 1 | 0 | 0 | 42 | 0 | 13 | 0 | 0 | 39 | 110 | 0 | 14 | 15 | 0 | 234 | |
| Count Total | 0 | 14 | 23 | 6 | 0 | 379 | 3 | 84 | 0 | 1 | 298 | 946 | 0 | 173 | 156 | 2 | 2,085 | |
| Peak Hour | 0 | 5 | 3 | 3 | 0 | 203 | 3 | 39 | 0 | 1 | 148 | 498 | 0 | 92 | 83 | 1 | 1,079 | |

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 4:00 PM | 0 | 2 | 2 | 2 | 6 | 4:00 PM | 7 | 1 | 4 | 2 | 14 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 4:15 PM | 0 | 1 | 1 | 2 | 4 | 4:15 PM | 5 | 0 | 10 | 3 | 18 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 1 | 2 | 3 | 6 | 4:30 PM | 12 | 6 | 7 | 7 | 32 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 6 | 0 | 3 | 9 | 4:45 PM | 10 | 0 | 8 | 7 | 25 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 5:00 PM | 0 | 3 | 2 | 1 | 6 | 5:00 PM | 6 | 2 | 16 | 2 | 26 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 0 | 2 | 5 | 1 | 8 | 5:15 PM | 5 | 3 | 9 | 0 | 17 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 0 | 4 | 1 | 2 | 7 | 5:30 PM | 11 | 1 | 0 | 7 | 19 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 1 | 1 | 1 | 0 | 3 | 5:45 PM | 10 | 0 | 3 | 5 | 18 |
| Count Total | 0 | 0 | 0 | 0 | 0 | Count Total | 1 | 20 | 14 | 14 | 49 | Count Total | 66 | 13 | 57 | 33 | 169 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 0 | 10 | 5 | 10 | 25 | Peak Hour | 34 | 7 | 29 | 19 | 89 |

Peak Hour



Note: Total study counts contained in parentheses.

| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.90 |
| WB | 0.0% | 0.74 |
| NB | 0.0% | 0.95 |
| SB | 0.0% | 0.86 |
| All | 0.0% | 0.94 |

Traffic Counts - Motorized Vehicles

| Interval Start Time | HILL ST Eastbound | | | | HILL ST Westbound | | | | CAPITOLA AVE Northbound | | | CAPITOLA AVE Southbound | | | | Total | Rolling Hour | |
|---------------------|-------------------|------|------|-------|-------------------|------|------|-------|-------------------------|------|------|-------------------------|--------|------|------|-------|--------------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | | | Right |
| 4:00 PM | 0 | 38 | 8 | 6 | 0 | 3 | 3 | 3 | 0 | 8 | 26 | 1 | 0 | 5 | 25 | 19 | 145 | 559 |
| 4:15 PM | 0 | 29 | 11 | 11 | 0 | 0 | 9 | 6 | 0 | 1 | 24 | 4 | 0 | 4 | 29 | 21 | 149 | 551 |
| 4:30 PM | 0 | 30 | 10 | 6 | 0 | 3 | 7 | 2 | 0 | 2 | 18 | 1 | 0 | 2 | 28 | 16 | 125 | 547 |
| 4:45 PM | 0 | 28 | 13 | 8 | 0 | 5 | 6 | 8 | 0 | 4 | 26 | 5 | 0 | 9 | 16 | 12 | 140 | 559 |
| 5:00 PM | 0 | 22 | 15 | 13 | 0 | 1 | 5 | 4 | 0 | 7 | 25 | 2 | 1 | 4 | 28 | 10 | 137 | 540 |
| 5:15 PM | 0 | 35 | 17 | 4 | 0 | 2 | 6 | 2 | 0 | 4 | 28 | 2 | 0 | 5 | 29 | 11 | 145 | |
| 5:30 PM | 0 | 28 | 11 | 2 | 0 | 1 | 5 | 4 | 0 | 3 | 32 | 2 | 0 | 3 | 28 | 18 | 137 | |
| 5:45 PM | 0 | 23 | 12 | 6 | 0 | 3 | 7 | 2 | 0 | 1 | 28 | 2 | 0 | 1 | 20 | 16 | 121 | |
| Count Total | 0 | 233 | 97 | 56 | 0 | 18 | 48 | 31 | 0 | 30 | 207 | 19 | 1 | 33 | 203 | 123 | 1,099 | |
| Peak Hour | 0 | 125 | 42 | 31 | 0 | 11 | 25 | 19 | 0 | 15 | 94 | 11 | 0 | 20 | 98 | 68 | 559 | |

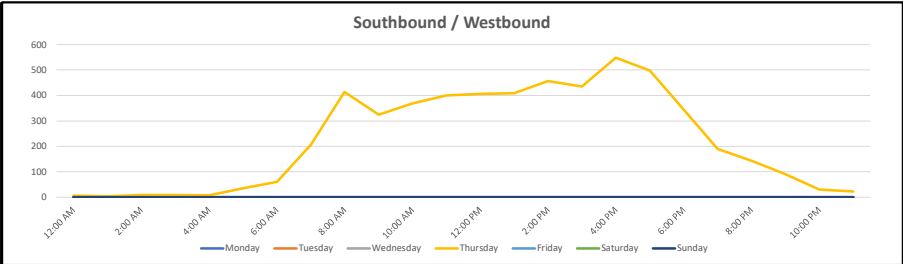
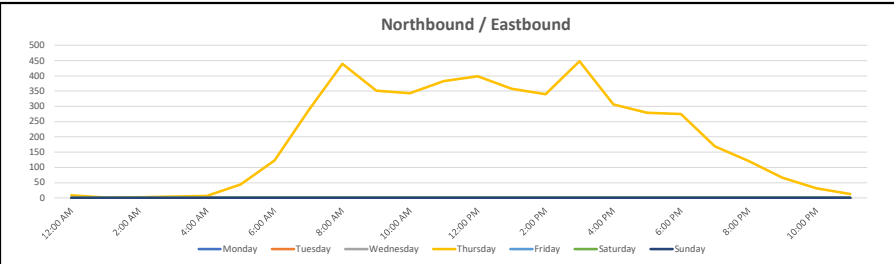
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|---------------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 4:00 PM | 0 | 0 | 0 | 1 | 1 | 4:00 PM | 0 | 2 | 1 | 0 | 3 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 4:15 PM | 0 | 2 | 0 | 3 | 5 | 4:15 PM | 0 | 0 | 2 | 0 | 2 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 1 | 0 | 1 | 2 | 4:30 PM | 1 | 1 | 1 | 0 | 3 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 0 | 2 | 1 | 3 | 4:45 PM | 1 | 1 | 1 | 1 | 4 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 5:00 PM | 0 | 2 | 0 | 2 | 4 | 5:00 PM | 0 | 3 | 2 | 1 | 6 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 1 | 0 | 0 | 0 | 1 | 5:15 PM | 0 | 4 | 4 | 2 | 10 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 5:30 PM | 3 | 0 | 0 | 2 | 5 | 5:30 PM | 0 | 2 | 0 | 0 | 2 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 2 | 0 | 1 | 3 | 5:45 PM | 0 | 2 | 3 | 0 | 5 |
| Count Total | 0 | 0 | 0 | 0 | 0 | Count Total | 4 | 7 | 2 | 11 | 24 | Count Total | 2 | 15 | 14 | 4 | 35 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | Peak Hour | 0 | 3 | 2 | 6 | 11 | Peak Hour | 2 | 4 | 5 | 1 | 12 |

Vehicle Volume Report - Hourly

Site Description: Bay Ave S.O Center St
 Site Number: 14
 Start Date: 03/07/2024
 End Date: 03/07/2024

| Time | Monday 3/11/24 | | | Tuesday 3/12/24 | | | Wednesday 3/13/24 | | | Thursday 3/14/24 | | | Friday 3/15/24 | | | Saturday 3/16/24 | | | Sunday 3/17/24 | | | 3 Day Avg Tue-Thu | | 5 Day Avg Mon-Fri | | 7 Day Avg Mon-Sun | |
|---------------------|-------------------|----|-------|--------------------|----|-------|----------------------|----|-------|---------------------|---------|--------|-------------------|----|-------|---------------------|----|-------|-------------------|----|-------|----------------------|----|----------------------|----|----------------------|----|
| | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | NB | SB | NB | SB |
| 12:00 AM | - | - | - | - | - | - | - | - | - | 9 | 6 | 15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1:00 AM | - | - | - | - | - | - | - | - | - | 1 | 4 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2:00 AM | - | - | - | - | - | - | - | - | - | 2 | 8 | 10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 AM | - | - | - | - | - | - | - | - | - | 5 | 8 | 13 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 AM | - | - | - | - | - | - | - | - | - | 6 | 7 | 13 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5:00 AM | - | - | - | - | - | - | - | - | - | 44 | 35 | 79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 AM | - | - | - | - | - | - | - | - | - | 123 | 60 | 183 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7:00 AM | - | - | - | - | - | - | - | - | - | 286 | 207 | 493 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8:00 AM | - | - | - | - | - | - | - | - | - | 440 | 414 | 854 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9:00 AM | - | - | - | - | - | - | - | - | - | 352 | 325 | 677 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10:00 AM | - | - | - | - | - | - | - | - | - | 343 | 368 | 711 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11:00 AM | - | - | - | - | - | - | - | - | - | 383 | 400 | 783 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12:00 PM | - | - | - | - | - | - | - | - | - | 399 | 406 | 805 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1:00 PM | - | - | - | - | - | - | - | - | - | 358 | 409 | 767 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2:00 PM | - | - | - | - | - | - | - | - | - | 340 | 457 | 797 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 PM | - | - | - | - | - | - | - | - | - | 448 | 435 | 883 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | - | - | - | - | - | - | - | - | - | 307 | 548 | 855 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5:00 PM | - | - | - | - | - | - | - | - | - | 279 | 498 | 777 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 PM | - | - | - | - | - | - | - | - | - | 275 | 344 | 619 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7:00 PM | - | - | - | - | - | - | - | - | - | 169 | 190 | 359 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8:00 PM | - | - | - | - | - | - | - | - | - | 121 | 143 | 264 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9:00 PM | - | - | - | - | - | - | - | - | - | 66 | 90 | 156 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10:00 PM | - | - | - | - | - | - | - | - | - | 32 | 30 | 62 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11:00 PM | - | - | - | - | - | - | - | - | - | 13 | 23 | 36 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 AM - 9:00 AM | - | - | - | - | - | - | - | - | - | 849 | 681 | 1530 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 PM - 6:00 PM | - | - | - | - | - | - | - | - | - | 1034 | 1481 | 2515 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 AM - 7:00 PM | - | - | - | - | - | - | - | - | - | 4333 | 4871 | 9204 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12:00 AM - 12:00 AM | - | - | - | - | - | - | - | - | - | 4801 | 5415 | 10216 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent | - | - | - | - | - | - | - | - | - | 47.0% | 53.0% | 100.0% | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AM Peak | - | - | - | - | - | - | - | - | - | 8:00 AM | 9:00 AM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PM Peak | - | - | - | - | - | - | - | - | - | 3:00 PM | 4:00 PM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Vehicle Speed Report - Hourly

Site Description: Bay Ave S.O Center St
Site Number: 14
Start Date: 03/07/2024
End Date: 03/07/2024

| Total Study Speed Summary | | |
|---------------------------|------------|------------|
| | Northbound | Southbound |
| Average Speed | 25.9 mph | 26.5 mph |
| 50th Percentile | 26.0 mph | 26.7 mph |
| 85th Percentile | 29.6 mph | 30.6 mph |
| 95th Percentile | 32.2 mph | 33.3 mph |

| Speed Range (MPH) - Total Study | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| | Total | 0-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 | 60-65 | 65-70 | 70-75 | 75-80 | 80-85 | 85-90 | 90-95 | 95-100 | 100+ |
| Northbound | 4801 | 22 | 52 | 183 | 1617 | 2314 | 544 | 60 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Percent</i> | 100.0% | 0.5% | 1.1% | 3.8% | 33.7% | 48.2% | 11.3% | 1.2% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Southbound | 5415 | 51 | 59 | 210 | 1446 | 2657 | 878 | 103 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Percent</i> | 100.0% | 0.9% | 1.1% | 3.9% | 26.7% | 49.1% | 16.2% | 1.9% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 10216 | 73 | 111 | 393 | 3063 | 4971 | 1422 | 163 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Percent</i> | 100.0% | 0.7% | 1.1% | 3.8% | 30.0% | 48.7% | 13.9% | 1.6% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

Site Description: Bay Ave S.O Center St
 Site Number: 14
 Start Date: 03/07/2024
 End Date: 03/07/2024

Vehicle Speed Report (Northbound - 03/07/2024)

| Thursday | | Northbound | | | | | | | | | | | | | | | | | | | |
|---------------------|----------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| 3/7/24 | Total | 0-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 | 60-65 | 65-70 | 70-75 | 75-80 | 80-85 | 85-90 | 90-95 | 95-100 | 100+ |
| 12:00 AM | 9 | 1 | 0 | 1 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 AM | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 AM | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM | 5 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM | 6 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 AM | 44 | 0 | 0 | 1 | 11 | 19 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM | 123 | 0 | 0 | 2 | 41 | 55 | 23 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 AM | 286 | 1 | 2 | 6 | 86 | 161 | 27 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 440 | 1 | 4 | 12 | 157 | 225 | 38 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 AM | 352 | 0 | 2 | 16 | 137 | 163 | 32 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 AM | 343 | 1 | 1 | 5 | 77 | 156 | 77 | 20 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 AM | 383 | 2 | 8 | 16 | 117 | 197 | 39 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 PM | 399 | 2 | 4 | 24 | 139 | 186 | 41 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 PM | 358 | 3 | 6 | 11 | 138 | 165 | 32 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 PM | 340 | 2 | 5 | 15 | 134 | 140 | 39 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM | 448 | 0 | 5 | 20 | 178 | 205 | 39 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 PM | 307 | 1 | 4 | 18 | 80 | 159 | 40 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 279 | 2 | 4 | 9 | 79 | 148 | 36 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 PM | 275 | 1 | 4 | 16 | 105 | 126 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 PM | 169 | 1 | 0 | 5 | 67 | 84 | 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 PM | 121 | 3 | 0 | 3 | 38 | 58 | 15 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM | 66 | 1 | 1 | 1 | 18 | 35 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM | 32 | 0 | 1 | 2 | 5 | 18 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM | 13 | 0 | 1 | 0 | 4 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 9:00 AM | 849 | 2 | 6 | 20 | 284 | 441 | 88 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM - 6:00 PM | 1034 | 3 | 13 | 47 | 337 | 512 | 115 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 7:00 PM | 4333 | 16 | 49 | 170 | 1468 | 2086 | 486 | 51 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 AM - 12:00 AM | 4801 | 22 | 52 | 183 | 1617 | 2314 | 544 | 60 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent | 100% | 0.5% | 1.1% | 3.8% | 33.7% | 48.2% | 11.3% | 1.2% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 50th Percentile | 26.0 mph | | | | | | | | | | | | | | | | | | | | |
| 85th Percentile | 29.6 mph | | | | | | | | | | | | | | | | | | | | |
| 95th Percentile | 32.2 mph | | | | | | | | | | | | | | | | | | | | |

Site Description: Bay Ave S.O Center St
 Site Number: 14
 Start Date: 03/07/2024
 End Date: 03/07/2024

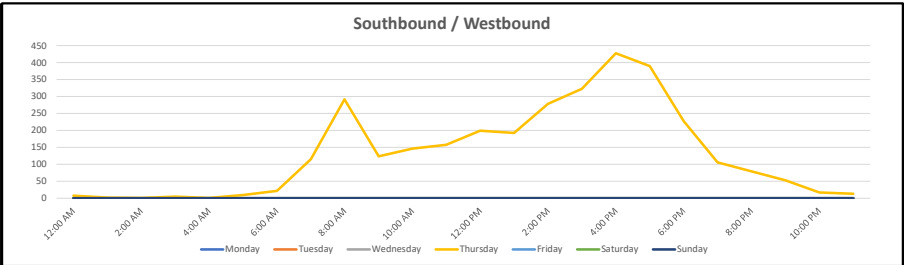
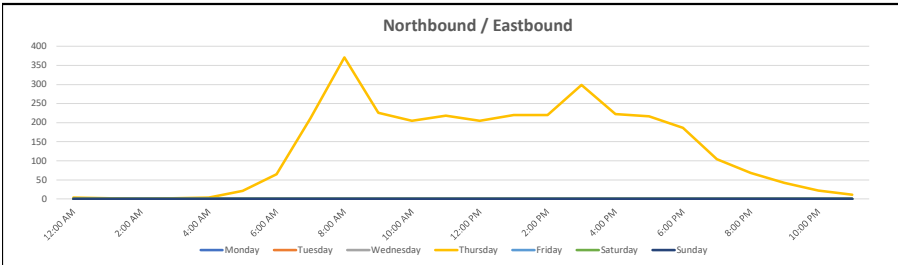
Vehicle Speed Report (Southbound - 03/07/2024)

| Thursday | Southbound | | | | | | | | | | | | | | | | | | | | |
|---------------------|------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| 3/7/24 | Total | 0-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 | 60-65 | 65-70 | 70-75 | 75-80 | 80-85 | 85-90 | 90-95 | 95-100 | 100+ |
| 12:00 AM | 6 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 AM | 4 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 AM | 8 | 0 | 0 | 0 | 3 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM | 8 | 0 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM | 7 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 AM | 35 | 0 | 0 | 2 | 8 | 14 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM | 60 | 0 | 0 | 0 | 7 | 34 | 13 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 AM | 207 | 0 | 1 | 5 | 47 | 98 | 51 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 414 | 4 | 9 | 43 | 124 | 186 | 44 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 AM | 325 | 1 | 1 | 11 | 99 | 151 | 59 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 AM | 368 | 0 | 1 | 14 | 52 | 150 | 116 | 29 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 AM | 400 | 2 | 3 | 14 | 95 | 218 | 61 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 PM | 406 | 1 | 6 | 15 | 100 | 209 | 69 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 PM | 409 | 2 | 2 | 6 | 85 | 232 | 73 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 PM | 457 | 3 | 6 | 18 | 146 | 225 | 55 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM | 435 | 2 | 2 | 15 | 109 | 244 | 62 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 PM | 548 | 10 | 11 | 29 | 172 | 257 | 64 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 498 | 22 | 9 | 23 | 162 | 213 | 61 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 PM | 344 | 2 | 2 | 4 | 100 | 181 | 48 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 PM | 190 | 1 | 1 | 4 | 52 | 103 | 27 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 PM | 143 | 1 | 3 | 3 | 48 | 63 | 23 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM | 90 | 0 | 0 | 4 | 27 | 43 | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM | 30 | 0 | 0 | 0 | 5 | 14 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM | 23 | 0 | 2 | 0 | 2 | 10 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 9:00 AM | 681 | 4 | 10 | 48 | 178 | 318 | 108 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM - 6:00 PM | 1481 | 34 | 22 | 67 | 443 | 714 | 187 | 13 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 7:00 PM | 4871 | 49 | 53 | 197 | 1298 | 2398 | 776 | 90 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 AM - 12:00 AM | 5415 | 51 | 59 | 210 | 1446 | 2657 | 878 | 103 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent | 100% | 0.9% | 1.1% | 3.9% | 26.7% | 49.1% | 16.2% | 1.9% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 50th Percentile | 26.7 mph | | | | | | | | | | | | | | | | | | | | |
| 85th Percentile | 30.6 mph | | | | | | | | | | | | | | | | | | | | |
| 95th Percentile | 33.3 mph | | | | | | | | | | | | | | | | | | | | |

Vehicle Volume Report - Hourly

Site Description: Bay Ave N.O Del Monte Ave
 Site Number: 15
 Start Date: 03/07/2024
 End Date: 03/07/2024

| Time | Monday 3/11/24 | | | Tuesday 3/12/24 | | | Wednesday 3/13/24 | | | Thursday 3/14/24 | | | Friday 3/15/24 | | | Saturday 3/16/24 | | | Sunday 3/17/24 | | | 3 Day Avg Tue-Thu | | 5 Day Avg Mon-Fri | | 7 Day Avg Mon-Sun | |
|---------------------|-------------------|----|-------|--------------------|----|-------|----------------------|----|-------|---------------------|---------|--------|-------------------|----|-------|---------------------|----|-------|-------------------|----|-------|----------------------|----|----------------------|----|----------------------|----|
| | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | NB | SB | NB | SB |
| 12:00 AM | - | - | - | - | - | - | - | - | - | 3 | 7 | 10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1:00 AM | - | - | - | - | - | - | - | - | - | 2 | 2 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2:00 AM | - | - | - | - | - | - | - | - | - | 0 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 AM | - | - | - | - | - | - | - | - | - | 2 | 4 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 AM | - | - | - | - | - | - | - | - | - | 4 | 1 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5:00 AM | - | - | - | - | - | - | - | - | - | 21 | 9 | 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 AM | - | - | - | - | - | - | - | - | - | 65 | 22 | 87 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7:00 AM | - | - | - | - | - | - | - | - | - | 212 | 115 | 327 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8:00 AM | - | - | - | - | - | - | - | - | - | 371 | 292 | 663 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9:00 AM | - | - | - | - | - | - | - | - | - | 226 | 123 | 349 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10:00 AM | - | - | - | - | - | - | - | - | - | 205 | 146 | 351 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11:00 AM | - | - | - | - | - | - | - | - | - | 218 | 157 | 375 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12:00 PM | - | - | - | - | - | - | - | - | - | 205 | 199 | 404 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1:00 PM | - | - | - | - | - | - | - | - | - | 220 | 192 | 412 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2:00 PM | - | - | - | - | - | - | - | - | - | 220 | 278 | 498 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 PM | - | - | - | - | - | - | - | - | - | 299 | 323 | 622 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | - | - | - | - | - | - | - | - | - | 222 | 427 | 649 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5:00 PM | - | - | - | - | - | - | - | - | - | 217 | 390 | 607 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 PM | - | - | - | - | - | - | - | - | - | 186 | 227 | 413 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7:00 PM | - | - | - | - | - | - | - | - | - | 104 | 105 | 209 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8:00 PM | - | - | - | - | - | - | - | - | - | 68 | 79 | 147 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9:00 PM | - | - | - | - | - | - | - | - | - | 42 | 53 | 95 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10:00 PM | - | - | - | - | - | - | - | - | - | 22 | 17 | 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11:00 PM | - | - | - | - | - | - | - | - | - | 11 | 13 | 24 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 AM - 9:00 AM | - | - | - | - | - | - | - | - | - | 648 | 429 | 1077 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 PM - 6:00 PM | - | - | - | - | - | - | - | - | - | 738 | 1140 | 1878 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 AM - 7:00 PM | - | - | - | - | - | - | - | - | - | 2866 | 2891 | 5757 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12:00 AM - 12:00 AM | - | - | - | - | - | - | - | - | - | 3145 | 3182 | 6327 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent | - | - | - | - | - | - | - | - | - | 49.7% | 50.3% | 100.0% | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AM Peak | - | - | - | - | - | - | - | - | - | 8:00 AM | 9:00 AM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PM Peak | - | - | - | - | - | - | - | - | - | 4:00 PM | 5:00 PM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Vehicle Speed Report - Hourly

Site Description: Bay Ave N.O Del Monte Ave
Site Number: 15
Start Date: 03/07/2024
End Date: 03/07/2024

| Total Study Speed Summary | | |
|---------------------------|------------|------------|
| | Northbound | Southbound |
| Average Speed | 25.2 mph | 26.7 mph |
| 50th Percentile | 25.5 mph | 27.0 mph |
| 85th Percentile | 29.4 mph | 30.7 mph |
| 95th Percentile | 32.1 mph | 33.4 mph |

| Speed Range (MPH) - Total Study | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| | Total | 0-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 | 60-65 | 65-70 | 70-75 | 75-80 | 80-85 | 85-90 | 90-95 | 95-100 | 100+ |
| Northbound | 3145 | 66 | 39 | 179 | 1108 | 1372 | 345 | 30 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Percent</i> | 100.0% | 2.1% | 1.2% | 5.7% | 35.2% | 43.6% | 11.0% | 1.0% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Southbound | 3182 | 39 | 35 | 100 | 759 | 1630 | 552 | 56 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Percent</i> | 100.0% | 1.2% | 1.1% | 3.1% | 23.9% | 51.2% | 17.3% | 1.8% | 0.3% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 6327 | 105 | 74 | 279 | 1867 | 3002 | 897 | 86 | 11 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Percent</i> | 100.0% | 1.7% | 1.2% | 4.4% | 29.5% | 47.4% | 14.2% | 1.4% | 0.2% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

Site Description: Bay Ave N.O Del Monte Ave
 Site Number: 15
 Start Date: 03/07/2024
 End Date: 03/07/2024

Vehicle Speed Report (Northbound - 03/07/2024)

| Thursday | | Northbound | | | | | | | | | | | | | | | | | | | |
|---------------------|----------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| 3/7/24 | Total | 0-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 | 60-65 | 65-70 | 70-75 | 75-80 | 80-85 | 85-90 | 90-95 | 95-100 | 100+ |
| 12:00 AM | 3 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 AM | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM | 4 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 AM | 21 | 0 | 0 | 0 | 1 | 9 | 7 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM | 65 | 0 | 1 | 3 | 14 | 35 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 AM | 212 | 0 | 2 | 6 | 66 | 107 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 371 | 5 | 7 | 38 | 186 | 111 | 22 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 AM | 226 | 0 | 1 | 10 | 101 | 94 | 18 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 AM | 205 | 0 | 2 | 10 | 77 | 89 | 24 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 AM | 218 | 0 | 2 | 11 | 92 | 91 | 21 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 PM | 205 | 0 | 4 | 24 | 76 | 87 | 13 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 PM | 220 | 0 | 3 | 18 | 66 | 113 | 15 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 PM | 220 | 1 | 1 | 6 | 82 | 105 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM | 299 | 59 | 14 | 25 | 89 | 83 | 27 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 PM | 222 | 0 | 2 | 10 | 48 | 119 | 40 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 217 | 1 | 0 | 5 | 61 | 112 | 37 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 PM | 186 | 0 | 0 | 7 | 71 | 87 | 19 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 PM | 104 | 0 | 0 | 3 | 38 | 51 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 PM | 68 | 0 | 0 | 1 | 15 | 37 | 12 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM | 42 | 0 | 0 | 0 | 15 | 22 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM | 22 | 0 | 0 | 0 | 5 | 11 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM | 11 | 0 | 0 | 0 | 2 | 5 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 9:00 AM | 648 | 5 | 10 | 47 | 266 | 253 | 65 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM - 6:00 PM | 738 | 60 | 16 | 40 | 198 | 314 | 104 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 7:00 PM | 2866 | 66 | 39 | 173 | 1029 | 1233 | 304 | 17 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 AM - 12:00 AM | 3145 | 66 | 39 | 179 | 1108 | 1372 | 345 | 30 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent | 100% | 2.1% | 1.2% | 5.7% | 35.2% | 43.6% | 11.0% | 1.0% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 50th Percentile | 25.5 mph | | | | | | | | | | | | | | | | | | | | |
| 85th Percentile | 29.4 mph | | | | | | | | | | | | | | | | | | | | |
| 95th Percentile | 32.1 mph | | | | | | | | | | | | | | | | | | | | |

Site Description: Bay Ave N.O Del Monte Ave
 Site Number: 15
 Start Date: 03/07/2024
 End Date: 03/07/2024

Vehicle Speed Report (Southbound - 03/07/2024)

| Thursday | Southbound | | | | | | | | | | | | | | | | | | | | |
|---------------------|------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| 3/7/24 | Total | 0-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 | 60-65 | 65-70 | 70-75 | 75-80 | 80-85 | 85-90 | 90-95 | 95-100 | 100+ |
| 12:00 AM | 7 | 0 | 0 | 0 | 1 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 AM | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM | 4 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 AM | 9 | 0 | 0 | 0 | 1 | 6 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM | 22 | 0 | 0 | 1 | 3 | 11 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 AM | 115 | 0 | 2 | 2 | 19 | 64 | 26 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 292 | 32 | 10 | 22 | 75 | 132 | 17 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 AM | 123 | 0 | 1 | 6 | 33 | 67 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 AM | 146 | 1 | 1 | 2 | 36 | 84 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 AM | 157 | 0 | 3 | 3 | 35 | 96 | 18 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 PM | 199 | 2 | 1 | 11 | 53 | 101 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 PM | 192 | 0 | 1 | 6 | 41 | 103 | 34 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 PM | 278 | 0 | 4 | 6 | 94 | 134 | 38 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM | 323 | 4 | 4 | 13 | 91 | 144 | 61 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 PM | 427 | 0 | 2 | 9 | 76 | 230 | 100 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 390 | 0 | 3 | 6 | 71 | 209 | 81 | 16 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 PM | 227 | 0 | 0 | 10 | 58 | 107 | 47 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 PM | 105 | 0 | 1 | 1 | 29 | 58 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 PM | 79 | 0 | 0 | 0 | 24 | 37 | 15 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM | 53 | 0 | 0 | 1 | 13 | 29 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM | 17 | 0 | 0 | 1 | 4 | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM | 13 | 0 | 0 | 0 | 1 | 6 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 9:00 AM | 429 | 32 | 12 | 25 | 97 | 207 | 49 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM - 6:00 PM | 1140 | 4 | 9 | 28 | 238 | 583 | 242 | 30 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM - 7:00 PM | 2891 | 39 | 32 | 97 | 685 | 1482 | 497 | 49 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 AM - 12:00 AM | 3182 | 39 | 35 | 100 | 759 | 1630 | 552 | 56 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent | 100% | 1.2% | 1.1% | 3.1% | 23.9% | 51.2% | 17.3% | 1.8% | 0.3% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 50th Percentile | 27.0 mph | | | | | | | | | | | | | | | | | | | | |
| 85th Percentile | 30.7 mph | | | | | | | | | | | | | | | | | | | | |
| 95th Percentile | 33.4 mph | | | | | | | | | | | | | | | | | | | | |

Attachment B – Bike and Pedestrian Collision Data

Overview

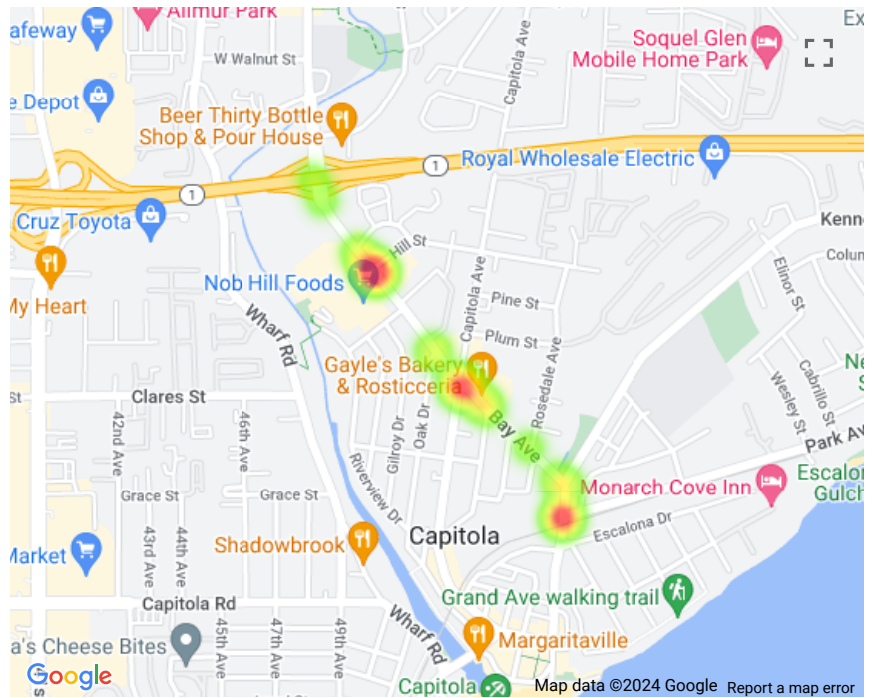
This report was created with the help of The Transportation Injury Mapping System (TIMS). TIMS has been developed by UC Berkeley SafeTREC to provide quick, easy and free access to California crash data, the Statewide Integrated Traffic Records System (SWITRS), that has been geo-coded by SafeTREC to make it easy to map crashes.

Query by Case ID(s)

User Entered SWITRS Case ID(s)

Result

- Total Crashes** 37
- Total Victims** 1 Killed & 38 Injured
- State Highway** 1 (2.7%)
- Ped Involved** 8 (21.6%)
- Bike Involved** 11 (29.7%)
- Motorcycle Involved** 1 (2.7%)

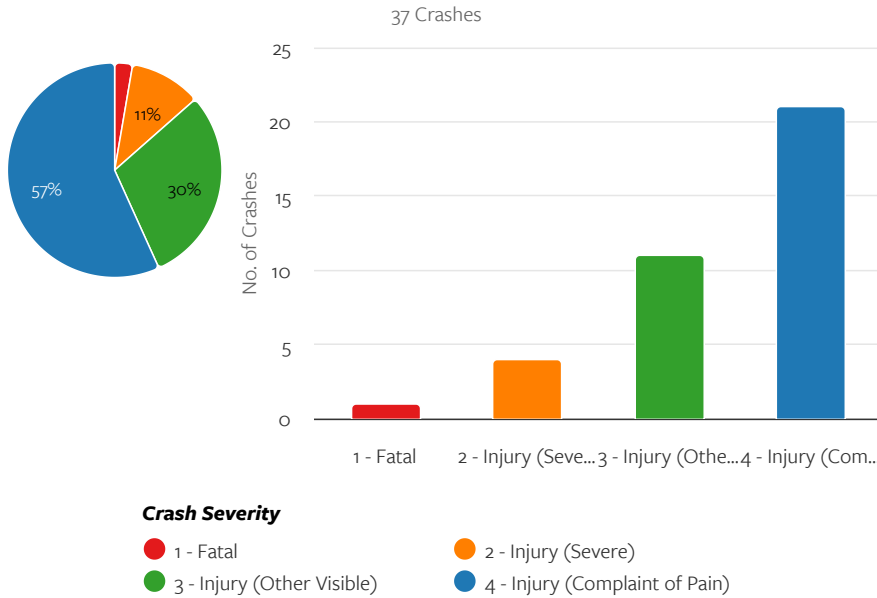


37 of 37 (100%) Crashes are geocoded and mapped.

Crash Summary

By Crash Severity

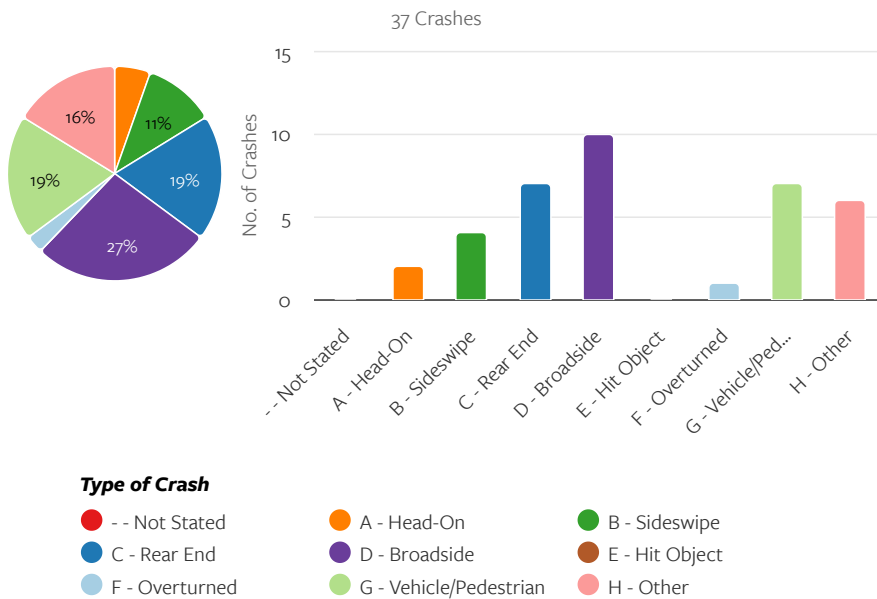
Number of Crashes by Crash Severity



| Crash Severity | Count | % |
|--------------------------------|-------|--------|
| 1 - Fatal | 1 | 2.70% |
| 2 - Injury (Severe) | 4 | 10.81% |
| 3 - Injury (Other Visible) | 11 | 29.73% |
| 4 - Injury (Complaint of Pain) | 21 | 56.76% |

By Crash Type

Number of Crashes by Type of Crash

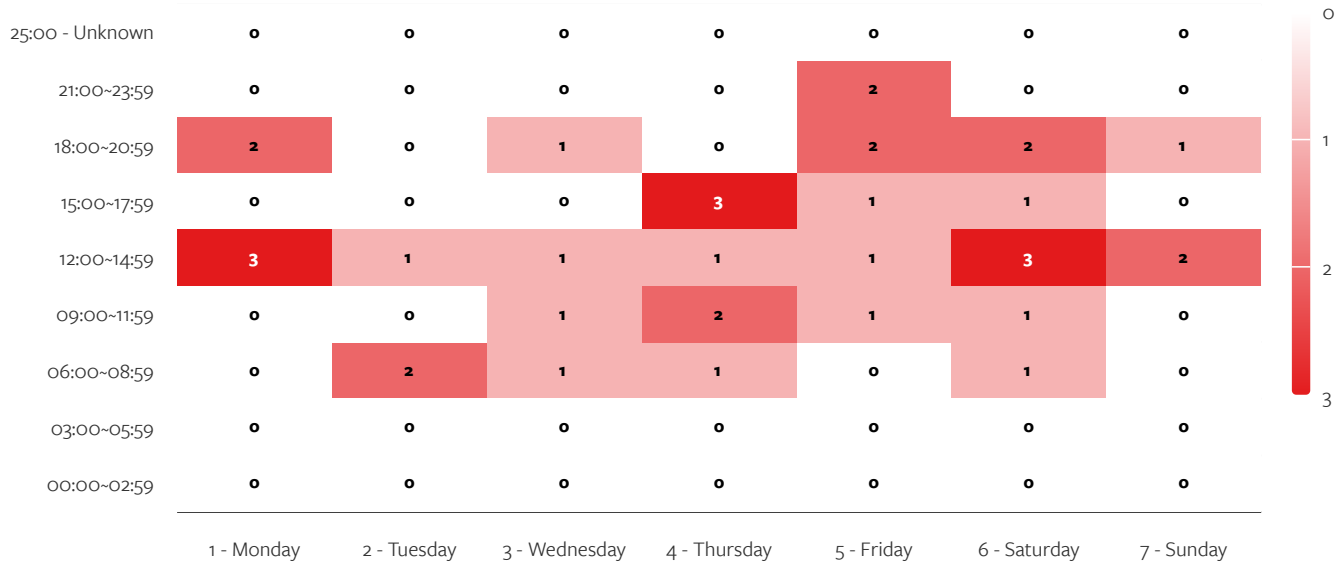


| Type of Crash | Count | % |
|------------------------|-------|--------|
| -- Not Stated | 0 | 0.00% |
| A - Head-On | 2 | 5.41% |
| B - Sideswipe | 4 | 10.81% |
| C - Rear End | 7 | 18.92% |
| D - Broadside | 10 | 27.03% |
| E - Hit Object | 0 | 0.00% |
| F - Overturned | 1 | 2.70% |
| G - Vehicle/Pedestrian | 7 | 18.92% |
| H - Other | 6 | 16.22% |

By Day of Week and Time

Number of Crashes per Day of Week per Time

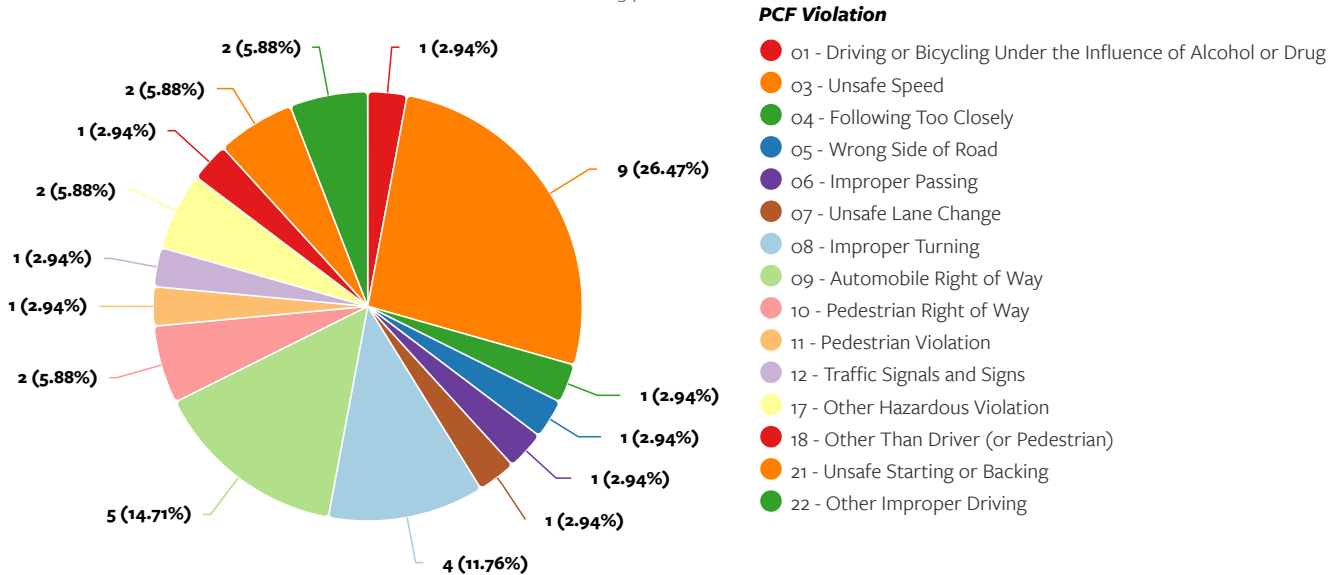
37 Crashes



By Primary Crash Factor (PCF) Violation

Number of Crashes by PCF Violation

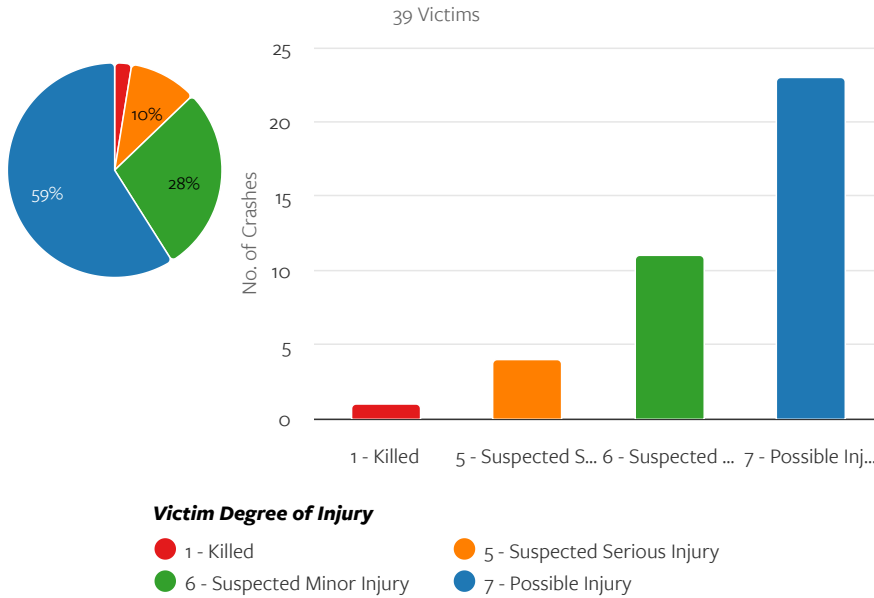
34 Crashes



Victim Summary

By Victim Degree of Injury

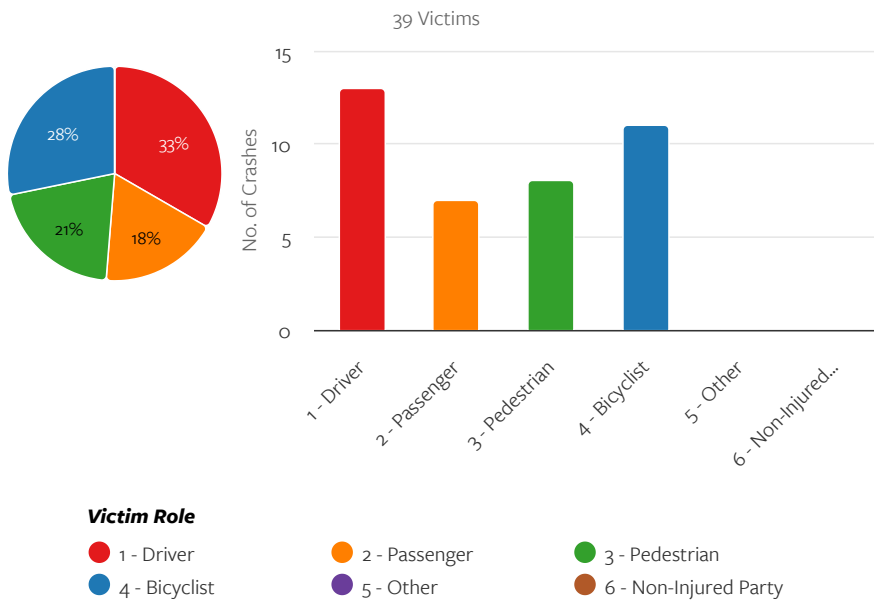
Number of Victims by Victim Degree of Injury



| Victim Degree of Injury | Count | % |
|------------------------------|-------|--------|
| 1 - Killed | 1 | 2.56% |
| 5 - Suspected Serious Injury | 4 | 10.26% |
| 6 - Suspected Minor Injury | 11 | 28.21% |
| 7 - Possible Injury | 23 | 58.97% |

By Victim Role

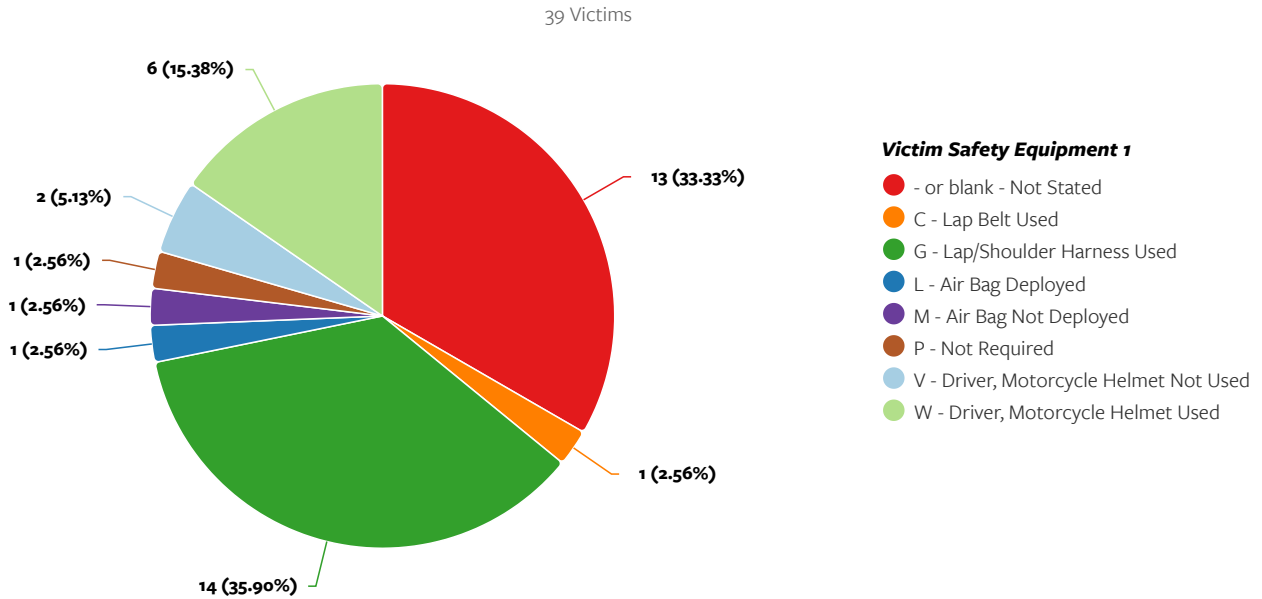
Number of Victims by Victim Role



| Victim Role | Count | % |
|-----------------------|-------|--------|
| 1 - Driver | 13 | 33.33% |
| 2 - Passenger | 7 | 17.95% |
| 3 - Pedestrian | 8 | 20.51% |
| 4 - Bicyclist | 11 | 28.21% |
| 5 - Other | 0 | 0.00% |
| 6 - Non-Injured Party | 0 | 0.00% |

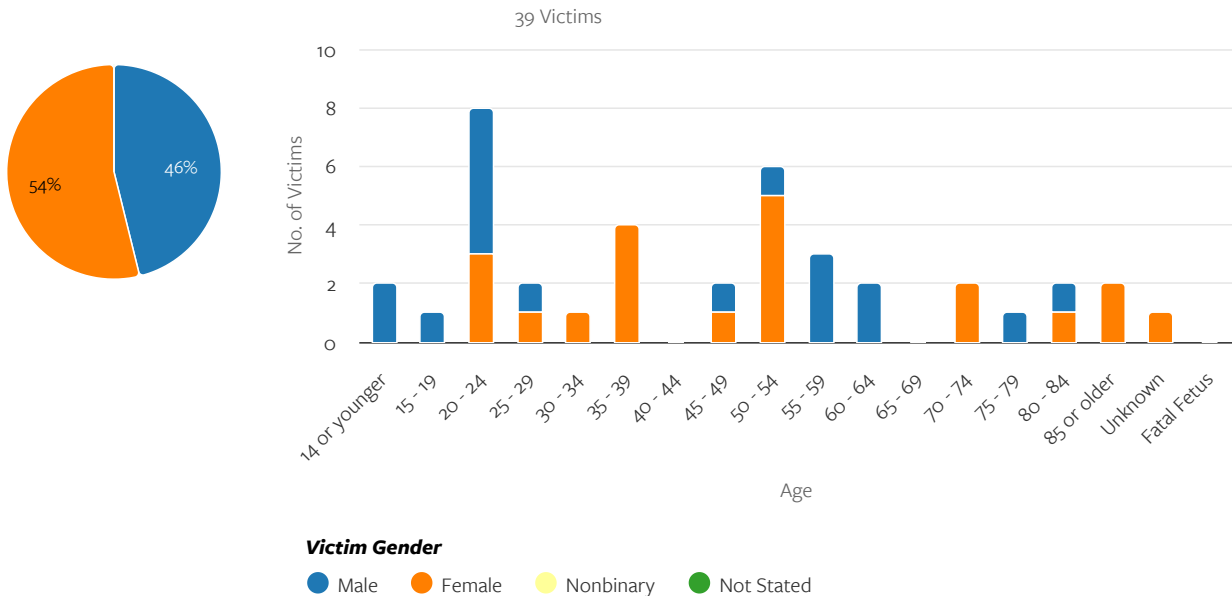
By Victim Safety Equipment 1

Number of Victims by Victim Safety Equipment 1



By Victim Gender and Age

Number of Victims by Victim Gender and Age

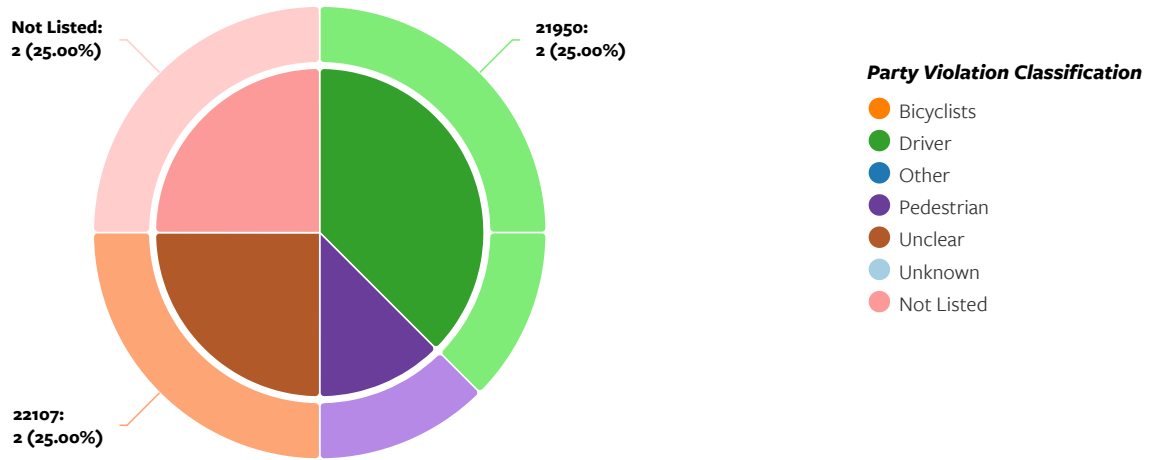


Ped Crash Summary

By Type of Violation

Number of Crashes by Type of Violation

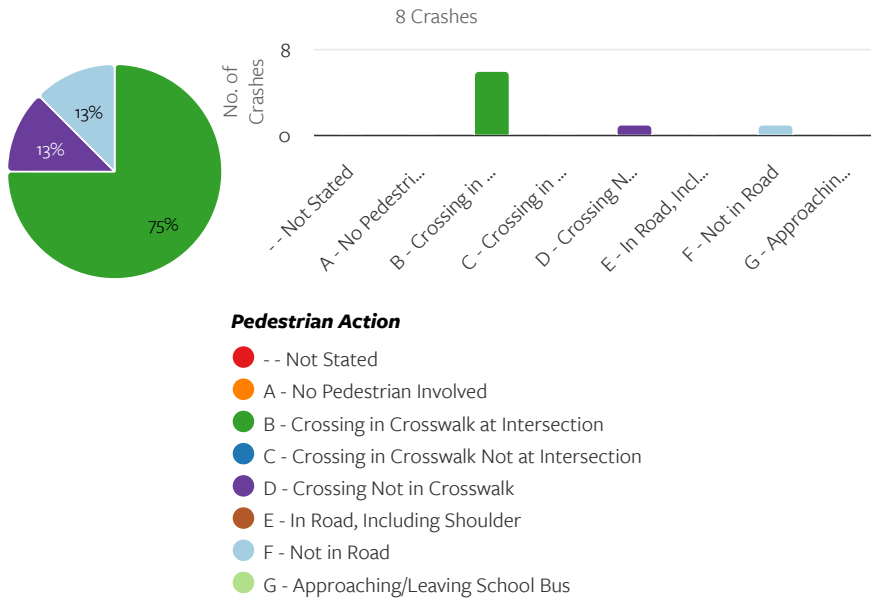
8 Crashes



| Party Violation Classification | Type of Violation | Description | Count | % |
|--------------------------------|-------------------|--|-------|--------|
| Driver | 21950 | Driver failure to yield right-of-way to pedestrians at a marked or unmarked crosswalk | 2 | 25.00% |
| Unclear | 22107 | Unsafe turning or moving right or left on a roadway Turning without signaling | 2 | 25.00% |
| Not Listed | Not Listed | Violation code was not included in the crash | 2 | 25.00% |
| Driver | 22106 | Unsafe starting or backing of a vehicle on a highway | 1 | 12.50% |
| Pedestrian | 21954 | Pedestrian failure to yield right-of-way to vehicles when crossing outside of a marked or unmarked crosswalk | 1 | 12.50% |

By Pedestrian Action

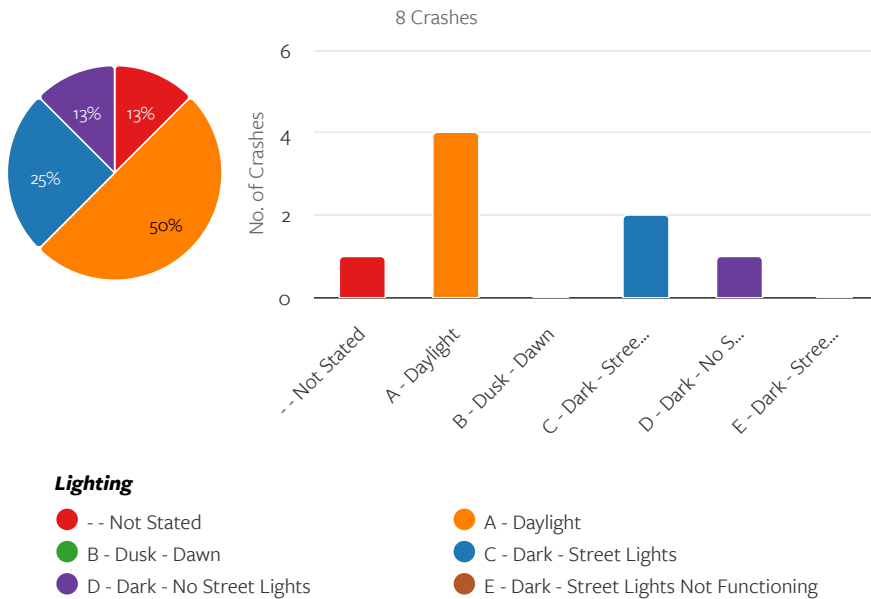
Number of Crashes by Pedestrian Action



| Pedestrian Action | Count | % |
|---|-------|--------|
| -- Not Stated | 0 | 0.00% |
| A - No Pedestrian Involved | 0 | 0.00% |
| B - Crossing in Crosswalk at Intersection | 6 | 75.00% |
| C - Crossing in Crosswalk Not at Intersection | 0 | 0.00% |
| D - Crossing Not in Crosswalk | 1 | 12.50% |
| E - In Road, Including Shoulder | 0 | 0.00% |
| F - Not in Road | 1 | 12.50% |
| G - Approaching/Leaving School Bus | 0 | 0.00% |

By Lighting

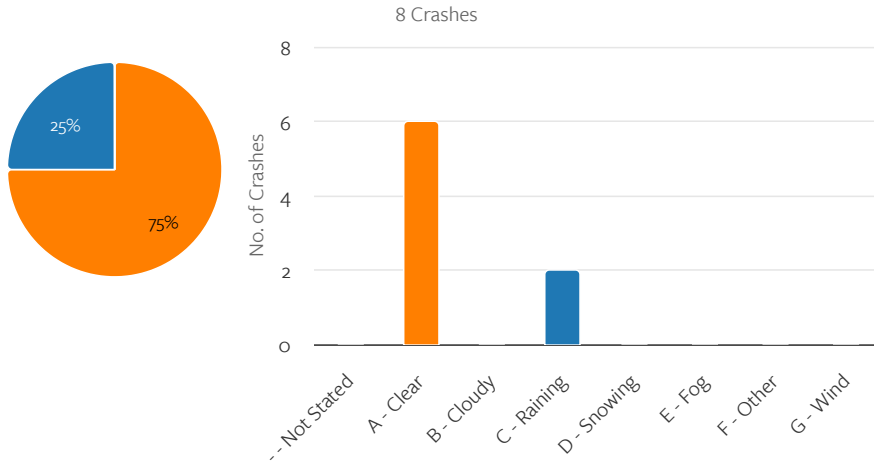
Number of Crashes by Lighting



| Lighting | Count | % |
|--|-------|--------|
| -- Not Stated | 1 | 12.50% |
| A - Daylight | 4 | 50.00% |
| B - Dusk - Dawn | 0 | 0.00% |
| C - Dark - Street Lights | 2 | 25.00% |
| D - Dark - No Street Lights | 1 | 12.50% |
| E - Dark - Street Lights Not Functioning | 0 | 0.00% |

By Weather

Number of Crashes by Weather



| Weather | Count | % |
|---------------|-------|--------|
| -- Not Stated | 0 | 0.00% |
| A - Clear | 6 | 75.00% |
| B - Cloudy | 0 | 0.00% |
| C - Raining | 2 | 25.00% |
| D - Snowing | 0 | 0.00% |
| E - Fog | 0 | 0.00% |
| F - Other | 0 | 0.00% |
| G - Wind | 0 | 0.00% |

Weather

- -- Not Stated
- A - Clear
- B - Cloudy
- C - Raining
- D - Snowing
- E - Fog
- F - Other
- G - Wind

Item 7 B.

Crash Details for: Case ID 5737844

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 05/25/2012 10:01 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | 90.00 ft South | | |
| State Highway | No | | |
| Geocoded Location | 36.9809602, -121.9553731 | | |
| Type of Crash | H - Other | | |
| Motor Vehicle Involved With | J - Other Object | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 22 - Other Improper Driving | | |
| Weather | B - Cloudy | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 1

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | - | K - Parking Maneuver |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 1 | 2 - Passenger | F - Female | 88 | 7 - Possible Injury |

Crash Details for: Case ID 5769463

Crash Information

| | | | |
|---|--|----------------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 07/30/2012 12:40 | | |
| Location (Intersection) | Capitola Av & Bay Av | | |
| Dist. & Dir. from Intersection | 80.00 ft West | | |
| State Highway | No | | |
| Geocoded Location | 36.9784681, -121.9531876 | | |
| Type of Crash | C - Rear End | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 01 - Driving or Bicycling Under the Influence of Alcohol or Drug | | |
| Weather | A - Clear | | |
| Alcohol Involved | Yes | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 3

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | Yes | East | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | No | East | A - Stopped |
| 3 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | No | - | A - Stopped |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|-------------------------|
| 1 | 1 - Driver | F - Female | 23 | 7 - Possible Injury |

Crash Details for: Case ID 5926906

Crash Information

| | | | |
|---|--|----------------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 02/02/2013 14:01 | | |
| Location (Intersection) | Rt 1 & Bay Av | | |
| Dist. & Dir. from Intersection | 200.00 ft North | | |
| State Highway Info | Route Number 1 Side of Hwy S Postmile 13.230 Location Type H - Highway | | |
| Geocoded Location | 36.983175, -121.957233 | | |
| Type of Crash | C - Rear End | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 04 - Following Too Closely | | |
| Weather | B - Cloudy | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | No | South | H - Slowing/Stopping |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|-------------------------|
| 1 | 1 - Driver | F - Female | 23 | 7 - Possible Injury |

Crash Details for: Case ID 6487941

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 05/09/2014 20:40 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9811, -121.95551 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 12 - Traffic Signals and Signs | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | West | E - Making Left Turn |

Victims: 2

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 1 | 2 - Passenger | M - Male | 20 | 7 - Possible Injury |
| 2 | 2 - Passenger | M - Male | 6 | 7 - Possible Injury |

Crash Details for: Case ID 6494114

Crash Information

| | | | |
|--------------------------------|--|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 04/30/2014 12:20 | | |
| Location (Intersection) | Bay Av & Capitola Av | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.97867, -121.9531299 | | |
| Type of Crash | C - Rear End | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 2 - Injury (Severe) | | |
| PCF Violation Category | 18 - Other Than Driver (or Pedestrian) | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | Yes |

Map View



Street View



Parties: 3

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | No | East | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | East | B - Proceeding Straight |
| 3 | 3 - Parked Vehicle | F - Truck or Truck Tractor | No | - | O - Parked |

Victims: 2

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|------------------------------|
| 1 | 1 - Driver | M - Male | 82 | 5 - Suspected Serious Injury |
| 2 | 1 - Driver | F - Female | 36 | 7 - Possible Injury |

Crash Details for: Case ID 6940786

Crash Information

| | | | |
|--------------------------------|------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 06/07/2015 12:39 | | |
| Location (Intersection) | Monterey Av & Bay Av | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.97634, -121.9502099 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 09 - Automobile Right of Way | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | West | D - Making Right Turn |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | B - Proceeding Straight |

Victims: 1

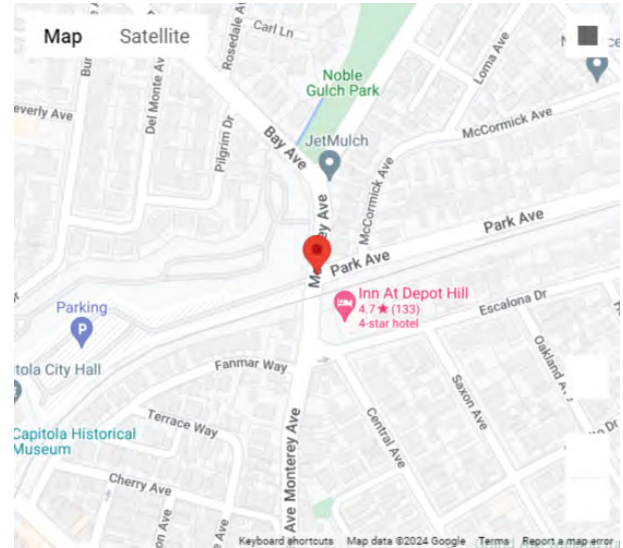
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|----------------------------|
| 2 | 1 - Driver | F - Female | 82 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 7075959

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 09/09/2015 20:08 | | |
| Location (Intersection) | Monterey Av & Park Av | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.97564, -121.95022 | | |
| Type of Crash | A - Head-On | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 09 - Automobile Right of Way | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | E - Making Left Turn |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|-------------------------|
| 2 | 1 - Driver | F - Female | 52 | 7 - Possible Injury |

Crash Details for: Case ID 8373999

Crash Information

| | | | |
|--------------------------------|----------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 04/29/2017 18:10 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9811, -121.95551 | | |
| Type of Crash | G - Vehicle/Pedestrian | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | - - Not Stated | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 1

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 1 | 2 - Passenger | M - Male | 18 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 8506493

Crash Information

| | | | |
|---|--------------------------------|----------------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 11/25/2017 12:01 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | 40.00 ft North | | |
| State Highway | No | | |
| Geocoded Location | 36.9811865, -121.9555946 | | |
| Type of Crash | C - Rear End | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | H - Slowing/Stopping |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | South | A - Stopped |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|-------------------------|
| 2 | 1 - Driver | F - Female | 20 | 7 - Possible Injury |

Crash Details for: Case ID 8593314

Crash Information

| | | | |
|---|--------------------------------|----------------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 02/13/2018 07:50 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | 203.00 ft North | | |
| State Highway | No | | |
| Geocoded Location | 36.9815369, -121.9559402 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 09 - Automobile Right of Way | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | Yes | South | L - Entering Traffic |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | South | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|-------------------------|
| 2 | 1 - Driver | F - Female | 39 | 7 - Possible Injury |

Crash Details for: Case ID 9174869

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 10/08/2020 16:00 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9810982, -121.955513 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | West | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 2 | 2 - Passenger | F - Female | 32 | 7 - Possible Injury |

Crash Details for: Case ID 9355886

Crash Information

| | | | |
|--------------------------------|----------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 09/24/2021 22:16 | | |
| Location (Intersection) | Bay Av & Rosedale Av | | |
| Dist. & Dir. from Intersection | 44.00 ft North | | |
| State Highway | No | | |
| Geocoded Location | 36.9772072, -121.9512329 | | |
| Type of Crash | B - Sideswipe | | |
| Motor Vehicle Involved With | E - Parked Motor Vehicle | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 07 - Unsafe Lane Change | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | M - Other Unsafe Turning |
| 2 | 3 - Parked Vehicle | A - Passenger Car/Station Wagon | No | - | O - Parked |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 1 | 2 - Passenger | M - Male | 28 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 9472208

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 05/07/2022 10:04 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9810982, -121.9555054 | | |
| Type of Crash | B - Sideswipe | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 09 - Automobile Right of Way | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | E - Making Left Turn |

Victims: 1

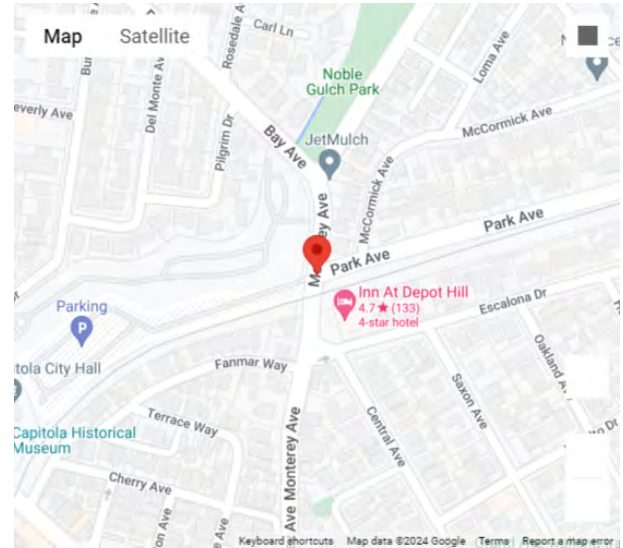
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|-------------------------|
| 1 | 1 - Driver | F - Female | 52 | 7 - Possible Injury |

Crash Details for: Case ID 9495729

Crash Information

| | | | |
|---|--------------------------------|----------------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 08/01/2022 13:16 | | |
| Location (Intersection) | Monterey Av & Park Av | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9756355, -121.9502182 | | |
| Type of Crash | A - Head-On | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | E - Making Left Turn |
| 2 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | No | North | A - Stopped |

Victims: 3

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 1 | 2 - Passenger | M - Male | 22 | 0 - No Injury |
| 1 | 2 - Passenger | F - Female | 19 | 0 - No Injury |
| 2 | 1 - Driver | M - Male | 59 | 7 - Possible Injury |

Crash Details for: Case ID 9625429

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 08/11/2023 15:10 | | |
| Location (Intersection) | Monterey Av & Park Av | | |
| Dist. & Dir. from Intersection | 35.00 ft South | | |
| State Highway | No | | |
| Geocoded Location | 36.975544, -121.9502335 | | |
| Type of Crash | C - Rear End | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | Yes | North | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | A - Stopped |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|-------------|---------------|------------|-------------------------|
| 2 | 1 - Driver | F - Female | 26 | 7 - Possible Injury |

Crash Details for: Case ID 9646836

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 10/12/2023 15:11 | | |
| Location (Intersection) | Bay Av & Burlingame Av | | |
| Dist. & Dir. from Intersection | 47.00 ft North | | |
| State Highway | No | | |
| Geocoded Location | 36.978157, -121.9524689 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | C - Other Motor Vehicle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 09 - Automobile Right of Way | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 3

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | E - Making Left Turn |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | South | B - Proceeding Straight |
| 3 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | A - Stopped |

Victims: 7

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 1 | 2 - Passenger | M - Male | 1 | 0 - No Injury |

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 1 | 2 - Passenger | M - Male | 5 | 0 - No Injury |
| 1 | 2 - Passenger | F - Female | 12 | 0 - No Injury |
| 1 | 2 - Passenger | M - Male | 36 | 0 - No Injury |
| 1 | 1 - Driver | F - Female | 37 | 7 - Possible Injury |
| 2 | 2 - Passenger | F - Female | 6 | 0 - No Injury |
| 3 | 2 - Passenger | M - Male | 13 | 0 - No Injury |

Crash List

| CASE ID | Date | Time | Primary Rd | Secondary Rd | Dist & Dir from Int. | Bike | Ped | Killed | Injured |
|----------------|-------------|-------------|-------------------|---------------------|-------------------------------------|-------------|------------|---------------|----------------|
| 6483008 | 04/24/2014 | 11:00 | Bay Av | Capitola Av | At Int | No | Yes | 0 | 1 |
| 6487930 | 05/06/2014 | 07:21 | Oak Dr | Bay Av | 37 ft South | Yes | No | 0 | 1 |
| 6511924 | 06/03/2014 | 14:04 | Bay Av | Hill St | At Int | No | Yes | 0 | 1 |
| 6748318 | 12/03/2014 | 10:41 | Monterey Av | Park Av | 18 ft South | No | Yes | 0 | 1 |
| 6864222 | 03/19/2015 | 12:43 | Bay Av | Capitola Av | 83 ft East | No | Yes | 0 | 1 |
| 6889427 | 04/04/2015 | 12:50 | Bay Av | Bay Av 504 | At Int | Yes | No | 0 | 1 |
| 7063888 | 07/20/2015 | 19:19 | Monterey Av | Park Pl | At Int | Yes | No | 0 | 1 |
| 8152095 | 10/07/2016 | 21:28 | Bay Av | Hill St | At Int | No | Yes | 0 | 1 |
| 8339317 | 03/26/2017 | 12:07 | Bay Av | Burlingame Av | 90 ft North | Yes | No | 0 | 1 |
| 90781844 | 07/21/2018 | 16:05 | Bay Ave | Monterey Ave | 100 ft North | Yes | No | 0 | 1 |
| 8701088 | 08/13/2018 | 20:13 | Bay Av | Hill Av | 213 ft North | Yes | No | 0 | 1 |
| 8648318 | 10/06/2018 | 19:46 | Bay Av | Rt 1 | 218 ft South | No | Yes | 1 | 0 |
| 9007558 | 11/22/2019 | 13:57 | Monterey Av | Park Av | At Int | Yes | No | 0 | 1 |
| 9472209 | 05/05/2022 | 17:48 | Bay Av | Oak Dr | At Int | Yes | No | 0 | 1 |
| 9495924 | 09/04/2022 | 20:42 | Capitola Av | Bay Av | 58 ft South | Yes | No | 0 | 1 |
| 9534052 | 12/09/2022 | 18:24 | Bay Av | Hill St | At Int | No | Yes | 0 | 1 |
| 9549472 | 02/01/2023 | 08:15 | Bay Av | Burlingame Av | At Int | Yes | No | 0 | 1 |
| 9625425 | 08/24/2023 | 08:40 | Bay Av | Hill St | At Int | No | Yes | 0 | 1 |

Overview

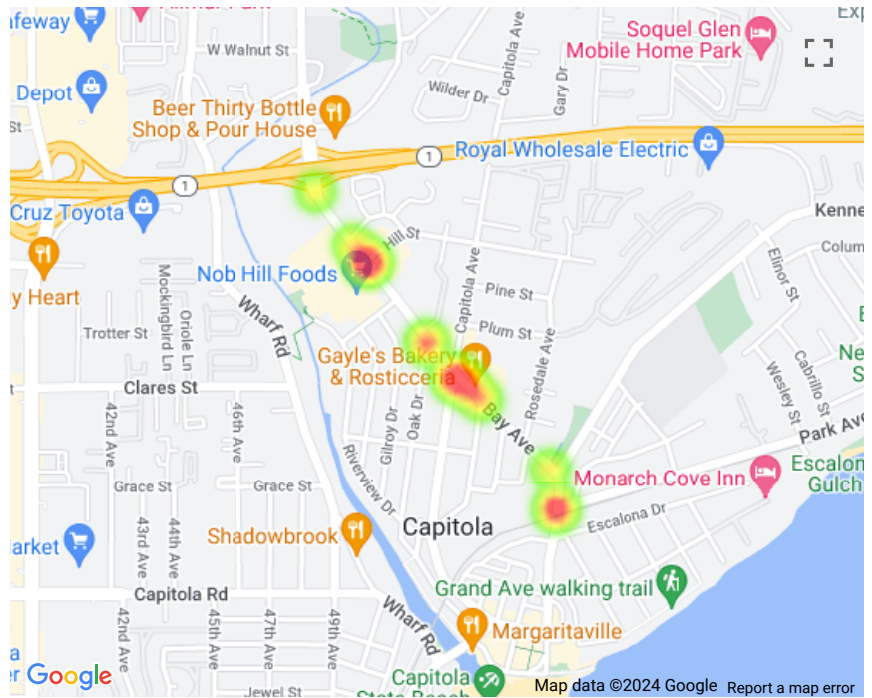
This report was created with the help of The Transportation Injury Mapping System (TIMS). TIMS has been developed by UC Berkeley SafeTREC to provide quick, easy and free access to California crash data, the Statewide Integrated Traffic Records System (SWITRS), that has been geo-coded by SafeTREC to make it easy to map crashes.

