TOWN OF MORAGA
TOWN COUNCIL

WEDNESDAY, FEBRUARY 25, 2026

Kerry Hillis, Mayor
Brian Dolan, Vice Mayor
Lisa Maglio, Councilmember
Graham Thiel, Councilmember
Steve Woehleke, Councilmember

Executive Team

Scott Mitnick, Town Manager	Denise Bazzano, Assistant Town Attorney
Katie Bruner, Admin. Services Director	Jon King, Police Chief
Sonia Urzua, Planning Director	Nate Levine, Interim Public Works Director
Vacant, Town Clerk	Mackenzie Brady, Parks & Recreation Director

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Town of Moraga Mission Statement

The Town of Moraga is dedicated to preserving our semi-rural character, conserving open spaces, providing exceptional municipal services, fostering safety and resiliency, providing opportunities for development, and creating a vibrant, innovative, and sustainable community for all.

AGENDA ACCESS: The meeting agenda is posted on the following notice board locations: 329 Rheem Blvd.; Moraga Library located at 1500 St. Marys Rd.; The Hacienda located at 2100 Donald Drive; and Online at: https://www.moraga.ca.us/AgendaCenter

VIEWING OPTIONS: The Moraga Town Council meeting is scheduled to take place on the 2nd and 4th Wednesday of each month. The meeting may be attended in person at 335 Rheem Blvd, Moraga, on Community Access Television (CATV) Comcast Channel 26; or by viewing the Town's YouTube Live channel at: https://www.youtube.com/@TownofMoraga335

PUBLIC INPUT: To provide input to the Town Council please submit comments via the following email address: publiccomment@moraga.ca.us up to two hours prior to the start of the meeting. Written comment cards will also be available for submission at the meeting. Individuals addressing the Town Council are requested to state their name and community of residence for the record. If further assistance is needed, please email the Town Clerk at townclerk@moraga.ca.us or call (925) 888-7021.

It is the policy of the Town of Moraga that Councilmembers, Town employees and meeting participants are to be treated with respect and dignity. Actual or perceived discrimination and/or harassment of a Councilmember, Town employee or others on the basis of age, ancestry, color, disability, gender identity, marital status, medical condition, national origin, race, religious creed, sex or sexual orientation will not be tolerated.

CEQA STATEMENT: Unless stated otherwise on the agenda, every item on the agenda is exempt from CEQA Guidelines Sections 15060(C), 15061(B)(3), 15273, 15378, 15301, 15323 and/or Public Resources Code Section 21065.

NOTICE: If you challenge a Town's zoning, planning, or other decision in court, you may be limited to raising only those issues raised at the public hearing described in this notice, or in written correspondence delivered to the Town Council at, or prior to, the public hearing. Judging review of any Town administrative decision may be had only if petition is filed with the court not later than the 90th day following the date upon which the decision becomes final. Judicial review of environment determination may be subject to a shorter time period for litigation, in certain cases 30 days following the date of final decision. The Town of Moraga will provide special assistance for disabled citizens upon at least 72 hours advance notice to the Town Manager's office (925- 888-7021). If sign assistance is needed or written material printed in a larger font or taped, advance notice is necessary. All meeting rooms are accessible to the disabled.

TOWN OF MORAGA
TOWN COUNCIL

REGULAR MEETING
WEDNESDAY, FEBRUARY 25, 2026
5:30 PM

TOWN COUNCIL CHAMBER
335 RHEEM BOULEVARD
MORAGA, CA

1. CALL TO ORDER

ROLL CALL

2. PLEDGE OF ALLEGIANCE

3. PRESENTATIONS

3.A Proclamation - Spring Festival/Lunar New Year Celebration - February 2026

3.B EBMUD Projects in Moraga - Presentation by Joe Voelker

4. PUBLIC COMMUNICATION

Time reserved for those in the audience who wish to address the Town Council on items which are not on the agenda. The Council cannot discuss details or vote on items not on the agenda. Your concerns may be referred to the Town Manager for a brief comment or for further review. Note: Public input pertaining to a specific item on the agenda may be made during consideration of that item.

4A. Addendum to Published Agenda: Public Communications received prior to 3:30 pm on February 25, 2026

5. ADOPTION OF MEETING AGENDA

6. CONSENT CALENDAR

A. Consideration of Consent Items Removed for Discussion

B. Acceptance of Consent Items

6.1 Approval of Minutes for the February 11, 2026 Regular Meeting of the Moraga Town Council

6.2 Waive the second reading and adopt an ordinance amending Chapter 2.12, “Planning Commission” and Chapter 2.16, “Parks and Recreation Commission” to Revise Terms of Office and Reappointment Processes to be Consistent with the Town’s Interview and Appointment Policy.

6.3 Authorize the Mayor to sign a letter of support for California State Senate Bill 959, which seeks to ensure that public school districts will receive “Average Daily Attendance” funding when a local fire agency makes the decision to close a school during a fire incident, imminent safety hazard or extreme fire danger.

7. ANNOUNCEMENTS AND REPORTS ON ACTIVITIES

A. Councilmember Reports on AB1234 Activities, Councilmember Announcements

B. Town Manager

8. PUBLIC HEARING

9. DEPARTMENT REPORTS

9A Appoint Members to the following Committee and Commission positions:

- Art in Public Spaces Committee (two positions with three-year terms)
- Parks & Recreation Commission (three positions with two-year terms)
- Planning Commission (three positions with two-year terms)

9B Receive an update on the revised Livable Moraga Road Project concept and authorize staff to commence community outreach to obtain additional public input.

9C Adopt a resolution authorizing and approving a First Amendment to Agreement for Town Attorney Services between the Town of Moraga and Burke, Williams & Sorensen, LLP; and authorizing the Town Mayor to execute the First Amendment.

10. COUNCILMEMBER REQUESTS FOR FUTURE AGENDA ITEMS

11. INFORMATIONAL ITEMS

12. TOWN MANAGER FOLLOW-UP AND ANNOUNCEMENTS

13. ADJOURNMENT

A PROCLAMATION RECOGNIZING

Spring Festival/Lunar New Year Celebration February 2026

WHEREAS, archaeological evidence from oracle bones inscribed with astronomical records indicates that the Chinese calendar existed as early as the 14th century B.C.E. during the Shang Dynasty and was historically reset in accordance with the reign of each emperor; and

WHEREAS, the traditional Lunar New Year, commonly known as the Spring Festival in China, Tết in Vietnam, Seollal in Korea, and Losar in Tibet, is determined by a lunisolar calendar that follows both the moon's orbit around the Earth and the Earth's 365-day orbit around the sun, occurring on the second new moon after the winter solstice and maintained through the addition of a thirteenth month approximately once every three years; and

WHEREAS, Lunar New Year celebrations traditionally begin on Lunar New Year's Eve and conclude on the 16th day of the first lunar month, known as the Lantern Festival, with the public holiday in 2026 beginning on Chinese New Year's Eve, February 17; and

WHEREAS, while Lunar New Year is celebrated uniquely across many Asian countries and cultures, it is universally a time centered on family reunions, gatherings, reflection, renewal, and the strengthening of communal and familial bonds; and

WHEREAS, the Chinese calendar includes the Chinese zodiac, or Sheng Xiao (生肖), a repeating twelve-year cycle of animal signs, each associated with distinctive characteristics and attributes; and

WHEREAS, the Spring Festival marks the transition from one zodiac animal to the next, with February 16, 2026 concluding the Year of the Snake and February 17, 2026 ushering in the Year of the Horse; and

WHEREAS, in Chinese culture, the horse symbolizes energy, vitality, charm, and a spirit of adventure.

NOW, THEREFORE, we the Town Council of the Town of Moraga hereby proclaims February 17, 2026 as the beginning of the Spring Festival/Lunar New Year and encourages all residents to join in the 16-day celebration of the Year of the Horse in the Town of Moraga.

_____

Kerry Hillis, Mayor
Town of Moraga

TOWN OF MORAGA

TOWN COUNCIL MEETING

February 25, 2026

Addendum(s) to Published Agenda

4: Public Communication

Update Includes:

- Public Communications received as of 3:30 before the Meeting.

Outlook

Request for Certificate of Recognition – The Social Connection

From The Social Connection <info@thesocialconnections.org>
Date Fri 2/20/2026 12:08 PM
To Town Clerk <townclerk@moraga.ca.us>

Dear Town Clerk and Members of the Moraga Town Council,

I hope you are well.

I am writing to respectfully request that the Town of Moraga consider issuing a Certificate of Recognition for *The Social Connection*, a community-integrated program serving neurodivergent adults in the Lamorinda area.

The Social Connection provides structured programming focused on life-skills development, employment readiness, leadership growth, and meaningful community engagement. Our members participate in local volunteer opportunities, events, and business partnerships throughout the region, contributing positively to the civic and social life of Moraga and surrounding communities.

In recognition of Autism Awareness & Acceptance Month, our members have shared how meaningful it would be to receive formal acknowledgment from the Town. Many take great pride in being active, contributing members of their community, and having a certificate they could proudly display in their classroom space would be deeply affirming.

We respectfully request consideration for placement on an upcoming Town Council meeting agenda for presentation of a Certificate of Recognition. Below is a draft recognition statement for your review. We are happy to modify the language to align with the Town's format or preferences.

Draft Certificate of Recognition

Town of Moraga
Certificate of Recognition

Presented to
The Social Connection

In recognition of your dedication to supporting neurodivergent adults through inclusive programming, life-skills development, employment readiness, and meaningful community engagement within the Moraga community.

Your commitment to fostering independence, leadership, and active participation strengthens the inclusive fabric of Moraga and reflects the Town's values of belonging, opportunity, and civic engagement.

The Town of Moraga proudly commends *The Social Connection* for its positive impact and continued service.

Please let us know if there are specific timelines, procedures, or additional information you require. Thank you for your time and consideration.

Warm regards,
Sabira Williams | *Program Director*
📍 919 Village Center, Lafayette, CA 94549
📞 (925) 628-6579
🌐 www.thesocialconnections.org

Plan Your Visit | Schedule a Social Connection Tour

Outlook

Concerns about Mayor Hillis on Social Media

From Cathy Oden <cathy.reaves@gmail.com>
Date Mon 2/23/2026 9:13 PM
To Scott Mitnick <smitnick@moraga.ca.us>
Cc Town Clerk <townclerk@moraga.ca.us>

6 attachments (10 MB)
ND3.pdf; ND2.pdf; Facebook3.pdf; Facebook1.pdf; ND1.pdf; Screen Shot 2026-02-23 at 16.13.07 PM.png;

Hi Mr. Mitnick,

I am unable to attend the Town Council meeting as I am out of town. I respectfully request that you read my letter into the record during open comments.

I am writing to call your attention to Mayor Hillis' recent social media comments on Nextdoor and Facebook, where his profile prominently identifies him as “Moraga Mayor”. His comments—some as the original author of a thread and others as replies - are extremely inappropriate.

Just one example of his abuse is the "Why can't we have nice things" post on Nextdoor, he single-handedly insults every existing and valued business we already have in town by simply asking that question. Additionally, when residents express differing opinions or disagree with his characterizations of business owners, landowners or other residents, he dismisses them as hysterical or triggered, belittles them with “you do you,” and then escalates further with unequivocally defamatory comments. His words are far beyond polite debate, especially for the individual charged to lead our community. His tone and demeanor are hostile, belittling, and arrogant.

I do not expect you to take my word on this. I attach the Facebook and Nextdoor posts and comments for your review.

Here is an example of one of Mayor Hillis’ insulting comments to me as an example:

"I'm sure someone in your life loves you. Try giving them a hug. I find it's a helpful remedy when, as you are now, spite interferes with logic. Hope that helps."

That is demeaning, disrespectful, and completely inappropriate for a mayor to use when speaking with a resident.

In a subsequent post and comment on ND, Mayor Hillis said:

"if you're being honest, she was pursuing me between two platforms after being told on Nextdoor by me that I would stop responding to her and came to Facebook to come to the defense of someone who was alleging I was part of some kind of socialist conspiracy. "

Hillis is referring to me and making **wild, false accusations** on public social media forums. Characterizing my participation on Nextdoor and Facebook (where I am a regular participant) as "pursuing" him is a complete fabrication. Continuing his abusive and defamatory language in another comment he calls me "clearly heated," emotionally "deregulated," and abusive. **This is defamation of character and it needs to stop immediately.**

And, residents are noticing. It is not just me finding offense to his language. On a separate ND post, another resident also was offended. Here is one example:

"his post about why can't Moraga have nice things was perhaps one of the most elite and tone deaf things I have read in a long time. top 1% school district in the state, safe and plentiful open spaces, national brand stores and locally owned and well supported businesses. Just wow on suggesting there are not nice things in Moraga."

I also note that the Mayor edited at least one of his posts to be even more insulting which demonstrates his disrespect for residents and property owners isn't merely misspeak - it's intentional, and unprovoked. (see attached JPEG).

So in the six weeks since his first council meeting as Mayor, he has insulted:

1. The most decorated public servant in Moraga's history (Al Dessayer)
2. The largest private landowner in town (who the town wants to encourage to do more)
3. Several business owners and residents of the town

This behavior does not reflect the decorum and dignity expected of a town official.

I respectfully request a public apology on every platform and individual post where he has defamed me, as well as at a public Town Council meeting. The people of Moraga should not

be subject to this abuse.

Sincerely,

Catherine Oden

Outlook

TC 2/25/26 public comment, not on agenda

From Ashley Coates <ashleyaoc@comcast.net>
Date Wed 2/25/2026 1:03 PM
To Public Comment <publiccomment@moraga.ca.us>

I have heard that several people may be making comments opposing new housing and commercial development. I am providing a counterpoint.

My husband and I bought our house in Moraga in 1992. We raised our kids here and are not ready to downsize. There are many houses in town designed for 4-5 person families that are being occupied by only one or two adults whose kids have grown up and moved on.

We need new housing at all price points to bring in young families and keep our school district enrollment up. Also new homes of various sizes will help Moraga attract and retain employees in our Town, School District, fire district, high school district and St Mary's College. Additionally, it will provide alternatives for empty nesters ready to downsize.

Turning to commercial development:

I would not support using undeveloped land to build any new commercial buildings, but I'd like to see upgrading within the footprints of our two shopping centers.

Ashley Coates
3902 Paseo Grande, Moraga
925-247-4034

Outlook

Support for Thoughtful Economic Development in Moraga

From Allie Day <alliepday@gmail.com>

Date Mon 2/23/2026 9:39 PM

To Brian Dolan <bdolan@moraga.ca.us>; Graham Thiel <gthiel@moraga.ca.us>; Kerry Hillis <khillis@moraga.ca.us>; Lisa Maglio <lmaglio@moraga.ca.us>; Scott Mitnick <smitnick@moraga.ca.us>; Steve Woehleke <swoehleke@moraga.ca.us>; Town Clerk <townclerk@moraga.ca.us>

Dear Mayor and Members of the Town Council,

I am very encouraged to see the town prioritize economic development. As a family raising three young children in Moraga (ages 9, 6, and 4), we chose this community for its natural beauty, safety, and small-town feel. At the same time, we see tremendous potential for Moraga to continue evolving into an even more all-encompassing community—one that we can be proud of not only for its character, but also for its social, cultural, dining, retail, and housing offerings.

Moraga and greater Lamorinda would greatly benefit from expanded offerings that serve residents across generations and income levels. Expanding thoughtfully in these areas would strengthen daily life for families like ours while also helping ensure long-term economic vitality and inclusivity.

I appreciate your clear focus on affordability, quality of life, and overall community vibrancy. Thoughtful, well-planned development can strengthen our local economy while preserving what makes this town special. Thank you for your leadership in moving this important work forward.

Sincerely,

Allie Day

Moraga Resident

Outlook

Development in Moraga - Yes, please!

From Arianna Fleischman <ariannafleischman@gmail.com>
Date Tue 2/24/2026 5:22 PM
To Steve Woehleke <swoehleke@moraga.ca.us>; Lisa Maglio <lmaglio@moraga.ca.us>; Brian Dolan <bdolan@moraga.ca.us>; Kerry Hillis <khillis@moraga.ca.us>; Graham Thiel <gthiel@moraga.ca.us>; Town Clerk <townclerk@moraga.ca.us>; Scott Mitnick <smitnick@moraga.ca.us>

Dear Members of the Town Council,

As a resident of Moraga since 2017 and with three young children, I am very pleased to see the town finally prioritizing economic development.

My family moved here for the open spaces, good schools, and sense of community. The one thing Moraga has been missing is thoughtful dining, retail, and additional housing options that serve multiple generations and income levels.

So many times, we have out-of-town family and friends visit and question our home values, given our lack of a downtown and the rundown commercial spaces with too many vacancies. It's embarrassing as a homeowner and resident.

Additionally, I am hopeful that special attention will be paid to cleaning up Moraga so that it places our town in a more favorable light.

I would appreciate the continued focus on developing our special town so that the amenities meet the needs of its residents.

Sincerely,

Arianna Hillis

Outlook

Moraga should prioritize development, affordability, and inclusion

From Adam Lumia <noreply@adv.actionnetwork.org>
Date Wed 2/25/2026 9:05 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

At the same time, I want to emphasize that there is more work to be done. The cost of living in Moraga remains a significant barrier for many families. This is a genuine shame, because Moraga is home to some of the finest public schools in the entire Bay Area, as well as natural beauty and a strong sense of community. These are assets that should be available to a wider range of families — not just those at the top of the income spectrum.

I also urge the Council to invest in expanded bike lanes and car-free transportation options. Making it easier and safer to get around without a car reduces costs for residents, improves public health, and makes Moraga a more welcoming place for people of all ages and incomes.

Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Adam Lumia
Alumia@gmail.com
11368 Dillon Way
Dublin, California 94568

Outlook

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yes fly the pride flag in June

From Abby Reyes <abigailsreyes@gmail.com>
Date Wed 2/25/2026 2:12 PM
To Town Clerk <townclerk@moraga.ca.us>

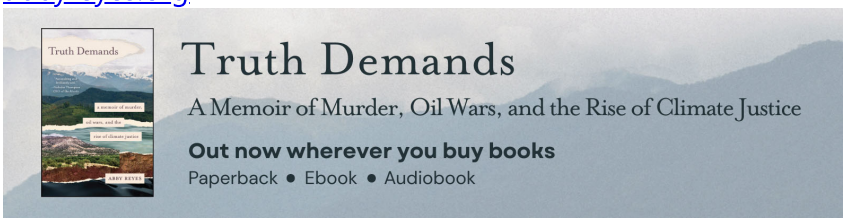
Dear Moraga Town Clerk Team:

Thank you for everything you do. This is an email in support of your leadership to fly the pride flag in June. It is important to our family and the teenagers in my life. When they drive through Lamorinda to get to Campolindo high school and see the families out there expressing support for LGBTQ youth, it helps them feel a sense of belonging here, even as straight teens.

Thank you.

Abby Reyes
mom of a Campolindo and Bentley teen

Abby Reyes
abbyreyes.org



Outlook

Vacancy Issue in Moraga

From Brian Parsons <brian.j.h.parsons@gmail.com>
Date Tue 2/24/2026 9:27 AM
To Public Comment <publiccomment@moraga.ca.us>

Hello City of Moraga,

My name is Brian Parsons and I am neighbor in nearby Lafayette. I want to express my support for the vacancy issues and economic development work the mayor has been pushing for.

My family does come to Moraga for a variety of reasons (mostly kids sports or St. Mary's events), but spending money there is rarely a driver. I specifically want to call out the Moraga Plaza on Moraga Rd. and Moraga Way as we never explore what shops or restaurants are there because we assume it is abandoned by the blight and falling signage.

I don't believe there is a need for more physical development, but just better use of the current properties. We have heard stories of entrepreneurs trying to set up new businesses in the vast number of empty storefronts and lots, only to be blocked.

While I understand that this is a private property issue, it is hurting your town of Moraga as many Lafayette residents never think of visiting due to the perception that it is a dying town. I would love to see the city allow for entreprenuers to set up pop-up stores, events, or activited to create more reasons to come to Moraga.

Thank you,
Brian Parsons

Outlook

Moraga should prioritize development, affordability, and inclusion

From Brian Parsons <noreply@adv.actionnetwork.org>
Date Wed 2/25/2026 3:26 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

At the same time, I want to emphasize that there is more work to be done. The cost of living in Moraga remains a significant barrier for many families. This is a genuine shame, because Moraga is home to some of the finest public schools in the entire Bay Area, as well as natural beauty and a strong sense of community. These are assets that should be available to a wider range of families — not just those at the top of the income spectrum.

I also urge the Council to invest in expanded bike lanes and car-free transportation options. Making it easier and safer to get around without a car reduces costs for residents, improves public health, and makes Moraga a more welcoming place for people of all ages and incomes.

Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Brian Parsons
brian.j.h.parsons@gmail.com
878 Santa Maria Way
Lafayette, California 94549

Outlook

Moraga Economic Developent

From Brian Wentzel <bewentzel@gmail.com>
Date Wed 2/25/2026 11:57 AM
To Steve Woehleke <swoehleke@moraga.ca.us>; Lisa Maglio <lmaglio@moraga.ca.us>; Brian Dolan <bdolan@moraga.ca.us>; Kerry Hillis <khillis@moraga.ca.us>; Graham Thiel <gthiel@moraga.ca.us>; Town Clerk <townclerk@moraga.ca.us>; Scott Mitnick <smitnick@moraga.ca.us>

Dear Mayor Hillis and members of the Moraga Town Council,

I was so pleased to see the town choose to focus on economic development. All of Lamorinda needs more options for dining, shopping, and housing. I'm glad to see you are laser focused on affordability, quality, of life and community vibrancy.

Had these been prioritized in the past, my family might have located in Moraga, as its undeniable charm is certainly attractive.

Furthermore, any future economic development will likely bring my discretionary dollars to Moraga as I often think about trying to spend more locally in our Lamorinda community.

Sincerely,
Brian **Wentzel**
Lafayette resident

Outlook

Moraga should prioritize development, affordability, and inclusion

From Chris Batson <cbatson@riazinc.com>
via email.actionnetwork.org

Date Tue 2/24/2026 10:14 AM

To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

At the same time, I want to emphasize that there is more work to be done. The cost of living in Moraga remains a significant barrier for many families. This is a genuine shame, because Moraga is home to some of the finest public schools in the entire Bay Area, as well as natural beauty and a strong sense of community. These are assets that should be available to a wider range of families — not just those at the top of the income spectrum.

I also urge the Council to invest in expanded bike lanes and car-free transportation options. Making it easier and safer to get around without a car reduces costs for residents, improves public health, and makes Moraga a more welcoming place for people of all ages and incomes.

Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Chris Batson

Chris Batson
cbatson@riazinc.com
222 Broadway APT 905The Ellington
Oakland, California 94607

Outlook

Support for Moraga's Economic Development Efforts

From CeciGordon Wong <cecigordon2018@gmail.com>
Date Mon 2/23/2026 1:51 PM
To Steve Woehleke <swoehleke@moraga.ca.us>; Lisa Maglio <lmaglio@moraga.ca.us>; Brian Dolan <bdolan@moraga.ca.us>; Kerry Hillis <khillis@moraga.ca.us>; Graham Thiel <gthiel@moraga.ca.us>; Town Clerk <townclerk@moraga.ca.us>; Scott Mitnick <smitnick@moraga.ca.us>

Dear Mayor Hillis and Members of the Town Council,

I wanted to share my support for the Town's efforts to move forward with thoughtful economic development in Moraga.

My husband grew up here, and together we are raising our four children in this community, alongside more than 20 extended family members who also call Moraga home. Through our involvement in our local schools, church, and community activities, I feel deeply connected to a broad and diverse group of families and residents. Our plan is to stay in Moraga for the rest of our lives, and hopefully for our children to raise their families here as well.
Because of this, I truly care about the long-term health, vibrancy, and livability of our town. I believe that thoughtful, well-planned development can create more welcoming spaces for families, strengthen our sense of community, and enhance quality of life for residents of all ages.
Thank you for your leadership and for the care you are putting into shaping Moraga's future.

Sincerely,
Cecilia and Gordon Wong
7 Kendall Circle
Moraga CA 94556

Sent from my iPhone

Outlook

Please fly the Pride flag in June

From Corie Knights <corie@wildafrica.org>
Date Tue 2/24/2026 2:53 PM
To Town Clerk <townclerk@moraga.ca.us>

To whom it may concern,

I am a long time Lafayette resident with an LGBTQ child. Seeing a visual representation that “everyone belongs here” in Lamorinda means a lot to our family. It would be greatly appreciated.

The raising of the flag makes queer kids feel more accepted, have a sense of belonging and feel less alienated.

Please fly the flag during pride month to show that you care about the entire community!

Thank you,

Corie Knights
WildAfrica-Co Founder
www.wildafrica.org

Outlook

Pride flag

From Christine Lavery <clavery1@hotmail.com>
Date Tue 2/24/2026 5:51 AM
To Town Clerk <townclerk@moraga.ca.us>

I am writing in support of raising the pride flag in June during pride month. I am a resident of Orinda, but my child (who is LGBTQ+) attends Campo. I also have 2 other children, and we spend a lot of time in Moraga. My youngest has done swimming lessons at SODA aquatic center in June and I know that Campo flies the pride flag in June - I've specifically noticed and photographed it because it made me feel proud to be a part of this community. This is so important to so many people, especially young people who have a difficult experience fitting in. We should welcome everyone, and it is odd that both Orinda and Lafayette celebrate pride month in June and Moraga does not. It makes me feel uncomfortable for my LGBTQ+ child, like they are not welcome in Moraga, where they attend school! Please recognize pride month and the humanity of the LGBTQ+ community members in Moraga.

Thank you,
Christine Lavery

Outlook

Moraga should prioritize development, affordability, and inclusion

From Caephren McKenna <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 12:26 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

At the same time, I want to emphasize that there is more work to be done. The cost of living in Moraga remains a significant barrier for many families. This is a genuine shame, because Moraga is home to some of the finest public schools in the entire Bay Area, as well as natural beauty and a strong sense of community. These are assets that should be available to a wider range of families — not just those at the top of the income spectrum.

I also urge the Council to invest in expanded bike lanes and car-free transportation options. Making it easier and safer to get around without a car reduces costs for residents, improves public health, and makes Moraga a more welcoming place for people of all ages and incomes.

Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Caephren McKenna
caephren@gmail.com
392 44th St
Oakland, California 94609-2225

Outlook

Moraga should prioritize development, affordability, and inclusion

From Erin Beal <noreply@adv.actionnetwork.org>
Date Wed 2/25/2026 2:16 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Erin Beal
erinbeal77@gmail.com
54 San Pablo ct
Moraga, California 94556

Outlook

Moraga should prioritize development, affordability, and inclusion

From Ellen Beans <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 9:33 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Ellen Beans]

Ellen Beans
ellen.beans@gmail.com
20 Carr Drive
Moraga, California 94556

Outlook

Moraga should prioritize development, affordability, and inclusion

From Eudora Fleischman <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 6:55 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Eudora Fleischman

Eudora Fleischman
artemishunt69@gmail.com
724 Castelli Ct,
Fairfield, California 94534

Outlook

Moraga should prioritize development, affordability, and inclusion

From elaine magree <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 6:30 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

elaine magree
elaine.magree@gmail.com
1927 FAIRVIEWST
Berkeley, California 94703

Outlook

Moraga should prioritize development, affordability, and inclusion

From Gail Weininger <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 12:30 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

At the same time, I want to emphasize that there is more work to be done. The cost of living in Moraga, as well as the rest of the East Bay, remains a significant barrier for many families. This is a genuine shame, because Moraga is home to some of the finest public schools in the entire Bay Area, as well as natural beauty and a strong sense of community. These are assets that should be available to a wider range of families — not just those at the top of the income spectrum.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Gail Weininger
gailweininger@gmail.com
33 LINDA AVE APT 1601
OAKLAND, California 94611

Outlook

In Support to Fly the Pride Flag

From Ikumi Merola <ikumi.merola@gmail.com>
Date Tue 2/24/2026 9:38 AM
To Town Clerk <townclerk@moraga.ca.us>

Hello,

I am a Lamorinda resident here with my husband and two young daughters.

We are writing to support flying the pride flag anywhere and anytime anyone would like. It is a representation of freedom, self expression and inclusion. How could anyone say no to that? Please, do not go against flying this flag in our community.

Thank you

Outlook

Moraga should prioritize development, affordability, and inclusion

From Isaac Serratos <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 3:14 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Isaac Serratos

Isaac Serratos
isaacserratos2@gmail.com
37 8th Ave, Unit 204
Oakland, California 94606

Outlook

Moraga should prioritize development, affordability, and inclusion

From James Mahady <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 10:18 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Jimmy Mahady

James Mahady
jamahady@gmail.com
1621 Curtis St
Berkeley, California 94702

Outlook

Moraga should prioritize development, affordability, and inclusion

From Justin Truong <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 8:58 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Justin Truong
justintruong56@gmail.com
33 Junior Terrace
San Francisco , California 94112

Outlook

Moraga should prioritize development, affordability, and inclusion

From Kathy Kolenko <kathy@kolenkoassociates.com>
via email.actionnetwork.org

Date Tue 2/24/2026 7:25 AM

To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Kathy Kolenko

Kathy Kolenko
kathy@kolenkoassociates.com
5145 Blue Court
Fairfield , California 94534

Outlook

Support for Moraga Pride Flag

From Kelsey Neidig <kelsey.neidig@gmail.com>
Date Mon 2/23/2026 7:52 PM
To Town Clerk <townclerk@moraga.ca.us>

Hi Moraga council -

I've learned that the possibility of raising the pride flag in support of the LBGTQIA may be on the agenda in a meeting in March. I am writing to share strong support in favor of this effort. Moraga is a town my family feels proud to call home and has placed roots we plan to build for many years to come, and our family includes members of this very frequently "othered" community. Moraga is bigger than who you love and Moraga is a town of people whom I believe overwhelmingly support and respect all. I would be heartened to hear that our town leadership would embrace the LGBTQIA community with this public sign of support and inclusion.

I appreciate your strong consideration for this matter.

Thank you!
Kelsey Neidig
192 Calle La Mesa

Outlook

PRO DEVELOPMENT

From Katie Sproul <katiedsproul@gmail.com>
Date Wed 2/25/2026 8:55 AM
To Steve Woehleke <swoehleke@moraga.ca.us>; Lisa Maglio <lmaglio@moraga.ca.us>; Brian Dolan <bdolan@moraga.ca.us>; Kerry Hillis <khillis@moraga.ca.us>; Graham Thiel <gthiel@moraga.ca.us>; Town Clerk <townclerk@moraga.ca.us>; Scott Mitnick <smitnick@moraga.ca.us>

Dear Mayor and Members of the Town Council,

My husband and I are very encouraged to see the town prioritizing economic development. Moraga and our broader Lamorinda area would benefit from additional dining, retail, and housing options that serve residents across generations and income levels. I am excited to hear about the prospects of more growth coming to our town. Families dine, celebrate birthday parties, shop, etc. outside of our town because of the limited options we have here. Let's please keep those funds in Moraga by giving folks places to do those things HERE.

I appreciate that you plan to focus on affordability, quality of life, and overall community vibrancy. Thoughtful, well-planned development can strengthen our local economy while preserving what makes this town special. Thank you for your leadership in moving this important work forward.

In talking to fellow Moraga community members, the support for these changes will be great. Looking forward to hearing more as things progress.

_____

Katie Sproul

katiedsproul@gmail.com

"Be yourself. Everyone else is already taken."

Outlook

Moraga should prioritize development, affordability, and inclusion

From Kirk Wandy <noreply@adv.actionnetwork.org>
Date Wed 2/25/2026 1:33 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

At the same time, I want to emphasize that there is more work to be done. The cost of living in Moraga remains a significant barrier for many families. This is a genuine shame, because Moraga is home to some of the finest public schools in the entire Bay Area, as well as natural beauty and a strong sense of community. These are assets that should be available to a wider range of families — not just those at the top of the income spectrum.

I also urge the Council to invest in expanded bike lanes and car-free transportation options. Making it easier and safer to get around without a car reduces costs for residents, improves public health, and makes Moraga a more welcoming place for people of all ages and incomes.

Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Kirk Wandy
kirk.bjorkman@gmail.com
935 Carol Lane, Lafayette, CA, USA
Lafayette, CA, California 94549

Outlook

Support for economic development in Moraga

From Lena B <lenab85@gmail.com>

Date Sun 2/22/2026 10:35 PM

To Steve Woehleke <swoehleke@moraga.ca.us>; Lisa Maglio <lmaglio@moraga.ca.us>; Brian Dolan <bdolan@moraga.ca.us>; Kerry Hillis <khillis@moraga.ca.us>; Graham Thiel <gthiel@moraga.ca.us>; Town Clerk <townclerk@moraga.ca.us>; Scott Mitnick <smitnick@moraga.ca.us>

Dear Mayor and Members of the Town Council,

We were excited to learn of the town's plans for economic development- particularly the plans for additional dining, retail, and housing options in Moraga and Lamorinda. Thoughtful, well-planned development can strengthen our local economy while preserving what makes this town special. Thank you for your leadership in moving this important work forward.

Sincerely,

Lena Braginsky and Stan Berezhanskiy

363 Fernwood Drive, Moraga

Sent from my iPhone

Outlook

Support for the Pride Flag

From Laura Shepard <lshepard@databigot.com>
Date Tue 2/24/2026 6:57 PM
To Town Clerk <townclerk@moraga.ca.us>

Please do fly the pride flag in June.
Let me know if i need to send my support in some other way for consideration.

Thank you!

-Laura Shepard
1850 Joseph Drive

--
Laura Shepard
Note my new email: lshepard@databigot.com

Outlook

Moraga should prioritize development, affordability, and inclusion

From Marie Casabonne <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 11:25 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Moraga has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Moraga is a place of real beauty and opportunity. I was raised in Moraga and loved growing up surrounded by such accessible nature! With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Marie Casabonne

Marie Casabonne
mccasabonne@gmail.com
1621 Curtis st
Berkeley, California 94702

Outlook

Town development

From Monique Kerstens <moniqueakerstens@gmail.com>
Date Mon 2/23/2026 9:55 PM
To Steve Woehleke <swoehleke@moraga.ca.us>; Lisa Maglio <lmaglio@moraga.ca.us>; Brian Dolan <bdolan@moraga.ca.us>; Kerry Hillis <khillis@moraga.ca.us>; Graham Thiel <gthiel@moraga.ca.us>; Town Clerk <townclerk@moraga.ca.us>; Scott Mitnick <smitnick@moraga.ca.us>

Dear Mayor and Members of the Town Council,

I'm grateful to see the Town placing a strong emphasis on economic vitality. Moraga and the broader Lamorinda community would benefit from a wider range of restaurants, shops, and housing options that meet the needs of families, seniors, and young residents alike.

I appreciate your commitment to balancing affordability, livability, and long-term community health. With careful planning and community input, new development can enhance our local economy while maintaining the character that makes Moraga such a wonderful place to live. Thank you for your continued leadership and thoughtful stewardship of our town's future.

Thank you,
Monique

Outlook

Moraga should prioritize development, affordability, and inclusion

From Paul Koehler <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 6:06 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Paul Koehler
paulkoehler1000@gmail.com
3309 Kempton Ave
Oakland, California 94611-5825

Outlook

Moraga should prioritize development, affordability, and inclusion

From Rajiv Doshi <noreply@adv.actionnetwork.org>
Date Wed 2/25/2026 2:12 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
[Your Name]

Rajiv Doshi
rajivdoshi@gmail.com
1817 School St.
Moraga, California 94556

Outlook

Moraga should prioritize development, affordability, and inclusion

From Rob Pierson <noreply@adv.actionnetwork.org>
Date Tue 2/24/2026 9:56 AM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

At the same time, I want to emphasize that there is more work to be done. The cost of living in Moraga remains a significant barrier for many families. This is a genuine shame, because Moraga is home to some of the finest public schools in the entire Bay Area, as well as natural beauty and a strong sense of community. These are assets that should be available to a wider range of families — not just those at the top of the income spectrum.

I also urge the Council to invest in expanded bike lanes and car-free transportation options. Making it easier and safer to get around without a car reduces costs for residents, improves public health, and makes Moraga a more welcoming place for people of all ages and incomes.

Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Rob Pierson

Rob Pierson
piersonr@gmail.com
76 Ashbrook pl
Moraga, California 94556

Outlook

Moraga should prioritize development, affordability, and inclusion

From Sarah Bell <noreply@adv.actionnetwork.org>
Date Mon 2/23/2026 11:36 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Sarah Bell

Sarah Bell
bell.sarah@gmail.com
1611 Delaware St
, California 94703

Outlook

Fwd: Appreciation and Pride Month Request

From Sarah Roberts <moragaroberts@mac.com>
Date Tue 2/24/2026 6:10 AM
To Town Clerk <townclerk@moraga.ca.us>

Good Morning! I sent this email earlier this month. I assume the recipients received it, but noticed I did not include you so wanted to do so.

Thank you for your service to our Town.

Sarah Roberts
moragaroberts@mac.com
925-212-9478

Begin forwarded message:

From: Sarah Roberts <moragaroberts@mac.com>
Subject: Appreciation and Pride Month Request
Date: Feb 11, 2026 at 9:48 AM
To: "swoehleke@moraga.ca.us" <swoehleke@moraga.ca.us>, "lmaglio@moraga.ca.us" <lmaglio@moraga.ca.us>, "khillis@moraga.ca.us" <khillis@moraga.ca.us>, "bdolan@moraga.ca.us" <bdolan@moraga.ca.us>, "gthiel@moraga.ca.us" <gthiel@moraga.ca.us>

Good Morning,

First of all, as a nearly 30 year resident of the Town we call Home, Moraga, I want to thank each of you for your service. I know your work to make our Town better is often not recognized, please know that my husband, our family and I are very grateful for your dedication.

I also want to ask you to please hang the LGBTQ+ Pride Flag during Pride Month, June, 2026. Especially in light of what was announced transpired at Stonewall National Monument this week, a place my husband and I visited this past summer, as local communities we need to take stands for Fairness and Love for all.

Thank you. Please feel free to contact me with any questions or clarification needed.

Sarah Roberts
62 Gaywood Place
Moraga, CA

925-212-9478

Outlook

Moraga should prioritize development, affordability, and inclusion

From Simon Williams <noreply@adv.actionnetwork.org>
Date Mon 2/23/2026 11:50 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Simon Williams

Simon Williams
swerve64drizzly@icloud.com
651 Moraga Rd, #12
Moraga, California 94556

Outlook

Moraga should prioritize development, affordability, and inclusion

From Toral Kamdar <noreply@adv.actionnetwork.org>
Date Wed 2/25/2026 2:29 PM
To Town Clerk <townclerk@moraga.ca.us>

Town Clerk ,

Dear Members of the Moraga Town Council,

I am writing to express my strong support for the economic development and housing progress taking place in our community. The changes underway in Moraga are a cause for optimism, and I encourage the Council to continue building on this momentum.

More housing, such as the proposed development at 348 Park Street, is exactly what Moraga needs. Our town has long struggled with housing availability, and new residential development is a critical step toward making Moraga accessible. I am also thrilled to see a new grocery store coming to town — this is a meaningful improvement in the quality of daily life for residents and a sign that Moraga is growing in the right direction.

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Moraga is a place of real beauty and opportunity. With thoughtful leadership, we can ensure it becomes a place that is truly accessible to more of the families who would love to call it home.

Thank you for your service to our community and for your consideration of these issues.

Sincerely,
Toral Kamdar

Toral Kamdar
toralkamdar@gmail.com
52 Sullivan Drive
Moraga, California 94556

TOWN OF MORAGA
REGULAR MEETING
TOWN COUNCIL

WEDNESDAY, FEBRUARY 11, 2026
MINUTES

5:30 PM

The following are minutes of the actions taken by the Town of Moraga Town Council. A full video recording of the meeting is available on the Town's website at:
https://livestream.com/moraga

TOWN COUNCIL CHAMBER
335 RHEEM BOULEVARD
MORAGA, CA

1. CALL TO ORDER

The regular meeting was called to order at **5:30 PM** by Mayor, Kerry Hillis.

ROLL CALL

Councilmembers Present: Mayor Kerry Hillis, Vice Mayor Brian Dolan
Councilmembers Steve Woehleke, Lisa Maglio, Graham Thiel

Councilmembers Absent: None

Staff Present: Town Manager, Scott Mitnick; Assistant.Town Attorney, Denise Bazzano; Planning Director, Sonia Urzua; Police Chief, Jon King; Dierdre Castillo, Senior Engineer

2. PLEDGE OF ALLEGIANCE

3. PRESENTATIONS

3A. Proclamation - February 2026 as Black History Month

Councilmembers read the Proclamation aloud.

4. PUBLIC COMMUNICATION

Public comments were made by: Graig Crossley, Lisa Disbrow, Wendell Baker, Sheri Sweeney, Mike McCluer, Michael Gaffney, Ron Schumacker, and Dave Bruzzone.

5. ADOPTION OF MEETING AGENDA

ACTION:
Motion: **Woehleke** / Second: **Maglio**
Adoption of the meeting agenda as presented.
Vote: (5-0)

There were no public comments.

6. CONSENT CALENDAR

ACTION:
Motion: **Woehleke** / Second: **Dolan**
Approved Consent Calendar items 6.1 and 6.4 as written
Vote: (5-0)

Councilmember Woehleke pulled Consent Calendar item 6.3 for discussion.

Mayor Hillis pulled Consent Calendar item 6.2 for discussion.

There were no public comments.

A. Consideration of Consent Items Removed for Discussion

B. Acceptance of Consent Items

6.1 Approval of Minutes for the January 28, 2026, Regular Meeting of the Moraga Town Council.

6.2 Adopt a Resolution:

1. Approving the Augusta Drive Storm Drain Repairs Project (CIP 25-401) as complete by FJ&I, Engineering Inc. (San Pablo, CA); and
2. Authorizing the Town Manager to execute the Certificate of Completion; and
3. Authorizing the Town Engineer to file the Resolution of Acceptance and Certificate of Completion with the Contra Costa County Recorder.

Senior Engineer, Deirdre Castillo, and Town Attorney, Denise Bazzano, provided clarifying comments and answered Councilmember questions.

ACTION:
Motion**: Woehleke /** Second**: Thiel**
Vote: (5-0)

6.3

1. Adopt a Resolution Ratifying Moraga-Orinda Fire District Ordinance 26-01 (Fire Code) and Ordinance 26-02 (Wildland-Urban Interface (WUI) Code), Adopting the 2025 Editions of the California Fire Code and California Wildland-Urban Interface Code, and the 2024 Edition of the International Fire Code by Reference with Certain Local Amendments, and Adopting Findings of Fact to Support the Local Amendments

2. Find the ordinance exempt from review pursuant to sections 15061(b)(3) and 15378(b)(5) of the California Environmental Quality Act

Planning Director, Sonia Urzua, introduced the item. MOFD Deputy Fire Chief Lucas Lambert and Fire Marshall Casey Irving provided clarifying comments and answered Councilmember questions.

There were no public comments.

ACTION:
Motion**: Woehleke /** Second**: Maglio**
Vote: (5-0)

6.4 Receive Accounts Payable Claims for January 1, 2026 through January 31, 2026 ($574,377.06)

7. ANNOUNCEMENTS AND REPORTS ON ACTIVITIES

A. Councilmember Reports on AB1234 Activities, Councilmember Announcements

Councilmember Woehleke, along with Planning Director Urzua, attended the January 29th Contra Costa County Point in Time Survey for the Homeless.

Councilmember Maglio, along with Vice Mayor Dolan, attended a Leadership in Political Science class at Saint Mary's College.

Councilmember Thiel, as Liaison for the Art in Public Spaces Committee, promoted the February 14th Chalk a Haiku event at the Moraga Library.

Vice Mayor Dolan attended two transportation-related groups: Lamorinda Program Management Committee and Lamorinda Fee & Financing Authority.

Mayor Hillis attended the Micro-Mobility Transportation for Moraga meeting on February 2nd; Contra Costa Mayors Conference in City of Richmond on February 5th; met with Bird regarding electric bikes and scooters; attended County Connection Operating and Scheduling Committee meeting on February 6th; attended East Bay Wildfire Safety Working Group; was guest speaker at Lamorinda Democratic Club's Open House on Feb 7th; recorded interview for podcast *Capstone Conversations* on February 11th.

B. Town Manager Mitnick – no reports.

8. PUBLIC HEARING

None.

9. DEPARTMENT REPORTS

9.A Consider Waiving the First Reading and Introducing an Ordinance Amending Chapter 2.12, "Planning Commission" and Chapter 2.16, "Parks and Recreation Commission" to Revise Terms of Office and Reappointment Processes to be Consistent with the Town's Interview and Appointment Policy.

Assistant Town Attorney Denise Bazzano presented the item and provided clarifying comments to Councilmembers' questions.

ACTION:
Motion: **Woehleke** / Second: **Maglio**
ROLL CALL Vote: (5-0)

10. COUNCILMEMBER REQUESTS FOR FUTURE AGENDA ITEMS

Councilmember Woehleke moved to request a special meeting of Council at a practical date focused on team organization, to celebrate strengths and identify means and plans to address challenges.

ACTION:
Motion: **Woehleke** / Second: **Hillis**
Vote: (5-0)

Councilmember Thiel requested a staff report to discuss the raising of the Pride flag on Town-owned property.

ACTION:
Motion: **Thiel** / Second: **Hillis**
Vote: (5-0)

11. INFORMATIONAL ITEMS

None.

12. TOWN MANAGER FOLLOW-UP AND ANNOUNCEMENTS

Dierdre Castillo was commended for her work for the Town as Acting Public Works Director. Confirmed staff will follow up on providing recognition to outgoing Town Commissioners, Board members and Committee Members. Also confirmed that staff will resolve the Firewise signage issue. Provided clarity on the RV storage issue.

Provided answers to clarifying questions from Councilmembers Thiel and Dolan.

Reminder that February 16 is Presidents Day holiday. The next meeting of Council will be February 17 for committees and commission interviews. The next regular Council meeting will be February 25.