Query by Case ID(s)

User Entered SWITRS Case ID(s)

Result

- Total Crashes**
18
- Total Victims**
1 Killed & 17 Injured
- State Highway**
None
- Ped Involved**
8 (44.4%)
- Bike Involved**
10 (55.6%)
- Motorcycle Involved**
None

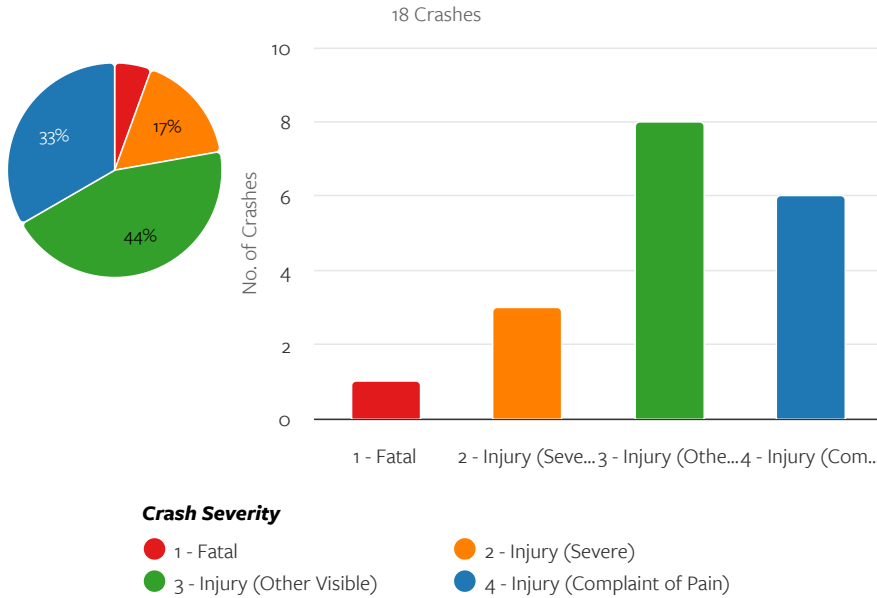


18 of 18 (100%) Crashes are geocoded and mapped.

Crash Summary

By Crash Severity

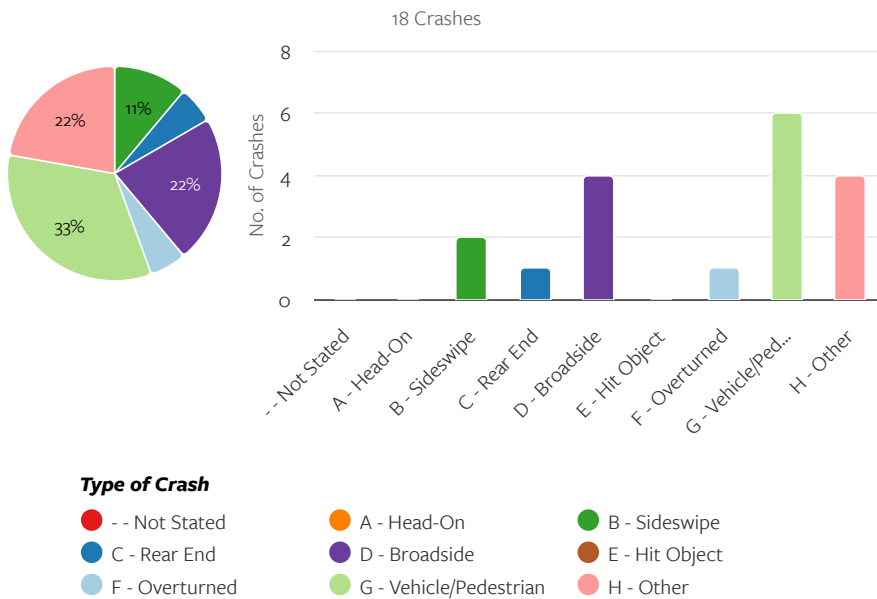
Number of Crashes by Crash Severity



| Crash Severity | Count | % |
|--------------------------------|-------|--------|
| 1 - Fatal | 1 | 5.56% |
| 2 - Injury (Severe) | 3 | 16.67% |
| 3 - Injury (Other Visible) | 8 | 44.44% |
| 4 - Injury (Complaint of Pain) | 6 | 33.33% |

By Crash Type

Number of Crashes by Type of Crash

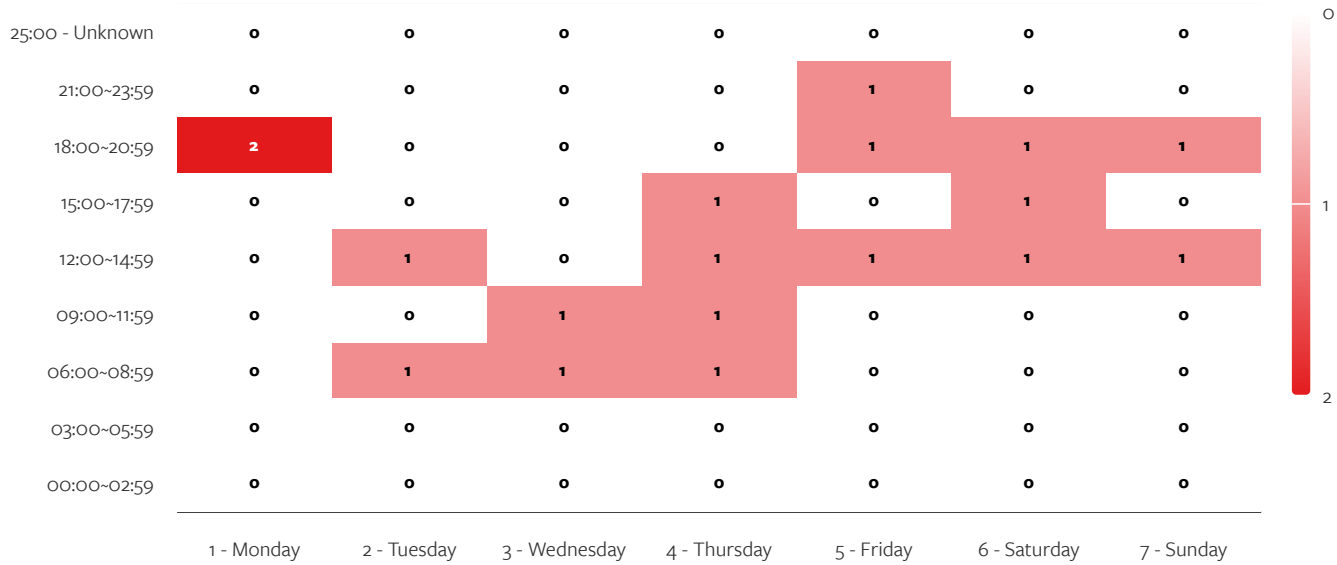


| Type of Crash | Count | % |
|------------------------|-------|--------|
| -- Not Stated | 0 | 0.00% |
| A - Head-On | 0 | 0.00% |
| B - Sideswipe | 2 | 11.11% |
| C - Rear End | 1 | 5.56% |
| D - Broadside | 4 | 22.22% |
| E - Hit Object | 0 | 0.00% |
| F - Overturned | 1 | 5.56% |
| G - Vehicle/Pedestrian | 6 | 33.33% |
| H - Other | 4 | 22.22% |

By Day of Week and Time

Number of Crashes per Day of Week per Time

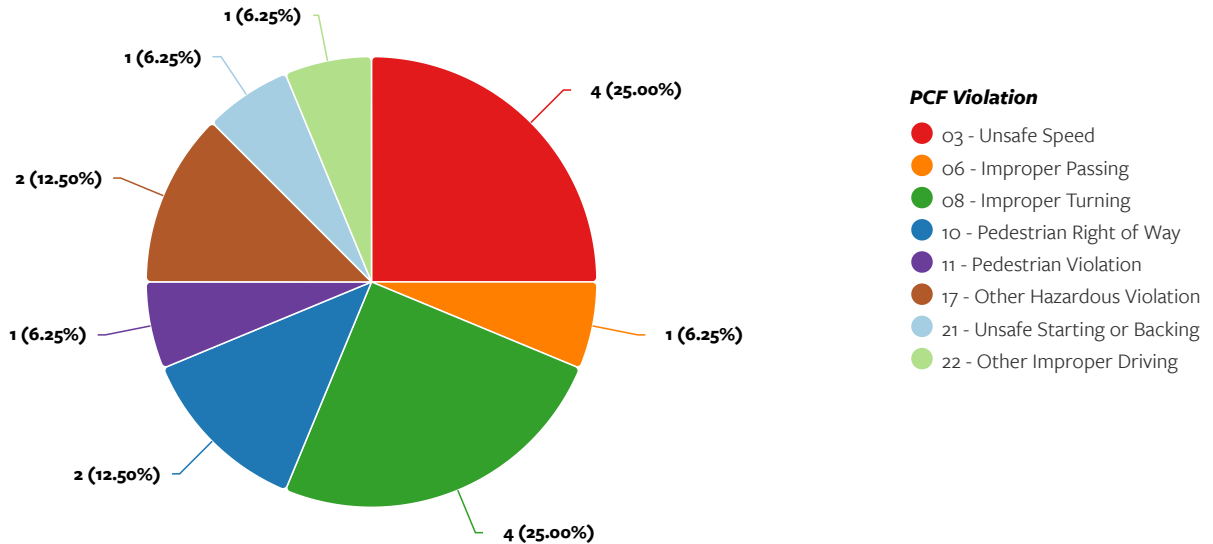
18 Crashes



By Primary Crash Factor (PCF) Violation

Number of Crashes by PCF Violation

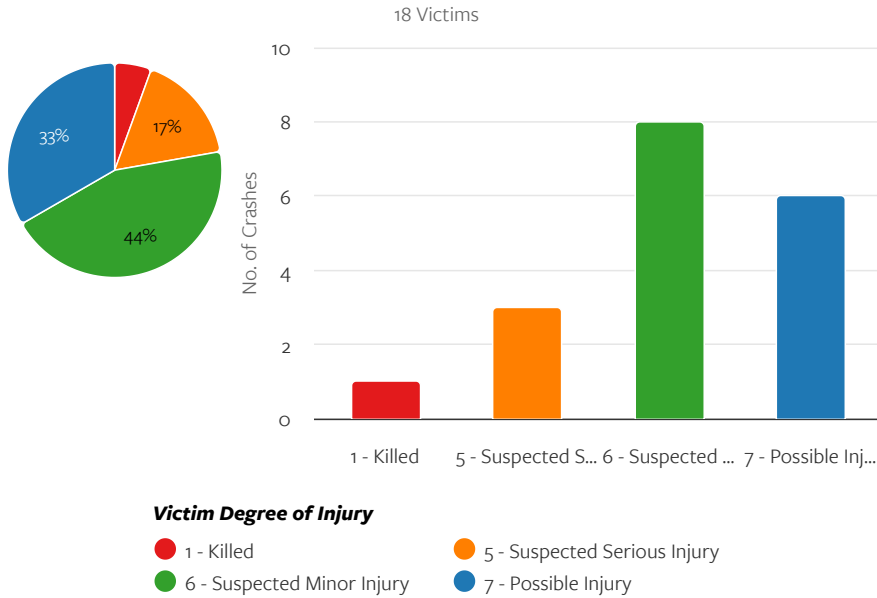
16 Crashes



Victim Summary

By Victim Degree of Injury

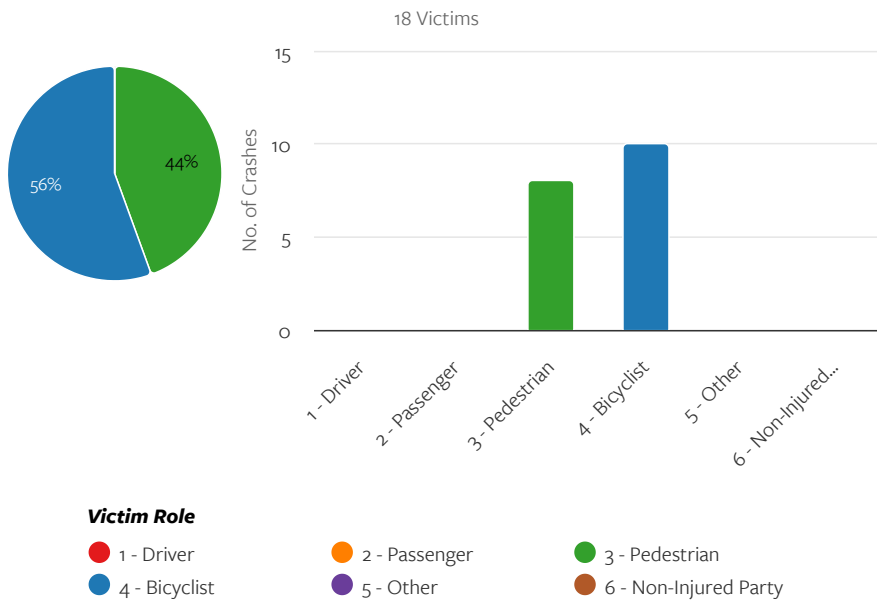
Number of Victims by Victim Degree of Injury



| Victim Degree of Injury | Count | % |
|------------------------------|-------|--------|
| 1 - Killed | 1 | 5.56% |
| 5 - Suspected Serious Injury | 3 | 16.67% |
| 6 - Suspected Minor Injury | 8 | 44.44% |
| 7 - Possible Injury | 6 | 33.33% |

By Victim Role

Number of Victims by Victim Role

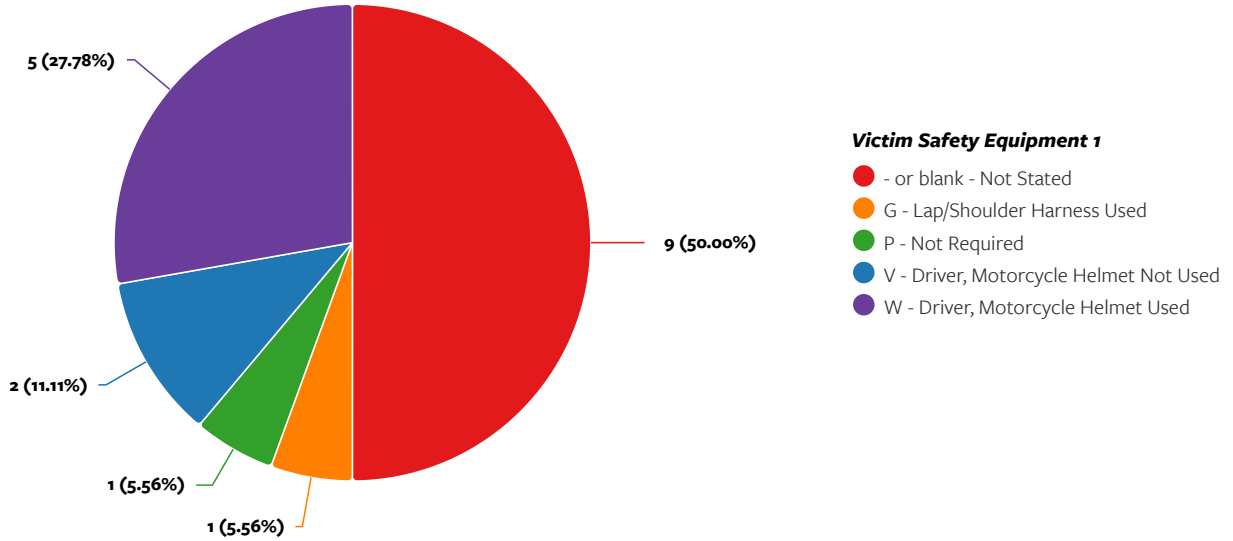


| Victim Role | Count | % |
|-----------------------|-------|--------|
| 1 - Driver | 0 | 0.00% |
| 2 - Passenger | 0 | 0.00% |
| 3 - Pedestrian | 8 | 44.44% |
| 4 - Bicyclist | 10 | 55.56% |
| 5 - Other | 0 | 0.00% |
| 6 - Non-Injured Party | 0 | 0.00% |

By Victim Safety Equipment 1

Number of Victims by Victim Safety Equipment 1

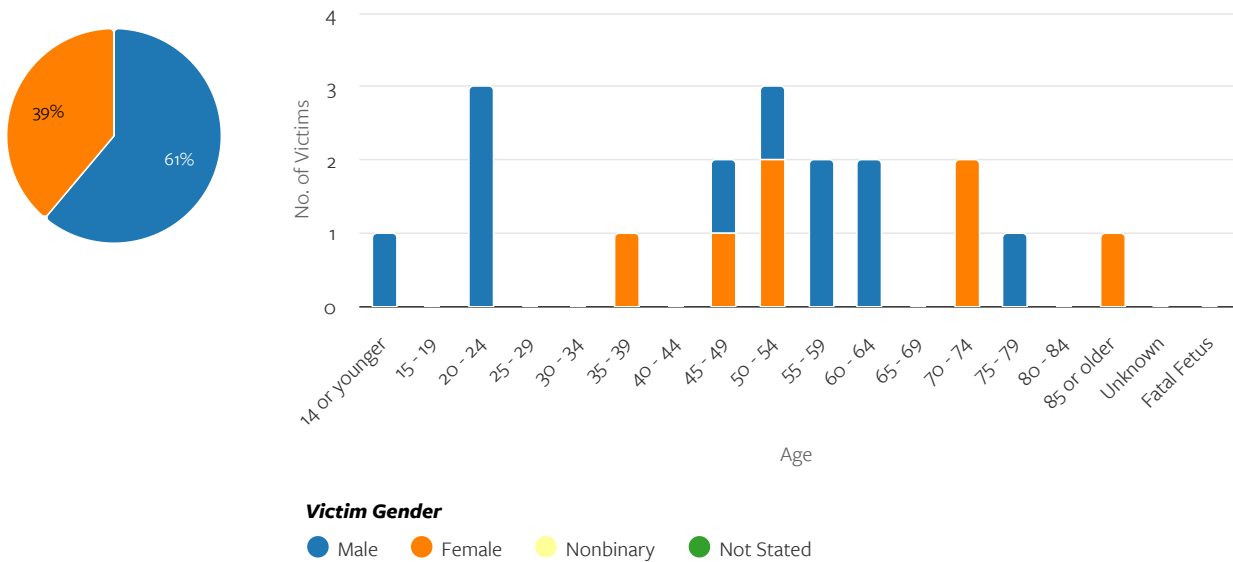
18 Victims



By Victim Gender and Age

Number of Victims by Victim Gender and Age

18 Victims

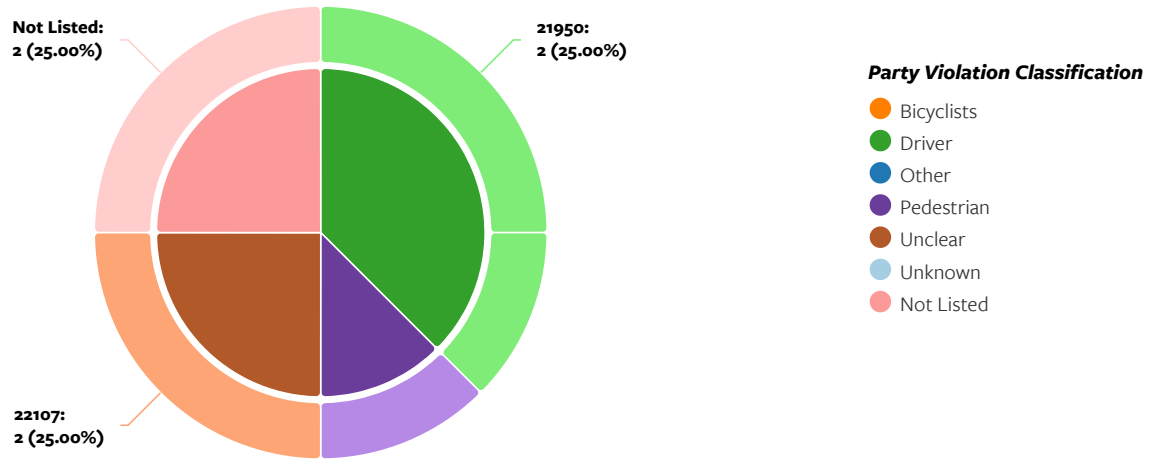


Ped Crash Summary

By Type of Violation

Number of Crashes by Type of Violation

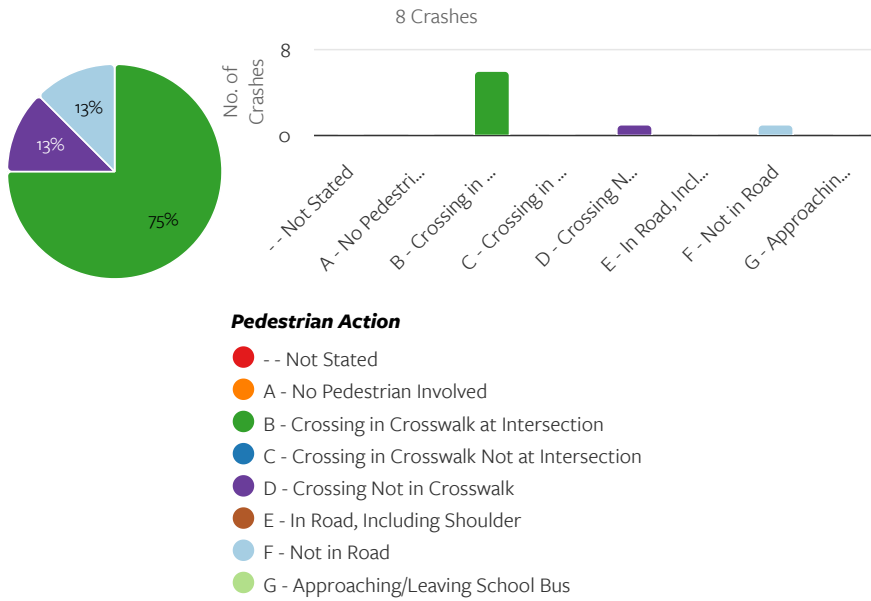
8 Crashes



| Party Violation Classification | Type of Violation | Description | Count | % |
|--------------------------------|-------------------|--|-------|--------|
| Driver | 21950 | Driver failure to yield right-of-way to pedestrians at a marked or unmarked crosswalk | 2 | 25.00% |
| Unclear | 22107 | Unsafe turning or moving right or left on a roadway Turning without signaling | 2 | 25.00% |
| Not Listed | Not Listed | Violation code was not included in the crash | 2 | 25.00% |
| Driver | 22106 | Unsafe starting or backing of a vehicle on a highway | 1 | 12.50% |
| Pedestrian | 21954 | Pedestrian failure to yield right-of-way to vehicles when crossing outside of a marked or unmarked crosswalk | 1 | 12.50% |

By Pedestrian Action

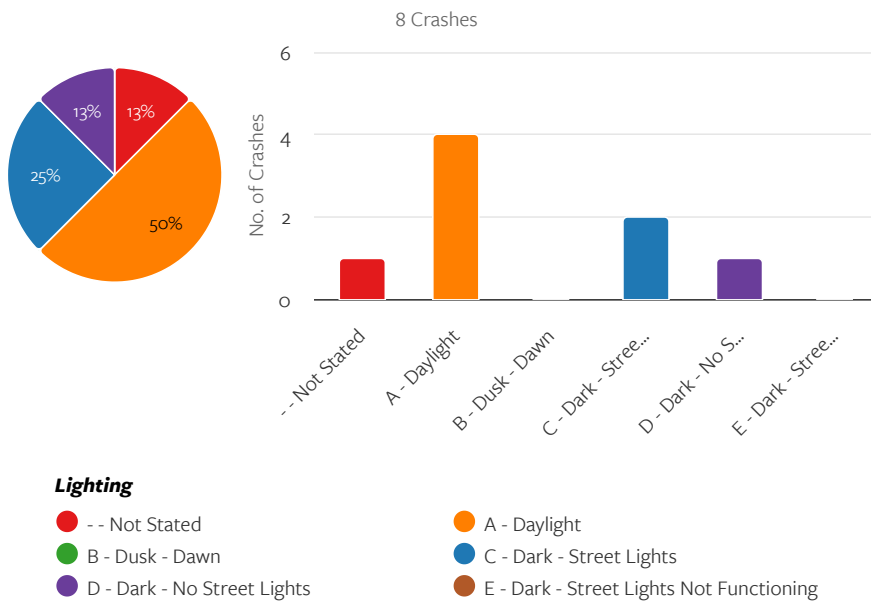
Number of Crashes by Pedestrian Action



| Pedestrian Action | Count | % |
|---|-------|--------|
| -- Not Stated | 0 | 0.00% |
| A - No Pedestrian Involved | 0 | 0.00% |
| B - Crossing in Crosswalk at Intersection | 6 | 75.00% |
| C - Crossing in Crosswalk Not at Intersection | 0 | 0.00% |
| D - Crossing Not in Crosswalk | 1 | 12.50% |
| E - In Road, Including Shoulder | 0 | 0.00% |
| F - Not in Road | 1 | 12.50% |
| G - Approaching/Leaving School Bus | 0 | 0.00% |

By Lighting

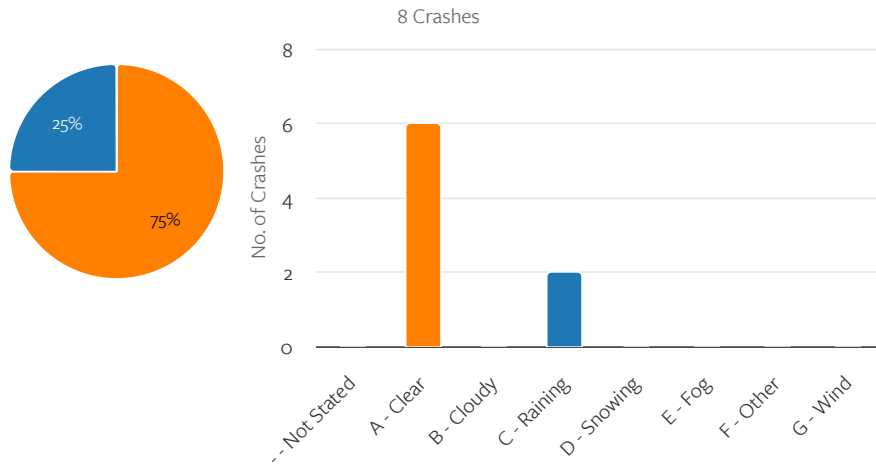
Number of Crashes by Lighting



| Lighting | Count | % |
|--|-------|--------|
| -- Not Stated | 1 | 12.50% |
| A - Daylight | 4 | 50.00% |
| B - Dusk - Dawn | 0 | 0.00% |
| C - Dark - Street Lights | 2 | 25.00% |
| D - Dark - No Street Lights | 1 | 12.50% |
| E - Dark - Street Lights Not Functioning | 0 | 0.00% |

By Weather

Number of Crashes by Weather



| Weather | Count | % |
|---------------|-------|--------|
| -- Not Stated | 0 | 0.00% |
| A - Clear | 6 | 75.00% |
| B - Cloudy | 0 | 0.00% |
| C - Raining | 2 | 25.00% |
| D - Snowing | 0 | 0.00% |
| E - Fog | 0 | 0.00% |
| F - Other | 0 | 0.00% |
| G - Wind | 0 | 0.00% |

Weather

- -- Not Stated
- A - Clear
- B - Cloudy
- C - Raining
- D - Snowing
- E - Fog
- F - Other
- G - Wind

CRASH DIAGRAM

Primary Street:

Secondary Street:

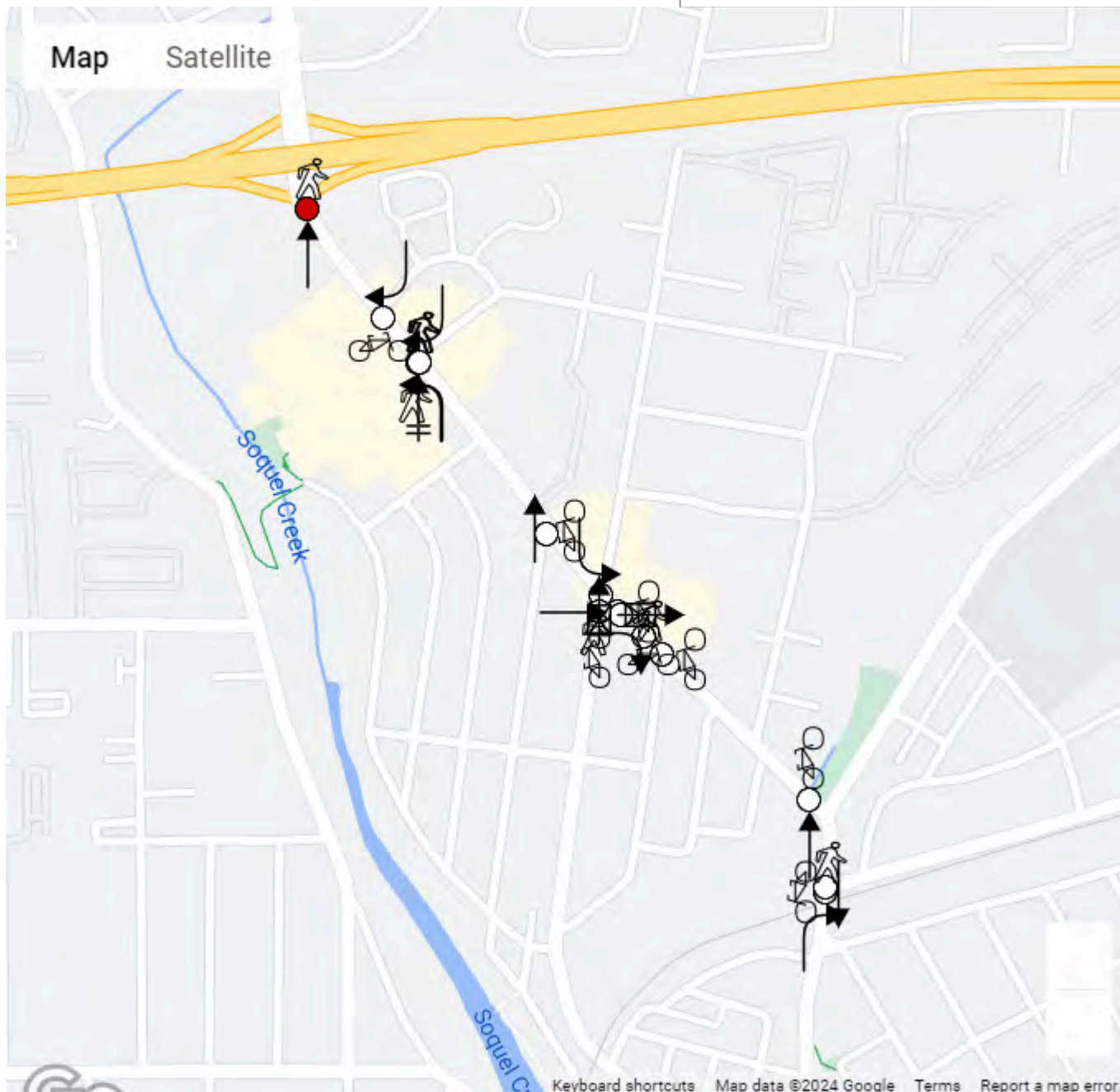
Time Period:

Agency Name:

Mapping Summary:

| | |
|--------------|----|
| Fatal Crash | 1 |
| Injury Crash | 15 |
| Mapped | 16 |
| Not Drawn | 2 |
| Total | 18 |

- Straight
- ↶ Left Turn
- ↷ Right Turn
- ↺ U-Turn
- ↶ Overturned
- ↷ Ran Off Road
- ⊞ Stopped
- ⊞ Parked
- 🚶 Pedestrian
- 🚲 Bicycle
- ⊞ Object
- Fatal Crash
- Injury Crash



Date Created: 06/06/2024

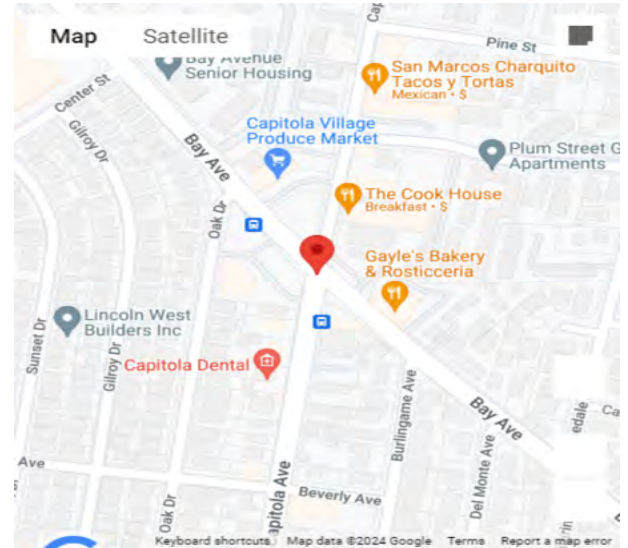
Created by TIMS (<https://tims.berkeley.edu>) © UC Regents, 2014-2024

Crash Details for: Case ID 6483008

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 04/24/2014 11:00 | | |
| Location (Intersection) | Bay Av & Capitola Av | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.97867, -121.9531299 | | |
| Type of Crash | G - Vehicle/Pedestrian | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | - - Not Stated | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | E - Making Left Turn |
| 2 | 2 - Pedestrian | N - Pedestrian | No | South | R - Other |

Victims: 1

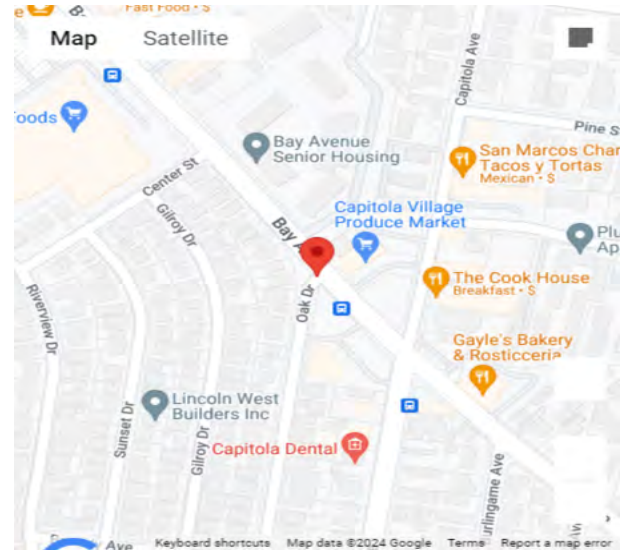
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|-------------------------|
| 2 | 3 - Pedestrian | F - Female | 70 | 7 - Possible Injury |

Crash Details for: Case ID 6487930

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 05/06/2014 07:21 | | |
| Location (Intersection) | Oak Dr & Bay Av | | |
| Dist. & Dir. from Intersection | 37.00 ft South | | |
| State Highway | No | | |
| Geocoded Location | 36.9793094, -121.9538479 | | |
| Type of Crash | B - Sideswipe | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 06 - Improper Passing | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | I - Passing Other Vehicle |
| 2 | 4 - Bicyclist | L - Bicycle | No | North | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 2 | 4 - Bicyclist | M - Male | 54 | 7 - Possible Injury |

Crash Details for: Case ID 6511924

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 06/03/2014 14:04 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9811, -121.95551 | | |
| Type of Crash | G - Vehicle/Pedestrian | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | - - Not Stated | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | A - Stopped |
| 2 | 2 - Pedestrian | N - Pedestrian | No | - | - - Not Stated |

Victims: 1

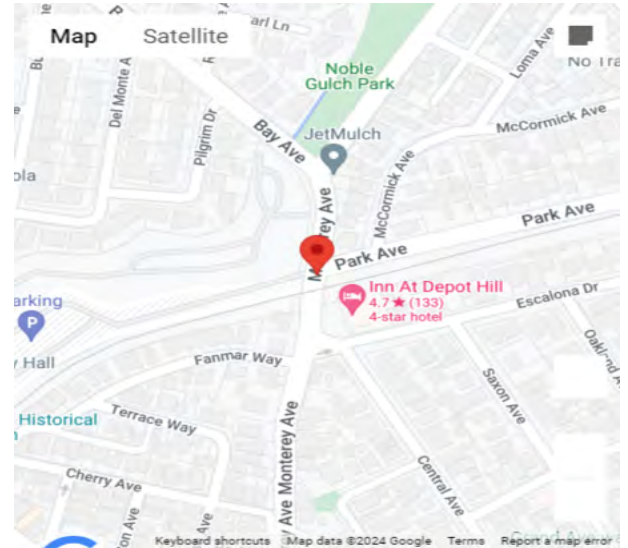
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|-------------------------|
| 2 | 3 - Pedestrian | F - Female | 36 | 7 - Possible Injury |

Crash Details for: Case ID 6748318

Crash Information

| | | | |
|--------------------------------|------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 12/03/2014 10:41 | | |
| Location (Intersection) | Monterey Av & Park Av | | |
| Dist. & Dir. from Intersection | 18.00 ft South | | |
| State Highway | No | | |
| Geocoded Location | 36.9755907, -121.9502255 | | |
| Type of Crash | G - Vehicle/Pedestrian | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 10 - Pedestrian Right of Way | | |
| Weather | C - Raining | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | D - Making Right Turn |
| 2 | 2 - Pedestrian | N - Pedestrian | No | - | A - Stopped |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|----------------------------|
| 2 | 3 - Pedestrian | F - Female | 53 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 6864222

Crash Information

| | | | |
|--------------------------------|---------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 03/19/2015 12:43 | | |
| Location (Intersection) | Bay Av & Capitola Av | | |
| Dist. & Dir. from Intersection | 83.00 ft East | | |
| State Highway | No | | |
| Geocoded Location | 36.9785132, -121.9529236 | | |
| Type of Crash | G - Vehicle/Pedestrian | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 21 - Unsafe Starting or Backing | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | G - Backing |
| 2 | 2 - Pedestrian | N - Pedestrian | No | East | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|-------------------------|
| 2 | 3 - Pedestrian | M - Male | 62 | 7 - Possible Injury |

Crash Details for: Case ID 6889427

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 04/04/2015 12:50 | | |
| Location (Intersection) | Bay Av & Bay Av 504 | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9784767, -121.9528824 | | |
| Type of Crash | H - Other | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 2 - Injury (Severe) | | |
| PCF Violation Category | 17 - Other Hazardous Violation | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|--------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 3 - Parked Vehicle | A - Passenger Car/Station Wagon | Yes | North | O - Parked |
| 2 | 4 - Bicyclist | L - Bicycle | No | North | B - Proceeding Straight |

Victims: 1

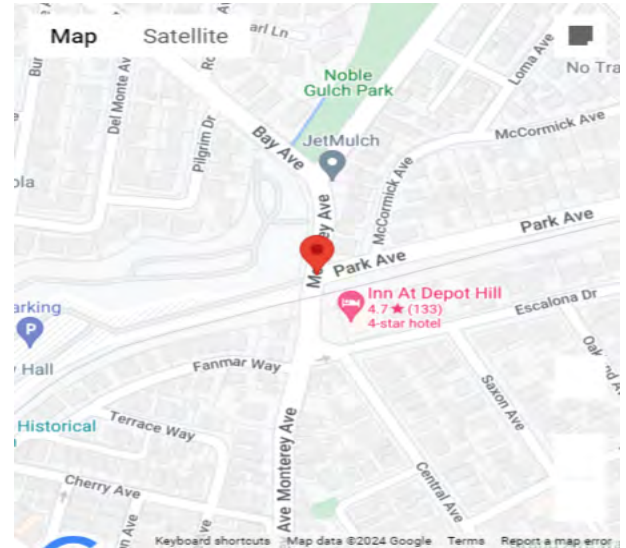
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|------------------------------|
| 2 | 4 - Bicyclist | M - Male | 21 | 5 - Suspected Serious Injury |

Crash Details for: Case ID 7063888

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 07/20/2015 19:19 | | |
| Location (Intersection) | Monterey Av & Park Pl | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.97564, -121.95022 | | |
| Type of Crash | H - Other | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 17 - Other Hazardous Violation | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|--------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 3 - Parked Vehicle | A - Passenger Car/Station Wagon | Yes | - | O - Parked |
| 2 | 4 - Bicyclist | L - Bicycle | No | - | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 2 | 4 - Bicyclist | M - Male | 46 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 8152095

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 10/07/2016 21:28 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9811, -121.95551 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 08 - Improper Turning | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | E - Making Left Turn |
| 2 | 2 - Pedestrian | N - Pedestrian | No | West | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|-------------------------|
| 2 | 3 - Pedestrian | F - Female | 53 | 7 - Possible Injury |

Crash Details for: Case ID 8339317

Crash Information

| | | | |
|--------------------------------|-----------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 03/26/2017 12:07 | | |
| Location (Intersection) | Bay Av & Burlingame Av | | |
| Dist. & Dir. from Intersection | 90.00 ft North | | |
| State Highway | No | | |
| Geocoded Location | 36.9782415, -121.952572 | | |
| Type of Crash | H - Other | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 22 - Other Improper Driving | | |
| Weather | B - Cloudy | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | East | O - Parked |
| 2 | 4 - Bicyclist | L - Bicycle | No | East | - - Not Stated |

Victims: 1

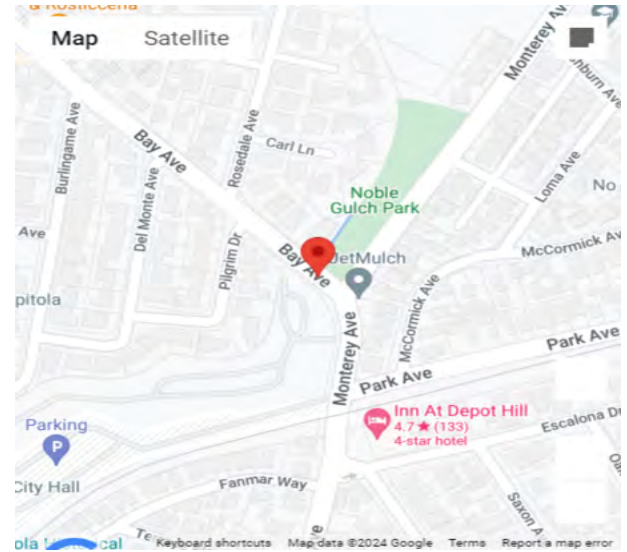
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 2 | 4 - Bicyclist | M - Male | 61 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 90781844

Crash Information

| | | | |
|--------------------------------|----------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 07/21/2018 16:05 | | |
| Location (Intersection) | Bay Ave & Monterey Ave | | |
| Dist. & Dir. from Intersection | 100.00 ft North | | |
| State Highway | No | | |
| Geocoded Location | 36.9765549, -121.9504242 | | |
| Type of Crash | C - Rear End | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 4 - Bicyclist | L - Bicycle | Yes | North | B - Proceeding Straight |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | H - Slowing/Stopping |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 1 | 4 - Bicyclist | M - Male | 23 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 8701088

Crash Information

| | | | |
|--------------------------------|--------------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 08/13/2018 20:13 | | |
| Location (Intersection) | Bay Av & Hill Av | | |
| Dist. & Dir. from Intersection | 213.00 ft North | | |
| State Highway | No | | |
| Geocoded Location | 36.9815598, -121.9559631 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 4 - Injury (Complaint of Pain) | | |
| PCF Violation Category | 08 - Improper Turning | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | South | D - Making Right Turn |
| 2 | 4 - Bicyclist | L - Bicycle | No | South | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|-------------------------|
| 2 | 4 - Bicyclist | M - Male | 22 | 7 - Possible Injury |

Crash Details for: Case ID 8648318

Crash Information

| | | | |
|--------------------------------|---------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 10/06/2018 19:46 | | |
| Location (Intersection) | Bay Av & Rt 1 | | |
| Dist. & Dir. from Intersection | 218.00 ft South | | |
| State Highway | No | | |
| Geocoded Location | 36.9826889, -121.9569473 | | |
| Type of Crash | G - Vehicle/Pedestrian | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 1 - Fatal | | |
| PCF Violation Category | 11 - Pedestrian Violation | | |
| Weather | A - Clear | | |
| Alcohol Involved | Yes | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 2 - Pedestrian | N - Pedestrian | Yes | - | R - Other |
| 2 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | No | North | B - Proceeding Straight |

Victims: 1

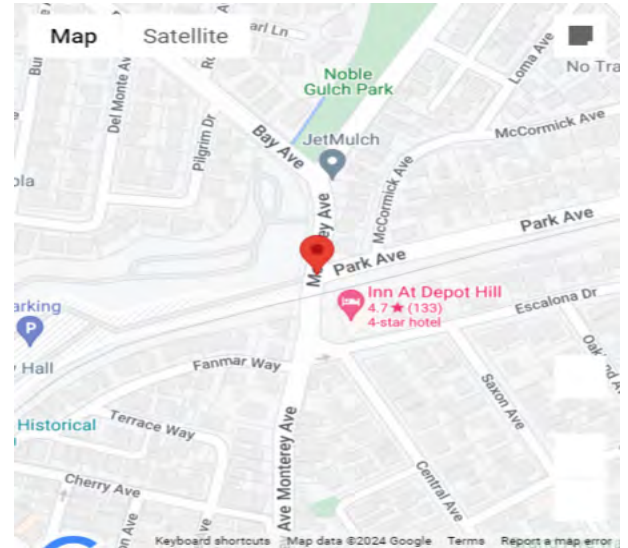
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|-------------------------|
| 1 | 3 - Pedestrian | M - Male | 59 | 1 - Killed |

Crash Details for: Case ID 9007558

Crash Information

| | | | |
|--------------------------------|----------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 11/22/2019 13:57 | | |
| Location (Intersection) | Monterey Av & Park Av | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9756393, -121.9502182 | | |
| Type of Crash | B - Sideswipe | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 08 - Improper Turning | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------|----------|-----------------|------------------------------|
| 1 | 4 - Bicyclist | L - Bicycle | Yes | South | E - Making Left Turn |
| 2 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | No | South | B - Proceeding Straight |

Victims: 2

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 1 | 4 - Bicyclist | M - Male | 77 | 6 - Suspected Minor Injury |
| 2 | 2 - Passenger | F - Female | 0 | 0 - No Injury |

Crash Details for: Case ID 9472209

Crash Information

| | | | |
|--------------------------------|--------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 05/05/2022 17:48 | | |
| Location (Intersection) | Bay Av & Oak Dr | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9794083, -121.9538269 | | |
| Type of Crash | H - Other | | |
| Motor Vehicle Involved With | - - Not Stated | | |
| Crash Severity | 2 - Injury (Severe) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | Yes | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 1

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|---------------|------------------------|----------|-----------------|------------------------------|
| 1 | 4 - Bicyclist | L - Bicycle | Yes | South | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|------------------------------|
| 1 | 4 - Bicyclist | M - Male | 59 | 5 - Suspected Serious Injury |

Crash Details for: Case ID 9495924

Crash Information

| | | | |
|--------------------------------|----------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 09/04/2022 20:42 | | |
| Location (Intersection) | Capitola Av & Bay Av | | |
| Dist. & Dir. from Intersection | 58.00 ft South | | |
| State Highway | No | | |
| Geocoded Location | 36.9785118, -121.9531555 | | |
| Type of Crash | F - Overturned | | |
| Motor Vehicle Involved With | A - Non-Collision | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | Yes | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 1

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|---------------|------------------------|----------|-----------------|------------------------------|
| 1 | 4 - Bicyclist | L - Bicycle | Yes | North | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 1 | 4 - Bicyclist | F - Female | 45 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 9534052

Crash Information

| | | | |
|--------------------------------|--------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 12/09/2022 18:24 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9810982, -121.9555054 | | |
| Type of Crash | G - Vehicle/Pedestrian | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 2 - Injury (Severe) | | |
| PCF Violation Category | 08 - Improper Turning | | |
| Weather | A - Clear | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | D - Pickup or Panel Truck | Yes | South | D - Making Right Turn |
| 2 | 2 - Pedestrian | N - Pedestrian | No | East | B - Proceeding Straight |

Victims: 1

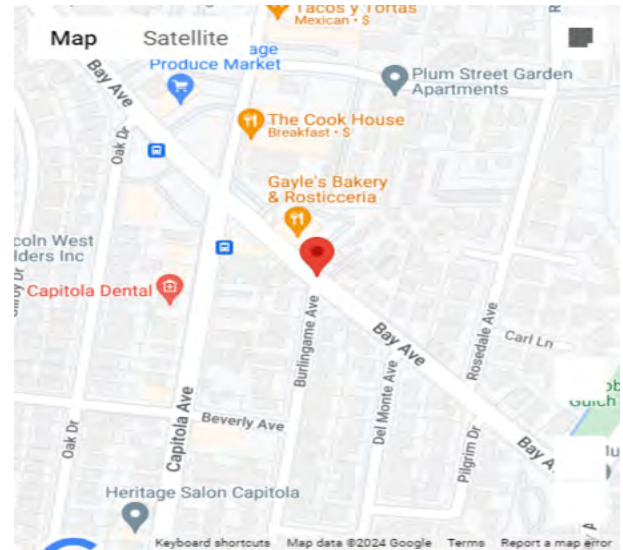
| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|------------------------------|
| 2 | 3 - Pedestrian | F - Female | 74 | 5 - Suspected Serious Injury |

Crash Details for: Case ID 9549472

Crash Information

| | | | |
|--------------------------------|----------------------------|---------------|-----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 02/01/2023 08:15 | | |
| Location (Intersection) | Bay Av & Burlingame Av | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9780655, -121.9523468 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | G - Bicycle | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 03 - Unsafe Speed | | |
| Weather | A - Clear | | |
| Alcohol Involved | Yes | | |
| Pedestrian Crash | No | Bicycle Crash | Yes |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | East | D - Making Right Turn |
| 2 | 4 - Bicyclist | L - Bicycle | No | East | B - Proceeding Straight |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|---------------|---------------|------------|----------------------------|
| 2 | 4 - Bicyclist | M - Male | 0 | 6 - Suspected Minor Injury |

Crash Details for: Case ID 9625425

Crash Information

| | | | |
|--------------------------------|------------------------------|---------------|----|
| County | Santa Cruz | | |
| City | Capitola | | |
| Date & Time (M/D/Y) | 08/24/2023 08:40 | | |
| Location (Intersection) | Bay Av & Hill St | | |
| Dist. & Dir. from Intersection | At Intersection | | |
| State Highway | No | | |
| Geocoded Location | 36.9810982, -121.9555054 | | |
| Type of Crash | D - Broadside | | |
| Motor Vehicle Involved With | B - Pedestrian | | |
| Crash Severity | 3 - Injury (Other Visible) | | |
| PCF Violation Category | 10 - Pedestrian Right of Way | | |
| Weather | C - Raining | | |
| Alcohol Involved | No | | |
| Pedestrian Crash | Yes | Bicycle Crash | No |
| Motorcycle Crash | No | Truck Crash | No |

Map View



Street View



Parties: 2

| Party Number | Party Type | Statewide Vehicle Type | At Fault | Party Direction | Movement Preceding Collision |
|--------------|------------------------------------|---------------------------------|----------|-----------------|------------------------------|
| 1 | 1 - Driver (including Hit and Run) | A - Passenger Car/Station Wagon | Yes | North | E - Making Left Turn |
| 2 | 2 - Pedestrian | N - Pedestrian | No | - | -- Not Stated |

Victims: 1

| Party Number | Victim Role | Victim Gender | Victim Age | Victim Degree of Injury |
|--------------|----------------|---------------|------------|----------------------------|
| 2 | 3 - Pedestrian | F - Female | 86 | 6 - Suspected Minor Injury |

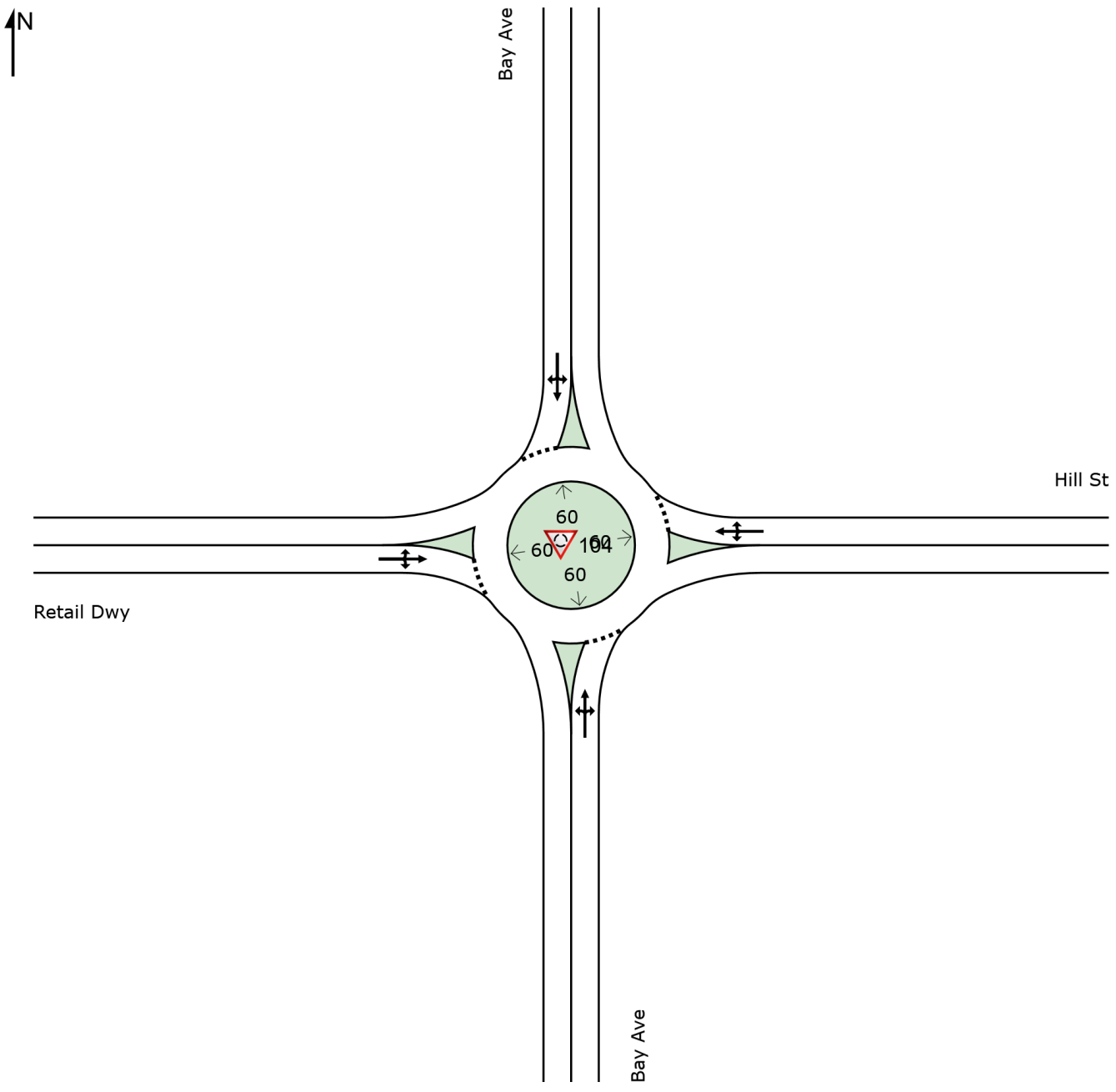
Attachment C – VISSIM and SIDRA LOS Results (Stop and Roundabout Alternatives)

SITE LAYOUT

Site: 104 [Bay/Hill (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

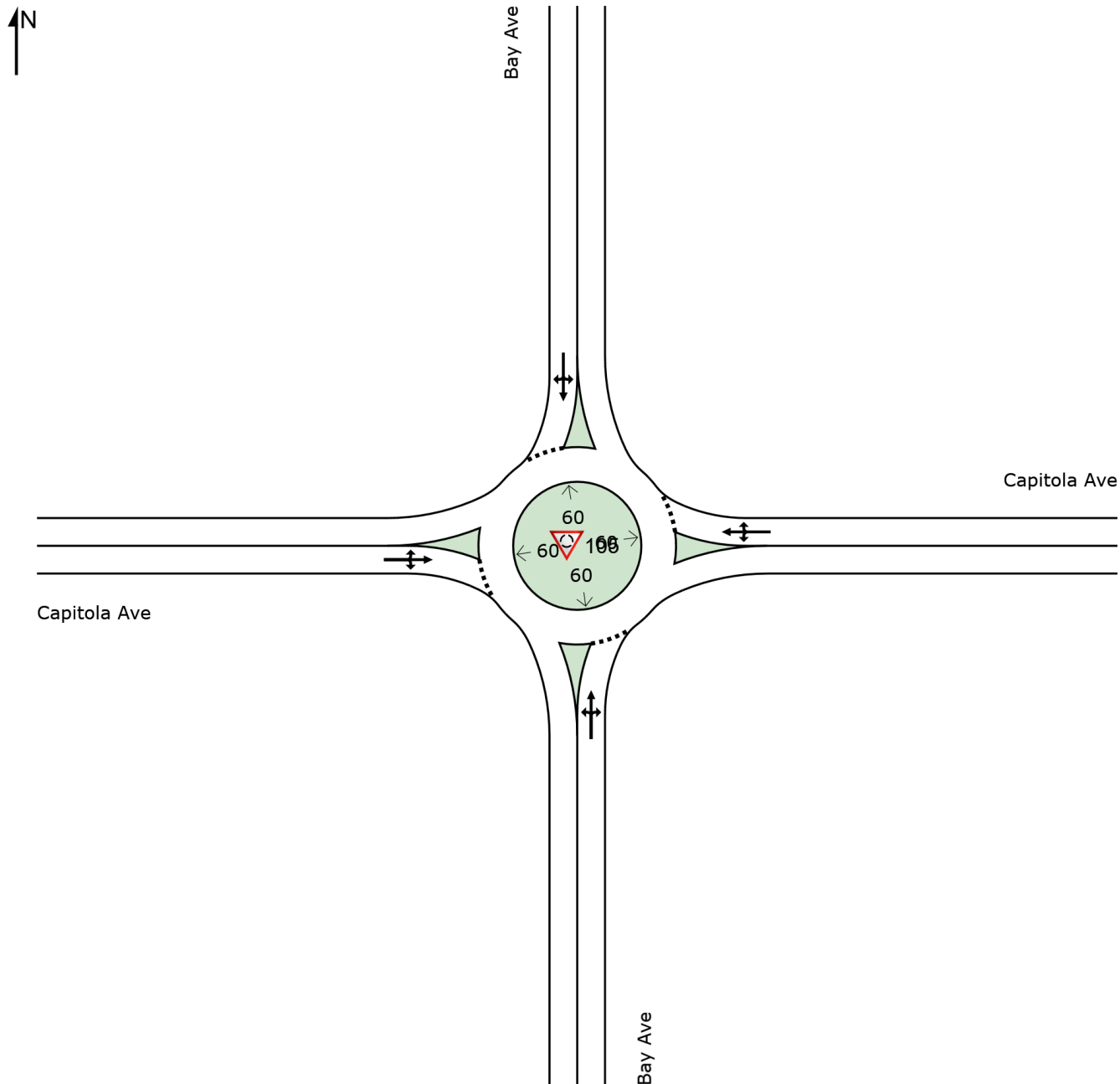


SITE LAYOUT

Site: 105 [Bay/Capitola (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

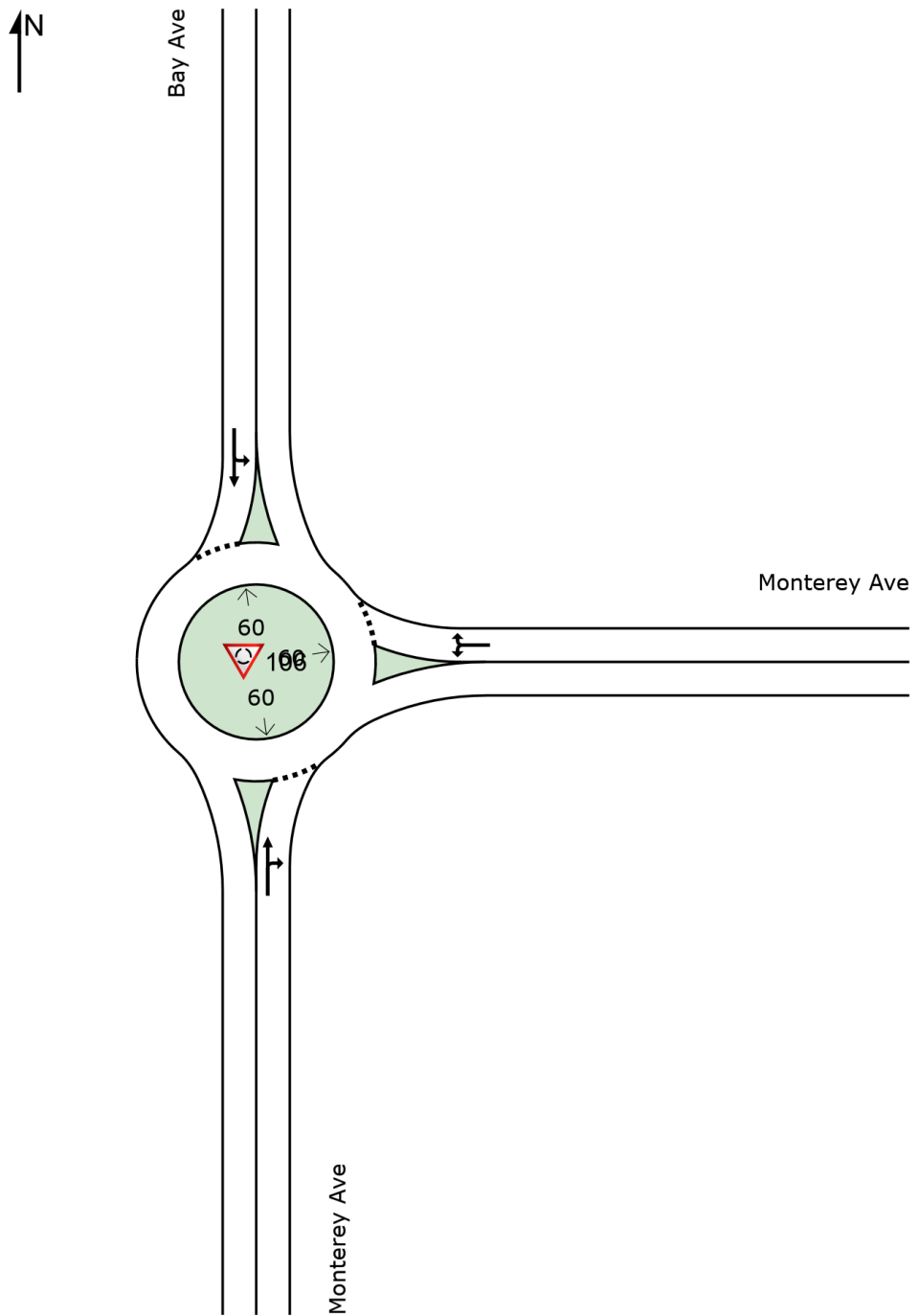


SITE LAYOUT

Site: 106 [Bay/Monterey (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

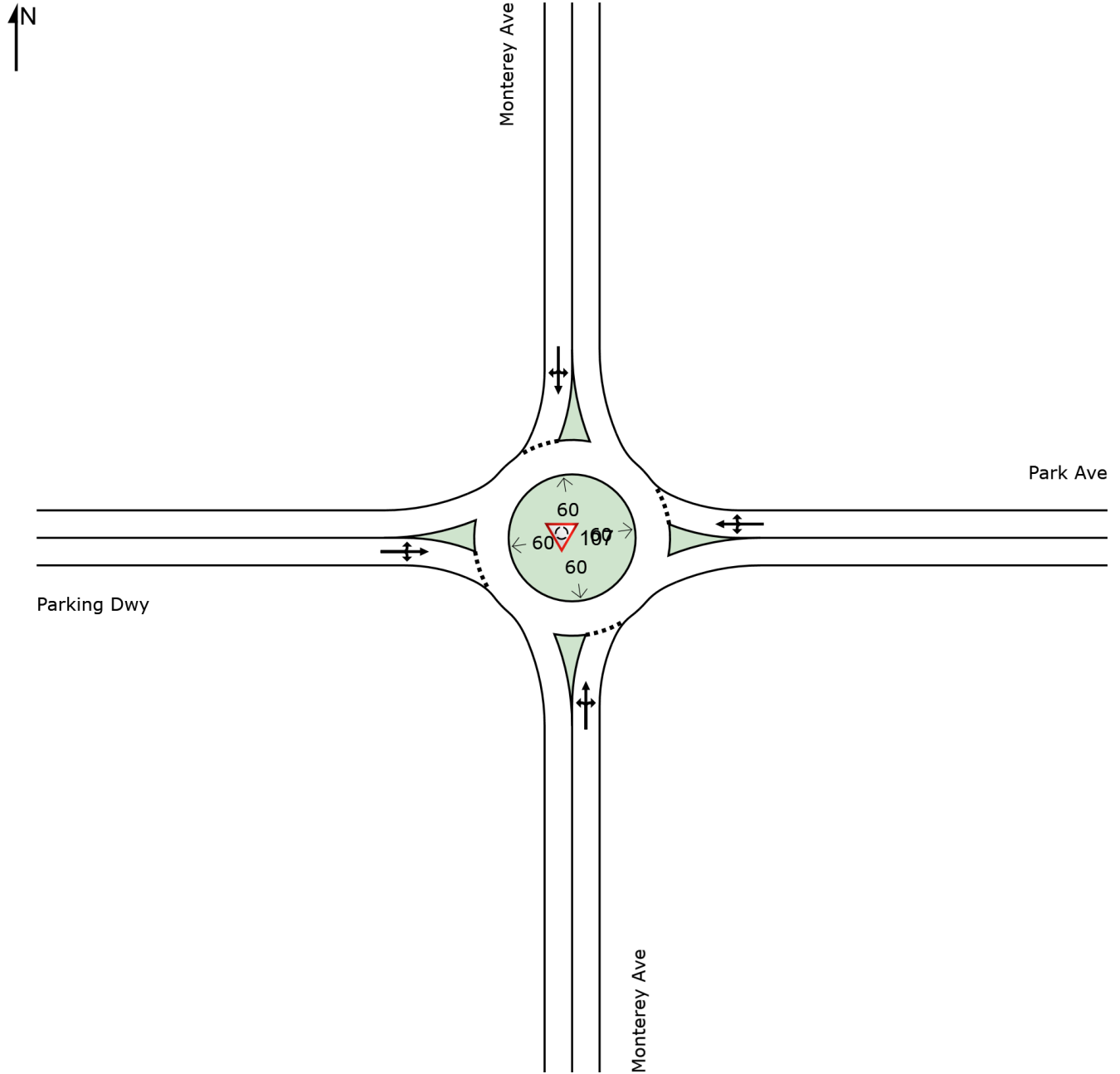


SITE LAYOUT

 Site: 107 [Monterey/Park (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 57 | 3.0 | 62 | 3.0 | 0.482 | 8.4 | LOS A | 3.2 | 81.9 | 0.46 | 0.30 | 0.46 | 32.0 |
| 8 | T1 | 441 | 3.0 | 479 | 3.0 | 0.482 | 8.4 | LOS A | 3.2 | 81.9 | 0.46 | 0.30 | 0.46 | 23.9 |
| 18 | R2 | 10 | 3.0 | 11 | 3.0 | 0.482 | 8.4 | LOS A | 3.2 | 81.9 | 0.46 | 0.30 | 0.46 | 31.5 |
| Approach | | 508 | 3.0 | 552 | 3.0 | 0.482 | 8.4 | LOS A | 3.2 | 81.9 | 0.46 | 0.30 | 0.46 | 25.3 |
| East: Hill St | | | | | | | | | | | | | | |
| 1 | L2 | 9 | 3.0 | 10 | 3.0 | 0.269 | 8.2 | LOS A | 1.2 | 29.8 | 0.63 | 0.63 | 0.63 | 32.3 |
| 6 | T1 | 28 | 3.0 | 30 | 3.0 | 0.269 | 8.2 | LOS A | 1.2 | 29.8 | 0.63 | 0.63 | 0.63 | 32.4 |
| 16 | R2 | 142 | 3.0 | 154 | 3.0 | 0.269 | 8.2 | LOS A | 1.2 | 29.8 | 0.63 | 0.63 | 0.63 | 24.9 |
| Approach | | 179 | 3.0 | 195 | 3.0 | 0.269 | 8.2 | LOS A | 1.2 | 29.8 | 0.63 | 0.63 | 0.63 | 26.9 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 75 | 3.0 | 82 | 3.0 | 0.436 | 7.5 | LOS A | 2.8 | 72.3 | 0.36 | 0.20 | 0.36 | 29.3 |
| 4 | T1 | 377 | 3.0 | 410 | 3.0 | 0.436 | 7.5 | LOS A | 2.8 | 72.3 | 0.36 | 0.20 | 0.36 | 29.6 |
| 14 | R2 | 31 | 3.0 | 34 | 3.0 | 0.436 | 7.5 | LOS A | 2.8 | 72.3 | 0.36 | 0.20 | 0.36 | 28.6 |
| Approach | | 483 | 3.0 | 525 | 3.0 | 0.436 | 7.5 | LOS A | 2.8 | 72.3 | 0.36 | 0.20 | 0.36 | 29.5 |
| West: Retail Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 43 | 3.0 | 47 | 3.0 | 0.139 | 6.0 | LOS A | 0.6 | 14.5 | 0.55 | 0.49 | 0.55 | 24.2 |
| 2 | T1 | 19 | 3.0 | 21 | 3.0 | 0.139 | 6.0 | LOS A | 0.6 | 14.5 | 0.55 | 0.49 | 0.55 | 32.7 |
| 12 | R2 | 39 | 3.0 | 42 | 3.0 | 0.139 | 6.0 | LOS A | 0.6 | 14.5 | 0.55 | 0.49 | 0.55 | 32.0 |
| Approach | | 101 | 3.0 | 110 | 3.0 | 0.139 | 6.0 | LOS A | 0.6 | 14.5 | 0.55 | 0.49 | 0.55 | 29.3 |
| All Vehicles | | 1271 | 3.0 | 1382 | 3.0 | 0.482 | 7.8 | LOS A | 3.2 | 81.9 | 0.46 | 0.33 | 0.46 | 27.3 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 105 [Bay/Capitola (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 27 | 3.0 | 29 | 3.0 | 0.407 | 7.8 | LOS A | 2.3 | 59.4 | 0.51 | 0.38 | 0.51 | 32.4 |
| 8 | T1 | 312 | 3.0 | 339 | 3.0 | 0.407 | 7.8 | LOS A | 2.3 | 59.4 | 0.51 | 0.38 | 0.51 | 32.5 |
| 18 | R2 | 55 | 3.0 | 60 | 3.0 | 0.407 | 7.8 | LOS A | 2.3 | 59.4 | 0.51 | 0.38 | 0.51 | 31.9 |
| Approach | | 394 | 3.0 | 428 | 3.0 | 0.407 | 7.8 | LOS A | 2.3 | 59.4 | 0.51 | 0.38 | 0.51 | 32.4 |
| East: Capitola Ave | | | | | | | | | | | | | | |
| 1 | L2 | 83 | 3.0 | 90 | 3.0 | 0.283 | 7.4 | LOS A | 1.3 | 33.3 | 0.58 | 0.53 | 0.58 | 32.0 |
| 6 | T1 | 94 | 3.0 | 102 | 3.0 | 0.283 | 7.4 | LOS A | 1.3 | 33.3 | 0.58 | 0.53 | 0.58 | 32.1 |
| 16 | R2 | 42 | 3.0 | 46 | 3.0 | 0.283 | 7.4 | LOS A | 1.3 | 33.3 | 0.58 | 0.53 | 0.58 | 31.4 |
| Approach | | 219 | 3.0 | 238 | 3.0 | 0.283 | 7.4 | LOS A | 1.3 | 33.3 | 0.58 | 0.53 | 0.58 | 31.9 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 74 | 3.0 | 80 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 32.3 |
| 4 | T1 | 183 | 3.0 | 199 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 32.4 |
| 14 | R2 | 128 | 3.0 | 139 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 31.7 |
| Approach | | 385 | 3.0 | 418 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 32.1 |
| West: Capitola Ave | | | | | | | | | | | | | | |
| 5 | L2 | 70 | 3.0 | 76 | 3.0 | 0.171 | 5.6 | LOS A | 0.7 | 19.0 | 0.50 | 0.41 | 0.50 | 32.6 |
| 2 | T1 | 67 | 3.0 | 73 | 3.0 | 0.171 | 5.6 | LOS A | 0.7 | 19.0 | 0.50 | 0.41 | 0.50 | 32.7 |
| 12 | R2 | 6 | 3.0 | 7 | 3.0 | 0.171 | 5.6 | LOS A | 0.7 | 19.0 | 0.50 | 0.41 | 0.50 | 32.0 |
| Approach | | 143 | 3.0 | 155 | 3.0 | 0.171 | 5.6 | LOS A | 0.7 | 19.0 | 0.50 | 0.41 | 0.50 | 32.6 |
| All Vehicles | | 1141 | 3.0 | 1240 | 3.0 | 0.407 | 7.4 | LOS A | 2.3 | 59.4 | 0.52 | 0.41 | 0.52 | 32.3 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|---------------|------|---------------|------|-----------|-------------|------------------|-------------------|-----------|-----------|---------------------|------------------|-------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn | Aver. Delay | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed |
| | | [Total veh/h | HV % | [Total veh/h | HV % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 8 | T1 | 162 | 3.0 | 176 | 3.0 | 0.232 | 5.7 | LOS A | 1.1 | 28.3 | 0.43 | 0.31 | 0.43 | 31.2 |
| 18 | R2 | 61 | 3.0 | 66 | 3.0 | 0.232 | 5.7 | LOS A | 1.1 | 28.3 | 0.43 | 0.31 | 0.43 | 30.1 |
| Approach | | 223 | 3.0 | 242 | 3.0 | 0.232 | 5.7 | LOS A | 1.1 | 28.3 | 0.43 | 0.31 | 0.43 | 30.9 |
| East: Monterey Ave | | | | | | | | | | | | | | |
| 1 | L2 | 87 | 3.0 | 95 | 3.0 | 0.360 | 6.8 | LOS A | 2.0 | 51.5 | 0.43 | 0.29 | 0.43 | 27.2 |
| 16 | R2 | 282 | 3.0 | 307 | 3.0 | 0.360 | 6.8 | LOS A | 2.0 | 51.5 | 0.43 | 0.29 | 0.43 | 32.0 |
| Approach | | 369 | 3.0 | 401 | 3.0 | 0.360 | 6.8 | LOS A | 2.0 | 51.5 | 0.43 | 0.29 | 0.43 | 31.1 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 219 | 3.0 | 238 | 3.0 | 0.271 | 5.4 | LOS A | 1.4 | 36.7 | 0.28 | 0.15 | 0.28 | 32.2 |
| 4 | T1 | 84 | 3.0 | 91 | 3.0 | 0.271 | 5.4 | LOS A | 1.4 | 36.7 | 0.28 | 0.15 | 0.28 | 27.6 |
| Approach | | 303 | 3.0 | 329 | 3.0 | 0.271 | 5.4 | LOS A | 1.4 | 36.7 | 0.28 | 0.15 | 0.28 | 31.2 |
| All Vehicles | | 895 | 3.0 | 973 | 3.0 | 0.360 | 6.1 | LOS A | 2.0 | 51.5 | 0.38 | 0.25 | 0.38 | 31.1 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 107 [Monterey/Park (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 3 | L2 | 1 | 3.0 | 1 | 3.0 | 0.300 | 5.6 | LOS A | 1.7 | 42.8 | 0.22 | 0.09 | 0.22 | 31.1 |
| 8 | T1 | 123 | 3.0 | 134 | 3.0 | 0.300 | 5.6 | LOS A | 1.7 | 42.8 | 0.22 | 0.09 | 0.22 | 12.9 |
| 18 | R2 | 225 | 3.0 | 245 | 3.0 | 0.300 | 5.6 | LOS A | 1.7 | 42.8 | 0.22 | 0.09 | 0.22 | 30.2 |
| Approach | | 349 | 3.0 | 379 | 3.0 | 0.300 | 5.6 | LOS A | 1.7 | 42.8 | 0.22 | 0.09 | 0.22 | 26.0 |
| East: Park Ave | | | | | | | | | | | | | | |
| 1 | L2 | 418 | 3.0 | 454 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 25.2 |
| 6 | T1 | 3 | 3.0 | 3 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 30.9 |
| 16 | R2 | 100 | 3.0 | 109 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 25.5 |
| Approach | | 521 | 3.0 | 566 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 25.3 |
| North: Monterey Ave | | | | | | | | | | | | | | |
| 7 | L2 | 41 | 3.0 | 45 | 3.0 | 0.225 | 6.7 | LOS A | 1.0 | 25.2 | 0.56 | 0.51 | 0.56 | 29.5 |
| 4 | T1 | 126 | 3.0 | 137 | 3.0 | 0.225 | 6.7 | LOS A | 1.0 | 25.2 | 0.56 | 0.51 | 0.56 | 16.3 |
| 14 | R2 | 4 | 3.0 | 4 | 3.0 | 0.225 | 6.7 | LOS A | 1.0 | 25.2 | 0.56 | 0.51 | 0.56 | 28.8 |
| Approach | | 171 | 3.0 | 186 | 3.0 | 0.225 | 6.7 | LOS A | 1.0 | 25.2 | 0.56 | 0.51 | 0.56 | 21.9 |
| West: Parking Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 1 | 3.0 | 1 | 3.0 | 0.017 | 5.4 | LOS A | 0.1 | 1.7 | 0.56 | 0.44 | 0.56 | 25.2 |
| 2 | T1 | 9 | 3.0 | 10 | 3.0 | 0.017 | 5.4 | LOS A | 0.1 | 1.7 | 0.56 | 0.44 | 0.56 | 33.6 |
| 12 | R2 | 1 | 3.0 | 1 | 3.0 | 0.017 | 5.4 | LOS A | 0.1 | 1.7 | 0.56 | 0.44 | 0.56 | 28.9 |
| Approach | | 11 | 3.0 | 12 | 3.0 | 0.017 | 5.4 | LOS A | 0.1 | 1.7 | 0.56 | 0.44 | 0.56 | 32.7 |
| All Vehicles | | 1052 | 3.0 | 1143 | 3.0 | 0.488 | 7.2 | LOS A | 3.3 | 84.5 | 0.39 | 0.26 | 0.39 | 25.3 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 46 | 3.0 | 50 | 3.0 | 0.419 | 8.5 | LOS A | 2.3 | 59.1 | 0.57 | 0.48 | 0.57 | 32.0 |
| 8 | T1 | 307 | 3.0 | 334 | 3.0 | 0.419 | 8.5 | LOS A | 2.3 | 59.1 | 0.57 | 0.48 | 0.57 | 23.9 |
| 18 | R2 | 21 | 3.0 | 23 | 3.0 | 0.419 | 8.5 | LOS A | 2.3 | 59.1 | 0.57 | 0.48 | 0.57 | 31.4 |
| Approach | | 374 | 3.0 | 407 | 3.0 | 0.419 | 8.5 | LOS A | 2.3 | 59.1 | 0.57 | 0.48 | 0.57 | 25.7 |
| East: Hill St | | | | | | | | | | | | | | |
| 1 | L2 | 18 | 3.0 | 20 | 3.0 | 0.171 | 6.2 | LOS A | 0.7 | 18.4 | 0.55 | 0.50 | 0.55 | 33.0 |
| 6 | T1 | 33 | 3.0 | 36 | 3.0 | 0.171 | 6.2 | LOS A | 0.7 | 18.4 | 0.55 | 0.50 | 0.55 | 33.1 |
| 16 | R2 | 76 | 3.0 | 83 | 3.0 | 0.171 | 6.2 | LOS A | 0.7 | 18.4 | 0.55 | 0.50 | 0.55 | 25.8 |
| Approach | | 127 | 3.0 | 138 | 3.0 | 0.171 | 6.2 | LOS A | 0.7 | 18.4 | 0.55 | 0.50 | 0.55 | 29.3 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 146 | 3.0 | 159 | 3.0 | 0.634 | 11.2 | LOS B | 5.7 | 145.2 | 0.51 | 0.30 | 0.51 | 26.9 |
| 4 | T1 | 505 | 3.0 | 549 | 3.0 | 0.634 | 11.2 | LOS B | 5.7 | 145.2 | 0.51 | 0.30 | 0.51 | 27.1 |
| 14 | R2 | 49 | 3.0 | 53 | 3.0 | 0.634 | 11.2 | LOS B | 5.7 | 145.2 | 0.51 | 0.30 | 0.51 | 26.2 |
| Approach | | 700 | 3.0 | 761 | 3.0 | 0.634 | 11.2 | LOS B | 5.7 | 145.2 | 0.51 | 0.30 | 0.51 | 27.0 |
| West: Retail Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 92 | 3.0 | 100 | 3.0 | 0.385 | 11.3 | LOS B | 1.9 | 49.0 | 0.71 | 0.76 | 0.88 | 22.0 |
| 2 | T1 | 45 | 3.0 | 49 | 3.0 | 0.385 | 11.3 | LOS B | 1.9 | 49.0 | 0.71 | 0.76 | 0.88 | 30.4 |
| 12 | R2 | 84 | 3.0 | 91 | 3.0 | 0.385 | 11.3 | LOS B | 1.9 | 49.0 | 0.71 | 0.76 | 0.88 | 29.8 |
| Approach | | 221 | 3.0 | 240 | 3.0 | 0.385 | 11.3 | LOS B | 1.9 | 49.0 | 0.71 | 0.76 | 0.88 | 27.1 |
| All Vehicles | | 1422 | 3.0 | 1546 | 3.0 | 0.634 | 10.1 | LOS B | 5.7 | 145.2 | 0.56 | 0.44 | 0.59 | 26.9 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: 105 [Bay/Capitola (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 29 | 3.0 | 32 | 3.0 | 0.260 | 5.9 | LOS A | 1.3 | 32.7 | 0.44 | 0.31 | 0.44 | 33.2 |
| 8 | T1 | 200 | 3.0 | 217 | 3.0 | 0.260 | 5.9 | LOS A | 1.3 | 32.7 | 0.44 | 0.31 | 0.44 | 33.3 |
| 18 | R2 | 23 | 3.0 | 25 | 3.0 | 0.260 | 5.9 | LOS A | 1.3 | 32.7 | 0.44 | 0.31 | 0.44 | 32.6 |
| Approach | | 252 | 3.0 | 274 | 3.0 | 0.260 | 5.9 | LOS A | 1.3 | 32.7 | 0.44 | 0.31 | 0.44 | 33.3 |
| East: Capitola Ave | | | | | | | | | | | | | | |
| 1 | L2 | 61 | 3.0 | 66 | 3.0 | 0.188 | 5.6 | LOS A | 0.8 | 21.3 | 0.48 | 0.38 | 0.48 | 32.8 |
| 6 | T1 | 72 | 3.0 | 78 | 3.0 | 0.188 | 5.6 | LOS A | 0.8 | 21.3 | 0.48 | 0.38 | 0.48 | 33.0 |
| 16 | R2 | 31 | 3.0 | 34 | 3.0 | 0.188 | 5.6 | LOS A | 0.8 | 21.3 | 0.48 | 0.38 | 0.48 | 32.3 |
| Approach | | 164 | 3.0 | 178 | 3.0 | 0.188 | 5.6 | LOS A | 0.8 | 21.3 | 0.48 | 0.38 | 0.48 | 32.8 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 56 | 3.0 | 61 | 3.0 | 0.505 | 9.0 | LOS A | 3.4 | 86.4 | 0.51 | 0.36 | 0.51 | 31.8 |
| 4 | T1 | 337 | 3.0 | 366 | 3.0 | 0.505 | 9.0 | LOS A | 3.4 | 86.4 | 0.51 | 0.36 | 0.51 | 31.9 |
| 14 | R2 | 124 | 3.0 | 135 | 3.0 | 0.505 | 9.0 | LOS A | 3.4 | 86.4 | 0.51 | 0.36 | 0.51 | 31.2 |
| Approach | | 517 | 3.0 | 562 | 3.0 | 0.505 | 9.0 | LOS A | 3.4 | 86.4 | 0.51 | 0.36 | 0.51 | 31.7 |
| West: Capitola Ave | | | | | | | | | | | | | | |
| 5 | L2 | 72 | 3.0 | 78 | 3.0 | 0.223 | 6.9 | LOS A | 1.0 | 24.7 | 0.58 | 0.54 | 0.58 | 32.1 |
| 2 | T1 | 84 | 3.0 | 91 | 3.0 | 0.223 | 6.9 | LOS A | 1.0 | 24.7 | 0.58 | 0.54 | 0.58 | 32.2 |
| 12 | R2 | 8 | 3.0 | 9 | 3.0 | 0.223 | 6.9 | LOS A | 1.0 | 24.7 | 0.58 | 0.54 | 0.58 | 31.5 |
| Approach | | 164 | 3.0 | 178 | 3.0 | 0.223 | 6.9 | LOS A | 1.0 | 24.7 | 0.58 | 0.54 | 0.58 | 32.1 |
| All Vehicles | | 1097 | 3.0 | 1192 | 3.0 | 0.505 | 7.5 | LOS A | 3.4 | 86.4 | 0.50 | 0.38 | 0.50 | 32.3 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|------|------------------|------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV % | [Total veh/h | HV % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 8 | T1 | 124 | 3.0 | 135 | 3.0 | 0.240 | 6.2 | LOS A | 1.1 | 28.4 | 0.50 | 0.41 | 0.50 | 30.8 |
| 18 | R2 | 85 | 3.0 | 92 | 3.0 | 0.240 | 6.2 | LOS A | 1.1 | 28.4 | 0.50 | 0.41 | 0.50 | 29.7 |
| Approach | | 209 | 3.0 | 227 | 3.0 | 0.240 | 6.2 | LOS A | 1.1 | 28.4 | 0.50 | 0.41 | 0.50 | 30.4 |
| East: Monterey Ave | | | | | | | | | | | | | | |
| 1 | L2 | 35 | 3.0 | 38 | 3.0 | 0.130 | 4.2 | LOS A | 0.6 | 14.9 | 0.30 | 0.16 | 0.30 | 28.8 |
| 16 | R2 | 104 | 3.0 | 113 | 3.0 | 0.130 | 4.2 | LOS A | 0.6 | 14.9 | 0.30 | 0.16 | 0.30 | 33.2 |
| Approach | | 139 | 3.0 | 151 | 3.0 | 0.130 | 4.2 | LOS A | 0.6 | 14.9 | 0.30 | 0.16 | 0.30 | 32.4 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 304 | 3.0 | 330 | 3.0 | 0.376 | 6.3 | LOS A | 2.3 | 60.0 | 0.20 | 0.07 | 0.20 | 31.9 |
| 4 | T1 | 141 | 3.0 | 153 | 3.0 | 0.376 | 6.3 | LOS A | 2.3 | 60.0 | 0.20 | 0.07 | 0.20 | 27.2 |
| Approach | | 445 | 3.0 | 484 | 3.0 | 0.376 | 6.3 | LOS A | 2.3 | 60.0 | 0.20 | 0.07 | 0.20 | 30.7 |
| All Vehicles | | 793 | 3.0 | 862 | 3.0 | 0.376 | 5.9 | LOS A | 2.3 | 60.0 | 0.29 | 0.18 | 0.29 | 31.0 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 107 [Monterey/Park (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 3 | L2 | 1 | 3.0 | 1 | 3.0 | 0.604 | 10.5 | LOS B | 5.1 | 129.9 | 0.49 | 0.29 | 0.49 | 27.7 |
| 8 | T1 | 165 | 3.0 | 179 | 3.0 | 0.604 | 10.5 | LOS B | 5.1 | 129.9 | 0.49 | 0.29 | 0.49 | 10.6 |
| 18 | R2 | 498 | 3.0 | 541 | 3.0 | 0.604 | 10.5 | LOS B | 5.1 | 129.9 | 0.49 | 0.29 | 0.49 | 27.0 |
| Approach | | 664 | 3.0 | 722 | 3.0 | 0.604 | 10.5 | LOS B | 5.1 | 129.9 | 0.49 | 0.29 | 0.49 | 24.2 |
| East: Park Ave | | | | | | | | | | | | | | |
| 1 | L2 | 203 | 3.0 | 221 | 3.0 | 0.242 | 5.5 | LOS A | 1.2 | 30.3 | 0.39 | 0.26 | 0.39 | 26.7 |
| 6 | T1 | 3 | 3.0 | 3 | 3.0 | 0.242 | 5.5 | LOS A | 1.2 | 30.3 | 0.39 | 0.26 | 0.39 | 32.1 |
| 16 | R2 | 39 | 3.0 | 42 | 3.0 | 0.242 | 5.5 | LOS A | 1.2 | 30.3 | 0.39 | 0.26 | 0.39 | 27.0 |
| Approach | | 245 | 3.0 | 266 | 3.0 | 0.242 | 5.5 | LOS A | 1.2 | 30.3 | 0.39 | 0.26 | 0.39 | 26.8 |
| North: Monterey Ave | | | | | | | | | | | | | | |
| 7 | L2 | 92 | 3.0 | 100 | 3.0 | 0.181 | 5.1 | LOS A | 0.8 | 21.1 | 0.40 | 0.28 | 0.40 | 29.9 |
| 4 | T1 | 83 | 3.0 | 90 | 3.0 | 0.181 | 5.1 | LOS A | 0.8 | 21.1 | 0.40 | 0.28 | 0.40 | 16.9 |
| 14 | R2 | 1 | 3.0 | 1 | 3.0 | 0.181 | 5.1 | LOS A | 0.8 | 21.1 | 0.40 | 0.28 | 0.40 | 29.1 |
| Approach | | 176 | 3.0 | 191 | 3.0 | 0.181 | 5.1 | LOS A | 0.8 | 21.1 | 0.40 | 0.28 | 0.40 | 26.0 |
| West: Parking Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 5 | 3.0 | 5 | 3.0 | 0.014 | 4.3 | LOS A | 0.1 | 1.4 | 0.47 | 0.31 | 0.47 | 25.1 |
| 2 | T1 | 3 | 3.0 | 3 | 3.0 | 0.014 | 4.3 | LOS A | 0.1 | 1.4 | 0.47 | 0.31 | 0.47 | 33.5 |
| 12 | R2 | 3 | 3.0 | 3 | 3.0 | 0.014 | 4.3 | LOS A | 0.1 | 1.4 | 0.47 | 0.31 | 0.47 | 28.6 |
| Approach | | 11 | 3.0 | 12 | 3.0 | 0.014 | 4.3 | LOS A | 0.1 | 1.4 | 0.47 | 0.31 | 0.47 | 28.7 |
| All Vehicles | | 1096 | 3.0 | 1191 | 3.0 | 0.604 | 8.5 | LOS A | 5.1 | 129.9 | 0.45 | 0.28 | 0.45 | 25.2 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 57 | 3.0 | 62 | 3.0 | 0.336 | 6.4 | LOS A | 1.9 | 47.5 | 0.39 | 0.24 | 0.39 | 32.9 |
| 8 | T1 | 293 | 3.0 | 318 | 3.0 | 0.336 | 6.4 | LOS A | 1.9 | 47.5 | 0.39 | 0.24 | 0.39 | 24.8 |
| 18 | R2 | 4 | 3.0 | 4 | 3.0 | 0.336 | 6.4 | LOS A | 1.9 | 47.5 | 0.39 | 0.24 | 0.39 | 32.3 |
| Approach | | 354 | 3.0 | 385 | 3.0 | 0.336 | 6.4 | LOS A | 1.9 | 47.5 | 0.39 | 0.24 | 0.39 | 26.5 |
| East: Hill St | | | | | | | | | | | | | | |
| 1 | L2 | 13 | 3.0 | 14 | 3.0 | 0.139 | 5.6 | LOS A | 0.6 | 14.8 | 0.52 | 0.44 | 0.52 | 33.4 |
| 6 | T1 | 28 | 3.0 | 30 | 3.0 | 0.139 | 5.6 | LOS A | 0.6 | 14.8 | 0.52 | 0.44 | 0.52 | 33.5 |
| 16 | R2 | 68 | 3.0 | 74 | 3.0 | 0.139 | 5.6 | LOS A | 0.6 | 14.8 | 0.52 | 0.44 | 0.52 | 26.2 |
| Approach | | 109 | 3.0 | 118 | 3.0 | 0.139 | 5.6 | LOS A | 0.6 | 14.8 | 0.52 | 0.44 | 0.52 | 29.5 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 75 | 3.0 | 82 | 3.0 | 0.703 | 13.3 | LOS B | 7.2 | 185.3 | 0.59 | 0.35 | 0.59 | 26.0 |
| 4 | T1 | 669 | 3.0 | 727 | 3.0 | 0.703 | 13.3 | LOS B | 7.2 | 185.3 | 0.59 | 0.35 | 0.59 | 26.1 |
| 14 | R2 | 31 | 3.0 | 34 | 3.0 | 0.703 | 13.3 | LOS B | 7.2 | 185.3 | 0.59 | 0.35 | 0.59 | 25.3 |
| Approach | | 775 | 3.0 | 842 | 3.0 | 0.703 | 13.3 | LOS B | 7.2 | 185.3 | 0.59 | 0.35 | 0.59 | 26.1 |
| West: Retail Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 43 | 3.0 | 47 | 3.0 | 0.195 | 8.9 | LOS A | 0.8 | 19.3 | 0.66 | 0.66 | 0.66 | 22.9 |
| 2 | T1 | 19 | 3.0 | 21 | 3.0 | 0.195 | 8.9 | LOS A | 0.8 | 19.3 | 0.66 | 0.66 | 0.66 | 31.4 |
| 12 | R2 | 39 | 3.0 | 42 | 3.0 | 0.195 | 8.9 | LOS A | 0.8 | 19.3 | 0.66 | 0.66 | 0.66 | 30.7 |
| Approach | | 101 | 3.0 | 110 | 3.0 | 0.195 | 8.9 | LOS A | 0.8 | 19.3 | 0.66 | 0.66 | 0.66 | 28.0 |
| All Vehicles | | 1339 | 3.0 | 1455 | 3.0 | 0.703 | 10.5 | LOS B | 7.2 | 185.3 | 0.54 | 0.35 | 0.54 | 26.7 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 105 [Bay/Capitola (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 27 | 3.0 | 29 | 3.0 | 0.410 | 7.9 | LOS A | 2.3 | 59.8 | 0.52 | 0.39 | 0.52 | 32.3 |
| 8 | T1 | 312 | 3.0 | 339 | 3.0 | 0.410 | 7.9 | LOS A | 2.3 | 59.8 | 0.52 | 0.39 | 0.52 | 32.5 |
| 18 | R2 | 55 | 3.0 | 60 | 3.0 | 0.410 | 7.9 | LOS A | 2.3 | 59.8 | 0.52 | 0.39 | 0.52 | 31.8 |
| Approach | | 394 | 3.0 | 428 | 3.0 | 0.410 | 7.9 | LOS A | 2.3 | 59.8 | 0.52 | 0.39 | 0.52 | 32.4 |
| East: Capitola Ave | | | | | | | | | | | | | | |
| 1 | L2 | 83 | 3.0 | 90 | 3.0 | 0.286 | 7.5 | LOS A | 1.3 | 33.5 | 0.59 | 0.54 | 0.59 | 31.9 |
| 6 | T1 | 94 | 3.0 | 102 | 3.0 | 0.286 | 7.5 | LOS A | 1.3 | 33.5 | 0.59 | 0.54 | 0.59 | 32.1 |
| 16 | R2 | 42 | 3.0 | 46 | 3.0 | 0.286 | 7.5 | LOS A | 1.3 | 33.5 | 0.59 | 0.54 | 0.59 | 31.4 |
| Approach | | 219 | 3.0 | 238 | 3.0 | 0.286 | 7.5 | LOS A | 1.3 | 33.5 | 0.59 | 0.54 | 0.59 | 31.9 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 74 | 3.0 | 80 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 32.3 |
| 4 | T1 | 183 | 3.0 | 199 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 32.4 |
| 14 | R2 | 128 | 3.0 | 139 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 31.7 |
| Approach | | 385 | 3.0 | 418 | 3.0 | 0.394 | 7.6 | LOS A | 2.2 | 57.0 | 0.49 | 0.36 | 0.49 | 32.1 |
| West: Capitola Ave | | | | | | | | | | | | | | |
| 5 | L2 | 78 | 3.0 | 85 | 3.0 | 0.181 | 5.7 | LOS A | 0.8 | 20.2 | 0.50 | 0.41 | 0.50 | 32.5 |
| 2 | T1 | 67 | 3.0 | 73 | 3.0 | 0.181 | 5.7 | LOS A | 0.8 | 20.2 | 0.50 | 0.41 | 0.50 | 32.6 |
| 12 | R2 | 6 | 3.0 | 7 | 3.0 | 0.181 | 5.7 | LOS A | 0.8 | 20.2 | 0.50 | 0.41 | 0.50 | 31.9 |
| Approach | | 151 | 3.0 | 164 | 3.0 | 0.181 | 5.7 | LOS A | 0.8 | 20.2 | 0.50 | 0.41 | 0.50 | 32.5 |
| All Vehicles | | 1149 | 3.0 | 1249 | 3.0 | 0.410 | 7.4 | LOS A | 2.3 | 59.8 | 0.52 | 0.41 | 0.52 | 32.2 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|------|------------------|------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV % | [Total veh/h | HV % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 8 | T1 | 162 | 3.0 | 176 | 3.0 | 0.232 | 5.7 | LOS A | 1.1 | 28.3 | 0.43 | 0.31 | 0.43 | 31.2 |
| 18 | R2 | 61 | 3.0 | 66 | 3.0 | 0.232 | 5.7 | LOS A | 1.1 | 28.3 | 0.43 | 0.31 | 0.43 | 30.1 |
| Approach | | 223 | 3.0 | 242 | 3.0 | 0.232 | 5.7 | LOS A | 1.1 | 28.3 | 0.43 | 0.31 | 0.43 | 30.9 |
| East: Monterey Ave | | | | | | | | | | | | | | |
| 1 | L2 | 87 | 3.0 | 95 | 3.0 | 0.360 | 6.8 | LOS A | 2.0 | 51.5 | 0.43 | 0.29 | 0.43 | 27.2 |
| 16 | R2 | 282 | 3.0 | 307 | 3.0 | 0.360 | 6.8 | LOS A | 2.0 | 51.5 | 0.43 | 0.29 | 0.43 | 32.0 |
| Approach | | 369 | 3.0 | 401 | 3.0 | 0.360 | 6.8 | LOS A | 2.0 | 51.5 | 0.43 | 0.29 | 0.43 | 31.1 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 219 | 3.0 | 238 | 3.0 | 0.410 | 7.1 | LOS A | 2.6 | 66.0 | 0.34 | 0.18 | 0.34 | 31.9 |
| 4 | T1 | 239 | 3.0 | 260 | 3.0 | 0.410 | 7.1 | LOS A | 2.6 | 66.0 | 0.34 | 0.18 | 0.34 | 27.2 |
| Approach | | 458 | 3.0 | 498 | 3.0 | 0.410 | 7.1 | LOS A | 2.6 | 66.0 | 0.34 | 0.18 | 0.34 | 29.9 |
| All Vehicles | | 1050 | 3.0 | 1141 | 3.0 | 0.410 | 6.7 | LOS A | 2.6 | 66.0 | 0.39 | 0.25 | 0.39 | 30.6 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 107 [Monterey/Park (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|---------------|------|---------------|------|-----------|-------------|------------------|-------------------|-----------|-----------|---------------------|------------------|-------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn | Aver. Delay | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed |
| | | [Total veh/h | HV % | [Total veh/h | HV % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 3 | L2 | 1 | 3.0 | 1 | 3.0 | 0.374 | 7.3 | LOS A | 2.1 | 52.6 | 0.49 | 0.36 | 0.49 | 29.8 |
| 8 | T1 | 123 | 3.0 | 134 | 3.0 | 0.374 | 7.3 | LOS A | 2.1 | 52.6 | 0.49 | 0.36 | 0.49 | 12.0 |
| 18 | R2 | 238 | 3.0 | 259 | 3.0 | 0.374 | 7.3 | LOS A | 2.1 | 52.6 | 0.49 | 0.36 | 0.49 | 29.0 |
| Approach | | 362 | 3.0 | 393 | 3.0 | 0.374 | 7.3 | LOS A | 2.1 | 52.6 | 0.49 | 0.36 | 0.49 | 25.0 |
| East: Park Ave | | | | | | | | | | | | | | |
| 1 | L2 | 418 | 3.0 | 454 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 25.2 |
| 6 | T1 | 3 | 3.0 | 3 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 30.9 |
| 16 | R2 | 100 | 3.0 | 109 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 25.5 |
| Approach | | 521 | 3.0 | 566 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.45 | 0.28 | 0.45 | 25.3 |
| North: Monterey Ave | | | | | | | | | | | | | | |
| 7 | L2 | 201 | 3.0 | 218 | 3.0 | 0.428 | 9.7 | LOS A | 2.5 | 63.3 | 0.66 | 0.67 | 0.76 | 26.8 |
| 4 | T1 | 121 | 3.0 | 132 | 3.0 | 0.428 | 9.7 | LOS A | 2.5 | 63.3 | 0.66 | 0.67 | 0.76 | 13.7 |
| 14 | R2 | 4 | 3.0 | 4 | 3.0 | 0.428 | 9.7 | LOS A | 2.5 | 63.3 | 0.66 | 0.67 | 0.76 | 26.2 |
| Approach | | 326 | 3.0 | 354 | 3.0 | 0.428 | 9.7 | LOS A | 2.5 | 63.3 | 0.66 | 0.67 | 0.76 | 23.7 |
| West: Parking Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 1 | 3.0 | 1 | 3.0 | 0.021 | 6.5 | LOS A | 0.1 | 1.9 | 0.61 | 0.52 | 0.61 | 24.7 |
| 2 | T1 | 9 | 3.0 | 10 | 3.0 | 0.021 | 6.5 | LOS A | 0.1 | 1.9 | 0.61 | 0.52 | 0.61 | 33.1 |
| 12 | R2 | 1 | 3.0 | 1 | 3.0 | 0.021 | 6.5 | LOS A | 0.1 | 1.9 | 0.61 | 0.52 | 0.61 | 28.2 |
| Approach | | 11 | 3.0 | 12 | 3.0 | 0.021 | 6.5 | LOS A | 0.1 | 1.9 | 0.61 | 0.52 | 0.61 | 32.2 |
| All Vehicles | | 1220 | 3.0 | 1326 | 3.0 | 0.488 | 8.4 | LOS A | 3.3 | 84.5 | 0.52 | 0.41 | 0.55 | 24.9 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 46 | 3.0 | 50 | 3.0 | 0.893 | 29.6 | LOS D | 28.3 | 725.6 | 1.00 | 1.60 | 2.56 | 24.6 |
| 8 | T1 | 717 | 3.0 | 779 | 3.0 | 0.893 | 29.6 | LOS D | 28.3 | 725.6 | 1.00 | 1.60 | 2.56 | 17.1 |
| 18 | R2 | 34 | 3.0 | 37 | 3.0 | 0.893 | 29.6 | LOS D | 28.3 | 725.6 | 1.00 | 1.60 | 2.56 | 24.3 |
| Approach | | 797 | 3.0 | 866 | 3.0 | 0.893 | 29.6 | LOS D | 28.3 | 725.6 | 1.00 | 1.60 | 2.56 | 18.0 |
| East: Hill St | | | | | | | | | | | | | | |
| 1 | L2 | 22 | 3.0 | 24 | 3.0 | 0.532 | 17.6 | LOS C | 3.0 | 77.9 | 0.79 | 0.93 | 1.26 | 28.3 |
| 6 | T1 | 33 | 3.0 | 36 | 3.0 | 0.532 | 17.6 | LOS C | 3.0 | 77.9 | 0.79 | 0.93 | 1.26 | 28.4 |
| 16 | R2 | 192 | 3.0 | 209 | 3.0 | 0.532 | 17.6 | LOS C | 3.0 | 77.9 | 0.79 | 0.93 | 1.26 | 20.9 |
| Approach | | 247 | 3.0 | 268 | 3.0 | 0.532 | 17.6 | LOS C | 3.0 | 77.9 | 0.79 | 0.93 | 1.26 | 22.9 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 146 | 3.0 | 159 | 3.0 | 0.755 | 15.4 | LOS C | 8.7 | 223.1 | 0.68 | 0.41 | 0.68 | 24.7 |
| 4 | T1 | 634 | 3.0 | 689 | 3.0 | 0.755 | 15.4 | LOS C | 8.7 | 223.1 | 0.68 | 0.41 | 0.68 | 24.9 |
| 14 | R2 | 49 | 3.0 | 53 | 3.0 | 0.755 | 15.4 | LOS C | 8.7 | 223.1 | 0.68 | 0.41 | 0.68 | 24.2 |
| Approach | | 829 | 3.0 | 901 | 3.0 | 0.755 | 15.4 | LOS C | 8.7 | 223.1 | 0.68 | 0.41 | 0.68 | 24.8 |
| West: Retail Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 92 | 3.0 | 100 | 3.0 | 0.448 | 14.3 | LOS B | 2.3 | 59.8 | 0.75 | 0.85 | 1.07 | 20.9 |
| 2 | T1 | 45 | 3.0 | 49 | 3.0 | 0.448 | 14.3 | LOS B | 2.3 | 59.8 | 0.75 | 0.85 | 1.07 | 29.2 |
| 12 | R2 | 84 | 3.0 | 91 | 3.0 | 0.448 | 14.3 | LOS B | 2.3 | 59.8 | 0.75 | 0.85 | 1.07 | 28.6 |
| Approach | | 221 | 3.0 | 240 | 3.0 | 0.448 | 14.3 | LOS B | 2.3 | 59.8 | 0.75 | 0.85 | 1.07 | 26.0 |
| All Vehicles | | 2094 | 3.0 | 2276 | 3.0 | 0.893 | 21.0 | LOS C | 28.3 | 725.6 | 0.82 | 0.97 | 1.50 | 21.7 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 105 [Bay/Capitola (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Bay Ave | | | | | | | | | | | | | | |
| 3 | L2 | 29 | 3.0 | 32 | 3.0 | 0.293 | 6.9 | LOS A | 1.4 | 36.1 | 0.53 | 0.45 | 0.53 | 32.7 |
| 8 | T1 | 200 | 3.0 | 217 | 3.0 | 0.293 | 6.9 | LOS A | 1.4 | 36.1 | 0.53 | 0.45 | 0.53 | 32.9 |
| 18 | R2 | 23 | 3.0 | 25 | 3.0 | 0.293 | 6.9 | LOS A | 1.4 | 36.1 | 0.53 | 0.45 | 0.53 | 32.2 |
| Approach | | 252 | 3.0 | 274 | 3.0 | 0.293 | 6.9 | LOS A | 1.4 | 36.1 | 0.53 | 0.45 | 0.53 | 32.8 |
| East: Capitola Ave | | | | | | | | | | | | | | |
| 1 | L2 | 17 | 3.0 | 18 | 3.0 | 0.203 | 6.5 | LOS A | 0.9 | 22.4 | 0.55 | 0.50 | 0.55 | 33.0 |
| 6 | T1 | 65 | 3.0 | 71 | 3.0 | 0.203 | 6.5 | LOS A | 0.9 | 22.4 | 0.55 | 0.50 | 0.55 | 33.1 |
| 16 | R2 | 73 | 3.0 | 79 | 3.0 | 0.203 | 6.5 | LOS A | 0.9 | 22.4 | 0.55 | 0.50 | 0.55 | 32.4 |
| Approach | | 155 | 3.0 | 168 | 3.0 | 0.203 | 6.5 | LOS A | 0.9 | 22.4 | 0.55 | 0.50 | 0.55 | 32.7 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 61 | 3.0 | 66 | 3.0 | 0.524 | 9.0 | LOS A | 3.8 | 97.2 | 0.45 | 0.27 | 0.45 | 31.8 |
| 4 | T1 | 337 | 3.0 | 366 | 3.0 | 0.524 | 9.0 | LOS A | 3.8 | 97.2 | 0.45 | 0.27 | 0.45 | 31.9 |
| 14 | R2 | 171 | 3.0 | 186 | 3.0 | 0.524 | 9.0 | LOS A | 3.8 | 97.2 | 0.45 | 0.27 | 0.45 | 31.2 |
| Approach | | 569 | 3.0 | 618 | 3.0 | 0.524 | 9.0 | LOS A | 3.8 | 97.2 | 0.45 | 0.27 | 0.45 | 31.7 |
| West: Capitola Ave | | | | | | | | | | | | | | |
| 5 | L2 | 190 | 3.0 | 207 | 3.0 | 0.340 | 8.2 | LOS A | 1.6 | 41.6 | 0.61 | 0.57 | 0.61 | 31.0 |
| 2 | T1 | 63 | 3.0 | 68 | 3.0 | 0.340 | 8.2 | LOS A | 1.6 | 41.6 | 0.61 | 0.57 | 0.61 | 31.1 |
| 12 | R2 | 8 | 3.0 | 9 | 3.0 | 0.340 | 8.2 | LOS A | 1.6 | 41.6 | 0.61 | 0.57 | 0.61 | 30.5 |
| Approach | | 261 | 3.0 | 284 | 3.0 | 0.340 | 8.2 | LOS A | 1.6 | 41.6 | 0.61 | 0.57 | 0.61 | 31.0 |
| All Vehicles | | 1237 | 3.0 | 1345 | 3.0 | 0.524 | 8.1 | LOS A | 3.8 | 97.2 | 0.51 | 0.40 | 0.51 | 31.9 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|------|------------------|------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV % | [Total veh/h | HV % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 8 | T1 | 305 | 3.0 | 332 | 3.0 | 0.448 | 9.1 | LOS A | 2.5 | 64.2 | 0.61 | 0.52 | 0.61 | 28.8 |
| 18 | R2 | 85 | 3.0 | 92 | 3.0 | 0.448 | 9.1 | LOS A | 2.5 | 64.2 | 0.61 | 0.52 | 0.61 | 27.9 |
| Approach | | 390 | 3.0 | 424 | 3.0 | 0.448 | 9.1 | LOS A | 2.5 | 64.2 | 0.61 | 0.52 | 0.61 | 28.6 |
| East: Monterey Ave | | | | | | | | | | | | | | |
| 1 | L2 | 35 | 3.0 | 38 | 3.0 | 0.160 | 5.3 | LOS A | 0.7 | 17.8 | 0.47 | 0.37 | 0.47 | 28.1 |
| 16 | R2 | 104 | 3.0 | 113 | 3.0 | 0.160 | 5.3 | LOS A | 0.7 | 17.8 | 0.47 | 0.37 | 0.47 | 32.6 |
| Approach | | 139 | 3.0 | 151 | 3.0 | 0.160 | 5.3 | LOS A | 0.7 | 17.8 | 0.47 | 0.37 | 0.47 | 31.8 |
| North: Bay Ave | | | | | | | | | | | | | | |
| 7 | L2 | 304 | 3.0 | 330 | 3.0 | 0.469 | 7.6 | LOS A | 3.4 | 86.4 | 0.23 | 0.09 | 0.23 | 31.6 |
| 4 | T1 | 251 | 3.0 | 273 | 3.0 | 0.469 | 7.6 | LOS A | 3.4 | 86.4 | 0.23 | 0.09 | 0.23 | 26.8 |
| Approach | | 555 | 3.0 | 603 | 3.0 | 0.469 | 7.6 | LOS A | 3.4 | 86.4 | 0.23 | 0.09 | 0.23 | 29.8 |
| All Vehicles | | 1084 | 3.0 | 1178 | 3.0 | 0.469 | 7.8 | LOS A | 3.4 | 86.4 | 0.39 | 0.28 | 0.40 | 29.8 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: 107 [Monterey/Park (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

| Vehicle Movement Performance | | | | | | | | | | | | | | |
|------------------------------|------|------------------|-----------|------------------|-----------|------------------|--------------------|------------------|-------------------|--------------|-----------|---------------------|------------------|--------------------|
| Mov ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE | | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed mph |
| | | [Total veh/h | HV] % | [Total veh/h | HV] % | | | | [Veh. veh | Dist] ft | | | | |
| South: Monterey Ave | | | | | | | | | | | | | | |
| 3 | L2 | 1 | 3.0 | 1 | 3.0 | 0.792 | 18.9 | LOS C | 18.9 | 483.9 | 0.88 | 1.07 | 1.60 | 23.4 |
| 8 | T1 | 148 | 3.0 | 161 | 3.0 | 0.792 | 18.9 | LOS C | 18.9 | 483.9 | 0.88 | 1.07 | 1.60 | 8.2 |
| 18 | R2 | 619 | 3.0 | 673 | 3.0 | 0.792 | 18.9 | LOS C | 18.9 | 483.9 | 0.88 | 1.07 | 1.60 | 22.9 |
| Approach | | 768 | 3.0 | 835 | 3.0 | 0.792 | 18.9 | LOS C | 18.9 | 483.9 | 0.88 | 1.07 | 1.60 | 20.8 |
| East: Park Ave | | | | | | | | | | | | | | |
| 1 | L2 | 203 | 3.0 | 221 | 3.0 | 0.428 | 7.7 | LOS A | 2.6 | 66.9 | 0.45 | 0.31 | 0.45 | 26.2 |
| 6 | T1 | 3 | 3.0 | 3 | 3.0 | 0.428 | 7.7 | LOS A | 2.6 | 66.9 | 0.45 | 0.31 | 0.45 | 31.8 |
| 16 | R2 | 237 | 3.0 | 258 | 3.0 | 0.428 | 7.7 | LOS A | 2.6 | 66.9 | 0.45 | 0.31 | 0.45 | 26.6 |
| Approach | | 443 | 3.0 | 482 | 3.0 | 0.428 | 7.7 | LOS A | 2.6 | 66.9 | 0.45 | 0.31 | 0.45 | 26.5 |
| North: Monterey Ave | | | | | | | | | | | | | | |
| 7 | L2 | 202 | 3.0 | 220 | 3.0 | 0.294 | 6.3 | LOS A | 1.5 | 38.2 | 0.45 | 0.32 | 0.45 | 28.6 |
| 4 | T1 | 83 | 3.0 | 90 | 3.0 | 0.294 | 6.3 | LOS A | 1.5 | 38.2 | 0.45 | 0.32 | 0.45 | 15.7 |
| 14 | R2 | 1 | 3.0 | 1 | 3.0 | 0.294 | 6.3 | LOS A | 1.5 | 38.2 | 0.45 | 0.32 | 0.45 | 27.9 |
| Approach | | 286 | 3.0 | 311 | 3.0 | 0.294 | 6.3 | LOS A | 1.5 | 38.2 | 0.45 | 0.32 | 0.45 | 26.4 |
| West: Parking Dwy | | | | | | | | | | | | | | |
| 5 | L2 | 5 | 3.0 | 5 | 3.0 | 0.016 | 4.8 | LOS A | 0.1 | 1.5 | 0.52 | 0.38 | 0.52 | 24.8 |
| 2 | T1 | 3 | 3.0 | 3 | 3.0 | 0.016 | 4.8 | LOS A | 0.1 | 1.5 | 0.52 | 0.38 | 0.52 | 33.2 |
| 12 | R2 | 3 | 3.0 | 3 | 3.0 | 0.016 | 4.8 | LOS A | 0.1 | 1.5 | 0.52 | 0.38 | 0.52 | 28.3 |
| Approach | | 11 | 3.0 | 12 | 3.0 | 0.016 | 4.8 | LOS A | 0.1 | 1.5 | 0.52 | 0.38 | 0.52 | 28.4 |
| All Vehicles | | 1508 | 3.0 | 1639 | 3.0 | 0.792 | 13.1 | LOS B | 18.9 | 483.9 | 0.67 | 0.70 | 1.04 | 23.4 |

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.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: K:\SJC_TPTO\City of Capitola\097763143 - Bay Avenue Corridor Study\03 Analysis\Sidra\Bay Corridor_20250102.sip9

Bay Avenue Corridor Improvement Project
Existing 2024 VISSIM Results: Bay Ave Peak Hour Intersection Results

Table with columns for No., Intersection, Movement, and four alternatives (Alternative 1 AM, Alternative 2 AM, Alternative 1 PM, Alternative 2 PM). Each alternative includes sub-columns for Volume (vph), Avg. Delay, LOS, Avg. Queue, and Max. Queue, with further sub-columns for Count and Served. The table contains detailed performance metrics for various intersections including Bay Ave & Hwy 1 NB Ramps, Bay Ave & Hwy 1 SB Ramps, Bay Ave & Crossroads Loop, Bay Ave & Hill St, Bay Ave & Capitola Ave, Bay Ave & Monterey Ave, and Monterey Ave & Park Ave.

Bay Avenue Corridor Improvement Project

Existing 2024 VISSIM Results: Bay Ave AM Peak Hour Travel Time Summary

| Scenario | Segment | Distance (mi) | Free Flow Speed | Simulation Car |
|--|----------------------------|------------------|--------------------|-------------------|
| NB - N. of Park Ave to S. of Highway 1 SB Ramps | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 2.27 |
| | Average Travel Speed (mph) | | 25 | 16 |
| Alternative 2 Roundabout | Average Travel Time (mins) | 0.62 | 1.5 | 1.91 |
| | Average Travel Speed (mph) | | 25 | 20 |
| SB - S. of Highway 1 SB Ramps to N. of Park Ave | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 2.11 |
| | Average Travel Speed (mph) | | 25 | 18 |
| Alternative 2 Roundabout | Average Travel Time (mins) | 0.63 | 1.5 | 1.89 |
| | Average Travel Speed (mph) | | 25 | 20 |

Existing 2024 VISSIM Results: Bay Ave PM Peak Hour Travel Time Summary

| Alternative | Segment | Distance (mi) | Free Flow Speed | Simulation Car |
|--|----------------------------|------------------|--------------------|-------------------|
| NB - N. of Park Ave to S. of Highway 1 SB Ramps | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 2.01 |
| | Average Travel Speed (mph) | | 25 | 18 |
| Alternative 2 Roundabout | Average Travel Time (mins) | 0.62 | 1.5 | 1.89 |
| | Average Travel Speed (mph) | | 25 | 20 |
| SB - S. of Highway 1 SB Ramps to N. of Park Ave | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 3.87 |
| | Average Travel Speed (mph) | | 25 | 10 |
| Alternative 2 Roundabout | Average Travel Time (mins) | 0.63 | 1.5 | 2.25 |
| | Average Travel Speed (mph) | | 25 | 17 |

Bay Avenue Corridor Improvement Project

Cumulative 2040 VISSIM Results: Bay Ave AM Peak Hour Travel Time Summary

| Scenario | Segment | Distance (mi) | Free Flow Speed | Simulation Car |
|--|----------------------------|------------------|--------------------|-------------------|
| NB - N. of Park Ave to S. of Highway 1 SB Ramps | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 2.09 |
| | Average Travel Speed (mph) | | 25 | 18 |
| Alternative 2 Roundabout | Segment | 0.62 | 1.5 | 1.88 |
| | Average Travel Speed (mph) | | 25 | 20 |
| SB - S. of Highway 1 SB Ramps to N. of Park Ave | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 5.26 |
| | Average Travel Speed (mph) | | 25 | 7 |
| Alternative 2 Roundabout | Average Travel Time (mins) | 0.63 | 1.5 | 2.21 |
| | Average Travel Speed (mph) | | 25 | 17 |

Cumulative 2040 VISSIM Results: Bay Ave PM Peak Hour Travel Time Summary

| Alternative | Segment | Distance (mi) | Free Flow Speed | Simulation Car |
|--|----------------------------|------------------|--------------------|-------------------|
| NB - N. of Park Ave to S. of Highway 1 SB Ramps | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 3.20 |
| | Average Travel Speed (mph) | | 25 | 12 |
| Alternative 2 Roundabout | Average Travel Time (mins) | 0.62 | 1.5 | 3.29 |
| | Average Travel Speed (mph) | | 25 | 11 |
| SB - S. of Highway 1 SB Ramps to N. of Park Ave | | | | |
| Alternative 1 AWSC | Average Travel Time (mins) | 0.62 | 1.5 | 5.89 |
| | Average Travel Speed (mph) | | 25 | 6 |
| Alternative 2 Roundabout | Average Travel Time (mins) | 0.63 | 1.5 | 4.99 |
| | Average Travel Speed (mph) | | 25 | 8 |

Attachment D – Synchro LOS Results (No Build, Stop, and Signal Alternatives)

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|-------|-----|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | ↙ | ↘ | | ↙ | ↕ | | | ↕ | ↘ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 59 | 12 | 107 | 369 | 516 | 0 | 0 | 431 | 478 |
| Future Volume (veh/h) | 0 | 0 | 0 | 59 | 12 | 107 | 369 | 516 | 0 | 0 | 431 | 478 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 65 | 13 | 118 | 405 | 567 | 0 | 0 | 474 | 525 |
| Peak Hour Factor | | | | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 164 | 15 | 139 | 535 | 2628 | 0 | 0 | 646 | 545 |
| Arrive On Green | | | | 0.09 | 0.09 | 0.09 | 0.30 | 0.75 | 0.00 | 0.00 | 0.36 | 0.36 |
| Sat Flow, veh/h | | | | 1739 | 162 | 1473 | 1795 | 3618 | 0 | 0 | 1870 | 1498 |
| Grp Volume(v), veh/h | | | | 65 | 0 | 131 | 405 | 567 | 0 | 0 | 474 | 525 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1635 | 1795 | 1763 | 0 | 0 | 1777 | 1498 |
| Q Serve(g_s), s | | | | 1.9 | 0.0 | 4.3 | 11.2 | 2.7 | 0.0 | 0.0 | 12.7 | 18.9 |
| Cycle Q Clear(g_c), s | | | | 1.9 | 0.0 | 4.3 | 11.2 | 2.7 | 0.0 | 0.0 | 12.7 | 18.9 |
| Prop In Lane | | | | 1.00 | | 0.90 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 164 | 0 | 155 | 535 | 2628 | 0 | 0 | 646 | 545 |
| V/C Ratio(X) | | | | 0.40 | 0.00 | 0.85 | 0.76 | 0.22 | 0.00 | 0.00 | 0.73 | 0.96 |
| Avail Cap(c_a), veh/h | | | | 164 | 0 | 155 | 565 | 2628 | 0 | 0 | 646 | 545 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.82 | 0.82 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 23.4 | 0.0 | 24.5 | 17.5 | 2.1 | 0.0 | 0.0 | 15.2 | 17.1 |
| Incr Delay (d2), s/veh | | | | 0.6 | 0.0 | 31.8 | 4.0 | 0.2 | 0.0 | 0.0 | 7.2 | 30.6 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.7 | 0.0 | 2.9 | 4.8 | 0.5 | 0.0 | 0.0 | 5.9 | 10.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 24.0 | 0.0 | 56.3 | 21.5 | 2.3 | 0.0 | 0.0 | 22.4 | 47.8 |
| LnGrp LOS | | | | C | | E | C | A | | | C | D |
| Approach Vol, veh/h | | | | | 196 | | | 972 | | | 999 | |
| Approach Delay, s/veh | | | | | 45.6 | | | 10.3 | | | 35.7 | |
| Approach LOS | | | | | D | | | B | | | D | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 21.0 | 24.6 | | 9.4 | | 45.6 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 17.3 | * 20 | | 5.2 | | 41.0 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 13.2 | 20.9 | | 6.3 | | 4.7 | | | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | 0.0 | | 1.7 | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 25.2 | | | | | | | | |
| HCM 7th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 313 | 0 | 296 | 0 | 0 | 0 | 0 | 572 | 111 | 176 | 314 | 0 |
| Future Volume (veh/h) | 313 | 0 | 296 | 0 | 0 | 0 | 0 | 572 | 111 | 176 | 314 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 440 | 0 | 215 | | | | 0 | 622 | 121 | 191 | 341 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 613 | 0 | 277 | | | | 0 | 1035 | 201 | 370 | 2283 | 0 |
| Arrive On Green | 0.18 | 0.00 | 0.18 | | | | 0.00 | 0.35 | 0.35 | 0.21 | 0.65 | 0.00 |
| Sat Flow, veh/h | 3478 | 0 | 1572 | | | | 0 | 3069 | 577 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 440 | 0 | 215 | | | | 0 | 374 | 369 | 191 | 341 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1572 | | | | 0 | 1791 | 1762 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 6.0 | 0.0 | 6.5 | | | | 0.0 | 8.6 | 8.6 | 4.8 | 1.9 | 0.0 |
| Cycle Q Clear(g_c), s | 6.0 | 0.0 | 6.5 | | | | 0.0 | 8.6 | 8.6 | 4.8 | 1.9 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.33 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 613 | 0 | 277 | | | | 0 | 623 | 613 | 370 | 2283 | 0 |
| V/C Ratio(X) | 0.72 | 0.00 | 0.78 | | | | 0.00 | 0.60 | 0.60 | 0.52 | 0.15 | 0.00 |
| Avail Cap(c_a), veh/h | 751 | 0 | 340 | | | | 0 | 623 | 613 | 370 | 2283 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.70 | 0.70 | 0.00 |
| Uniform Delay (d), s/veh | 19.4 | 0.0 | 19.6 | | | | 0.0 | 13.4 | 13.4 | 17.6 | 3.4 | 0.0 |
| Incr Delay (d2), s/veh | 1.7 | 0.0 | 6.8 | | | | 0.0 | 4.2 | 4.3 | 0.4 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 0.0 | 2.6 | | | | 0.0 | 3.7 | 3.7 | 1.8 | 0.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 21.2 | 0.0 | 26.5 | | | | 0.0 | 17.7 | 17.8 | 18.0 | 3.5 | 0.0 |
| LnGrp LOS | C | | C | | | | | B | B | B | A | |
| Approach Vol, veh/h | 655 | | | | | | 743 | | | 532 | | |
| Approach Delay, s/veh | 22.9 | | | | | | 17.7 | | | 8.7 | | |
| Approach LOS | C | | | | | | B | | | A | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 37.0 | | 15.0 | | 22.0 | | 13.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 30.4 | | 9.3 | | * 17 | | 10.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 3.9 | | 6.8 | | 10.6 | | 8.5 | | | | | |
| Green Ext Time (p_c), s | 0.9 | | 0.0 | | 1.3 | | 0.3 | | | | | |

Intersection Summary

| | |
|------------------------------|------|
| HCM 7th Control Delay, s/veh | 17.0 |
| HCM 7th LOS | B |

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

Item 7 B.

01/06/2025

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↕ | ↕↔ | | ↕ | ↕↔ | |
| Traffic Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 14 | 1 | 616 | 9 | 39 | 462 | 109 |
| Future Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 14 | 1 | 616 | 9 | 39 | 462 | 109 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 0 | 23 | 0 | 1 | 15 | 1 | 677 | 10 | 43 | 508 | 120 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|------|--------|---|---|------|---|---|
| Conflicting Flow All | 995 | 1342 | 314 | 1024 | 1397 | 343 | 627 | 0 | 0 | 687 | 0 | 0 |
| Stage 1 | 653 | 653 | - | 684 | 684 | - | - | - | - | - | - | - |
| Stage 2 | 341 | 689 | - | 340 | 713 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 199 | 151 | 682 | 190 | 140 | 653 | 950 | - | - | 903 | - | - |
| Stage 1 | 422 | 462 | - | 405 | 447 | - | - | - | - | - | - | - |
| Stage 2 | 647 | 445 | - | 649 | 433 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 184 | 144 | 682 | 174 | 133 | 653 | 950 | - | - | 903 | - | - |
| Mov Cap-2 Maneuver | 184 | 144 | - | 174 | 133 | - | - | - | - | - | - | - |
| Stage 1 | 402 | 440 | - | 404 | 446 | - | - | - | - | - | - | - |
| Stage 2 | 630 | 444 | - | 597 | 413 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|-----------------------------|----|-------|------|------|
| HCM Control Delay, s/v26.93 | | 12.18 | 0.01 | 0.59 |
| HCM LOS | D | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 950 | - | - | 184 | 682 | 518 | 903 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.317 | 0.034 | 0.032 | 0.047 | - | - |
| HCM Control Delay (s/veh) | 8.8 | - | - | 33.5 | 10.5 | 12.2 | 9.2 | - | - |
| HCM Lane LOS | A | - | - | D | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.3 | 0.1 | 0.1 | 0.1 | - | - |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 18.2 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↔ | | ↖ | ↕↗ | | ↖ | ↕↗ | |
| Traffic Vol, veh/h | 43 | 19 | 39 | 9 | 28 | 142 | 57 | 441 | 10 | 75 | 377 | 31 |
| Future Vol, veh/h | 43 | 19 | 39 | 9 | 28 | 142 | 57 | 441 | 10 | 75 | 377 | 31 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 48 | 21 | 44 | 10 | 31 | 160 | 64 | 496 | 11 | 84 | 424 | 35 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 2 |
| HCM Control Delay, s/veh | 13.2 | 16.7 | 20.3 | 17.5 |
| HCM LOS | B | C | C | C |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 69% | 0% | 5% | 100% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 94% | 31% | 0% | 16% | 0% | 100% | 80% |
| Vol Right, % | 0% | 0% | 6% | 0% | 100% | 79% | 0% | 0% | 20% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 57 | 294 | 157 | 62 | 39 | 179 | 75 | 251 | 157 |
| LT Vol | 57 | 0 | 0 | 43 | 0 | 9 | 75 | 0 | 0 |
| Through Vol | 0 | 294 | 147 | 19 | 0 | 28 | 0 | 251 | 126 |
| RT Vol | 0 | 0 | 10 | 0 | 39 | 142 | 0 | 0 | 31 |
| Lane Flow Rate | 64 | 330 | 176 | 70 | 44 | 201 | 84 | 282 | 176 |
| Geometry Grp | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Degree of Util (X) | 0.142 | 0.683 | 0.369 | 0.179 | 0.098 | 0.439 | 0.188 | 0.593 | 0.362 |
| Departure Headway (Hd) | 7.976 | 7.447 | 7.54 | 9.257 | 8.084 | 7.849 | 8.014 | 7.554 | 7.412 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 448 | 486 | 476 | 386 | 441 | 457 | 447 | 477 | 484 |
| Service Time | 5.744 | 5.215 | 5.308 | 7.051 | 5.876 | 5.624 | 5.781 | 5.321 | 5.179 |
| HCM Lane V/C Ratio | 0.143 | 0.679 | 0.37 | 0.181 | 0.1 | 0.44 | 0.188 | 0.591 | 0.364 |
| HCM Control Delay, s/veh | 12.1 | 24.9 | 14.7 | 14.1 | 11.8 | 16.7 | 12.6 | 20.8 | 14.4 |
| HCM Lane LOS | B | C | B | B | B | C | B | C | B |
| HCM 95th-tile Q | 0.5 | 5.1 | 1.7 | 0.6 | 0.3 | 2.2 | 0.7 | 3.8 | 1.6 |

| | | | | | | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Intersection | | | | | | | | | | | | |
| Intersection Delay, s/veh 27.7 | | | | | | | | | | | | |
| Intersection LOS D | | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | | ↔ | ↔ |
| Traffic Vol, veh/h | 70 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Future Vol, veh/h | 70 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 84 | 81 | 7 | 100 | 113 | 51 | 33 | 376 | 66 | 89 | 220 | 154 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|-------------------------------|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right NB | | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh 6.8 | | 22.6 | 41.7 | 20.2 |
| HCM LOS | C | C | E | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 51% | 0% | 38% | 29% | 0% |
| Vol Thru, % | 0% | 85% | 49% | 0% | 43% | 71% | 0% |
| Vol Right, % | 0% | 15% | 0% | 100% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 27 | 367 | 137 | 6 | 219 | 257 | 128 |
| LT Vol | 27 | 0 | 70 | 0 | 83 | 74 | 0 |
| Through Vol | 0 | 312 | 67 | 0 | 94 | 183 | 0 |
| RT Vol | 0 | 55 | 0 | 6 | 42 | 0 | 128 |
| Lane Flow Rate | 33 | 442 | 165 | 7 | 264 | 310 | 154 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.071 | 0.884 | 0.399 | 0.015 | 0.598 | 0.661 | 0.292 |
| Departure Headway (Hd) | 7.949 | 7.327 | 8.703 | 7.714 | 8.153 | 7.687 | 6.816 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 453 | 500 | 414 | 465 | 446 | 471 | 529 |
| Service Time | 5.649 | 5.027 | 6.435 | 5.445 | 6.168 | 5.409 | 4.538 |
| HCM Lane V/C Ratio | 0.073 | 0.884 | 0.399 | 0.015 | 0.592 | 0.658 | 0.291 |
| HCM Control Delay, s/veh | 11.3 | 43.9 | 17.1 | 10.6 | 22.6 | 24.2 | 12.3 |
| HCM Lane LOS | B | E | C | B | C | C | B |
| HCM 95th-tile Q | 0.2 | 9.7 | 1.9 | 0 | 3.8 | 4.7 | 1.2 |

Intersection

Intersection Delay, s/veh 19.7
Intersection LOS C

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | P | | | 4 |
| Traffic Vol, veh/h | 87 | 282 | 162 | 61 | 219 | 84 |
| Future Vol, veh/h | 87 | 282 | 162 | 61 | 219 | 84 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 114 | 371 | 213 | 80 | 288 | 111 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|-----|------|------|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh | 2.4 | 14.4 | 20.3 |
| HCM LOS | C | B | C |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 24% | 72% |
| Vol Thru, % | 73% | 0% | 28% |
| Vol Right, % | 27% | 76% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 223 | 369 | 303 |
| LT Vol | 0 | 87 | 219 |
| Through Vol | 162 | 0 | 84 |
| RT Vol | 61 | 282 | 0 |
| Lane Flow Rate | 293 | 486 | 399 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.48 | 0.737 | 0.665 |
| Departure Headway (Hd) | 5.895 | 5.462 | 6.007 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 607 | 655 | 598 |
| Service Time | 3.983 | 3.534 | 4.086 |
| HCM Lane V/C Ratio | 0.483 | 0.742 | 0.667 |
| HCM Control Delay, s/veh | 14.4 | 22.4 | 20.3 |
| HCM Lane LOS | B | C | C |
| HCM 95th-tile Q | 2.6 | 6.5 | 5 |

Intersection

Intersection Delay, s/veh25.1
Intersection LOS D

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 225 | 41 | 126 | 4 |
| Future Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 225 | 41 | 126 | 4 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 10 | 1 | 459 | 3 | 110 | 1 | 135 | 247 | 45 | 138 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay, s/veh | 10 | 37.6 | 12.5 | 13.8 |
| HCM LOS | A | E | B | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 0% | 80% | 25% | 0% |
| Vol Thru, % | 99% | 0% | 90% | 1% | 75% | 0% |
| Vol Right, % | 0% | 100% | 10% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 124 | 225 | 10 | 521 | 167 | 4 |
| LT Vol | 1 | 0 | 0 | 418 | 41 | 0 |
| Through Vol | 123 | 0 | 9 | 3 | 126 | 0 |
| RT Vol | 0 | 225 | 1 | 100 | 0 | 4 |
| Lane Flow Rate | 136 | 247 | 11 | 573 | 184 | 4 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.254 | 0.411 | 0.021 | 0.89 | 0.361 | 0.008 |
| Departure Headway (Hd) | 6.702 | 5.982 | 6.816 | 5.598 | 7.083 | 6.238 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 533 | 598 | 528 | 647 | 505 | 569 |
| Service Time | 4.482 | 3.761 | 4.816 | 3.656 | 4.871 | 4.026 |
| HCM Lane V/C Ratio | 0.255 | 0.413 | 0.021 | 0.886 | 0.364 | 0.007 |
| HCM Control Delay, s/veh | 11.8 | 12.9 | 10 | 37.6 | 13.9 | 9.1 |
| HCM Lane LOS | B | B | A | E | B | A |
| HCM 95th-tile Q | 1 | 2 | 0.1 | 10.8 | 1.6 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|-----|------|------|-------|------|------|------|------|------|------|
| Lane Configurations | | | | ↖ | ↗ | | ↖ | ↗ | | | ↗ | ↖ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 107 | 1 | 195 | 290 | 401 | 0 | 0 | 642 | 316 |
| Future Volume (veh/h) | 0 | 0 | 0 | 107 | 1 | 195 | 290 | 401 | 0 | 0 | 642 | 316 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 113 | 1 | 205 | 305 | 422 | 0 | 0 | 676 | 333 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 209 | 1 | 192 | 415 | 2413 | 0 | 0 | 792 | 390 |
| Arrive On Green | | | | 0.12 | 0.12 | 0.12 | 0.23 | 0.68 | 0.00 | 0.00 | 0.35 | 0.35 |
| Sat Flow, veh/h | | | | 1739 | 8 | 1604 | 1795 | 3618 | 0 | 0 | 2351 | 1112 |
| Grp Volume(v), veh/h | | | | 113 | 0 | 206 | 305 | 422 | 0 | 0 | 532 | 477 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1611 | 1795 | 1763 | 0 | 0 | 1777 | 1592 |
| Q Serve(g_s), s | | | | 2.8 | 0.0 | 5.4 | 7.1 | 1.9 | 0.0 | 0.0 | 12.5 | 12.5 |
| Cycle Q Clear(g_c), s | | | | 2.8 | 0.0 | 5.4 | 7.1 | 1.9 | 0.0 | 0.0 | 12.5 | 12.5 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.70 |
| Lane Grp Cap(c), veh/h | | | | 209 | 0 | 193 | 415 | 2413 | 0 | 0 | 624 | 559 |
| V/C Ratio(X) | | | | 0.54 | 0.00 | 1.07 | 0.74 | 0.17 | 0.00 | 0.00 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | | | | 209 | 0 | 193 | 451 | 2413 | 0 | 0 | 624 | 559 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.82 | 0.82 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 18.6 | 0.0 | 19.8 | 16.0 | 2.5 | 0.0 | 0.0 | 13.5 | 13.5 |
| Incr Delay (d2), s/veh | | | | 1.6 | 0.0 | 83.1 | 3.9 | 0.1 | 0.0 | 0.0 | 13.8 | 15.2 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.0 | 0.0 | 6.2 | 3.0 | 0.4 | 0.0 | 0.0 | 6.5 | 6.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 20.2 | 0.0 | 102.9 | 19.9 | 2.7 | 0.0 | 0.0 | 27.4 | 28.7 |
| LnGrp LOS | | | | C | | F | B | A | | | C | C |
| Approach Vol, veh/h | | | | | 319 | | | 727 | | | 1009 | |
| Approach Delay, s/veh | | | | | 73.6 | | | 9.9 | | | 28.0 | |
| Approach LOS | | | | | E | | | A | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 15.0 | 20.4 | | 9.6 | | 35.4 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 11.3 | * 16 | | 5.4 | | 30.8 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 9.1 | 14.5 | | 7.4 | | 3.9 | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | | 0.0 | | 1.2 | | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 28.7 |
| HCM 7th LOS | | C |

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 234 | 208 | 347 | 0 | 0 | 0 | 0 | 457 | 91 | 276 | 473 | 0 |
| Future Volume (veh/h) | 234 | 208 | 347 | 0 | 0 | 0 | 0 | 457 | 91 | 276 | 473 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 245 | 305 | 306 | | | | 0 | 497 | 99 | 300 | 514 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 396 | 433 | 358 | | | | 0 | 879 | 174 | 449 | 2205 | 0 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | | | | 0.00 | 0.30 | 0.30 | 0.25 | 0.63 | 0.00 |
| Sat Flow, veh/h | 1739 | 1900 | 1572 | | | | 0 | 3057 | 587 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 245 | 305 | 306 | | | | 0 | 299 | 297 | 300 | 514 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1900 | 1572 | | | | 0 | 1791 | 1759 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 7.6 | 8.9 | 11.2 | | | | 0.0 | 8.5 | 8.6 | 9.1 | 3.8 | 0.0 |
| Cycle Q Clear(g_c), s | 7.6 | 8.9 | 11.2 | | | | 0.0 | 8.5 | 8.6 | 9.1 | 3.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.33 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 396 | 433 | 358 | | | | 0 | 531 | 522 | 449 | 2205 | 0 |
| V/C Ratio(X) | 0.62 | 0.70 | 0.85 | | | | 0.00 | 0.56 | 0.57 | 0.67 | 0.23 | 0.00 |
| Avail Cap(c_a), veh/h | 446 | 488 | 404 | | | | 0 | 531 | 522 | 449 | 2205 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.66 | 0.66 | 0.00 |
| Uniform Delay (d), s/veh | 20.8 | 21.3 | 22.2 | | | | 0.0 | 17.8 | 17.9 | 20.2 | 4.9 | 0.0 |
| Incr Delay (d2), s/veh | 1.2 | 3.0 | 13.5 | | | | 0.0 | 4.3 | 4.5 | 2.0 | 0.2 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 3.9 | 5.1 | | | | 0.0 | 3.9 | 3.9 | 3.8 | 1.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 22.1 | 24.3 | 35.8 | | | | 0.0 | 22.1 | 22.3 | 22.2 | 5.1 | 0.0 |
| LnGrp LOS | C | C | D | | | | | C | C | C | A | |
| Approach Vol, veh/h | 856 | | | | | | 596 | | | 814 | | |
| Approach Delay, s/veh | 27.8 | | | | | | 22.2 | | | 11.4 | | |
| Approach LOS | C | | | | | | C | | | B | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 42.1 | | 19.7 | | 22.4 | | 17.9 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 35.8 | | 14.3 | | * 18 | | 15.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 5.8 | | 11.1 | | 10.6 | | 13.2 | | | | | |
| Green Ext Time (p_c), s | 1.5 | | 0.1 | | 1.0 | | 0.5 | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 20.4 |
| HCM 7th LOS | | C |

Notes
 User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕↗ | |
| Traffic Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 37 | 4 | 462 | 9 | 50 | 658 | 112 |
| Future Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 37 | 4 | 462 | 9 | 50 | 658 | 112 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 56 | 2 | 44 | 5 | 1 | 43 | 5 | 531 | 10 | 57 | 756 | 129 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|------|--------|---|---|------|---|---|
| Conflicting Flow All | 1211 | 1486 | 443 | 1040 | 1545 | 271 | 885 | 0 | 0 | 541 | 0 | 0 |
| Stage 1 | 936 | 936 | - | 545 | 545 | - | - | - | - | - | - | - |
| Stage 2 | 275 | 551 | - | 494 | 1000 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 138 | 123 | 563 | 185 | 113 | 727 | 760 | - | - | 1023 | - | - |
| Stage 1 | 285 | 342 | - | 490 | 517 | - | - | - | - | - | - | - |
| Stage 2 | 707 | 514 | - | 525 | 319 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 121 | 116 | 563 | 157 | 106 | 727 | 760 | - | - | 1023 | - | - |
| Mov Cap-2 Maneuver | 121 | 116 | - | 157 | 106 | - | - | - | - | - | - | - |
| Stage 1 | 269 | 323 | - | 487 | 513 | - | - | - | - | - | - | - |
| Stage 2 | 661 | 511 | - | 454 | 301 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|-----------------------------|----|-------|------|------|
| HCM Control Delay, s/v39.65 | | 13.16 | 0.08 | 0.53 |
| HCM LOS | E | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 760 | - | - | 121 | 563 | 490 | 1023 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.486 | 0.078 | 0.099 | 0.056 | - | - |
| HCM Control Delay (s/veh) | 9.8 | - | - | 60.3 | 11.9 | 13.2 | 8.7 | - | - |
| HCM Lane LOS | A | - | - | F | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 2.2 | 0.3 | 0.3 | 0.2 | - | - |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 22.5 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↕↗ | | ↖ | ↕↗ | |
| Traffic Vol, veh/h | 92 | 45 | 84 | 18 | 33 | 76 | 46 | 307 | 21 | 146 | 505 | 49 |
| Future Vol, veh/h | 92 | 45 | 84 | 18 | 33 | 76 | 46 | 307 | 21 | 146 | 505 | 49 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 103 | 51 | 94 | 20 | 37 | 85 | 52 | 345 | 24 | 164 | 567 | 55 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 2 |
| HCM Control Delay, s/veh | 16.7 | 16.8 | 18.3 | 27.6 |
| HCM LOS | C | C | C | D |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 67% | 0% | 14% | 100% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 83% | 33% | 0% | 26% | 0% | 100% | 77% |
| Vol Right, % | 0% | 0% | 17% | 0% | 100% | 60% | 0% | 0% | 23% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 46 | 205 | 123 | 137 | 84 | 127 | 146 | 337 | 217 |
| LT Vol | 46 | 0 | 0 | 92 | 0 | 18 | 146 | 0 | 0 |
| Through Vol | 0 | 205 | 102 | 45 | 0 | 33 | 0 | 337 | 168 |
| RT Vol | 0 | 0 | 21 | 0 | 84 | 76 | 0 | 0 | 49 |
| Lane Flow Rate | 52 | 230 | 139 | 154 | 94 | 143 | 164 | 378 | 244 |
| Geometry Grp | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Degree of Util (X) | 0.13 | 0.546 | 0.33 | 0.407 | 0.219 | 0.358 | 0.38 | 0.828 | 0.524 |
| Departure Headway (Hd) | 9.081 | 8.547 | 8.564 | 9.525 | 8.364 | 9.043 | 8.345 | 7.882 | 7.719 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 395 | 423 | 420 | 379 | 428 | 398 | 433 | 461 | 469 |
| Service Time | 6.833 | 6.299 | 6.316 | 7.283 | 6.121 | 6.806 | 6.045 | 5.582 | 5.419 |
| HCM Lane V/C Ratio | 0.132 | 0.544 | 0.331 | 0.406 | 0.22 | 0.359 | 0.379 | 0.82 | 0.52 |
| HCM Control Delay, s/veh | 13.2 | 21.2 | 15.5 | 18.7 | 13.5 | 16.8 | 16.1 | 38.5 | 18.6 |
| HCM Lane LOS | B | C | C | C | B | C | C | E | C |
| HCM 95th-tile Q | 0.4 | 3.2 | 1.4 | 1.9 | 0.8 | 1.6 | 1.7 | 8 | 3 |

| | | | | | | | | | | | | |
|-------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Intersection | | | | | | | | | | | | |
| Intersection Delay, s/veh20.5 | | | | | | | | | | | | |
| Intersection LOS C | | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | | ↕ | ↕ |
| Traffic Vol, veh/h | 72 | 84 | 8 | 61 | 72 | 31 | 29 | 200 | 23 | 56 | 337 | 124 |
| Future Vol, veh/h | 72 | 84 | 8 | 61 | 72 | 31 | 29 | 200 | 23 | 56 | 337 | 124 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 81 | 94 | 9 | 69 | 81 | 35 | 33 | 225 | 26 | 63 | 379 | 139 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|------------------------------|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach RightNB | | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh4.9 | | 15.3 | 15.3 | 26.5 |
| HCM LOS | B | C | C | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 46% | 0% | 37% | 14% | 0% |
| Vol Thru, % | 0% | 90% | 54% | 0% | 44% | 86% | 0% |
| Vol Right, % | 0% | 10% | 0% | 100% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 29 | 223 | 156 | 8 | 164 | 393 | 124 |
| LT Vol | 29 | 0 | 72 | 0 | 61 | 56 | 0 |
| Through Vol | 0 | 200 | 84 | 0 | 72 | 337 | 0 |
| RT Vol | 0 | 23 | 0 | 8 | 31 | 0 | 124 |
| Lane Flow Rate | 33 | 251 | 175 | 9 | 184 | 442 | 139 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.068 | 0.481 | 0.379 | 0.017 | 0.386 | 0.809 | 0.225 |
| Departure Headway (Hd) | 7.496 | 6.91 | 7.788 | 6.834 | 7.541 | 6.598 | 5.812 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 478 | 521 | 463 | 523 | 477 | 548 | 617 |
| Service Time | 5.242 | 4.655 | 5.537 | 4.583 | 5.59 | 4.336 | 3.549 |
| HCM Lane V/C Ratio | 0.069 | 0.482 | 0.378 | 0.017 | 0.386 | 0.807 | 0.225 |
| HCM Control Delay, s/veh | 10.8 | 15.9 | 15.2 | 9.7 | 15.3 | 31.7 | 10.2 |
| HCM Lane LOS | B | C | C | A | C | D | B |
| HCM 95th-tile Q | 0.2 | 2.6 | 1.7 | 0.1 | 1.8 | 7.9 | 0.9 |