13. ADJOURNMENT

Mayor Hillis adjourned the Town Council Regular Meeting at **7:14 pm.**

Respectfully submitted by:

_____
Melisa Melcher
Acting Deputy Town Clerk

Approved by the Town Council:

_____
Kerry Hillis, Mayor

CONSENT CALENDAR: 6.2

Meeting Date: February 25, 2026

TOWN OF MORAGA **STAFF REPORT**

To: **Honorable Mayor and Councilmembers**

From: **Denise Bazzano, Assistant Town Attorney**

Subject: **Adoption of Ordinance Amending Chapter 2.12, "Planning Commission" and Chapter 2.16, "Parks and Recreation Commission" to Revise Terms of Office and Reappointment Processes to be Consistent with the Town's Interview and Appointment Policy.**

RECOMMENDATION

Waive the second reading and adopt an ordinance amending Chapter 2.12, "Planning Commission" and Chapter 2.16, "Parks and Recreation Commission" to Revise Terms of Office and Reappointment Processes to be Consistent with the Town's Interview and Appointment Policy.

BACKGROUND

The Town of Moraga has several Boards, Committees and Commissions that serve the Town in a variety of capacities. From time to time, members of these bodies may vacate their seat which results in an unscheduled vacancy or their term may come to an end and they do not seek re-appointment. On November 12, 2025, the Town Council adopted by minute order, an Interview and Appointment Policy for Town Boards, Committees, and Commission ("Appointment Policy"). The Appointment Policy provides, among other things, a specific process for the recruitment, interview of candidates and selection of candidates to fill vacant Board, Committee and Commission seats.

On February 17, 2026, the Town Council considered the proposed ordinance and after deliberations, introduced the ordinance. There were some questions from the Council regarding terms of committee and commission members during the discussion but ultimately, the ordinance was introduced as proposed by staff.

DISCUSSION

The proposed ordinance would revise sections 2.12.030, "Term of Office" and 2.12.040, "Removal or Vacancy" within Chapter 2.12, "Planning Commission"; and sections 2.16.030,

“Term of Office” and 2.16.040, “Removal or Vacancy” within Chapter 2.16, “Park and Recreation Commission” to make changes to be consistent with the Appointment Policy. Those changes would specify that the term of office of each member is two years and that each member serves two-year terms based upon the date and year of appointment and will serve until the member’s term ends or until a successor is appointed and qualified. The current term for a Planning Commission member and a Parks and Recreation Commission member is two years so the actual term length remains the same. The changes would also provide that members may be appointed to a maximum of three consecutive terms unless the council determines that continued service of a member is in the best interest of the Town.

The proposed Ordinance also removes references to start dates of terms, which are no longer relevant.

Staff is now recommending that the proposed ordinance be adopted by the Town Council. If the Council adopts the ordinance, its provisions will go into effect thirty days after adoption.

FISCAL IMPACT

There is no direct fiscal impact associated with this agenda item.

CEQA COMPLIANCE

The proposed ordinance is not subject to review under the California Environmental Quality Act (California Public Resources Code §§ 21000, et seq., "CEQA") and CEQA Guidelines (Title 14 California Code of Regulations §§ 15000, et seq.), because it constitutes an organizational or administrative activity that will not result in direct or indirect physical changes in the environment.

ALTERNATIVES

1. Provide alternate direction to staff to amend the proposed ordinance, which would require re-introduction, or

2. Do not adopt the ordinance.

NEXT STEPS

If Town Council adopts the ordinance, the ordinance will take effect in 30 days, on March 27, 2026.

ATTACHMENTS

Attachment A - Ordinance Amending Chapters 2.12 and 2.16 to Revise Terms of Office.pdf
Attachment B - Redlines to Chapters 2.12 and 2.16.pdf
Attachment C - Interview and Appointment Policy.pdf

ORDINANCE NO. 320

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF MORAGA AMENDING CHAPTERS 2.12, "PLANNING COMMISSION" AND CHAPTER 2.16, "PARKS AND RECREATION COMMISSION" TO REVISE TERMS OF OFFICE AND REAPPOINTMENT PROCESSES CONSISTENT WITH THE TOWN'S INTERVIEW AND APPOINTMENT POLICY

WHEREAS, the Town of Moraga has various Boards, Committees, and Commissions, and vacancies occasionally occur when members resign or do not seek reappointment at the end of their terms. To ensure consistency, the Town Council directed staff to develop a policy standardizing the interview and appointment process for filling those vacancies; and

WHEREAS, on November 12, 2025, the Town Council adopted by minute order, an Interview and Appointment Policy for Town Boards, Committees, and Commission ("Appointment Policy"); and

WHEREAS, the Town Council desires to update the Town of Moraga Municipal Code to revise provisions in the Municipal Code to be consistent with the Appointment Policy.

NOW, THEREFORE, THE TOWN COUNCIL DOES HEREBY ORDAIN AS FOLLOWS:

SECTION ONE

Findings: The above recitals are incorporated herein as if set forth herein in full and each is relied upon independently by the Town Council for its adoption of this Ordinance.

SECTION TWO -AMENDMENT.

Sections 2.12.030, "Term of Office" and 2.12.040, "Removal or Vacancy" within Chapter 2.12, "Planning Commission" of Title 2, "Administration and Personnel, shall be amended by repealing and replacing those Sections in their entirety to read as follows:

"**2.12.030 - Term of office.**
The term of office of each member is two years. Each member shall serve two-year terms based upon the date and year of appointment and shall serve until the member's term ends or until a successor is appointed and qualified.

Members may be appointed to a maximum of three consecutive terms unless the council determines that continued service of a member is in the best interest of the Town. If that determination is made by the council, the member may re-apply and re-interview for their position in the same manner as a new board, commission and committee member.

2.12.040 - Removal or vacancy.
A member of the commission may be removed by a majority vote of the council. A vacancy shall be filled in accordance with the Town's Board, Committee and Commission Interview and Appointment Policy, as may be amended from time to time. A person appointed to fill a vacancy serves for the remainder of the unexpired term."

All other sections within Chapter 2.12 shall remain unchanged.

SECTION THREE -AMENDMENT.
Sections 2.16.030, "Term of Office" and 2.16.040, "Removal or Vacancy" within Chapter 2.16, "Park and Recreation Commission" of Title 2, "Administration and Personnel, shall be amended by repealing and replacing those Sections in their entirety to read as follows:

"**2.16.030 - Term of office.**
The term of office of each member is two years. Each member shall serve two-year terms based upon the date and year of appointment and shall serve until the member's term ends or until a successor is appointed and qualified.

Members may be appointed to a maximum of three consecutive terms unless the council determines that continued service of a member is in the best interest of the Town. If that determination is made by the council, the member may re-apply and re-interview for their position in the same manner as a new board, commission and committee member.

2.16.040 - Removal or vacancy.
A member of the commission may be removed by a majority vote of the council. A vacancy is filled in the same manner as the original appointment. A vacancy shall be filled in accordance with the Town's Board, Committee and Commission Interview and Appointment Policy, as may be amended from time to time. A person appointed to fill a vacancy serves for the remainder of the unexpired term."

All other sections within Chapter 2.16 shall remain unchanged.

SECTION FOUR

The Town Council hereby determines that this Ordinance is not subject to review under the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the CEQA Guidelines (14 Cal. Code Regs. §§ 15000 et. seq.), including without limitation, Public Resources Code section 21065 and California Code of Regulations 15378 as this is not a "project" that may cause a direct, or reasonably foreseeable indirect, physical change in the environment.

SECTION FIVE

Severability. If any section, subsection, subdivision, paragraph, sentence, clause, or phrase in this Ordinance or any part thereof is for any reason held to be unconstitutional or invalid, or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this Ordinance or any part thereof. The Town Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase thereof irrespective of the fact that any one or more subsections, subdivisions, paragraphs, sentences, clauses, or phrases be declared unconstitutional, or invalid, or ineffective.

SECTION SIX

Effective Date. This Ordinance shall take effect 30 days from its passage, and shall be published in accordance with the law, in a newspaper of general circulation published and circulated in the Town of Moraga.

SECTION SEVEN

Publication. The Town Clerk is directed to cause this Ordinance to be published in the manner required by law.

THIS ORDINANCE was introduced with the first reading waived at the Town of Moraga Town Council meeting on the 11th day of February, 2026, and was passed and adopted at a regular meeting of the Moraga Town Council on the 25th day of February 2026, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

ATTEST: **APPROVED:**

_____ _____
Town Clerk **Kerry Hillis, Mayor**

Dated:_____

Attachment B

2.12.030 - Term of office.
The term of office of each member is two years. Each member ~~serves~~shall serve two-year terms based upon the date and year of appointment and shall serve until ~~October 1st of the year in which~~ the ~~member's~~member's term ~~expires. Each member serves~~ends or until a successor is appointed and qualified.

Members may be appointed to a maximum of three ~~consecutive~~consecutive terms unless the council determines that continued service of a member is in the best interest of the ~~commission or the town~~Town. If that determination is made by the council, the member may re-apply and re-interview for their position in the same manner as a new board, commission and committee member.

2.12.040 - Removal or vacancy.
A member of the commission may be removed by a majority vote of the council. A vacancy ~~is~~shall be filled in accordance with the ~~same manner~~Town's Board, Committee and Commission Interview and Appointment Policy, as ~~the original appointment.~~may be amended from time to time. A person appointed to fill a vacancy serves for the remainder of the unexpired term.

2.16.030 - Term of office.
The term of office of each member is two years. ~~The term of office of each member begins January 1, 1978. Of~~Each member shall serve two-year terms based upon the ~~members first appointed, four~~date and year of appointment and shall serve until ~~January 1, 1979, and three serve until January 1, 1980. Each member serves until February 1st of~~ the ~~year the member's~~member's term ends or until a successor is appointed and qualified.

Members may be appointed to a maximum of three consecutive terms unless the council determines that continued service of a member is in the best interest of the ~~commission or town.~~Town. If that determination is made by the council, the member may re-apply and re-interview for their position in the same manner as a new board, commission and committee member.

2.16.040 - Removal or vacancy.
A member of the commission may be removed by a majority vote of the council. A vacancy is filled in the same manner as the original appointment. A vacancy shall be filled in accordance with the Town's Board, Committee and Commission Interview and Appointment Policy, as may be amended from time to time. A person appointed to fill a vacancy serves for the remainder of the unexpired term.

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Board, Committee and Commission Interview and Appointment Policy

Purpose

Establish a process for the interview and appointment of all Boards, Committees and Commissions by the Moraga Town Council.

Appointment Details

A. The Maddy Act (***see Chapter 11, Section 54970 et seq. of the California Government Code)*** sets forth certain legal requirements for board, commission and committee member appointments. It shall be the responsibility of the Town Clerk to carry out the requirements of the Maddy Act to ensure that appointments or re-appointments are made in a timely matter.

B. The Town Clerk shall maintain a current roster of all Boards, Committees and Commissions whose members serve at the pleasure of the Town Council and the necessary qualifications for each position.

C. Unless otherwise provided in the Moraga Municipal Code or specified by the Town Council, all Boards, Committees and Commissions shall serve two-year terms expiring based upon the date and year of appointment.

Re-Appointments

A. Board, Committee and Commission members may be appointed to a maximum of three consecutive terms unless the Council determines that continued service of a member is in the best interest of the Town. If that determination is made, the Board, Committee and Commission member may re-apply and re-interview for their position in the same manner as a new board, commission and committee member.

B. Removal or non-reappointment will be determined by Council.

Vacancies

A. When a vacancy occurs due to resignation, termination, expiration, or other causes, the Town Clerk or staff liaison will advertise a notice inviting applications for the vacancy on the Town's website and via any other appropriate channels at the discretion of the Town Clerk with a deadline date based upon timing of the interview schedule.

B. Applicants must fill out and submit an application form. Applications are public documents and are kept in accordance with the Town's Record Retention policy.

C. All applications received will be submitted to the Town Council for consideration .

Interviews

A. Interviews will typically be conducted of all qualified applicants, unless otherwise decided by Town Council.

B. If a candidate is unable to attend the interview at the designated time, the Town Council, in its discretion, may re-schedule the interview or may proceed with selection of a qualified candidate without an interview.

C. The Town Clerk will coordinate a Special meeting to hold the interviews, for the applicants. Prior to the special meeting, the Town Clerk will prepare and distribute to the Council a list of standard interview questions. These questions shall be used as a guide when interviewing each applicant. Councilmembers may deviate from the list of standard questions or ask follow-up questions.

D. Consistent with the Brown Act and applicable law, interviews shall be conducted by the Town Council at public special meetings scheduled and reserved specifically for interviews. The Town Clerk shall inform applicants of this fact prior to their interview.

E. At the time of the interview, the Town Council may decide to re-advertise the vacancy or re-interview some or all of the applicants.

Appointments and Oath of Office

A. The Council shall appoint the selected candidate(s) for Board, Committee and Commission seats at a regular Council meeting. Appointments must be discussed and made in open session.

B. The Clerk shall administer the oath of office after the appointment of the selected candidate(s), which may take place anytime prior to their first meeting as a Board, Committee or Commission member.

CONSENT CALENDAR: 6.3

Meeting Date: February 25, 2026

TOWN OF MORAGA **STAFF REPORT**

To: **Honorable Mayor and Councilmembers**

From: **Scott Mitnick, Town Manager**

Subject: **Letter of Support for SB 959 (Grayson) – Public School Wildfire Safety**

RECOMMENDATION

Authorize the Mayor to sign a letter of support for California State Senate Bill 959, which seeks to ensure that public school districts will receive "Average Daily Attendance" funding when a local fire agency makes the decision to close a school during a fire incident, imminent safety hazard or extreme fire danger.

BACKGROUND

California State Education Code provides that a public school may cancel classes and receive "Average Daily Attendance" (ADA) funds if a major safety hazard is determined by the local law enforcement agency. However, at least one local Contra Costa County public school district has raised a concern that it may not receive ADA funding when only a local fire agency makes this determination. In other words, a concern has been raised that there may be a gap within the State Education Code which may leave public schools at risk of not receiving ADA funding when local public schools are closed as a result of a fire agency, versus a law enforcement agency, providing the order to evacuate and/or close a public school.

DISCUSSION

SB 959, as authored by State Senator Tim Grayson (D-09), seeks to address this potential gap in current State law by ensuring that local public-school districts will not lose ADA funding if a school closure is ordered by a local fire agency. The Town of Moraga has been asked to support this Bill. Attached is a sample letter of support to be sent to the appropriate members of the State Legislature.

FISCAL IMPACT

There is no direct fiscal impact on the Town's General Fund associated with this request.

CEQA COMPLIANCE

The approval of this letter of support is not subject to review under the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the CEQA Guidelines (14 Cal. Code Regs. §§ 15000 et. seq.), including without limitation, Public Resources Code section 21065 and California Code of Regulations 15378 as this is an administrative action and not a “project” that may cause a direct, or reasonably foreseeable indirect, physical change in the environment.

ALTERNATIVES

1. Revise the proposed letter of support.

2. Do not authorize the Mayor to sign the proposed letter of support and provide direction to staff.

NEXT STEPS

If approved, staff will ensure that the Mayor signs the necessary letter of support and that it is transmitted to the appropriate legislators in Sacramento.

ATTACHMENTS

Attachment A - SB 959 Support Letter.pdf

Attachment A

Town of Moraga

MAYOR'S OFFICE

The Honorable Senator Tim Grayson
1021 O Street, Suite 7250
Sacramento, CA 95814

February 26, 2026

RE: SB 959 (Grayson) - School Wildfire Safety - SUPPORT

Dear Senator Grayson,

On behalf of the Moraga Town Council, the purpose of this letter is to urge your support of SB 959, which would authorize local fire agencies to determine when a public school faces an imminent danger warranting the cancellation of classes. This bill would also clarify that public schools would not lose State of California "Average Daily Attendance" (ADA) funding when classes are canceled due to the imminence of a major safety hazard as determined by a local fire agency.

California has experienced an unprecedented rise in the frequency and severity of wildfires with the new reality of a year-round fire season. In response to recent devastating wildfires, the State Legislature has acted to rebuild affected communities and bolster mitigation efforts. However, more is needed to ensure that local communities have the necessary tools to respond to fire danger.

One area where there remains a gap is within the State Education Code, which lists fire as one of the emergency instances where a public school may cancel classes and not lose out on ADA funding. This statute, however, is not clear on whether public schools would lose out on this crucial funding if proactive action is taken to protect students and faculty through school closure out of prudent caution, due to imminent fire danger.

Current law provides that a public school may cancel classes and receive ADA funds if there is imminence of a major safety hazard as determined by the local law enforcement agency. However, in certain instances, local fire agencies may be equally suited to make these determinations. SB 959 will address this gap in current law and help assure that local public-school districts will not lose ADA funding if they err on the side of student and community safety in the face of an imminent wildfire.

It is for these reasons that the Moraga Town Council urges your support of SB 959. Should you have any questions, please contact Town Manager Scott Mitnick at smitnick@moraga.ca.us or (925) 888-7020.

Sincerely,

Kerry Hillis
Mayor

cc: Hon. Assemblymember Rebecca Bauer-Kahan (D-16)
League of California Cities
Moraga Town Council

Meeting Date: February 25, 2026

TOWN OF MORAGA **STAFF REPORT**

To: **Honorable Mayor and Councilmembers**

From: **Katie Bruner, Administrative Services Director**

Subject: **Appoint Members to the Moraga Art in Public Spaces Committee, Parks and Recreation Commission, and Planning Commission**

RECOMMENDATION

Appoint Members to the following Committee and Commission positions:

- Art in Public Spaces Committee (two positions with three-year terms)
- Parks & Recreation Commission (three positions with two-year terms)
- Planning Commission (three positions with two-year terms)

BACKGROUND

The Town has upcoming open seats for the Art in Public Spaces Committee, Audit and Finance Committee, Local Sales Tax Oversight Committee, Parks and Recreation Commission, and Planning Commission. Nominations were solicited and the following responses were received:

- Art in Public Spaces Committee – Two applications for two seats.
- Parks and Recreation Commission – Four applications for three seats.
- Planning Commission – Three applications for three seats.

The recruitment for openings on the Local Sales Tax Oversight Committee and Audit and Finance Committee will remain open to receive additional applications.

DISCUSSION

Per the Town's Board, Committee and Commission Interview and Appointment Policy, the Town Council conducted interviews of the candidates and reviewed and considered applications on February 17, 2026.

The following individuals were interviewed:

Candidate	Committee/Commission	Length of Term
Suzanne Darcy	Art in Public Spaces	3 years
Teresa Onoda	Art in Public Spaces	3 years
Michelle Barar	Parks & Recreation	2 years
John Greenblatt	Parks & Recreation	2 years
Scott Parker	Parks & Recreation	2 years
Rob Pierson	Parks & Recreation	2 years
Ben Helber	Planning Commission	2 years
Dustin Moore	Planning Commission	2 years
Nick Polsky	Planning Commission	2 years

Staff will schedule interviews for openings on the Local Sales Tax Oversight Committee and Audit & Finance Committee at a later date.

At this time, Town Council is requested to appoint the Art in Public Space Committee, Parks & Recreation Commission, and Planning Commission for the terms identified above.

FISCAL IMPACT

There are no direct cost impacts associated with this agenda item.

CEQA COMPLIANCE

Appointing commission and committee members is exempt from the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the CEQA Guidelines (14 Cal. Code Regs. 15000 et. seq.), including without limitation, Public Resources Code section 21065 and California Code of Regulations 15378 as this is not a "project" that may cause a direct, or reasonably foreseeable indirect, physical change in the environment.

ALTERNATIVES

1. Do not appoint commissioners and/or committee members and keep the seats open.

2. Provide alternate direction to staff.

NEXT STEPS

After Town Council makes its decisions, staff will inform the applicants of the outcome. Terms for the appointed commissioners and committee members will commence on March 1, 2026.

Meeting Date: February 25, 2026

TOWN OF MORAGA **STAFF REPORT**

To: **Honorable Mayor and Councilmembers**

From: **Nate Levine, Interim Public Works Director/Town Engineer; Sonia Urzua, Planning Director**

Subject: **Livable Moraga Road – Project Update**

RECOMMENDATION

Receive an update on the revised Livable Moraga Road Project concept and authorize staff to commence community outreach to obtain additional public input.

BACKGROUND

Project Location:

Livable Moraga Road (LMR) is a "Complete Streets" planning and design effort intended to improve public safety and vehicle flow, provide safe and continuous bicycle and pedestrian facilities, enhance the streetscape, and provide for other related public infrastructure improvements along approximately two miles of Moraga Road between Campolindo Drive and St. Mary's Road. As illustrated in Attachment A, this corridor is divided into the following four segments:

Segment 1: Campolindo Drive to Rheem Boulevard

Segment 2: Rheem Boulevard to Donald Drive

Segment 3: Donald Drive to Corliss Drive

Segment 4: Corliss Drive to St. Mary's Road

Project History:

This project has a long history dating back to over a decade ago. In early 2014, Town Council established resident advisory bodies to help evaluate corridor concepts and alternatives for this project. Ultimately, Segment 3 (Donald Drive to Corliss Drive) received the most focused

review because it raised a central question of whether and how to reallocate roadway width to improve pedestrian and bicycle safety and comfort while maintaining acceptable vehicular operations.

In 2015, a community-wide mail survey regarding Segment 3 was conducted. On April 13, 2016, Town Council received the survey results and provided direction to staff on a preferred Segment 3 concept to be carried forward as part of the broader LMR corridor plan. At that meeting, the Town Council selected a preferred Segment 3 option ("Survey Option 1").

On June 22, 2016, the item returned to the Town Council for consideration of the corridor - wide LMR concept and next steps (including further design and environmental work), and to confirm an implementable Segment 3 striping configuration aligned with resurfacing/striping timing. At that meeting, the Town Council revisited Segment 3 and considered a Council-proposed compromise ("Option 1A") which would replace the center/turn lane with a second southbound travel lane.

Following discussion, a majority of the Town Council supported the modified approach ("Modified Option 1") for Segment 3 and selected it as the preferred Segment 3 striping configuration (cross-section) to be implemented within the existing pavement width, in coordination with resurfacing/striping work. However, the overall long-term corridor configuration was not formally finalized. Please see Attachment B for the evolution of these cross-sections.

From June 2016 to June 2023, this project was put on hold.

On September 13, 2023, Town Council approved awarding a professional services agreement with Alta Planning + Design to complete the remaining concept-level tasks, including updated concept drawings and a planning-level construction cost estimate (not construction plans or construction). The 2023 reinitiation directed staff and the consultant to carry forward the 2016 corridor concepts while updating the concept exhibits and typical cross sections to reflect current complete- streets and safety design practices. During this effort, staff also pursued a supplemental traffic analysis to provide a current technical basis for evaluating a proposed lane repurposing option between Corliss Drive and Donald Drive (i.e., reducing travel through lanes from four to two, plus a center two-way left-turn lane within the existing pavement width).