Intersection

Intersection Delay, s/veh 12.1
Intersection LOS B

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | P | | | Y |
| Traffic Vol, veh/h | 35 | 104 | 124 | 85 | 304 | 141 |
| Future Vol, veh/h | 35 | 104 | 124 | 85 | 304 | 141 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 36 | 106 | 127 | 87 | 310 | 144 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|----|-----|------|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh 9.4 | | 9.3 | 14.2 |
| HCM LOS | A | A | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 25% | 68% |
| Vol Thru, % | 59% | 0% | 32% |
| Vol Right, % | 41% | 75% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 209 | 139 | 445 |
| LT Vol | 0 | 35 | 304 |
| Through Vol | 124 | 0 | 141 |
| RT Vol | 85 | 104 | 0 |
| Lane Flow Rate | 213 | 142 | 454 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.27 | 0.198 | 0.588 |
| Departure Headway (Hd) | 4.564 | 5.034 | 4.664 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 783 | 708 | 772 |
| Service Time | 2.618 | 3.098 | 2.71 |
| HCM Lane V/C Ratio | 0.272 | 0.201 | 0.588 |
| HCM Control Delay, s/veh | 9.3 | 9.4 | 14.2 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 1.1 | 0.7 | 3.9 |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 15.4 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 39 | 1 | 165 | 498 | 92 | 83 | 1 |
| Future Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 39 | 1 | 165 | 498 | 92 | 83 | 1 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 3 | 3 | 211 | 3 | 41 | 1 | 172 | 519 | 96 | 86 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|----|------|----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay, s/veh | 9.7 | | 13.4 | 17 |
| HCM LOS | A | B | C | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 45% | 83% | 53% | 0% |
| Vol Thru, % | 99% | 0% | 27% | 1% | 47% | 0% |
| Vol Right, % | 0% | 100% | 27% | 16% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 166 | 498 | 11 | 245 | 175 | 1 |
| LT Vol | 1 | 0 | 5 | 203 | 92 | 0 |
| Through Vol | 165 | 0 | 3 | 3 | 83 | 0 |
| RT Vol | 0 | 498 | 3 | 39 | 0 | 1 |
| Lane Flow Rate | 173 | 519 | 11 | 255 | 182 | 1 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.272 | 0.714 | 0.021 | 0.424 | 0.327 | 0.002 |
| Departure Headway (Hd) | 5.667 | 4.956 | 6.462 | 5.985 | 6.466 | 5.487 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 635 | 731 | 552 | 602 | 556 | 651 |
| Service Time | 3.398 | 2.687 | 4.52 | 4.021 | 4.21 | 3.23 |
| HCM Lane V/C Ratio | 0.272 | 0.71 | 0.02 | 0.424 | 0.327 | 0.002 |
| HCM Control Delay, s/veh | 10.5 | 19.1 | 9.7 | 13.4 | 12.3 | 8.2 |
| HCM Lane LOS | B | C | A | B | B | A |
| HCM 95th-tile Q | 1.1 | 6.1 | 0.1 | 2.1 | 1.4 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|-----|-----|-----|------|-------|-------|------|------|------|------|------|-------|
| Lane Configurations | | | | ↖ | ↗ | | ↖ | ↗ | | | ↗ | ↖ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 161 | 12 | 379 | 321 | 392 | 0 | 0 | 436 | 536 |
| Future Volume (veh/h) | 0 | 0 | 0 | 161 | 12 | 379 | 321 | 392 | 0 | 0 | 436 | 536 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 169 | 13 | 399 | 338 | 413 | 0 | 0 | 459 | 564 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 341 | 10 | 308 | 437 | 2269 | 0 | 0 | 562 | 471 |
| Arrive On Green | | | | 0.20 | 0.20 | 0.20 | 0.49 | 1.00 | 0.00 | 0.00 | 0.32 | 0.32 |
| Sat Flow, veh/h | | | | 1739 | 51 | 1567 | 1795 | 3618 | 0 | 0 | 1870 | 1489 |
| Grp Volume(v), veh/h | | | | 169 | 0 | 412 | 338 | 413 | 0 | 0 | 459 | 564 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1618 | 1795 | 1763 | 0 | 0 | 1777 | 1489 |
| Q Serve(g_s), s | | | | 4.8 | 0.0 | 10.8 | 8.5 | 0.0 | 0.0 | 0.0 | 13.1 | 17.4 |
| Cycle Q Clear(g_c), s | | | | 4.8 | 0.0 | 10.8 | 8.5 | 0.0 | 0.0 | 0.0 | 13.1 | 17.4 |
| Prop In Lane | | | | 1.00 | | 0.97 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 341 | 0 | 318 | 437 | 2269 | 0 | 0 | 562 | 471 |
| V/C Ratio(X) | | | | 0.49 | 0.00 | 1.30 | 0.77 | 0.18 | 0.00 | 0.00 | 0.82 | 1.20 |
| Avail Cap(c_a), veh/h | | | | 341 | 0 | 318 | 467 | 2269 | 0 | 0 | 562 | 471 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.83 | 0.83 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 19.7 | 0.0 | 22.1 | 12.8 | 0.0 | 0.0 | 0.0 | 17.3 | 18.8 |
| Incr Delay (d2), s/veh | | | | 0.4 | 0.0 | 154.9 | 5.4 | 0.1 | 0.0 | 0.0 | 12.4 | 107.7 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.8 | 0.0 | 17.3 | 3.0 | 0.0 | 0.0 | 0.0 | 6.7 | 19.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 20.1 | 0.0 | 177.0 | 18.3 | 0.1 | 0.0 | 0.0 | 29.7 | 126.5 |
| LnGrp LOS | | | | C | | F | B | A | | | C | F |
| Approach Vol, veh/h | | | | | 581 | | | 751 | | | 1023 | |
| Approach Delay, s/veh | | | | | 131.4 | | | 8.3 | | | 83.1 | |
| Approach LOS | | | | | F | | | A | | | F | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|------------------------------|------|-------|------|------|
| Phs Duration (G+Y+Rc), s | 18.0 | 22.0 | 15.0 | 40.0 |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | 4.2 | 4.6 |
| Max Green Setting (Gmax), s | 14.3 | * 17 | 10.8 | 35.4 |
| Max Q Clear Time (g_c+I1), s | 10.5 | 19.4 | 12.8 | 2.0 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.0 | 1.2 |

| Intersection Summary | |
|------------------------------|------|
| HCM 7th Control Delay, s/veh | 71.2 |
| HCM 7th LOS | E |

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 248 | 0 | 586 | 0 | 0 | 0 | 0 | 465 | 61 | 251 | 346 | 0 |
| Future Volume (veh/h) | 248 | 0 | 586 | 0 | 0 | 0 | 0 | 465 | 61 | 251 | 346 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 174 | 0 | 710 | | | | 0 | 489 | 64 | 264 | 364 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 373 | 0 | 675 | | | | 0 | 1062 | 138 | 369 | 2205 | 0 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | | | | 0.00 | 0.33 | 0.33 | 0.41 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1739 | 0 | 3145 | | | | 0 | 3268 | 413 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 174 | 0 | 710 | | | | 0 | 275 | 278 | 264 | 364 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1572 | | | | 0 | 1791 | 1796 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 4.8 | 0.0 | 11.8 | | | | 0.0 | 6.6 | 6.7 | 6.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.8 | 0.0 | 11.8 | | | | 0.0 | 6.6 | 6.7 | 6.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 373 | 0 | 675 | | | | 0 | 599 | 601 | 369 | 2205 | 0 |
| V/C Ratio(X) | 0.47 | 0.00 | 1.05 | | | | 0.00 | 0.46 | 0.46 | 0.72 | 0.17 | 0.00 |
| Avail Cap(c_a), veh/h | 373 | 0 | 675 | | | | 0 | 599 | 601 | 398 | 2205 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.00 |
| Uniform Delay (d), s/veh | 18.9 | 0.0 | 21.6 | | | | 0.0 | 14.4 | 14.4 | 14.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 49.2 | | | | 0.0 | 2.5 | 2.6 | 3.0 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.0 | 8.4 | | | | 0.0 | 2.8 | 2.9 | 2.4 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 19.2 | 0.0 | 70.8 | | | | 0.0 | 16.9 | 17.0 | 17.8 | 0.1 | 0.0 |
| LnGrp LOS | B | | F | | | | | B | B | B | A | |
| Approach Vol, veh/h | 884 | | | | | | 553 | | | 628 | | |
| Approach Delay, s/veh | 60.6 | | | | | | 16.9 | | | 7.5 | | |
| Approach LOS | E | | | | | | B | | | A | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 39.0 | | 16.0 | | 23.0 | | 16.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 34.4 | | 12.3 | | * 18 | | 11.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 8.8 | | 8.7 | | 13.8 | | | | | |
| Green Ext Time (p_c), s | 1.0 | | 0.1 | | 1.0 | | 0.0 | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 32.8 | | | | | | | | | |
| HCM 7th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕↗ | |
| Traffic Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 79 | 1 | 394 | 9 | 69 | 754 | 109 |
| Future Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 79 | 1 | 394 | 9 | 69 | 754 | 109 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 56 | 0 | 22 | 0 | 1 | 83 | 1 | 415 | 9 | 73 | 794 | 115 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|------|--------|---|---|------|---|---|
| Conflicting Flow All | 1206 | 1423 | 454 | 964 | 1475 | 212 | 908 | 0 | 0 | 424 | 0 | 0 |
| Stage 1 | 996 | 996 | - | 422 | 422 | - | - | - | - | - | - | - |
| Stage 2 | 210 | 426 | - | 542 | 1054 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 139 | 135 | 553 | 210 | 125 | 793 | 745 | - | - | 1131 | - | - |
| Stage 1 | 262 | 320 | - | 580 | 587 | - | - | - | - | - | - | - |
| Stage 2 | 773 | 584 | - | 492 | 301 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 115 | 126 | 553 | 188 | 117 | 793 | 745 | - | - | 1131 | - | - |
| Mov Cap-2 Maneuver | 115 | 126 | - | 188 | 117 | - | - | - | - | - | - | - |
| Stage 1 | 245 | 300 | - | 579 | 586 | - | - | - | - | - | - | - |
| Stage 2 | 689 | 583 | - | 442 | 282 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|------------------------|----|-------|------|------|
| HCM Control Delay, s/v | 48 | 10.49 | 0.02 | 0.62 |
| HCM LOS | E | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 745 | - | - | 115 | 553 | 740 | 1131 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.483 | 0.04 | 0.114 | 0.064 | - | - |
| HCM Control Delay (s/veh) | 9.8 | - | - | 62.4 | 11.8 | 10.5 | 8.4 | - | - |
| HCM Lane LOS | A | - | - | F | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 2.2 | 0.1 | 0.4 | 0.2 | - | - |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 22.2 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕↗ | |
| Traffic Vol, veh/h | 43 | 19 | 39 | 13 | 28 | 68 | 57 | 293 | 4 | 75 | 669 | 31 |
| Future Vol, veh/h | 43 | 19 | 39 | 13 | 28 | 68 | 57 | 293 | 4 | 75 | 669 | 31 |
| 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 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 45 | 20 | 41 | 14 | 29 | 72 | 60 | 308 | 4 | 79 | 704 | 33 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|----|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 2 |
| HCM Control Delay, s/veh | 12.4 | 13.3 | 14 | 28.4 |
| HCM LOS | B | B | B | D |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 69% | 0% | 12% | 100% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 96% | 31% | 0% | 26% | 0% | 100% | 88% |
| Vol Right, % | 0% | 0% | 4% | 0% | 100% | 62% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 57 | 195 | 102 | 62 | 39 | 109 | 75 | 446 | 254 |
| LT Vol | 57 | 0 | 0 | 43 | 0 | 13 | 75 | 0 | 0 |
| Through Vol | 0 | 195 | 98 | 19 | 0 | 28 | 0 | 446 | 223 |
| RT Vol | 0 | 0 | 4 | 0 | 39 | 68 | 0 | 0 | 31 |
| Lane Flow Rate | 60 | 206 | 107 | 65 | 41 | 115 | 79 | 469 | 267 |
| Geometry Grp | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Degree of Util (X) | 0.132 | 0.422 | 0.223 | 0.159 | 0.087 | 0.251 | 0.156 | 0.868 | 0.488 |
| Departure Headway (Hd) | 7.915 | 7.388 | 7.499 | 8.786 | 7.621 | 7.863 | 7.113 | 6.657 | 6.571 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 453 | 487 | 478 | 408 | 469 | 457 | 508 | 549 | 551 |
| Service Time | 5.664 | 5.137 | 5.248 | 6.547 | 5.382 | 5.62 | 4.813 | 4.357 | 4.271 |
| HCM Lane V/C Ratio | 0.132 | 0.423 | 0.224 | 0.159 | 0.087 | 0.252 | 0.156 | 0.854 | 0.485 |
| HCM Control Delay, s/veh | 11.9 | 15.5 | 12.4 | 13.2 | 11.1 | 13.3 | 11.1 | 38.7 | 15.4 |
| HCM Lane LOS | B | C | B | B | B | B | B | E | C |
| HCM 95th-tile Q | 0.5 | 2.1 | 0.8 | 0.6 | 0.3 | 1 | 0.5 | 9.5 | 2.7 |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 18.4 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | | ↔ | ↔ |
| Traffic Vol, veh/h | 78 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Future Vol, veh/h | 78 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 82 | 71 | 6 | 87 | 99 | 44 | 28 | 328 | 58 | 78 | 193 | 135 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 4.5 | | 17.2 | 23.8 |
| HCM LOS | B | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 54% | 0% | 38% | 29% | 0% |
| Vol Thru, % | 0% | 85% | 46% | 0% | 43% | 71% | 0% |
| Vol Right, % | 0% | 15% | 0% | 100% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 27 | 367 | 145 | 6 | 219 | 257 | 128 |
| LT Vol | 27 | 0 | 78 | 0 | 83 | 74 | 0 |
| Through Vol | 0 | 312 | 67 | 0 | 94 | 183 | 0 |
| RT Vol | 0 | 55 | 0 | 6 | 42 | 0 | 128 |
| Lane Flow Rate | 28 | 386 | 153 | 6 | 231 | 271 | 135 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.058 | 0.718 | 0.336 | 0.012 | 0.477 | 0.527 | 0.23 |
| Departure Headway (Hd) | 7.308 | 6.689 | 7.923 | 6.928 | 7.442 | 7.015 | 6.151 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 490 | 541 | 453 | 515 | 484 | 514 | 582 |
| Service Time | 5.059 | 4.44 | 5.685 | 4.689 | 5.499 | 4.77 | 3.905 |
| HCM Lane V/C Ratio | 0.057 | 0.713 | 0.338 | 0.012 | 0.477 | 0.527 | 0.232 |
| HCM Control Delay, s/veh | 10.5 | 24.8 | 14.7 | 9.8 | 17.2 | 17.4 | 10.7 |
| HCM Lane LOS | B | C | B | A | C | C | B |
| HCM 95th-tile Q | 0.2 | 5.8 | 1.5 | 0 | 2.5 | 3 | 0.9 |

Intersection

Intersection Delay, s/veh 18.2
Intersection LOS C

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | P | | | 4 |
| Traffic Vol, veh/h | 87 | 282 | 162 | 61 | 219 | 239 |
| Future Vol, veh/h | 87 | 282 | 162 | 61 | 219 | 239 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 92 | 297 | 171 | 64 | 231 | 252 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|----|----|------|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh | 16 | 12 | 22.9 |
| HCM LOS | C | B | C |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 24% | 48% |
| Vol Thru, % | 73% | 0% | 52% |
| Vol Right, % | 27% | 76% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 223 | 369 | 458 |
| LT Vol | 0 | 87 | 219 |
| Through Vol | 162 | 0 | 239 |
| RT Vol | 61 | 282 | 0 |
| Lane Flow Rate | 235 | 388 | 482 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.369 | 0.587 | 0.742 |
| Departure Headway (Hd) | 5.665 | 5.441 | 5.539 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 631 | 660 | 651 |
| Service Time | 3.729 | 3.499 | 3.589 |
| HCM Lane V/C Ratio | 0.372 | 0.588 | 0.74 |
| HCM Control Delay, s/veh | 12 | 16 | 22.9 |
| HCM Lane LOS | B | C | C |
| HCM 95th-tile Q | 1.7 | 3.8 | 6.6 |

| | | | | | | | | | | | | |
|---------------------------|----|--|--|--|--|--|--|--|--|--|--|--|
| Intersection | | | | | | | | | | | | |
| Intersection Delay, s/veh | 33 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 238 | 201 | 121 | 4 |
| Future Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 238 | 201 | 121 | 4 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 9 | 1 | 440 | 3 | 105 | 1 | 129 | 251 | 212 | 127 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |



















| Approach | EB | WB | NB | SB |
|----------------------------|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay, s/veh | 11 | 50.8 | 14.1 | 26.3 |
| HCM LOS | B | F | B | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 0% | 80% | 62% | 0% |
| Vol Thru, % | 99% | 0% | 90% | 1% | 38% | 0% |
| Vol Right, % | 0% | 100% | 10% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 124 | 238 | 10 | 521 | 322 | 4 |
| LT Vol | 1 | 0 | 0 | 418 | 201 | 0 |
| Through Vol | 123 | 0 | 9 | 3 | 121 | 0 |
| RT Vol | 0 | 238 | 1 | 100 | 0 | 4 |
| Lane Flow Rate | 131 | 251 | 11 | 548 | 339 | 4 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.265 | 0.457 | 0.023 | 0.949 | 0.707 | 0.008 |
| Departure Headway (Hd) | 7.297 | 6.572 | 7.779 | 6.23 | 7.509 | 6.468 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 492 | 546 | 458 | 581 | 481 | 552 |
| Service Time | 5.053 | 4.327 | 5.864 | 4.267 | 5.261 | 4.219 |
| HCM Lane V/C Ratio | 0.266 | 0.46 | 0.024 | 0.943 | 0.705 | 0.007 |
| HCM Control Delay, s/veh | 12.7 | 14.8 | 11 | 50.8 | 26.5 | 9.3 |
| HCM Lane LOS | B | B | B | F | D | A |
| HCM 95th-tile Q | 1.1 | 2.4 | 0.1 | 12.6 | 5.5 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | |  |  | | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 77 | 1 | 406 | 683 | 726 | 0 | 0 | 644 | 149 |
| Future Volume (veh/h) | 0 | 0 | 0 | 77 | 1 | 406 | 683 | 726 | 0 | 0 | 644 | 149 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.93 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 81 | 1 | 427 | 719 | 764 | 0 | 0 | 678 | 157 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 286 | 1 | 264 | 746 | 2601 | 0 | 0 | 765 | 177 |
| Arrive On Green | | | | 0.16 | 0.16 | 0.16 | 0.83 | 1.00 | 0.00 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 1739 | 4 | 1607 | 1795 | 3618 | 0 | 0 | 2915 | 653 |
| Grp Volume(v), veh/h | | | | 81 | 0 | 428 | 719 | 764 | 0 | 0 | 427 | 408 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1611 | 1795 | 1763 | 0 | 0 | 1777 | 1698 |
| Q Serve(g_s), s | | | | 3.7 | 0.0 | 14.8 | 30.6 | 0.0 | 0.0 | 0.0 | 20.7 | 20.8 |
| Cycle Q Clear(g_c), s | | | | 3.7 | 0.0 | 14.8 | 30.6 | 0.0 | 0.0 | 0.0 | 20.7 | 20.8 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.38 |
| Lane Grp Cap(c), veh/h | | | | 286 | 0 | 265 | 746 | 2601 | 0 | 0 | 482 | 460 |
| V/C Ratio(X) | | | | 0.28 | 0.00 | 1.62 | 0.96 | 0.29 | 0.00 | 0.00 | 0.89 | 0.89 |
| Avail Cap(c_a), veh/h | | | | 286 | 0 | 265 | 764 | 2601 | 0 | 0 | 482 | 460 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.29 | 0.29 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 33.0 | 0.0 | 37.6 | 7.0 | 0.0 | 0.0 | 0.0 | 31.5 | 31.5 |
| Incr Delay (d2), s/veh | | | | 0.2 | 0.0 | 293.9 | 10.2 | 0.1 | 0.0 | 0.0 | 20.7 | 21.6 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.5 | 0.0 | 27.3 | 4.9 | 0.0 | 0.0 | 0.0 | 11.5 | 11.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 33.2 | 0.0 | 331.5 | 17.2 | 0.1 | 0.0 | 0.0 | 52.1 | 53.1 |
| LnGrp LOS | | | | C | | F | B | A | | | D | D |
| Approach Vol, veh/h | | | | | 509 | | | 1483 | | | 835 | |
| Approach Delay, s/veh | | | | | 284.1 | | | 8.4 | | | 52.6 | |
| Approach LOS | | | | | F | | | A | | | D | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 42.0 | 29.0 | | 19.0 | | 71.0 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 38.3 | * 24 | | 14.8 | | 66.4 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 32.6 | 22.8 | | 16.8 | | 2.0 | | | | | | |
| Green Ext Time (p_c), s | 0.3 | 0.5 | | 0.0 | | 2.4 | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 71.1 | | | | | | | | |
| HCM 7th LOS | | | | E | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 417 | 208 | 640 | 0 | 0 | 0 | 0 | 992 | 104 | 370 | 351 | 0 |
| Future Volume (veh/h) | 417 | 208 | 640 | 0 | 0 | 0 | 0 | 992 | 104 | 370 | 351 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 366 | 500 | 483 | | | | 0 | 1044 | 109 | 389 | 369 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 498 | 545 | 451 | | | | 0 | 1138 | 119 | 468 | 2336 | 0 |
| Arrive On Green | 0.29 | 0.29 | 0.29 | | | | 0.00 | 0.35 | 0.35 | 0.44 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1739 | 1900 | 1572 | | | | 0 | 3357 | 340 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 366 | 500 | 483 | | | | 0 | 573 | 580 | 389 | 369 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1900 | 1572 | | | | 0 | 1791 | 1812 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 17.1 | 22.9 | 25.8 | | | | 0.0 | 27.5 | 27.6 | 17.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 17.1 | 22.9 | 25.8 | | | | 0.0 | 27.5 | 27.6 | 17.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.19 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 498 | 545 | 451 | | | | 0 | 625 | 632 | 468 | 2336 | 0 |
| V/C Ratio(X) | 0.73 | 0.92 | 1.07 | | | | 0.00 | 0.92 | 0.92 | 0.83 | 0.16 | 0.00 |
| Avail Cap(c_a), veh/h | 498 | 545 | 451 | | | | 0 | 625 | 632 | 468 | 2336 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.55 | 0.55 | 0.00 |
| Uniform Delay (d), s/veh | 29.0 | 31.1 | 32.1 | | | | 0.0 | 28.0 | 28.1 | 23.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 4.9 | 20.3 | 62.8 | | | | 0.0 | 20.5 | 20.5 | 6.6 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.5 | 13.1 | 17.2 | | | | 0.0 | 15.0 | 15.2 | 6.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 33.9 | 51.3 | 94.9 | | | | 0.0 | 48.5 | 48.5 | 30.1 | 0.1 | 0.0 |
| LnGrp LOS | C | D | F | | | | | D | D | C | A | |
| Approach Vol, veh/h | 1349 | | | | | | 1153 | | | 758 | | |
| Approach Delay, s/veh | 62.2 | | | | | | 48.5 | | | 15.5 | | |
| Approach LOS | E | | | | | | D | | | B | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 64.2 | | 28.2 | | 36.0 | | 30.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 55.4 | | 20.3 | | * 31 | | 25.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 19.4 | | 29.6 | | 27.8 | | | | | |
| Green Ext Time (p_c), s | 1.1 | | 0.0 | | 0.8 | | 0.0 | | | | | |

| Intersection Summary | | |
|------------------------------|------|--|
| HCM 7th Control Delay, s/veh | 46.5 | |
| HCM 7th LOS | D | |

Notes
 User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

Item 7 B.

01/06/2025

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕↗ | |
| Traffic Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 59 | 4 | 988 | 9 | 92 | 787 | 112 |
| Future Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 59 | 4 | 988 | 9 | 92 | 787 | 112 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 52 | 2 | 40 | 4 | 1 | 62 | 4 | 1040 | 9 | 97 | 828 | 118 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|------|--------|---|---|------|---|---|
| Conflicting Flow All | 1610 | 2139 | 473 | 1662 | 2193 | 525 | 946 | 0 | 0 | 1049 | 0 | 0 |
| Stage 1 | 1081 | 1081 | - | 1053 | 1053 | - | - | - | - | - | - | - |
| Stage 2 | 529 | 1058 | - | 609 | 1140 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 70 | 48 | 537 | 64 | 45 | 497 | 721 | - | - | 659 | - | - |
| Stage 1 | 232 | 292 | - | 242 | 301 | - | - | - | - | - | - | - |
| Stage 2 | 501 | 300 | - | 449 | 274 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | ~ 50 | 41 | 537 | 48 | 38 | 497 | 721 | - | - | 659 | - | - |
| Mov Cap-2 Maneuver | ~ 50 | 41 | - | 48 | 38 | - | - | - | - | - | - | - |
| Stage 1 | 198 | 249 | - | 240 | 299 | - | - | - | - | - | - | - |
| Stage 2 | 434 | 298 | - | 351 | 234 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|-----------------------------|----|------|------|------|
| HCM Control Delay, s/165.89 | | 21.9 | 0.04 | 1.06 |
| HCM LOS | F | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 721 | - | - | 50 | 537 | 280 | 659 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 1.073 | 0.074 | 0.241 | 0.147 | - | - |
| HCM Control Delay (s/veh) | 10 | - | - | 280.4 | 12.2 | 21.9 | 11.4 | - | - |
| HCM Lane LOS | B | - | - | F | B | C | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 4.7 | 0.2 | 0.9 | 0.5 | - | - |

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 98.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕↗ | |
| Traffic Vol, veh/h | 92 | 45 | 84 | 22 | 33 | 192 | 46 | 717 | 34 | 146 | 634 | 49 |
| Future Vol, veh/h | 92 | 45 | 84 | 22 | 33 | 192 | 46 | 717 | 34 | 146 | 634 | 49 |
| 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 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 97 | 47 | 88 | 23 | 35 | 202 | 48 | 755 | 36 | 154 | 667 | 52 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|-------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 2 |
| HCM Control Delay, s/veh | 23.7 | 44.9 | 145.5 | 89.8 |
| HCM LOS | C | E | F | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|--------------------------|-------|--------|--------|--------|-------|--------|-------|--------|--------|
| Vol Left, % | 100% | 0% | 0% | 67% | 0% | 9% | 100% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 88% | 33% | 0% | 13% | 0% | 100% | 81% |
| Vol Right, % | 0% | 0% | 12% | 0% | 100% | 78% | 0% | 0% | 19% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 46 | 478 | 273 | 137 | 84 | 247 | 146 | 423 | 260 |
| LT Vol | 46 | 0 | 0 | 92 | 0 | 22 | 146 | 0 | 0 |
| Through Vol | 0 | 478 | 239 | 45 | 0 | 33 | 0 | 423 | 211 |
| RT Vol | 0 | 0 | 34 | 0 | 84 | 192 | 0 | 0 | 49 |
| Lane Flow Rate | 48 | 503 | 287 | 144 | 88 | 260 | 154 | 445 | 274 |
| Geometry Grp | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Degree of Util (X) | 0.14 | 1.382 | 0.793 | 0.476 | 0.264 | 0.775 | 0.435 | 1.203 | 0.731 |
| Departure Headway (Hd) | 10.87 | 10.326 | 10.377 | 12.914 | 11.72 | 11.575 | 10.83 | 10.357 | 10.218 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 332 | 357 | 351 | 281 | 309 | 315 | 335 | 356 | 356 |
| Service Time | 8.57 | 8.026 | 8.077 | 10.614 | 9.42 | 9.275 | 8.53 | 8.057 | 7.918 |
| HCM Lane V/C Ratio | 0.145 | 1.409 | 0.818 | 0.512 | 0.285 | 0.825 | 0.46 | 1.25 | 0.77 |
| HCM Control Delay, s/veh | 15.3 | 216.5 | 43.1 | 26.8 | 18.6 | 44.9 | 21.6 | 146.4 | 36.2 |
| HCM Lane LOS | C | F | E | D | C | E | C | F | E |
| HCM 95th-tile Q | 0.5 | 24.1 | 6.6 | 2.4 | 1 | 6.1 | 2.1 | 17.7 | 5.6 |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 21.7 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | | ↔ | ↔ |
| Traffic Vol, veh/h | 190 | 63 | 8 | 17 | 65 | 73 | 29 | 200 | 23 | 61 | 337 | 171 |
| Future Vol, veh/h | 190 | 63 | 8 | 17 | 65 | 73 | 29 | 200 | 23 | 61 | 337 | 171 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 200 | 66 | 8 | 18 | 68 | 77 | 31 | 211 | 24 | 64 | 355 | 180 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|----|----|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 14.9 | | 16 | 26.4 |
| HCM LOS | C | B | C | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 75% | 0% | 11% | 15% | 0% |
| Vol Thru, % | 0% | 90% | 25% | 0% | 42% | 85% | 0% |
| Vol Right, % | 0% | 10% | 0% | 100% | 47% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 29 | 223 | 253 | 8 | 155 | 398 | 171 |
| LT Vol | 29 | 0 | 190 | 0 | 17 | 61 | 0 |
| Through Vol | 0 | 200 | 63 | 0 | 65 | 337 | 0 |
| RT Vol | 0 | 23 | 0 | 8 | 73 | 0 | 171 |
| Lane Flow Rate | 31 | 235 | 266 | 8 | 163 | 419 | 180 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.067 | 0.477 | 0.585 | 0.016 | 0.349 | 0.807 | 0.307 |
| Departure Headway (Hd) | 7.907 | 7.318 | 7.913 | 6.811 | 7.693 | 6.935 | 6.14 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 452 | 491 | 455 | 524 | 467 | 519 | 583 |
| Service Time | 5.672 | 5.083 | 5.672 | 4.569 | 5.764 | 4.69 | 3.895 |
| HCM Lane V/C Ratio | 0.069 | 0.479 | 0.585 | 0.015 | 0.349 | 0.807 | 0.309 |
| HCM Control Delay, s/veh | 11.2 | 16.6 | 21.3 | 9.7 | 14.9 | 32.8 | 11.6 |
| HCM Lane LOS | B | C | C | A | B | D | B |
| HCM 95th-tile Q | 0.2 | 2.5 | 3.7 | 0 | 1.5 | 7.7 | 1.3 |

Intersection

Intersection Delay, s/veh 20.3
Intersection LOS C

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | B | | | A |
| Traffic Vol, veh/h | 35 | 104 | 305 | 85 | 304 | 251 |
| Future Vol, veh/h | 35 | 104 | 305 | 85 | 304 | 251 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 37 | 109 | 321 | 89 | 320 | 264 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|-----|------|------|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh | 0.8 | 14.5 | 26.7 |
| HCM LOS | B | B | D |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 25% | 55% |
| Vol Thru, % | 78% | 0% | 45% |
| Vol Right, % | 22% | 75% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 390 | 139 | 555 |
| LT Vol | 0 | 35 | 304 |
| Through Vol | 305 | 0 | 251 |
| RT Vol | 85 | 104 | 0 |
| Lane Flow Rate | 411 | 146 | 584 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.571 | 0.239 | 0.82 |
| Departure Headway (Hd) | 5.007 | 5.876 | 5.05 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 718 | 610 | 724 |
| Service Time | 3.04 | 3.924 | 3.05 |
| HCM Lane V/C Ratio | 0.572 | 0.239 | 0.807 |
| HCM Control Delay, s/veh | 14.5 | 10.8 | 26.7 |
| HCM Lane LOS | B | B | D |
| HCM 95th-tile Q | 3.6 | 0.9 | 8.8 |

| Intersection | | | | | | | | | | | | |
|-------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh55.3 | | | | | | | | | | | | |
| Intersection LOS F | | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 237 | 1 | 148 | 619 | 202 | 83 | 1 |
| Future Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 237 | 1 | 148 | 619 | 202 | 83 | 1 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 3 | 3 | 214 | 3 | 249 | 1 | 156 | 652 | 213 | 87 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|------------------------------|-----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach RightNB | | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay, s/veh | 1.8 | 33.7 | 80.2 | 23.7 |
| HCM LOS | B | D | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 45% | 46% | 71% | 0% |
| Vol Thru, % | 99% | 0% | 27% | 1% | 29% | 0% |
| Vol Right, % | 0% | 100% | 27% | 53% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 149 | 619 | 11 | 443 | 285 | 1 |
| LT Vol | 1 | 0 | 5 | 203 | 202 | 0 |
| Through Vol | 148 | 0 | 3 | 3 | 83 | 0 |
| RT Vol | 0 | 619 | 3 | 237 | 0 | 1 |
| Lane Flow Rate | 157 | 652 | 12 | 466 | 300 | 1 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.3 | 1.115 | 0.027 | 0.826 | 0.638 | 0.002 |
| Departure Headway (Hd) | 6.88 | 6.159 | 8.605 | 6.626 | 7.97 | 6.881 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 519 | 586 | 419 | 550 | 456 | 523 |
| Service Time | 4.667 | 3.945 | 6.605 | 4.626 | 5.67 | 4.581 |
| HCM Lane V/C Ratio | 0.303 | 1.113 | 0.029 | 0.847 | 0.658 | 0.002 |
| HCM Control Delay, s/veh | 12.6 | 96.5 | 11.8 | 33.7 | 23.7 | 9.6 |
| HCM Lane LOS | B | F | B | D | C | A |
| HCM 95th-tile Q | 1.3 | 20.2 | 0.1 | 8.3 | 4.4 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|-----|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | ↙ | ↘ | | ↙ | ↕ | | | ↕ | ↘ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 59 | 12 | 107 | 369 | 516 | 0 | 0 | 423 | 478 |
| Future Volume (veh/h) | 0 | 0 | 0 | 59 | 12 | 107 | 369 | 516 | 0 | 0 | 423 | 478 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 65 | 13 | 118 | 405 | 567 | 0 | 0 | 465 | 525 |
| Peak Hour Factor | | | | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 168 | 16 | 142 | 581 | 2668 | 0 | 0 | 634 | 534 |
| Arrive On Green | | | | 0.10 | 0.10 | 0.10 | 0.32 | 0.76 | 0.00 | 0.00 | 0.36 | 0.36 |
| Sat Flow, veh/h | | | | 1739 | 162 | 1473 | 1795 | 3618 | 0 | 0 | 1870 | 1497 |
| Grp Volume(v), veh/h | | | | 65 | 0 | 131 | 405 | 567 | 0 | 0 | 465 | 525 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1635 | 1795 | 1763 | 0 | 0 | 1777 | 1497 |
| Q Serve(g_s), s | | | | 2.1 | 0.0 | 4.7 | 11.8 | 2.8 | 0.0 | 0.0 | 13.7 | 20.9 |
| Cycle Q Clear(g_c), s | | | | 2.1 | 0.0 | 4.7 | 11.8 | 2.8 | 0.0 | 0.0 | 13.7 | 20.9 |
| Prop In Lane | | | | 1.00 | | 0.90 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 168 | 0 | 158 | 581 | 2668 | 0 | 0 | 634 | 534 |
| V/C Ratio(X) | | | | 0.39 | 0.00 | 0.83 | 0.70 | 0.21 | 0.00 | 0.00 | 0.73 | 0.98 |
| Avail Cap(c_a), veh/h | | | | 168 | 0 | 158 | 607 | 2668 | 0 | 0 | 634 | 534 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.82 | 0.82 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 25.4 | 0.0 | 26.6 | 17.7 | 2.1 | 0.0 | 0.0 | 16.8 | 19.1 |
| Incr Delay (d2), s/veh | | | | 0.5 | 0.0 | 27.8 | 2.2 | 0.1 | 0.0 | 0.0 | 7.4 | 35.1 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.8 | 0.0 | 2.9 | 4.9 | 0.5 | 0.0 | 0.0 | 6.4 | 11.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 26.0 | 0.0 | 54.4 | 20.0 | 2.3 | 0.0 | 0.0 | 24.2 | 54.2 |
| LnGrp LOS | | | | C | | D | B | A | | | C | D |
| Approach Vol, veh/h | | | | | 196 | | | 972 | | | 990 | |
| Approach Delay, s/veh | | | | | 45.0 | | | 9.6 | | | 40.1 | |
| Approach LOS | | | | | D | | | A | | | D | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 24.0 | 26.0 | | 10.0 | | 50.0 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 20.3 | * 21 | | 5.8 | | 45.4 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 13.8 | 22.9 | | 6.7 | | 4.8 | | | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | 0.0 | | 1.7 | | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 26.8 |
| HCM 7th LOS | | C |

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 313 | 0 | 296 | 0 | 0 | 0 | 0 | 572 | 111 | 176 | 305 | 0 |
| Future Volume (veh/h) | 313 | 0 | 296 | 0 | 0 | 0 | 0 | 572 | 111 | 176 | 305 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 440 | 0 | 215 | | | | 0 | 622 | 121 | 191 | 332 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 613 | 0 | 277 | | | | 0 | 1035 | 201 | 370 | 2283 | 0 |
| Arrive On Green | 0.18 | 0.00 | 0.18 | | | | 0.00 | 0.35 | 0.35 | 0.21 | 0.65 | 0.00 |
| Sat Flow, veh/h | 3478 | 0 | 1572 | | | | 0 | 3069 | 577 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 440 | 0 | 215 | | | | 0 | 374 | 369 | 191 | 332 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1572 | | | | 0 | 1791 | 1762 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 6.0 | 0.0 | 6.5 | | | | 0.0 | 8.6 | 8.6 | 4.8 | 1.8 | 0.0 |
| Cycle Q Clear(g_c), s | 6.0 | 0.0 | 6.5 | | | | 0.0 | 8.6 | 8.6 | 4.8 | 1.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.33 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 613 | 0 | 277 | | | | 0 | 623 | 613 | 370 | 2283 | 0 |
| V/C Ratio(X) | 0.72 | 0.00 | 0.78 | | | | 0.00 | 0.60 | 0.60 | 0.52 | 0.15 | 0.00 |
| Avail Cap(c_a), veh/h | 751 | 0 | 340 | | | | 0 | 623 | 613 | 370 | 2283 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.70 | 0.70 | 0.00 |
| Uniform Delay (d), s/veh | 19.4 | 0.0 | 19.6 | | | | 0.0 | 13.4 | 13.4 | 17.6 | 3.4 | 0.0 |
| Incr Delay (d2), s/veh | 1.7 | 0.0 | 6.8 | | | | 0.0 | 4.2 | 4.3 | 0.4 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 0.0 | 2.6 | | | | 0.0 | 3.7 | 3.7 | 1.8 | 0.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 21.2 | 0.0 | 26.5 | | | | 0.0 | 17.7 | 17.8 | 18.0 | 3.5 | 0.0 |
| LnGrp LOS | C | | C | | | | | B | B | B | A | |
| Approach Vol, veh/h | 655 | | | | | | 743 | | | 523 | | |
| Approach Delay, s/veh | 22.9 | | | | | | 17.7 | | | 8.8 | | |
| Approach LOS | C | | | | | | B | | | A | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 37.0 | | 15.0 | | 22.0 | | 13.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 30.4 | | 9.3 | | * 17 | | 10.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 3.8 | | 6.8 | | 10.6 | | 8.5 | | | | | |
| Green Ext Time (p_c), s | 0.9 | | 0.0 | | 1.3 | | 0.3 | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 17.1 |
| HCM 7th LOS | | B |

Notes
 User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | ↕ |
| Traffic Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 14 | 1 | 575 | 9 | 39 | 462 | 109 |
| Future Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 14 | 1 | 575 | 9 | 39 | 462 | 109 |
| 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 | - | - | - | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 0 | 23 | 0 | 1 | 15 | 1 | 632 | 10 | 43 | 508 | 120 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 912 | 1237 | 508 | 1232 | 1352 | 321 | 627 | 0 | 0 | 642 | 0 | 0 |
| Stage 1 | 593 | 593 | - | 639 | 639 | - | - | - | - | - | - | - |
| Stage 2 | 319 | 644 | - | 593 | 713 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 241 | 175 | 564 | 143 | 149 | 676 | 952 | - | - | 941 | - | - |
| Stage 1 | 491 | 492 | - | 432 | 469 | - | - | - | - | - | - | - |
| Stage 2 | 668 | 467 | - | 491 | 434 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 223 | 167 | 564 | 131 | 142 | 676 | 952 | - | - | 941 | - | - |
| Mov Cap-2 Maneuver | 223 | 167 | - | 131 | 142 | - | - | - | - | - | - | - |
| Stage 1 | 468 | 470 | - | 431 | 469 | - | - | - | - | - | - | - |
| Stage 2 | 650 | 467 | - | 449 | 415 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|-----------------------------|----|-------|------|------|
| HCM Control Delay, s/v24.04 | | 11.87 | 0.02 | 0.58 |
| HCM LOS | C | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 952 | - | - | 269 | 541 | 941 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.302 | 0.03 | 0.046 | - | - |
| HCM Control Delay (s/veh) | 8.8 | - | - | 24 | 11.9 | 9 | - | - |
| HCM Lane LOS | A | - | - | C | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.2 | 0.1 | 0.1 | - | - |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 28.5 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 43 | 19 | 39 | 9 | 28 | 142 | 57 | 399 | 10 | 75 | 375 | 31 |
| Future Vol, veh/h | 43 | 19 | 39 | 9 | 28 | 142 | 57 | 399 | 10 | 75 | 375 | 31 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 48 | 21 | 44 | 10 | 31 | 160 | 64 | 448 | 11 | 84 | 421 | 35 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 12.4 | 15.6 | 33.6 | 31.7 |
| HCM LOS | B | C | D | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 69% | 0% | 5% | 100% | 0% |
| Vol Thru, % | 0% | 98% | 31% | 0% | 16% | 0% | 92% |
| Vol Right, % | 0% | 2% | 0% | 100% | 79% | 0% | 8% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 57 | 409 | 62 | 39 | 179 | 75 | 406 |
| LT Vol | 57 | 0 | 43 | 0 | 9 | 75 | 0 |
| Through Vol | 0 | 399 | 19 | 0 | 28 | 0 | 375 |
| RT Vol | 0 | 10 | 0 | 39 | 142 | 0 | 31 |
| Lane Flow Rate | 64 | 460 | 70 | 44 | 201 | 84 | 456 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.128 | 0.851 | 0.167 | 0.091 | 0.414 | 0.168 | 0.842 |
| Departure Headway (Hd) | 7.215 | 6.669 | 8.646 | 7.459 | 7.409 | 7.162 | 6.648 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 496 | 542 | 414 | 479 | 485 | 501 | 543 |
| Service Time | 4.965 | 4.419 | 6.413 | 5.226 | 5.467 | 4.911 | 4.397 |
| HCM Lane V/C Ratio | 0.129 | 0.849 | 0.169 | 0.092 | 0.414 | 0.168 | 0.84 |
| HCM Control Delay, s/veh | 11 | 36.7 | 13.2 | 11 | 15.6 | 11.4 | 35.5 |
| HCM Lane LOS | B | E | B | B | C | B | E |
| HCM 95th-tile Q | 0.4 | 9 | 0.6 | 0.3 | 2 | 0.6 | 8.8 |

| | | | | | | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Intersection | | | | | | | | | | | | |
| Intersection Delay, s/veh 27.7 | | | | | | | | | | | | |
| Intersection LOS D | | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | | ↕ | ↕ |
| Traffic Vol, veh/h | 70 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Future Vol, veh/h | 70 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 84 | 81 | 7 | 100 | 113 | 51 | 33 | 376 | 66 | 89 | 220 | 154 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|-------------------------------|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right NB | | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh 6.8 | | 22.6 | 41.7 | 20.2 |
| HCM LOS | C | C | E | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 51% | 0% | 38% | 29% | 0% |
| Vol Thru, % | 0% | 85% | 49% | 0% | 43% | 71% | 0% |
| Vol Right, % | 0% | 15% | 0% | 100% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 27 | 367 | 137 | 6 | 219 | 257 | 128 |
| LT Vol | 27 | 0 | 70 | 0 | 83 | 74 | 0 |
| Through Vol | 0 | 312 | 67 | 0 | 94 | 183 | 0 |
| RT Vol | 0 | 55 | 0 | 6 | 42 | 0 | 128 |
| Lane Flow Rate | 33 | 442 | 165 | 7 | 264 | 310 | 154 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.071 | 0.884 | 0.399 | 0.015 | 0.598 | 0.661 | 0.292 |
| Departure Headway (Hd) | 7.949 | 7.327 | 8.703 | 7.714 | 8.153 | 7.687 | 6.816 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 453 | 500 | 414 | 465 | 446 | 471 | 529 |
| Service Time | 5.649 | 5.027 | 6.435 | 5.445 | 6.168 | 5.409 | 4.538 |
| HCM Lane V/C Ratio | 0.073 | 0.884 | 0.399 | 0.015 | 0.592 | 0.658 | 0.291 |
| HCM Control Delay, s/veh | 11.3 | 43.9 | 17.1 | 10.6 | 22.6 | 24.2 | 12.3 |
| HCM Lane LOS | B | E | C | B | C | C | B |
| HCM 95th-tile Q | 0.2 | 9.7 | 1.9 | 0 | 3.8 | 4.7 | 1.2 |

Intersection

Intersection Delay, s/veh 19.6
Intersection LOS C

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | B | | | A |
| Traffic Vol, veh/h | 87 | 282 | 158 | 61 | 219 | 84 |
| Future Vol, veh/h | 87 | 282 | 158 | 61 | 219 | 84 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 114 | 371 | 208 | 80 | 288 | 111 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|-----|------|------|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh | 2.2 | 14.2 | 20.2 |
| HCM LOS | C | B | C |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 24% | 72% |
| Vol Thru, % | 72% | 0% | 28% |
| Vol Right, % | 28% | 76% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 219 | 369 | 303 |
| LT Vol | 0 | 87 | 219 |
| Through Vol | 158 | 0 | 84 |
| RT Vol | 61 | 282 | 0 |
| Lane Flow Rate | 288 | 486 | 399 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.471 | 0.734 | 0.664 |
| Departure Headway (Hd) | 5.888 | 5.445 | 5.994 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 608 | 660 | 598 |
| Service Time | 3.972 | 3.519 | 4.069 |
| HCM Lane V/C Ratio | 0.474 | 0.736 | 0.667 |
| HCM Control Delay, s/veh | 14.2 | 22.2 | 20.2 |
| HCM Lane LOS | B | C | C |
| HCM 95th-tile Q | 2.5 | 6.4 | 4.9 |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 24.9 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 225 | 41 | 121 | 4 |
| Future Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 225 | 41 | 121 | 4 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 10 | 1 | 459 | 3 | 110 | 1 | 135 | 247 | 45 | 133 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay, s/veh | 9.9 | 37 | 12.5 | 13.6 |
| HCM LOS | A | E | B | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 0% | 80% | 25% | 0% |
| Vol Thru, % | 99% | 0% | 90% | 1% | 75% | 0% |
| Vol Right, % | 0% | 100% | 10% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 124 | 225 | 10 | 521 | 162 | 4 |
| LT Vol | 1 | 0 | 0 | 418 | 41 | 0 |
| Through Vol | 123 | 0 | 9 | 3 | 121 | 0 |
| RT Vol | 0 | 225 | 1 | 100 | 0 | 4 |
| Lane Flow Rate | 136 | 247 | 11 | 573 | 178 | 4 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.253 | 0.409 | 0.021 | 0.887 | 0.35 | 0.008 |
| Departure Headway (Hd) | 6.682 | 5.962 | 6.78 | 5.579 | 7.079 | 6.231 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 534 | 601 | 531 | 647 | 506 | 570 |
| Service Time | 4.462 | 3.741 | 4.78 | 3.635 | 4.866 | 4.017 |
| HCM Lane V/C Ratio | 0.255 | 0.411 | 0.021 | 0.886 | 0.352 | 0.007 |
| HCM Control Delay, s/veh | 11.7 | 12.9 | 9.9 | 37 | 13.7 | 9.1 |
| HCM Lane LOS | B | B | A | E | B | A |
| HCM 95th-tile Q | 1 | 2 | 0.1 | 10.7 | 1.6 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|-----|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | ↖ | ↗ | | ↖ | ↗ | | | ↗ | ↖ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 107 | 1 | 195 | 290 | 399 | 0 | 0 | 642 | 316 |
| Future Volume (veh/h) | 0 | 0 | 0 | 107 | 1 | 195 | 290 | 399 | 0 | 0 | 642 | 316 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 113 | 1 | 205 | 305 | 420 | 0 | 0 | 676 | 333 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 226 | 1 | 208 | 431 | 2550 | 0 | 0 | 920 | 453 |
| Arrive On Green | | | | 0.13 | 0.13 | 0.13 | 0.48 | 1.00 | 0.00 | 0.00 | 0.41 | 0.41 |
| Sat Flow, veh/h | | | | 1739 | 8 | 1604 | 1795 | 3618 | 0 | 0 | 2355 | 1114 |
| Grp Volume(v), veh/h | | | | 113 | 0 | 206 | 305 | 420 | 0 | 0 | 531 | 478 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1611 | 1795 | 1763 | 0 | 0 | 1777 | 1599 |
| Q Serve(g_s), s | | | | 3.6 | 0.0 | 7.7 | 8.0 | 0.0 | 0.0 | 0.0 | 15.2 | 15.2 |
| Cycle Q Clear(g_c), s | | | | 3.6 | 0.0 | 7.7 | 8.0 | 0.0 | 0.0 | 0.0 | 15.2 | 15.2 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.70 |
| Lane Grp Cap(c), veh/h | | | | 226 | 0 | 209 | 431 | 2550 | 0 | 0 | 723 | 650 |
| V/C Ratio(X) | | | | 0.50 | 0.00 | 0.98 | 0.71 | 0.16 | 0.00 | 0.00 | 0.74 | 0.74 |
| Avail Cap(c_a), veh/h | | | | 226 | 0 | 209 | 458 | 2550 | 0 | 0 | 723 | 650 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.82 | 0.82 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 24.3 | 0.0 | 26.0 | 13.9 | 0.0 | 0.0 | 0.0 | 15.1 | 15.1 |
| Incr Delay (d2), s/veh | | | | 0.6 | 0.0 | 57.1 | 3.1 | 0.1 | 0.0 | 0.0 | 6.5 | 7.2 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.4 | 0.0 | 6.0 | 2.7 | 0.0 | 0.0 | 0.0 | 6.8 | 6.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 24.9 | 0.0 | 83.1 | 17.1 | 0.1 | 0.0 | 0.0 | 21.6 | 22.3 |
| LnGrp LOS | | | | C | | F | B | A | | | C | C |
| Approach Vol, veh/h | | | | | 319 | | | 725 | | | 1009 | |
| Approach Delay, s/veh | | | | | 62.5 | | | 7.2 | | | 21.9 | |
| Approach LOS | | | | | E | | | A | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 19.0 | 29.0 | | 12.0 | | 48.0 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 15.3 | * 24 | | 7.8 | | 43.4 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 10.0 | 17.2 | | 9.7 | | 2.0 | | | | | | |
| Green Ext Time (p_c), s | 0.1 | 2.0 | | 0.0 | | 1.2 | | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 23.1 |
| HCM 7th LOS | | C |

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 234 | 208 | 347 | 0 | 0 | 0 | 0 | 457 | 91 | 276 | 471 | 0 |
| Future Volume (veh/h) | 234 | 208 | 347 | 0 | 0 | 0 | 0 | 457 | 91 | 276 | 471 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 245 | 305 | 306 | | | | 0 | 497 | 99 | 300 | 512 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 396 | 433 | 358 | | | | 0 | 879 | 174 | 449 | 2205 | 0 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | | | | 0.00 | 0.30 | 0.30 | 0.08 | 0.21 | 0.00 |
| Sat Flow, veh/h | 1739 | 1900 | 1572 | | | | 0 | 3057 | 587 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 245 | 305 | 306 | | | | 0 | 299 | 297 | 300 | 512 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1900 | 1572 | | | | 0 | 1791 | 1759 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 7.6 | 8.9 | 11.2 | | | | 0.0 | 8.5 | 8.6 | 9.8 | 7.3 | 0.0 |
| Cycle Q Clear(g_c), s | 7.6 | 8.9 | 11.2 | | | | 0.0 | 8.5 | 8.6 | 9.8 | 7.3 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.33 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 396 | 433 | 358 | | | | 0 | 531 | 522 | 449 | 2205 | 0 |
| V/C Ratio(X) | 0.62 | 0.70 | 0.85 | | | | 0.00 | 0.56 | 0.57 | 0.67 | 0.23 | 0.00 |
| Avail Cap(c_a), veh/h | 446 | 488 | 404 | | | | 0 | 531 | 522 | 449 | 2205 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.69 | 0.69 | 0.00 |
| Uniform Delay (d), s/veh | 20.8 | 21.3 | 22.2 | | | | 0.0 | 17.8 | 17.9 | 25.1 | 11.8 | 0.0 |
| Incr Delay (d2), s/veh | 1.2 | 3.0 | 13.5 | | | | 0.0 | 4.3 | 4.5 | 2.1 | 0.2 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 3.9 | 5.1 | | | | 0.0 | 3.9 | 3.9 | 4.8 | 2.9 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 22.1 | 24.3 | 35.8 | | | | 0.0 | 22.1 | 22.3 | 27.2 | 12.0 | 0.0 |
| LnGrp LOS | C | C | D | | | | | C | C | C | B | |
| Approach Vol, veh/h | 856 | | | | | | 596 | | | 812 | | |
| Approach Delay, s/veh | 27.8 | | | | | | 22.2 | | | 17.6 | | |
| Approach LOS | C | | | | | | C | | | B | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 42.1 | | 19.7 | | 22.4 | | 17.9 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 35.8 | | 14.3 | | * 18 | | 15.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 9.3 | | 11.8 | | 10.6 | | 13.2 | | | | | |
| Green Ext Time (p_c), s | 1.5 | | 0.1 | | 1.0 | | 0.5 | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 22.7 | | | | | | | | | |
| HCM 7th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

| 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 | 49 | 2 | 38 | 4 | 1 | 37 | 4 | 412 | 9 | 50 | 629 | 112 |
| Future Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 37 | 4 | 412 | 9 | 50 | 629 | 112 |
| 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 | - | - | - | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 56 | 2 | 44 | 5 | 1 | 43 | 5 | 474 | 10 | 57 | 723 | 129 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1084 | 1331 | 723 | 1327 | 1455 | 242 | 852 | 0 | 0 | 484 | 0 | 0 |
| Stage 1 | 838 | 838 | - | 488 | 488 | - | - | - | - | - | - | - |
| Stage 2 | 247 | 493 | - | 839 | 967 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 182 | 154 | 425 | 122 | 129 | 760 | 785 | - | - | 1077 | - | - |
| Stage 1 | 360 | 381 | - | 531 | 549 | - | - | - | - | - | - | - |
| Stage 2 | 736 | 546 | - | 359 | 332 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 161 | 145 | 425 | 102 | 122 | 760 | 785 | - | - | 1077 | - | - |
| Mov Cap-2 Maneuver | 161 | 145 | - | 102 | 122 | - | - | - | - | - | - | - |
| Stage 1 | 341 | 360 | - | 528 | 546 | - | - | - | - | - | - | - |
| Stage 2 | 689 | 543 | - | 303 | 314 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|-----------------------------|----|-------|------|------|
| HCM Control Delay, s/v35.33 | | 14.27 | 0.09 | 0.54 |
| HCM LOS | E | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 785 | - | - | 218 | 437 | 1077 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.469 | 0.111 | 0.053 | - | - |
| HCM Control Delay (s/veh) | 9.6 | - | - | 35.3 | 14.3 | 8.5 | - | - |
| HCM Lane LOS | A | - | - | E | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 2.3 | 0.4 | 0.2 | - | - |

HCM 7th AWSC
4: Bay Ave & Retail Dwy/Hill St

01/06/2025

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 44.2 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 92 | 45 | 84 | 18 | 33 | 76 | 46 | 256 | 21 | 146 | 474 | 49 |
| Future Vol, veh/h | 92 | 45 | 84 | 18 | 33 | 76 | 46 | 256 | 21 | 146 | 474 | 49 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 103 | 51 | 94 | 20 | 37 | 85 | 52 | 288 | 24 | 164 | 533 | 55 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 14.2 | 14.6 | 19.5 | 71.7 |
| HCM LOS | B | B | C | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 67% | 0% | 14% | 100% | 0% |
| Vol Thru, % | 0% | 92% | 33% | 0% | 26% | 0% | 91% |
| Vol Right, % | 0% | 8% | 0% | 100% | 60% | 0% | 9% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 46 | 277 | 137 | 84 | 127 | 146 | 523 |
| LT Vol | 46 | 0 | 92 | 0 | 18 | 146 | 0 |
| Through Vol | 0 | 256 | 45 | 0 | 33 | 0 | 474 |
| RT Vol | 0 | 21 | 0 | 84 | 76 | 0 | 49 |
| Lane Flow Rate | 52 | 311 | 154 | 94 | 143 | 164 | 588 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.109 | 0.609 | 0.351 | 0.186 | 0.307 | 0.326 | 1.082 |
| Departure Headway (Hd) | 7.901 | 7.315 | 8.537 | 7.365 | 8.089 | 7.153 | 6.627 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 456 | 498 | 423 | 490 | 447 | 499 | 547 |
| Service Time | 5.601 | 5.015 | 6.237 | 5.065 | 6.089 | 4.945 | 4.419 |
| HCM Lane V/C Ratio | 0.114 | 0.624 | 0.364 | 0.192 | 0.32 | 0.329 | 1.075 |
| HCM Control Delay, s/veh | 11.6 | 20.8 | 15.8 | 11.7 | 14.6 | 13.4 | 88 |
| HCM Lane LOS | B | C | C | B | B | B | F |
| HCM 95th-tile Q | 0.4 | 4 | 1.6 | 0.7 | 1.3 | 1.4 | 17.7 |

| Intersection | | | | | | | | | | | | |
|-------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh20.5 | | | | | | | | | | | | |
| Intersection LOS C | | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | | ↕ | ↕ |
| Traffic Vol, veh/h | 72 | 84 | 8 | 61 | 72 | 31 | 29 | 200 | 23 | 56 | 337 | 124 |
| Future Vol, veh/h | 72 | 84 | 8 | 61 | 72 | 31 | 29 | 200 | 23 | 56 | 337 | 124 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 81 | 94 | 9 | 69 | 81 | 35 | 33 | 225 | 26 | 63 | 379 | 139 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|------------------------------|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach RightNB | | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh4.9 | | 15.3 | 15.3 | 26.5 |
| HCM LOS | B | C | C | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 46% | 0% | 37% | 14% | 0% |
| Vol Thru, % | 0% | 90% | 54% | 0% | 44% | 86% | 0% |
| Vol Right, % | 0% | 10% | 0% | 100% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 29 | 223 | 156 | 8 | 164 | 393 | 124 |
| LT Vol | 29 | 0 | 72 | 0 | 61 | 56 | 0 |
| Through Vol | 0 | 200 | 84 | 0 | 72 | 337 | 0 |
| RT Vol | 0 | 23 | 0 | 8 | 31 | 0 | 124 |
| Lane Flow Rate | 33 | 251 | 175 | 9 | 184 | 442 | 139 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.068 | 0.481 | 0.379 | 0.017 | 0.386 | 0.809 | 0.225 |
| Departure Headway (Hd) | 7.496 | 6.91 | 7.788 | 6.834 | 7.541 | 6.598 | 5.812 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 478 | 521 | 463 | 523 | 477 | 548 | 617 |
| Service Time | 5.242 | 4.655 | 5.537 | 4.583 | 5.59 | 4.336 | 3.549 |
| HCM Lane V/C Ratio | 0.069 | 0.482 | 0.378 | 0.017 | 0.386 | 0.807 | 0.225 |
| HCM Control Delay, s/veh | 10.8 | 15.9 | 15.2 | 9.7 | 15.3 | 31.7 | 10.2 |
| HCM Lane LOS | B | C | C | A | C | D | B |
| HCM 95th-tile Q | 0.2 | 2.6 | 1.7 | 0.1 | 1.8 | 7.9 | 0.9 |

Intersection

Intersection Delay, s/veh 11.9
Intersection LOS B

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | P | | | 4 |
| Traffic Vol, veh/h | 35 | 104 | 124 | 85 | 304 | 135 |
| Future Vol, veh/h | 35 | 104 | 124 | 85 | 304 | 135 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 36 | 106 | 127 | 87 | 310 | 138 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|----|-----|----|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh 9.3 | | 9.3 | 14 |
| HCM LOS | A | A | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 25% | 69% |
| Vol Thru, % | 59% | 0% | 31% |
| Vol Right, % | 41% | 75% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 209 | 139 | 439 |
| LT Vol | 0 | 35 | 304 |
| Through Vol | 124 | 0 | 135 |
| RT Vol | 85 | 104 | 0 |
| Lane Flow Rate | 213 | 142 | 448 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.27 | 0.198 | 0.58 |
| Departure Headway (Hd) | 4.556 | 5.022 | 4.664 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 785 | 711 | 770 |
| Service Time | 2.61 | 3.084 | 2.712 |
| HCM Lane V/C Ratio | 0.271 | 0.2 | 0.582 |
| HCM Control Delay, s/veh | 9.3 | 9.3 | 14 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 1.1 | 0.7 | 3.8 |

| | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection | | | | | | | | | | | | |
| Intersection Delay, s/veh | 15.4 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 39 | 1 | 148 | 498 | 92 | 83 | 1 |
| Future Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 39 | 1 | 148 | 498 | 92 | 83 | 1 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 3 | 3 | 211 | 3 | 41 | 1 | 154 | 519 | 96 | 86 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay, s/veh | 9.6 | | 13.3 | 17.1 |
| HCM LOS | A | | B | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 45% | 83% | 53% | 0% |
| Vol Thru, % | 99% | 0% | 27% | 1% | 47% | 0% |
| Vol Right, % | 0% | 100% | 27% | 16% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 149 | 498 | 11 | 245 | 175 | 1 |
| LT Vol | 1 | 0 | 5 | 203 | 92 | 0 |
| Through Vol | 148 | 0 | 3 | 3 | 83 | 0 |
| RT Vol | 0 | 498 | 3 | 39 | 0 | 1 |
| Lane Flow Rate | 155 | 519 | 11 | 255 | 182 | 1 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.244 | 0.714 | 0.021 | 0.423 | 0.326 | 0.002 |
| Departure Headway (Hd) | 5.665 | 4.953 | 6.441 | 5.969 | 6.442 | 5.463 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 635 | 731 | 554 | 602 | 558 | 654 |
| Service Time | 3.396 | 2.684 | 4.5 | 4.005 | 4.185 | 3.206 |
| HCM Lane V/C Ratio | 0.244 | 0.71 | 0.02 | 0.424 | 0.326 | 0.002 |
| HCM Control Delay, s/veh | 10.2 | 19.1 | 9.6 | 13.3 | 12.3 | 8.2 |
| HCM Lane LOS | B | C | A | B | B | A |
| HCM 95th-tile Q | 1 | 6.1 | 0.1 | 2.1 | 1.4 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|-----|------|-------|-------|------|------|------|------|------|-------|
| Lane Configurations | | | | ↖ | ↗ | | ↖ | ↗ | | | ↖ | ↗ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 161 | 12 | 379 | 321 | 392 | 0 | 0 | 436 | 536 |
| Future Volume (veh/h) | 0 | 0 | 0 | 161 | 12 | 379 | 321 | 392 | 0 | 0 | 436 | 536 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 169 | 13 | 399 | 338 | 413 | 0 | 0 | 459 | 564 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 341 | 10 | 308 | 437 | 2269 | 0 | 0 | 562 | 471 |
| Arrive On Green | | | | 0.20 | 0.20 | 0.20 | 0.49 | 1.00 | 0.00 | 0.00 | 0.32 | 0.32 |
| Sat Flow, veh/h | | | | 1739 | 51 | 1567 | 1795 | 3618 | 0 | 0 | 1870 | 1489 |
| Grp Volume(v), veh/h | | | | 169 | 0 | 412 | 338 | 413 | 0 | 0 | 459 | 564 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1618 | 1795 | 1763 | 0 | 0 | 1777 | 1489 |
| Q Serve(g_s), s | | | | 4.8 | 0.0 | 10.8 | 8.5 | 0.0 | 0.0 | 0.0 | 13.1 | 17.4 |
| Cycle Q Clear(g_c), s | | | | 4.8 | 0.0 | 10.8 | 8.5 | 0.0 | 0.0 | 0.0 | 13.1 | 17.4 |
| Prop In Lane | | | | 1.00 | | 0.97 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 341 | 0 | 318 | 437 | 2269 | 0 | 0 | 562 | 471 |
| V/C Ratio(X) | | | | 0.49 | 0.00 | 1.30 | 0.77 | 0.18 | 0.00 | 0.00 | 0.82 | 1.20 |
| Avail Cap(c_a), veh/h | | | | 341 | 0 | 318 | 467 | 2269 | 0 | 0 | 562 | 471 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.83 | 0.83 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 19.7 | 0.0 | 22.1 | 12.8 | 0.0 | 0.0 | 0.0 | 17.3 | 18.8 |
| Incr Delay (d2), s/veh | | | | 0.4 | 0.0 | 154.9 | 5.4 | 0.1 | 0.0 | 0.0 | 12.4 | 107.7 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.8 | 0.0 | 17.3 | 3.0 | 0.0 | 0.0 | 0.0 | 6.7 | 19.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 20.1 | 0.0 | 177.0 | 18.3 | 0.1 | 0.0 | 0.0 | 29.7 | 126.5 |
| LnGrp LOS | | | | C | | F | B | A | | | C | F |
| Approach Vol, veh/h | | | | | 581 | | | 751 | | | 1023 | |
| Approach Delay, s/veh | | | | | 131.4 | | | 8.3 | | | 83.1 | |
| Approach LOS | | | | | F | | | A | | | F | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | 6 | | | | | |
| Phs Duration (G+Y+Rc), s | 18.0 | 22.0 | | 15.0 | | | 40.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | | 4.6 | | | | | |
| Max Green Setting (Gmax), s | 14.3 | * 17 | | 10.8 | | | 35.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 10.5 | 19.4 | | 12.8 | | | 2.0 | | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | 0.0 | | | 1.2 | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 71.2 |
| HCM 7th LOS | | E |

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 248 | 0 | 586 | 0 | 0 | 0 | 0 | 465 | 61 | 251 | 346 | 0 |
| Future Volume (veh/h) | 248 | 0 | 586 | 0 | 0 | 0 | 0 | 465 | 61 | 251 | 346 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 174 | 0 | 710 | | | | 0 | 489 | 64 | 264 | 364 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 373 | 0 | 675 | | | | 0 | 1062 | 138 | 369 | 2205 | 0 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | | | | 0.00 | 0.33 | 0.33 | 0.41 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1739 | 0 | 3145 | | | | 0 | 3268 | 413 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 174 | 0 | 710 | | | | 0 | 275 | 278 | 264 | 364 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1572 | | | | 0 | 1791 | 1796 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 4.8 | 0.0 | 11.8 | | | | 0.0 | 6.6 | 6.7 | 6.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.8 | 0.0 | 11.8 | | | | 0.0 | 6.6 | 6.7 | 6.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 373 | 0 | 675 | | | | 0 | 599 | 601 | 369 | 2205 | 0 |
| V/C Ratio(X) | 0.47 | 0.00 | 1.05 | | | | 0.00 | 0.46 | 0.46 | 0.72 | 0.17 | 0.00 |
| Avail Cap(c_a), veh/h | 373 | 0 | 675 | | | | 0 | 599 | 601 | 398 | 2205 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.00 |
| Uniform Delay (d), s/veh | 18.9 | 0.0 | 21.6 | | | | 0.0 | 14.4 | 14.4 | 14.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 49.2 | | | | 0.0 | 2.5 | 2.6 | 3.0 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.0 | 8.4 | | | | 0.0 | 2.8 | 2.9 | 2.4 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 19.2 | 0.0 | 70.8 | | | | 0.0 | 16.9 | 17.0 | 17.8 | 0.1 | 0.0 |
| LnGrp LOS | B | | F | | | | | B | B | B | A | |
| Approach Vol, veh/h | 884 | | | | | | 553 | | | 628 | | |
| Approach Delay, s/veh | 60.6 | | | | | | 16.9 | | | 7.5 | | |
| Approach LOS | E | | | | | | B | | | A | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 39.0 | | 16.0 | | 23.0 | | 16.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 34.4 | | 12.3 | | * 18 | | 11.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 8.8 | | 8.7 | | 13.8 | | | | | |
| Green Ext Time (p_c), s | 1.0 | | 0.1 | | 1.0 | | 0.0 | | | | | |

| Intersection Summary | | |
|------------------------------|------|--|
| HCM 7th Control Delay, s/veh | 32.8 | |
| HCM 7th LOS | C | |

Notes
 User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

Item 7 B.

01/06/2025

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | ↕ |
| Traffic Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 79 | 1 | 394 | 9 | 69 | 754 | 109 |
| Future Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 79 | 1 | 394 | 9 | 69 | 754 | 109 |
| 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 | - | - | - | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 56 | 0 | 22 | 0 | 1 | 83 | 1 | 415 | 9 | 73 | 794 | 115 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1149 | 1365 | 794 | 1361 | 1475 | 212 | 908 | 0 | 0 | 424 | 0 | 0 |
| Stage 1 | 939 | 939 | - | 422 | 422 | - | - | - | - | - | - | - |
| Stage 2 | 210 | 426 | - | 939 | 1054 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 164 | 147 | 387 | 116 | 126 | 794 | 747 | - | - | 1133 | - | - |
| Stage 1 | 316 | 342 | - | 581 | 588 | - | - | - | - | - | - | - |
| Stage 2 | 773 | 585 | - | 316 | 302 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 136 | 137 | 387 | 102 | 118 | 794 | 747 | - | - | 1133 | - | - |
| Mov Cap-2 Maneuver | 136 | 137 | - | 102 | 118 | - | - | - | - | - | - | - |
| Stage 1 | 296 | 320 | - | 580 | 587 | - | - | - | - | - | - | - |
| Stage 2 | 690 | 584 | - | 279 | 283 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|-----------------------------|----|-------|------|------|
| HCM Control Delay, s/v44.16 | | 10.48 | 0.02 | 0.62 |
| HCM LOS | E | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 747 | - | - | 167 | 741 | 1133 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.467 | 0.114 | 0.064 | - | - |
| HCM Control Delay (s/veh) | 9.8 | - | - | 44.2 | 10.5 | 8.4 | - | - |
| HCM Lane LOS | A | - | - | E | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 2.2 | 0.4 | 0.2 | - | - |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 73.2 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 43 | 19 | 39 | 13 | 28 | 68 | 57 | 293 | 4 | 75 | 669 | 31 |
| Future Vol, veh/h | 43 | 19 | 39 | 13 | 28 | 68 | 57 | 293 | 4 | 75 | 669 | 31 |
| 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 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 45 | 20 | 41 | 14 | 29 | 72 | 60 | 308 | 4 | 79 | 704 | 33 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 11.8 | 12.8 | 15.6 | 116 |
| HCM LOS | B | B | C | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 69% | 0% | 12% | 100% | 0% |
| Vol Thru, % | 0% | 99% | 31% | 0% | 26% | 0% | 96% |
| Vol Right, % | 0% | 1% | 0% | 100% | 62% | 0% | 4% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 57 | 297 | 62 | 39 | 109 | 75 | 700 |
| LT Vol | 57 | 0 | 43 | 0 | 13 | 75 | 0 |
| Through Vol | 0 | 293 | 19 | 0 | 28 | 0 | 669 |
| RT Vol | 0 | 4 | 0 | 39 | 68 | 0 | 31 |
| Lane Flow Rate | 60 | 313 | 65 | 41 | 115 | 79 | 737 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.112 | 0.539 | 0.145 | 0.078 | 0.227 | 0.14 | 1.204 |
| Departure Headway (Hd) | 7.029 | 6.492 | 8.453 | 7.27 | 7.595 | 6.368 | 5.882 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 513 | 560 | 427 | 496 | 476 | 564 | 619 |
| Service Time | 4.729 | 4.192 | 6.153 | 4.97 | 5.595 | 4.099 | 3.613 |
| HCM Lane V/C Ratio | 0.117 | 0.559 | 0.152 | 0.083 | 0.242 | 0.14 | 1.191 |
| HCM Control Delay, s/veh | 10.6 | 16.5 | 12.6 | 10.6 | 12.8 | 10.1 | 127.4 |
| HCM Lane LOS | B | C | B | B | B | B | F |
| HCM 95th-tile Q | 0.4 | 3.2 | 0.5 | 0.3 | 0.9 | 0.5 | 26.1 |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 18.4 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | | ↔ | ↔ |
| Traffic Vol, veh/h | 78 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Future Vol, veh/h | 78 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 82 | 71 | 6 | 87 | 99 | 44 | 28 | 328 | 58 | 78 | 193 | 135 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 4.5 | | 17.2 | 23.8 |
| HCM LOS | B | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 54% | 0% | 38% | 29% | 0% |
| Vol Thru, % | 0% | 85% | 46% | 0% | 43% | 71% | 0% |
| Vol Right, % | 0% | 15% | 0% | 100% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 27 | 367 | 145 | 6 | 219 | 257 | 128 |
| LT Vol | 27 | 0 | 78 | 0 | 83 | 74 | 0 |
| Through Vol | 0 | 312 | 67 | 0 | 94 | 183 | 0 |
| RT Vol | 0 | 55 | 0 | 6 | 42 | 0 | 128 |
| Lane Flow Rate | 28 | 386 | 153 | 6 | 231 | 271 | 135 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.058 | 0.718 | 0.336 | 0.012 | 0.477 | 0.527 | 0.23 |
| Departure Headway (Hd) | 7.308 | 6.689 | 7.923 | 6.928 | 7.442 | 7.015 | 6.151 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 490 | 541 | 453 | 515 | 484 | 514 | 582 |
| Service Time | 5.059 | 4.44 | 5.685 | 4.689 | 5.499 | 4.77 | 3.905 |
| HCM Lane V/C Ratio | 0.057 | 0.713 | 0.338 | 0.012 | 0.477 | 0.527 | 0.232 |
| HCM Control Delay, s/veh | 10.5 | 24.8 | 14.7 | 9.8 | 17.2 | 17.4 | 10.7 |
| HCM Lane LOS | B | C | B | A | C | C | B |
| HCM 95th-tile Q | 0.2 | 5.8 | 1.5 | 0 | 2.5 | 3 | 0.9 |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 18.2 |
| Intersection LOS | C |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | P | | | 4 |
| Traffic Vol, veh/h | 87 | 282 | 162 | 61 | 219 | 239 |
| Future Vol, veh/h | 87 | 282 | 162 | 61 | 219 | 239 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 92 | 297 | 171 | 64 | 231 | 252 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|----|----|------|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh | 16 | 12 | 22.9 |
| HCM LOS | C | B | C |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 24% | 48% |
| Vol Thru, % | 73% | 0% | 52% |
| Vol Right, % | 27% | 76% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 223 | 369 | 458 |
| LT Vol | 0 | 87 | 219 |
| Through Vol | 162 | 0 | 239 |
| RT Vol | 61 | 282 | 0 |
| Lane Flow Rate | 235 | 388 | 482 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.369 | 0.587 | 0.742 |
| Departure Headway (Hd) | 5.665 | 5.441 | 5.539 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 631 | 660 | 651 |
| Service Time | 3.729 | 3.499 | 3.589 |
| HCM Lane V/C Ratio | 0.372 | 0.588 | 0.74 |
| HCM Control Delay, s/veh | 12 | 16 | 22.9 |
| HCM Lane LOS | B | C | C |
| HCM 95th-tile Q | 1.7 | 3.8 | 6.6 |

| Intersection | | | | | | | | | | | | |
|---------------------------|----|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 33 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 238 | 201 | 121 | 4 |
| Future Vol, veh/h | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 238 | 201 | 121 | 4 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 9 | 1 | 440 | 3 | 105 | 1 | 129 | 251 | 212 | 127 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay, s/veh | 11 | 50.8 | 14.1 | 26.3 |
| HCM LOS | B | F | B | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 0% | 80% | 62% | 0% |
| Vol Thru, % | 99% | 0% | 90% | 1% | 38% | 0% |
| Vol Right, % | 0% | 100% | 10% | 19% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 124 | 238 | 10 | 521 | 322 | 4 |
| LT Vol | 1 | 0 | 0 | 418 | 201 | 0 |
| Through Vol | 123 | 0 | 9 | 3 | 121 | 0 |
| RT Vol | 0 | 238 | 1 | 100 | 0 | 4 |
| Lane Flow Rate | 131 | 251 | 11 | 548 | 339 | 4 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.265 | 0.457 | 0.023 | 0.949 | 0.707 | 0.008 |
| Departure Headway (Hd) | 7.297 | 6.572 | 7.779 | 6.23 | 7.509 | 6.468 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 492 | 546 | 458 | 581 | 481 | 552 |
| Service Time | 5.053 | 4.327 | 5.864 | 4.267 | 5.261 | 4.219 |
| HCM Lane V/C Ratio | 0.266 | 0.46 | 0.024 | 0.943 | 0.705 | 0.007 |
| HCM Control Delay, s/veh | 12.7 | 14.8 | 11 | 50.8 | 26.5 | 9.3 |
| HCM Lane LOS | B | B | B | F | D | A |
| HCM 95th-tile Q | 1.1 | 2.4 | 0.1 | 12.6 | 5.5 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|-----|------|-------|-------|------|------|------|------|------|------|
| Lane Configurations | | | | ↙ | ↘ | | ↙ | ↑↑ | | | ↗ | ↘ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 77 | 1 | 406 | 593 | 629 | 0 | 0 | 644 | 149 |
| Future Volume (veh/h) | 0 | 0 | 0 | 77 | 1 | 406 | 593 | 629 | 0 | 0 | 644 | 149 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.93 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 81 | 1 | 427 | 624 | 662 | 0 | 0 | 678 | 157 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 371 | 1 | 343 | 581 | 2256 | 0 | 0 | 676 | 156 |
| Arrive On Green | | | | 0.21 | 0.21 | 0.21 | 0.32 | 0.64 | 0.00 | 0.00 | 0.24 | 0.24 |
| Sat Flow, veh/h | | | | 1739 | 4 | 1607 | 1795 | 3618 | 0 | 0 | 2911 | 652 |
| Grp Volume(v), veh/h | | | | 81 | 0 | 428 | 624 | 662 | 0 | 0 | 427 | 408 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1611 | 1795 | 1763 | 0 | 0 | 1777 | 1692 |
| Q Serve(g_s), s | | | | 2.3 | 0.0 | 12.8 | 19.4 | 5.0 | 0.0 | 0.0 | 14.4 | 14.4 |
| Cycle Q Clear(g_c), s | | | | 2.3 | 0.0 | 12.8 | 19.4 | 5.0 | 0.0 | 0.0 | 14.4 | 14.4 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.39 |
| Lane Grp Cap(c), veh/h | | | | 371 | 0 | 344 | 581 | 2256 | 0 | 0 | 426 | 406 |
| V/C Ratio(X) | | | | 0.22 | 0.00 | 1.25 | 1.07 | 0.29 | 0.00 | 0.00 | 1.00 | 1.00 |
| Avail Cap(c_a), veh/h | | | | 371 | 0 | 344 | 581 | 2256 | 0 | 0 | 426 | 406 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.41 | 0.41 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 19.5 | 0.0 | 23.6 | 20.3 | 4.8 | 0.0 | 0.0 | 22.8 | 22.8 |
| Incr Delay (d2), s/veh | | | | 0.1 | 0.0 | 132.6 | 46.8 | 0.1 | 0.0 | 0.0 | 44.1 | 45.6 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.9 | 0.0 | 17.0 | 14.9 | 1.4 | 0.0 | 0.0 | 10.8 | 10.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 19.6 | 0.0 | 156.2 | 67.1 | 4.9 | 0.0 | 0.0 | 66.9 | 68.4 |
| LnGrp LOS | | | | B | | F | F | A | | | F | F |
| Approach Vol, veh/h | | | | | 509 | | | 1286 | | | 835 | |
| Approach Delay, s/veh | | | | | 134.5 | | | 35.1 | | | 67.6 | |
| Approach LOS | | | | | F | | | D | | | E | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 24.0 | 19.0 | | 17.0 | | 43.0 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 17.3 | * 14 | | 12.8 | | 38.4 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 21.4 | 16.4 | | 14.8 | | 7.0 | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | | 2.0 | | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 64.7 |
| HCM 7th LOS | | E |

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 417 | 208 | 512 | 0 | 0 | 0 | 0 | 805 | 91 | 370 | 351 | 0 |
| Future Volume (veh/h) | 417 | 208 | 512 | 0 | 0 | 0 | 0 | 805 | 91 | 370 | 351 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 366 | 437 | 416 | | | | 0 | 847 | 96 | 389 | 369 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 482 | 527 | 436 | | | | 0 | 1008 | 114 | 475 | 2255 | 0 |
| Arrive On Green | 0.28 | 0.28 | 0.28 | | | | 0.00 | 0.31 | 0.31 | 0.27 | 0.64 | 0.00 |
| Sat Flow, veh/h | 1739 | 1900 | 1572 | | | | 0 | 3325 | 366 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 366 | 437 | 416 | | | | 0 | 469 | 474 | 389 | 369 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1900 | 1572 | | | | 0 | 1791 | 1806 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 14.4 | 16.2 | 19.5 | | | | 0.0 | 18.3 | 18.3 | 15.4 | 3.2 | 0.0 |
| Cycle Q Clear(g_c), s | 14.4 | 16.2 | 19.5 | | | | 0.0 | 18.3 | 18.3 | 15.4 | 3.2 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.20 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 482 | 527 | 436 | | | | 0 | 559 | 564 | 475 | 2255 | 0 |
| V/C Ratio(X) | 0.76 | 0.83 | 0.95 | | | | 0.00 | 0.84 | 0.84 | 0.82 | 0.16 | 0.00 |
| Avail Cap(c_a), veh/h | 482 | 527 | 436 | | | | 0 | 559 | 564 | 475 | 2255 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.53 | 0.53 | 0.00 |
| Uniform Delay (d), s/veh | 24.8 | 25.4 | 26.6 | | | | 0.0 | 24.1 | 24.1 | 25.8 | 5.4 | 0.0 |
| Incr Delay (d2), s/veh | 6.2 | 10.1 | 31.2 | | | | 0.0 | 14.2 | 14.1 | 5.7 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.4 | 8.2 | 10.5 | | | | 0.0 | 9.6 | 9.7 | 7.0 | 1.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 31.0 | 35.5 | 57.8 | | | | 0.0 | 38.2 | 38.1 | 31.5 | 5.5 | 0.0 |
| LnGrp LOS | C | D | E | | | | | D | D | C | A | |
| Approach Vol, veh/h | 1219 | | | | | | 943 | | | 758 | | |
| Approach Delay, s/veh | 41.8 | | | | | | 38.2 | | | 18.9 | | |
| Approach LOS | D | | | | | | D | | | B | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 52.6 | | 24.6 | | 28.0 | | 25.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 45.4 | | 18.3 | | * 23 | | 20.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 5.2 | | 17.4 | | 20.3 | | 21.5 | | | | | |
| Green Ext Time (p_c), s | 1.1 | | 0.0 | | 1.0 | | 0.0 | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 34.7 | | | | | | | | | |
| HCM 7th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

Item 7 B.

01/06/2025

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | ↕ |
| Traffic Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 59 | 4 | 788 | 9 | 79 | 672 | 112 |
| Future Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 59 | 4 | 788 | 9 | 79 | 672 | 112 |
| 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 | - | - | - | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 52 | 2 | 40 | 4 | 1 | 62 | 4 | 829 | 9 | 83 | 707 | 118 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1297 | 1721 | 707 | 1717 | 1834 | 419 | 825 | 0 | 0 | 839 | 0 | 0 |
| Stage 1 | 874 | 874 | - | 843 | 843 | - | - | - | - | - | - | - |
| Stage 2 | 424 | 847 | - | 875 | 992 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 129 | 89 | 434 | 64 | 76 | 583 | 803 | - | - | 794 | - | - |
| Stage 1 | 344 | 366 | - | 326 | 379 | - | - | - | - | - | - | - |
| Stage 2 | 579 | 377 | - | 343 | 323 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 101 | 79 | 434 | 50 | 67 | 583 | 803 | - | - | 794 | - | - |
| Mov Cap-2 Maneuver | 101 | 79 | - | 50 | 67 | - | - | - | - | - | - | - |
| Stage 1 | 308 | 328 | - | 324 | 377 | - | - | - | - | - | - | - |
| Stage 2 | 514 | 375 | - | 277 | 289 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|-----------------------------|----|--|------|--|------|--|------|--|
| HCM Control Delay, s/v63.37 | | | 18.8 | | 0.05 | | 0.92 | |
| HCM LOS | F | | C | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 803 | - | - | 149 | 328 | 794 | - | - |
| HCM Lane V/C Ratio | 0.005 | - | - | 0.63 | 0.206 | 0.105 | - | - |
| HCM Control Delay (s/veh) | 9.5 | - | - | 63.4 | 18.8 | 10.1 | - | - |
| HCM Lane LOS | A | - | - | F | C | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 3.4 | 0.8 | 0.3 | - | - |

| Intersection | |
|---------------------------|-------|
| Intersection Delay, s/veh | 109.6 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 92 | 45 | 84 | 22 | 33 | 192 | 46 | 517 | 34 | 146 | 519 | 49 |
| Future Vol, veh/h | 92 | 45 | 84 | 22 | 33 | 192 | 46 | 517 | 34 | 146 | 519 | 49 |
| 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 |
| Heavy Vehicles, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Mvmt Flow | 97 | 47 | 88 | 23 | 35 | 202 | 48 | 544 | 36 | 154 | 546 | 52 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|-------|-------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 17.1 | 25.9 | 146.2 | 136.7 |
| HCM LOS | C | D | F | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|--------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 67% | 0% | 9% | 100% | 0% |
| Vol Thru, % | 0% | 94% | 33% | 0% | 13% | 0% | 91% |
| Vol Right, % | 0% | 6% | 0% | 100% | 78% | 0% | 9% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 46 | 551 | 137 | 84 | 247 | 146 | 568 |
| LT Vol | 46 | 0 | 92 | 0 | 22 | 146 | 0 |
| Through Vol | 0 | 517 | 45 | 0 | 33 | 0 | 519 |
| RT Vol | 0 | 34 | 0 | 84 | 192 | 0 | 49 |
| Lane Flow Rate | 48 | 580 | 144 | 88 | 260 | 154 | 598 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.112 | 1.254 | 0.374 | 0.201 | 0.607 | 0.351 | 1.281 |
| Departure Headway (Hd) | 8.874 | 8.292 | 10.307 | 9.11 | 9.418 | 8.783 | 8.253 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 406 | 441 | 352 | 396 | 387 | 412 | 442 |
| Service Time | 6.574 | 5.992 | 8.007 | 6.81 | 7.418 | 6.483 | 5.953 |
| HCM Lane V/C Ratio | 0.118 | 1.315 | 0.409 | 0.222 | 0.672 | 0.374 | 1.353 |
| HCM Control Delay, s/veh | 12.7 | 157.3 | 19 | 14.1 | 25.9 | 16.2 | 167.7 |
| HCM Lane LOS | B | F | C | B | D | C | F |
| HCM 95th-tile Q | 0.4 | 22.8 | 1.7 | 0.7 | 3.8 | 1.6 | 24 |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 21.3 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | | ↔ | ↔ |
| Traffic Vol, veh/h | 190 | 63 | 8 | 17 | 65 | 73 | 29 | 200 | 23 | 56 | 337 | 142 |
| Future Vol, veh/h | 190 | 63 | 8 | 17 | 65 | 73 | 29 | 200 | 23 | 56 | 337 | 142 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 200 | 66 | 8 | 18 | 68 | 77 | 31 | 211 | 24 | 59 | 355 | 149 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|----|------|----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 2 |
| HCM Control Delay, s/veh | 14.7 | | 15.8 | |
| HCM LOS | C | B | C | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 75% | 0% | 11% | 14% | 0% |
| Vol Thru, % | 0% | 90% | 25% | 0% | 42% | 86% | 0% |
| Vol Right, % | 0% | 10% | 0% | 100% | 47% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 29 | 223 | 253 | 8 | 155 | 393 | 142 |
| LT Vol | 29 | 0 | 190 | 0 | 17 | 56 | 0 |
| Through Vol | 0 | 200 | 63 | 0 | 65 | 337 | 0 |
| RT Vol | 0 | 23 | 0 | 8 | 73 | 0 | 142 |
| Lane Flow Rate | 31 | 235 | 266 | 8 | 163 | 414 | 149 |
| Geometry Grp | 5 | 5 | 5 | 5 | 4b | 5 | 5 |
| Degree of Util (X) | 0.067 | 0.473 | 0.581 | 0.016 | 0.346 | 0.794 | 0.254 |
| Departure Headway (Hd) | 7.847 | 7.258 | 7.848 | 6.747 | 7.634 | 6.911 | 6.122 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 455 | 495 | 458 | 529 | 470 | 521 | 584 |
| Service Time | 5.611 | 5.022 | 5.606 | 4.504 | 5.705 | 4.665 | 3.876 |
| HCM Lane V/C Ratio | 0.068 | 0.475 | 0.581 | 0.015 | 0.347 | 0.795 | 0.255 |
| HCM Control Delay, s/veh | 11.2 | 16.4 | 21 | 9.6 | 14.7 | 31.4 | 11 |
| HCM Lane LOS | B | C | C | A | B | D | B |
| HCM 95th-tile Q | 0.2 | 2.5 | 3.6 | 0 | 1.5 | 7.4 | 1 |

Intersection

Intersection Delay, s/veh 24.4
Intersection LOS C

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | P | | | 4 |
| Traffic Vol, veh/h | 35 | 104 | 305 | 85 | 304 | 296 |
| Future Vol, veh/h | 35 | 104 | 305 | 85 | 304 | 296 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 37 | 109 | 321 | 89 | 320 | 312 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|-------------------------------|----|------|------|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left NB | | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right SB | | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay, s/veh | 11 | 14.9 | 33.7 |
| HCM LOS | B | B | D |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|
| Vol Left, % | 0% | 25% | 51% |
| Vol Thru, % | 78% | 0% | 49% |
| Vol Right, % | 22% | 75% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 390 | 139 | 600 |
| LT Vol | 0 | 35 | 304 |
| Through Vol | 305 | 0 | 296 |
| RT Vol | 85 | 104 | 0 |
| Lane Flow Rate | 411 | 146 | 632 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.579 | 0.243 | 0.883 |
| Departure Headway (Hd) | 5.077 | 5.987 | 5.033 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 710 | 598 | 720 |
| Service Time | 3.108 | 4.033 | 3.058 |
| HCM Lane V/C Ratio | 0.579 | 0.244 | 0.878 |
| HCM Control Delay, s/veh | 14.9 | 11 | 33.7 |
| HCM Lane LOS | B | B | D |
| HCM 95th-tile Q | 3.7 | 0.9 | 11 |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 60.8 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 237 | 1 | 148 | 619 | 247 | 83 | 1 |
| Future Vol, veh/h | 5 | 3 | 3 | 203 | 3 | 237 | 1 | 148 | 619 | 247 | 83 | 1 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 3 | 3 | 214 | 3 | 249 | 1 | 156 | 652 | 260 | 87 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |




















| Approach | EB | WB | NB | SB | |
|----------------------------|-----|----|------|------|------|
| Opposing Approach | WB | EB | SB | NB | |
| Opposing Lanes | 1 | 1 | 2 | 2 | |
| Conflicting Approach Left | SB | NB | EB | WB | |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 | |
| Conflicting Approach Right | NB | SB | WB | EB | |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 | |
| HCM Control Delay, s/veh | 2.2 | | 36.2 | 88.8 | 30.6 |
| HCM LOS | B | E | F | D | |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, % | 1% | 0% | 45% | 46% | 75% | 0% |
| Vol Thru, % | 99% | 0% | 27% | 1% | 25% | 0% |
| Vol Right, % | 0% | 100% | 27% | 53% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 149 | 619 | 11 | 443 | 330 | 1 |
| LT Vol | 1 | 0 | 5 | 203 | 247 | 0 |
| Through Vol | 148 | 0 | 3 | 3 | 83 | 0 |
| RT Vol | 0 | 619 | 3 | 237 | 0 | 1 |
| Lane Flow Rate | 157 | 652 | 12 | 466 | 347 | 1 |
| Geometry Grp | 5 | 5 | 2 | 2 | 5 | 5 |
| Degree of Util (X) | 0.307 | 1.143 | 0.027 | 0.842 | 0.744 | 0.002 |
| Departure Headway (Hd) | 7.038 | 6.315 | 8.95 | 6.79 | 8.059 | 6.947 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 507 | 573 | 402 | 536 | 452 | 518 |
| Service Time | 4.832 | 4.108 | 6.95 | 4.79 | 5.759 | 4.647 |
| HCM Lane V/C Ratio | 0.31 | 1.138 | 0.03 | 0.869 | 0.768 | 0.002 |
| HCM Control Delay, s/veh | 13 | 107.1 | 12.2 | 36.2 | 30.7 | 9.7 |
| HCM Lane LOS | B | F | B | E | D | A |
| HCM 95th-tile Q | 1.3 | 21.3 | 0.1 | 8.7 | 6.1 | 0 |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | |  |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 59 | 12 | 107 | 369 | 516 | 0 | 0 | 431 | 478 |
| Future Volume (veh/h) | 0 | 0 | 0 | 59 | 12 | 107 | 369 | 516 | 0 | 0 | 431 | 478 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 65 | 13 | 118 | 405 | 567 | 0 | 0 | 474 | 525 |
| Peak Hour Factor | | | | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 172 | 16 | 145 | 426 | 2867 | 0 | 0 | 957 | 817 |
| Arrive On Green | | | | 0.10 | 0.10 | 0.10 | 0.47 | 1.00 | 0.00 | 0.00 | 0.54 | 0.54 |
| Sat Flow, veh/h | | | | 1739 | 162 | 1473 | 1795 | 3618 | 0 | 0 | 1870 | 1516 |
| Grp Volume(v), veh/h | | | | 65 | 0 | 131 | 405 | 567 | 0 | 0 | 474 | 525 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1635 | 1795 | 1763 | 0 | 0 | 1777 | 1516 |
| Q Serve(g_s), s | | | | 3.5 | 0.0 | 7.9 | 21.6 | 0.0 | 0.0 | 0.0 | 16.8 | 24.4 |
| Cycle Q Clear(g_c), s | | | | 3.5 | 0.0 | 7.9 | 21.6 | 0.0 | 0.0 | 0.0 | 16.8 | 24.4 |
| Prop In Lane | | | | 1.00 | | 0.90 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 172 | 0 | 161 | 426 | 2867 | 0 | 0 | 957 | 817 |
| V/C Ratio(X) | | | | 0.38 | 0.00 | 0.81 | 0.95 | 0.20 | 0.00 | 0.00 | 0.50 | 0.64 |
| Avail Cap(c_a), veh/h | | | | 195 | 0 | 183 | 634 | 2867 | 0 | 0 | 957 | 817 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.84 | 0.84 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 42.2 | 0.0 | 44.2 | 25.7 | 0.0 | 0.0 | 0.0 | 14.5 | 16.3 |
| Incr Delay (d2), s/veh | | | | 0.5 | 0.0 | 18.8 | 13.9 | 0.1 | 0.0 | 0.0 | 1.8 | 3.9 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.5 | 0.0 | 4.0 | 8.5 | 0.1 | 0.0 | 0.0 | 7.1 | 9.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 42.7 | 0.0 | 63.0 | 39.6 | 0.1 | 0.0 | 0.0 | 16.3 | 20.1 |
| LnGrp LOS | | | | D | | E | D | A | | | B | C |
| Approach Vol, veh/h | | | | | 196 | | | 972 | | | 999 | |
| Approach Delay, s/veh | | | | | 56.2 | | | 16.6 | | | 18.3 | |
| Approach LOS | | | | | E | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | 6 | | | | | |
| Phs Duration (G+Y+Rc), s | 27.4 | 58.5 | | 14.1 | | | 85.9 | | | | | |
| Change Period (Y+Rc), s | 3.7 | 4.6 | | 4.2 | | | 4.6 | | | | | |
| Max Green Setting (Gmax), s | 35.3 | 41.0 | | 11.2 | | | 80.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 23.6 | 26.4 | | 9.9 | | | 2.0 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 2.8 | | 0.1 | | | 1.7 | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 21.0 | | | | | | | | |
| HCM 7th LOS | | | | C | | | | | | | | |

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

Item 7 B.

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 313 | 0 | 296 | 0 | 0 | 0 | 0 | 572 | 111 | 176 | 314 | 0 |
| Future Volume (veh/h) | 313 | 0 | 296 | 0 | 0 | 0 | 0 | 572 | 111 | 176 | 314 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 440 | 0 | 215 | | | | 0 | 622 | 121 | 191 | 341 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 557 | 0 | 252 | | | | 0 | 1113 | 216 | 591 | 2651 | 0 |
| Arrive On Green | 0.16 | 0.00 | 0.16 | | | | 0.00 | 0.37 | 0.37 | 0.11 | 0.25 | 0.00 |
| Sat Flow, veh/h | 3478 | 0 | 1572 | | | | 0 | 3070 | 578 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 440 | 0 | 215 | | | | 0 | 374 | 369 | 191 | 341 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1572 | | | | 0 | 1791 | 1762 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 12.2 | 0.0 | 13.3 | | | | 0.0 | 16.5 | 16.6 | 9.9 | 7.5 | 0.0 |
| Cycle Q Clear(g_c), s | 12.2 | 0.0 | 13.3 | | | | 0.0 | 16.5 | 16.6 | 9.9 | 7.5 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.33 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 557 | 0 | 252 | | | | 0 | 670 | 659 | 591 | 2651 | 0 |
| V/C Ratio(X) | 0.79 | 0.00 | 0.85 | | | | 0.00 | 0.56 | 0.56 | 0.32 | 0.13 | 0.00 |
| Avail Cap(c_a), veh/h | 967 | 0 | 437 | | | | 0 | 670 | 659 | 591 | 2651 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.82 | 0.82 | 0.00 |
| Uniform Delay (d), s/veh | 40.4 | 0.0 | 40.9 | | | | 0.0 | 24.8 | 24.8 | 34.2 | 12.2 | 0.0 |
| Incr Delay (d2), s/veh | 1.0 | 0.0 | 3.2 | | | | 0.0 | 3.3 | 3.4 | 0.1 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.2 | 0.0 | 5.3 | | | | 0.0 | 7.6 | 7.5 | 4.7 | 3.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 41.3 | 0.0 | 44.0 | | | | 0.0 | 28.1 | 28.2 | 34.3 | 12.2 | 0.0 |
| LnGrp LOS | D | | D | | | | | C | C | C | B | |
| Approach Vol, veh/h | 655 | | | | | | 743 | | | 532 | | |
| Approach Delay, s/veh | 42.2 | | | | | | 28.2 | | | 20.1 | | |
| Approach LOS | D | | | | | | C | | | C | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 79.8 | | 37.8 | | 42.0 | | 20.2 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 63.4 | | 22.3 | | * 37 | | 27.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 9.5 | | 11.9 | | 18.6 | | 15.3 | | | | | |
| Green Ext Time (p_c), s | 1.0 | | 0.1 | | 1.8 | | 0.7 | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 30.7 |
| HCM 7th LOS | | C |

Notes
 User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕ | ↗ |
| Traffic Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 14 | 1 | 616 | 9 | 39 | 462 | 109 |
| Future Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 14 | 1 | 616 | 9 | 39 | 462 | 109 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 0 | 23 | 0 | 1 | 15 | 1 | 677 | 10 | 43 | 508 | 120 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 935 | 1282 | 508 | 1277 | 1397 | 343 | 627 | 0 | 0 | 687 | 0 | 0 |
| Stage 1 | 593 | 593 | - | 684 | 684 | - | - | - | - | - | - | - |
| Stage 2 | 341 | 689 | - | 593 | 713 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 233 | 165 | 564 | 133 | 140 | 653 | 952 | - | - | 905 | - | - |
| Stage 1 | 491 | 492 | - | 406 | 448 | - | - | - | - | - | - | - |
| Stage 2 | 648 | 446 | - | 491 | 434 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 215 | 157 | 564 | 121 | 133 | 653 | 952 | - | - | 905 | - | - |
| Mov Cap-2 Maneuver | 215 | 157 | - | 121 | 133 | - | - | - | - | - | - | - |
| Stage 1 | 468 | 469 | - | 405 | 447 | - | - | - | - | - | - | - |
| Stage 2 | 630 | 445 | - | 448 | 414 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|------------------------|------|-------|------|------|
| HCM Control Delay, s/v | 23.3 | 12.17 | 0.01 | 0.59 |
| HCM LOS | C | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 952 | - | - | 215 | 564 | 519 | 905 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.271 | 0.041 | 0.032 | 0.047 | - | - |
| HCM Control Delay (s/veh) | 8.8 | - | - | 27.9 | 11.7 | 12.2 | 9.2 | - | - |
| HCM Lane LOS | A | - | - | D | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.1 | 0.1 | 0.1 | 0.1 | - | - |

HCM 7th Signalized Intersection Summary

4: Bay Ave & Retail Dwy/Hill St

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↗ | | ↖ | ↗ | | |
| Traffic Volume (veh/h) | 43 | 19 | 39 | 9 | 28 | 142 | 57 | 441 | 10 | 75 | 377 | 31 | |
| Future Volume (veh/h) | 43 | 19 | 39 | 9 | 28 | 142 | 57 | 441 | 10 | 75 | 377 | 31 | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.96 | 0.99 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.97 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Work Zone On Approach | | No | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1811 | 1900 | 1900 | 1900 | 1856 | 1885 | 1870 | 1885 | 1767 | 1900 | 1856 | 1856 | |
| Adj Flow Rate, veh/h | 48 | 21 | 44 | 10 | 31 | 160 | 64 | 496 | 11 | 84 | 424 | 35 | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | |
| Percent Heavy Veh, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 | |
| Cap, veh/h | 359 | 130 | 314 | 105 | 59 | 259 | 169 | 679 | 15 | 139 | 593 | 49 | |
| Arrive On Green | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.10 | 0.37 | 0.37 | 0.08 | 0.35 | 0.35 | |
| Sat Flow, veh/h | 987 | 641 | 1542 | 35 | 291 | 1271 | 1781 | 1835 | 41 | 1810 | 1686 | 139 | |
| Grp Volume(v), veh/h | 69 | 0 | 44 | 201 | 0 | 0 | 64 | 0 | 507 | 84 | 0 | 459 | |
| Grp Sat Flow(s),veh/h/ln | 1628 | 0 | 1542 | 1596 | 0 | 0 | 1781 | 0 | 1876 | 1810 | 0 | 1825 | |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 9.0 | 1.7 | 0.0 | 8.4 | |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.9 | 4.4 | 0.0 | 0.0 | 1.3 | 0.0 | 9.0 | 1.7 | 0.0 | 8.4 | |
| Prop In Lane | 0.70 | | 1.00 | 0.05 | | 0.80 | 1.00 | | 0.02 | 1.00 | | 0.08 | |
| Lane Grp Cap(c), veh/h | 489 | 0 | 314 | 423 | 0 | 0 | 169 | 0 | 695 | 139 | 0 | 642 | |
| V/C Ratio(X) | 0.14 | 0.00 | 0.14 | 0.48 | 0.00 | 0.00 | 0.38 | 0.00 | 0.73 | 0.60 | 0.00 | 0.71 | |
| Avail Cap(c_a), veh/h | 848 | 0 | 722 | 841 | 0 | 0 | 254 | 0 | 1111 | 258 | 0 | 1081 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | |
| Uniform Delay (d), s/veh | 12.7 | 0.0 | 12.6 | 14.0 | 0.0 | 0.0 | 16.4 | 0.0 | 10.5 | 17.3 | 0.0 | 10.8 | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.2 | 0.8 | 0.0 | 0.0 | 1.4 | 0.0 | 1.5 | 4.2 | 0.0 | 1.5 | |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.3 | 1.4 | 0.0 | 0.0 | 0.5 | 0.0 | 3.1 | 0.8 | 0.0 | 2.9 | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 12.9 | 0.0 | 12.8 | 14.8 | 0.0 | 0.0 | 17.8 | 0.0 | 12.0 | 21.4 | 0.0 | 12.3 | |
| LnGrp LOS | B | | B | B | | | B | | B | C | | B | |
| Approach Vol, veh/h | 113 | | | | | | 201 | | 571 | | 543 | | |
| Approach Delay, s/veh | 12.8 | | | | | | 14.8 | | 12.6 | | 13.7 | | |
| Approach LOS | B | | | | | | B | | B | | B | | |
| Timer - Assigned Phs | 1 | 2 | 4 | | 5 | 6 | 8 | | | | | | |
| Phs Duration (G+Y+Rc), s | 7.5 | 18.8 | 12.4 | | 8.2 | 18.1 | 12.4 | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | | | |
| Max Green Setting (Gmax), s | 5.5 | 22.9 | 18.1 | | 5.5 | 22.9 | 18.1 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 3.7 | 11.0 | 3.2 | | 3.3 | 10.4 | 6.4 | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.7 | 0.4 | | 0.0 | 2.5 | 0.9 | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 13.4 | | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | | |

HCM 7th Signalized Intersection Summary

5: Bay Ave & Capitola Ave

Item 7 B.

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↗ | | | ↕ | ↗ |
| Traffic Volume (veh/h) | 70 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Future Volume (veh/h) | 70 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 0.99 | | 0.99 | 0.99 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | No | | No | | No | | No | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 84 | 81 | 7 | 100 | 113 | 51 | 33 | 376 | 66 | 89 | 220 | 154 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 366 | 288 | 436 | 298 | 231 | 85 | 449 | 623 | 109 | 252 | 468 | 630 |
| Arrive On Green | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 |
| Sat Flow, veh/h | 626 | 1030 | 1557 | 440 | 824 | 303 | 1002 | 1545 | 271 | 220 | 1160 | 1561 |
| Grp Volume(v), veh/h | 165 | 0 | 7 | 264 | 0 | 0 | 33 | 0 | 442 | 309 | 0 | 154 |
| Grp Sat Flow(s),veh/h/ln | 1656 | 0 | 1557 | 1566 | 0 | 0 | 1002 | 0 | 1817 | 1380 | 0 | 1561 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.1 | 2.1 | 0.0 | 0.0 | 0.8 | 0.0 | 5.5 | 0.5 | 0.0 | 1.9 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 0.1 | 4.1 | 0.0 | 0.0 | 6.7 | 0.0 | 5.5 | 5.9 | 0.0 | 1.9 |
| Prop In Lane | 0.51 | | 1.00 | 0.38 | | 0.19 | 1.00 | | 0.15 | 0.29 | | 1.00 |
| Lane Grp Cap(c), veh/h | 655 | 0 | 436 | 613 | 0 | 0 | 449 | 0 | 733 | 720 | 0 | 630 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.02 | 0.43 | 0.00 | 0.00 | 0.07 | 0.00 | 0.60 | 0.43 | 0.00 | 0.24 |
| Avail Cap(c_a), veh/h | 1172 | 0 | 986 | 1160 | 0 | 0 | 680 | 0 | 1151 | 1055 | 0 | 989 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.1 | 0.0 | 7.4 | 8.8 | 0.0 | 0.0 | 9.5 | 0.0 | 6.7 | 6.1 | 0.0 | 5.6 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.1 | 0.0 | 0.8 | 0.4 | 0.0 | 0.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.1 | 0.0 | 1.4 | 0.8 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 8.3 | 0.0 | 7.4 | 9.3 | 0.0 | 0.0 | 9.6 | 0.0 | 7.5 | 6.5 | 0.0 | 5.8 |
| LnGrp LOS | A | | A | A | | | A | | A | A | | A |
| Approach Vol, veh/h | | 172 | | | 264 | | | 475 | | | 463 | |
| Approach Delay, s/veh | | 8.2 | | | 9.3 | | | 7.6 | | | 6.3 | |
| Approach LOS | | A | | | A | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 16.0 | | 12.5 | | 16.0 | | 12.5 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | | 18.0 | | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.7 | | 4.0 | | 7.9 | | 6.1 | | | | |
| Green Ext Time (p_c), s | | 2.1 | | 0.8 | | 1.9 | | 1.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 7.6 | | | | | | | | | |
| HCM 7th LOS | | | A | | | | | | | | | |

HCM 7th Signalized Intersection Summary

6: Monterey Ave & Bay Ave

01/06/2025



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 87 | 282 | 162 | 61 | 219 | 84 |
| Future Volume (veh/h) | 87 | 282 | 162 | 61 | 219 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 |
| Work Zone On Approach | No | | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 114 | 371 | 213 | 80 | 288 | 111 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 129 | 421 | 599 | 225 | 454 | 154 |
| Arrive On Green | 0.34 | 0.34 | 0.46 | 0.46 | 0.46 | 0.46 |
| Sat Flow, veh/h | 382 | 1242 | 1296 | 487 | 685 | 333 |
| Grp Volume(v), veh/h | 486 | 0 | 0 | 293 | 399 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1628 | 0 | 0 | 1783 | 1017 | 0 |
| Q Serve(g_s), s | 12.7 | 0.0 | 0.0 | 4.8 | 12.3 | 0.0 |
| Cycle Q Clear(g_c), s | 12.7 | 0.0 | 0.0 | 4.8 | 17.0 | 0.0 |
| Prop In Lane | 0.23 | 0.76 | | 0.27 | 0.72 | |
| Lane Grp Cap(c), veh/h | 551 | 0 | 0 | 824 | 607 | 0 |
| V/C Ratio(X) | 0.88 | 0.00 | 0.00 | 0.36 | 0.66 | 0.00 |
| Avail Cap(c_a), veh/h | 647 | 0 | 0 | 1102 | 799 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 14.1 | 0.0 | 0.0 | 7.8 | 12.5 | 0.0 |
| Incr Delay (d2), s/veh | 12.1 | 0.0 | 0.0 | 0.3 | 1.2 | 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 | 5.6 | 0.0 | 0.0 | 1.4 | 3.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d), s/veh | 26.2 | 0.0 | 0.0 | 8.1 | 13.7 | 0.0 |
| LnGrp LOS | C | | | A | B | |
| Approach Vol, veh/h | 486 | | 293 | | 399 | |
| Approach Delay, s/veh | 26.2 | | 8.1 | | 13.7 | |
| Approach LOS | C | | A | | B | |
| Timer - Assigned Phs | | 2 | | | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | 25.4 | | | 25.4 | 19.8 |
| Change Period (Y+Rc), s | | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 28.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | | 6.8 | | | 19.0 | 14.7 |
| Green Ext Time (p_c), s | | 1.7 | | | 1.9 | 0.6 |
| Intersection Summary | | | | | | |
| HCM 7th Control Delay, s/veh | | | 17.4 | | | |
| HCM 7th LOS | | | B | | | |

HCM 7th Signalized Intersection Summary

7: Monterey Ave & Park Ave

Item 7 B.

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↗ | | ↕ | ↗ |
| Traffic Volume (veh/h) | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 225 | 41 | 126 | 4 |
| Future Volume (veh/h) | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 225 | 41 | 126 | 4 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 10 | 1 | 459 | 3 | 110 | 1 | 135 | 247 | 45 | 138 | 4 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 837 | 84 | 763 | 4 | 137 | 107 | 442 | 376 | 187 | 338 | 376 |
| Arrive On Green | 0.00 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| Sat Flow, veh/h | 0 | 1673 | 167 | 1146 | 7 | 275 | 4 | 1865 | 1585 | 238 | 1426 | 1585 |
| Grp Volume(v), veh/h | 0 | 0 | 11 | 572 | 0 | 0 | 136 | 0 | 247 | 183 | 0 | 4 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1840 | 1428 | 0 | 0 | 1868 | 0 | 1585 | 1664 | 0 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.1 | 11.4 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8 | 0.0 | 0.0 | 0.1 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.1 | 11.5 | 0.0 | 0.0 | 2.1 | 0.0 | 4.8 | 2.8 | 0.0 | 0.1 |
| Prop In Lane | 0.00 | | 0.09 | 0.80 | | 0.19 | 0.01 | | 1.00 | 0.25 | | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 921 | 904 | 0 | 0 | 549 | 0 | 376 | 525 | 0 | 376 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.01 | 0.63 | 0.00 | 0.00 | 0.25 | 0.00 | 0.66 | 0.35 | 0.00 | 0.01 |
| Avail Cap(c_a), veh/h | 0 | 0 | 1690 | 1504 | 0 | 0 | 1166 | 0 | 901 | 1036 | 0 | 901 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 4.3 | 7.2 | 0.0 | 0.0 | 10.8 | 0.0 | 11.8 | 11.1 | 0.0 | 10.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.2 | 0.0 | 2.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.7 | 0.0 | 1.5 | 0.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 0.0 | 0.0 | 4.3 | 7.9 | 0.0 | 0.0 | 11.0 | 0.0 | 13.8 | 11.5 | 0.0 | 10.0 |
| LnGrp LOS | | | A | A | | | B | | B | B | | B |
| Approach Vol, veh/h | | 11 | | | 572 | | | 383 | | | 187 | |
| Approach Delay, s/veh | | 4.3 | | | 7.9 | | | 12.8 | | | 11.4 | |
| Approach LOS | | A | | | A | | | B | | | B | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 12.6 | | 21.7 | | 12.6 | | 21.7 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 19.5 | | 31.5 | | 19.5 | | 31.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.8 | | 2.1 | | 4.8 | | 13.5 | | | | |
| Green Ext Time (p_c), s | | 1.3 | | 0.0 | | 0.9 | | 3.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 10.1 | | | | | | | | |
| HCM 7th LOS | | | | B | | | | | | | | |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|-----|------|------|-------|------|------|------|------|------|------|
| Lane Configurations | | | | ↖ | ↗ | | ↖ | ↗ | | | ↗ | ↖ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 107 | 1 | 195 | 290 | 401 | 0 | 0 | 642 | 316 |
| Future Volume (veh/h) | 0 | 0 | 0 | 107 | 1 | 195 | 290 | 401 | 0 | 0 | 642 | 316 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 113 | 1 | 205 | 305 | 422 | 0 | 0 | 676 | 333 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 209 | 1 | 192 | 415 | 2413 | 0 | 0 | 792 | 390 |
| Arrive On Green | | | | 0.12 | 0.12 | 0.12 | 0.23 | 0.68 | 0.00 | 0.00 | 0.35 | 0.35 |
| Sat Flow, veh/h | | | | 1739 | 8 | 1604 | 1795 | 3618 | 0 | 0 | 2351 | 1112 |
| Grp Volume(v), veh/h | | | | 113 | 0 | 206 | 305 | 422 | 0 | 0 | 532 | 477 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1611 | 1795 | 1763 | 0 | 0 | 1777 | 1592 |
| Q Serve(g_s), s | | | | 2.8 | 0.0 | 5.4 | 7.1 | 1.9 | 0.0 | 0.0 | 12.5 | 12.5 |
| Cycle Q Clear(g_c), s | | | | 2.8 | 0.0 | 5.4 | 7.1 | 1.9 | 0.0 | 0.0 | 12.5 | 12.5 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.70 |
| Lane Grp Cap(c), veh/h | | | | 209 | 0 | 193 | 415 | 2413 | 0 | 0 | 624 | 559 |
| V/C Ratio(X) | | | | 0.54 | 0.00 | 1.07 | 0.74 | 0.17 | 0.00 | 0.00 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | | | | 209 | 0 | 193 | 451 | 2413 | 0 | 0 | 624 | 559 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.82 | 0.82 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 18.6 | 0.0 | 19.8 | 16.0 | 2.5 | 0.0 | 0.0 | 13.5 | 13.5 |
| Incr Delay (d2), s/veh | | | | 1.6 | 0.0 | 83.1 | 3.9 | 0.1 | 0.0 | 0.0 | 13.8 | 15.2 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.0 | 0.0 | 6.2 | 3.0 | 0.4 | 0.0 | 0.0 | 6.5 | 6.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 20.2 | 0.0 | 102.9 | 19.9 | 2.7 | 0.0 | 0.0 | 27.4 | 28.7 |
| LnGrp LOS | | | | C | | F | B | A | | | C | C |
| Approach Vol, veh/h | | | | | 319 | | | 727 | | | 1009 | |
| Approach Delay, s/veh | | | | | 73.6 | | | 9.9 | | | 28.0 | |
| Approach LOS | | | | | E | | | A | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 15.0 | 20.4 | | 9.6 | | 35.4 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 11.3 | * 16 | | 5.4 | | 30.8 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 9.1 | 14.5 | | 7.4 | | 3.9 | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | | 0.0 | | 1.2 | | | | | | |

| Intersection Summary | | |
|------------------------------|--|------|
| HCM 7th Control Delay, s/veh | | 28.7 |
| HCM 7th LOS | | C |

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 234 | 208 | 347 | 0 | 0 | 0 | 0 | 457 | 91 | 276 | 473 | 0 |
| Future Volume (veh/h) | 234 | 208 | 347 | 0 | 0 | 0 | 0 | 457 | 91 | 276 | 473 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 245 | 305 | 306 | | | | 0 | 497 | 99 | 300 | 514 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 396 | 433 | 358 | | | | 0 | 879 | 174 | 449 | 2205 | 0 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | | | | 0.00 | 0.30 | 0.30 | 0.25 | 0.63 | 0.00 |
| Sat Flow, veh/h | 1739 | 1900 | 1572 | | | | 0 | 3057 | 587 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 245 | 305 | 306 | | | | 0 | 299 | 297 | 300 | 514 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1900 | 1572 | | | | 0 | 1791 | 1759 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 7.6 | 8.9 | 11.2 | | | | 0.0 | 8.5 | 8.6 | 9.1 | 3.8 | 0.0 |
| Cycle Q Clear(g_c), s | 7.6 | 8.9 | 11.2 | | | | 0.0 | 8.5 | 8.6 | 9.1 | 3.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.33 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 396 | 433 | 358 | | | | 0 | 531 | 522 | 449 | 2205 | 0 |
| V/C Ratio(X) | 0.62 | 0.70 | 0.85 | | | | 0.00 | 0.56 | 0.57 | 0.67 | 0.23 | 0.00 |
| Avail Cap(c_a), veh/h | 446 | 488 | 404 | | | | 0 | 531 | 522 | 449 | 2205 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.66 | 0.66 | 0.00 |
| Uniform Delay (d), s/veh | 20.8 | 21.3 | 22.2 | | | | 0.0 | 17.8 | 17.9 | 20.2 | 4.9 | 0.0 |
| Incr Delay (d2), s/veh | 1.2 | 3.0 | 13.5 | | | | 0.0 | 4.3 | 4.5 | 2.0 | 0.2 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 3.9 | 5.1 | | | | 0.0 | 3.9 | 3.9 | 3.8 | 1.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 22.1 | 24.3 | 35.8 | | | | 0.0 | 22.1 | 22.3 | 22.2 | 5.1 | 0.0 |
| LnGrp LOS | C | C | D | | | | | C | C | C | A | |
| Approach Vol, veh/h | 856 | | | | | | 596 | | | 814 | | |
| Approach Delay, s/veh | 27.8 | | | | | | 22.2 | | | 11.4 | | |
| Approach LOS | C | | | | | | C | | | B | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 42.1 | | 19.7 | | 22.4 | | 17.9 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 35.8 | | 14.3 | | * 18 | | 15.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 5.8 | | 11.1 | | 10.6 | | 13.2 | | | | | |
| Green Ext Time (p_c), s | 1.5 | | 0.1 | | 1.0 | | 0.5 | | | | | |

| Intersection Summary | | |
|------------------------------|------|--|
| HCM 7th Control Delay, s/veh | 20.4 | |
| HCM 7th LOS | C | |

Notes
 User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↕ | ↕↗ | | ↕ | ↕ | ↗ |
| Traffic Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 37 | 4 | 462 | 9 | 50 | 658 | 112 |
| Future Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 37 | 4 | 462 | 9 | 50 | 658 | 112 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 56 | 2 | 44 | 5 | 1 | 43 | 5 | 531 | 10 | 57 | 756 | 129 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1147 | 1422 | 756 | 1418 | 1545 | 271 | 885 | 0 | 0 | 541 | 0 | 0 |
| Stage 1 | 871 | 871 | - | 545 | 545 | - | - | - | - | - | - | - |
| Stage 2 | 275 | 551 | - | 872 | 1000 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 165 | 136 | 407 | 105 | 114 | 728 | 763 | - | - | 1025 | - | - |
| Stage 1 | 345 | 367 | - | 491 | 517 | - | - | - | - | - | - | - |
| Stage 2 | 708 | 515 | - | 344 | 320 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 144 | 127 | 407 | 87 | 107 | 728 | 763 | - | - | 1025 | - | - |
| Mov Cap-2 Maneuver | 144 | 127 | - | 87 | 107 | - | - | - | - | - | - | - |
| Stage 1 | 325 | 347 | - | 488 | 514 | - | - | - | - | - | - | - |
| Stage 2 | 661 | 512 | - | 288 | 302 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|------------------------|----|-------|------|------|
| HCM Control Delay, s/v | 33 | 15.37 | 0.08 | 0.53 |
| HCM LOS | D | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 763 | - | - | 143 | 407 | 395 | 1025 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.409 | 0.107 | 0.122 | 0.056 | - | - |
| HCM Control Delay (s/veh) | 9.7 | - | - | 46.5 | 14.9 | 15.4 | 8.7 | - | - |
| HCM Lane LOS | A | - | - | E | B | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.8 | 0.4 | 0.4 | 0.2 | - | - |

HCM 7th Signalized Intersection Summary

4: Bay Ave & Retail Dwy/Hill St

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↖ | ↗ | | ↔ | | ↖ | ↗ | | ↖ | ↗ | |
| Traffic Volume (veh/h) | 92 | 45 | 84 | 18 | 33 | 76 | 46 | 307 | 21 | 146 | 505 | 49 |
| Future Volume (veh/h) | 92 | 45 | 84 | 18 | 33 | 76 | 46 | 307 | 21 | 146 | 505 | 49 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.95 | 0.99 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1900 | 1900 | 1900 | 1856 | 1885 | 1870 | 1885 | 1767 | 1900 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 103 | 51 | 94 | 20 | 37 | 85 | 52 | 345 | 24 | 164 | 567 | 55 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Cap, veh/h | 320 | 112 | 265 | 126 | 88 | 163 | 98 | 637 | 44 | 214 | 714 | 69 |
| Arrive On Green | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.06 | 0.37 | 0.37 | 0.12 | 0.43 | 0.43 |
| Sat Flow, veh/h | 974 | 650 | 1536 | 123 | 511 | 947 | 1781 | 1736 | 121 | 1810 | 1660 | 161 |
| Grp Volume(v), veh/h | 154 | 0 | 94 | 142 | 0 | 0 | 52 | 0 | 369 | 164 | 0 | 622 |
| Grp Sat Flow(s),veh/h/ln | 1624 | 0 | 1536 | 1581 | 0 | 0 | 1781 | 0 | 1857 | 1810 | 0 | 1821 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.1 | 0.2 | 0.0 | 0.0 | 1.1 | 0.0 | 6.2 | 3.5 | 0.0 | 11.7 |
| Cycle Q Clear(g_c), s | 3.0 | 0.0 | 2.1 | 3.2 | 0.0 | 0.0 | 1.1 | 0.0 | 6.2 | 3.5 | 0.0 | 11.7 |
| Prop In Lane | 0.67 | | 1.00 | 0.14 | | 0.60 | 1.00 | | 0.07 | 1.00 | | 0.09 |
| Lane Grp Cap(c), veh/h | 433 | 0 | 265 | 377 | 0 | 0 | 98 | 0 | 681 | 214 | 0 | 783 |
| V/C Ratio(X) | 0.36 | 0.00 | 0.35 | 0.38 | 0.00 | 0.00 | 0.53 | 0.00 | 0.54 | 0.77 | 0.00 | 0.79 |
| Avail Cap(c_a), veh/h | 840 | 0 | 702 | 820 | 0 | 0 | 231 | 0 | 938 | 395 | 0 | 1081 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.7 | 0.0 | 14.4 | 14.8 | 0.0 | 0.0 | 18.1 | 0.0 | 9.9 | 16.8 | 0.0 | 9.7 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.8 | 0.6 | 0.0 | 0.0 | 4.4 | 0.0 | 0.7 | 5.7 | 0.0 | 2.9 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.7 | 1.1 | 0.0 | 0.0 | 0.5 | 0.0 | 2.1 | 1.6 | 0.0 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 15.2 | 0.0 | 15.2 | 15.4 | 0.0 | 0.0 | 22.5 | 0.0 | 10.5 | 22.5 | 0.0 | 12.6 |
| LnGrp LOS | B | | B | B | | | C | | B | C | | B |
| Approach Vol, veh/h | | 248 | | | 142 | | | 421 | | | 786 | |
| Approach Delay, s/veh | | 15.2 | | | 15.4 | | | 12.0 | | | 14.7 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.2 | 19.0 | | 11.3 | 6.7 | 21.4 | | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 8.6 | 19.9 | | 18.0 | 5.1 | 23.4 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.5 | 8.2 | | 5.0 | 3.1 | 13.7 | | 5.2 | | | | |
| Green Ext Time (p_c), s | 0.1 | 1.8 | | 1.0 | 0.0 | 3.1 | | 0.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 14.1 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

HCM 7th Signalized Intersection Summary

5: Bay Ave & Capitola Ave

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↗ | | | ↕ | ↗ |
| Traffic Volume (veh/h) | 72 | 84 | 8 | 61 | 72 | 31 | 29 | 200 | 23 | 56 | 337 | 124 |
| Future Volume (veh/h) | 72 | 84 | 8 | 61 | 72 | 31 | 29 | 200 | 23 | 56 | 337 | 124 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 0.99 | | 0.99 | 0.99 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | No | | No | | No | | No | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 81 | 94 | 9 | 69 | 81 | 35 | 33 | 225 | 26 | 63 | 379 | 139 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 348 | 266 | 376 | 290 | 200 | 69 | 473 | 659 | 76 | 220 | 655 | 627 |
| Arrive On Green | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 |
| Sat Flow, veh/h | 576 | 1096 | 1552 | 387 | 824 | 283 | 878 | 1643 | 190 | 142 | 1632 | 1561 |
| Grp Volume(v), veh/h | 175 | 0 | 9 | 185 | 0 | 0 | 33 | 0 | 251 | 442 | 0 | 139 |
| Grp Sat Flow(s),veh/h/ln1673 | 0 | 1552 | 1495 | 0 | 0 | 878 | 0 | 1833 | 1775 | 0 | 1561 | |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.1 | 0.8 | 0.0 | 0.0 | 0.8 | 0.0 | 2.4 | 0.5 | 0.0 | 1.5 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 0.1 | 2.8 | 0.0 | 0.0 | 5.5 | 0.0 | 2.4 | 4.7 | 0.0 | 1.5 |
| Prop In Lane | 0.46 | | 1.00 | 0.37 | | 0.19 | 1.00 | | 0.10 | 0.14 | | 1.00 |
| Lane Grp Cap(c), veh/h | 614 | 0 | 376 | 558 | 0 | 0 | 473 | 0 | 736 | 875 | 0 | 627 |
| V/C Ratio(X) | 0.29 | 0.00 | 0.02 | 0.33 | 0.00 | 0.00 | 0.07 | 0.00 | 0.34 | 0.51 | 0.00 | 0.22 |
| Avail Cap(c_a), veh/h | 1332 | 0 | 1106 | 1282 | 0 | 0 | 746 | 0 | 1306 | 1406 | 0 | 1113 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.0 | 0.0 | 7.3 | 8.2 | 0.0 | 0.0 | 8.1 | 0.0 | 5.2 | 5.9 | 0.0 | 5.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.5 | 0.0 | 0.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln0.6 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.5 | 1.0 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 8.3 | 0.0 | 7.3 | 8.6 | 0.0 | 0.0 | 8.2 | 0.0 | 5.5 | 6.4 | 0.0 | 5.1 |
| LnGrp LOS | A | | A | A | | | A | | A | A | | A |
| Approach Vol, veh/h | | 184 | | | 185 | | | 284 | | | 581 | |
| Approach Delay, s/veh | | 8.2 | | | 8.6 | | | 5.8 | | | 6.1 | |
| Approach LOS | | A | | | A | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 14.6 | | 10.6 | | 14.6 | | 10.6 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | | 18.0 | | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.5 | | 4.0 | | 6.7 | | 4.8 | | | | |
| Green Ext Time (p_c), s | | 1.2 | | 0.8 | | 2.7 | | 0.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 6.7 | | | | | | | | | |
| HCM 7th LOS | | | A | | | | | | | | | |

HCM 7th Signalized Intersection Summary

6: Monterey Ave & Bay Ave

Item 7 B.

01/06/2025



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | T | | | R |
| Traffic Volume (veh/h) | 35 | 104 | 124 | 85 | 304 | 141 |
| Future Volume (veh/h) | 35 | 104 | 124 | 85 | 304 | 141 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 |
| Work Zone On Approach | No | | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 36 | 106 | 127 | 87 | 310 | 144 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 52 | 154 | 521 | 357 | 641 | 254 |
| Arrive On Green | 0.13 | 0.13 | 0.50 | 0.50 | 0.50 | 0.50 |
| Sat Flow, veh/h | 411 | 1210 | 1034 | 709 | 780 | 504 |
| Grp Volume(v), veh/h | 143 | 0 | 0 | 214 | 454 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1632 | 0 | 0 | 1743 | 1284 | 0 |
| Q Serve(g_s), s | 2.0 | 0.0 | 0.0 | 1.7 | 5.2 | 0.0 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 0.0 | 1.7 | 6.9 | 0.0 |
| Prop In Lane | 0.25 | 0.74 | | 0.41 | 0.68 | |
| Lane Grp Cap(c), veh/h | 208 | 0 | 0 | 878 | 895 | 0 |
| V/C Ratio(X) | 0.69 | 0.00 | 0.00 | 0.24 | 0.51 | 0.00 |
| Avail Cap(c_a), veh/h | 1211 | 0 | 0 | 2352 | 2016 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 10.2 | 0.0 | 0.0 | 3.4 | 4.8 | 0.0 |
| Incr Delay (d2), s/veh | 4.0 | 0.0 | 0.0 | 0.1 | 0.4 | 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 | 0.7 | 0.0 | 0.0 | 0.2 | 0.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d), s/veh | 14.2 | 0.0 | 0.0 | 3.6 | 5.2 | 0.0 |
| LnGrp LOS | B | | | A | A | |
| Approach Vol, veh/h | 143 | | 214 | | 454 | |
| Approach Delay, s/veh | 14.2 | | 3.6 | | 5.2 | |
| Approach LOS | B | | A | | A | |
| Timer - Assigned Phs | | 2 | | | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | 16.8 | | | 16.8 | 7.6 |
| Change Period (Y+Rc), s | | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 32.9 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | | 3.7 | | | 8.9 | 4.0 |
| Green Ext Time (p_c), s | | 1.3 | | | 3.4 | 0.3 |
| Intersection Summary | | | | | | |
| HCM 7th Control Delay, s/veh | | | 6.4 | | | |
| HCM 7th LOS | | | A | | | |

HCM 7th Signalized Intersection Summary
7: Monterey Ave & Park Ave

Item 7 B.

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Volume (veh/h) | 5 | 3 | 3 | 203 | 3 | 39 | 1 | 165 | 498 | 92 | 83 | 1 |
| Future Volume (veh/h) | 5 | 3 | 3 | 203 | 3 | 39 | 1 | 165 | 498 | 92 | 83 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 3 | 3 | 211 | 3 | 41 | 1 | 172 | 519 | 96 | 86 | 1 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 319 | 174 | 112 | 526 | 7 | 56 | 135 | 800 | 679 | 404 | 302 | 679 |
| Arrive On Green | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 |
| Sat Flow, veh/h | 523 | 727 | 469 | 1186 | 29 | 233 | 2 | 1867 | 1585 | 469 | 705 | 1585 |
| Grp Volume(v), veh/h | 11 | 0 | 0 | 255 | 0 | 0 | 173 | 0 | 519 | 182 | 0 | 1 |
| Grp Sat Flow(s),veh/h/ln1720 | 0 | 0 | 0 | 1447 | 0 | 0 | 1869 | 0 | 1585 | 1174 | 0 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.1 | 0.0 | 0.0 | 4.4 | 0.0 | 0.0 | 1.6 | 0.0 | 7.5 | 1.7 | 0.0 | 0.0 |
| Prop In Lane | 0.45 | | 0.27 | 0.83 | | 0.16 | 0.01 | | 1.00 | 0.53 | | 1.00 |
| Lane Grp Cap(c), veh/h | 605 | 0 | 0 | 589 | 0 | 0 | 935 | 0 | 679 | 706 | 0 | 679 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.00 | 0.43 | 0.00 | 0.00 | 0.19 | 0.00 | 0.76 | 0.26 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1258 | 0 | 0 | 1202 | 0 | 0 | 1376 | 0 | 1054 | 954 | 0 | 1054 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.9 | 0.0 | 0.0 | 9.5 | 0.0 | 0.0 | 4.9 | 0.0 | 6.6 | 4.9 | 0.0 | 4.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.1 | 0.0 | 1.8 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.3 | 0.0 | 1.4 | 0.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 7.9 | 0.0 | 0.0 | 10.0 | 0.0 | 0.0 | 5.0 | 0.0 | 8.4 | 5.1 | 0.0 | 4.4 |
| LnGrp LOS | A | | | A | | | A | | A | A | | A |
| Approach Vol, veh/h | | 11 | | | 255 | | | 692 | | | | 183 |
| Approach Delay, s/veh | | 7.9 | | | 10.0 | | | 7.5 | | | | 5.1 |
| Approach LOS | | A | | | A | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 16.1 | | 11.0 | | 16.1 | | 11.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | | 18.0 | | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.5 | | 2.1 | | 3.7 | | 6.4 | | | | |
| Green Ext Time (p_c), s | | 2.1 | | 0.0 | | 1.1 | | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | | 7.7 | | | | | | | |
| HCM 7th LOS | | | | | A | | | | | | | |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|-----|------|-------|-------|------|------|------|------|------|-------|
| Lane Configurations | | | | ↖ | ↗ | | ↖ | ↗ | | | ↗ | ↖ |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 161 | 12 | 379 | 321 | 392 | 0 | 0 | 436 | 536 |
| Future Volume (veh/h) | 0 | 0 | 0 | 161 | 12 | 379 | 321 | 392 | 0 | 0 | 436 | 536 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 169 | 13 | 399 | 338 | 413 | 0 | 0 | 459 | 564 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 341 | 10 | 308 | 437 | 2269 | 0 | 0 | 562 | 471 |
| Arrive On Green | | | | 0.20 | 0.20 | 0.20 | 0.49 | 1.00 | 0.00 | 0.00 | 0.32 | 0.32 |
| Sat Flow, veh/h | | | | 1739 | 51 | 1567 | 1795 | 3618 | 0 | 0 | 1870 | 1489 |
| Grp Volume(v), veh/h | | | | 169 | 0 | 412 | 338 | 413 | 0 | 0 | 459 | 564 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1618 | 1795 | 1763 | 0 | 0 | 1777 | 1489 |
| Q Serve(g_s), s | | | | 4.8 | 0.0 | 10.8 | 8.5 | 0.0 | 0.0 | 0.0 | 13.1 | 17.4 |
| Cycle Q Clear(g_c), s | | | | 4.8 | 0.0 | 10.8 | 8.5 | 0.0 | 0.0 | 0.0 | 13.1 | 17.4 |
| Prop In Lane | | | | 1.00 | | 0.97 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 341 | 0 | 318 | 437 | 2269 | 0 | 0 | 562 | 471 |
| V/C Ratio(X) | | | | 0.49 | 0.00 | 1.30 | 0.77 | 0.18 | 0.00 | 0.00 | 0.82 | 1.20 |
| Avail Cap(c_a), veh/h | | | | 341 | 0 | 318 | 467 | 2269 | 0 | 0 | 562 | 471 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.83 | 0.83 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 19.7 | 0.0 | 22.1 | 12.8 | 0.0 | 0.0 | 0.0 | 17.3 | 18.8 |
| Incr Delay (d2), s/veh | | | | 0.4 | 0.0 | 154.9 | 5.4 | 0.1 | 0.0 | 0.0 | 12.4 | 107.7 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.8 | 0.0 | 17.3 | 3.0 | 0.0 | 0.0 | 0.0 | 6.7 | 19.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 20.1 | 0.0 | 177.0 | 18.3 | 0.1 | 0.0 | 0.0 | 29.7 | 126.5 |
| LnGrp LOS | | | | C | | F | B | A | | | C | F |
| Approach Vol, veh/h | | | | | 581 | | | 751 | | | 1023 | |
| Approach Delay, s/veh | | | | | 131.4 | | | 8.3 | | | 83.1 | |
| Approach LOS | | | | | F | | | A | | | F | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | 6 | | | | | |
| Phs Duration (G+Y+Rc), s | 18.0 | 22.0 | | 15.0 | | | 40.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | | 4.6 | | | | | |
| Max Green Setting (Gmax), s | 14.3 | * 17 | | 10.8 | | | 35.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 10.5 | 19.4 | | 12.8 | | | 2.0 | | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | 0.0 | | | 1.2 | | | | | |

Intersection Summary

| | |
|------------------------------|------|
| HCM 7th Control Delay, s/veh | 71.2 |
| HCM 7th LOS | E |

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 248 | 0 | 586 | 0 | 0 | 0 | 0 | 465 | 61 | 251 | 346 | 0 |
| Future Volume (veh/h) | 248 | 0 | 586 | 0 | 0 | 0 | 0 | 465 | 61 | 251 | 346 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 174 | 0 | 710 | | | | 0 | 489 | 64 | 264 | 364 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 373 | 0 | 675 | | | | 0 | 1062 | 138 | 369 | 2205 | 0 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | | | | 0.00 | 0.33 | 0.33 | 0.41 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1739 | 0 | 3145 | | | | 0 | 3268 | 413 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 174 | 0 | 710 | | | | 0 | 275 | 278 | 264 | 364 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1572 | | | | 0 | 1791 | 1796 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 4.8 | 0.0 | 11.8 | | | | 0.0 | 6.6 | 6.7 | 6.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.8 | 0.0 | 11.8 | | | | 0.0 | 6.6 | 6.7 | 6.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 373 | 0 | 675 | | | | 0 | 599 | 601 | 369 | 2205 | 0 |
| V/C Ratio(X) | 0.47 | 0.00 | 1.05 | | | | 0.00 | 0.46 | 0.46 | 0.72 | 0.17 | 0.00 |
| Avail Cap(c_a), veh/h | 373 | 0 | 675 | | | | 0 | 599 | 601 | 398 | 2205 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.00 |
| Uniform Delay (d), s/veh | 18.9 | 0.0 | 21.6 | | | | 0.0 | 14.4 | 14.4 | 14.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 49.2 | | | | 0.0 | 2.5 | 2.6 | 3.0 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.0 | 8.4 | | | | 0.0 | 2.8 | 2.9 | 2.4 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 19.2 | 0.0 | 70.8 | | | | 0.0 | 16.9 | 17.0 | 17.8 | 0.1 | 0.0 |
| LnGrp LOS | B | | F | | | | | B | B | B | A | |
| Approach Vol, veh/h | 884 | | | | | | 553 | | | 628 | | |
| Approach Delay, s/veh | 60.6 | | | | | | 16.9 | | | 7.5 | | |
| Approach LOS | E | | | | | | B | | | A | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 39.0 | | 16.0 | | 23.0 | | 16.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 34.4 | | 12.3 | | * 18 | | 11.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 8.8 | | 8.7 | | 13.8 | | | | | |
| Green Ext Time (p_c), s | 1.0 | | 0.1 | | 1.0 | | 0.0 | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 32.8 | | | | | | | | | |
| HCM 7th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕ | ↗ |
| Traffic Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 79 | 1 | 394 | 9 | 69 | 754 | 109 |
| Future Vol, veh/h | 53 | 0 | 21 | 0 | 1 | 79 | 1 | 394 | 9 | 69 | 754 | 109 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 56 | 0 | 22 | 0 | 1 | 83 | 1 | 415 | 9 | 73 | 794 | 115 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1149 | 1365 | 794 | 1361 | 1475 | 212 | 908 | 0 | 0 | 424 | 0 | 0 |
| Stage 1 | 939 | 939 | - | 422 | 422 | - | - | - | - | - | - | - |
| Stage 2 | 210 | 426 | - | 939 | 1054 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 164 | 147 | 387 | 116 | 126 | 794 | 747 | - | - | 1133 | - | - |
| Stage 1 | 316 | 342 | - | 581 | 588 | - | - | - | - | - | - | - |
| Stage 2 | 773 | 585 | - | 316 | 302 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 136 | 137 | 387 | 102 | 118 | 794 | 747 | - | - | 1133 | - | - |
| Mov Cap-2 Maneuver | 136 | 137 | - | 102 | 118 | - | - | - | - | - | - | - |
| Stage 1 | 296 | 320 | - | 580 | 587 | - | - | - | - | - | - | - |
| Stage 2 | 690 | 584 | - | 279 | 283 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|-----------------------------|----|-------|------|------|
| HCM Control Delay, s/v39.07 | | 10.48 | 0.02 | 0.62 |
| HCM LOS | E | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 747 | - | - | 136 | 387 | 741 | 1133 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.41 | 0.057 | 0.114 | 0.064 | - | - |
| HCM Control Delay (s/veh) | 9.8 | - | - | 48.7 | 14.9 | 10.5 | 8.4 | - | - |
| HCM Lane LOS | A | - | - | E | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.8 | 0.2 | 0.4 | 0.2 | - | - |

HCM 7th Signalized Intersection Summary

4: Bay Ave & Retail Dwy/Hill St

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↖ | | ↖ | ↗ | | |
| Traffic Volume (veh/h) | 43 | 19 | 39 | 13 | 28 | 68 | 57 | 293 | 4 | 75 | 669 | 31 | |
| Future Volume (veh/h) | 43 | 19 | 39 | 13 | 28 | 68 | 57 | 293 | 4 | 75 | 669 | 31 | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.97 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Work Zone On Approach | | No | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1811 | 1900 | 1900 | 1900 | 1856 | 1885 | 1870 | 1885 | 1767 | 1900 | 1856 | 1856 | |
| Adj Flow Rate, veh/h | 45 | 20 | 41 | 14 | 29 | 72 | 60 | 308 | 4 | 79 | 704 | 33 | |
| 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 | |
| Percent Heavy Veh, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 | |
| Cap, veh/h | 268 | 95 | 214 | 107 | 67 | 139 | 105 | 903 | 12 | 127 | 874 | 41 | |
| Arrive On Green | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.06 | 0.49 | 0.49 | 0.07 | 0.50 | 0.50 | |
| Sat Flow, veh/h | 943 | 690 | 1559 | 111 | 491 | 1008 | 1781 | 1856 | 24 | 1810 | 1756 | 82 | |
| Grp Volume(v), veh/h | 65 | 0 | 41 | 115 | 0 | 0 | 60 | 0 | 312 | 79 | 0 | 737 | |
| Grp Sat Flow(s),veh/h/ln | 1632 | 0 | 1559 | 1610 | 0 | 0 | 1781 | 0 | 1880 | 1810 | 0 | 1838 | |
| Q Serve(g_s), s | 0.0 | 0.0 | 1.0 | 0.3 | 0.0 | 0.0 | 1.4 | 0.0 | 4.5 | 1.9 | 0.0 | 14.8 | |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 1.0 | 2.9 | 0.0 | 0.0 | 1.4 | 0.0 | 4.5 | 1.9 | 0.0 | 14.8 | |
| Prop In Lane | 0.69 | | 1.00 | 0.12 | | 0.63 | 1.00 | | 0.01 | 1.00 | | 0.04 | |
| Lane Grp Cap(c), veh/h | 362 | 0 | 214 | 313 | 0 | 0 | 105 | 0 | 914 | 127 | 0 | 915 | |
| V/C Ratio(X) | 0.18 | 0.00 | 0.19 | 0.37 | 0.00 | 0.00 | 0.57 | 0.00 | 0.34 | 0.62 | 0.00 | 0.81 | |
| Avail Cap(c_a), veh/h | 755 | 0 | 639 | 744 | 0 | 0 | 214 | 0 | 1269 | 353 | 0 | 1378 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | |
| Uniform Delay (d), s/veh | 17.0 | 0.0 | 16.9 | 17.7 | 0.0 | 0.0 | 20.2 | 0.0 | 7.0 | 19.9 | 0.0 | 9.3 | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.4 | 0.7 | 0.0 | 0.0 | 4.8 | 0.0 | 0.2 | 4.9 | 0.0 | 2.2 | |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.4 | 1.0 | 0.0 | 0.0 | 0.7 | 0.0 | 1.4 | 0.9 | 0.0 | 4.8 | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 17.2 | 0.0 | 17.3 | 18.4 | 0.0 | 0.0 | 25.0 | 0.0 | 7.2 | 24.8 | 0.0 | 11.4 | |
| LnGrp LOS | B | | B | B | | | C | | A | C | | B | |
| Approach Vol, veh/h | 106 | | | | | | 115 | | 372 | | 816 | | |
| Approach Delay, s/veh | 17.3 | | | | | | 18.4 | | 10.1 | | 12.7 | | |
| Approach LOS | B | | | | | | B | | B | | B | | |
| Timer - Assigned Phs | 1 | 2 | 4 | | 5 | 6 | 8 | | | | | | |
| Phs Duration (G+Y+Rc), s | 7.6 | 26.0 | 10.6 | | 7.1 | 26.5 | 10.6 | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | | | |
| Max Green Setting (Gmax), s | 8.6 | 29.8 | 18.1 | | 5.3 | 33.1 | 18.1 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 3.9 | 6.5 | 3.4 | | 3.4 | 16.8 | 4.9 | | | | | | |
| Green Ext Time (p_c), s | 0.1 | 2.0 | 0.3 | | 0.0 | 5.1 | 0.5 | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 12.8 | | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | | |

HCM 7th Signalized Intersection Summary
5: Bay Ave & Capitola Ave

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↗ | | | ↕ | ↗ |
| Traffic Volume (veh/h) | 78 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Future Volume (veh/h) | 78 | 67 | 6 | 83 | 94 | 42 | 27 | 312 | 55 | 74 | 183 | 128 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 0.99 | | 0.98 | 0.99 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | No | | No | | No | | No | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 82 | 71 | 6 | 87 | 99 | 44 | 28 | 328 | 58 | 78 | 193 | 135 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 386 | 263 | 408 | 312 | 220 | 79 | 502 | 590 | 104 | 275 | 483 | 596 |
| Arrive On Green | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| Sat Flow, veh/h | 638 | 1002 | 1555 | 440 | 838 | 302 | 1044 | 1543 | 273 | 242 | 1265 | 1560 |
| Grp Volume(v), veh/h | 153 | 0 | 6 | 230 | 0 | 0 | 28 | 0 | 386 | 271 | 0 | 135 |
| Grp Sat Flow(s),veh/h/ln | 1640 | 0 | 1555 | 1580 | 0 | 0 | 1044 | 0 | 1816 | 1506 | 0 | 1560 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.1 | 1.4 | 0.0 | 0.0 | 0.6 | 0.0 | 4.2 | 0.2 | 0.0 | 1.5 |
| Cycle Q Clear(g_c), s | 1.7 | 0.0 | 0.1 | 3.1 | 0.0 | 0.0 | 5.0 | 0.0 | 4.2 | 4.4 | 0.0 | 1.5 |
| Prop In Lane | 0.54 | | 1.00 | 0.38 | | 0.19 | 1.00 | | 0.15 | 0.29 | | 1.00 |
| Lane Grp Cap(c), veh/h | 649 | 0 | 408 | 611 | 0 | 0 | 502 | 0 | 694 | 759 | 0 | 596 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.01 | 0.38 | 0.00 | 0.00 | 0.06 | 0.00 | 0.56 | 0.36 | 0.00 | 0.23 |
| Avail Cap(c_a), veh/h | 1304 | 0 | 1105 | 1307 | 0 | 0 | 845 | 0 | 1291 | 1248 | 0 | 1109 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.5 | 0.0 | 6.9 | 8.0 | 0.0 | 0.0 | 8.2 | 0.0 | 6.1 | 5.7 | 0.0 | 5.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.3 | 0.0 | 0.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.1 | 0.0 | 1.0 | 0.6 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 7.7 | 0.0 | 6.9 | 8.4 | 0.0 | 0.0 | 8.2 | 0.0 | 6.8 | 6.0 | 0.0 | 5.5 |
| LnGrp LOS | A | | A | A | | | A | | A | A | | A |
| Approach Vol, veh/h | | 159 | | | 230 | | | 414 | | | | 406 |
| Approach Delay, s/veh | | 7.7 | | | 8.4 | | | 6.9 | | | | 5.8 |
| Approach LOS | | A | | | A | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 14.2 | | 11.2 | | 14.2 | | 11.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | | 18.0 | | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.0 | | 3.7 | | 6.4 | | 5.1 | | | | |
| Green Ext Time (p_c), s | | 2.0 | | 0.7 | | 1.8 | | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 6.9 | | | | | | | | |
| HCM 7th LOS | | | | A | | | | | | | | |

HCM 7th Signalized Intersection Summary
6: Monterey Ave & Bay Ave

Item 7 B.

01/06/2025



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | T | | | T |
| Traffic Volume (veh/h) | 87 | 282 | 162 | 61 | 219 | 239 |
| Future Volume (veh/h) | 87 | 282 | 162 | 61 | 219 | 239 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 |
| Work Zone On Approach | No | | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 92 | 297 | 171 | 64 | 231 | 252 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 114 | 367 | 588 | 220 | 402 | 371 |
| Arrive On Green | 0.30 | 0.30 | 0.45 | 0.45 | 0.45 | 0.45 |
| Sat Flow, veh/h | 384 | 1240 | 1297 | 486 | 561 | 819 |
| Grp Volume(v), veh/h | 390 | 0 | 0 | 235 | 483 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1628 | 0 | 0 | 1783 | 1380 | 0 |
| Q Serve(g_s), s | 8.0 | 0.0 | 0.0 | 3.0 | 7.9 | 0.0 |
| Cycle Q Clear(g_c), s | 8.0 | 0.0 | 0.0 | 3.0 | 10.9 | 0.0 |
| Prop In Lane | 0.24 | 0.76 | | 0.27 | 0.48 | |
| Lane Grp Cap(c), veh/h | 482 | 0 | 0 | 808 | 774 | 0 |
| V/C Ratio(X) | 0.81 | 0.00 | 0.00 | 0.29 | 0.62 | 0.00 |
| Avail Cap(c_a), veh/h | 816 | 0 | 0 | 1639 | 1443 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 11.7 | 0.0 | 0.0 | 6.2 | 8.4 | 0.0 |
| Incr Delay (d2), s/veh | 3.3 | 0.0 | 0.0 | 0.2 | 0.8 | 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 | 2.6 | 0.0 | 0.0 | 0.7 | 2.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d), s/veh | 15.0 | 0.0 | 0.0 | 6.4 | 9.3 | 0.0 |
| LnGrp LOS | B | | | A | A | |
| Approach Vol, veh/h | 390 | | 235 | | 483 | |
| Approach Delay, s/veh | 15.0 | | 6.4 | | 9.3 | |
| Approach LOS | B | | A | | A | |
| Timer - Assigned Phs | | 2 | | | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | 20.8 | | | 20.8 | 15.1 |
| Change Period (Y+Rc), s | | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 33.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | | 5.0 | | | 12.9 | 10.0 |
| Green Ext Time (p_c), s | | 1.4 | | | 3.4 | 0.9 |
| Intersection Summary | | | | | | |
| HCM 7th Control Delay, s/veh | | | 10.7 | | | |
| HCM 7th LOS | | | B | | | |

HCM 7th Signalized Intersection Summary

7: Monterey Ave & Park Ave

Item 7 B.