For more detailed information on the project's history, please refer to the following ink on the Town's website: https://www.moraga.ca.us/193/Livable-Moraga-Road

DISCUSSION

As directed in 2023, updated concept exhibits and typical cross sections have been prepared to carry forward the previously endorsed corridor concepts while updating typical dimensions and features to reflect current Complete Streets and safety design practices. These drawings are conceptual and provide a holistic corridor vision that can be implemented through standalone projects or grants over time to achieve the corridor's overall objectives. They are not construction-ready plans, but establish the framework for future design and implementation.

Overall Update - Moraga Road Segments 1, 2, and 4

Alta Planning + Design reviewed the corridor segments selected in 2016 against current industry standards, best practices, and contemporary safety guidance. Minor refinements to travel lane widths, bicycle facility dimensions, shoulders, and buffer areas were incorporated in Segments 1, 2, and 4. These refinements do not materially alter what was advanced through prior Council review and are not the primary focus of the current discussion. Please see Attachment C for the recommended cross-sections.

Moraga Road Segment 3 Supplemental Traffic Analysis

In February 2024, a supplemental task order was issued to evaluate a proposed lane repurposing option between Corliss Drive and Donald Drive. The lane repurposing option would convert the existing four-lane section (two lanes in each direction) to two travel lanes (one in each direction) plus one center two-way left-turn lane (three total). The analysis reviewed existing (2024) and projected (2044) traffic volumes, intersection operations, vehicle speeds, crash history, and corridor functionality. Please see Attachment D for the complete Traffic Analysis.

Key findings from this analysis included the following:

Traffic Volumes:

Traffic volumes within the study area (~15,000–16,000 vehicles per day) fall within the range considered feasible for a three-lane configuration under the United States Federal Highways Administration ("FHWA") guidance provisions.

Traffic Operations:

Based on the 2024 volumes, the proposed lane repurposing option will not significantly or materially affect intersection operations. Overall traffic "Level of Service" (LOS) remained comparable to existing conditions, with delay increases generally limited to a few seconds per vehicle. Under the 2044 projected scenario, the study intersections are expected to continue operating at an acceptable LOS (LOS D or better). Vehicles will be able to travel comfortably up to the existing 35 MPH speed limit nearly 24 hours per day, including during peak travel times.

Vehicle Speed:

The reality of Moraga Road, based on empirical evidence, is that actual vehicle traffic on the existing four-lane section encounters only limited congestion and, at times, unsafe speeds over the posted speed limit. The standard technical measure of the 85th percentile in Moraga recorded speeds exceeding the posted 35 MPH by at least 7 to 9 MPH. This data reflects recurring excessive speeds and unsafe conditions, at times, for Moraga Road vehicles, cyclists, pedestrians, and those who live on or adjacent to Moraga Road.

National research, empirical evidence, and best traffic safety practices implemented throughout the State of California in communities similar to Moraga continue to demonstrate that converting an undivided four-lane roadway to a three-lane configuration results in obtaining operating speeds closer to the posted speed limit AND improving corridor safety for

vehicle drivers, cyclists, pedestrians, and adjacent residents.

Public Safety:

Between 2018 and 2023, nine known/reported injury crashes occurred within the study area, including crashes involving bicyclists and pedestrians. It is possible (likely) that the actual number of crashes is higher since not all accidents are reported and/or known by local public safety agencies. As noted above, and based on national research, existing high-level crash-reduction factors, and empirical evidence throughout the State of California, the proposed lane repurposing option will likely reduce the number of accidents and significantly improve the overall public safety of this corridor.

Corliss Drive intersection:

The technical analysis, based on empirical data and public safety, indicates that a traffic signal at Corliss Drive is warranted under existing volumes. Installation of a traffic signal at this location will improve public safety and reduce delays for turning movements, particularly under the lane repurposing option.

Extension of the Lane North of Donald Drive:

The analysis concluded that extending lane repurposing north of Donald Drive toward Ascot Drive is not recommended due to operational impacts. Accordingly, the proposed evaluated lane repurposing option is limited to the Corliss–Donald segment, totaling ~2,400 feet (or 0.45 mile).

Emergency Evacuation:

The proposed improvements will make it easier for vehicle traffic to traverse through this portion of Moraga. It's the consultant and staff's professional option that the proposed recommendations will not reduce functional emergency evacuation capacity or impact the Town's Evacuation Plan.

Summary Observations:

Overall, the traffic analysis concluded that the lane repurposing option between Corliss Drive and Donald Drive is operationally feasible under both existing (2024) and future (2044) conditions, and the consultant recommends moving forward with this option for this segment of Moraga Road. The analysis further concluded that the lane repurposing option is expected to improve corridor public safety by moderating vehicle travel speeds and improving left-turn operations (reducing conflicts and rear-end crash potential associated with turning movements), while also providing sufficient roadway space within the existing pavement width to accommodate the desired bicycle and pedestrian facilities in the long-term concept.

Community Engagement:

While the LMR concept has a long and extensive history of public engagement dating back to 2014, the updated Segment 3 traffic analysis and data have not yet been presented to the community as a complete package. The proposed changes to Moraga Road will be highly visible and will raise understandable questions about congestion, access, turning movements,

emergency response, day-to-day travel, and emergency evacuations.

Going forward, it is recommended that staff hold a series of community meetings over the next six to nine months with in-person and virtual options, as well as an online survey to collect resident and stakeholder feedback. This effort will require a careful and transparent approach to communicating the data and evidence, the anticipated public safety benefits, and how implementation would work in practice.

FISCAL IMPACT

The direct cost of the overall technical review and planning for this project is funded through a Transportation for Livable Communities (TLC) grant administered by the Contra Costa Transportation Authority (CCTA), a developer contribution, and local Measure J funds; approximately $110,000 remains available to complete this component of the project. This amount will be sufficient for recommended targeted community outreach and creation of finalized conceptual plans.

The cost of the actual capital improvements will be determined at a future date, and only after direction is provided by Town Council.

CEQA COMPLIANCE

The recommended action is limited to receiving an informational update and providing direction to conduct community outreach and continue concept -level planning and technical analysis. These activities are categorically exempt from CEQA pursuant to 14 CCR § 15306 (Information Collection) and 14 CCR § 15262 (Feasibility and Planning Studies). Any future action to approve a specific project design and/or proceed to construction would be subject to separate CEQA review as appropriate.

ALTERNATIVES

1. Direct staff not to proceed with this project and return the remaining funds for this project to CCTA and the other applicable funding agencies.
2. Make revisions to the recommended approach and provide direction to staff.

NEXT STEPS

If Town Council authorizes staff to proceed with community outreach meetings, staff will do the following:

- Finalize the community outreach plan and materials based on the updated concept exhibits/cross sections and the latest traffic analysis.
- Conduct targeted community outreach meetings over the next six to nine months (with in-person and virtual options).
- Conduct an online survey of residents.
- Return to Town Council in late 2026 with an outreach summary and a final recommended set of concept cross sections for Segment 3 and the corridor as a whole.
- Following Town Council direction in late 2026, staff will proceed to develop a plan for the

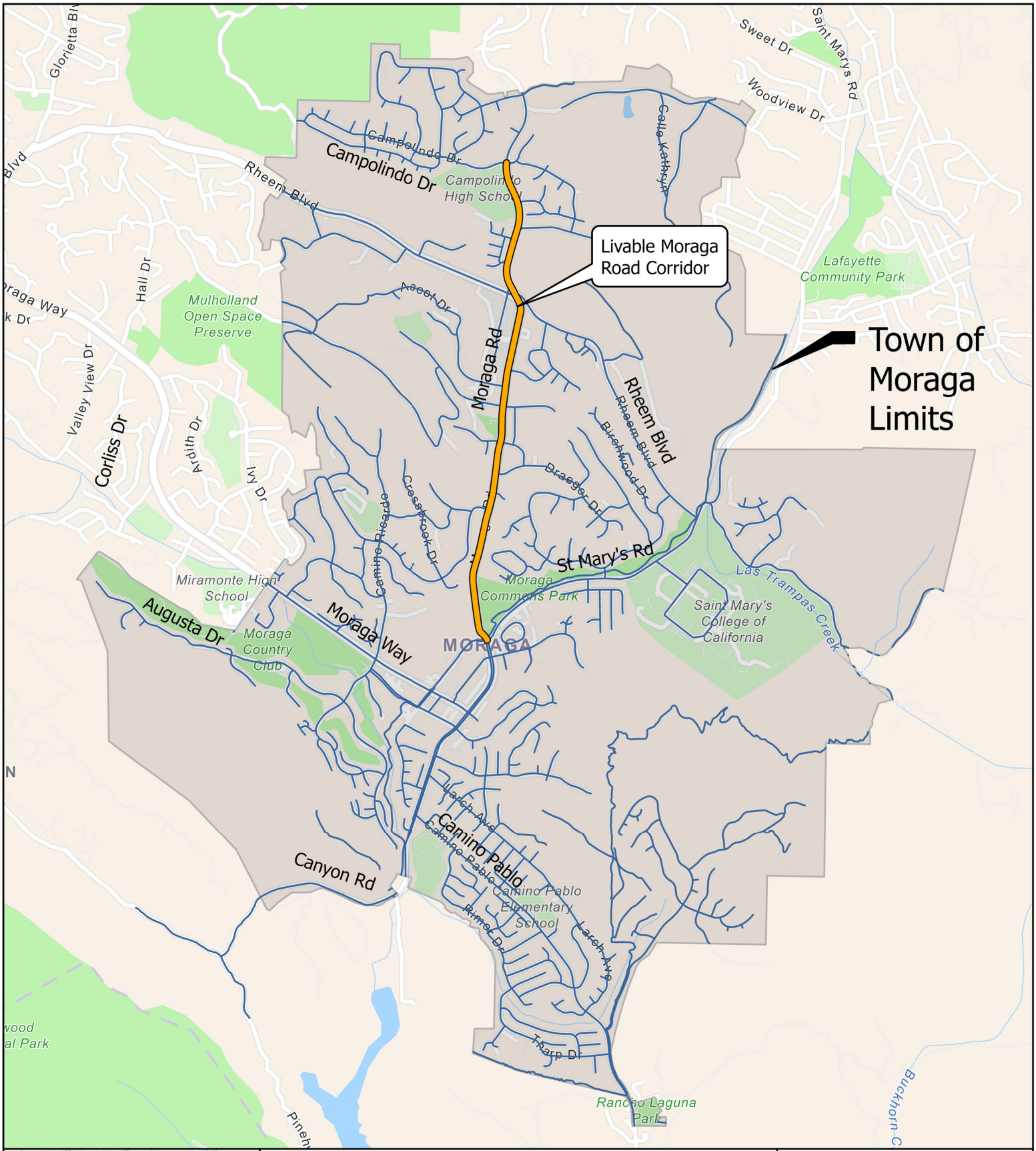
overall project design, environmental review, funding options, and implementation.

- Estimated dates of actual project construction are unknown and will be determined at a later date.

ATTACHMENTS

Attachment A - Livable Moraga Corridor Vicinity Map.pdf
Attachment B - Evolution of Cross Sections.pdf
Attachment C - Recommended Cross Sections.pdf
Attachment D - Final Moraga Road Traffic Analysis Memo with Appendices.pdf

Attachment A



Livable Moraga Road Corridor Site and Location Map

Town of Moraga

N

0 1,500 3,000 Feet

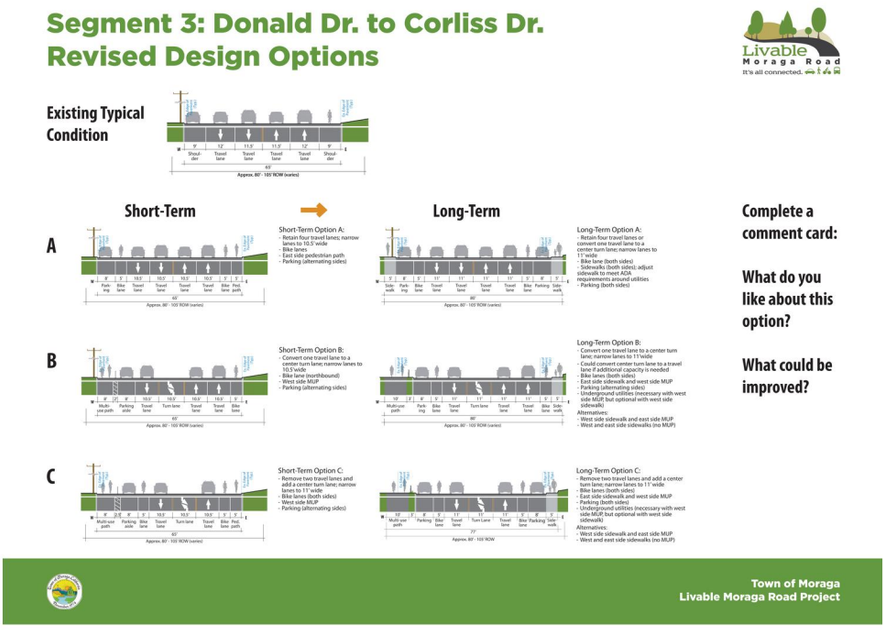
February 2021

Livable Moraga Road – Segment 3 (Donald Dr. to Corliss Dr.)

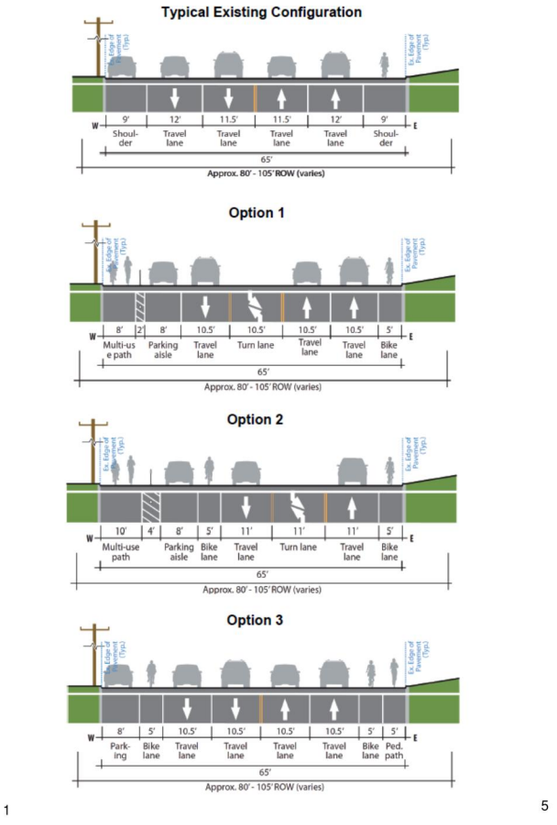
Cross-Section Evolution (2014–2016) – reference exhibit

Sources: Town of Moraga DocumentCenter + Livable Moraga Road webpage (see captions).

2014–2015: Segment 3 revised design options (poster used in outreach / board review)

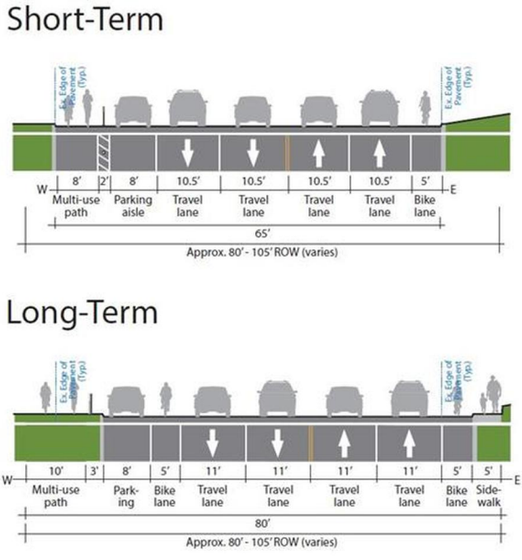


2016 (Town-wide mail survey): Existing configuration and Survey Options 1–3



1 5

June 22, 2016: Modified Segment 3 typical section to allow four lanes (short-term & long-term)



Note: Images are reproduced for reference only; not to scale.

Attachment C

Corridor Concept

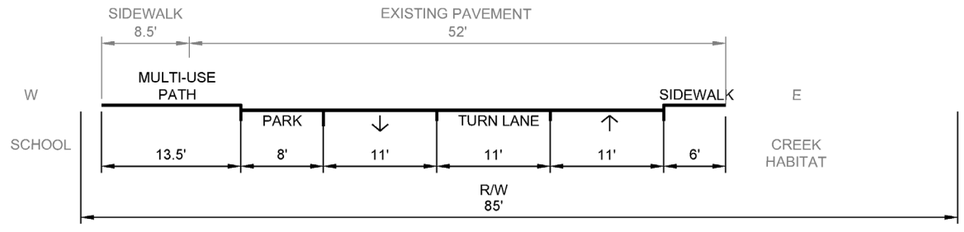
Livable Moraga Road

Segment 3 Approved by Town Council 6/22/2016

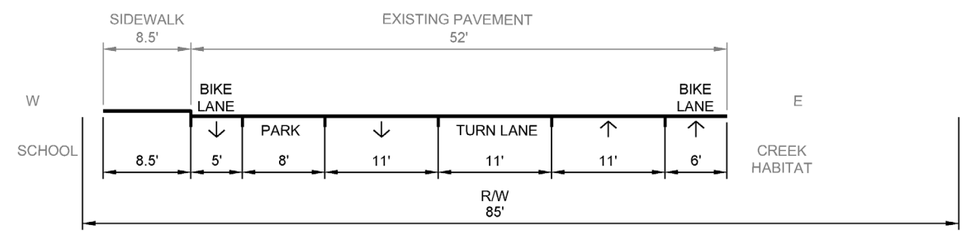
Resolution 63-2016 Confirming Selection of Modified Option 1 as the Preferred Striping Configuraton for Segment 3 of the Livable Moraga Road Project

SEGMENT 1

PREFERRED TYPICAL

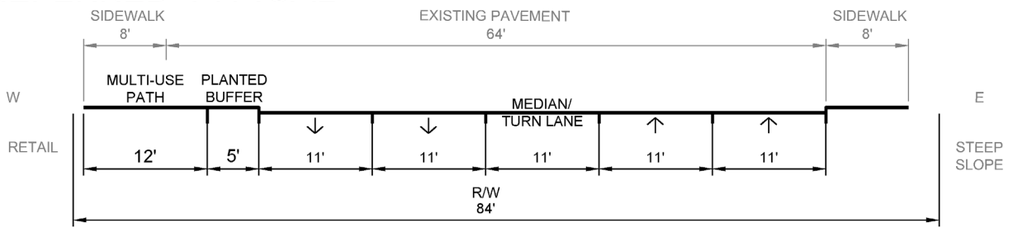


NEAR TERM TYPICAL

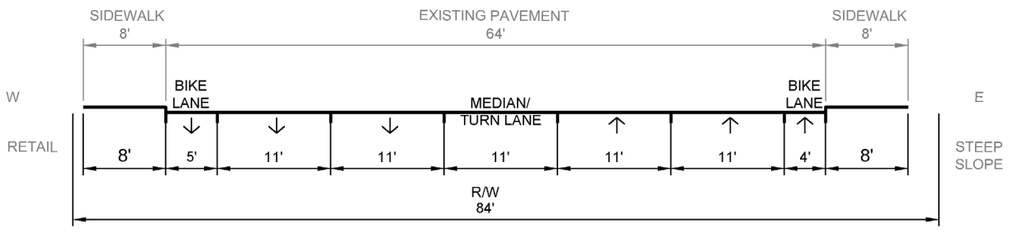


SEGMENT 2

PREFERRED TYPICAL

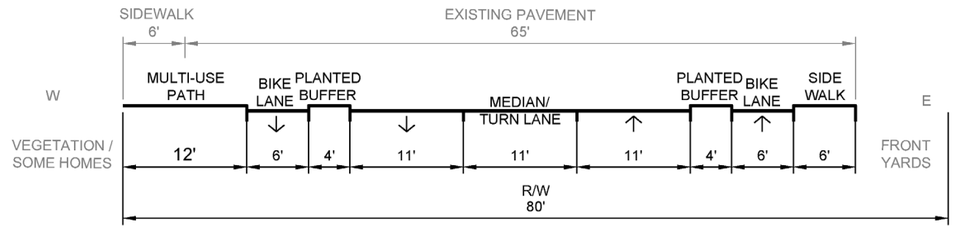


NEAR TERM TYPICAL



SEGMENT 3

PREFERRED TYPICAL



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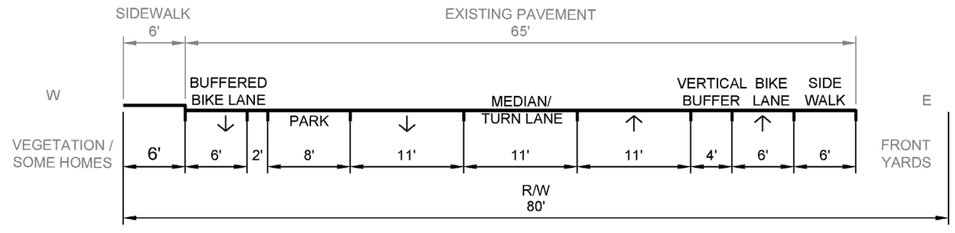
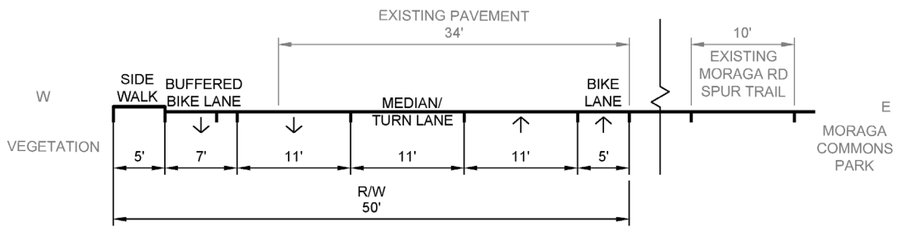


SEGMENT 4

PREFERRED TYPICAL



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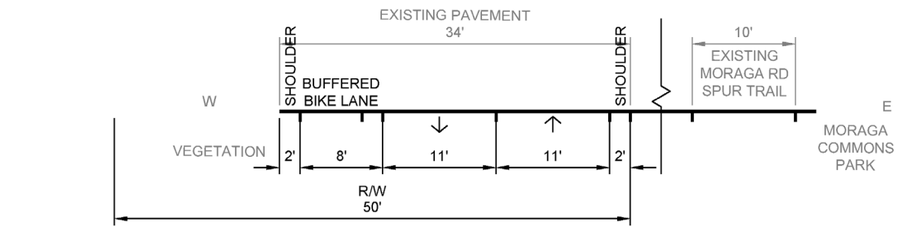
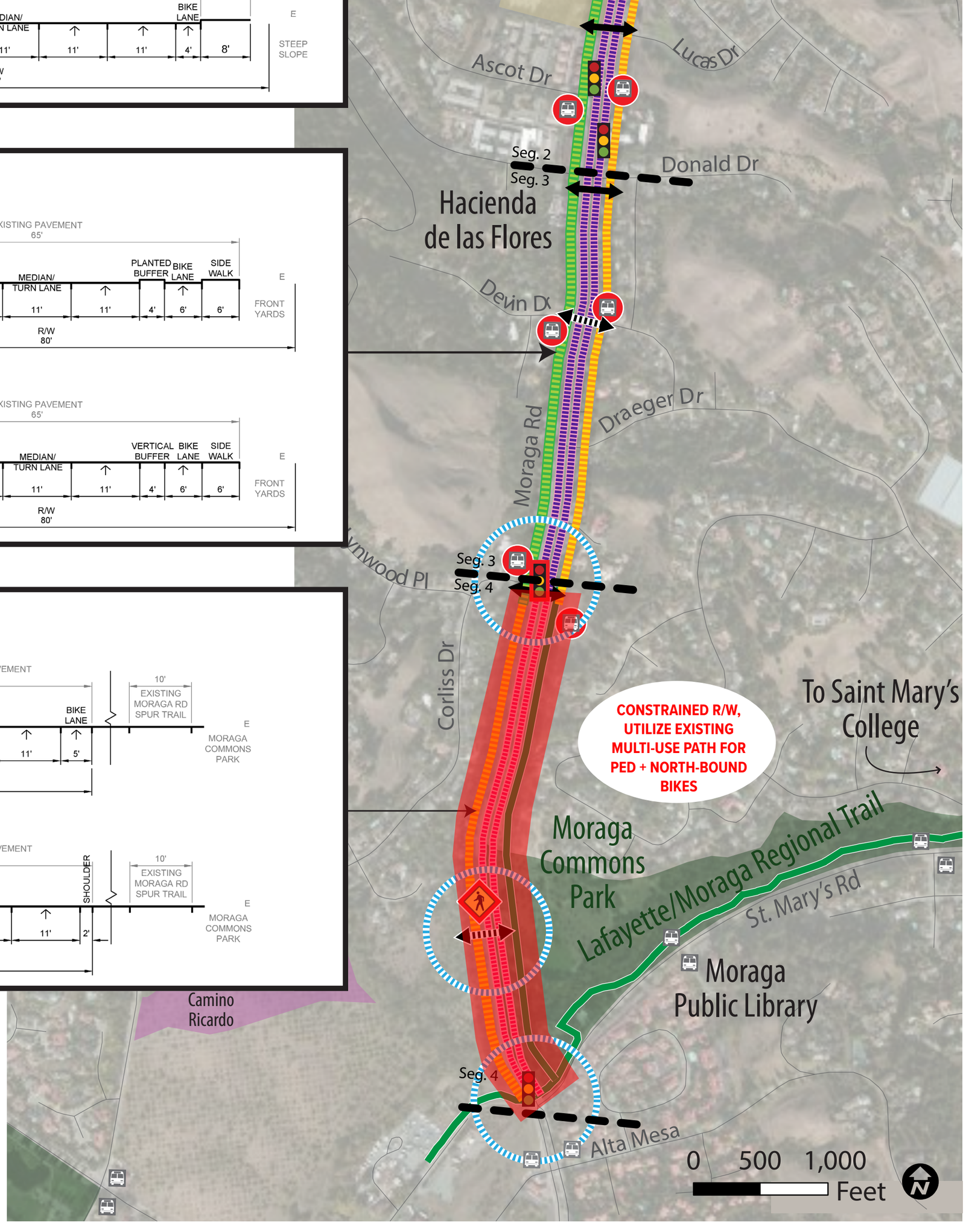


SECTION SCALE

20 0 10 20 40

SCALE FEET



Proposed Improvements

- Sidewalk
- Class II Buffered Bike Lane
- Class II Bike Lane
- Multi-use Path
- Enhanced Bus Stop
- Traffic Signal
- Crossing Beacon
- Enhanced Crosswalk
- Crosswalk
- Intersection Treatment
- Segment Line

Existing Features

- Class III Bike Route
- Multi-Use Path
- Traffic Signal
- Crossing Beacon
- Commercial Center
- School
- Parks and Open Space
- Approved / Proposed Development
- Transit Stop

Town of Moraga, California — Rancho Laguna de los Palos Colorados — November, 1974

Livable Moraga Road — It's all connected. — www.moraga.ca.us/livablemoragaroad

Project generously supported by a Transportation for Livable Communities Grant and Contra Costa County Measure J funds.

To: Nate Levine, PE; Brian Horn; Town of Moraga, CA

From: Matt Fralick, PE, PTOE; Scott Shepard, PE; Alta Planning + Design

Date: July 26, 2024

Re: Livable Moraga Rd – Feasibility and Benefit Summary

Executive Summary

Introduction and Existing Conditions

In Feburary 2024, the Contra Costa Transportation Authority provided Alta Planning + Design (Alta) an additional task order to the existing Livable Moraga Road Project to perform a traffic analysis for the corridor of Moraga Road between Corliss Drive and Ascot Drive, particularly the segment between Corliss Dr and Donald Dr.

Currently, Moraga Road between Corliss Dr and Donald Dr is currently a four-lane, undivided road with a buffered bike lane and parking in the southbound direction, a standard bike lane northbound, and sidewalk on the west side. The posted speed limit is 35 miles per hour (mph), and the total roadway width of 70 ft as seen in Figure ES-1.

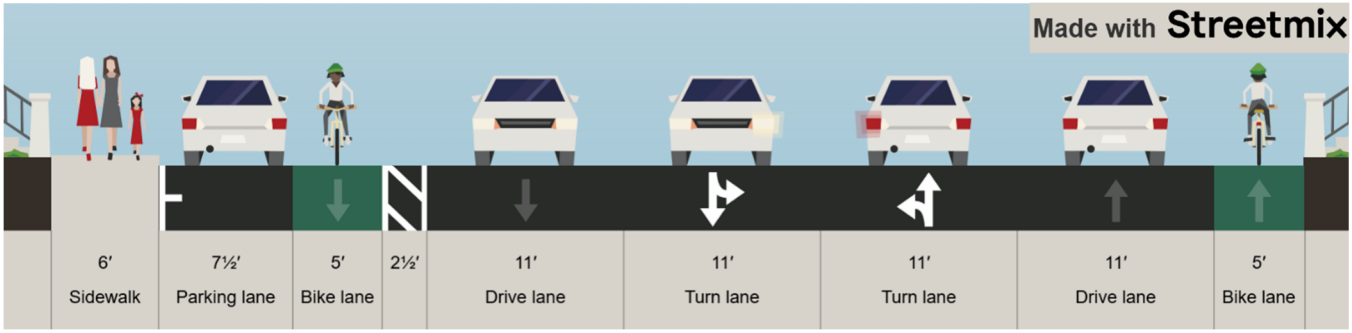


Figure ES-1. Existing cross section of Moraga Road from Corliss Dr to Donald Dr. Created using Streetmix (https://streetmix.net).

Between 2018 and 2023, there were nine crashes on the segment of Moraga Road between Corliss Dr and Ascot Dr which resulted in injury, of which four occurred at the Corliss Dr intersection, and one occurred at the Donald Dr intersection. A total of four crashes, involved vulnerable road users (bicyclists, motorcyclists, and pedestrians). At the intersection of Moraga Road and Corliss Dr, there were two sideswipe crashes, one of which resulted in a serious injury to a bicyclist.

Road Diet Feasibility and Benefits

In order to solve existing safety issues, a road diet is recommended between Corliss Dr and Donald Dr, with the four-lane section converted to a three-lane section with a two-way left turn lane and buffered bike lanes in both directions, as seen in Figure ES-2.

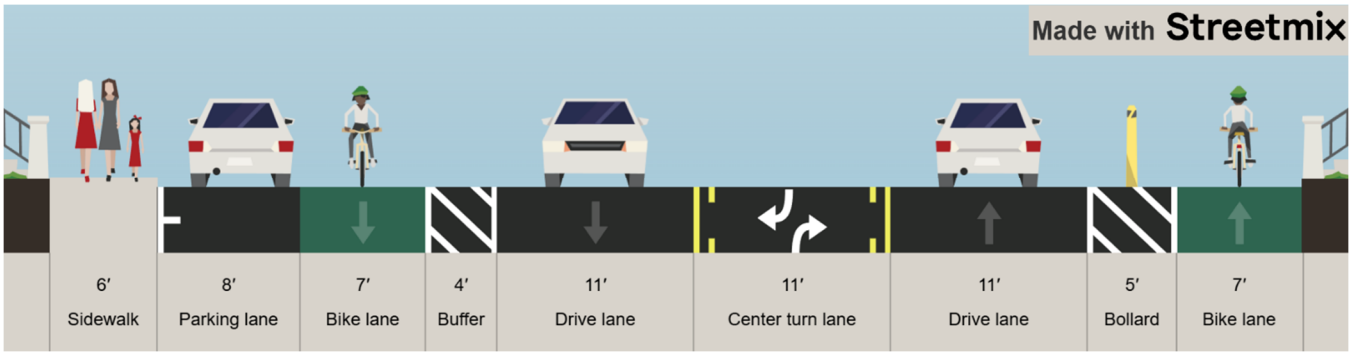


Figure ES-2. Potential road diet cross section for Moraga Road between Corliss Dr and Donald Dr. Created using Streetmix.

The **existing traffic volumes on Moraga Road would support a road diet per FHWA guidance**, subject to further traffic analysis.

The existing vehicle speeds on Moraga Road indicate that between Corliss Dr and Donald Dr, less than one-fourth of drivers were obeying the posted speed limit, indicating a speeding problem. Based on the available evidence, this **speeding could be reduced** with the implementation of a road diet.

The existing safety issues along the corridor, both in terms of crashes and speeds, could be improved with a road diet. Prior studies have shown **that crashes could be reduced by up to 46% at intersections**, and **bicycle crashes reduced by up to 36%** by improving the bike lane from a standard striped lane to a buffered bike lane.

A road diet **would not significantly impact emergency response operations**. In fact, emergency vehicles may have improved ability to maneuver due to the presence of the two-way left turn lane. In addition, the safety improvements may lead to fewer crashes for emergency response vehicles to repond to, allowing more efficient use of resources.

Traffic Analysis Results

The traffic analysis found that implementing a road diet with the May 2024 volumes **did not significantly impact traffic operations**. With changes to signal timing at Donald Dr, delay was in some instances reduced. In the future road diet condition (2044), all intersections are comfortably operating, with no intersections experiencing unstable or extremely congested operations.

A signal at the intersection of Moraga Road and Corliss Dr would be warranted based on 2024 traffic volumes. In the road diet configuration, the existing merging lane would be removed due the reduced cross section. A signal at Corliss Dr would improve safety by eliminating dangerous sideswipe crashes and reduce delay for vehicles turning off of Corliss Dr onto Moraga Road. The safety of the crosswalk which crosses Moraga Road would also be improved.

Safety Benefits

Safety benefits from the reduction in crashes indicated that a **potential safety benefit of $106,027 per year** (in 2024 dollars) would be generated from implementing the road diet.

Conclusions and Recommendations

The road diet configuration would represent a benefit to safety, both by reducing speeds of motor vehicles and by creating additional dedicated space for cyclists. Traffic flow and operations would not be significantly affected.

It is therefore **recommended to move forward with the road diet configuration between Corliss Dr and Donald Dr**.

Introduction

In Feburary 2024, the Contra Costa Transportation Authority provided Alta Planning + Design (Alta) an additional task order to the existing Livable Moraga Road Project to perform a traffic analysis for the corridor of Moraga Road between Corliss Drive and Ascot Drive in the Town of Moraga in Contra Costa County, California. Moraga Road traverses through the center of Moraga, connecting to the City of Lafayette to the north and the SR 24 freeway. The corridor is residential from Corliss Dr to Ascot Dr, transitioning to commercial areas north of and at the intersection of Ascot Dr. Several parks and schools border the corridor. With this in mind, the City tasked Alta with conducting a traffic analysis of a road diet to this segment of Moraga Road, which will include lane repurposing to include a buffered bike lane in the northbound direction.

Existing Conditions

Between Corliss Dr and Donald Dr, Moraga Road is a 4 lane undivided roadway, with the following characteristics:

- Posted speed limit of 35 miles per hour (mph).
- A 7.5 ft wide parking lane is provided on the west side (including the gutter).
- Bike Lanes:
    - A 7 ft wide buffered bike lane (5 ft bike lane + 2 ft buffer) is adjacent to parking southbound
    - A 5 ft wide standard bike lane northbound.
- Sidewalk:
    - Provided on the west side of Moraga Road
    - No sidewalk on the east side between Paseo Linares and Donald Dr.
- There is a crosswalk across Moraga Road at Corliss Dr, which is scheduled for enhancements, including advance signage and a rectangular rapid flashing beacon (RRFB) as part of a Caltrans-funded safety project.
- Bus stops in both directions just north of Corliss Dr, at Devin Dr, and just north of Ascot Dr.

The cross section between Corliss Dr and Donald Dr, approximately 70 ft wide, is represented graphically in Figure 1.

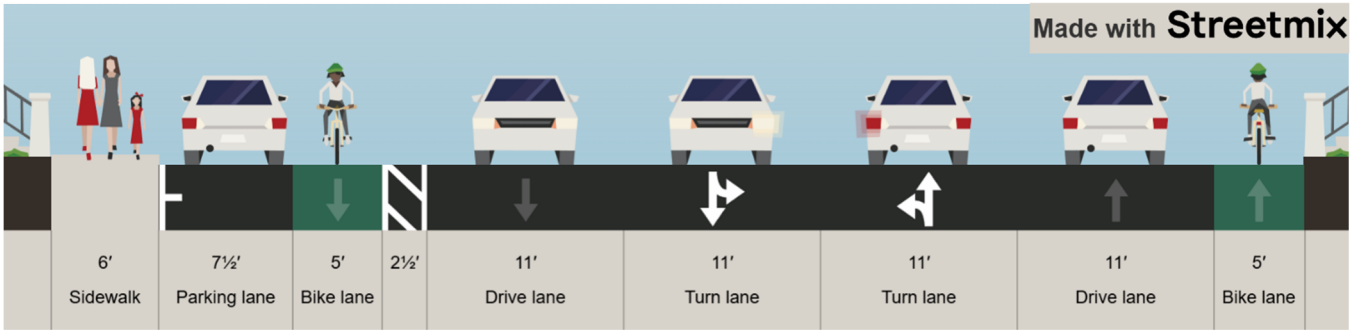


Figure 1. Existing cross section of Moraga Road from Corliss Dr to Donald Dr. Created using Streetmix (https://streetmix.net).

Road Diet Feasibility

The road diet cross section would convert a section of Moraga Road from a four-lane, undivided road to a three-lane cross section with a two-way center turn lane and a buffered bike lane in the northbound direction. This is represented graphically in Figure 2, which shows one potential configuration that includes a wider buffer and wider bike lanes in both directions. As with the existing conditions, the roadway width is approximately 70 ft.

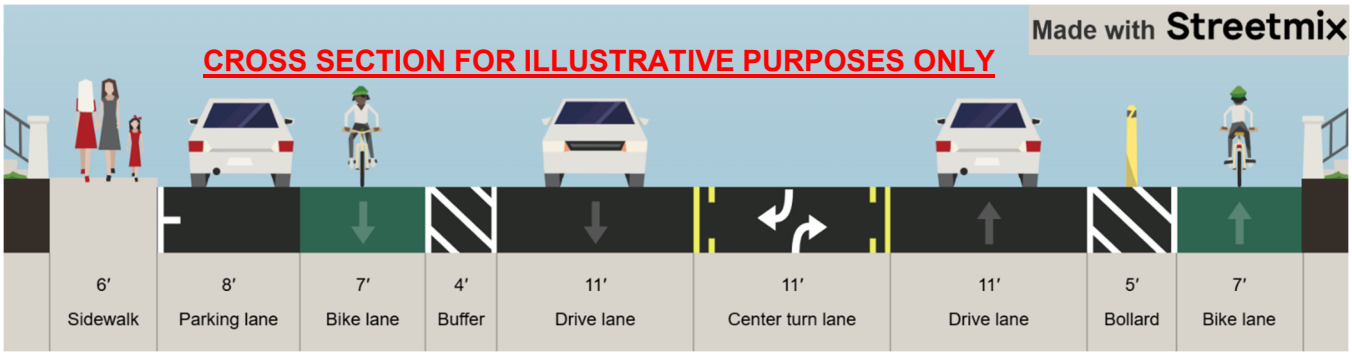


Figure 2. Potential road diet cross section for Moraga Road between Corliss Dr and Donald Dr, incorporating 3-lane cross section with two-way left turn lane, wider bike lanes and buffers. Created using Streetmix (https://streetmix.net).

By repurposing the space, the aim is to improve safety and potentially operations. To determine whether the road diet will function, the first step is to determine the existing traffic counts, speeds, and crashes to determine if the road diet is the correct solution.

Traffic Volumes

Per FHWA, road diets are most effective on roads with an average daily traffic (ADT) volume of up to 20,000 vehicles per day (vpd). Other analysis might be needed for roads with ADT between 10,000 to 20,000 vpd, as seen in Figure 3.

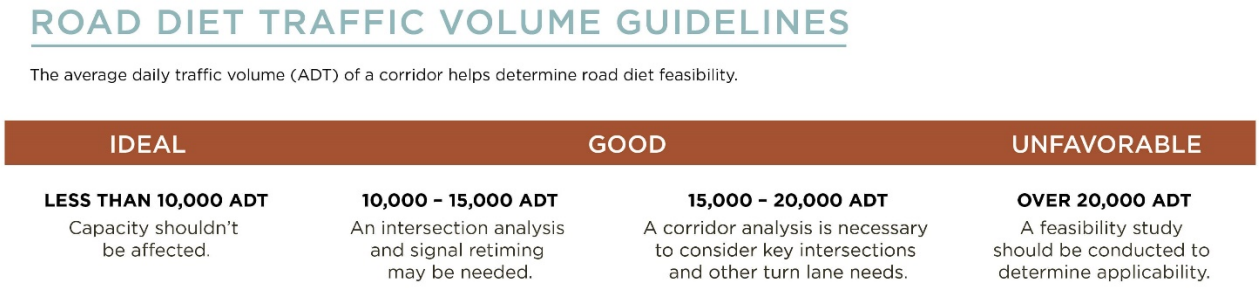


Figure 3. Road Diet volumes and type of analysis needed to determine feasibility.

The traffic volumes were collected for the study area in May 2024. Table 1 shows traffic volumes along Moraga Road.

Table 1. Average Daily Traffic (ADT) counts along Moraga Road.

Location	ADT (vehicles per day)
Moraga Road between Paseo Linares and Draeger Dr*	**15,030 vpd**
Moraga Road between Devin Dr and Donald Dr*	**15,662 vpd**
Moraga Road between Ascot Dr and Lucas Dr	**17,712 vpd**

* - within proposed Road Diet segment.

The volumes appear to be within these guidelines, and thus **a road diet is a feasible option**, subject to traffic analysis.

Vehicle Speeds

One benefit of a road diet is a speed reduction potential since traffic must filter into one lane. Studies from around the nation have shown that road diets can improve compliance with speed limits and reduce speeding.

Speed data was collected in addition to the traffic data in May 2024, and the results are shown in Table 2.

Table 2. 85th percentile speeds along Moraga Road.

Location	85% speed (MPH)	% of speeds at or below 35 MPH
Moraga Road between Paseo Linares and Draeger Dr*	**44 mph**	22%
Moraga Road between Devin Dr and Donald Dr*	**42 mph**	24%
Moraga Road between Ascot Dr and Lucas Dr	**37 mph**	73%

* - within proposed Road Diet segment.

As can be seen, speed limit compliance within the four-lane section is low, with the 85th percentile speed (which can be used to determine speed limits) exceeding the speed limit by 7 to 9 mph. A prior speed study from 2021 showed speeds slightly lower, indicating that **speeding is potentially increasing along the corridor**.

Given the speeding problem, **a road diet is a useful tool to reduce speeds** to be closer to compliance with the posted speed limit.

Safety (Crashes)

Road diets have been found to have a beneficial impact on safety for users of all modes due to speed reduction of motor vehicles and the allocation of space to other modes. In addition, reducing from 4 lanes to 3 lanes improves visibility for left turning vehicles and reduces the number of potential conflict points. Studies have shown that the impact on crashes can be **up to 64% reduction in injury crashes on segments**, and **up to 46% reduction in injury crashes at intersections**.

Furthermore, the reallocation of space to allow for improved bike lane, as in the case of Moraga Road, has safety benefits. Safety data indicate that **converting a traditional bike lane to a bike lane with flexible delineator posts in the buffer can reduce vehicle-bicycle crashes by up to 36%**.

A safety of analysis of injury crashes between January 2018 and December 2023 showed that there were 3 bicycle-involved crashes, one motorcycle crash, and five motor vehicles only crashes, as shown in Figure 4. One serious injury was reported (a bicyclist). Non-injury crash data was not available, but the safety benefits would apply to those crashes. Crashes by severity are presented graphically in Figure 5, and crashes by location are shown in Figure 6.

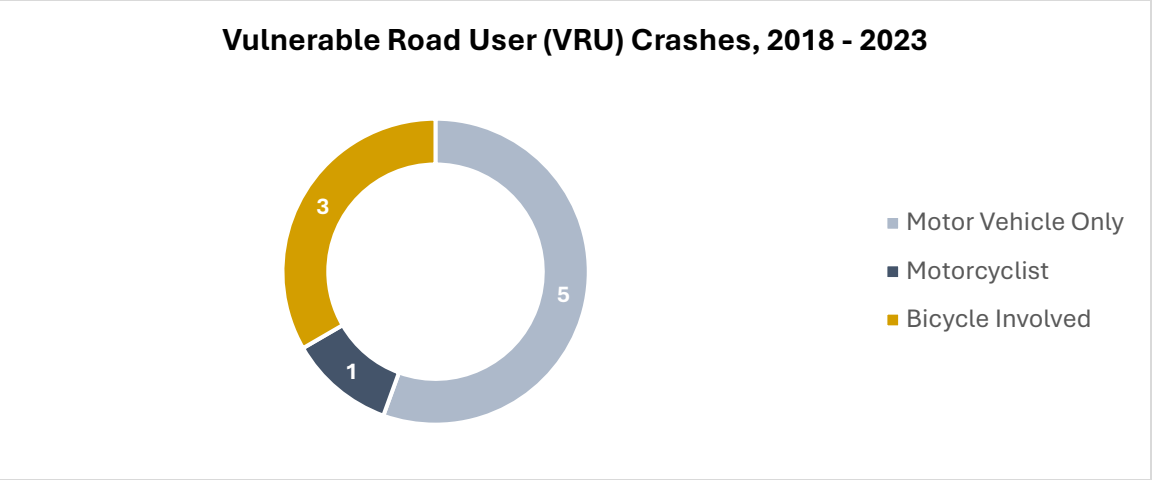


Figure 4. Crashes involving vulnerable road users and motor-vehicle only crashes, 2018 - 2023.