01/06/2025





















| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Volume (veh/h) | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 238 | 201 | 121 | 4 |
| Future Volume (veh/h) | 0 | 9 | 1 | 418 | 3 | 100 | 1 | 123 | 238 | 201 | 121 | 4 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 9 | 1 | 440 | 3 | 105 | 1 | 129 | 251 | 212 | 127 | 4 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 737 | 82 | 657 | 3 | 122 | 82 | 658 | 558 | 362 | 167 | 558 |
| Arrive On Green | 0.00 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 0 | 1654 | 184 | 1147 | 8 | 274 | 2 | 1867 | 1585 | 655 | 475 | 1585 |
| Grp Volume(v), veh/h | 0 | 0 | 10 | 548 | 0 | 0 | 130 | 0 | 251 | 339 | 0 | 4 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1837 | 1428 | 0 | 0 | 1869 | 0 | 1585 | 1130 | 0 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.1 | 15.3 | 0.0 | 0.0 | 0.0 | 0.0 | 5.4 | 10.5 | 0.0 | 0.1 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.1 | 15.4 | 0.0 | 0.0 | 2.2 | 0.0 | 5.4 | 12.7 | 0.0 | 0.1 |
| Prop In Lane | 0.00 | | 0.10 | 0.80 | | 0.19 | 0.01 | | 1.00 | 0.63 | | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 819 | 782 | 0 | 0 | 740 | 0 | 558 | 529 | 0 | 558 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.01 | 0.70 | 0.00 | 0.00 | 0.18 | 0.00 | 0.45 | 0.64 | 0.00 | 0.01 |
| Avail Cap(c_a), veh/h | 0 | 0 | 1092 | 996 | 0 | 0 | 899 | 0 | 693 | 633 | 0 | 693 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 6.9 | 11.2 | 0.0 | 0.0 | 10.0 | 0.0 | 11.1 | 13.9 | 0.0 | 9.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 | 0.1 | 0.0 | 0.6 | 1.6 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 0.7 | 0.0 | 1.6 | 2.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 0.0 | 0.0 | 6.9 | 12.7 | 0.0 | 0.0 | 10.2 | 0.0 | 11.7 | 15.5 | 0.0 | 9.4 |
| LnGrp LOS | | | A | B | | | B | | B | B | | A |
| Approach Vol, veh/h | | 10 | | | 548 | | | 381 | | | 343 | |
| Approach Delay, s/veh | | 6.9 | | | 12.7 | | | 11.2 | | | 15.4 | |
| Approach LOS | | A | | | B | | | B | | | B | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 20.2 | | 24.4 | | 20.2 | | 24.4 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 19.5 | | 26.5 | | 19.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.4 | | 2.1 | | 14.7 | | 17.4 | | | | |
| Green Ext Time (p_c), s | | 1.3 | | 0.0 | | 1.0 | | 2.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 12.9 | | | | | | | | |
| HCM 7th LOS | | | | B | | | | | | | | |

HCM 7th Signalized Intersection Summary

1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | |  |  | | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 77 | 1 | 406 | 683 | 726 | 0 | 0 | 644 | 149 |
| Future Volume (veh/h) | 0 | 0 | 0 | 77 | 1 | 406 | 683 | 726 | 0 | 0 | 644 | 149 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.93 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | No | | | No | | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1826 | 1900 | 1885 | 1885 | 1856 | 0 | 0 | 1870 | 1885 |
| Adj Flow Rate, veh/h | | | | 81 | 1 | 427 | 719 | 764 | 0 | 0 | 678 | 157 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 |
| Cap, veh/h | | | | 286 | 1 | 264 | 746 | 2601 | 0 | 0 | 765 | 177 |
| Arrive On Green | | | | 0.16 | 0.16 | 0.16 | 0.83 | 1.00 | 0.00 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 1739 | 4 | 1607 | 1795 | 3618 | 0 | 0 | 2915 | 653 |
| Grp Volume(v), veh/h | | | | 81 | 0 | 428 | 719 | 764 | 0 | 0 | 427 | 408 |
| Grp Sat Flow(s),veh/h/ln | | | | 1739 | 0 | 1611 | 1795 | 1763 | 0 | 0 | 1777 | 1698 |
| Q Serve(g_s), s | | | | 3.7 | 0.0 | 14.8 | 30.6 | 0.0 | 0.0 | 0.0 | 20.7 | 20.8 |
| Cycle Q Clear(g_c), s | | | | 3.7 | 0.0 | 14.8 | 30.6 | 0.0 | 0.0 | 0.0 | 20.7 | 20.8 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.38 |
| Lane Grp Cap(c), veh/h | | | | 286 | 0 | 265 | 746 | 2601 | 0 | 0 | 482 | 460 |
| V/C Ratio(X) | | | | 0.28 | 0.00 | 1.62 | 0.96 | 0.29 | 0.00 | 0.00 | 0.89 | 0.89 |
| Avail Cap(c_a), veh/h | | | | 286 | 0 | 265 | 764 | 2601 | 0 | 0 | 482 | 460 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.29 | 0.29 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 33.0 | 0.0 | 37.6 | 7.0 | 0.0 | 0.0 | 0.0 | 31.5 | 31.5 |
| Incr Delay (d2), s/veh | | | | 0.2 | 0.0 | 293.9 | 10.2 | 0.1 | 0.0 | 0.0 | 20.7 | 21.6 |
| Initial Q Delay(d3), s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.5 | 0.0 | 27.3 | 4.9 | 0.0 | 0.0 | 0.0 | 11.5 | 11.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | | | | 33.2 | 0.0 | 331.5 | 17.2 | 0.1 | 0.0 | 0.0 | 52.1 | 53.1 |
| LnGrp LOS | | | | C | | F | B | A | | | D | D |
| Approach Vol, veh/h | | | | | 509 | | | 1483 | | | 835 | |
| Approach Delay, s/veh | | | | | 284.1 | | | 8.4 | | | 52.6 | |
| Approach LOS | | | | | F | | | A | | | D | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | | | | | |
| Phs Duration (G+Y+Rc), s | 42.0 | 29.0 | | 19.0 | | 71.0 | | | | | | |
| Change Period (Y+Rc), s | 4.6 | * 4.6 | | 4.2 | | 4.6 | | | | | | |
| Max Green Setting (Gmax), s | 38.3 | * 24 | | 14.8 | | 66.4 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 32.6 | 22.8 | | 16.8 | | 2.0 | | | | | | |
| Green Ext Time (p_c), s | 0.3 | 0.5 | | 0.0 | | 2.4 | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 71.1 | | | | | | | | |
| HCM 7th LOS | | | | E | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 7th Signalized Intersection Summary

2: Bay Ave & Hwy 1 SB Off-Ramp

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-----|-------|-----|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 417 | 208 | 640 | 0 | 0 | 0 | 0 | 992 | 104 | 370 | 351 | 0 |
| Future Volume (veh/h) | 417 | 208 | 640 | 0 | 0 | 0 | 0 | 992 | 104 | 370 | 351 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1900 | 1856 | | | | 0 | 1885 | 1856 | 1870 | 1856 | 0 |
| Adj Flow Rate, veh/h | 366 | 500 | 483 | | | | 0 | 1044 | 109 | 389 | 369 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 5 | 0 | 3 | | | | 0 | 1 | 3 | 2 | 3 | 0 |
| Cap, veh/h | 498 | 545 | 451 | | | | 0 | 1138 | 119 | 468 | 2336 | 0 |
| Arrive On Green | 0.29 | 0.29 | 0.29 | | | | 0.00 | 0.35 | 0.35 | 0.44 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1739 | 1900 | 1572 | | | | 0 | 3357 | 340 | 1781 | 3618 | 0 |
| Grp Volume(v), veh/h | 366 | 500 | 483 | | | | 0 | 573 | 580 | 389 | 369 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1900 | 1572 | | | | 0 | 1791 | 1812 | 1781 | 1763 | 0 |
| Q Serve(g_s), s | 17.1 | 22.9 | 25.8 | | | | 0.0 | 27.5 | 27.6 | 17.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 17.1 | 22.9 | 25.8 | | | | 0.0 | 27.5 | 27.6 | 17.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.19 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 498 | 545 | 451 | | | | 0 | 625 | 632 | 468 | 2336 | 0 |
| V/C Ratio(X) | 0.73 | 0.92 | 1.07 | | | | 0.00 | 0.92 | 0.92 | 0.83 | 0.16 | 0.00 |
| Avail Cap(c_a), veh/h | 498 | 545 | 451 | | | | 0 | 625 | 632 | 468 | 2336 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.55 | 0.55 | 0.00 |
| Uniform Delay (d), s/veh | 29.0 | 31.1 | 32.1 | | | | 0.0 | 28.0 | 28.1 | 23.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 4.9 | 20.3 | 62.8 | | | | 0.0 | 20.5 | 20.5 | 6.6 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.5 | 13.1 | 17.2 | | | | 0.0 | 15.0 | 15.2 | 6.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 33.9 | 51.3 | 94.9 | | | | 0.0 | 48.5 | 48.5 | 30.1 | 0.1 | 0.0 |
| LnGrp LOS | C | D | F | | | | | D | D | C | A | |
| Approach Vol, veh/h | 1349 | | | | | | 1153 | | | 758 | | |
| Approach Delay, s/veh | 62.2 | | | | | | 48.5 | | | 15.5 | | |
| Approach LOS | E | | | | | | D | | | B | | |
| Timer - Assigned Phs | 2 | | 5 | | 6 | | 8 | | | | | |
| Phs Duration (G+Y+Rc), s | 64.2 | | 28.2 | | 36.0 | | 30.0 | | | | | |
| Change Period (Y+Rc), s | 4.6 | | 4.6 | | * 4.6 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | 55.4 | | 20.3 | | * 31 | | 25.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 19.4 | | 29.6 | | 27.8 | | | | | |
| Green Ext Time (p_c), s | 1.1 | | 0.0 | | 0.8 | | 0.0 | | | | | |

Intersection Summary

| | |
|------------------------------|------|
| HCM 7th Control Delay, s/veh | 46.5 |
| HCM 7th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
3: Bay Ave & Croosroads Loop

Item 7 B.

01/06/2025

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↗ | ↕↗ | | ↗ | ↕ | ↗ |
| Traffic Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 59 | 4 | 988 | 9 | 92 | 787 | 112 |
| Future Vol, veh/h | 49 | 2 | 38 | 4 | 1 | 59 | 4 | 988 | 9 | 92 | 787 | 112 |
| 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 | - | - | 0 | - | - | - | 50 | - | - | 50 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 52 | 2 | 40 | 4 | 1 | 62 | 4 | 1040 | 9 | 97 | 828 | 118 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1551 | 2080 | 828 | 2076 | 2193 | 525 | 946 | 0 | 0 | 1049 | 0 | 0 |
| Stage 1 | 1022 | 1022 | - | 1053 | 1053 | - | - | - | - | - | - | - |
| Stage 2 | 529 | 1058 | - | 1023 | 1140 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.33 | 6.53 | 6.23 | 7.33 | 6.53 | 6.93 | 4.13 | - | - | 4.13 | - | - |
| Critical Hdwy Stg 1 | 6.13 | 5.53 | - | 6.53 | 5.53 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.53 | 5.53 | - | 6.13 | 5.53 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 | 2.219 | - | - | 2.219 | - | - |
| Pot Cap-1 Maneuver | 84 | 53 | 370 | 35 | 45 | 498 | 723 | - | - | 661 | - | - |
| Stage 1 | 284 | 312 | - | 243 | 302 | - | - | - | - | - | - | - |
| Stage 2 | 502 | 301 | - | 283 | 275 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 61 | 45 | 370 | 25 | 38 | 498 | 723 | - | - | 661 | - | - |
| Mov Cap-2 Maneuver | 61 | 45 | - | 25 | 38 | - | - | - | - | - | - | - |
| Stage 1 | 242 | 267 | - | 241 | 300 | - | - | - | - | - | - | - |
| Stage 2 | 435 | 299 | - | 214 | 235 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|--------------------------|-------|-------|------|------|
| HCM Control Delay, s/veh | 19.07 | 29.77 | 0.04 | 1.06 |
| HCM LOS | F | D | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 723 | - | - | 60 | 370 | 212 | 661 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.889 | 0.108 | 0.318 | 0.147 | - | - |
| HCM Control Delay (s/veh) | 10 | - | - | 195.9 | 15.9 | 29.8 | 11.4 | - | - |
| HCM Lane LOS | B | - | - | F | C | D | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 4.1 | 0.4 | 1.3 | 0.5 | - | - |

HCM 7th Signalized Intersection Summary

4: Bay Ave & Retail Dwy/Hill St

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↖ | | ↖ | ↗ | |
| Traffic Volume (veh/h) | 92 | 45 | 84 | 22 | 33 | 192 | 46 | 717 | 34 | 146 | 634 | 49 |
| Future Volume (veh/h) | 92 | 45 | 84 | 22 | 33 | 192 | 46 | 717 | 34 | 146 | 634 | 49 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1900 | 1900 | 1900 | 1856 | 1885 | 1870 | 1885 | 1767 | 1900 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 97 | 47 | 88 | 23 | 35 | 202 | 48 | 755 | 36 | 154 | 667 | 52 |
| 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 |
| Percent Heavy Veh, % | 6 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 9 | 0 | 3 | 3 |
| Cap, veh/h | 200 | 82 | 380 | 63 | 56 | 230 | 76 | 837 | 40 | 191 | 904 | 70 |
| Arrive On Green | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.04 | 0.47 | 0.47 | 0.11 | 0.53 | 0.53 |
| Sat Flow, veh/h | 490 | 341 | 1573 | 41 | 233 | 952 | 1781 | 1781 | 85 | 1810 | 1695 | 132 |
| Grp Volume(v), veh/h | 144 | 0 | 88 | 260 | 0 | 0 | 48 | 0 | 791 | 154 | 0 | 719 |
| Grp Sat Flow(s),veh/h/ln | 831 | 0 | 1573 | 1225 | 0 | 0 | 1781 | 0 | 1866 | 1810 | 0 | 1828 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.3 | 3.2 | 0.0 | 0.0 | 2.0 | 0.0 | 28.8 | 6.1 | 0.0 | 22.4 |
| Cycle Q Clear(g_c), s | 12.6 | 0.0 | 3.3 | 15.8 | 0.0 | 0.0 | 2.0 | 0.0 | 28.8 | 6.1 | 0.0 | 22.4 |
| Prop In Lane | 0.67 | | 1.00 | 0.09 | | 0.78 | 1.00 | | 0.05 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 282 | 0 | 380 | 349 | 0 | 0 | 76 | 0 | 876 | 191 | 0 | 974 |
| V/C Ratio(X) | 0.51 | 0.00 | 0.23 | 0.74 | 0.00 | 0.00 | 0.64 | 0.00 | 0.90 | 0.80 | 0.00 | 0.74 |
| Avail Cap(c_a), veh/h | 287 | 0 | 386 | 355 | 0 | 0 | 123 | 0 | 1003 | 213 | 0 | 1072 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.4 | 0.0 | 22.5 | 26.3 | 0.0 | 0.0 | 34.8 | 0.0 | 18.0 | 32.3 | 0.0 | 13.3 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 0.3 | 8.2 | 0.0 | 0.0 | 8.5 | 0.0 | 10.3 | 18.1 | 0.0 | 2.5 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 0.0 | 1.2 | 5.1 | 0.0 | 0.0 | 1.0 | 0.0 | 13.8 | 3.6 | 0.0 | 8.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 26.8 | 0.0 | 22.8 | 34.4 | 0.0 | 0.0 | 43.3 | 0.0 | 28.3 | 50.4 | 0.0 | 15.7 |
| LnGrp LOS | C | | C | C | | | D | | C | D | | B |
| Approach Vol, veh/h | | 232 | | | 260 | | | 839 | | | | 873 |
| Approach Delay, s/veh | | 25.3 | | | 34.4 | | | 29.2 | | | | 21.8 |
| Approach LOS | | C | | | C | | | C | | | | C |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.3 | 39.2 | | 22.3 | 7.6 | 43.9 | | 22.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 8.7 | 39.7 | | 18.1 | 5.1 | 43.3 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.1 | 30.8 | | 14.6 | 4.0 | 24.4 | | 17.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.9 | | 0.4 | 0.0 | 5.3 | | 0.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 26.5 | | | | | | | | | |
| HCM 7th LOS | | | C | | | | | | | | | |

HCM 7th Signalized Intersection Summary

5: Bay Ave & Capitola Ave

Item 7 B.

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | | ↖ | ↗ | | | ↕ | ↗ |
| Traffic Volume (veh/h) | 190 | 63 | 8 | 17 | 65 | 73 | 29 | 200 | 23 | 61 | 337 | 171 |
| Future Volume (veh/h) | 190 | 63 | 8 | 17 | 65 | 73 | 29 | 200 | 23 | 61 | 337 | 171 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 0.99 | | 0.98 | 0.99 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 200 | 66 | 8 | 18 | 68 | 77 | 31 | 211 | 24 | 64 | 355 | 180 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 528 | 125 | 448 | 172 | 230 | 228 | 437 | 627 | 71 | 212 | 614 | 594 |
| Arrive On Green | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1029 | 433 | 1558 | 86 | 798 | 791 | 865 | 1646 | 187 | 156 | 1613 | 1560 |
| Grp Volume(v), veh/h | 266 | 0 | 8 | 163 | 0 | 0 | 31 | 0 | 235 | 419 | 0 | 180 |
| Grp Sat Flow(s),veh/h/ln | 1462 | 0 | 1558 | 1675 | 0 | 0 | 865 | 0 | 1833 | 1769 | 0 | 1560 |
| Q Serve(g_s), s | 1.9 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 2.5 | 0.8 | 0.0 | 2.2 |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.1 | 2.0 | 0.0 | 0.0 | 5.8 | 0.0 | 2.5 | 4.9 | 0.0 | 2.2 |
| Prop In Lane | 0.75 | | 1.00 | 0.11 | | 0.47 | 1.00 | | 0.10 | 0.15 | | 1.00 |
| Lane Grp Cap(c), veh/h | 653 | 0 | 448 | 629 | 0 | 0 | 437 | 0 | 698 | 827 | 0 | 594 |
| V/C Ratio(X) | 0.41 | 0.00 | 0.02 | 0.26 | 0.00 | 0.00 | 0.07 | 0.00 | 0.34 | 0.51 | 0.00 | 0.30 |
| Avail Cap(c_a), veh/h | 1156 | 0 | 1032 | 1243 | 0 | 0 | 681 | 0 | 1215 | 1306 | 0 | 1034 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.2 | 0.0 | 6.9 | 7.6 | 0.0 | 0.0 | 9.0 | 0.0 | 6.0 | 6.7 | 0.0 | 5.9 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.5 | 0.0 | 0.3 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.1 | 0.0 | 0.6 | 1.2 | 0.0 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 8.6 | 0.0 | 6.9 | 7.8 | 0.0 | 0.0 | 9.1 | 0.0 | 6.3 | 7.2 | 0.0 | 6.2 |
| LnGrp LOS | A | | A | A | | | A | | A | A | | A |
| Approach Vol, veh/h | | 274 | | | 163 | | | 266 | | | 599 | |
| Approach Delay, s/veh | | 8.5 | | | 7.8 | | | 6.6 | | | 6.9 | |
| Approach LOS | | A | | | A | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 14.8 | | 12.3 | | 14.8 | | 12.3 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | | 18.0 | | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.8 | | 5.9 | | 6.9 | | 4.0 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | 1.4 | | 2.7 | | 0.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 7.3 | | | | | | | | | |
| HCM 7th LOS | | | A | | | | | | | | | |

HCM 7th Signalized Intersection Summary
6: Monterey Ave & Bay Ave

Item 7 B.

01/06/2025



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | Y | | T | | A | |
| Traffic Volume (veh/h) | 35 | 104 | 305 | 85 | 304 | 251 |
| Future Volume (veh/h) | 35 | 104 | 305 | 85 | 304 | 251 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 |
| Work Zone On Approach | No | | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 37 | 109 | 321 | 89 | 320 | 264 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 141 | 879 | 244 | 510 | 378 |
| Arrive On Green | 0.12 | 0.12 | 0.62 | 0.62 | 0.62 | 0.62 |
| Sat Flow, veh/h | 411 | 1210 | 1409 | 391 | 561 | 605 |
| Grp Volume(v), veh/h | 147 | 0 | 0 | 410 | 584 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1632 | 0 | 0 | 1800 | 1166 | 0 |
| Q Serve(g_s), s | 3.0 | 0.0 | 0.0 | 3.9 | 10.3 | 0.0 |
| Cycle Q Clear(g_c), s | 3.0 | 0.0 | 0.0 | 3.9 | 14.1 | 0.0 |
| Prop In Lane | 0.25 | 0.74 | | 0.22 | 0.55 | |
| Lane Grp Cap(c), veh/h | 191 | 0 | 0 | 1123 | 888 | 0 |
| V/C Ratio(X) | 0.77 | 0.00 | 0.00 | 0.36 | 0.66 | 0.00 |
| Avail Cap(c_a), veh/h | 845 | 0 | 0 | 2487 | 1831 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 14.9 | 0.0 | 0.0 | 3.2 | 5.4 | 0.0 |
| Incr Delay (d2), s/veh | 6.4 | 0.0 | 0.0 | 0.2 | 0.8 | 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 | 1.3 | 0.0 | 0.0 | 0.4 | 0.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d), s/veh | 21.3 | 0.0 | 0.0 | 3.4 | 6.2 | 0.0 |
| LnGrp LOS | C | | A | | A | |
| Approach Vol, veh/h | 147 | | 410 | | 584 | |
| Approach Delay, s/veh | 21.3 | | 3.4 | | 6.2 | |
| Approach LOS | C | | A | | A | |
| Timer - Assigned Phs | 2 | | 6 | | 8 | |
| Phs Duration (G+Y+Rc), s | 26.2 | | 26.2 | | 8.6 | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | | 4.5 | |
| Max Green Setting (Gmax), s | 48.0 | | 48.0 | | 18.0 | |
| Max Q Clear Time (g_c+I1), s | 5.9 | | 16.1 | | 5.0 | |
| Green Ext Time (p_c), s | 2.9 | | 5.6 | | 0.3 | |
| Intersection Summary | | | | | | |
| HCM 7th Control Delay, s/veh | | | 7.1 | | | |
| HCM 7th LOS | | | A | | | |

HCM 7th Signalized Intersection Summary

7: Monterey Ave & Park Ave

01/06/2025



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↕ | | ↕ | ↕ |
| Traffic Volume (veh/h) | 5 | 3 | 3 | 203 | 3 | 237 | 1 | 148 | 619 | 202 | 83 | 1 |
| Future Volume (veh/h) | 5 | 3 | 3 | 203 | 3 | 237 | 1 | 148 | 619 | 202 | 83 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 3 | 3 | 214 | 3 | 249 | 1 | 156 | 652 | 213 | 87 | 1 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 315 | 188 | 142 | 351 | 27 | 290 | 87 | 800 | 679 | 368 | 127 | 679 |
| Arrive On Green | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 |
| Sat Flow, veh/h | 533 | 525 | 397 | 632 | 75 | 811 | 2 | 1868 | 1585 | 516 | 296 | 1585 |
| Grp Volume(v), veh/h | 11 | 0 | 0 | 466 | 0 | 0 | 157 | 0 | 652 | 300 | 0 | 1 |
| Grp Sat Flow(s),veh/h/ln1455 | 0 | 0 | 0 | 1518 | 0 | 0 | 1870 | 0 | 1585 | 812 | 0 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 16.8 | 12.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 0.0 | 11.9 | 0.0 | 0.0 | 2.2 | 0.0 | 16.8 | 14.2 | 0.0 | 0.0 |
| Prop In Lane | 0.45 | | 0.27 | 0.46 | | 0.53 | 0.01 | | 1.00 | 0.71 | | 1.00 |
| Lane Grp Cap(c), veh/h | 644 | 0 | 0 | 667 | 0 | 0 | 887 | 0 | 679 | 494 | 0 | 679 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.00 | 0.70 | 0.00 | 0.00 | 0.18 | 0.00 | 0.96 | 0.61 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 743 | 0 | 0 | 774 | 0 | 0 | 887 | 0 | 679 | 494 | 0 | 679 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.7 | 0.0 | 0.0 | 12.4 | 0.0 | 0.0 | 7.5 | 0.0 | 11.7 | 11.0 | 0.0 | 6.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.1 | 0.0 | 25.0 | 2.1 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln0.1 | 0.0 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 | 0.7 | 0.0 | 8.9 | 2.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 8.7 | 0.0 | 0.0 | 14.7 | 0.0 | 0.0 | 7.6 | 0.0 | 36.6 | 13.1 | 0.0 | 6.9 |
| LnGrp LOS | A | | | B | | | A | | D | B | | A |
| Approach Vol, veh/h | | 11 | | | 466 | | | 809 | | | 301 | |
| Approach Delay, s/veh | | 8.7 | | | 14.7 | | | 31.0 | | | 13.1 | |
| Approach LOS | | A | | | B | | | C | | | B | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 22.5 | | 19.5 | | 22.5 | | 19.5 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | | 18.0 | | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 18.8 | | 2.2 | | 16.2 | | 13.9 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 0.5 | | 1.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | | | | | | | | 22.7 | |
| HCM 7th LOS | | | | | | | | | | | C | |

Arterial Level of Service: NB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Capitola Ave | IV | 25 | 36.4 | 9.9 | 46.3 | 0.22 | 17.1 | C |
| Hill St | IV | 25 | 36.2 | 12.0 | 48.2 | 0.22 | 16.4 | C |
| Hwy 1 SB Off-Ramp | IV | 25 | 24.9 | 19.5 | 44.4 | 0.14 | 11.2 | D |
| Hwy 1 NB Off-Ramp | IV | 25 | 16.0 | 3.0 | 19.0 | 0.06 | 11.4 | D |
| Total | IV | | 113.5 | 44.4 | 157.9 | 0.64 | 14.5 | C |

Arterial Level of Service: SB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Hwy 1 NB Off-Ramp | IV | 25 | 21.0 | 12.2 | 33.2 | 0.10 | 10.3 | D |
| Hwy 1 SB Off-Ramp | IV | 25 | 16.0 | 5.0 | 21.0 | 0.06 | 10.3 | D |
| Retail Dwy | IV | 25 | 24.9 | 12.2 | 37.1 | 0.14 | 13.4 | C |
| Capitola Ave | IV | 25 | 36.2 | 10.3 | 46.5 | 0.22 | 17.0 | C |
| Monterey Ave | IV | 25 | 36.4 | 18.3 | 54.7 | 0.22 | 14.5 | C |
| Total | IV | | 134.5 | 58.0 | 192.5 | 0.73 | 13.7 | C |

Arterial Level of Service: NB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Park Ave | IV | 25 | 19.0 | 16.9 | 35.9 | 0.09 | 8.6 | E |
| Monterey Ave | IV | 25 | 14.9 | 0.0 | 14.9 | 0.06 | 13.6 | C |
| Total | IV | | 33.9 | 16.9 | 50.8 | 0.14 | 10.1 | D |

Arterial Level of Service: WB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Bay Ave | IV | 25 | 19.8 | 12.1 | 31.9 | 0.09 | 10.2 | D |
| Park Ave | IV | 25 | 14.9 | 19.4 | 34.3 | 0.06 | 5.9 | F |
| Total | IV | | 34.7 | 31.5 | 66.2 | 0.15 | 8.0 | E |

Arterial Level of Service: NB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Capitola Ave | IV | 25 | 36.4 | 6.8 | 43.2 | 0.22 | 18.4 | C |
| Hill St | IV | 25 | 36.2 | 15.5 | 51.7 | 0.22 | 15.3 | C |
| Hwy 1 SB Off-Ramp | IV | 25 | 24.9 | 17.8 | 42.7 | 0.14 | 11.7 | D |
| Hwy 1 NB Off-Ramp | IV | 25 | 16.0 | 2.5 | 18.5 | 0.06 | 11.7 | D |
| Total | IV | | 113.5 | 42.6 | 156.1 | 0.64 | 14.7 | C |

Arterial Level of Service: SB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Hwy 1 NB Off-Ramp | IV | 25 | 21.0 | 13.6 | 34.6 | 0.10 | 9.9 | D |
| Hwy 1 SB Off-Ramp | IV | 25 | 16.0 | 5.6 | 21.6 | 0.06 | 10.0 | D |
| Retail Dwy | IV | 25 | 24.9 | 16.6 | 41.5 | 0.14 | 12.0 | D |
| Capitola Ave | IV | 25 | 36.2 | 9.3 | 45.5 | 0.22 | 17.3 | C |
| Monterey Ave | IV | 25 | 36.4 | 7.8 | 44.2 | 0.22 | 18.0 | C |
| Total | IV | | 134.5 | 52.9 | 187.4 | 0.73 | 14.1 | C |

Arterial Level of Service: NB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Park Ave | IV | 25 | 19.0 | 8.5 | 27.5 | 0.09 | 11.3 | D |
| Monterey Ave | IV | 25 | 14.9 | 0.0 | 14.9 | 0.06 | 13.6 | C |
| Total | IV | | 33.9 | 8.5 | 42.4 | 0.14 | 12.1 | D |

Arterial Level of Service: WB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Bay Ave | IV | 25 | 19.8 | 9.8 | 29.6 | 0.09 | 11.0 | D |
| Park Ave | IV | 25 | 14.9 | 9.2 | 24.1 | 0.06 | 8.4 | E |
| Total | IV | | 34.7 | 19.0 | 53.7 | 0.15 | 9.8 | D |

Arterial Level of Service: NB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-----------|----------------|--------------|
| Capitola Ave | IV | 25 | 36.4 | 8.7 | 45.1 | 0.22 | 17.6 | C |
| Hill St | IV | 25 | 36.2 | 9.5 | 45.7 | 0.22 | 17.3 | C |
| | IV | 25 | 24.9 | 14.4 | 39.3 | 0.14 | 12.7 | D |
| Hwy 1 NB Off-Ramp | IV | 25 | 16.0 | 1.3 | 17.3 | 0.06 | 12.5 | D |
| Total | IV | | 113.5 | 33.9 | 147.4 | 0.64 | 15.6 | C |

Arterial Level of Service: SB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-----------|----------------|--------------|
| | IV | 25 | 21.0 | 9.9 | 30.9 | 0.10 | 11.1 | D |
| Hwy 1 SB Off-Ramp | IV | 25 | 16.0 | 2.6 | 18.6 | 0.06 | 11.7 | D |
| Retail Dwy | IV | 25 | 24.9 | 13.1 | 38.0 | 0.14 | 13.1 | C |
| Capitola Ave | IV | 25 | 36.2 | 9.0 | 45.2 | 0.22 | 17.5 | C |
| Monterey Ave | IV | 25 | 36.4 | 14.5 | 50.9 | 0.22 | 15.6 | C |
| Total | IV | | 134.5 | 49.1 | 183.6 | 0.73 | 14.4 | C |

Arterial Level of Service: NB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-----------|----------------|--------------|
| Park Ave | IV | 25 | 19.0 | 13.3 | 32.3 | 0.09 | 9.6 | D |
| Monterey Ave | IV | 25 | 14.9 | 0.0 | 14.9 | 0.06 | 13.6 | C |
| Total | IV | | 33.9 | 13.3 | 47.2 | 0.14 | 10.9 | D |

Arterial Level of Service: WB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-----------|----------------|--------------|
| Bay Ave | IV | 25 | 19.8 | 10.3 | 30.1 | 0.09 | 10.8 | D |
| Park Ave | IV | 25 | 14.9 | 26.9 | 41.8 | 0.06 | 4.8 | F |
| Total | IV | | 34.7 | 37.2 | 71.9 | 0.15 | 7.3 | E |

Arterial Level of Service: NB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Capitola Ave | IV | 25 | 36.4 | 8.4 | 44.8 | 0.22 | 17.7 | C |
| Hill St | IV | 25 | 36.2 | 31.8 | 68.0 | 0.22 | 11.6 | D |
| Hwy 1 SB Off-Ramp | IV | 25 | 24.9 | 43.2 | 68.1 | 0.14 | 7.3 | E |
| Hwy 1 NB Off-Ramp | IV | 25 | 16.0 | 3.5 | 19.5 | 0.06 | 11.1 | D |
| Total | IV | | 113.5 | 86.9 | 200.4 | 0.64 | 11.5 | D |

Arterial Level of Service: SB Bay Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|-------------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Hwy 1 NB Off-Ramp | IV | 25 | 21.0 | 36.7 | 57.7 | 0.10 | 5.9 | F |
| Hwy 1 SB Off-Ramp | IV | 25 | 16.0 | 1.2 | 17.2 | 0.06 | 12.6 | D |
| Retail Dwy | IV | 25 | 24.9 | 15.8 | 40.7 | 0.14 | 12.2 | D |
| Capitola Ave | IV | 25 | 36.2 | 11.1 | 47.3 | 0.22 | 16.7 | C |
| Monterey Ave | IV | 25 | 36.4 | 9.4 | 45.8 | 0.22 | 17.3 | C |
| Total | IV | | 134.5 | 74.2 | 208.7 | 0.73 | 12.6 | D |

Arterial Level of Service: NB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Park Ave | IV | 25 | 19.0 | 9.7 | 28.7 | 0.09 | 10.8 | D |
| Monterey Ave | IV | 25 | 14.9 | 0.0 | 14.9 | 0.06 | 13.6 | C |
| Total | IV | | 33.9 | 9.7 | 43.6 | 0.14 | 11.8 | D |

Arterial Level of Service: WB Monterey Ave

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|--------------|----------------|------------|--------------|--------------|-----------------|-------------|----------------|--------------|
| Bay Ave | IV | 25 | 19.8 | 14.5 | 34.3 | 0.09 | 9.5 | D |
| Park Ave | IV | 25 | 14.9 | 17.4 | 32.3 | 0.06 | 6.3 | F |
| Total | IV | | 34.7 | 31.9 | 66.6 | 0.15 | 7.9 | E |

Attachment E – Existing Intersection Observed Driver Behavior at Bay/Capitola Technical Memo

DRAFT TECHNICAL MEMORANDUM

RE: **Capitola Avenue at Bay Avenue - Existing Intersection Observed Driver Behavior**

From: **Sean Houck, P.E, Kimley-Horn**
Derek Wu P.E, Kimley-Horn

To: **Kailash Mozumder, City of Capitola**

Date: **July 23, 2024**

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INTRODUCTION

This Technical Memorandum evaluates vehicle navigation and observes driver behavior at the intersection of Capitola Avenue and Bay Avenue (study intersection) in Capitola, California. The existing, four-leg intersection currently operates as an all-way stop-controlled (AWSC) intersection. The intersection was evaluated using aerial video collected by drone and processed using video analytics (VA). VA is the process of applying artificial intelligence (AI) to define vehicle kinematics in the video for the purpose of extracting time-spatial data, applying prediction kinematic models, and visualizing driver behavior trends. VA were used in this study to evaluate:

- Stopping Rate
- Measured Speed
- Deceleration Rate
- Near Miss Collisions - Vehicles, Pedestrians, and Bicyclists

The study intersection is shown below in **Figure 1**.



Figure 1: Study Location

EXISTING CONDITIONS

Capitola Avenue is a two-lane, north-south roadway with a posted speed limit of 25 miles per hour (mph). Capitola Avenue is classified as an arterial south of Bay Avenue and a collector north of Bay Avenue. The northbound approach has a dedicated right-turn lane and a shared left-turn/through lane. The southbound approach has a shared left/through/right-turn lane. Bay Avenue is a two-lane, east-west arterial with a posted speed limit of 25 mph. There is a two-way left-turn lane west of the intersection. The eastbound approach consists of a dedicated right-turn lane and shared left-turn/through lane. The westbound approach consists of a dedicated left-turn lane and a shared through/right turn lane.

There are crosswalks and sidewalks located along all legs of the intersection. There are Class II bike lanes along the western leg of Bay Avenue. The north, east, and south legs have Class III bike routes in which bicyclists share the road with the vehicles. There are two (2) schools located within a half-mile radius of the study intersection including one elementary and one middle school.

DATA COLLECTION

Data collection occurred at the study intersection using drone imagery, on May 16th, 2024, during the following time periods:

- AM peak hour/school drop-off
- PM school pick-up
- PM peak hour
- PM evening off-peak

The data collection start and end times of each captured video is identified in **Table 1**.

Table 1: Video Times

| Video | Peak Hour | Start Time | End Time |
|-------|-------------------------|------------|----------|
| 1 | AM Peak/School Drop-off | 7:50 AM | 8:40 AM |
| 2 | PM School Pick-up | 2:45 PM | 3:30 PM |
| 3 | PM Peak | 3:55 PM | 4:45 PM |
| 4 | PM Evening Off-Peak | 7:05 PM | 7:35 PM |

EXISTING CONDITIONS ASSESSMENT

Drone videos were processed using pixel tracing software which identifies and measures vehicle movement as shown in **Figure 2**. The focus of this assessment was to identify the following of the observed vehicles:

- Deceleration speeds approaching the stop signs
- Heavy braking
- Interaction with other vehicles and pedestrians/bicyclists

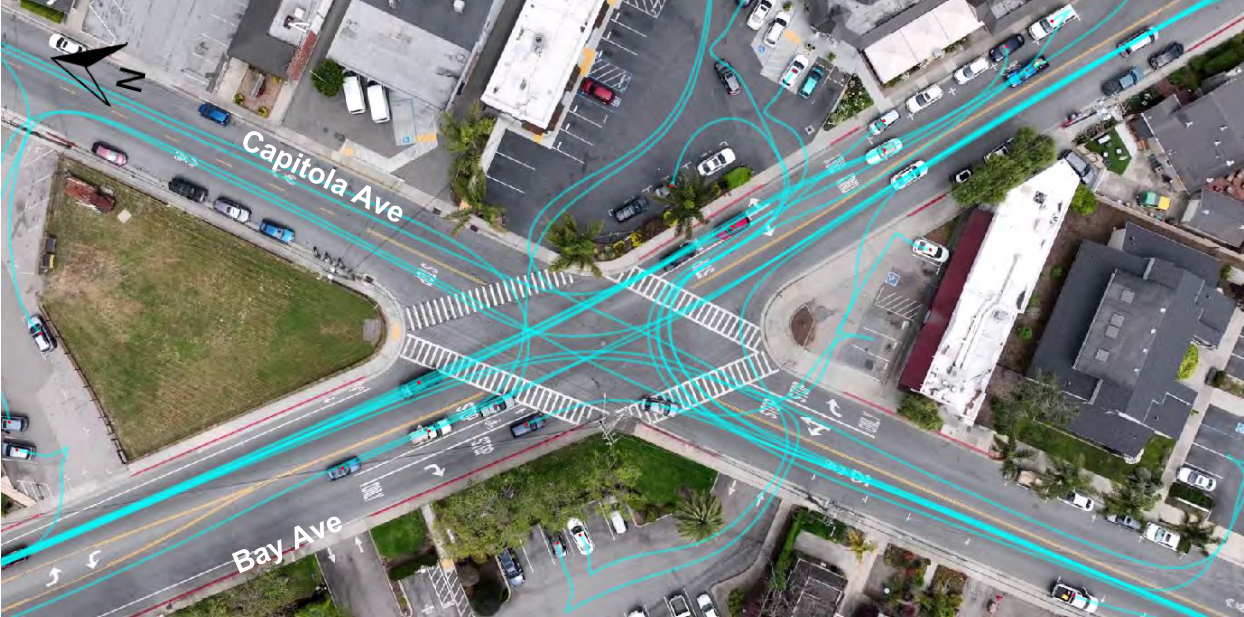


Figure 2: Pixel Tracing Software for PM School Pick-up Video

Stopping Rate

Traffic regions were created at each approach to measure the minimum speed of each vehicle before entering the intersection. See Figure 3 for the location of the traffic regions.



Figure 3: Speed Measurement Gates

The vehicle speed analysis may vary by 0.5 mph or less as compared to actual speeds, therefore the criteria for making a complete stop was determined to be vehicles traveling between 0 and 1 mph. Vehicles traveling at a speed of 0 to 1 mph within the traffic regions identified in **Figure 3** meet the criteria for vehicles making a complete stop. **Table 2** through **Table 6** summarize the number of vehicles that met the complete stop criteria along each intersection approach for each observed period.

Table 2: Intersection Stopping Rate

| All Observed Periods | | | | |
|----------------------|--------------------------|---------------|------------------|------------|
| Approach | Total Number of Vehicles | Criteria Met | Criteria Not Met | |
| | | Vehicle Count | Vehicle Count | Percentage |
| NB | 405 | 217 | 188 | 46.4% |
| WB | 907 | 342 | 565 | 62.3% |
| SB | 270 | 109 | 161 | 59.6% |
| EB | 1227 | 413 | 814 | 66.3% |

Table 3: AM Peak/School Drop-off Stopping Rate

| AM Peak/School Drop-off Period | | | | |
|--------------------------------|----------------------------|---------------|------------------|------------|
| Approach | AM Peak Number of Vehicles | Criteria Met | Criteria Not Met | |
| | | Vehicle Count | Vehicle Count | Percentage |
| NB | 81 | 36 | 45 | 55.6% |
| WB | 331 | 104 | 227 | 68.6% |
| SB | 85 | 37 | 48 | 56.5% |
| EB | 333 | 95 | 238 | 71.5% |

Table 4: PM School Pick-up Stopping Rate

| PM School Pick-up Period | | | | |
|--------------------------|-----------------------------------|---------------|------------------|------------|
| Approach | School Pick-up Number of Vehicles | Criteria Met | Criteria Not Met | |
| | | Vehicle Count | Vehicle Count | Percentage |
| NB | 160 | 104 | 56 | 35.0% |
| WB | 300 | 145 | 155 | 51.7% |
| SB | 71 | 36 | 35 | 49.3% |
| EB | 395 | 171 | 224 | 56.7% |

Table 5: PM Peak Stopping Rate

| PM Peak Period | | | | |
|----------------|----------------------------|---------------|------------------|------------|
| Approach | PM Peak Number of Vehicles | Criteria Met | Criteria Not Met | |
| | | Vehicle Count | Vehicle Count | Percentage |
| NB | 116 | 61 | 55 | 47.4% |
| WB | 215 | 76 | 139 | 64.7% |
| SB | 80 | 32 | 48 | 60.0% |
| EB | 378 | 123 | 255 | 67.5% |

Table 6: PM Evening Off-Peak Stopping Rate

| PM Evening Off-Peak Period | | | | |
|----------------------------|-----------------------------------|---------------|------------------|------------|
| Approach | PM Off-Peak Number of Vehicles | Criteria Met | Criteria Not Met | |
| | | Vehicle Count | Vehicle Count | Percentage |
| NB | 48 | 16 | 32 | 66.7% |
| WB | 61 | 17 | 44 | 72.1% |
| SB | 34 | 4 | 30 | 88.2% |
| EB | 121 | 24 | 97 | 80.2% |

The tables above summarize approaching vehicles that did and did not meet the criteria of traveling 0 to 1 mph. The tables identify the percentage of vehicles not making a complete stop at the intersection along each directional approach. The PM evening off-peak period had the highest recorded percentage of 66.3% of vehicles not making a complete stop.

Measured Vehicle Speed

Vehicle speeds within the designated traffic regions were further analyzed to capture the maximum and 85th percentile speed entering the region. These speeds are summarized below in **Table 7** for each studied time period combined. The vehicle speeds were further reviewed for each studied time period by directional approach and are graphically shown in **Figure 4** through **Figure 11**.

Table 7: Total Intersection Measured Vehicle Speed

| All Observed Periods | | AM Peak/ School Drop-off Periods | | PM School Pick-up Period | | PM Peak Period | | PM Evening Off-Peak Period | |
|------------------------|----------------|----------------------------------|----------------|--------------------------|----------------|----------------|----------------|----------------------------|----------------|
| Speed | Total Vehicles | Speed | Total Vehicles | Speed | Total Vehicles | Speed | Total Vehicles | Speed | Total Vehicles |
| 0 | 235 | 0 | 65 | 0 | 127 | 0 | 39 | 0 | 4 |
| 2 | 1088 | 2 | 313 | 2 | 405 | 2 | 307 | 2 | 63 |
| 4 | 932 | 4 | 299 | 4 | 267 | 4 | 267 | 4 | 99 |
| 6 | 358 | 6 | 94 | 6 | 76 | 6 | 124 | 6 | 64 |
| 8 | 113 | 8 | 28 | 8 | 31 | 8 | 32 | 8 | 22 |
| 10 | 32 | 10 | 10 | 10 | 10 | 10 | 8 | 10 | 4 |
| 12 | 22 | 12 | 9 | 12 | 4 | 12 | 7 | 12 | 2 |
| 14 | 15 | 14 | 4 | 14 | 3 | 14 | 3 | 14 | 5 |
| 16 | 8 | 16 | 3 | 16 | 3 | 16 | 2 | 16 | 0 |
| 18 | 6 | 18 | 5 | 18 | 0 | 18 | 0 | 18 | 1 |
| Max Speed | | | | | | | | | |
| 19.223969 | | 19.223969 | | 17.837877 | | 17.749456 | | 18.966279 | |
| 85th Percentile | | | | | | | | | |
| 6.5047956 | | 6.4144871 | | 5.86448425 | | 6.7806282 | | 7.5144739 | |

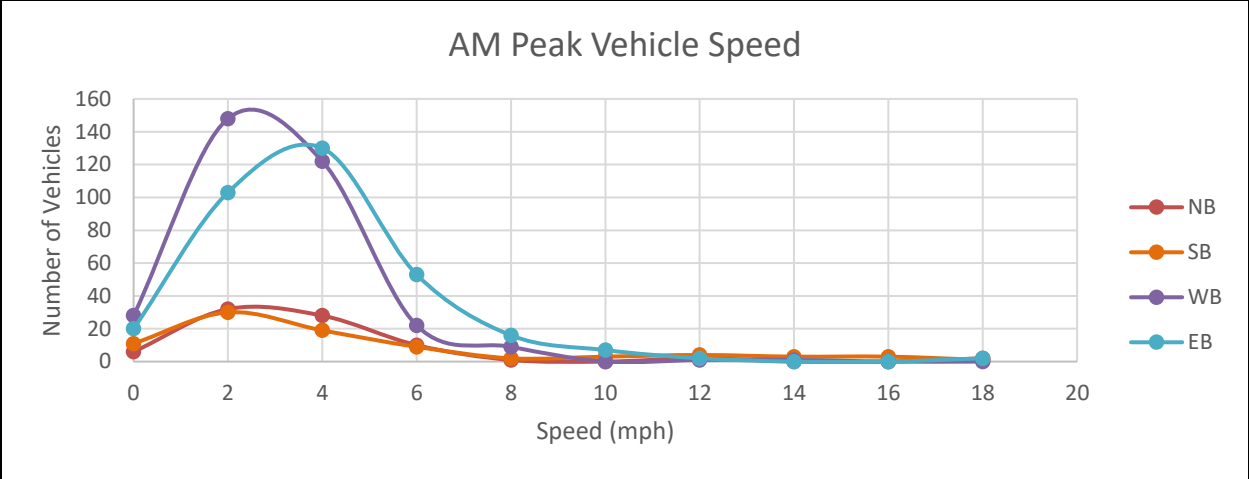


Figure 4: Vehicle Speed per Approach (AM Peak/School Drop-off)

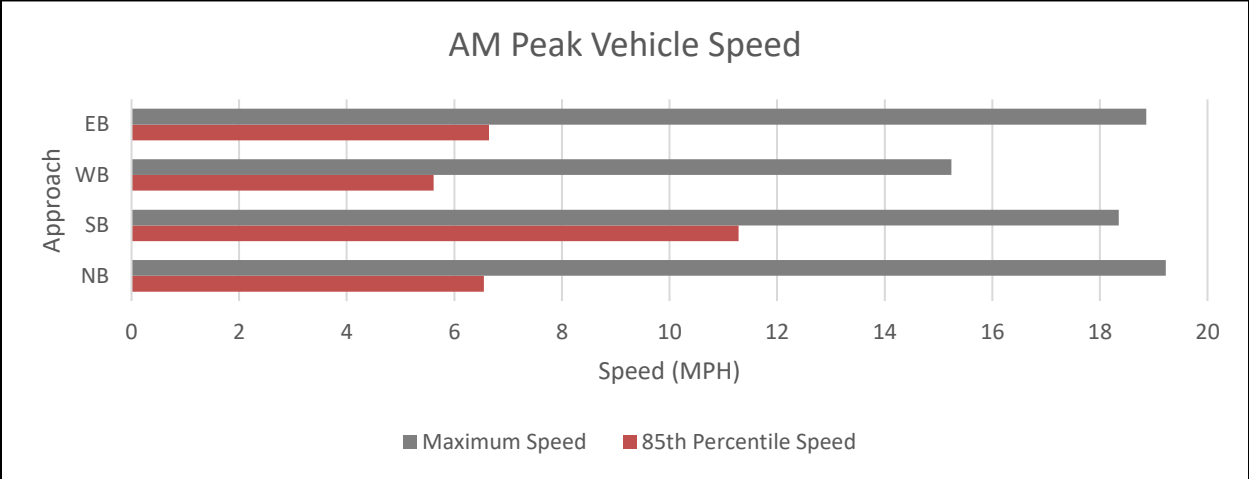


Figure 5: Maximum Speed and 85th Percentile Speed (AM Peak/School Drop-off)

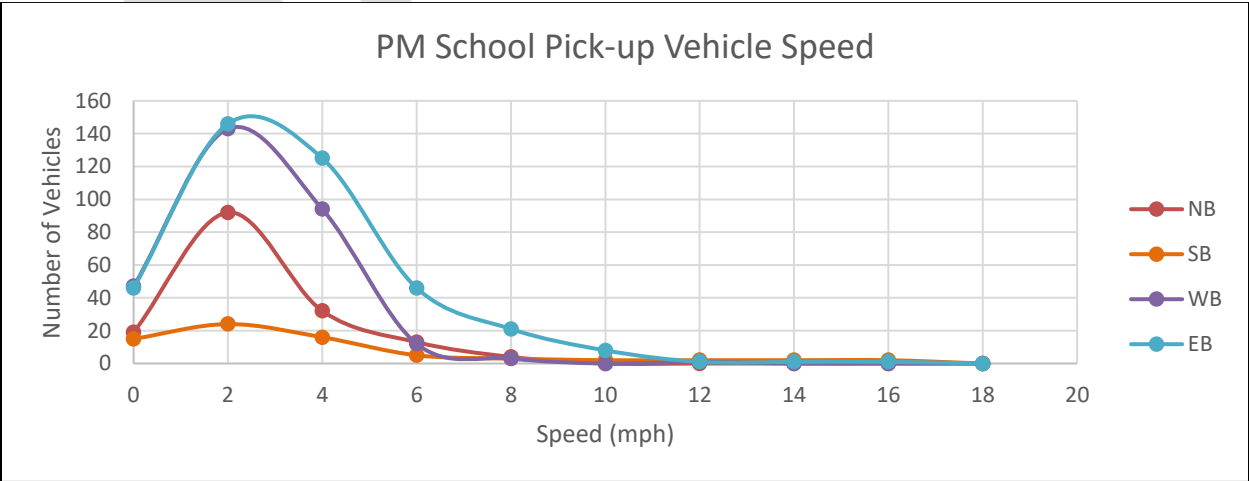


Figure 6: Vehicle Speed per Approach (PM School Pick-up)

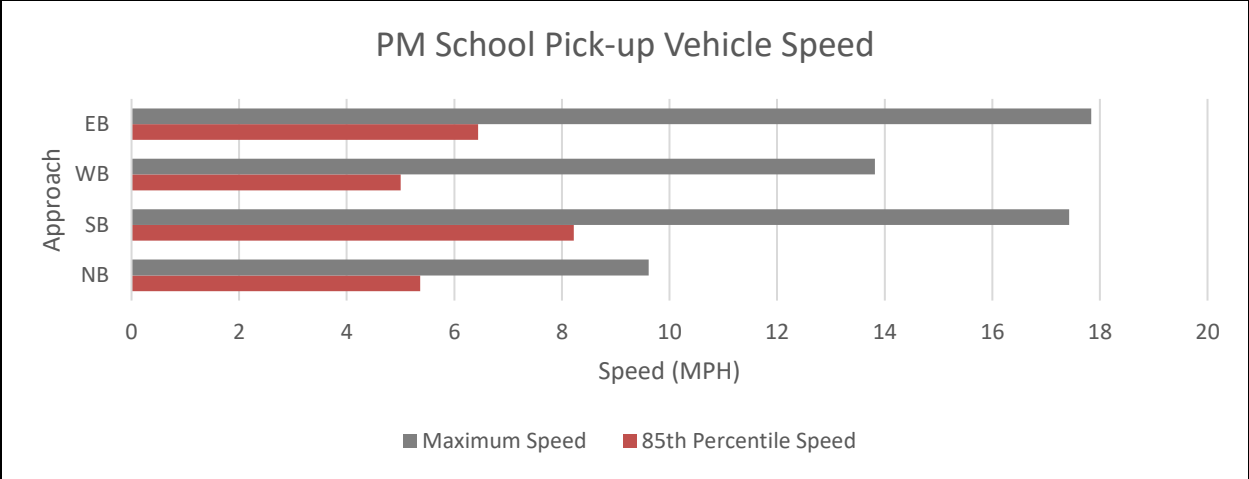


Figure 7: Maximum Speed and 85th Percentile Speed (PM School Pick-up)

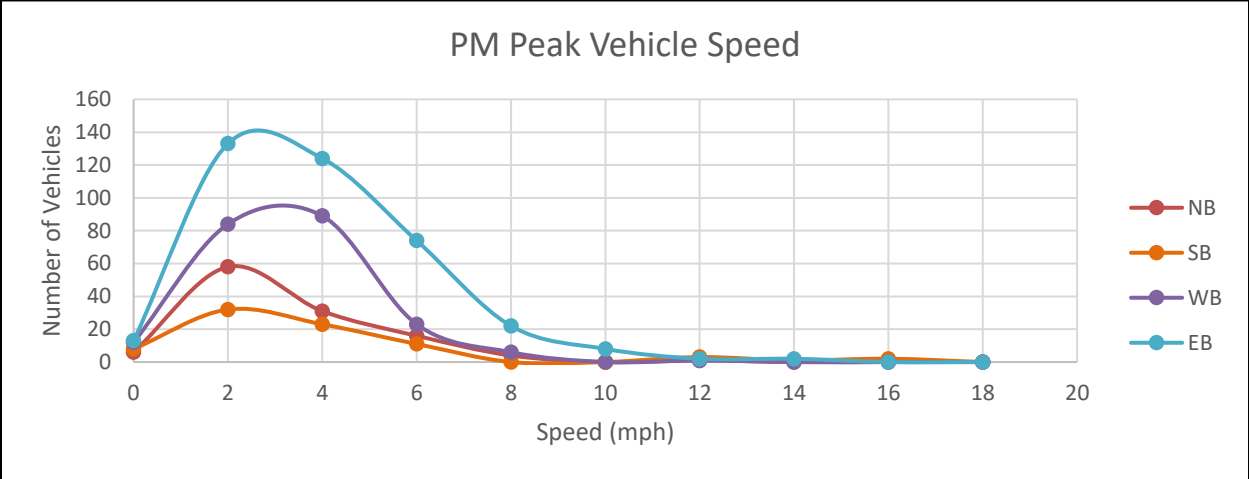


Figure 8: Vehicle Speed per Approach (PM Peak)

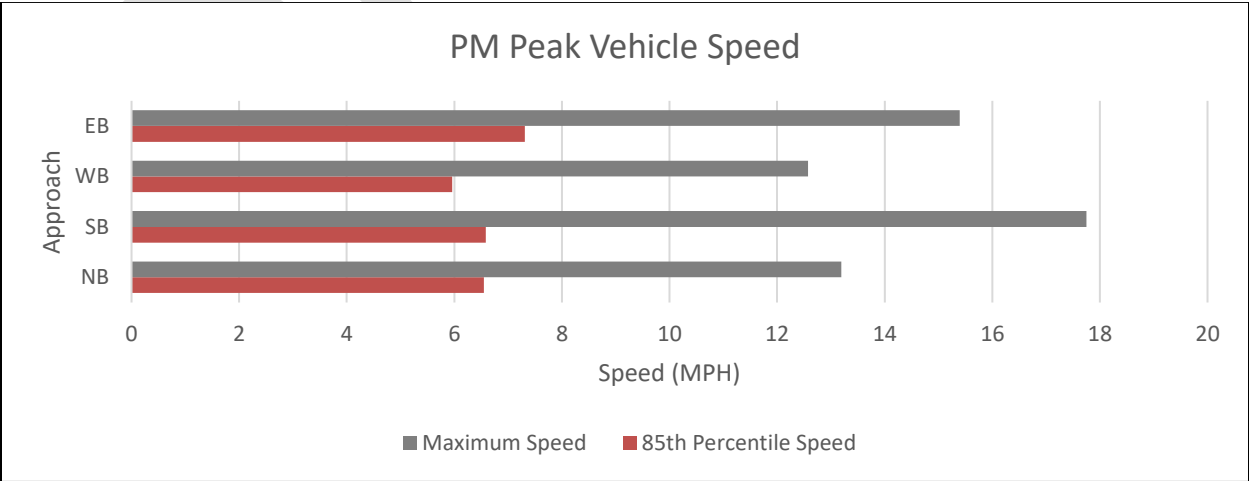


Figure 9: Maximum Speed and 85th Percentile Speed (PM Peak)

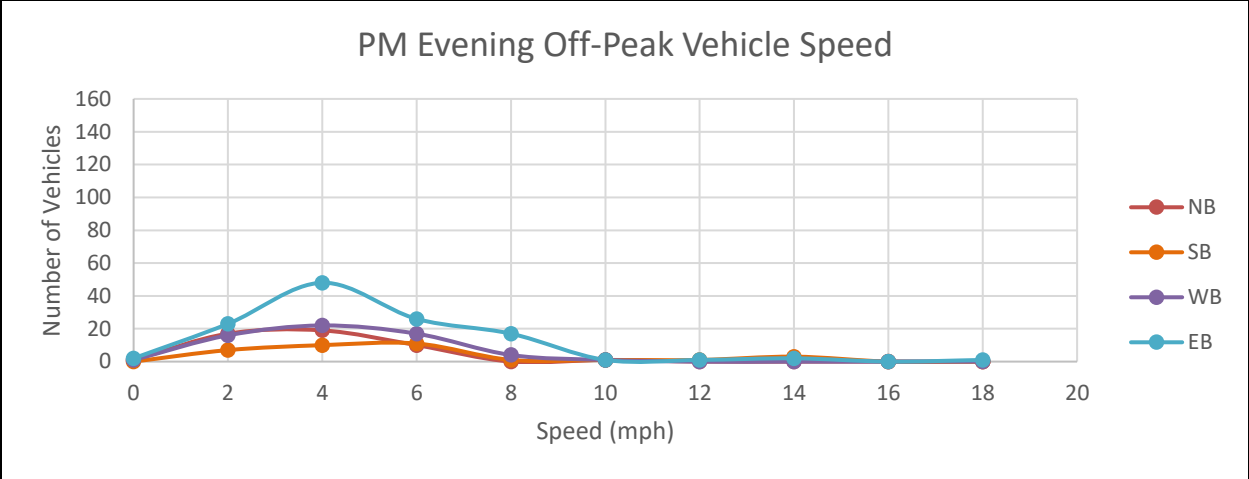


Figure 10: Vehicle Speed per Approach (PM Evening Off-Peak)

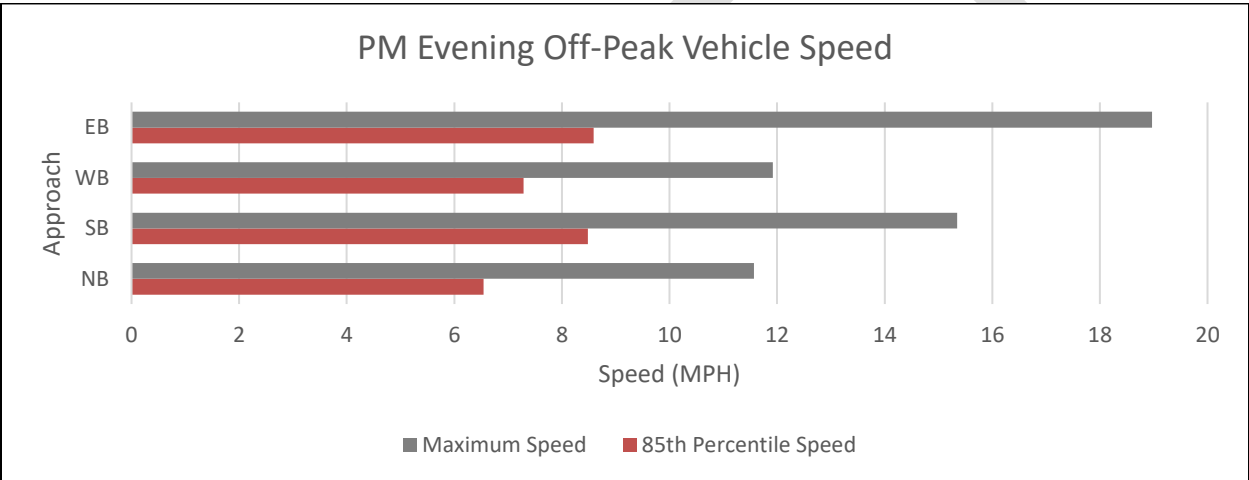


Figure 11: Maximum Speed and 85th Percentile Speed (PM Evening Off-Peak)

The table and figures above portray the number of approaching vehicles and vehicle speeds within the approach regions. The percentage of vehicles within the 2 to 6 mph category was 72%, which indicates that majority of vehicles do not meet the complete stop criteria. Furthermore, six (6) vehicles were driving at a speed greater than 18 mph during the AM peak and PM evening off-peak periods.

Deceleration Rate

VA was used to identify vehicles decelerating at a rate equal to or greater than 10 ft/s². Vehicles decelerating at or above this criteria were classified as Heavy Braking. An example of an observed heavy braking incident was vehicle id 293 shown in **Figure 16**. The vehicle approached the intersection at a recorded speed of 28 mph and decelerated to nearly 0 mph in under 5 seconds resulting in a deceleration rate of 13 ft/s². **Figure 17** illustrates the rapid deceleration of the vehicle over the short period of time.



Figure 16: Heavy Braking

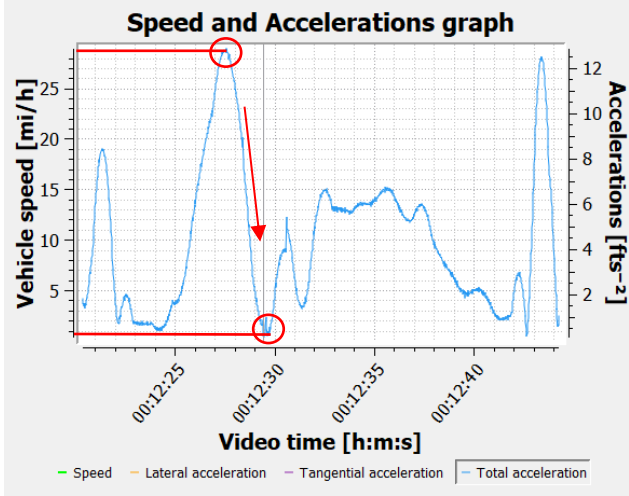


Figure 17: Car Deceleration

The number of vehicles identified as meeting the heavy braking criteria are summarized in Table 8 below.

Table 8: Heavy Braking Summary

| AM Peak/School Drop-off | | | | PM School Pick-up | | | |
|-------------------------|---------------|-------|-----------------|---------------------|---------------|-------|-----------------|
| Approach | Vehicles | | | Approach | Vehicles | | |
| | Heavy Braking | Total | % Heavy Braking | | Heavy Braking | Total | % Heavy Braking |
| NB | 14 | 81 | 17.3% | NB | 3 | 160 | 1.9% |
| WB | 41 | 331 | 12.4% | WB | 16 | 300 | 5.3% |
| SB | 6 | 85 | 7.1% | SB | 4 | 71 | 5.6% |
| EB | 36 | 333 | 10.8% | EB | 14 | 395 | 3.5% |
| PM Peak | | | | PM Evening Off-Peak | | | |
| Approach | Vehicles | | | Approach | Vehicles | | |
| | Heavy Braking | Total | % Heavy Braking | | Heavy Braking | Total | % Heavy Braking |
| NB | 7 | 116 | 6.0% | NB | 3 | 48 | 6.3% |
| WB | 6 | 215 | 2.8% | WB | 8 | 61 | 13.1% |
| SB | 3 | 80 | 3.8% | SB | 2 | 34 | 5.9% |
| EB | 23 | 378 | 6.1% | EB | 14 | 121 | 11.6% |
| All Observed Periods | | | | | | | |
| Approach | Vehicles | | | | | | |
| | Heavy Braking | Total | % Heavy Braking | | | | |
| NB | 27 | 405 | 6.7% | | | | |
| WB | 71 | 907 | 7.8% | | | | |
| SB | 15 | 270 | 5.6% | | | | |
| EB | 87 | 1227 | 7.1% | | | | |

Figure 12 through Figure 15 illustrate the vehicle position and direction of travel of each identified heavy braking incident. Approach and departure crosswalks are identified to reference the vehicle position.

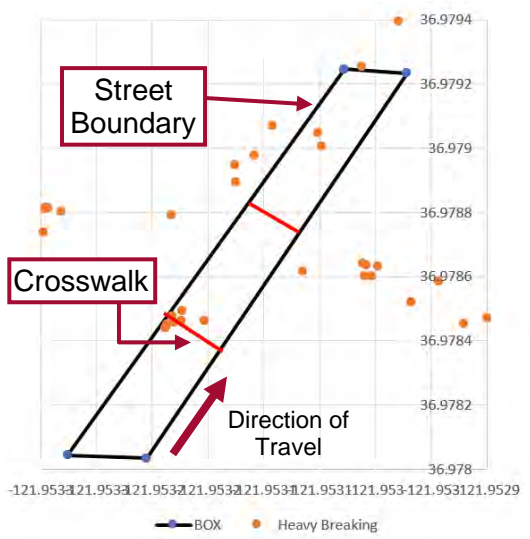


Figure 12: Northbound Heavy Braking

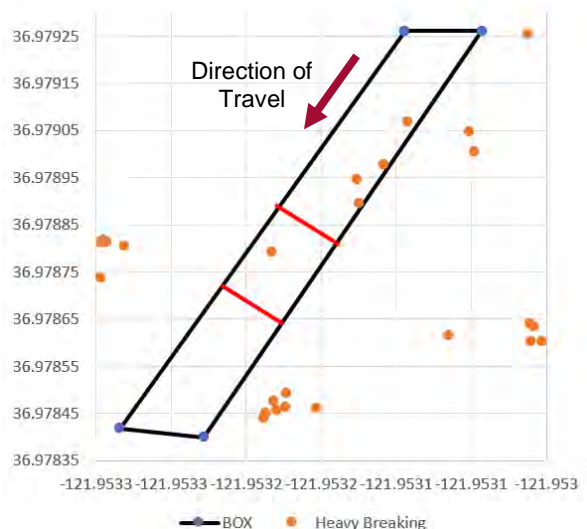


Figure 13: Southbound Heavy Braking

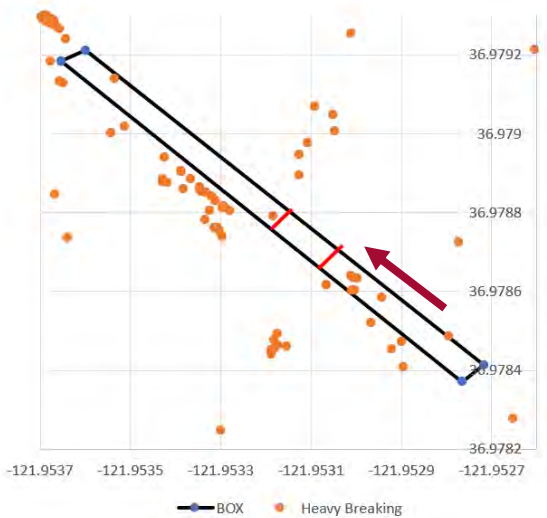


Figure 14: Westbound Heavy Braking

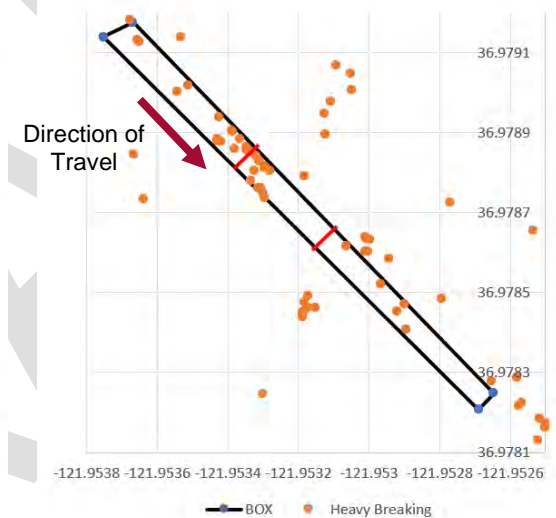


Figure 15: Eastbound Heavy Braking

The table and figures above portray the number of vehicles heavy braking along each approach of the intersection. The figures identify where the 200 recorded heavy braking occurrences, over all observed time periods, happened relative to the crosswalk. Of the observed 200 heavy braking incidents, approximately 43.5% of them occurred along the eastbound directional approach.

Near Miss Collisions

Post encroachment time (PET) is the time it takes for an object to leave a point that a second object reaches. A near-miss collision occurs when the PET is equal to or less than 1.5 seconds. **Figure 18** shows an example of a near-miss occurrence. Vehicle id 370 makes an eastbound left-turn movement while vehicle id 369 travels westbound, reaching the same point of the left-turning vehicle in 1.5 seconds.

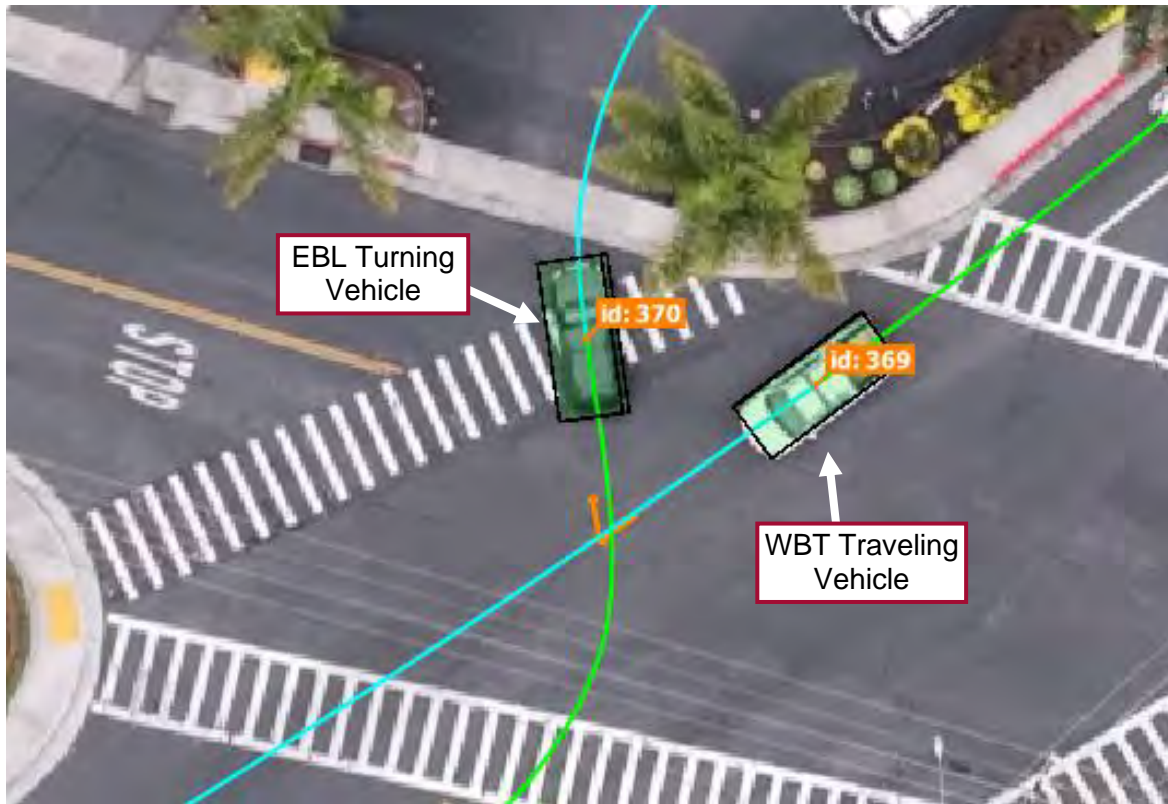


Figure 18: Observed Near Miss

Table 9: Recorded Near Misses

| Time | Number of PET ≤ 1.5 |
|-------------------------|---------------------|
| AM Peak/School Drop-off | 13 |
| PM School Pick-up | 10 |
| PM Peak | 10 |
| PM Evening Off-Peak | 2 |
| Total | 35 |

Table 10: Direction of Travel for Near Misses

| Directions | Number of PET | Percentage |
|------------|---------------|------------|
| WBT/EBL | 23 | 65.7% |
| EBT/WBL | 6 | 17.1% |
| NBL/EBL | 3 | 8.6% |
| WBR/EBL | 2 | 5.7% |
| NBL/EBR | 1 | 2.9% |

The tables above summarize the number of near miss collisions and their direction of travel during each observed time period. Of the total recorded 35 near miss collisions, approximately 65.7% of them occurred between vehicles making the eastbound left-turning movement and westbound vehicles traveling through the intersection (WBT/EBL).

CONCLUSION

Kimley Horn conducted a study on the way drivers interact with the AWSC intersection of Capitola Avenue and Bay Avenue in the city of Capitola. Driver behavior was evaluated using aerial video collected by drone and processed using VA to document the following:

1. Stopping Rate
 - a. The highest rate of vehicles not making a complete stop within the region was during the PM evening off-peak period.
 - b. The eastbound approach trended higher rates of not making a complete stop compared to the other approaches.
2. Measured Vehicle Speed
 - a. The maximum speed was approximately 19 mph.
 - b. 85th percentile speed was approximately 7.5 mph.
 - i. The eastbound and southbound approaches saw the highest 85th percentile speeds during all observed time periods.
3. Deceleration Rate
 - a. The percentage identified as heavy braking was 7.1% of all observed vehicles during all observed periods.
 - b. The highest rate of heavy braking occurred during the AM peak/school drop-off period.
 - c. The highest rate of heavy braking occurred along the eastbound approach accounting for 43.5% of the total heavy braking incidents.
4. Near Miss Collisions - Vehicles, Pedestrians, and Bicyclists
 - a. A total of 35 near misses were recorded during the observed time periods.
 - i. Conflict occurrences between vehicles making an eastbound left-turning movement and westbound vehicles traveling through the intersection accounted for 65.7% of recorded near misses.
 - b. There were no observed occurrences of a near miss between a vehicle and a bicyclist or pedestrian.



Bay Avenue Corridor Study

City Council
February 27, 2024

Bay Avenue Corridor Study

Background and Purpose

Evaluates long-term improvements

- Highway 1
- Hill Street
- Monterey Avenue
- Crossroads Loop
- Capitola Avenue
- Park Avenue

Goals

- Enhance multimodal safety
- Manage traffic flow
- Improve community livability

Integrates Past Initiatives

- 2024 Bay/Hill Quick Build
- Roundabout at Capitola Avenue

Bay Avenue Corridor Study **Recommended Action**

01

Confirm the preferred long-term improvements for the Bay Avenue corridor

02

Move forward with public engagement and refine the conceptual design

03

Seek grant funding for the final design and construction phases

Bay Avenue Corridor Study

City Council
February 2025

Kimley»Horn



What is a Corridor Study?

A planning study used to assess current and future needs of a transportation route to improve mobility, safety, operations, and economic development for all users.



Bay Avenue Corridor Study Objectives

Determine feasible long-term improvements for the Bay Avenue corridor between Highway 1 and Park Avenue

1. Enhance access and safety for all users including vehicles, pedestrians, and cyclists
2. Maintain acceptable traffic operations along the corridor
3. Compliment the Bay Avenue Vision, mobility, and economic goals in the Capitola General Plan
4. Prepare a long-term plan to pursue grant funding opportunities

Corridor Study Overview

1. Project Background
2. Existing Conditions & Traffic Data
3. Corridor Alternatives & Multimodal Improvements
4. Corridor Analysis Results
5. Next Steps & Action Items

1. Project Background

Capitola General Plan

- Goal LU-10:
 - Maintain and enhance Bay Avenue commercial district as a thriving destination with businesses that serve Capitola residents and visitors.
- Goal MO-4:
 - Provide a roadway system that enhances community aesthetics and promotes a high quality of life

FIGURE LU-7 BAY AVENUE VISION



Capitola Land Use Map

Residential Designations

- Single-Family Residential (R-1)
- Multi-Family Residential (R-M)
- Mobile Home (R-MH)

Mixed-Use Designations

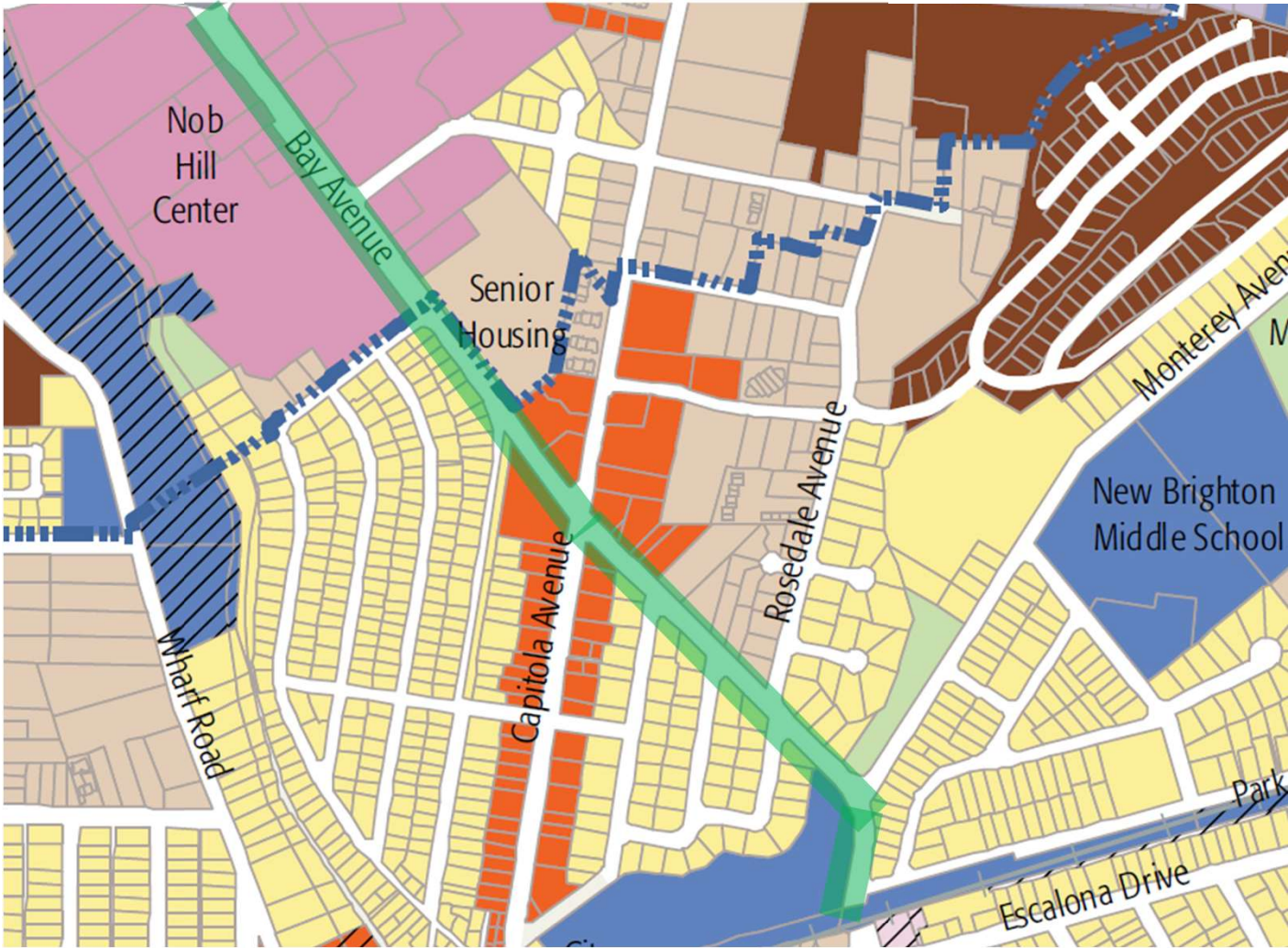
- Village Mixed-Use (MU-V)
- Neighborhood Mixed-Use (MU-N)

Other Designations

- Parks and Open Space (P/OS)
- Public/Quasi-Public (P/QP)
- Visitor Serving (VS)

Commercial/Industrial Designations

- Regional Commercial (C-R)
- Community Commercial (C-C)
- Visitor Accommodations (VA)
- Industrial

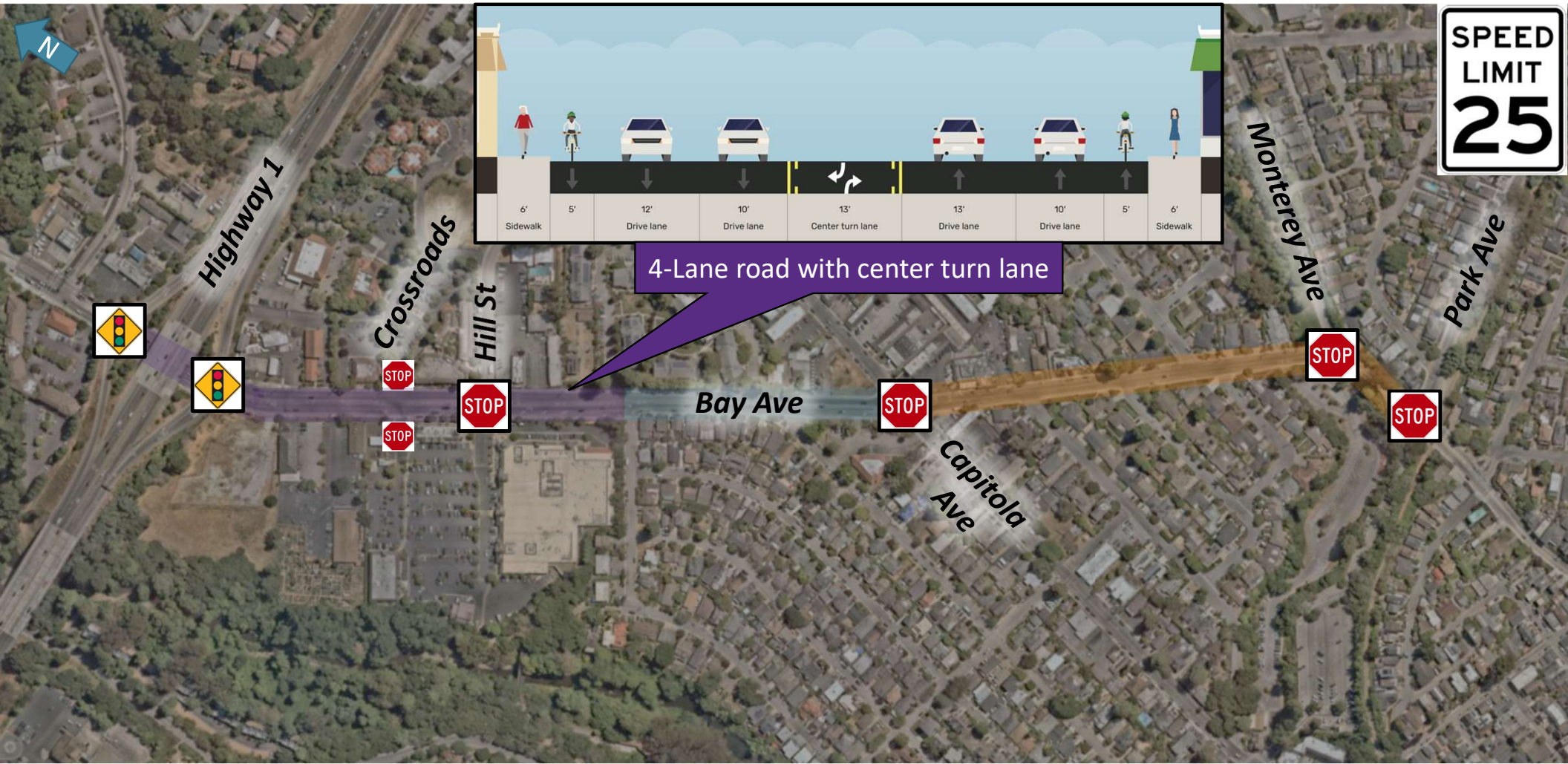


Project Study Area

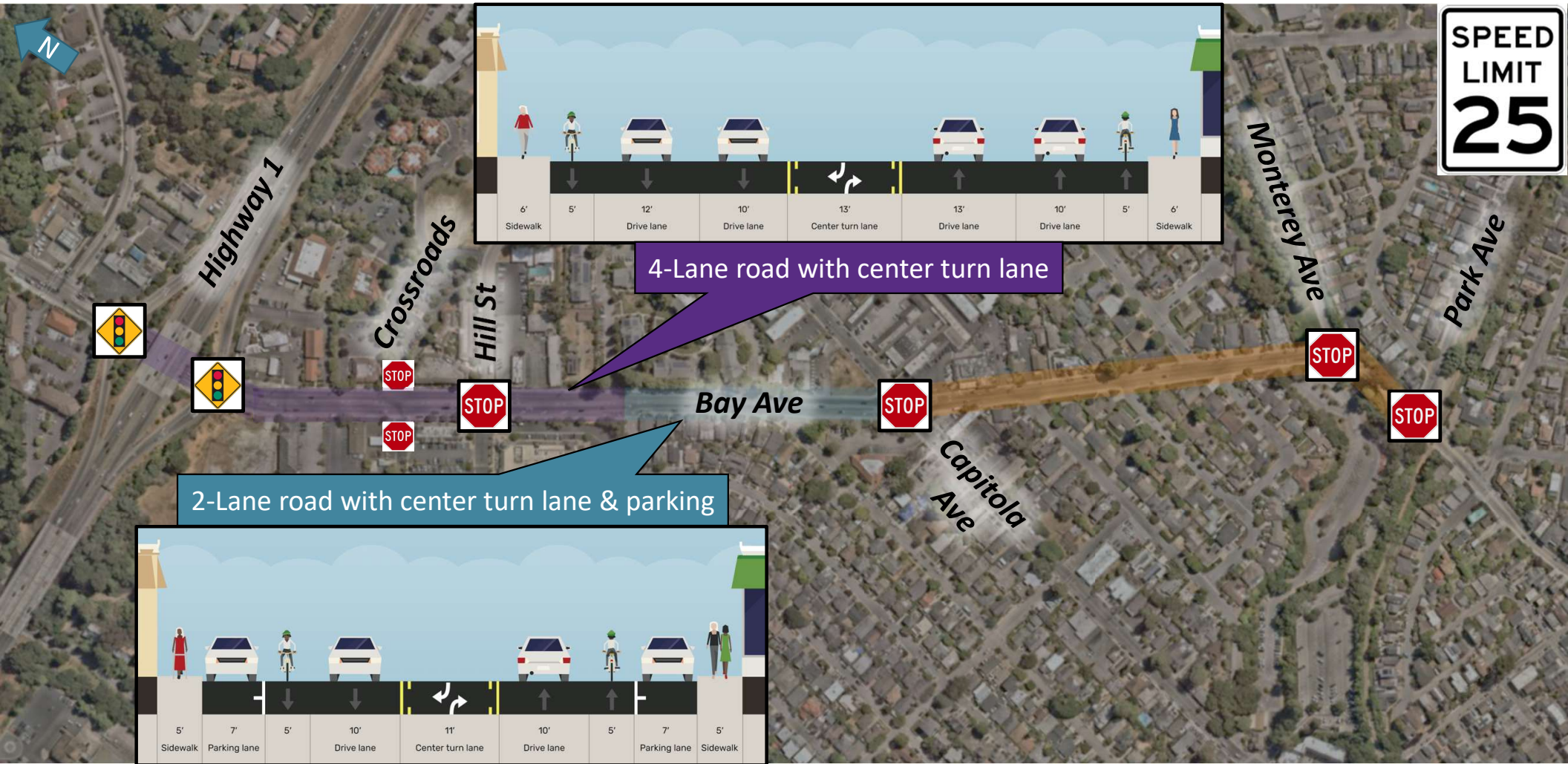


2. Existing Conditions & Traffic Data

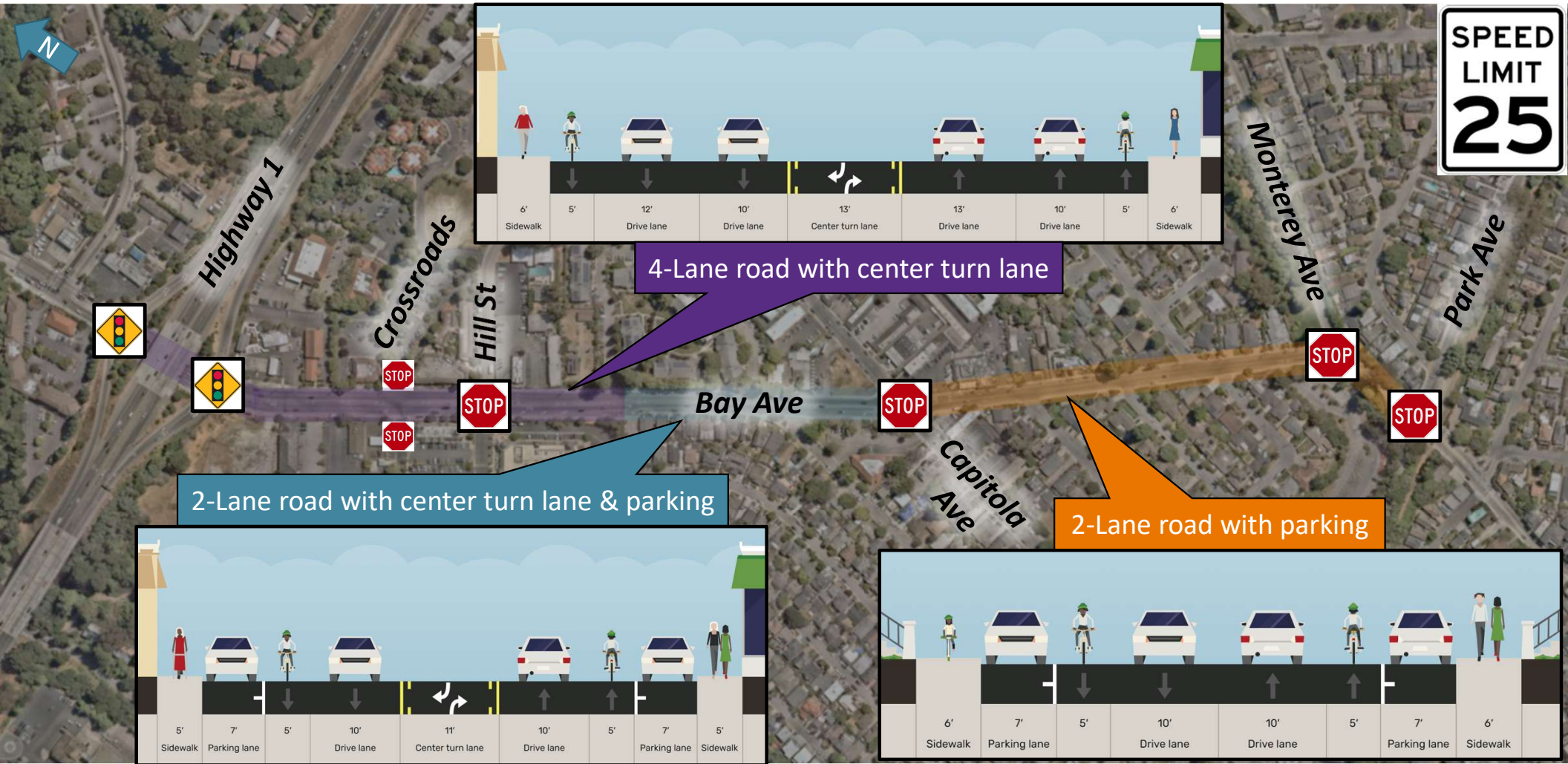
Pre-Existing Conditions – Roadway



Pre-Existing Conditions – Roadway



Pre-Existing Conditions – Roadway



Existing Conditions – Bike & Pedestrian

Class II bike with green markings

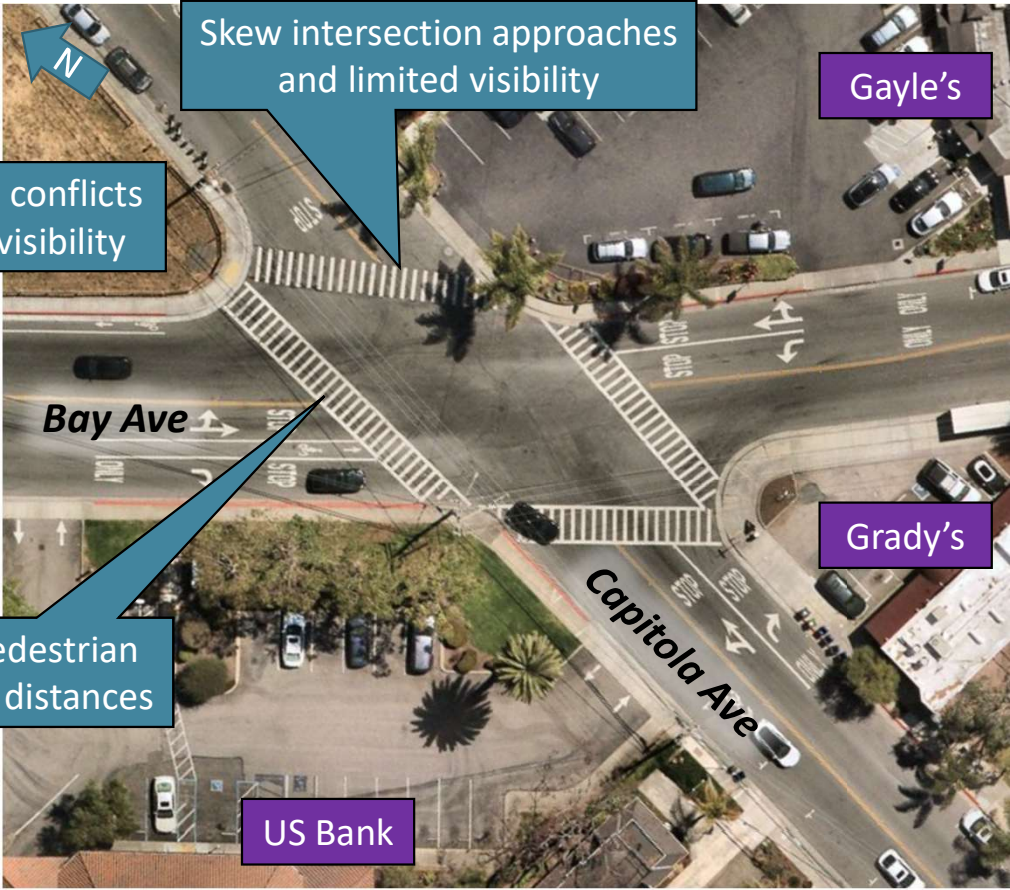
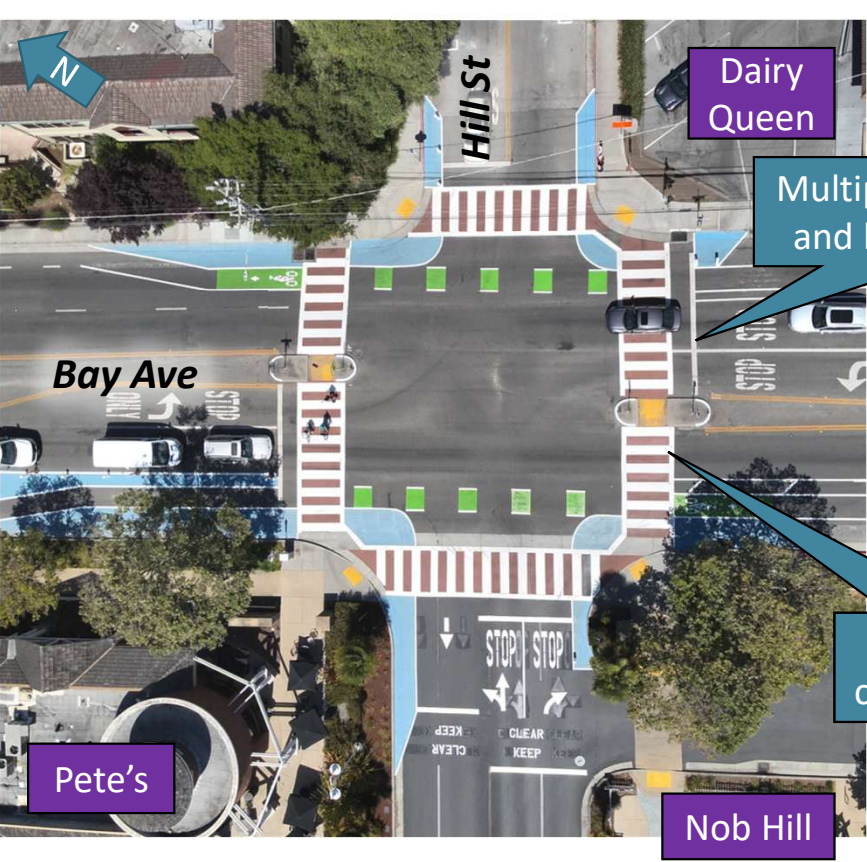
Class III bike route

Class II bike lane

Paved sidewalks and marked crossings

Highway 1
Crossroads
Hill St
Bay Ave
Capitola Ave
Monterey Ave
Park Ave

Existing Conditions – Intersection



Multiple turn conflicts and limited visibility

Skew intersection approaches and limited visibility

Long pedestrian crossing distances

Gayle's

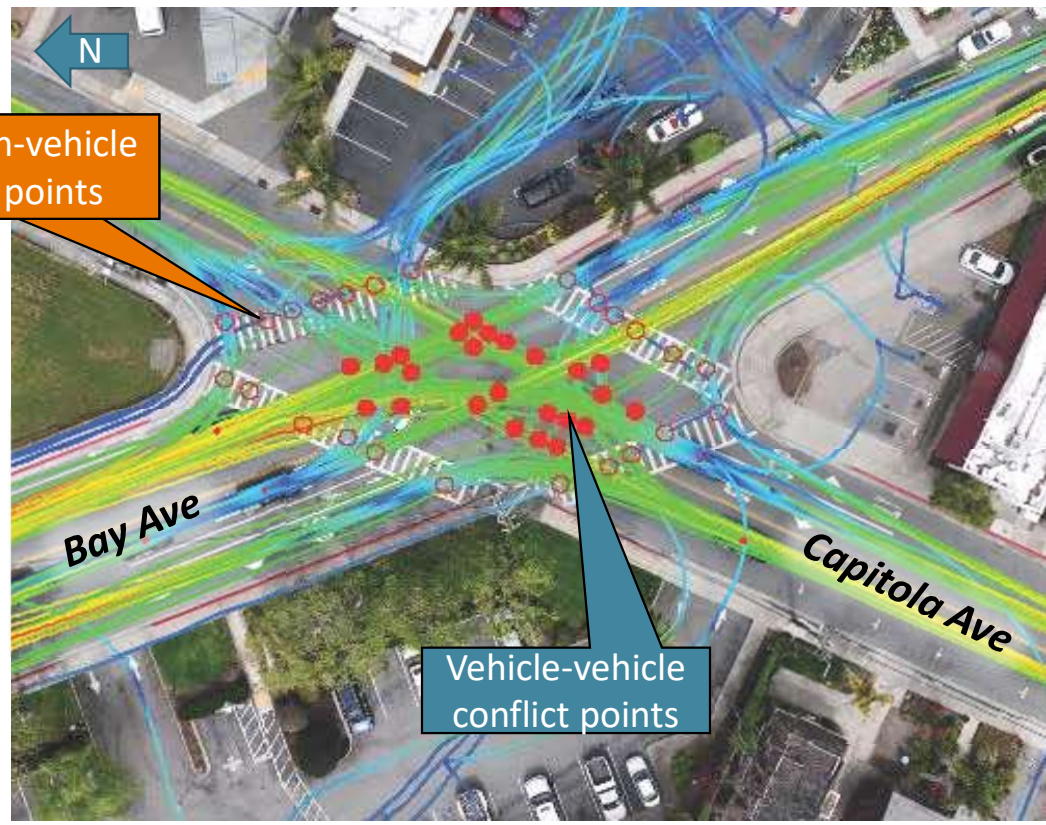
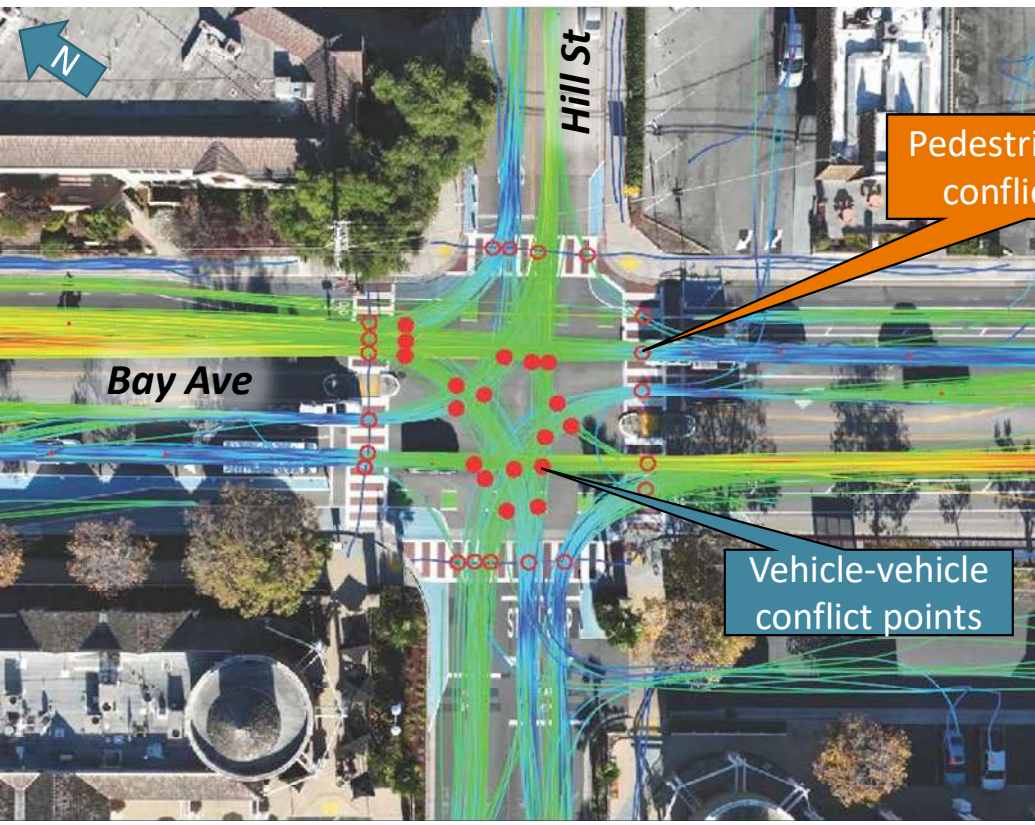
Grady's

Pete's

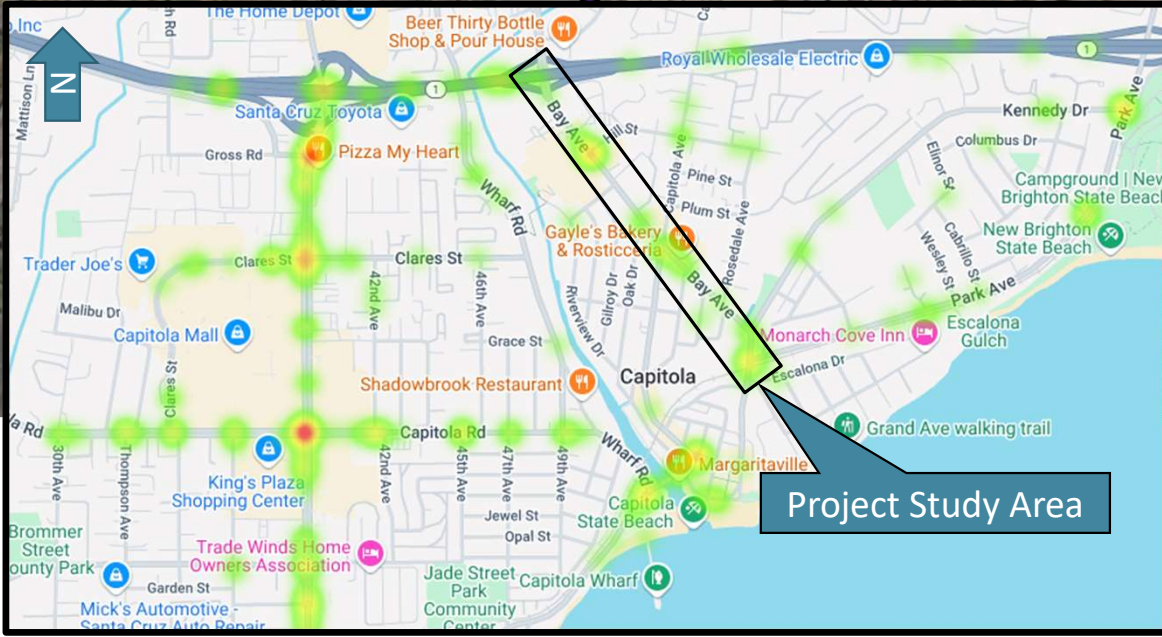
Nob Hill




US Bank

Existing Conditions – Near Miss Analysis



Collision Data – 2013 to 2024



| Collision Type | |
|---|---------------------------|
|  | Vehicle Only (18) |
|  | Pedestrian Involved (9) |
|  | Bicycle Involved (10) |
| 37 | Total Reported Collisions |

3. Corridor Alternatives & Multimodal Improvements

Corridor Alternatives

0
No-Build



1
Stop Control & Road Diet



2
Roundabout Control

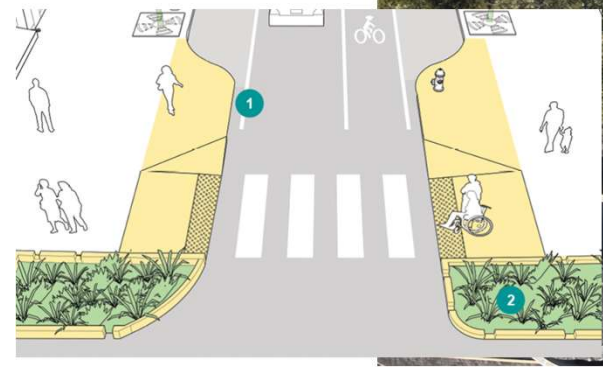


3
Signal Control



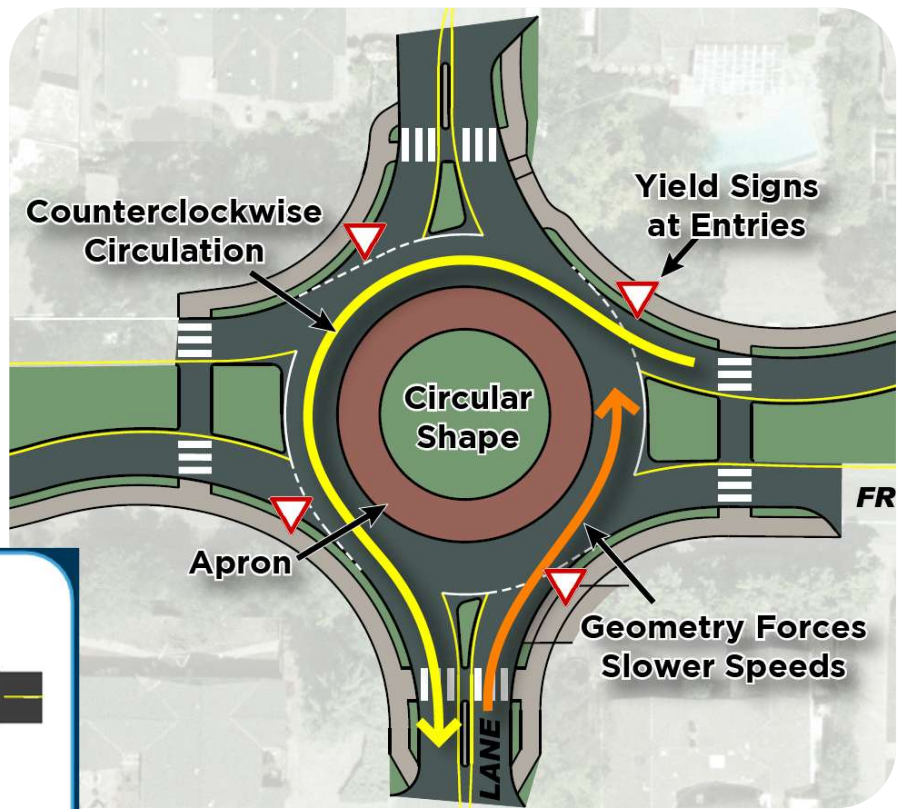
Alternative 1 – Stop Control & Road Diet

- Traffic calming features improve bike & ped safety
- Lower capital costs & preserve existing intersection infrastructure
- Tradeoff - reduced roadway operations with stop control



Alternative 2 – Roundabout Control

- Traffic Control - Yield at entry
- Traffic Deflection – Vehicles directed into One-way counterclockwise flow
- Geometrics – Circular road & entry angles designed to slow vehicle speeds



A diagram showing a signalized intersection on the left with a traffic light icon, and a roundabout on the right. A grey arrow points from the intersection to the roundabout. Below the roundabout, the text reads: **82%** reduction in fatal and injury crashes.¹

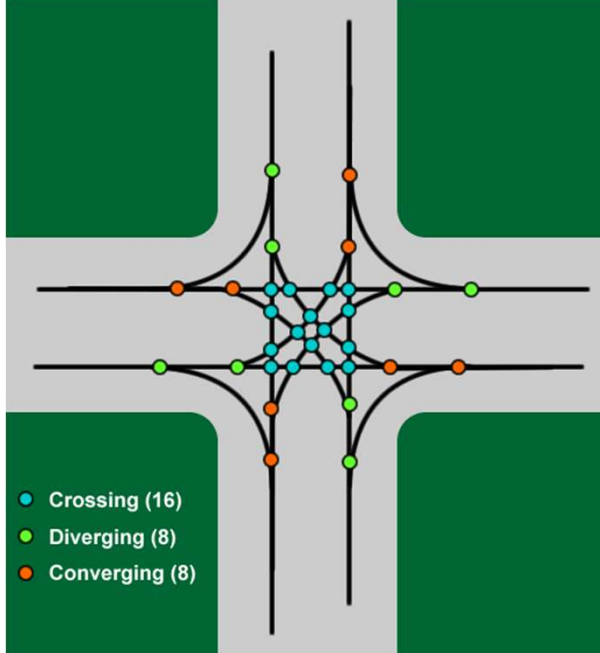
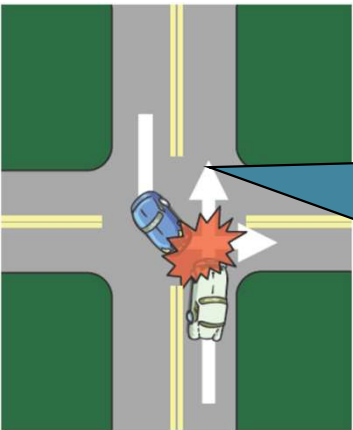
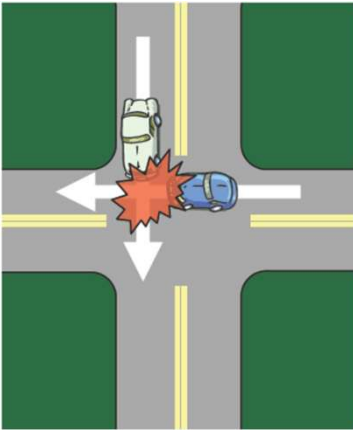
A diagram showing a signalized intersection on the left with a traffic light icon, and a roundabout on the right. A grey arrow points from the intersection to the roundabout. Below the roundabout, the text reads: **78%** reduction in fatal and injury crashes.¹

Source: FHWA

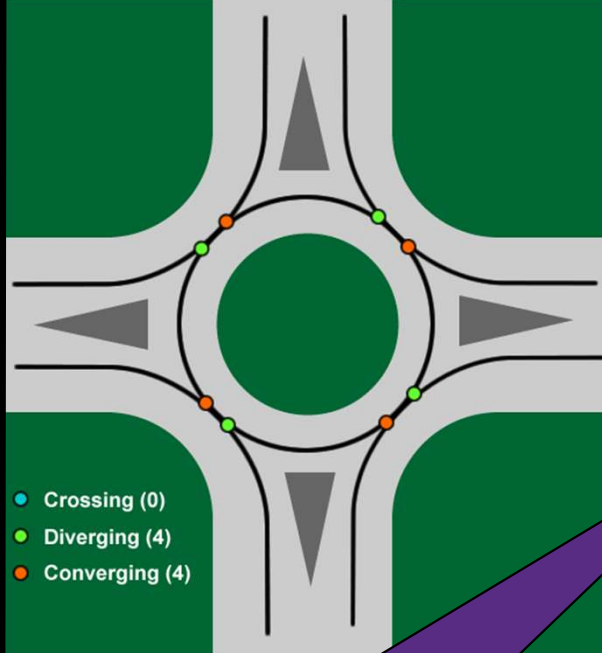
Alternative 2 – Roundabout Control

Typical 4-leg Intersection Roundabout

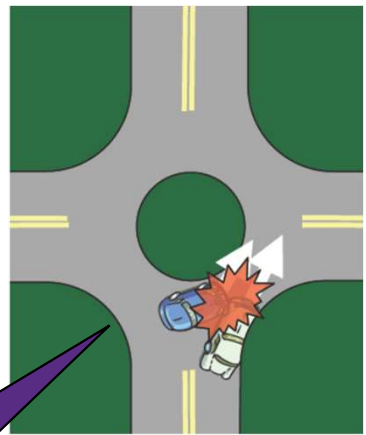
HIGH SPEED



32 Conflict Points
Potential collisions are high severity broadside or head-on impacts



8 Conflict Points
Potential collisions are low severity sideswipe or rear-end impacts

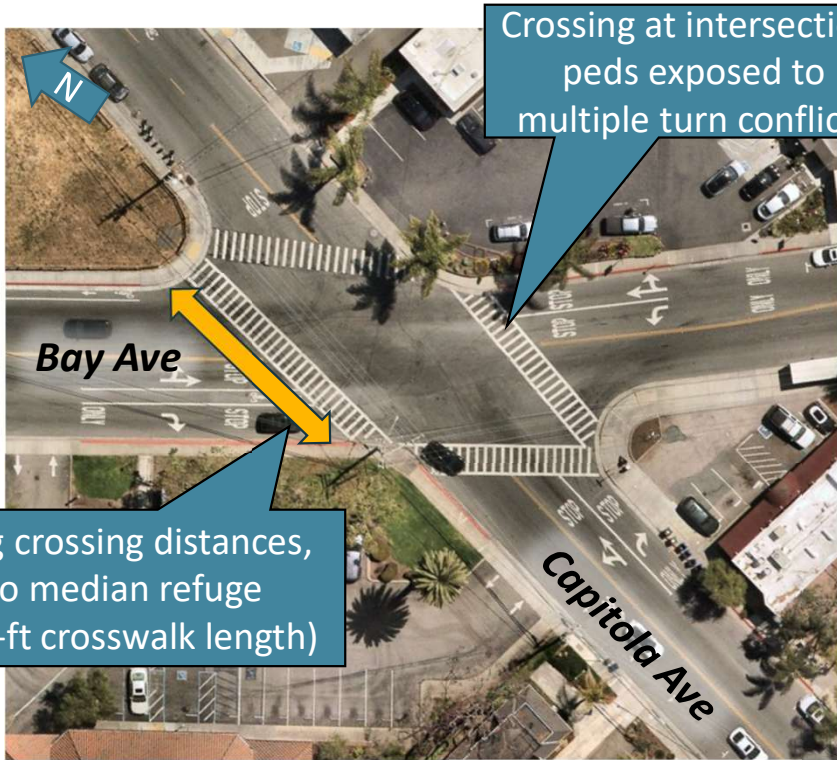


LOW SPEED

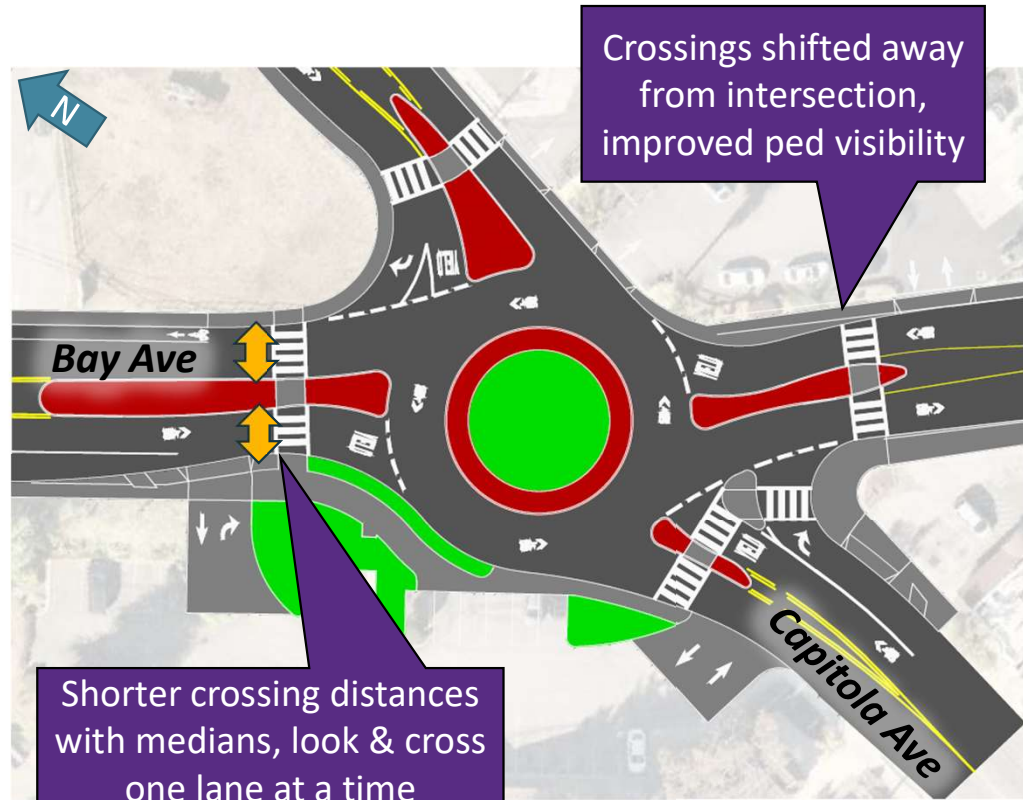
Source: FHWA

Alternative 2 – Roundabout Control

Existing 4-leg Intersection



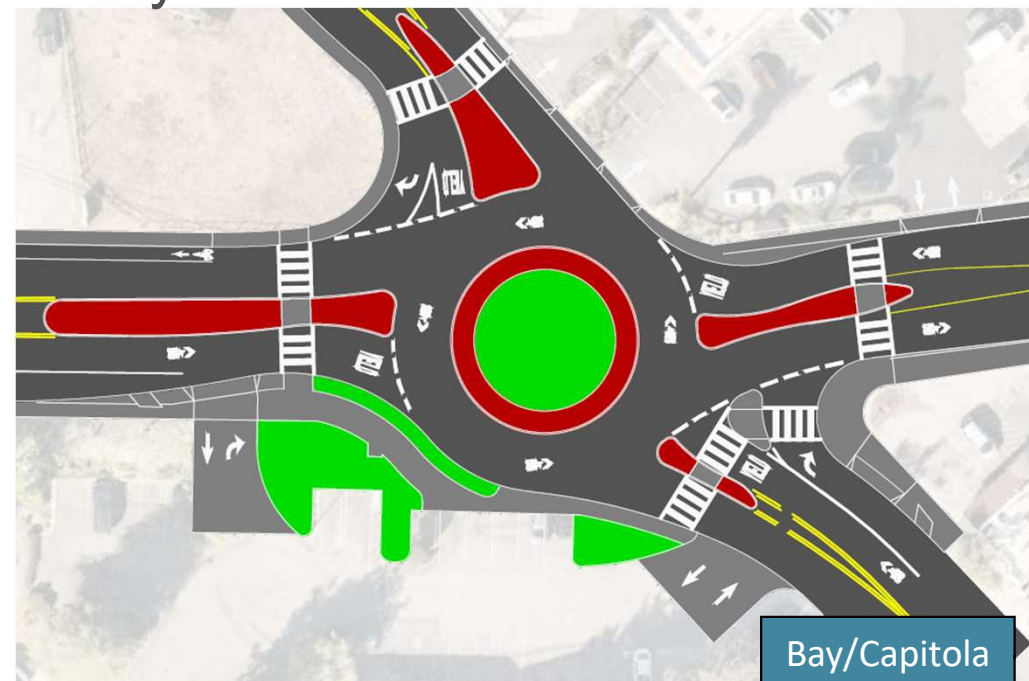
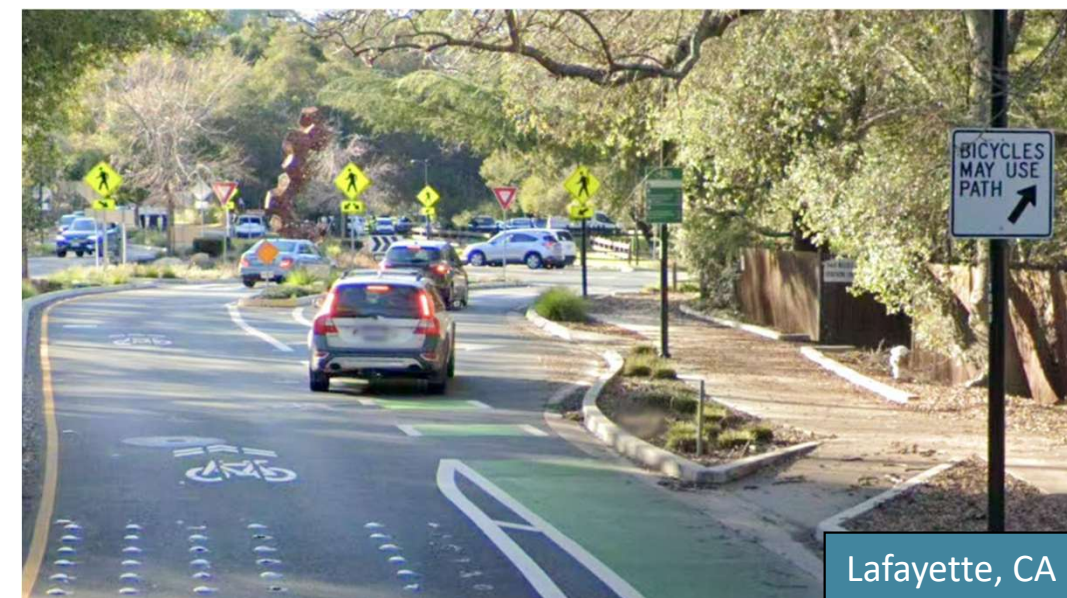
Roundabout



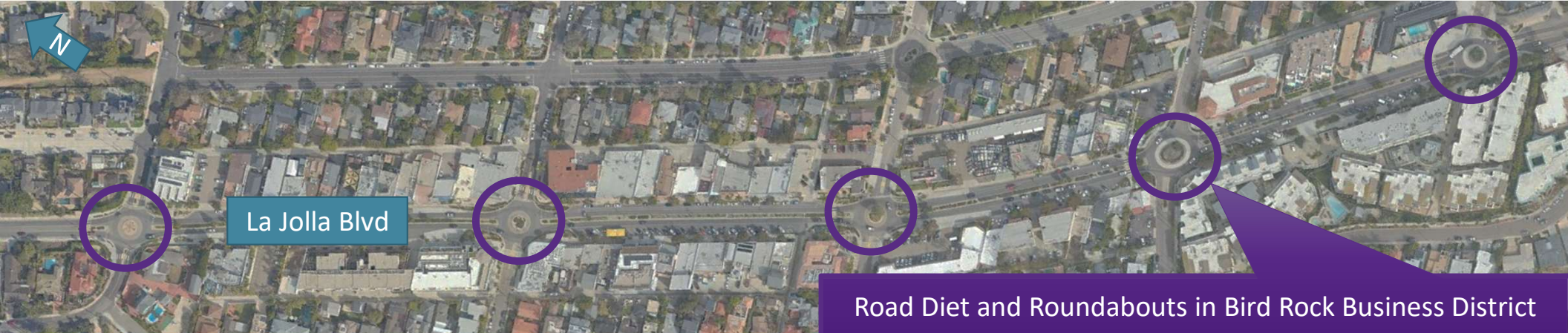
Bay/Capitola

Alternative 2 – Roundabout Control

- Reduced conflict points & collision severity
- Separated ped & bike facilities improve safety
- Improved operations & capacity
- Tradeoff - higher capital costs & right-of-way impacts



Roundabout – La Jolla (San Diego, CA)

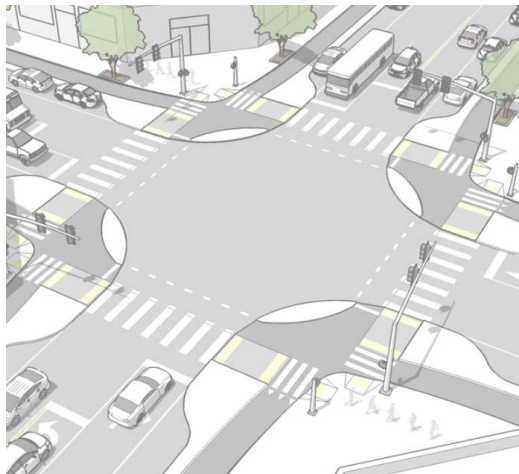


Road Diet and Roundabouts in Bird Rock Business District



Alternative 3 – Signal Control

- Designated crossing phases & quick user adaptation
- Improved operations & capacity
- Potential bike & ped improvements with protected intersection design
- Tradeoff - higher capital & maintenance costs, aesthetics, collision severity



San Luis Obispo, CA



Fremont, CA

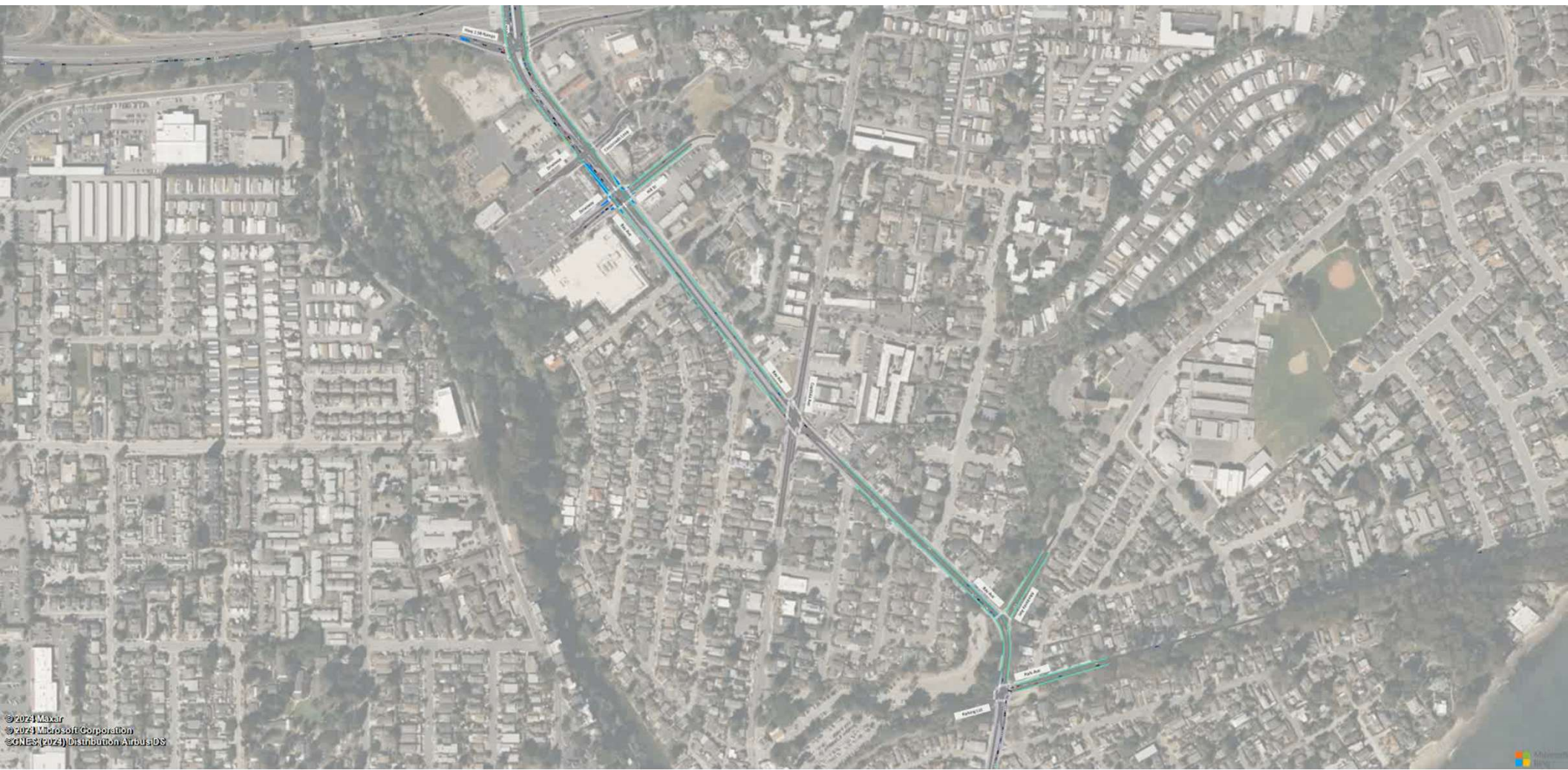
Other Multimodal Considerations

- Maintain existing parking and driveway access
- Buffered class IV bikeways
 - Striping, bollards, or hardscape
- Protected mid-block crossings
 - Rectangular Rapid Flashing Beacons (RRFB)



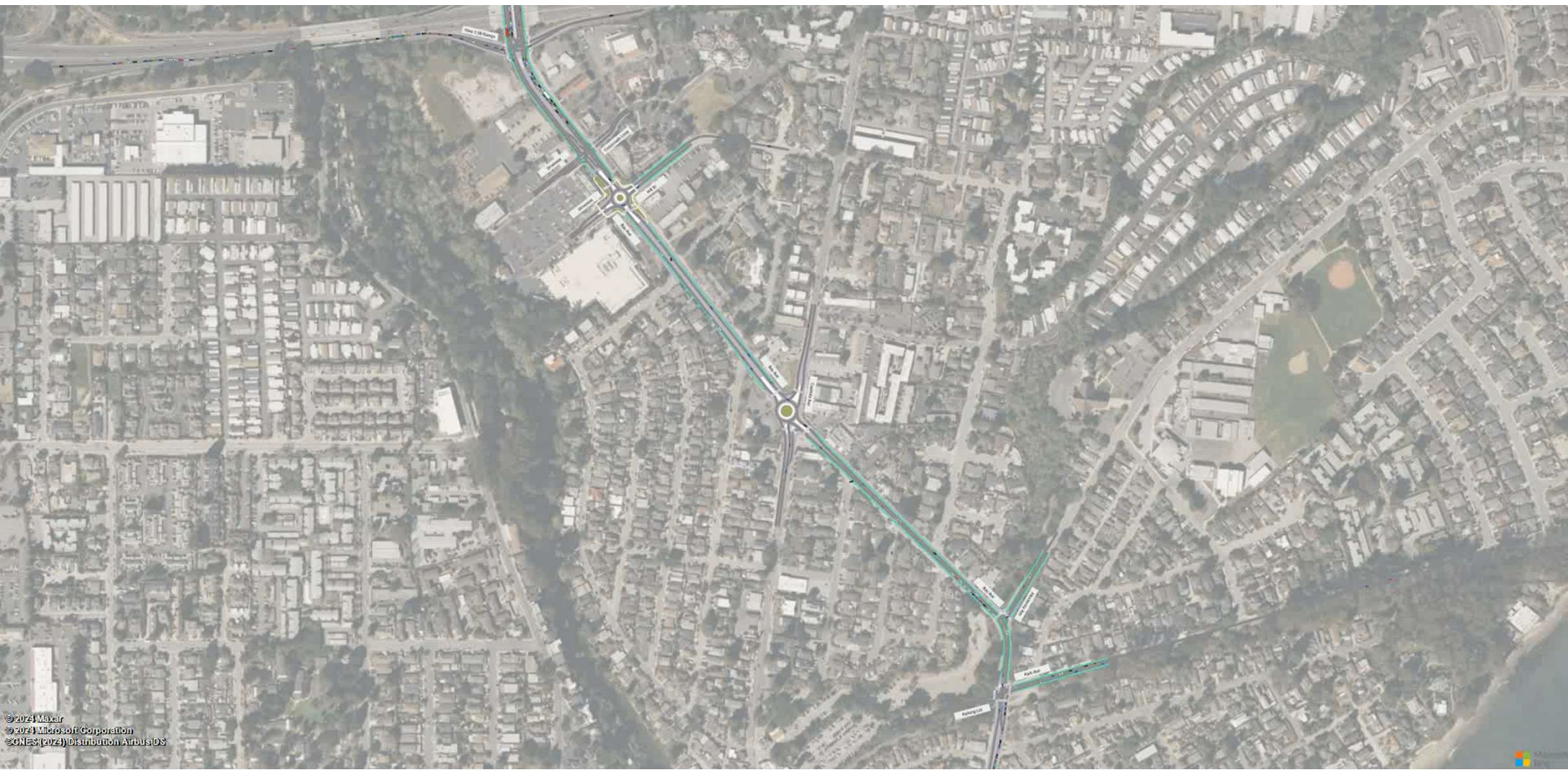
4. Corridor Analysis Results

Future Conditions (PM) – Alt 1 Stop



© 2024 Maxar
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© CNES (2024) Distribution Airbus DS

Future Conditions (PM) – Alt 2 Roundabout



© 2024 Maxar
© 2024 Microsoft Corporation
© CNES (2024) Distribution Airbus DS

Alternatives Summary – Economic

| Criteria | Alternative 0 No Build | Alternative 1 Stop & Road Diet | Alternative 2 Roundabout | Alternative 3 Signal |
|------------------------------|---------------------------|-----------------------------------|-----------------------------|-------------------------|
| Capital Construction Cost | Low | Low | Higher | High |
| Right of Way Impact | Low | Low | High | Moderate |
| Operation & Maintenance Cost | Low | Low | Moderate | High |
| Environmental Benefit | Moderate | Moderate | High | Moderate |
| Grant Funding Availability | Poor | Moderate | High | Moderate |

Alternatives Summary – Operations

| Criteria | Alternative 0 No Build | Alternative 1 Stop & Road Diet | Alternative 2 Roundabout | Alternative 3 Signal |
|--|---------------------------|-----------------------------------|-----------------------------|-------------------------|
| Vehicle Delay | High | Higher | Low | Moderate |
| Transit & Emergency Vehicle Access Improvement | Poor | Poor | Moderate | Moderate |
| Driver Adaptation Time | Low | Low | High | Moderate |

Alternatives Summary – Safety

| Criteria | Alternative 0 No Build | Alternative 1 Stop & Road Diet | Alternative 2 Roundabout | Alternative 3 Signal |
|-------------------------------|---------------------------|-----------------------------------|-----------------------------|-------------------------|
| Collision Severity Potential | Moderate | Moderate | Low | High |
| Bicycle Access Improvement | Poor | Moderate | Good | Moderate |
| Pedestrian Access Improvement | Poor | Moderate | Good | Moderate |

5. Next Steps & Action Items

Recommendations

- Pursue the roundabout alternative as the preferred long-term improvement for the Bay Avenue corridor
 - The stop and signal alternatives can be feasible to address budget constraints and short-term corridor needs

Council Actions

- Direction on corridor alternatives for refinement and outreach
- Follow up meeting with input from public outreach

5. Next Steps & Action Items

Short-Term

- Conduct corridor public outreach
- Prepare concept designs

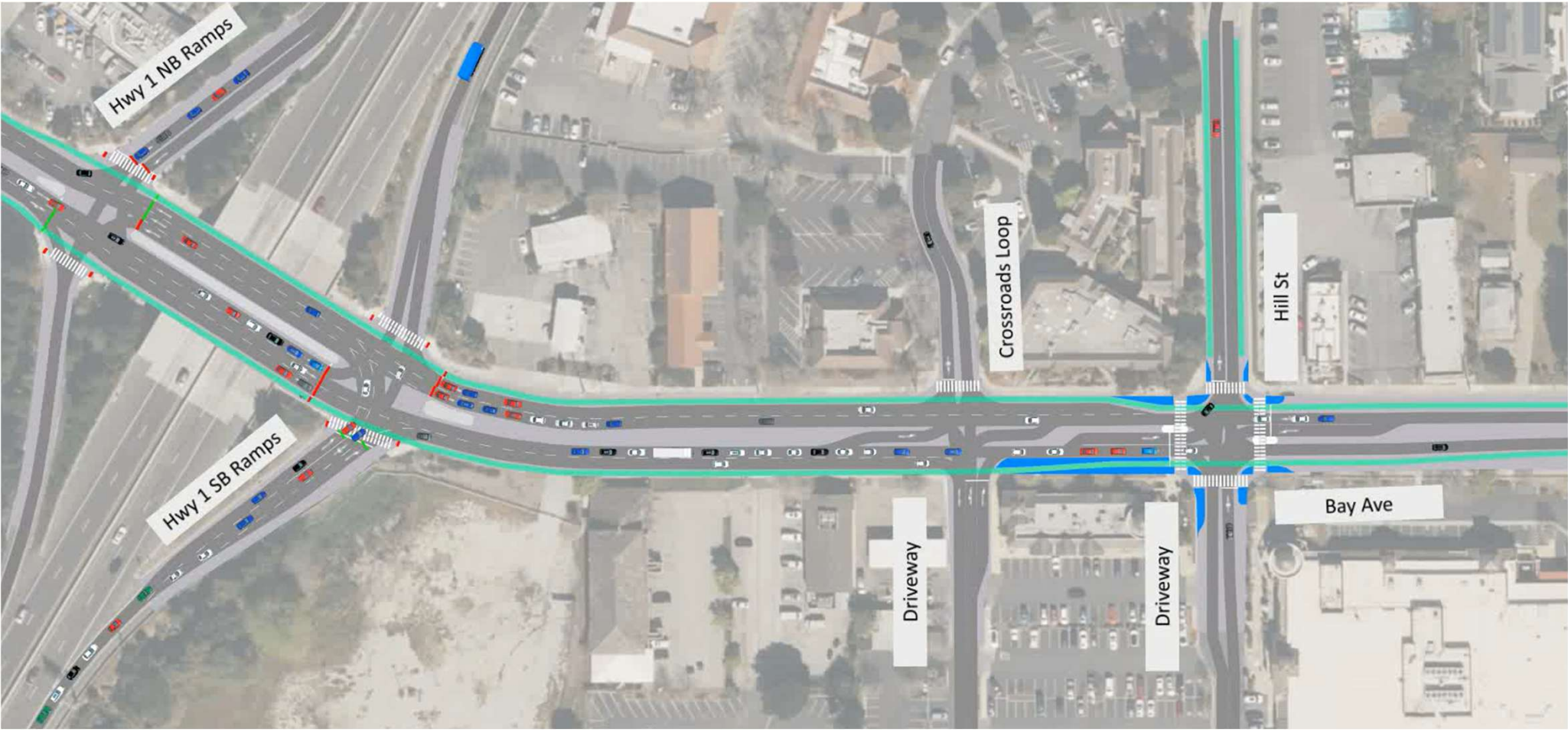
Long-Term

- Pursue grant funding opportunities
- Design corridor improvements
- Construct corridor improvements pending available funds

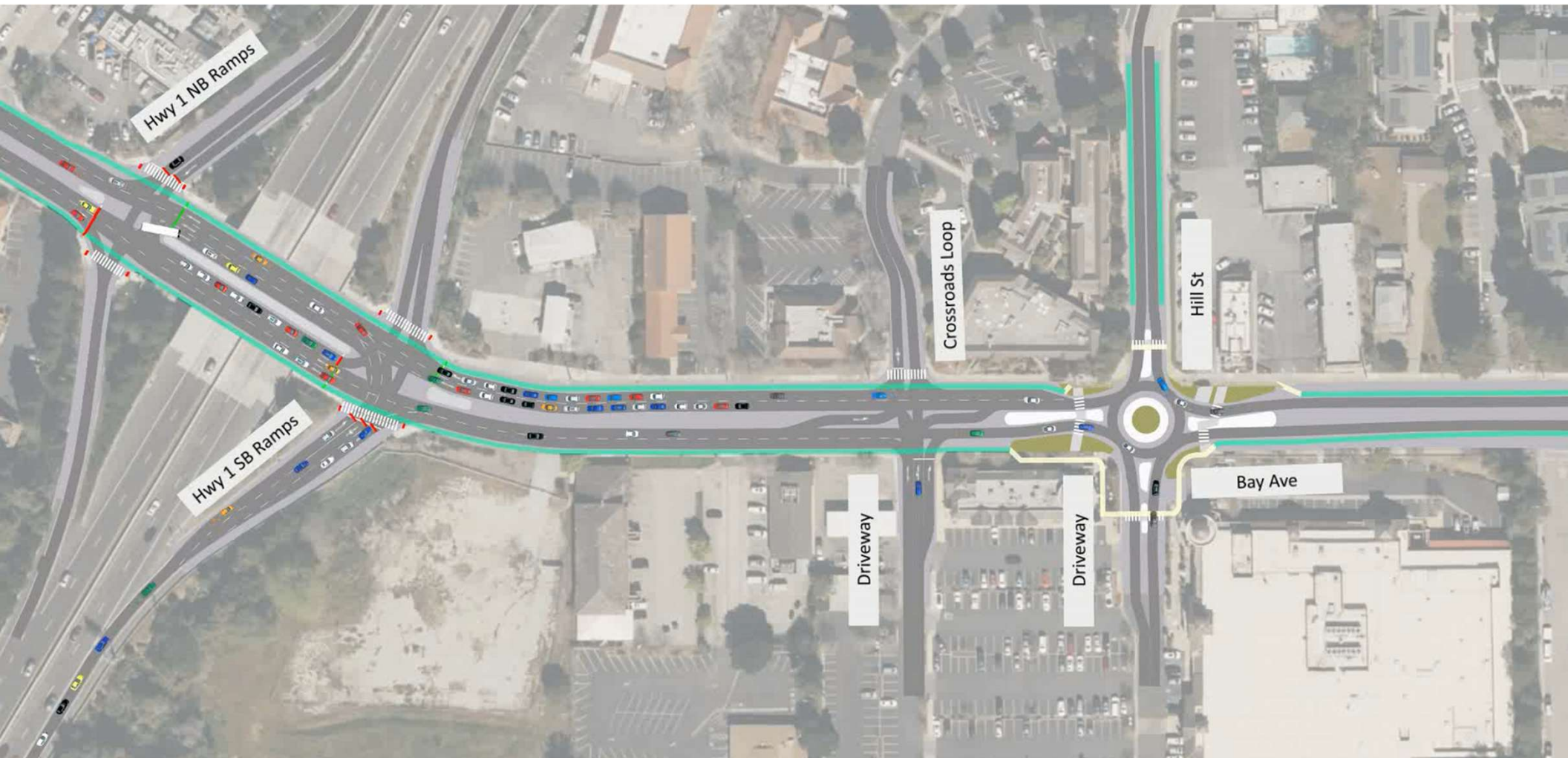
Questions & Discussion



PM Peak – Highway 1 & Hill St (Stop)



PM Peak – Highway 1 & Hill St (Roundabout)



AM Peak – Monterey & Park (Stop)



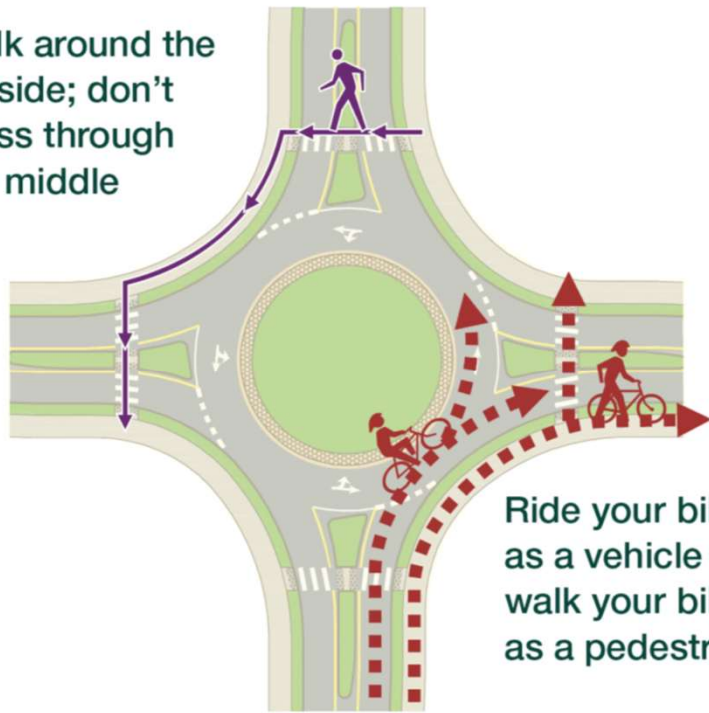
PM Peak – Monterey & Park (Stop)



Pedestrian and Bicycle Circulation

Tips for safely walking and biking through a roundabout

Walk around the outside; don't cross through the middle



Ride your bike as a vehicle or walk your bike as a pedestrian

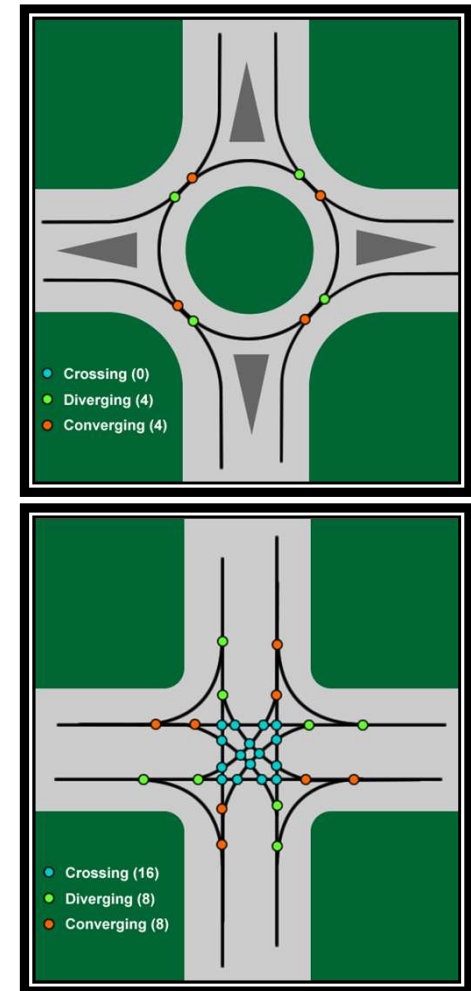
Research is ongoing on additional treatments and design considerations to address the needs of visually impaired pedestrians.