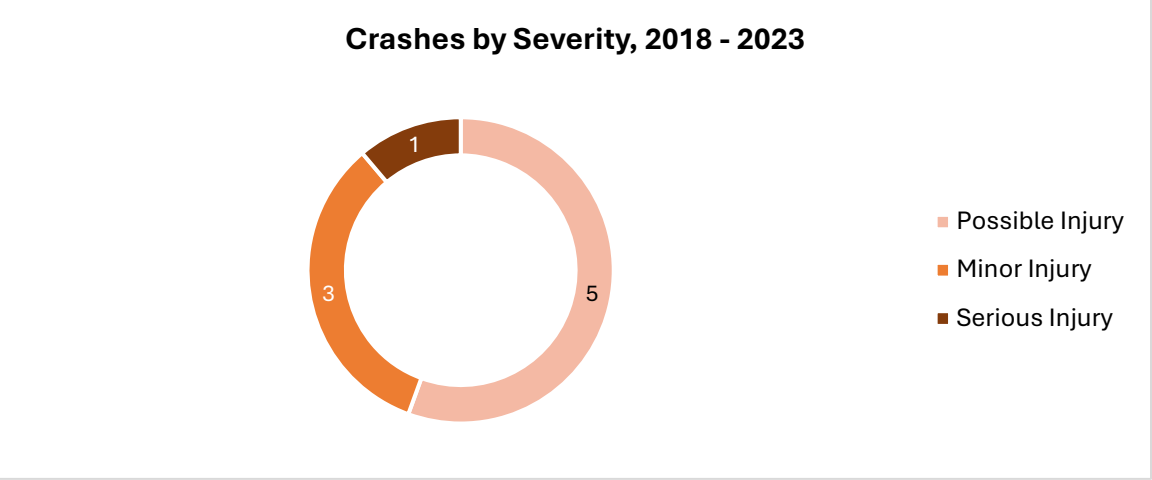


Figure 5. Crashes by severity, 2018 - 2023.

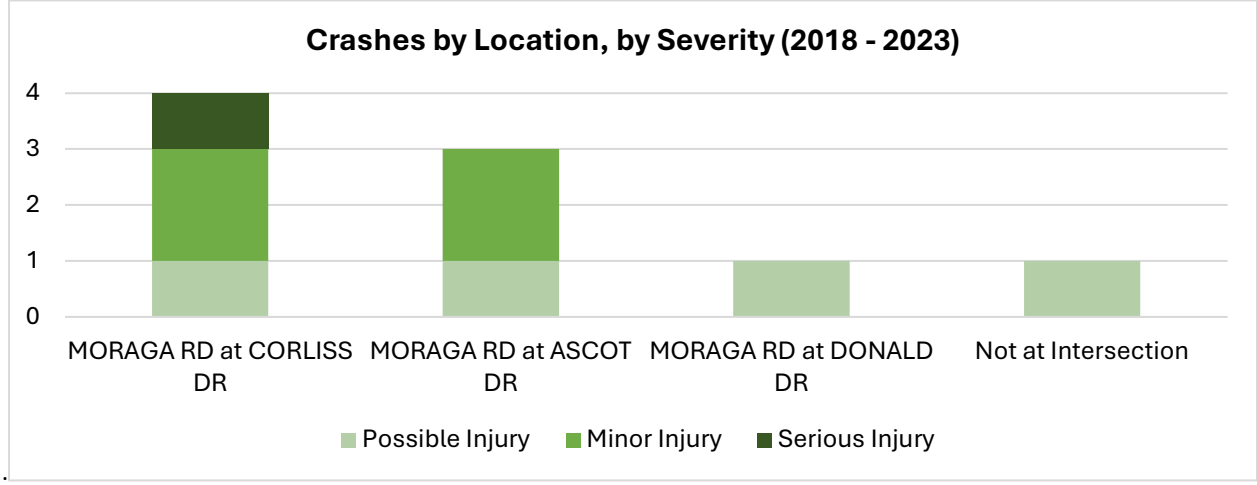


Figure 6. Crashes by location, by severity, 2018 - 2023.

Emergency Response

Based on best practices and case studies, there might be an **improved response time** for emergency vehicles due to the implementation of a two-way left turn lane allowing emergency vehicles to bypass vehicles. As noted by FHWA[1], undivided multilane road can create a more chaotic environment because drivers might not be aware of the correct protocol for pulling over for an emergency vehicle. There also may not be space to pull over, or the pulling over may take more time to complete, particularly if there is congestion on the roadway.

Furthermore, as discussed earlier, road diets have a substantial impact on crashes of all types, including injury and property damage only (no injury) crashes. Therefore, the reduction in crashes expected as a result can **reduce the number of incidents that emergency vehicles need to respond to**. Thus, first responders can spend less time responding to traffic accidents and allow a more efficient use of resources.

Traffic Analysis Process

Capacity analysis was conducted using Synchro version 12 to assess the operations of the intersections. The intersections at Paseo Linares and Devin Dr will be omitted due to lack of traffic counts, and due to the relatively minor volumes that would be anticipated. A growth rate of two percent per year (**2%**) was selected for the purposes of this analysis. This rate was selected in order to conservatively account for future changes to the community and account for any unknowns. The volumes were grown to a horizon year of 2044.

Scenarios

A total of three scenarios were analyzed:

1. Existing roadway configuration with May 2024 volumes,
2. Road Diet configuration with May 2024 volumes, and
3. Road Diet configuration with Future (2044) projected volumes.

Traffic Analysis Results

Changes to the network and signals that were analyzed as part of the analysis included:

- At the intersection of Moraga Road and Donald Dr, signal timing was adjusted to improve operations.
- At the intersection of Moraga Road and Corliss Dr, a traffic signal was included in the 2044 scenario only.
- Road Diet – change to 3 lanes between Corliss Dr and just south of Donald Dr, transitioning to two through lanes in each direction in order to prevent poor signal operations and LOS.

Road Diet Impact

Using existing volumes, the **road diet did not significantly impact traffic operations.** Overall intersection Level of Service (LOS) remained the same, and delay increased by maximum of 3 seconds per vehicle. With appropriate changes to signals, including at Donald Dr, delay was in some instances reduced. In the future road diet condition (2044), all intersections are comfortably operating, with no intersections experiencing unstable operations (LOS E/F).

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[1] *Road Diets and Emergency Response: Friends, not Foes*. FHWA, 2017. https://safety.fhwa.dot.gov/road_diets/resources/pdf/fhwasa17020.pdf

Table 3. Comparison of LOS and delay in seconds for Existing roadway configuration with 2024 volumes, Roat Diet with 2024 volumes, and Road Diet with projected 2044 volumes.

Intersection	2024 Existing		2024 Road Diet		2044 Road Diet	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Moraga Road at Corliss Dr[1]	A/7.8	A/4.6	A/9.4	A/4.5	D/36.6	C/29.1
Moraga Road at Draeger Dr	A/1.5	A/1.4	A/0.9	A/0.9	A/3.20	A/2.80
Moraga Road at Donald Dr	C/26.7	B/17.7	C/29.4	B/17.5	D/39.9	C/24.5
Moraga Road at Ascot Dr	C/27.4	C/22.5	C/21.4	C/23.3	C/32.1	C/29.3

1 – Signal assumed to be installed in 2044, and unsignalized in 2024 conditions.

At the intersection of Moraga Road at Donald Dr, queuing in the southbound direction decreased due to the overall signal operational changes.

Queuing along Moraga Rd at Ascot Dr appears to decrease along Moraga Rd northbound and southbound in the morning peak hour due to the signal operational changes.

Safety Improvements for Pedestrians

Safety at the Donald Dr intersection for pedestrians would be improved by adjusting the operations of the signal at Donald Dr.

Signal Warrant(s) at Unsignalized Intersection(s)

A signal at Corliss Dr would be warranted by existing traffic volumes and should be considered for installation in order to reduce delay for vehicles turning off of Corliss Dr in the road diet condition, since the existing merging lane is unsafe and would be removed in the road diet configuration. A signal at Corliss Dr would also improve safety, particularly given that two (2) sideswipe crashes (including one involving a motorcyclist and one involving a bicyclist, which resulted in a serious injury) have been reported.

No other unsignalized intersections would warrant signals.

Safety Improvements for Pedestrians

Safety for pedestrians would be improved at the intersection of Moraga Road and Corliss Dr intersection by signalizing the existing crosswalk.

Safety Benefits

Using the high-level crash reduction factors as noted earlier, the potential reduction due to the road diet and operational changes can be estimated. Converting the number of crashes observed in the study area to an annual number, a rough estimate of the number of crashes that might occur between 2024 and 2044 can be created. From that, applying the crash reduction factors can determine the approximate number of crashes that would be reduced as a result of the road diet. The cost of a crash can then be estimated to determine the safety benefit from implementing the project, using the cost of crashes as seen in Table 4. In total, as seen in Table 5, there is an estimated benefit of $106,027 per year (in 2024 dollars) from reduced crashes from implementing this project.

Table 4. Crash Costs from USDOT (in 2024 $).

Crash Severity	Cost of Crashes (USDOT, 2024 $)
Fatal	$13,485,474
Serious Injury	$1,281,875
Minor Injury	$252,232
Possible Injury	$120,506

Table 5. Estimated safety benefit from implementing Road Diet on Moraga Road.

Crash Severity	# of Crashes (2018 – 2023)	Expected # of Crashes (2024 – 2044)	# of Crashes Reduced (2024 – 2044)	Cost Benefits from reduced Crashes
Fatal	0	-	-	-
Serious Injury	1	3.33	1.2	$1,538,250
Minor Injury	3	10.0	2.13	$538,095
Possible Injury	5	16.7	0.367	$44,186
			Cumulative benefit (2024 $)	**$2,120,530**
			Annual benefit	**$106,027/yr.**

Conclusions and Recommendations

Overall, the repurposing of a travel lane in the northbound and southbound directions along Moraga Road between Corliss Dr and Donald Dr would operate as efficiently or more efficiently than the existing condition.

Due to the potential increase in delay, lane repurposing on Moraga Road between Donald Dr and Ascot Dr would not be recommended. However, improving the safety of the bike lane through those intersections will need to be addressed.

A traffic signal at the intersection of Moraga Road and Corliss Dr is potentially warranted in current conditions, but certainly will be by 2044. The addition of a signal at Corliss Dr dramatically improves delay at that intersection while slightly increasing delay along Moraga Road.

The road diet configuration would represent a benefit to safety, both by reducing speeds of motor vehicles and by creating additional dedicated space for cyclists.

It is therefore **recommended to move forward with the road diet configuration between Corliss Dr and Donald Dr**.

To: Nate Levine, PE; Brian Horn; Town of Moraga, CA

From: Matt Fralick, PE, PTOE; Scott Shepard, PE; Alta Planning + Design

Date: July 26, 2024

Re: Livable Moraga Rd - Traffic Analysis from Corliss Dr to Ascot Dr

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Introduction

In Feburary 2024, the Contra Costa Transportation Authority provided Alta Planning + Design (Alta) an additional task order to the existing Livable Moraga Road Project to perform a traffic analysis for the corridor of Moraga Road between Corliss Drive and Ascot Drive in the Town of Moraga in Contra Costa County, California. Moraga Road traverses through the center of Moraga, connecting to the City of Lafayette to the north and the SR 24 freeway. The corridor is residential from Corliss Dr to Ascot Dr, transitioning to commercial areas north of and at the intersection of Ascot Dr. Several parks and schools border the corridor. With this in mind, the City tasked Alta with conducting a traffic analysis of a road diet to this segment of Moraga Road, which will include a road diet to convert the 4-lane undivided segment to a 3-lane section with a buffered bike lane in the northbound direction.

Existing Conditions

Study Area

The study area along Moraga Road consists of the following 6 intersections between Corliss Dr and Ascot Dr:

- Moraga Road at Corliss Dr*
- Moraga Road at Paseo Linares
- Moraga Road at Draeger Dr*
- Moraga Road at Devin Dr
- Moraga Road at Donald Dr*
- Moraga Road at Ascot Dr*

*Intersection to be studied in this analysis. Counts were collected on Wednesday, May 22, 2024.

The intersection of Moraga Road and Devin Dr was not included in the analysis due to Devin Dr providing access to only a few residences. In addition, Devin Dr connects to the east to Draeger Dr, which is included in the analysis, and to Donald Dr, which is also included in the analysis.

The intersection of Moraga Road and Paseo Linares was not included in the analysis due to Paseo Linares providing access to only a few residences.

Roadway Characteristics

Moraga Road is a 4 lane undivided roadway that runs in the approximate north-south direction. Within the study area, the two northernmost intersections of Moraga Road at Donald Dr and at Ascot Dr are signalized. The other four intersections operate as a two-way stop-controlled intersection. The southernmost intersection of Moraga Road at Corliss Dr is an unsignalized version of a continuous green T intersection and provides the transition from a 2-lane to a

4-lane section. On street parking is provided in the southbound direction, adjacent to the curb. The posted speed limit on Moraga Road within the project limits is 35 miles per hour (mph).

Between the travel lane and parking lane in the southbound direction is a buffered Class II bike lane. A standard Class II bike lane is provided in the northbound direction. Sidewalk is provided on the west side of Moraga Road, with a gap in the sidewalk on the east side between Paseo Linares and Donald Dr. There is a crosswalk across Moraga Road at Corliss Dr, which is currently augmented with a flashing beacon and overhead pedestrian crossing signs. This crosswalk is scheduled for enhancements, including advance signage and an upgrade to a rectangular rapid flshing beacon (RRFB) as part of a Caltrans-funded safety project[1]. In addition, there are bus stops in both directions just north of Corliss Dr, at Devin Dr, and just north of Ascot Dr.

Within the 4-lane undivided section, the roadway is approximately 70 ft wide, with 11-ft wide lanes and a 6 ft wide bike lane on the east side, and a 7 ft buffered bike lane (inclusive of a 2 ft buffer) adjacent to a 6.5 ft wide parking lane, 1.5 ft curb and gutter, and sidewalk. This is shown graphically in Figure 1. Figure 2 shows the whole Moraga Road corridor with respective lane movements and intersection control.

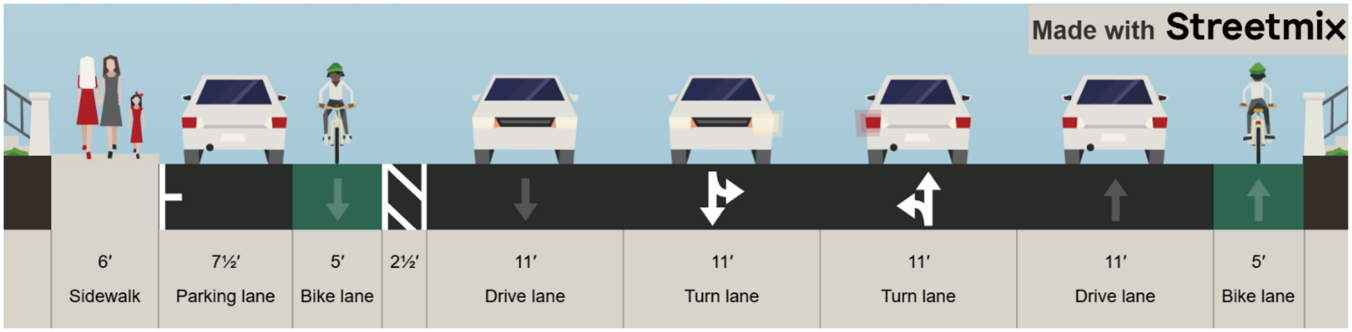

Figure 1. Existing cross section of Moraga Road, representing 4-lane section from Corliss Dr to Donald Dr. Created using Streetmix (https://streetmix.net).

[1] *Project List for Highway Safety Improvement Program (HSIP) Cycle 11*. CalTrans, 2023. https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2023/cycle11fundedprojectsii-v2.pdf

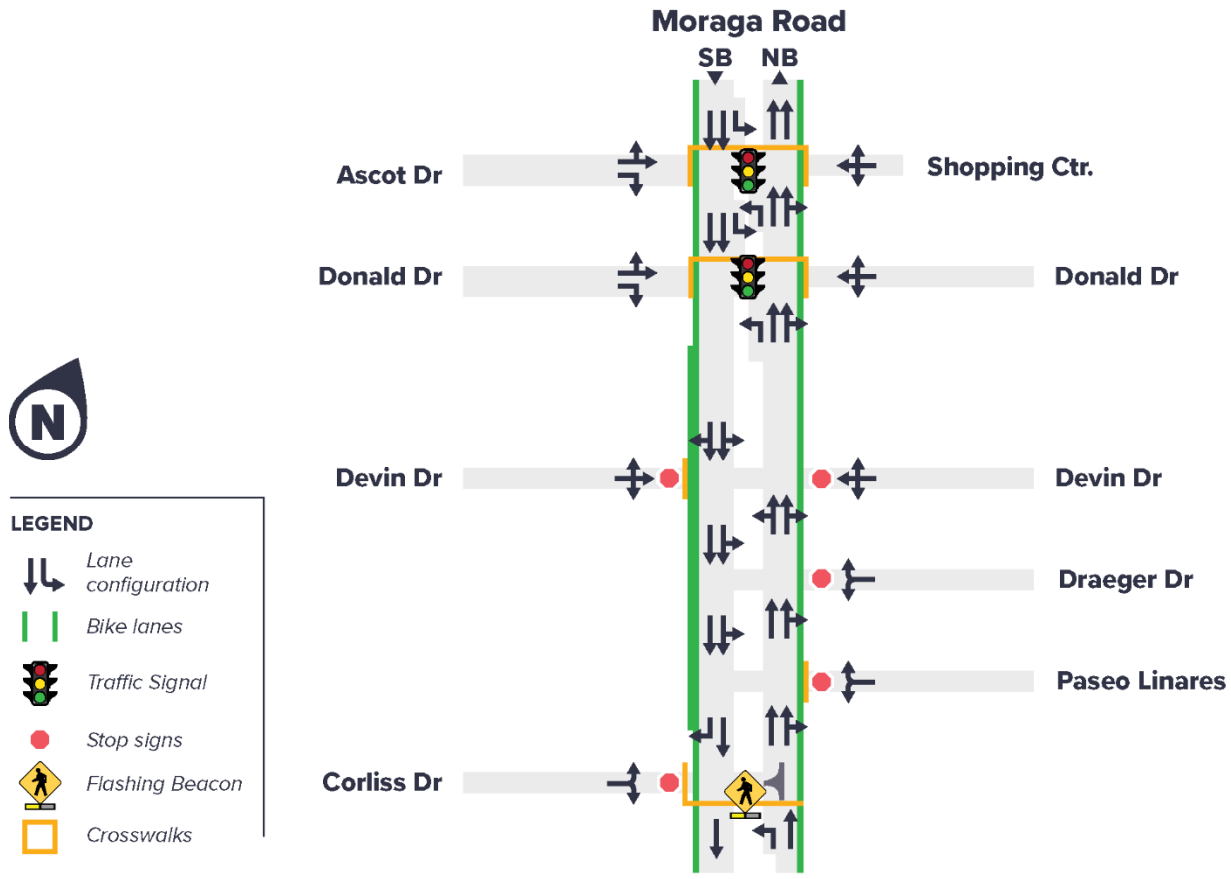

Figure 2. Existing lane configuration and intersection traffic control along Moraga Road.

Average Daily Traffic (ADT)

Traffic volume counts were collected in three areas on Moraga Road during a 48-period from 6:00 PM on Tuesday, May 21, 2024, to 6:00 PM on Thursday, May 23, 2024. The collected volume data can be found as part of **Appendix A.**

The three areas that were collected reported the following average daily traffic (ADT) volumes are listed from south to north in Table 1.

Table 1. Average Daily Traffic (ADT) counts along Moraga Road.

Location	ADT (vehicles per day)
Moraga Road between Paseo Linares and Draeger Dr*	**15,030 vpd**
Moraga Road between Devin Dr and Donald Dr*	**15,662 vpd**
Moraga Road between Ascot Dr and Lucas Dr	**17,712 vpd**

* - within Road Diet segment.

Speeds

In conjunction with the volume counts, speed data was also collected at the same three locations within the study area. The collected speed data can be found as part of **Appendix A.**

The results of the speed study are presented in Table 2 with the 85th percentile speed reported for overall, northbound (NB), and southbound (SB), with the cumulative percent of vehicle speeds at or below the 35 MPH speed limit also noted.

Table 2. 85th percentile speeds along Moraga Road.

Location	85th % speed (MPH)			% of vehicle speeds below 35 MPH
	Overall	NB	SB	
Moraga Road between Paseo Linares and Draeger Dr*	**44 mph**	41 mph	46 mph	22%
Moraga Road between Devin Dr and Donald Dr*	**42 mph**	43 mph	41 mph	24%
Moraga Road between Ascot Dr and Lucas Dr	**37 mph**	39 mph	35 mph	73%

* - within Road Diet segment.

85th percentile speeds exceeded the speed limit (35 mph) in all locations, with the speed generally increasing in the southbound direction and decreasing in the northbound direction. Mean and median speeds from the two locations within the study area indicate that both the mean and median speeds exceed the posted speed. Only between 22% and 24% of vehicles south of Ascot Dr were measured to be travelling at or below the speed limit.

A prior speed study was conducted by the Town of Moraga in April and May 2021, which found that 85th percentile speeds were 41 mph south of Corliss Dr, 42 mph from Corliss Dr to Donald Dr, and 42 mph north of Donald Dr. Based on these results, speeding has potentially increased within certain parts of the study area.

Turning Movement Counts

Turning movement counts were collected at select study intersections (noted above with an *) on Wednesday, May 22, 2024, from 6:00 AM to 9:00 AM and from 3:00 PM to 6:00 PM. The peak hours were found to be 7:45 to 8:45 for the AM peak and 3:00 to 4:00 for the PM peak. Pedestrian and bicycle counts were collected for each intersection along Moraga Road. In addition, peak hour factors and heavy vehicle percentages were provided as part of the counts. The collected turning movement counts, volumes, and speed data can be found in **Appendix A.**

Crash Analysis

Crash data was obtained from the Transportation Injury Mapping System (TIMS), a product of the University of California, Berkeley, for injury crashes in the study area from January 1, 2018, to December 31, 2023. Data was collected for six years in order to have two full years of crash data before and two years after the COVID-19 pandemic-affected years of data (2020 and 2021). Property damage only crashes (ie, crashes without injury) are not collected by TIMS and as such are not included in this analysis.

Crash Summary

Between January 2018 and December 2023, a total of nine (9) injury crashes were reported. Two of these crashes occurred in 2018, three in 2019, and four in 2022. No injury crashes were reported in 2020, 2021, or 2023.

Crashes by Mode and Type

Of the 9 injury crashes reported between January 2018 and December 2023, four (4) crashes involved a vulnerable road user, which includes bicyclists, pedestrians, and motorcyclists. These crashes included:

- Three (3) crashes involving a bicycle, including:
    - Two (2) crashes reported as sideswipes, and
    - One (1) crash in which a motor vehicle failed to yield the right of way to a bicycle (note that this crash was coded as pedestrian due to bicycles not being considered as a separate category in reporting the primary factor of the collision)
- One (1) crash involving a motorcyclist, a sideswipe crash resulting in a minor injury.
- No pedestrian-involved crashes were reported.

The remaining five crashes involved only a motor vehicle, including:

- Two (2) fixed object crashes
- Two (2) Rear end crashes
- One (1) rollover crash

The crashes by mode are shown graphically in Figure 3.