Roundabouts are Good for Older Drivers

- Lower Speeds through roundabout
- Forgiving, mistakes not lethal
- Longer decision-making time
- No demand to accurately judge closing speeds of fast traffic
- Low energy crashes
- No wide visual scans
- Simple decision-making
- By 2020, the 85-percentile design driver will be someone aged 65 or older

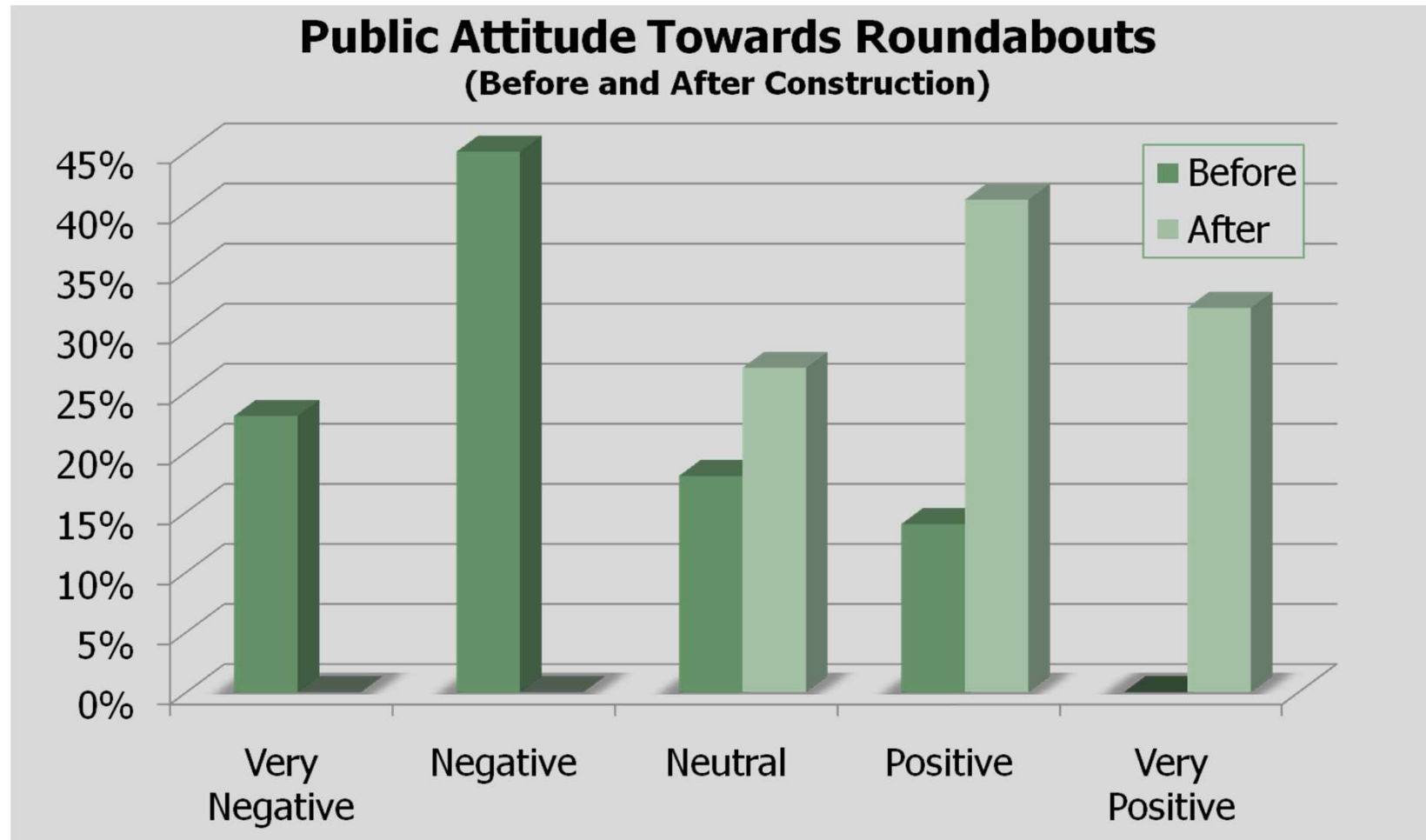
Source: Mark Doctor, P.E., FHWA Resource Center



Benefits Comparison

| | Roundabout | Traffic Signals |
|--|--|---|
| Vehicle and Driver Safety | Eliminates high-speed crashes and reduces fatalities and injuries by 70+% | Numerous vehicle and pedestrian conflict points on standard intersection (32 vehicle/24 pedestrian) |
| Pedestrian and Bicyclist Safety | Shorter one-directional crossings provide greater pedestrian focus and awareness | Vehicles are more focused on signal changes than on pedestrian movements |
| Space/ Development Footprint | Reduces additional right-of-way between links of intersections | May require additional turn lanes in future if traffic volumes or traffic patterns change |
| Cost and Sustainability | Less expensive than a signal for greenfield construction (new location) | Increase in fuel consumption and emissions due to stopped and delayed vehicles during red lights |
| Traffic Capacity | Creates equal priority for all approaches | Typically prioritizes mainline traffic allowing progression of high volumes approaches |
| Access Management | Provides equal priority of driveway/business access | Requires drivers to make additional left turns or right turns to access certain properties/businesses |
| Aesthetics | Provides attractive entries and gateways to communities | Various lighting and signing distractions can impact the overall aesthetic appeal for the user |
| Maintenance | Pavement markings, lighting, and some landscape maintenance may be more intensive than signals | Requires staff time required to maintain signals, provide retiming, and conduct repair |

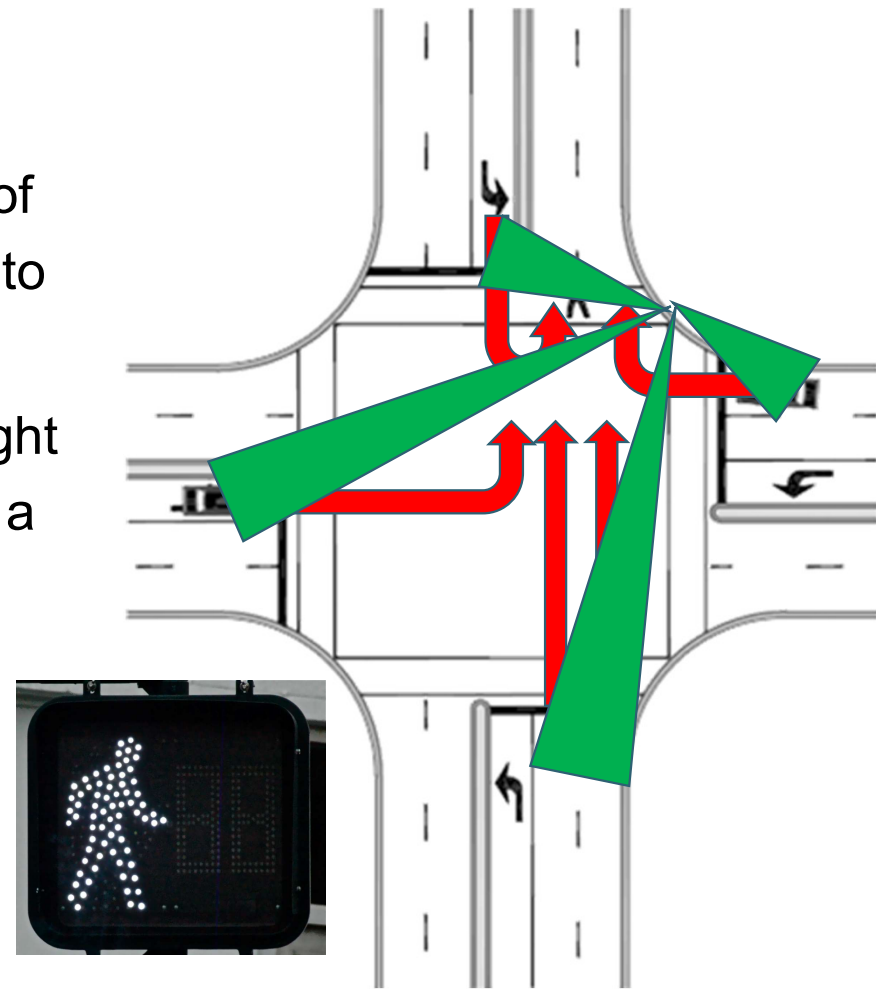
Roundabout Perception



Source: US Department of Transportation: Federal Highway Administration

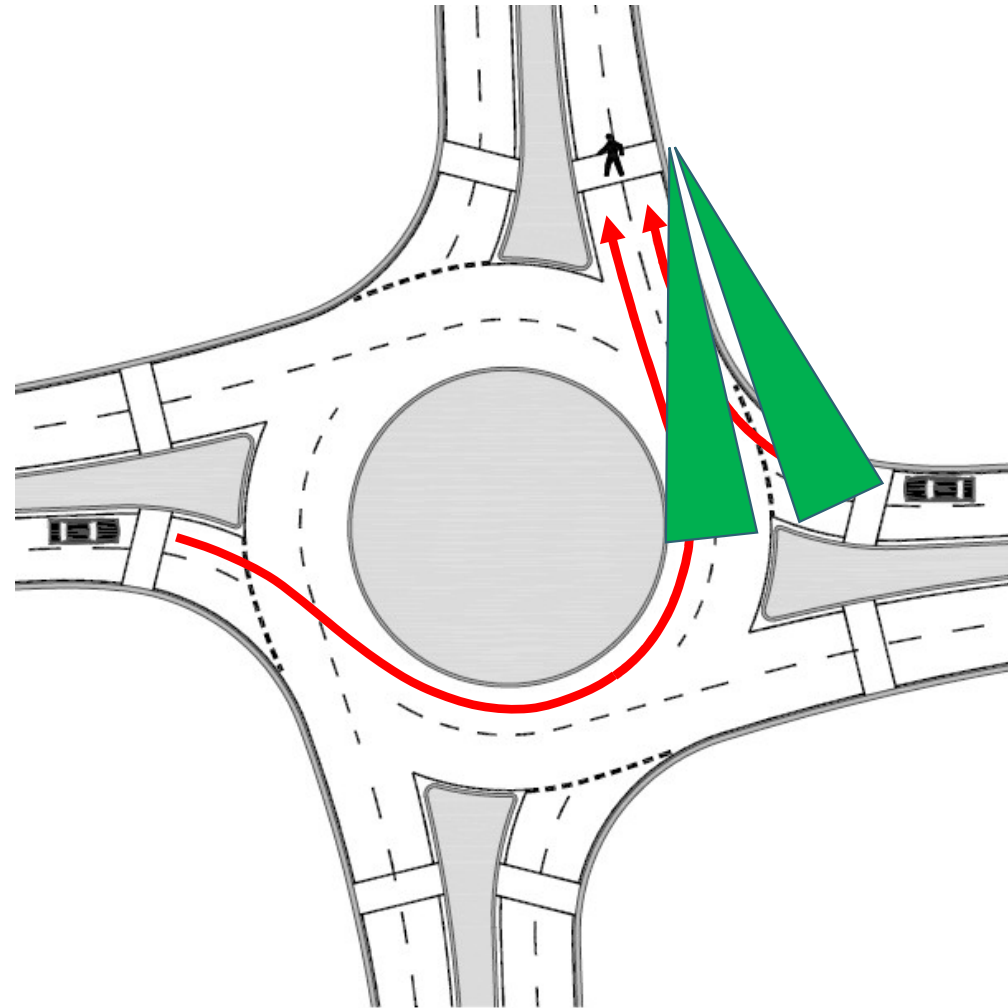
Safety vs. Security at Signalized Intersections

- Pedestrian experiences an exaggerated level of security because the signals tell them it's safe to cross
- Most crashes occur when drivers turn left or right across the crosswalk while the pedestrian has a walk indication



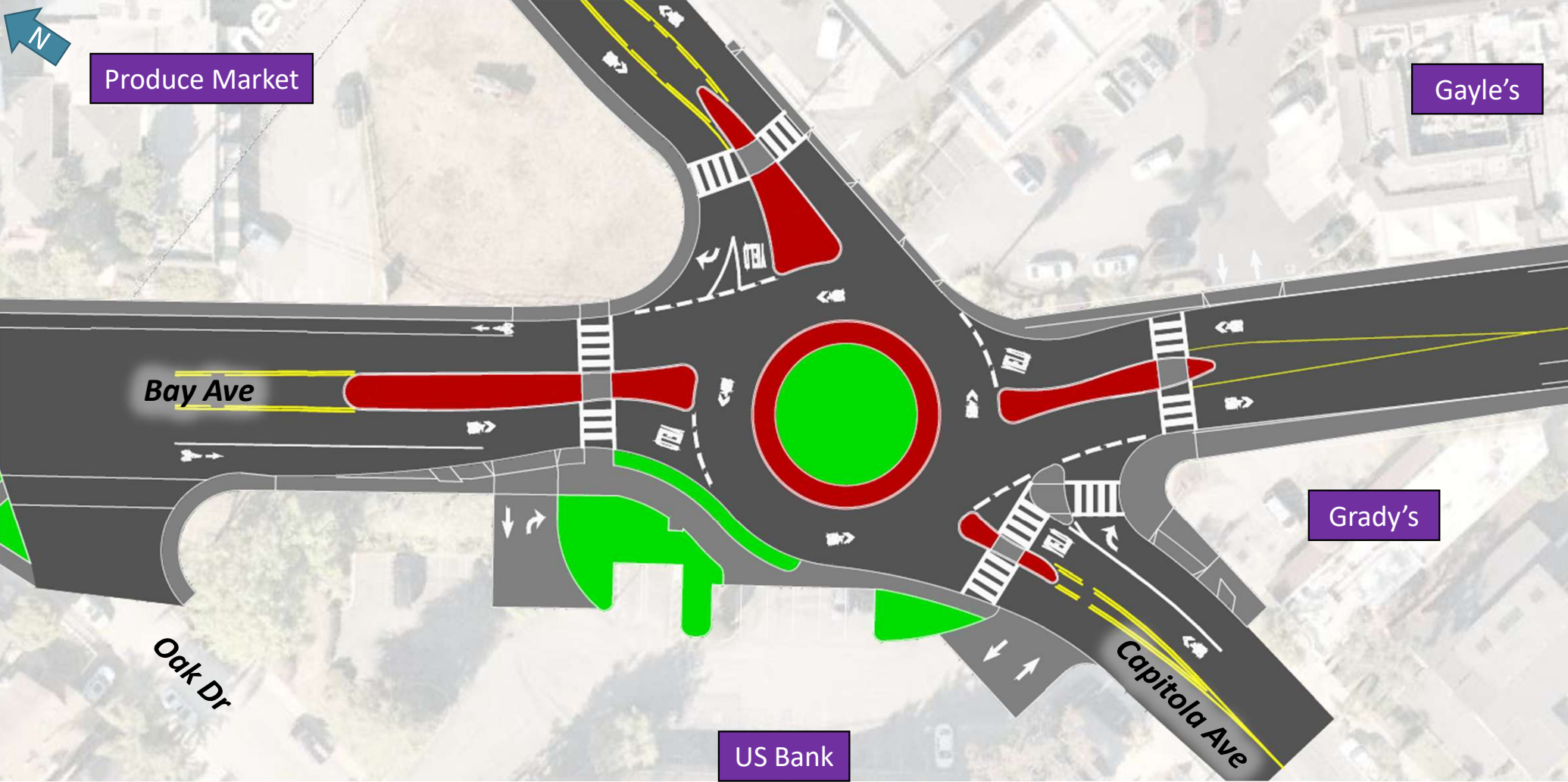
Safety vs. Security at Roundabouts

- Pedestrian feeling of security more closely matches their actual level of safety



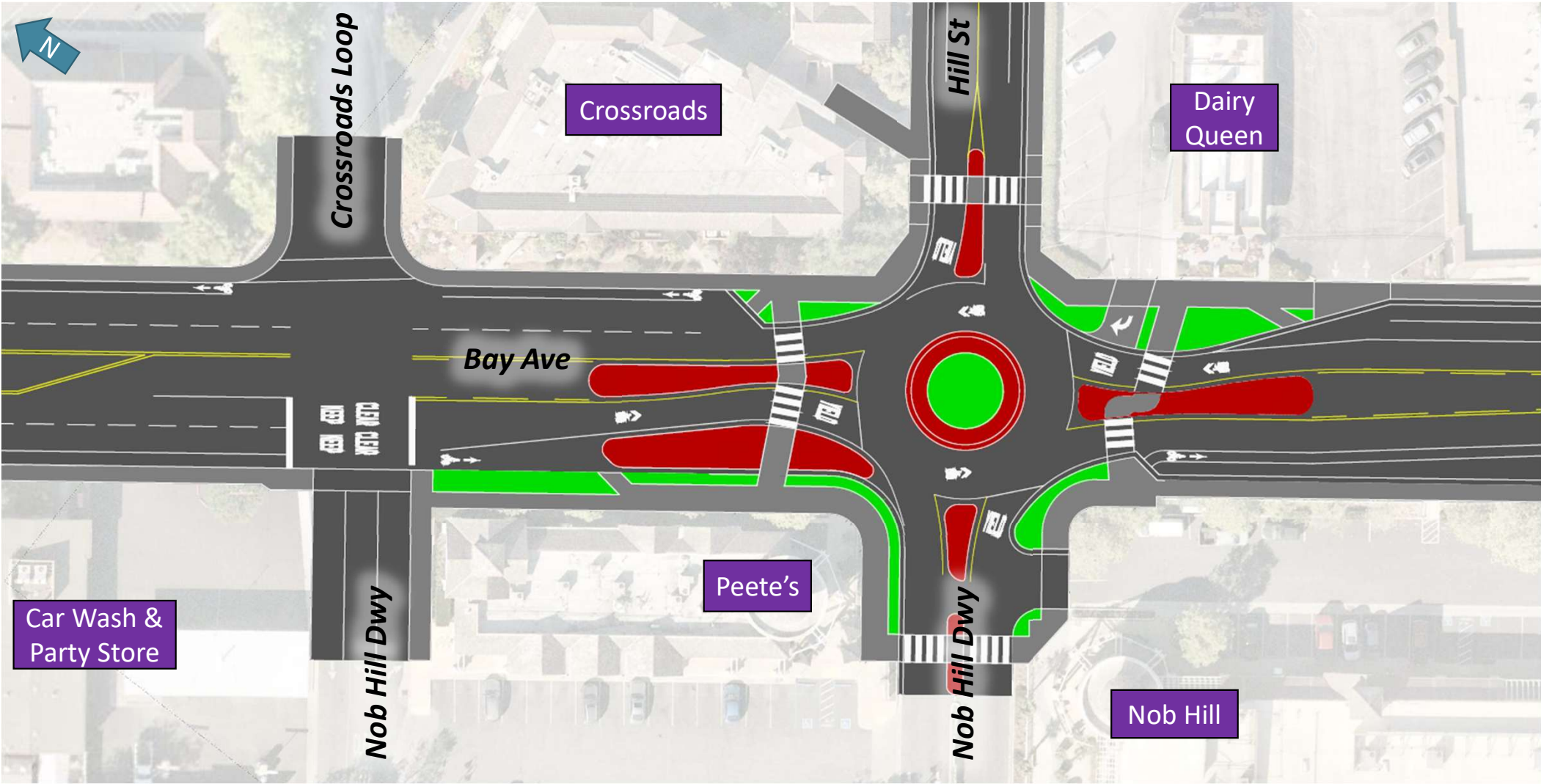
CONCEPT LAYOUT FOR ILLUSTRATIVE PURPOSES

Bay Ave – Capitola Ave



Bay Ave, Hill St, Crossroads

CONCEPT LAYOUT FOR ILLUSTRATIVE PURPOSES



La Jolla Boulevard, Bird Rock, San Diego

- Reduced lanes from 5 to 2, added angled parking, widened sidewalks, landscaped medians, added 5 roundabouts at intersections
 - Lowered speeds from 40mph to 20mph
- Traffic volumes have stayed constant at 22,000 cars/day
- New investment in restaurants, coffee shops, offices, drugstore and nearby infill housing
 - 20% increase in sales tax revenue





Capitola City Council

Agenda Report

Meeting: February 13, 2025

From: Public Works Department

Subject: Bay Avenue and Hill Street Traffic Safety Update



Recommended Action: Provide direction on short-term modifications to the Bay Avenue and Hill Street intersection.

Background: This item was originally scheduled for the February 13 City Council meeting; the item was not heard at that meeting and was continued to February 27.

On November 21, 2024, the City Council discussed the Quick Build Project at Bay Avenue and Hill Street, implemented in late July/early August 2024. The project introduced lane reductions, enhanced crosswalk markings, and temporary bulb-outs to improve pedestrian safety and manage traffic flow.

Since implementation, community feedback, technical evaluations, and further Council discussions have identified areas for improvement. During the November 21st meeting, staff was instructed to remove the current configuration in spring 2025 and implement specific modifications. These modifications include extending striping for a continuous bike lane, examining costs for raised crosswalks, expanding the crosswalk by adjusting the stop sign line, and determining whether bollards can remain at all intersection corners.

The City Council also directed staff to collect additional data to enable a comparison between the current Quick Build Project configuration and the proposed new layout. The Council requested that staff return in early 2025 to present updated findings and assess whether the new configuration could be implemented in coordination with the upcoming Bay Avenue Corridor Study.

Discussion: Following Council direction, staff collected updated traffic data to evaluate the current intersection configuration.

Traffic volume data was gathered on a single non-rainy day during regular school schedules to maintain consistency. While seasonal variations may impact certain modes of travel—such as lower bicycle volumes in colder months—the methodology ensures a reliable baseline for comparison. The data confirms that this intersection remains a high-use location for both vehicles and pedestrians, emphasizing the need for effective safety measures.

Traffic Data Summary

Bicycle Volumes (Total at Intersection)

| Bike Volume Intersection Total | | | | |
|--------------------------------|-----------|---------|--------------|---------|
| Count Date | Timeline | AM Peak | Mid-Day Peak | PM Peak |
| 2/15/2022 | Before QB | 24 | 25 | 19 |
| 3/7/2024 | Before QB | 19 | N/A | 15 |
| 10/24/2025 | After QB | 49 | 23 | 23 |
| 1/25/2025 | After QB | 31 | 22 | 20 |

Pedestrian Volumes (Total at Intersection)

| Pedestrian Volume Intersection Total | | | | |
|--------------------------------------|-----------|---------|--------------|---------|
| Count Date | Timeline | AM Peak | Mid-Day Peak | PM Peak |
| 2/15/2022 | Before QB | 31 | 51 | 49 |
| 3/7/2024 | Before QB | 34 | N/A | 21 |
| 10/24/2025 | After QB | 18 | 57 | 61 |
| 1/25/2025 | After QB | 32 | 48 | 40 |

Vehicle Traffic – Bay Avenue Approach (Southbound)

| Vehicle Traffic Bay Avenue Approach Southbound | | | | |
|--|-----------|---------|--------------|---------|
| Count Date | Timeline | AM Peak | Mid-Day Peak | PM Peak |
| 2/15/2022 | Before QB | 435 | 635 | 633 |
| 3/7/2024 | Before QB | 481 | N/A | 669 |
| 10/24/2025 | After QB | 484 | 538 | 545 |
| 1/25/2025 | After QB | 501 | 521 | 570 |

Vehicle Traffic – Bay Avenue Approach (Northbound)

| Vehicle Traffic Bay Avenue Approach Northbound | | | | |
|--|-----------|---------|--------------|---------|
| Count Date | Timeline | AM Peak | Mid-Day Peak | PM Peak |
| 2/15/2022 | Before QB | 462 | 485 | 392 |
| 3/7/2024 | Before QB | 466 | N/A | 323 |
| 10/24/2025 | After QB | 477 | 418 | 417 |
| 1/25/2025 | After QB | 502 | 444 | 380 |

Intersection Level of Service (LOS) Observations

The Level of Service (LOS) analysis indicates the intersection's performance in January 2025 is expected to be similar to October 2024. The primary factors influencing LOS at this location are the northbound (NB) and southbound (SB) vehicle volumes along Bay Avenue.

Between October 2024 and January 2025, northbound traffic increased by approximately 5% during the morning and mid-day peak hours but saw a slight 4% decrease in the evening peak. Conversely, southbound traffic decreased by about 3% in the morning and mid-day, while remaining unchanged in the evening.

Despite these fluctuations, the changes are not significant enough to impact the overall LOS rating. While minor variations in vehicle delay (1–2 seconds) may occur, the intersection's letter grade classification (e.g., A, B, C) remains consistent.

Evaluation of Proposed Modifications

The City's traffic consultant, Kimley Horn, prepared a comparison which outlines the proposed modifications to the Bay Avenue and Hill Street intersection (Attachment 1). These modifications aim to enhance pedestrian and cyclist safety while balancing traffic operations and community needs. Below is an evaluation of key options under consideration:

| Option | Benefits | Challenges | Staff Consideration | Estimated Cost |
|-----------------------------|---------------------------|------------------------------|---|---|
| Raised Crosswalks | Safer, ADA access. | Cost, drainage, delays. | Worth considering (varies by material). | \$6K–\$25K each (asphalt, brick, stamped concrete). |
| Additional Green Bike Lanes | Improves bike safety. | Cost, driver confusion. | Possible improvement (includes striping removal). | \$15–\$30/sq. ft. |
| Bollards | Adds buffer, slows turns. | Maintenance, large vehicles. | Could be explored (durability concerns). | \$50–\$200 each |
| Staggered Stop Bars | May help visibility. | Minimal impact. | Not recommended | \$8–\$20/ft. |

Staff recommends integrating the evaluation of these modifications into the broader context of corridor improvements. This approach will ensure that any short-term changes to the Bay Avenue and Hill Street intersection align with long-term strategies for the corridor.

Council is requested to provide direction to staff on the following:

1. Whether to proceed with short-term modifications, such as continuous green bike lanes, while awaiting the corridor study's final recommendations.
2. Identify any additional data collection or analysis required to further refine the proposed intersection changes.
3. Remove all quick-build components and return intersection to pre-project conditions.

Fiscal Impact: Costs for proposed modifications will depend on the selected measures. Based on preliminary estimates from the City's traffic consultant (Attachment 1):

- Raised crosswalks are estimated at \$6,000 – \$25,000 per location, with additional costs for brickwork, stamped materials, and drainage modifications.
- Continuous bike lanes (green thermoplastic striping) are estimated at \$15 – \$30 per square foot, including existing striping removal.
- Bollards for bike lane separation and pedestrian safety are estimated at \$50 – \$200 per bollard, depending on size and durability.
- Staggered stop bars are estimated at \$8 – \$20 per linear foot for white thermoplastic striping.
- Removing all quick build components will cost approximately \$40,000.

Staff will incorporate approved actions into the annual Pavement Management Project budget for Council consideration on February 27, 2025.

Attachments:

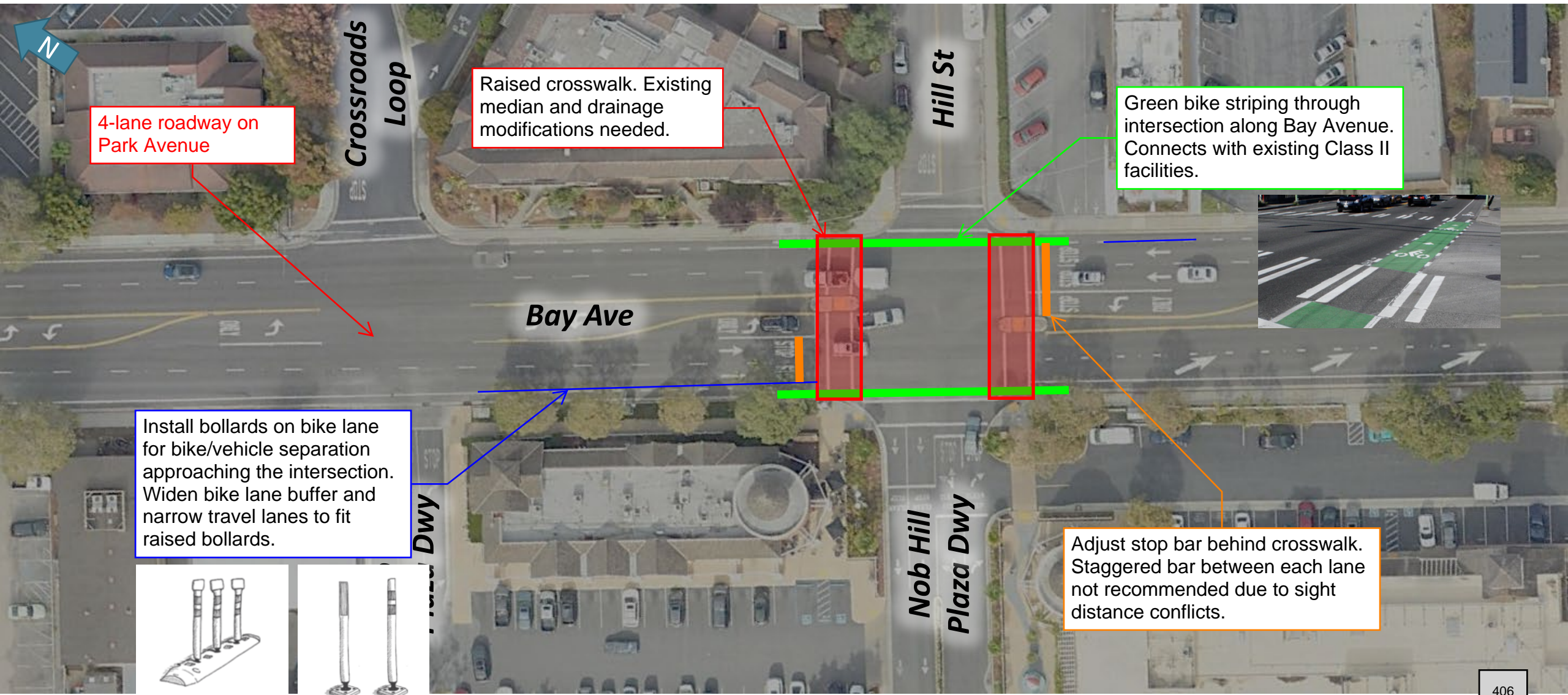
1. Potential Improvement Matrix

Report Prepared By: Jessica Kahn, Public Works Director;

Reviewed By: Julia Gautho, City Clerk; Samantha Zutler, City Attorney

Approved By: Jamie Goldstein, City Manager

11/21/2024 CC Notes



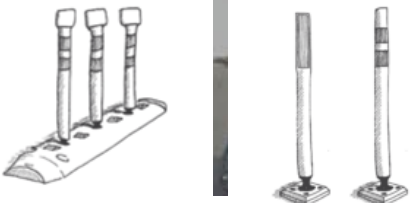
4-lane roadway on Park Avenue

Raised crosswalk. Existing median and drainage modifications needed.


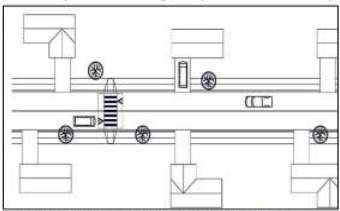
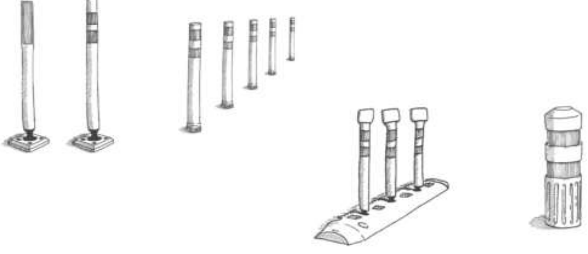
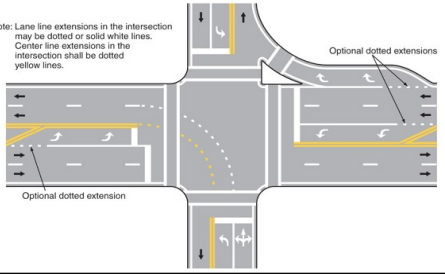

Green bike striping through intersection along Bay Avenue. Connects with existing Class II facilities.



Install bollards on bike lane for bike/vehicle separation approaching the intersection. Widen bike lane buffer and narrow travel lanes to fit raised bollards.



Adjust stop bar behind crosswalk. Staggered bar between each lane not recommended due to sight distance conflicts.

| 12/10/2024 21:21 Potential Improvements at Bay Avenue / Hill Street Intersection (Per 11/21/2024 City Council) | | | | | | | | |
|--|---|---|--|--|---|---|--|--|
| Criteria | Raised Crosswalk | | Raised Bollards | | Stagger Stop Bar for Bay Ave Travel Lanes | | Continuous Bike Intersection Crossing Markings | |
| | Physical Measure | | Physical Measure | | Striping / Signing Measure | | Striping / Signing Measure | |
| | Benefits | Challenges | Benefits | Challenges | Benefits | Challenges | Benefits | Challenges |
| Pedestrian & Bike Safety | Identified traffic calming measure that increases visibility to approaching vehicles Increased driver-yield compliance at crossing from vertical deflection Improved ADA access since crosswalk at same elevation as the sidewalk | | Increased visibility to approaching vehicles Provides physical separation buffer between vehicle and bike/ped areas on roadway | | Potential improved sight lines of bike/peds on crosswalk for driver in the forward staggered lane | For adjacent movements, stop bars staggered different distances between lanes would improve sight lines for the forward vehicle but reduce sight lines for back vehicle in next lane. No net improvement to overall safety (Bay Avenue 4-lane road) | Increased visibility and identification of bike space and intended path of travel within the intersection and at the approaches Reinforces bikes have priority over turning vehicles in conflict areas Provides connectivity to existing bike facilities | |
| Traffic Operations | Reduced vehicle speeds through crosswalk due to grade change improves bike/ped safety | Increased average vehicle delay and travel times through intersection due to slower speeds to traverse crosswalk | Bollards used to create curb extension / reduce curb radius will reduce vehicle turning speeds at corners | | | Potential impact to sight lines (see above) | No anticipated impacts | |
| Vehicle Queues & Vehicle Access | No impact to non-emergency vehicles | Potential increase in queues to traverse through intersection from slower speeds Typically not appropriate for primary emergency vehicle routes. Requires coordination with fire & police | No impact to non-emergency vehicles | Posts at intersection corners may potentially be struck from large delivery or emergency vehicles | No anticipated impacts | | No anticipated impacts | |
| Design, Construction, & Maintenance | Recommended on streets with posted speed up to 30mph Existing raised crosswalks implemented in Capitola (Clares St and Jewel Box neighborhood) | Modification of drainage design along the curb needed to prevent ponding Increase noise due to vehicle acceleration/braking over crosswalk Recommend improvement to nighttime visibility for approaching vehicles / bikes | For bike lanes, center delineator within the buffer zone along the edge of the bikeway. Typical spacing is every 8 - 20 ft, depending on the thoroughfare's design speed / bikeway configuration. Allow a minimum of 1.5 ft. clear width for installation of smaller delineators | Ongoing maintenance from vehicle strikes. Smaller bollard sizes have lower durability and will require more replacement. For Bay Avenue with 4-lane geometry, wider bike lane buffer width (1.5' min) recommended to use bollards | Recommend stop lines to be placed at least 4-ft in advance of crosswalk (no stagger between adjacent lanes) | Staggered stop bar between left turn and through lanes permitted in MUTCD to increase turning radius clearance for large vehicles making a left turn. This issue is not present at Bay/Hill intersection (see example below). | Provides benefit on northbound and southbound Bay Avenue approaches with existing Class II bike facilities | May not be applicable to install on for the eastbound and westbound Nob Hill and Hill Street approaches due to lack of existing bike facilities/striping |
| Cost Range | \$6,000 to \$25,000 per crosswalk location (Asphalt) Additional costs for brickwork, stamped material, concrete ramps, and other enhancements used at pedestrian crossings | | \$50 to \$200 per bollard or segment (depending on size and type) Flexible delineator post < High performance delineator < Raised lane separator < K71 Delineator Post | | \$8 to \$20 per linear foot (white thermoplastic striping) Includes removal of existing striping | | \$15 to \$30 per square foot (green thermoplastic striping) Includes removal of existing striping | |
| Examples |  <small>(Source: Google Maps, Boulder, Colorado)</small> |  <small>(Source: Delaware Department of Transportation)</small> |  |  <small>D - Typical dotted line markings to extend center line and lane line markings into the intersection Note: Lane line extensions in the intersection may be dotted or solid white lines. Center line extensions in the intersection shall be dotted yellow lines. Optional dotted extensions</small> |  | | | |
| Source | https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-3-part-2#3.14 https://www.ite.org/technical-resources/traffic-calming/traffic-calming-measures/ http://www.pedbikesafe.org/BIKESAFE/countermeasures_detail.cfm?CM_NUM=27 | | https://tacticalurbanismguide.com/materials/raised-lane-separator/ https://tacticalurbanismguide.com/materials/flexible-delineator-post/ | | https://mutcd.fhwa.dot.gov/hm/2009/part3/part3b.htm | | https://nacto.org/publication/urban-bikeway-design-guide/intersection-treatments/intersection-crossing-markings/ | |

Bay Avenue and Hill Street Traffic Safety Update

City Council
February 13, 2025

Bay Ave/Hill St Traffic Safety Update

Recommended Action



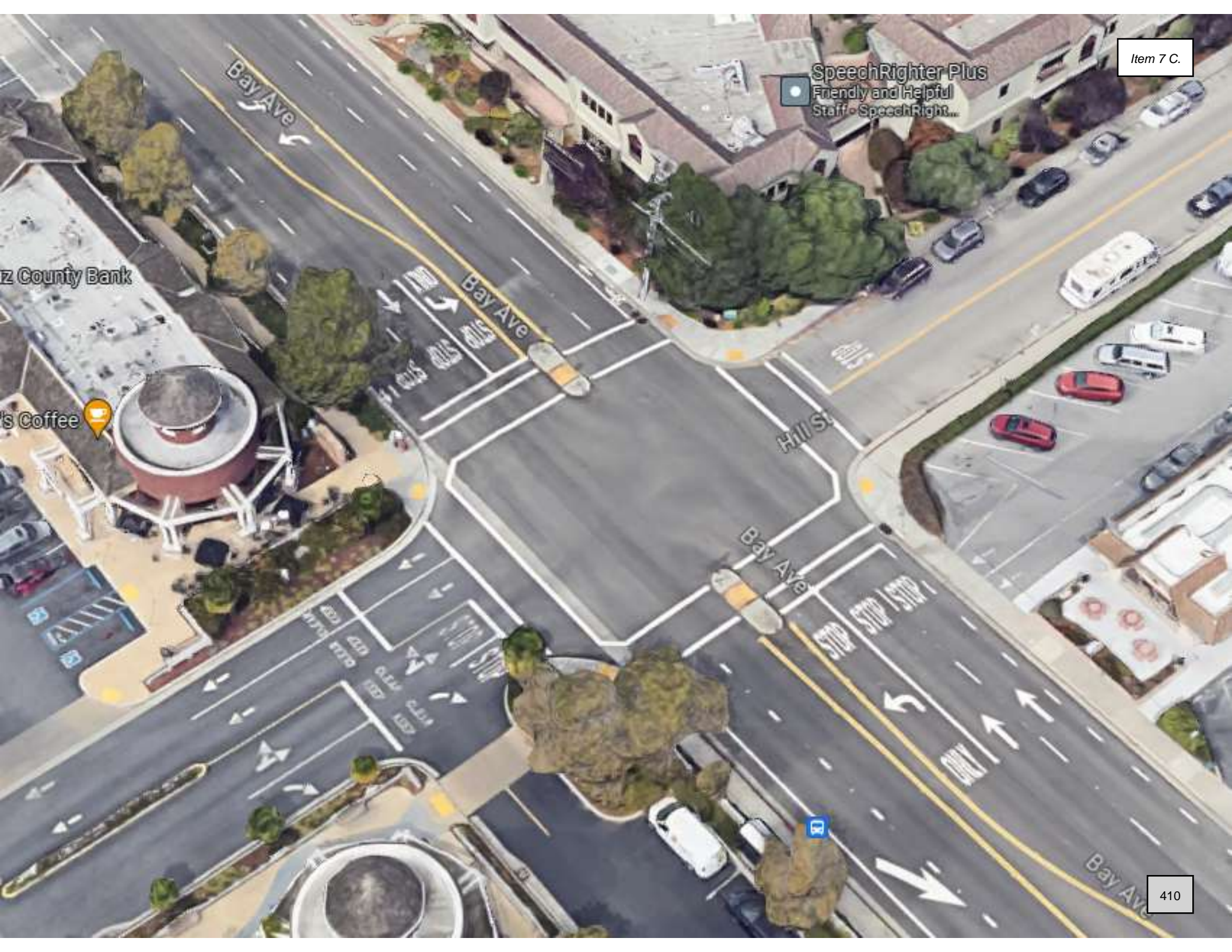
Provide direction on short-term modifications to the Bay Avenue and Hill Street intersection.

Implement approved short-term modifications in coordination with the Bay Avenue Corridor Study.

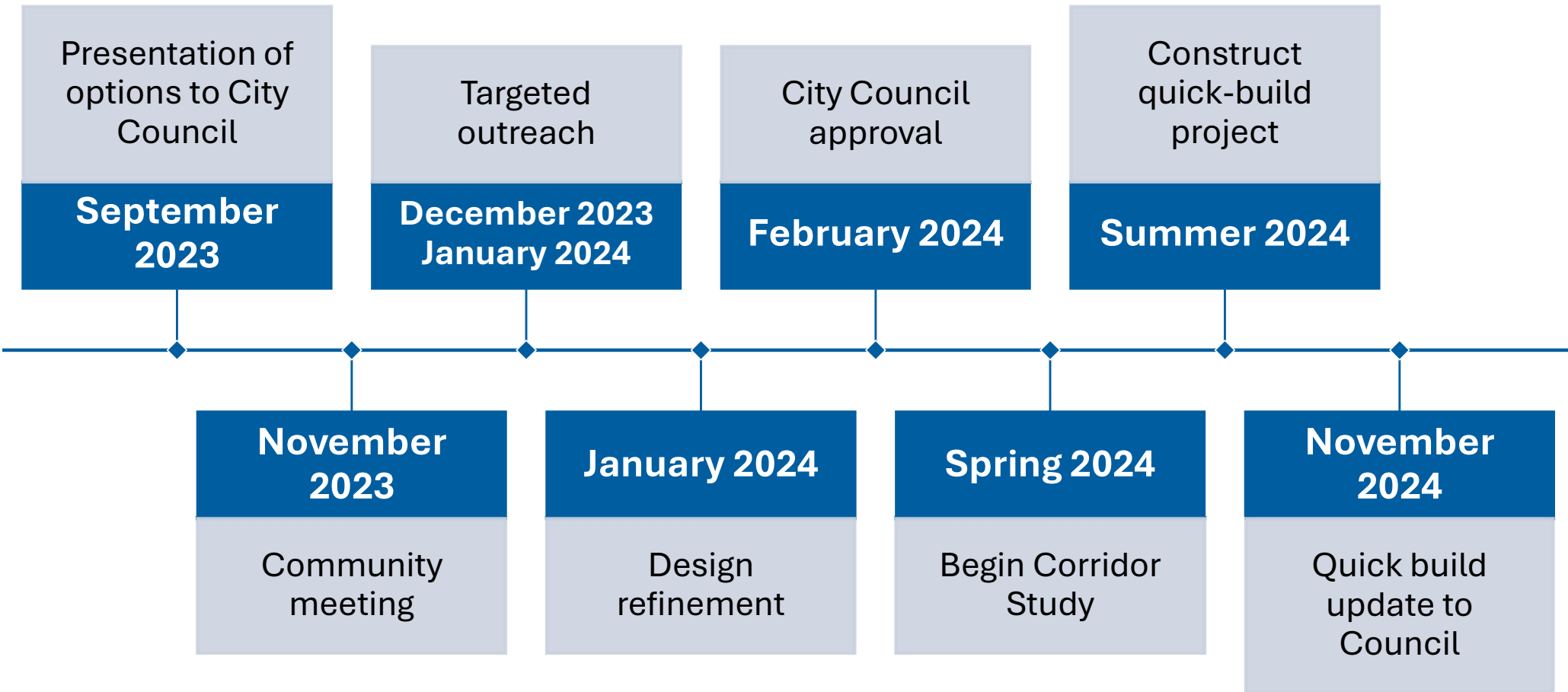
SpeechRighter Plus
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z County Bank

's Coffee



Bay/Hill Street Traffic Safety Project Timeline



Bay Ave/Hill St Traffic Safety Update

11/21/24 City Council Meeting Recap



Remove the current intersection configuration in Spring 2025

Implement specific modifications

- Extend striping for a continuous bike lane
- Examine costs for raised crosswalks
- Expand the crosswalk by adjusting the stop sign line
- Determine whether bollards can remain at all intersection corners

Collect additional data

Bay Ave/Hill St Traffic Safety Update

Traffic Data Summary



Before Quick-Build:

February 15, 2022, &
March 7, 2024

After Quick-Build:

October 24, 2024, &
January 25, 2025



Bicycle Volumes:

Increased after the quick-build implementation, particularly in the morning peak



Pedestrian Volumes:

Slight fluctuations, but overall consistent before and after modifications



Vehicle Traffic:

Southbound volumes remained stable, with minor variations across peak times

Bay Ave/Hill St Traffic Safety Update

Intersection Level of Service



January 2025 LOS is similar to October 2024

- Primary factors: northbound and southbound vehicle volumes on Bay Avenue.

Between October 2024 and January 2025

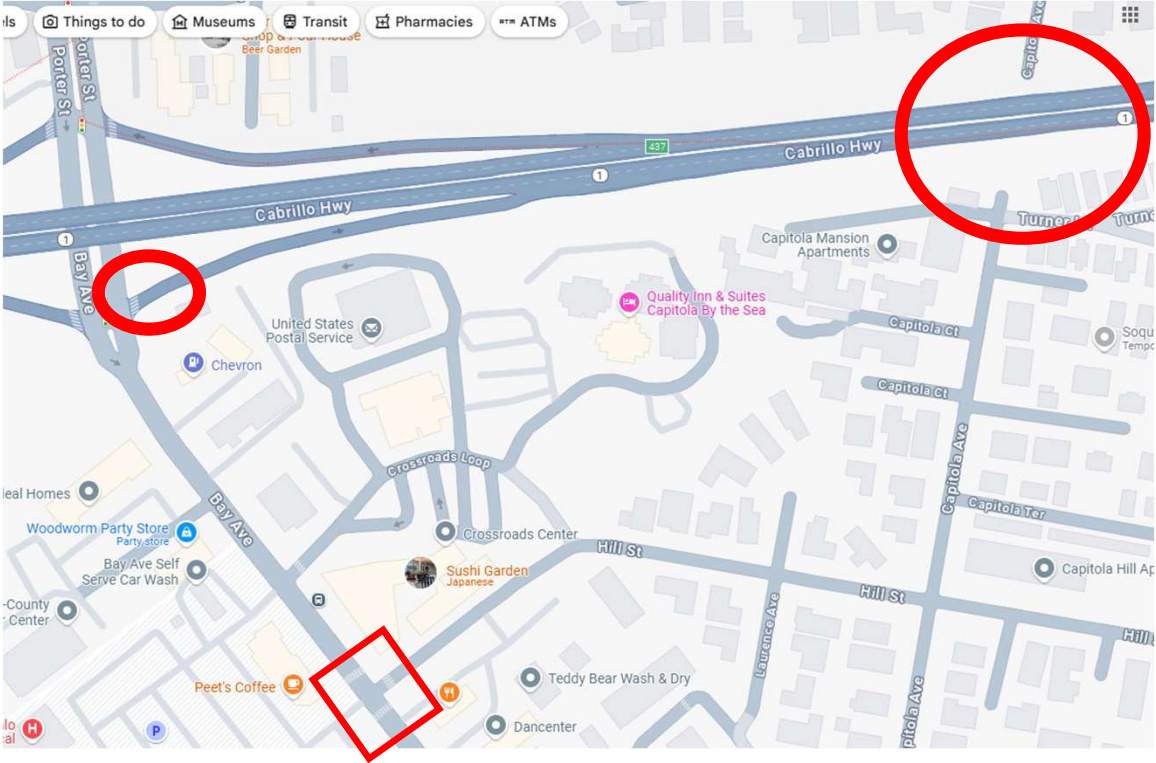
- NB: ~5% increase in AM and mid-day peaks; ~4% decrease in PM peak.
- SB: ~3% decrease in AM and mid-day peaks; unchanged in PM peak.

Fluctuations are minor

- Do not significantly impact overall LOS

Bay Ave/Hill St Traffic Safety Update

Additional Traffic Impacts



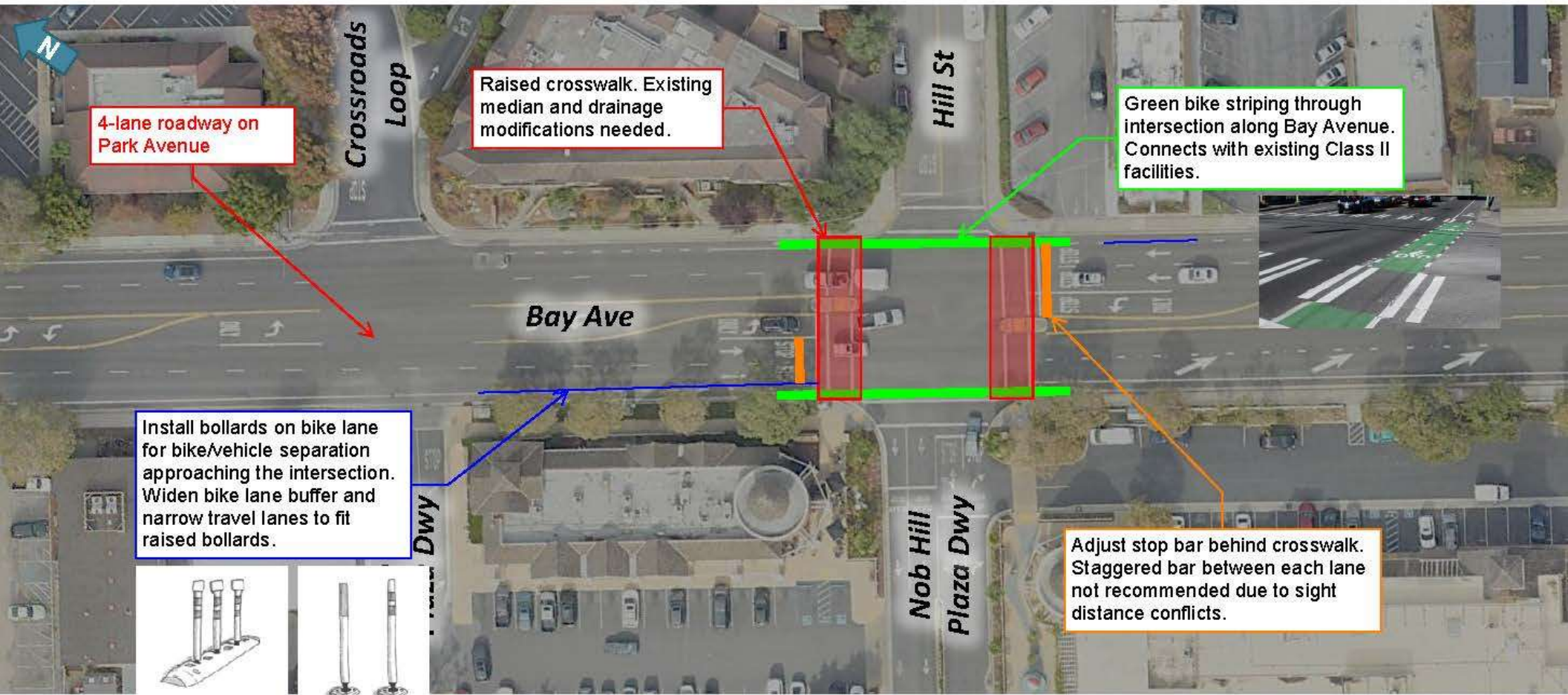
Capitola Avenue Bridge

- Closed until Fall 2025

Bay Avenue Southbound Onramp

- Open week of March 10th, 2025

11/21/2024 CC Notes



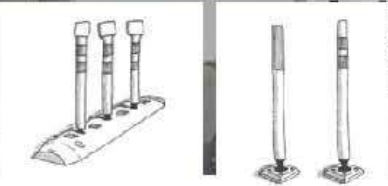
4-lane roadway on Park Avenue

Raised crosswalk. Existing median and drainage modifications needed.

Green bike striping through intersection along Bay Avenue. Connects with existing Class II facilities.

Install bollards on bike lane for bike/vehicle separation approaching the intersection. Widen bike lane buffer and narrow travel lanes to fit raised bollards.

Adjust stop bar behind crosswalk. Staggered bar between each lane not recommended due to sight distance conflicts.



Bay Ave/Hill St Traffic Safety Update

Evaluation of Proposed Modifications



| Option | Benefits | Challenges | Estimated Cost |
|-----------------------------|----------------------|-------------------------|--------------------------|
| Raised Crosswalks | Safer, ADA access | Cost, drainage, delays | \$6K–\$25K per crosswalk |
| Additional Green Bike Lanes | Improves bike safety | Cost, driver confusion | \$15–\$30/sq. ft. |
| Bollards | Enhances visibility | Maintenance, aesthetics | \$50 - \$200 per bollard |
| Staggered Stop Bars | May help visibility | Minimal impact | \$8–\$20/ft. |



Recommendations

- Provide direction on short-term modifications to the Bay Avenue and Hill Street intersection.
- Implement approved short-term modifications in coordination with the upcoming Bay Avenue Corridor Study.

Capitola City Council

Agenda Report



Meeting: February 27, 2025
From: Finance Department
Subject: FY 2024-25 Mid-Year Budget Report

Recommended Action: Receive the Fiscal Year 2024-25 Mid-Year Budget Report and adopt a resolution amending the Fiscal Year 2024-25 Budget.

Background: The Fiscal Year (FY) 2024-25 Mid-Year Budget Report provides an update on the City’s financial status as of December 31, 2024, and recommends budget adjustments for FY 2024-25 that better reflect current projections. The City’s major revenue sources are currently tracking slightly below budget projections while General Fund expenditures are slightly ahead of projections but are expected to end the year at or below budget.

The City ended FY 2023-24 slightly ahead of budget estimates returning approximately \$126,000 to the General Fund balance. The estimated June 30, 2025, General Fund balance consists of:

| | |
|--|-------------------|
| Employee Down Payment Assistance Program | \$ 100,000 |
| Operating Contingency Balance | 528,931 |
| Additional FY 2023-24 General Fund resources | 126,000 |
| Total Balance | \$ 754,931 |

Discussion: General Fund revenues are performing as budgeted. Sales tax revenue is slightly above budget projections while TOT are slightly behind projections. Based on communication with several short-term rental operators, staff believes that the slowing of TOT revenue is due to a reduction in rental rates and not a reduction in occupancy rates. All other General Fund revenues are performing as projected and as expected, showing signs of leveling off following the growth experienced over the last few years. Expenditures are tracking consistently with the FY 2024-25 Amended Budget.

Revenues

The FY 2024-25 adopted budget included approximately \$8.5 million of sales tax revenue, which is approximately 3.5% above receipts in the prior fiscal year. At the mid-point of this fiscal year, sales tax receipts are above budget projections by \$87,000 (2.1%) following a strong 2nd quarter performance over the holiday season.

In November 2024, Capitola voters approved Measure Y, a one-half percent (0.50%) district sales tax, and repealed Measure F, which was a one-quarter percent (0.25%) district sales tax. Measure Y will become effective April 1, 2025, and result in an estimated increase in sales tax revenues of \$277,000 for the remainder of the fiscal year. The estimated annual increase in sales tax revenue beginning in FY2025-26 from Measure Y is \$1.1 million.

Property tax revenues are slightly above budget estimates while TOT is slightly below budget estimates. All the other revenues are tracking within budget expectations for this point in the fiscal year. At the midpoint of the fiscal year the City has received 49% of budgeted revenues and staff anticipates that revenues will end the year close to budget projections.

Expenditures

City departments have consistently maintained expenditures within the adopted budget. Through December, the General Fund has expended 61% of the budget while being 50% through the year. The primary reason is that the City prepaid the annual \$2.6 million Unfunded Actuarial Pension Liability (UAL) in July 2024, as opposed to making monthly payments, resulting in savings of approximately \$85,000. This results in personnel costs showing higher as a percentage of the budget as the payment is amortized over the course of the year.

The passage of Measure Y in November 2024 also resulted in an increase in personnel costs due to contingent salary increases negotiated by the various labor groups. The estimated increase in personnel costs for the remainder of the fiscal year is \$226,400, while the estimated annual cost is \$452,800.

Budget Amendments

During the FY 2024-25 budget hearings the Council requested to revisit the City Hall Phase II study, which is estimated at \$67,000 but remains unfunded. Staff is recommending including the City Hall Phase II study discussion as part of the FY 2025-26 budget hearings following the adoption of the City’s strategic plan.

Due to the passage of Measure Y, staff is requesting a budget amendment in the General Fund to increase sales tax revenues and personnel expenditures as follows:

| Revenue | |
|--------------|---|
| Amount | Description |
| \$277,000 | Sales Tax Revenue – Measure Y |
| Expenditures | |
| \$ 227,000 | Personnel – Labor MOU’s Contingencies – Measure Y |

Fiscal Impact: If approved, the requested budget amendment would increase the June 30, 2025, estimated General Fund balance to approximately \$804,931 an increase of \$50,000 from previous estimates.

Attachments:

1. Resolution
2. Budget Amendment

Report Prepared By: Jim Malberg, Finance Director

Reviewed By: Julia Gautho, City Clerk; Samantha Zutler, City Attorney

Approved By: Jamie Goldstein, City Manager

RESOLUTION NO. _____

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CAPITOLA
AMENDING THE 2024-25 FISCAL YEAR CITY BUDGET AND CAPITAL IMPROVEMENT
PROGRAM BUDGET**

WHEREAS, it is necessary to adopt the 2024-25 Fiscal Year Budget for all City funds and Capital Improvement Program; and

WHEREAS, the City Council conducted budget study sessions, heard and considered public comments, had modified and proposed a budget accordingly, and on June 27, 2024, adopted such budget for the Fiscal Year July 1, 2024, through June 30, 2025; and

WHAREAS, the City Council previously amended the FY 2024-25 Fiscal Year Budget on September 24, 2024, and January 30, 2025; and

WHEREAS, since the last budget amendment Capitola voters passed Measure Y resulting in an estimated \$277,000 of district sales tax revenue and \$227,000 of additional personnel expenditures; and

WHEREAS, it is necessary to amend the Fiscal Year 2024-25 Adopted Budget to allocate the additional revenues and expenditures related to the passage of Measure Y; and

NOW, THEREFORE, BE IT HEREBY RESOLVED by the City Council of the City of Capitola that the 2024-25 Fiscal Year Budget is hereby amended, including Exhibit A (Budget Amendment) to this Resolution; and

BE IT FURTHER RESOLVED that the Finance Director is directed to enter the budget into the City's accounting records in accordance with appropriate accounting practices, and the City Manager, with the Finance Director's assistance, shall assure compliance therewith.

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the City Council of the City of Capitola on the 27th day of February 2025, by the following vote:

- AYES:**
- NOES:**
- ABSENT:**
- ABSTAIN:**

Joe Clarke, Mayor

ATTEST:

Julia Gautho, City Clerk



Budget Adjustment Request

Date

02/20/2025

Requesting Department *

Finance

Type of Adjustment

- Administrative
 Council

Item #
Council Date

2/27/25

Council Approval

Revenues

| Account Number | Account Description | Increase/Decrease |
|-------------------------|-----------------------|-------------------|
| 1000-00-00-000-3130.304 | Sales Tax - Measure Y | \$277,000.00 |

Total Revenues

\$277,000.00

Expenditures

| Account Number | Account Description | Increase/Decrease |
|------------------------|---------------------|-------------------|
| 1000-xx-xx-xxx4110.000 | Wages Permanent | \$227,000.00 |

Total Expenditures

\$227,000.00

Net Impact

\$50,000.00

Purpose

Amend FY 2024-25 budget to account for fiscal impacts from passage of Measure Y.

Department Head Approval


Finance Director Approval

Jim Malberg

City Manager Approval

Jamie Goldstein

Action History (all history times shown in Pacific Standard Time)

- Submit by Jim Malberg 2/20/2025 2:08:43 pm (Budget Amendment Request Submitted)

- Approve by Jim Malberg 2/20/2025 2:09:44 pm (Routed to Finance)
 - The task was assigned to Jim Malberg
2/20/2025 2:08:43 pm

- Approve (send to CM for approval) by Jim Malberg 2/20/2025 2:11:09 pm (Routed to Finance Director)
 - The task was assigned to Jim Malberg
2/20/2025 2:09:44 pm

- Approve (return to Finance for processing) by Jamie Goldstein 2/21/2025 12:05:22 pm (Routed to CM for final approval)
 - The task was assigned to Jamie Goldstein
2/20/2025 2:11:09 pm

Fiscal Year 2024-25 Mid-Year Budget Report

February 27, 2025



General Fund Balance Summary

| | |
|--|-------------------|
| Employee Down Payment Assistance Program | \$ 100,000 |
| Operating Contingency | \$ 528,931 |
| Additional FY 2023-24 General Fund resources | \$ 126,000 |
| Total Balance | \$ 754,931 |

Financial Highlights

- Sales Tax performing slightly above projections
 - Approximately \$87,000 above budget
 - Measure Y effective April 1st
- Property Tax
 - Slightly above estimates
- Transient Occupancy Tax (TOT)
 - Slightly below estimates
- All other FY 2024-25 revenues and expenditures tracking close to budget projections

Revenue Review

| Account | Y-T-D Activity | % of Budget | Prior Year Activity | \$ Change | % Change |
|-------------------------|---------------------|-------------|---------------------|-------------------|-------------|
| Taxes | \$ 7,535,113 | 50% | \$ 7,469,844 | \$ 65,269 | 0.9% |
| Licenses & Permits | 237,925 | 33 | 279,199 | (41,274) | (14.8) |
| Intergovernmental | 58,498 | 44 | 35,470 | 23,029 | 64.9 |
| Charges for Services | 1,178,731 | 50 | 977,495 | 201,236 | 20.6 |
| Fines & Forfeitures | 259,325 | 43 | 219,011 | 40,314 | 18.4 |
| Use of Money & Property | 142,941 | 83 | 281,846 | (138,905) | (49.3) |
| Other | 49,204 | 26 | 58,208 | (9,004) | (15.5) |
| Total | \$ 9,461,737 | 49% | \$ 9,321,073 | \$ 140,664 | 1.5% |

Expenditure Review

| Account | Y-T-D Activity | % of Budget | Prior Year | \$ Change | % Change |
|------------------------|----------------------|-------------|----------------------|-------------------|-------------|
| Personnel | \$ 7,949,075 | 62% | \$ 7,045,703 | \$ 903,372 | 12.8% |
| Contract Services | 2,311,819 | 63 | 2,067,579 | 244,240 | 11.8 |
| Training / Memberships | 54,778 | 33 | 106,212 | (51,434) | (48.4) |
| Supplies | 459,554 | 55 | 541,740 | (82,186) | (15.2) |
| Grants & Subsidies | 57,500 | 46 | 62,500 | (5,000) | (8.0) |
| Internal Service Funds | 761,790 | 50 | 808,921 | (47,131) | (5.8) |
| Other financing uses | 143,784 | 50 | 125,000 | 18,784 | 15.0 |
| Total | \$ 11,463,304 | 61% | \$ 10,757,654 | \$ 705,649 | 6.6% |

Proposed General Fund Budget Amendments

| Amount | Description |
|------------------|---|
| | Revenue |
| \$ 277,000 | Sales Tax revenue – Measure Y |
| | |
| | Expenditures |
| \$ 227,000 | Personnel – Labor MOU contingencies – Measure Y |
| | |
| \$ 50,000 | Net impact to General Fund Balance |

Budget Amendment Summary

- Fiscal Impact
 - If approved, increases estimated June 30, 2025, General Fund balance to \$804,931

Strategic Plan/Goals Setting

- Planned Council consideration of Strategic Plan March 13
- Staff intends to utilize Strategic Plan – Implementation Plan to guide preparation of initial draft budget for Council review



STRATEGIC PLAN
— 2025-2029 —



FY 2025-26 Budget Process

- Proposed Budget distribution
 - May 2nd
- Proposed Special City Council meeting budget hearings
 - May 15th
 - May 29th (If necessary)
 - June 5th (If necessary)
 - June 18th (If necessary)
- Proposed Finance Advisory Committee meetings
 - May 13th (special meeting)
 - May 20th (special meeting, if necessary)
 - June 17th
- Proposed Budget Adoption
 - June 26th

Recommended Action

- Receive Fiscal Year 2024-25 Mid-Year Budget Report and Adopt Proposed Resolution Amending the Fiscal Year 2024-25 Budget

Capitola City Council

Agenda Report

Meeting: February 27, 2025
From: Community Development Department
Subject: CDBG Program Income Funds



Recommended Action: 1) Conduct a public hearing and receive public comment regarding Program Income and its eligible uses; 2) adopt a resolution rescinding Resolution No. 4414 and allocating \$170,000 of Program Income for the Community Center Rehabilitation Project; and 3) adopt a resolution amending the FY 2024-25 budget.

Background: The City of Capitola has successfully completed several Community Development Block Grant (CDBG) funded programs and projects over the past several years, some of which generate Program Income. Program Income is defined as the gross income that is directly generated from CDBG funded activity, such as homebuyer loans, housing rehabilitation loans, etc. When these monies are loaned out and then repaid to the City, they take the form of Program Income. Program Income is regulated by the State Department of Housing and Community Development (HCD) and the City's Program Income must be obligated to a project before any grant funds are drawn from a grant or must be paid back to the State. These monies keep the same federal ties so long as they are Program Income.

On January 30, 2025, the City Council adopted a resolution allocating \$160,240.62 of Program Income from a CDBG rehabilitation loan payoff to the Community Center Rehabilitation Project. At the time of submittal to HCD, staff identified additional interest (LAIF) in the CDBG-PI account. This funding must be allocated prior to drawing down funds from the 2023 CDBG grant award for the Community Center Rehabilitation Project.

Discussion: At the end of December 2024, staff received a loan payoff from a prior housing rehabilitation loan in the amount of \$160,240.62. The loan originated from a 2014 CDBG grant, thus the funds that have now been deposited are considered CDBG Program Income. The CDBG PI fund also includes LAIF interest earned of \$4,825 as well as accrued interest of approximately \$5,000 which was not included in the January 30, 2025 resolution. The purpose of the updated resolution is to increase the amount stated in the resolution to include the current balance in the CDBG PI fund and any additional interest that may be deposited in the fund in 2025.

This funding will be added to the project contingency for the Community Center, bringing the total project contingency to approximately 9.7% of the \$4,725,00 construction contract.

Fiscal Impact: The \$170,000 in Program Income is available grant funds that can be reutilized. The City's grant administrator, Adams Ashby Group, will coordinate the grant amendment efforts through their existing 2023 CDBG grant administration contract to allocate the funds toward the Community Center Rehabilitation Project. No general funds or fiscal impact should be incurred by the City.

Attachments:

1. CDBG Resolution
2. Public Hearing Notice
3. Budget Amendment Resolution
4. Budget Amendment

Report Prepared By: Katie Herlihy, Community Development Director

Reviewed By: Julia Gautho, City Clerk; Jim Malberg, Finance Director; Sam Zutler, City Attorney
Approved By: Jamie Goldstein, City Manager



Appendix C: Resolution Template of the Governing Body (Required)

Applicants are required to use the resolution form on the following page with no changes to content other than what is in the fillable fields.

When completing and preparing the Resolution, please refer to section V.F.4 of the 2024 NOFA.

Please note: On the next page, hidden text is used to provide instructions. Once a document is printed or converted to a pdf, the hidden text will be omitted.

To display hidden text:

1. Go to the Files Tab
2. Select Options from the bottom of the left-hand column
3. Click on the “Display” option
4. Check the “Hidden Text” box.
5. Make sure the “Print hidden text” box is not checked. This will ensure that when you convert to PDF or print the document, the instructional, hidden text is not displayed.

Note 1: The attesting officer cannot be the person identified in the Resolution as the authorized signer.

Note 2: Unless there is a city ordinance stating otherwise, the mayor must be the designated official in Section 5.

Resolution of the Governing Body

RESOLUTION NO. Insert Number

A RESOLUTION APPROVING AN APPLICATION FOR FUNDING AND THE EXECUTION OF A GRANT AGREEMENT AND ANY AMENDMENTS THERETO FROM THE 2024 FUNDING YEAR OF THE STATE CDBG PROGRAM

BE IT RESOLVED by the City Council of the **City** of Capitola as follows:

SECTION 1:

The City Council has reviewed and hereby approves the submission to the State of California of one or more application(s) in the aggregate amount, not to exceed, of \$170,000.00 for the following CDBG activities, pursuant to the and 2024 CDBG NOFA:

List activities and amounts

| Activity (e.g. Public Services, Infrastructure, etc.) | Dollar Amount Being Requested for the Activity |
|--|---|
| Community Center Rehabilitation Project (23A-CDBG-20002) | \$ 170,000.00 |
| | \$ |
| | \$ |
| | \$ |
| | \$ |

SECTION 2:

The **City Council** hereby approves the use of Program Income in an amount not to exceed \$170,000.00 for the CDBG activities described in Section 1.

SECTION 3:

The **City Council** acknowledges compliance with all state and federal public participation requirements in the development of its application(s).

SECTION 4:

The **City Council** hereby authorizes and directs the City Manager or designee*, to execute and deliver all applications and act on the **City's** behalf in all matters pertaining to all such applications.

SECTION 5:

If an application is approved, the City Manager or designee*, is authorized to enter into, execute and deliver the grant agreement (*i.e.*, Standard Agreement), any recordable or

nonrecordable contract documents, and any and all subsequent amendments thereto with the State of California for the purposes of the grant.

SECTION 6:

If an application is approved, the City Manager or designee*, is authorized to sign and submit Funds Requests and all required reporting forms and other documentation as may be required by the State of California from time to time in connection with the grant.

PASSED AND ADOPTED at a regular meeting of the City Council of the **City** of Capitola held on 2/27/2025 by the following vote:

AYES: Enter # of votes or names

ABSENT: Enter # absentees or names

NOES: Enter # of votes or names

ABSTAIN: Enter # of abstains or names

Enter Name and Title.

City Council

STATE OF CALIFORNIA

City of Capitola

I, Julia Gautho, **City** Clerk of the **City** of Capitola, State of California, hereby certify the above and foregoing to be a full, true and correct copy of a resolution adopted by said City Council on this 27th day of February, 2025 and that said resolution has not been amended, modified, repealed, or rescinded since its date of adoption and is in full force and effect as of the date hereof.

By: Julia Gautho, City Clerk of the City of Capitola, State of California

**NOTICE OF PUBLIC HEARING
CITY OF CAPITOLA
CDBG PROGRAM INCOME COMMITMENT AND APPLICATION**

NOTICE IS HEREBY GIVEN that the City of Capitola will conduct a public hearing on **Thursday, February 27, 2025**, beginning at the hour of 6 p.m. in the City Council Chambers, 420 Capitola Avenue, Capitola, California, to discuss the commitment of Community Development Block Grant (CDBG) Program Income (PI) funds and to solicit public input regarding how these funds will be allocated.

Under the CDBG Program, there are specific rules and requirements associated with the management and use of Program Income received by grantees. Program Income are monies that have been loaned out in various forms (i.e. housing rehab loan, homebuyer assistance loan) and are paid back to the City via a loan payoff or sale in property. Program Income constitutes federal CDBG funds and must be expended and used in compliance with all CDBG statutes and regulations once they have been returned to the City.

The City is proposing to commit up to \$170,000 in Program Income towards the Community Center Rehabilitation project.

The agenda and staff reports will be available the Friday before the public hearing. You may view this information on the City's website at cityofcapitola.org. Remote access for this meeting is available at <https://www.youtube.com/channel/UCJgSsB5qqoS7CcD8lq9Yw1q> and live on Spectrum Cable Television channel 8. If you require special assistance in order to attend the meeting, including needs addressed by the Americans with Disabilities Act, notify the City at least 3 days prior to the meeting by calling 831-475-7300. If you are unable to attend the public hearing, you may direct written comments to the City of Capitola, Attn: Community Development, 420 Capitola Avenue, Capitola, CA 95010, or email kherlihy@ci.capitola.ca.us.

The City of Capitola promotes fair housing and makes all its programs available to low- and moderate-income families regardless of age, race, color, religion, sex, national origin, sexual orientation, marital status, or handicap.

For further information, please contact the City Clerk at 831-475-7300 during normal business hours, write to the City of Capitola, 420 Capitola Avenue, CA 95010, or via email at jgautho@ci.capitola.ca.us.

RESOLUTION NO. _____

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CAPITOLA
AMENDING THE 2024-25 FISCAL YEAR CITY BUDGET AND CAPITAL IMPROVEMENT
PROGRAM BUDGET**

WHEREAS, it is necessary to adopt the 2024-25 Fiscal Year Budget for all City funds and Capital Improvement Program; and

WHEREAS, the City Council conducted budget study sessions, heard and considered public comments, had modified and proposed a budget accordingly, and on June 27, 2024, adopted such budget for the Fiscal Year July 1, 2024, through June 30, 2025; and

WHAREAS, the City Council previously amended the FY 2024-25 Fiscal Year Budget on September 24, 2024; and

WHEREAS, the City Council adopted Resolution No. 4415 amending the FY2024-25 budget allocating \$160,240 of Community Development Block Grant Program Income (CDBG-PI) to the Jade Street Community Center Rehabilitation project; and

WHEREAS, since the adoption of Resolution No. 4415 the City has received LAIF interest payments in the amount of \$ \$4,825.00 as well accrued interest of approximately \$5,000; and

WHEREAS, it is necessary to amend the Fiscal Year 2024-25 Adopted Budget to allocate \$9,825.00 CDBG PI funds to the Jade Street Community Center Rehabilitation project; and

NOW, THEREFORE, BE IT HEREBY RESOLVED by the City Council of the City of Capitola that the 2024-25 Fiscal Year Budget is hereby amended, including Exhibit A (Budget Amendment) to this Resolution; and

BE IT FURTHER RESOLVED that the Finance Director is directed to enter the budget into the City's accounting records in accordance with appropriate accounting practices, and the City Manager, with the Finance Director's assistance, shall assure compliance therewith.

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the City Council of the City of Capitola on the 27 February 2025, by the following vote:

- AYES:**
- NOES:**
- ABSENT:**
- ABSTAIN:**

Joe Clark, Mayor

ATTEST:

Julia Gautho, City Clerk



Budget Adjustment Request

Date

02/20/2025

Requesting Department *

Community Development

Type of Adjustment

- Administrative
- Council

Item #

Council Date

2/27/25

Council Approval

Revenues

| Account Number | Account Description | Increase/Decrease |
|-------------------------|---------------------------------|-------------------|
| 1350-00-00-000-3910.351 | Interfund Transfer In - CDBG PI | \$9,825.00 |

Total Revenues

\$9,825.00

Expenditures

| Account Number | Account Description | Increase/Decrease |
|-------------------------|-------------------------------|-------------------|
| 1351-00-00-000-4910.351 | Interfund Transfer Out - CDBG | \$9,825.00 |

Total Expenditures

\$9,825.00

Net Impact

\$0.00

Purpose

Transfer CDBG-PI interest earning to CDBG fund for Community Center project

Department Head Approval

Hertlby

Finance Director Approval

Jim Malberg

City Manager Approval

Jamie Goldstein

Action History (all history times shown in Pacific Standard Time)

- Submit by Jim Malberg 2/20/2025 2:35:00 pm (Budget Amendment Request Submitted)

- Approve by kherlihy@ci.capitola.ca.us 2/20/2025 3:27:38 pm (Routed to CDD)
 - The task was assigned to kherlihy@ci.capitola.ca.us 2/20/2025 2:35:00 pm

- Approve (send to CM for approval) by Jim Malberg 2/20/2025 3:29:46 pm (Routed to Finance Director)
 - The task was assigned to Jim Malberg 2/20/2025 3:27:38 pm

- Approve (return to Finance for processing) by Jamie Goldstein 2/21/2025 12:05:07 pm (Routed to CM for final approval)
 - The task was assigned to Jamie Goldstein 2/20/2025 3:29:46 pm

Received - Item 4 Oral communications

**STOP Lithium Battery
Energy Storage Installations**

PLANNED** for Our Neighborhoods!
Near Homes, Schools, Churches, Businesses!
****Near Dominican Hospital, Aptos High School, & in
90 Minto Road Watsonville!**

DANGERS Include:
Thermal Instability / Thermal Runaway
Explosions / Catastrophic Fires
(Like the Jan. 16, 2025 Moss Landing Disastrous Fire)
Fires Cannot be Extinguished Conventionally

Lithium Battery Fires Release **TOXIC Smoke, Ash,
Dangerous Chemicals**, including
Hydrogen Fluoride, Hydrogen Cyanide, Carbon Monoxide,
other Fluorinated Gases,
& **Toxic Heavy Metals** (cobalt, nickel, etc.)
that pose

SEVERE HEALTH RISKS, including:
Acute Coughing, Difficulty Breathing,
Irritation of Eyes & Skin
Long Term Lung Damage, Carcinogenic Effects

CONTAMINANTS Can **LINGER** in
the Environment,
Posing **Ongoing Health Risks!**

WHAT CAN YOU DO??

SIGN the **Change.org** petition:
Title = "Halt the Establishment of Battery Storage Facilities in
Monterey & Santa Cruz County"

CONTACT Co. Supervisors / Santa Cruz 831-454-2200 /
Monterey 831-755-5066
CA State Senator John Laird / Santa Cruz
831-425-0401 / Monterey 831-657-6315
CA State Assembly Members: District 28 / Pellerin
831-425-1503, District 29 / Rivas 831-759-8676, District 30 /
Addis 831-649-2832
CA Gov. Gavin Newsome 916-445-2841
CA Coastal Commission 415-904-5202
justin.cummings@santacruzcountyca.gov

INFORM your neighbors, friends, contacts

Websites:

Elkhorn Strong <https://elkhornstrong.com/>
Never Again Moss Landing
<https://www.neveragainmosslanding.org/>

Facebook Groups (go to facebook.com):
**Moss Landing Battery Plant Environmental
Disaster Community Group**
**Moss Landing Power Plant / Vistra Fire
Symptoms**
**Santa Cruz County Organized to Protect Our
Community**