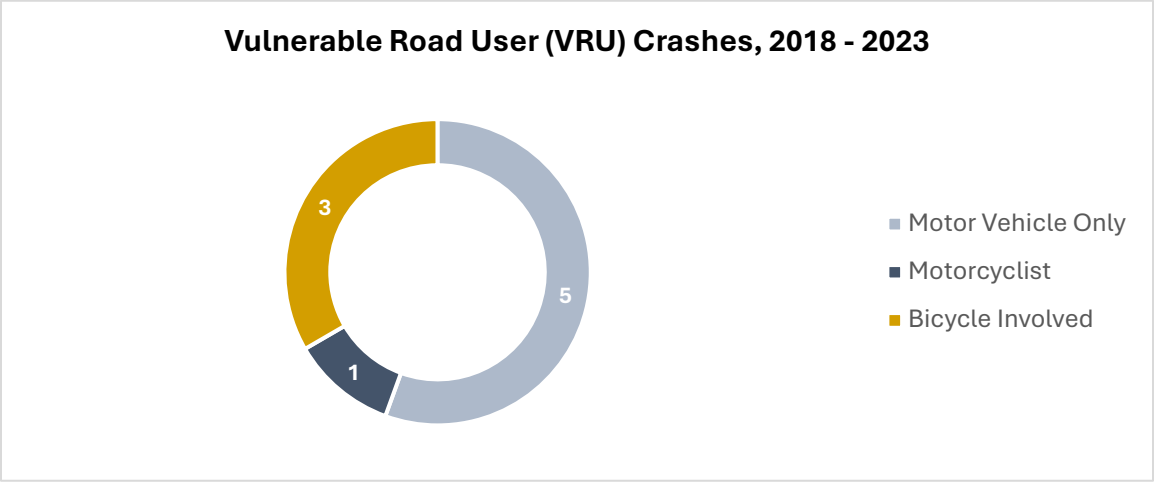

Figure 3. Crashes involving vulnerable road users and motor-vehicle only crashes, 2018 - 2023.

Crashes by Severity

In total, five of the crashes reported a possible injury, three reported a minor injury, and one reported a serious injury. The crashes by severity are shown in Figure 4.

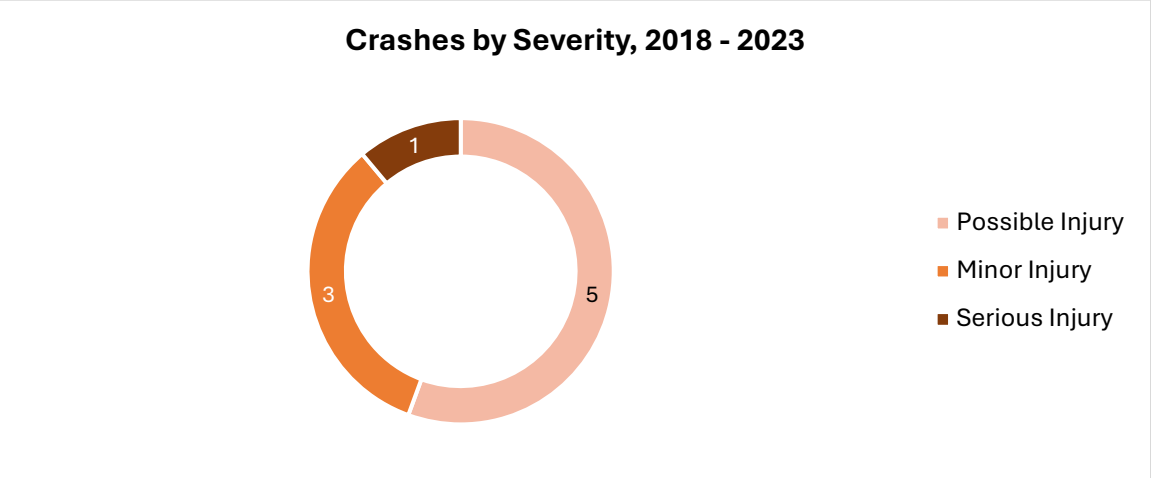

Figure 4. Crashes by severity, 2018 - 2023.

Crashes by Intersection

A total of eight crashes were reported as occurring at intersections. By intersection, they were reported as follows:

- The intersection of Moraga Road and Corliss Dr was the highest crash intersection, with 4 crashes reported, including a crash with serious injury.
    - Two (2) crashes were sideswipe. This included one serious injury crash, which involved a bicyclist, and a minor injury crash involving a motorcyclist.
    - One (1) rear end and rollover crash were each reported.
- The intersection of Moraga Road and Ascot Dr reported three (3) crashes.
    - One (1) crash of each of fixed object, rear end, and sideswipe was reported.
- The intersection of Moraga Road and Donald Dr reported one (1) crash, a bicycle crash involving the failure of the motor vehicle to yield right of way to a cyclist.

One (1) crash did not occur at an intersection, which was a fixed object crash which occurred on Moraga Road between Donald Dr and Ascot Dr.

The number of crashes by severity, by location, are displayed in Figure 5. All injury crashes from 2018 to 2023 were mapped onto the study area and are presented in Figure 6.

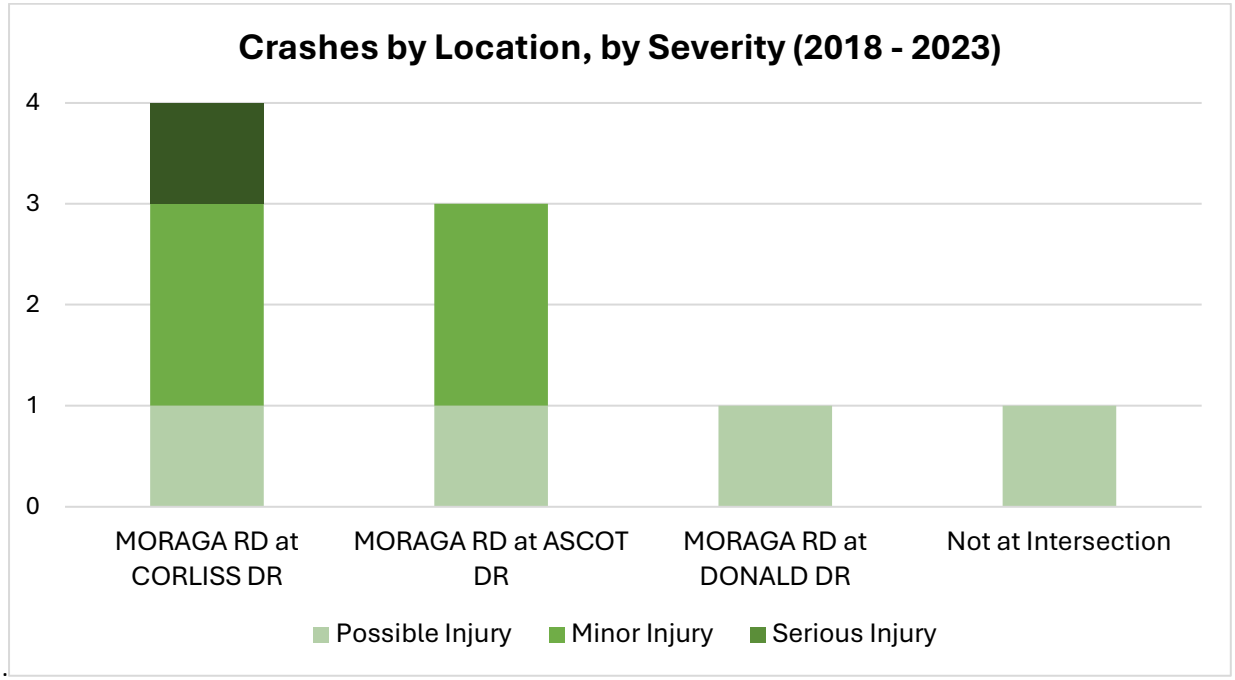

Figure 5. Crashes by location, by severity, 2018 - 2023.

Figure 6. Crashes along Moraga Road within study area (blue-green line) from January 2018 to December 2023.

Road Diet Feasibility

The road diet cross section, as desired by the Town, is to convert a section of Moraga Road from a four-lane, undivided road to a three-lane cross section with a two-way center turn lane, which will allow for addition of a buffer to the northbound bike lane. A generalized road diet conversion is shown in Figure 7.

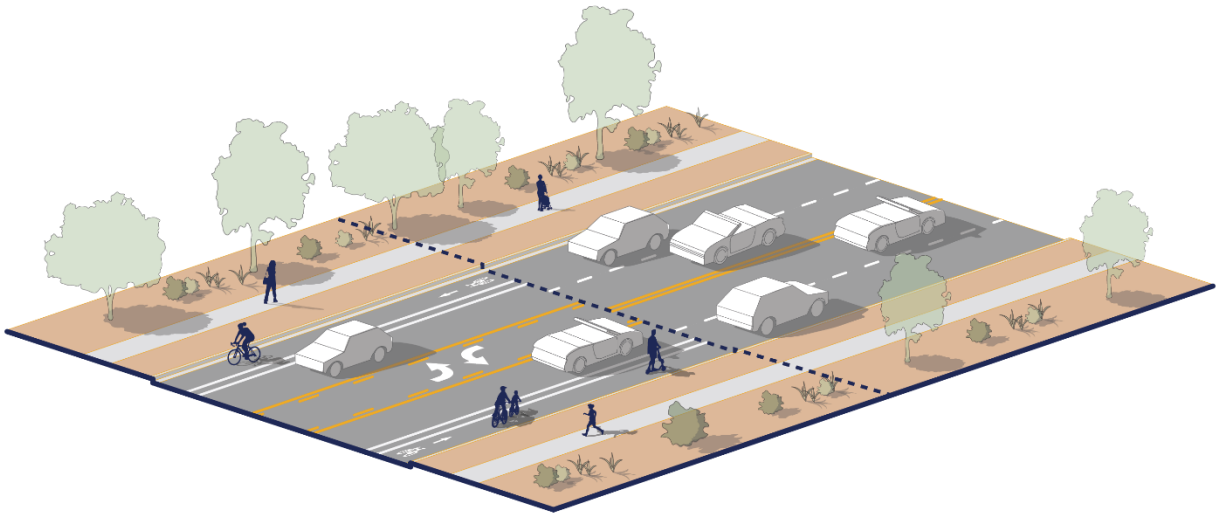

Figure 7. Road Diet conversion for a typical four-lane, undivided roadway.

By repurposing the space, the aim is to improve safety and potentially operations, particularly in areas where the innermost through lane *de facto* acts as a turn lane.

Traffic Volumes

Per FHWA, road diets are most effective on roads with an average daily traffic (ADT) volume of up to 20,000 vehicles per day (vpd)[2]. For roadways with ADT between 10,000 vpd and 20,000, further analysis is recommended, including intersection analyses and signal retiming for roadways with ADT between 10,000 and 15,000 vpd. For roadways with ADT between 15,000 and 20,000 vpd, corridor analysis may be necessary in addition to signal and intersection analyses.

The traffic volumes collected by this study appear to be within these guidelines, and thus a road diet is a potentially feasible option, subject to the operational analysis.

[2] *Road Diet FAQ (FHWA-SA-17-021*), section "What is the maximum traffic volume for a four-lane to three-lane Road Diet conversion?" FHWA, 2017. https://safety.fhwa.dot.gov/road_diets/resources/pdf/fhwasa17021.pdf

Benefits

Vehicle Speeds

One benefit of a road diet is a speed reduction potential, as traffic must filter into one lane. Speed differentials between lanes are also reduced. Studies from around the nation have shown that road diets can improve compliance with speed limits and reduce speeding.[3]

Since speeds on the corridor are reported to exceed the speed limit by 7 to 9 mph, a road diet is potentially a useful tool to reduce speeds.

Safety (Crash Reduction)

Road diets have been found to have a beneficial impact on safety for users of all modes due to speed reduction of motor vehicles and the allocation of space to other modes. Studies have shown that the impact on crashes can be up to 64% reduction in injury crashes on segments, and up to 46% reduction in injury crashes at intersections[4].

Furthermore, the reallocation of space to allow for improved bike lane, as in the case of Moraga Road, has safety benefits. Safety data indicate that converting a traditional bike lane to a separated bike lane with flexible delineator posts can reduce vehicle-bicycle crashes by up to 36%[5].

Emergency Response Benefits

Based on best practices and case studies, there might be an **improved response time** for emergency vehicles due to the implementation of a two-way left turn lane allowing emergency vehicles to bypass vehicles. As noted by FHWA[6], undivided multilane road can create a more chaotic environment because drivers might not be aware of the correct protocol for pulling over for an emergency vehicle. There also may not be space to pull over, or the pulling over may take more time to complete, particularly if there is congestion on the roadway.

Furthermore, as discussed earlier, road diets have a substantial impact on crashes of all types, including injury and property damage only (no injury) crashes. Therefore, the reduction in crashes expected as a result can **reduce the number of incidents that emergency vehicles need to respond to**. Thus, first responders can spend less time responding to traffic accidents and allow a more efficient use of resources.

Analysis

Based on the existing volumes, speeds, and crash history of the roadway, a road diet appears to be an appropriate measure to improve the safety of the network. The next step is to determine the operational effects that implementing a road diet would have upon the network.

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[3] *Road Diet Case Studies (FHWA-SA-15-052)*. FHWA, 2015. https://safety.fhwa.dot.gov/road_diets/case_studies/roaddiet_cs.pdf

[4] CMFs 11128, 11129, 11133, 11134. CMF Clearinghouse. https://www.cmfclearinghouse.org/study_detail.php?stid=649

[5] CMF 11301. CMF Clearinghouse. https://www.cmfclearinghouse.org/detail.php?facid=11301

[6] *Road Diets and Emergency Response: Friends, not Foes*. FHWA, 2017. https://safety.fhwa.dot.gov/road_diets/resources/pdf/fhwasa17020.pdf

Traffic Analysis

Growth Rate

A growth rate of two percent per year (**2%**) was selected for the purposes of this analysis. This rate was selected in order to conservatively account for future changes to the community and account for any unknowns. The volumes were grown to a horizon year of 2044. The total increase in volumes as a result of this growth rate is 48.6%. The grown volumes can be found in **Appendix A.**

Process

Capacity analysis was conducted using Synchro version 12 to assess the level of service (LOS) and delay at the intersections. The intersections at Paseo Linares and Devin Dr will be omitted due to lack of traffic counts, and due to the relatively minor volumes that would be anticipated.

Reports were created to provide the delay and LOS, as well as 95th percentile queues. LOS is a measure of the delay experienced by stopped vehicles at intersections. LOS is rated on a scale from A to F, with A describing a condition of very low delay (less than 10 seconds per vehicle), and F describing a condition where delays will exceed 80 seconds per vehicle for signalized intersections and 50 seconds per vehicle for unsignalized intersections. Delay is described as a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Therefore, intersections with longer delay times are less acceptable to most drivers. The delay limits for each category, based on the *Highway Capacity Manual*, seventh edition, are shown in Table 1.

Table 3: Level of Service Delay Limits

LOS	Signalized Intersection Delay per Vehicle (sec/veh)	Unsignalized Intersection Delay per Vehicle (sec/veh)
A	≤10.0	≤10.0
B	10.1–20.0	10.1–15.0
C	20.1–35.0	15.1–25.0
D	35.1–55.0	25.1–35.0
E	55.1–80.0	35.1–50.0
F	> 80.0	> 50.0

Traffic Analysis – Existing Conditions with Current (2024) and 2044 Volumes

Existing Roadway Configuration with Current (2024) Volumes

Signal Operations

The intersection of Moraga Dr and Donald Dr operates with protected-only northbound and southbound left turns on Moraga Road. Donald Dr operates with a 6-second (s) Leading Pedestrian Interval (LPI) that gives pedestrians the ability to advance into the intersection before the signal turns green. The Donald Dr leg operates with permissive-only left turns.

The Intersection of Moraga Road and Ascot Dr operates with leading-lagging left turns on Moraga Road. The westbound approach from the shopping center is given two phases – a short phase immediately after the Moraga Road phases, and a longer phase including the pedestrian signal which follows the eastbound Ascot Dr split phase.

Level of Service and Delay

The existing roadway configuration with 2024 volumes were modeled in Synchro using the collected turning movement counts for both the AM and PM peak conditions. Table 2 reports the delay in seconds per vehicle and the corresponding LOS for the existing roadway configuration with 2024 volumes in the AM and PM peaks. Table 3 reports the 95th percentile queue lengths in feet for the existing roadway configuration with 2024 volumes in the AM and PM peaks. The Synchro HCM 7 reports can be found in **Appendix B.**

Table 4: Existing Roadway Configuration with current (2024) volumes, Operational Analysis

Intersection	Weekday AM		Weekday PM	
	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Moraga Road at Corliss Dr	**A**	**7.8**	**A**	**4.6**
Eastbound	*E*	*36.8*	*D*	*30.2*
Westbound	-	-	-	-
Northbound[3]	-	-	*A*	*0*
Southbound	*A*	*0*	*A*	*0*
Moraga Road at Draeger Dr	***A***	***1.5***	***A***	***1.4***
Eastbound	-	-	-	-
Westbound	*E*	*35.4*	*D*	*30.9*
Northbound	*A*	*0*	*A*	*0*
Southbound	*A*	*1.0*	*A*	*0.98*

Intersection	Weekday AM		Weekday PM	
	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Moraga Road at Donald Dr[5]	***C***	***26.7***	***B***	***17.7***
Eastbound	*E*	*55.4*	*D*	*54.5*
Westbound	*D*	*39.8*	*D*	*47.9*
Northbound	*B*	*15.2*	*A*	*9.2*
Southbound	*C*	*29.7*	*C*	*21.5*
Moraga Road at Ascot Dr[5]	***C***	***27.4***	***C***	***22.5***
Eastbound	*D*	*52.5*	*D*	*53.1*
Westbound	*D*	*50.3*	*D*	*50.9*
Northbound	*C*	*27.1*	*C*	*21.3*
Southbound	*C*	*20.0*	*B*	*18.9*

1 – Level of Service
2 – Delay in seconds per vehicle
3 – Delay northbound not reported due to intersection configuration in the model.
4 – HCM 2000 due to presence of Leading Pedestrian Interval (LPI)
5 – HCM 2000 due to presence of non-standard NEMA phasing

Table 5: Existing Roadway Configuration with current (2024) volumes, 95th Percentile Queue (ft) Summary

Intersection	Weekday AM			Weekday PM		
	Left	Thru	Right	Left	Thru	Right
Moraga Road at Corliss Dr						
Eastbound	114	-	-	103	-	-
Westbound	-	-	-	-	-	-
Northbound	48	*NR*	-	37	*NR*	-
Southbound	-	50	8	-	102	4
Moraga Road at Draeger Dr						
Eastbound	-	-	-	-	-	-
Westbound	62	-	-	64	-	-
Northbound	-	3	-	-	4	-
Southbound	-	98	-	-	123	-
Moraga Road at Donald Dr						
Eastbound	-	176	64	-	104	55
Westbound	-	65	-	-	31	-
Northbound	92	142	-	80	113	-
Southbound	57	258	-	43	239	-
Moraga Road at Ascot Dr						
Eastbound	134	-	58	115	-	50
Westbound	-	55	-	-	56	-
Northbound	92	209	-	111	191	-
Southbound	39	236	-	63	232	-

NR – Queuing not reported due to intersection configuration

Bold – Exceeds storage length

Some items of note are:

- No queues exceed the existing storage length.
- The unsignalized intersections of Moraga Rd at Corliss Dr and Moraga Road at Draeger Dr are approaching LOS F in the AM peak.
- The signalized intersections of Moraga Rd at Donald Dr and Moraga Road at Ascot Dr report higher queuing in the southbound direction. This could be due to the higher number of right turns onto both Ascot Dr and Donald Dr as compared to northbound.
- The eastbound approach of Donald Dr at the intersection with Moraga Road is approaching LOS F in the AM peak. This is likely due to the high number of vehicles attempting to turn left on a permissive-only left turn phase from a shared left/through lane.

Existing Roadway Configuration with 2044 Volumes (No Build Conditions)

To determine the 2044 no-build conditions analysis, the volumes were grown to the future year using the Town-approved growth rate. Using these volumes, Alta analyzed the no-build conditions.

Operational Changes

Based on information received from the Town, an adaptive signal system is scheduled for installation by 2026. Accordingly, the phases, splits and cycle lengths differ from the existing roadway configuration with 2024 volumes, and were optimized to improve operations. The LPI at Donald Dr is maintained. It should be noted that the signal timing and phasing represent only one of several possible timings, and signal timings were selected to provide the lowest delays on the Moraga Road approaches.

Left turns on Moraga Road at Ascot Dr were adjusted to be lagging in both directions in the morning peak, and lead-lag in the afternoon peak. The westbound split phase was adjusted to only occur once in a cycle, instead of the current two phases, one short and one long with the pedestrian crossing, allocated to the shopping center.

Left turns on Moraga Road at Donald Dr were adjusted to be lead-lag in the morning peak, and lagging in the afternoon peak.

Level of Service and Delay

Table 4 reports the delay in seconds per vehicle and the corresponding LOS for the 2044 no-build AM and PM peaks. Table 5 reports the 95th percentile queues in feet for the 2044 no-build conditions in the AM and PM peaks. The Synchro reports can be found in **Appendix C.**

Table 6: Existing Roadway Configuration with 2044 volumes (No Build), Operational Analysis

Intersection	Weekday AM		Weekday PM	
	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Moraga Road at Corliss Dr	**F**	**91.7**	**E**	**48.7**
Eastbound	*F*	*430.3*	*F*	*318.9*
Westbound	-	-	-	-
Northbound[3]	*NR*	*NR*	*NR*	*NR*
Southbound	*A*	*0*	*A*	*0*
Moraga Road at Draeger Dr	***A***	***15.5***	***A***	***12.4***
Eastbound	-	-	-	-
Westbound	*F*	*497.4*	*F*	*394.2*
Northbound	*A*	*0*	*A*	*0*
Southbound	*A*	*3.02*	*A*	*2.97*

Intersection	Weekday AM		Weekday PM	
	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Moraga Road at Donald Dr[4]	***D***	***49.0***	***B***	***11.4***
Eastbound	*D*	*54.6*	*E*	*58.2*
Westbound	*C*	*33.2*	*D*	*45.4*
Northbound	*C*	*30.7*	*B*	*13.2*
Southbound	*E*	*67.8*	*A*	*3.4*
Moraga Road at Ascot Dr	***D***	***37.9***	***C***	***30.3***
Eastbound	*E*	*64.8*	*E*	*63.4*
Westbound	*E*	*62.8*	*E*	*68.4*
Northbound	*C*	*24.7*	*A*	*7.1*
Southbound	*D*	*45.8*	*D*	*45.2*

1 – Level of Service
2 – Delay in seconds per vehicle
3 – Delay northbound not reported due to intersection configuration in the model.
4 – HCM 2000 due to presence of Leading Pedestrian Interval (LPI)

Table 7: Existing Roadway Configuration with 2044 volumes (No Build), 95th Percentile Queue (ft) Summary

Intersection	Weekday AM			Weekday PM		
	Left	Thru	Right	Left	Thru	Right
Moraga Road at Corliss Dr						
Eastbound	198	-	-	201	-	-
Westbound	-	-	-	-	-	-
Northbound	67	*NR*	-	62	*NR*	-
Southbound	-	28	12	-	174	11
Moraga Road at Draeger Dr						
Eastbound	-	-	-	-	-	-
Westbound	99	-	-	148	-	-
Northbound	-	3	-	-	6	-
Southbound	-	220	-	-	270	-
Moraga Road at Donald Dr						
Eastbound	-	237	73	-	141	63
Westbound	-	93	-	-	43	-
Northbound	**143**	285	-	**131**	265	-
Southbound	46	309	-	51	223	-
Moraga Road at Ascot Dr						
Eastbound	137	-	81	131	-	55
Westbound	-	71	-	-	73	-
Northbound	**149**	378	-	**183**	292	-
Southbound	86	370	-	84	339	-

NR – Queuing not reported due to intersection configuration

Bold – Exceeds storage length

Some items of note are:

- The intersection of Moraga Rd at Corliss Dr worsens from LOS A in 2024 to LOS F in 2044 with the unsignalized intersection maintained.
    - Corliss Dr eastbound moves from LOS E/D in 2024 to LOS F in both peak hours. This is primarily due to the increase in volumes along Moraga Road preventing adequate gaps in traffic for which a turn can be made.
    - Corliss Dr eastbound delays exceed 7 minutes in the AM peak, and 5 minutes in the PM peak.
    - Trip redistribution is not within the scope of this study but could be expected due to the delay.
- Draeger Dr westbound reports LOS F during both AM and PM peak hours, going from LOS D/E in 2024 to LOS F in 2044. Delays on Draeger Dr exceed 8 min in the AM peak, and 6 min in the PM peak. This could be reduced with restriping to add dedicated left and right turn lanes, or by encouraging left turns to redistribute to the signalized intersection of Moraga Road and Donald Dr.
- At the intersection of Moraga Road and Donald Dr, LOS in the AM peak worsened from LOS C to LOS D, an increase of delay of around 20 s/veh. Notably, the Donald Dr approaches both improved LOS, while Moraga

Rd LOS worsened to LOS C northbound and LOS E southbound. Despite this, queues southbound did not exceed the storage distance and thus were not reported to block the intersection of Moraga Road and Ascot Dr.

    - In the PM peak, level of service remained the same as 2024, with delay at the intersection of Moraga Road and Donald Dr decreasing by around 6 s/veh, and increasing by about 5s/veh at the intersection of Moraga Road and Ascot Dr.

- Northbound left turn queues exceeded storage bay distances in the 95th percentile queuing analysis at the signalized intersections of Moraga Road at Donald Dr and at Ascot Dr. However, in both instances, queues did not extend beyond the taper of the turn bay.

Traffic Analysis – Road Diet with Current (2024) and 2044 Volumes

Road Diet with Current Year (2024) Volumes

Road Diet Configuration

The road diet conditions along Moraga Road between Corliss Dr and Donald Dr will repurpose the outside northbound and southbound through lane. One through lane in each direction will be maintained. A two-way left turn lane will be added to allow safer turns onto the side streets and driveways. The buffer for the southbound bike lane would be widened. northbound bike lane would be improved from a standard class II bikeway to a class IV separated bikeway with flexible delineator posts. These changes are represented graphically in Figure 8, which shows one potential configuration that includes a wider buffer and wider bike lanes in both directions.

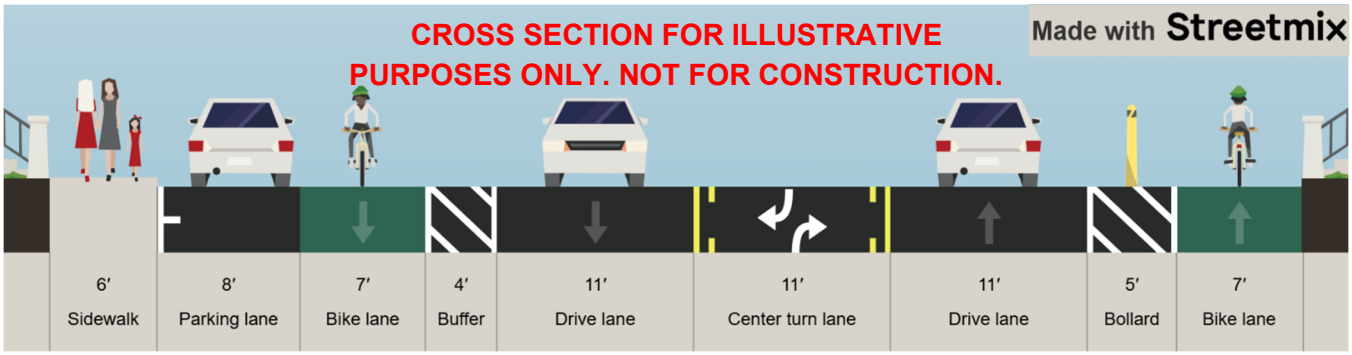


Figure 8. Road diet cross section for Moraga Road between Corliss Dr and Donald Dr, incorporating 3-lane cross section with two-way left turn lane, wider bike lanes and buffers. Created using Streetmix (https://streetmix.net).

Based on preliminary analysis, two through lanes would be required on Moraga Road on the approach to the signal at Donald Dr. Two lanes would need to be maintained on Moraga Road, matching the existing cross-section, north of Donald Dr. The southbound lanes on Moraga Road would merge into one lane just south of the intersection with Donald Dr.

At the intersection of Moraga Road with Draeger Dr, Draeger Dr westbound will maintain the current geometry.

At the intersection of Moraga Road with Corliss Dr, Corliss Dr eastbound is recommended to be restriped to add a dedicated right turn lane. Due to the lane reconfiguration, the existing intersection was assumed to be reconfigured to a standard intersection with no merging lane for eastbound left turns.

Figure 9 shows the lane configuration and traffic control for the road diet with 2024 volumes.

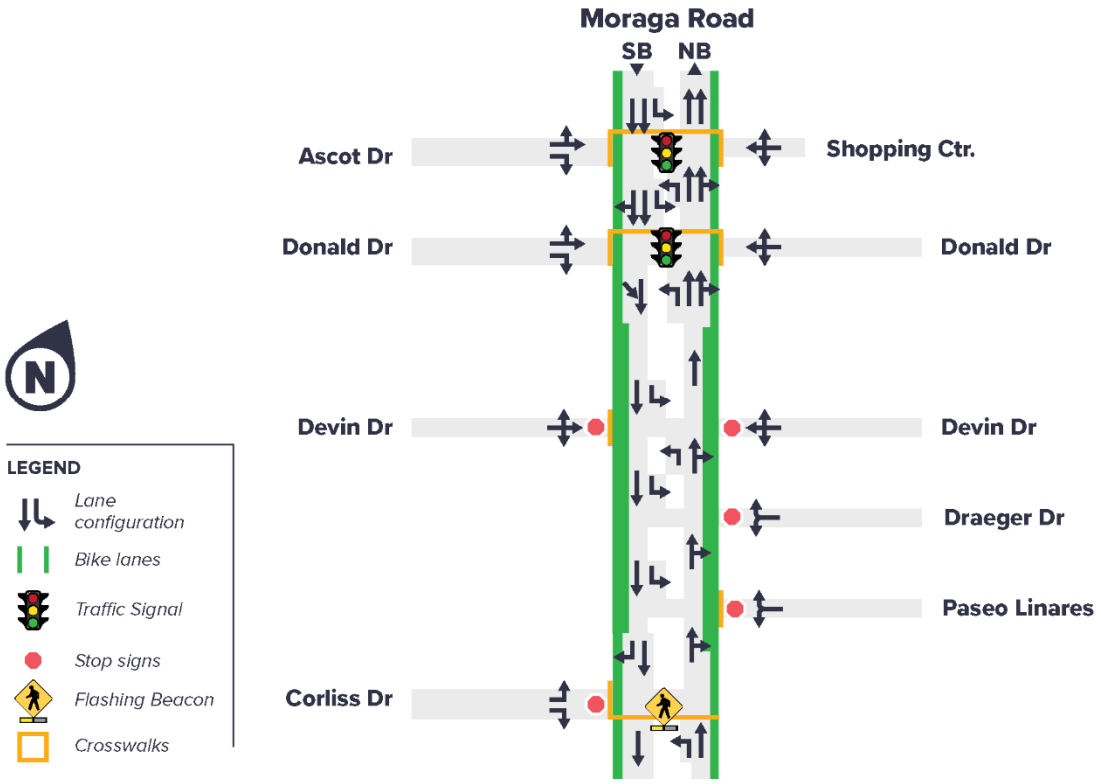


Figure 9: Road Diet lane configuration and intersection traffic control along Moraga Road – current year (2024) volumes.

Signal Warrants

A traffic signals warrant should be conducted at the Corliss Dr intersection to see if a signal would be warranted in the existing roadway configuration with current (2024) volumes. Due to the speed counts indicating that 85th percentile speeds in the study area exceed 40 mph, the 70% factor condition for the signal warrant may apply. Based on the six hours of counts provided, a signal is potentially warranted based on the four-hour warrant and peak hour warrant at the Corliss Dr intersection in the base condition. The eight-hour warrant may be met by some hours, but the counts were only collected for a total of six hours or the day, so it is unclear is the warrant can be met.

The Draeger Dr intersection appears not to meet warrants.

Table 8 shows an analysis of signal warrants for the two unsignalized intersections. Pedestrian, school, and safety warrants are not met by either intersection. An asterisk (*) denotes that the warrant is met using the 70% factor. The condition, A or B, is noted where each condition (or both) applies.

Table 8. Signal Warrants for Unsignalized Intersections, Road Diet with Current Year (2024) Volumes.

Intersection	Volumes		Eight Hour	Four Hour	Peak Hour
	Major	Minor	Met?	Met?	Met?
Moraga Road at Corliss Dr			**Undetermined**	**Met**	**Met**
6am to 7am	245	32	No	No	No
7am to 8am	646	74	Yes* (B)	No	No
8am to 9am	1357	193	Yes (A + B)	Yes	Yes (B)
3pm to 4pm	*1563*	*154*	Yes (A + B)	Yes	Yes (B)
4pm to 5pm	*1241*	*102*	Yes* (B)	Yes*	Yes* (B)
5pm to 6pm	*1253*	*126*	Yes* (A + B)	Yes*	Yes* (B)
Moraga Road at Draeger Dr			**Undetermined**	**Undetermined**	**Undetermined**
6am to 7am	*280*	*11*	No	No	No
7am to 8am	*717*	*31*	No	No	No
8am to 9am	*1456*	*39*	No	No	No
3pm to 4pm	*1680*	*48*	No	No	No
4pm to 5pm	*1325*	*37*	No	No	No
5pm to 6pm	*1339*	*29*	No	No	No

Dark Green – Warrant is met during this hour.
Light Green – Warrant is met only when using the 70% factor.
(A), (B), (A + B) – warrant is met using the Condition noted by the letter

Operational Changes

In order to improve safety, changes to signals were more comprehensive.

The intersection of Moraga Road at Donald Dr was adjusted to be a split-phase signal. The LPI was removed due to the relatively low traffic from the westbound Donald Dr approach and the high number of left-turning vehicles, combined with the improved safety effect from separating the pedestrians from turning vehicles. Left turns from Moraga Road onto Donald Dr were adjusted to be lagging in both morning and afternoon peak.

At the intersection of Moraga Road and Ascot Dr, left turns from Moraga Road onto Ascot Dr onto Moraga Road were adjusted to be lead-lag in the morning peak, and lagging in the afternoon peak. The Ascot Dr westbound split phase was adjusted to only occur once in a cycle, instead of the current two phases, one short and one long with the pedestrian crossing, allocated to the shopping center.

A signal at the intersection of Moraga Road and Corliss Dr was not included in this analysis for the current year.

Level of Service and Delay

Table 9 reports the delay in seconds per vehicle and the corresponding LOS for the road diet with 2024 volumes in the AM and PM peaks. Table 10 reports the 95th percentile queues in feet for road diet with 2024 volumes in the AM and PM peaks. The Synchro reports can be found in **Appendix D.**

Table 9: Road Diet with Current Year (2024) Volumes Operational Analysis

Intersection	Weekday AM		Weekday PM	
	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Moraga Road at Corliss Dr	**A**	**9.4**	**A**	**4.5**
Eastbound	F	75.14	*E*	*48.94*
Westbound	-	-	-	-
Northbound	*A*	*0.61*	*A*	*0.33*
Southbound	*A*	*0*	*A*	*0*
Moraga Road at Draeger Dr	***A***	***0.9***	***A***	***0.9***
Eastbound	-	-	-	-
Westbound	*D*	*26.56*	*D*	*25.16*
Northbound	*A*	*0*	*A*	*0*
Southbound	*A*	*0.36*	*A*	*0.33*

Intersection	Weekday AM		Weekday PM	
	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Moraga Road at Donald Dr	***C***	***29.4***	***B***	***17.5***
Eastbound	*E*	*61.1*	*E*	*66.2*
Westbound	*E*	*60.6*	*E*	*67.1*
Northbound	*C*	*33.4*	*C*	*23.7*
Southbound	*B*	*14.0*	*A*	*4.8*
Moraga Road at Ascot Dr	***C***	***21.4***	***C***	***23.3***
Eastbound	*E*	*59.0*	*E*	*66.0*
Westbound	*E*	*63.0*	*E*	*77.6*
Northbound	*A*	*2.3*	*A*	*5.5*
Southbound	*C*	*32.9*	*C*	*31.8*

1 – Level of Service
2 – Delay in seconds per vehicle

Table 10: Road Diet with Current Year (2024) Volumes 95th Percentile Queue (ft) Summary

Intersection	Weekday AM			Weekday PM		
	Left	Thru	Right	Left	Thru	Right
Moraga Road at Corliss Dr						
Eastbound	168	-	**111**	142	-	53
Westbound	-	-	-	-	-	-
Northbound	44	20	-	35	19	-
Southbound	-	10	8	-	3	11
Moraga Road at Draeger Dr						
Eastbound	-	-	-	-	-	-
Westbound	55	-	-	74	-	-
Northbound	-	0	-	-	3	-
Southbound	34	0	-	40	0	-
Moraga Road at Donald Dr						
Eastbound	-	186	59	-	130	55
Westbound	-	77	-	-	37	-
Northbound	98	174	-	92	122	-
Southbound	43	177	-	55	122	-
Moraga Road at Ascot Dr						
Eastbound	136	-	56	126	-	42
Westbound	-	62	-	-	60	-
Northbound	85	195	-	104	140	-
Southbound	54	246	-	75	272	-

Bold – Exceeds storage length

*95th percent queue exceeds storage; upstream intersection blocked only 1% of the time.

Some items of note are:

- Overall, delay does not increase or decrease by more than 5 seconds per vehicle, with the exception of the intersection of Moraga Road and Ascot Dr, with a decrease in delay of 6 s/veh caused by the signalization changes.
- No queues exceed storage length on Moraga Road.
- At the intersection of Moraga Road and Corliss Dr, the proposed right turn lane (length 75 ft) appears to be blocked by the left-turning vehicles about 32% of the time in the AM peak, and about 23% in the PM peak.
- At the intersection of Moraga Road at Donald Dr, queuing in the southbound direction decreased due to the overall operational changes at the signals.
- Queuing along Moraga Rd at Ascot Dr appears to decrease along Moraga Rd northbound and southbound in the morning peak hour due to the operational changes at the signals.
- At both the intersections of Moraga Road with Donald Dr and Moraga Road with Ascot Dr, the minor streets (Donald Dr and Ascot Dr) report worsened LOS, decreasing from LOS D to LOS E in all movements in all peaks. This is likely due to the operational changes at the signals.

Comparison to 2024 Existing Conditions

For reference, Table 11 shows the comparison of LOS and delay using 2024 volumes for the existing roadway configuration and the road diet configuration.

Table 11. Existing vs. Road Diet Roadway Configuration – Existing (2024) Volumes

Intersection	Weekday AM		Weekday PM	
	2024 Existing	2024 Road Diet	2024 Existing	2024 Road Diet
Moraga Road at Corliss Dr	A/7.8	A/9.4	A/4.6	A/4.5
Moraga Road at Draeger Dr	A/1.5	A/0.9	A/1.4	A/0.9
Moraga Road at Donald Dr	C/26.7	C/29.4	B/17.7	B/17.5
Moraga Road at Ascot Dr	C/27.4	**C/21.4**	C/22.5	C/23.3

Bold – Decreased Delay by 5 or more s/veh
Underline – Increased Delay by 5 or more s/veh

Green – Improved LOS
Orange – Worsened LOS

Road Diet with 2044 Volumes

The road diet conditions using the 2044 traffic volumes for the AM and PM peak volumes were input into Synchro and analyzed.

Lane Configuration

The lane configuration will match the lane configuration of the road diet from the 2024 volume scenario.

Signal Warrants

Based on the findings from the signal warrants in the current year conditions, a signal at the intersection of Moraga Road and Corliss Dr might be warranted. However, by 2044, the increase in traffic and delay would almost certainly warrant installation of a traffic signal.

Based on the projected traffic values, a signal at Draeger Dr would not be warranted.

Operational Changes

The intersection of Moraga Road at Donald Dr was adjusted to be a split-phase signal; the LPI was removed due to the relatively low traffic from the westbound Donald Dr approach and the high number of left-turning vehicles, combined with the improved safety effect from separating the pedestrians from turning vehicles. Left turns from Moraga Road onto Donald Dr were adjusted to be lagging in both morning and afternoon peak.

At the intersection of Moraga Road and Ascot Dr, left turns from Moraga Road onto Ascot Dr onto Moraga Road were adjusted to be lead-lag in the morning peak, and lagging in the afternoon peak. The Ascot Dr westbound split phase was adjusted to only occur once in a cycle, instead of the current two phases, one short and one long with the pedestrian crossing, allocated to the shopping center.

At the intersection of Moraga Road and Corliss Dr, a traffic signal is proposed. Left turns northbound off Moraga Road are protected-only to improve safety of the crosswalk and bike lane.

No changes are proposed to the intersection of Moraga Road and Draeger Dr.

Figure 10 shows the road diet lane configuration and signalization along Moraga Road in the year 2044.

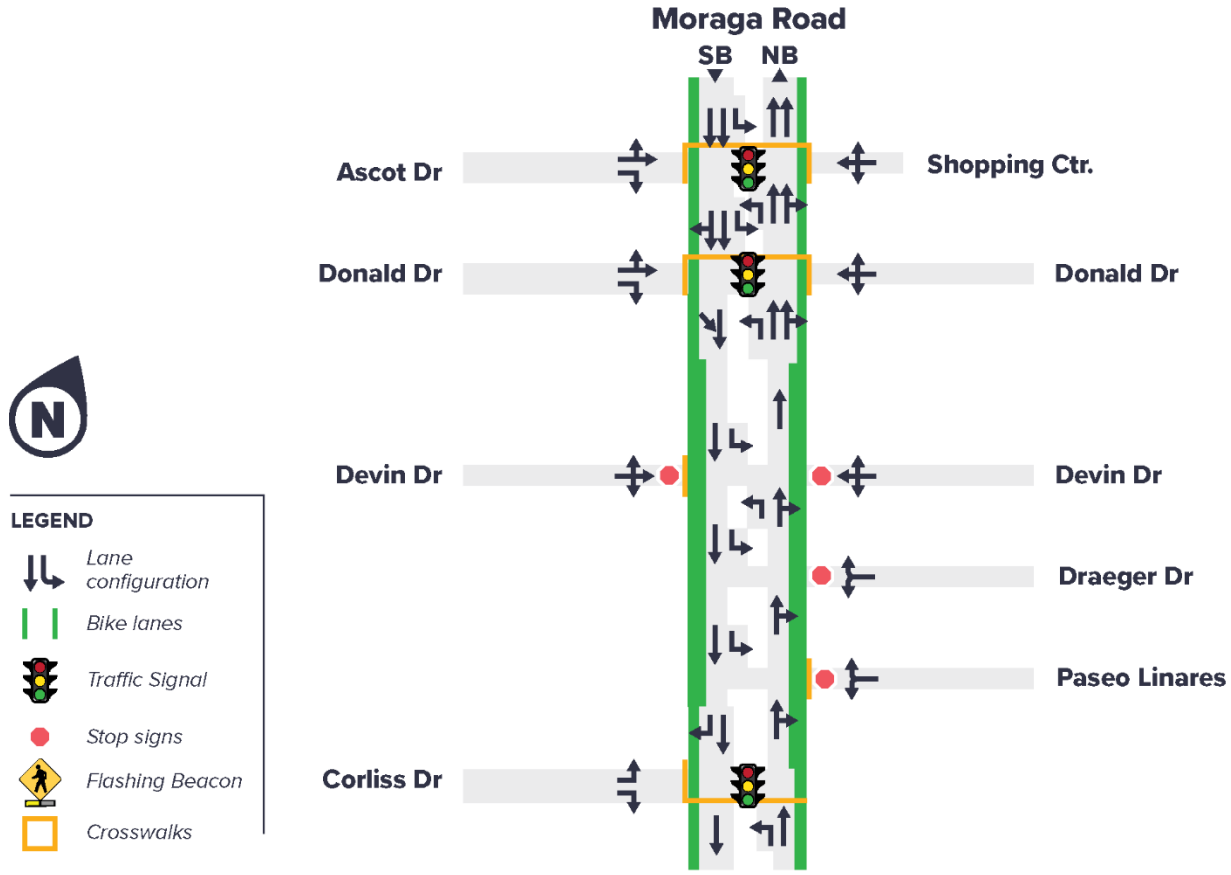


Figure 10. Road Diet lane configuration and intersection traffic control along Moraga Road – 2044 volumes.

Level of Service and Delay

Table 12 reports the delay in seconds per vehicle and the corresponding LOS for the road diet with 2044 volumes in the AM and PM peaks. Table 13 reports the 95th percentile queues in feet the road diet with 2044 volumes in the AM and PM peaks. The Synchro reports can be found in **Appendix E.**

Table 12: Road Diet with 2044 Volumes Operational Analysis

Intersection	Weekday AM		Weekday PM	
	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Moraga Road at Corliss Dr	**D**	**36.6**	**C**	**29.1**
Eastbound	E	63.8	*D*	*52.7*
Westbound	-	-	-	-
Northbound	*C*	*25.8*	*B*	*16.9*
Southbound	*D*	*39.5*	*C*	*34.9*
Moraga Road at Draeger Dr	***A***	***3.2***	***A***	***2.8***
Eastbound	-	-	-	-
Westbound	*F*	*104.7*	*F*	*91.8*
Northbound	*A*	*0*	*A*	*0*
Southbound	*A*	*0.49*	*A*	*0.44*
Moraga Road at Donald Dr	***D***	***39.9***	***C***	***24.5***
Eastbound	*E*	*62.5*	*E*	*72.1*
Westbound	*E*	*76.6*	*E*	*69.6*
Northbound	*D*	*51.4*	*C*	*34.5*
Southbound	*B*	*18.8*	*A*	*8.1*
Moraga Road at Ascot Dr	***C***	***32.1***	***C***	***29.3***
Eastbound	*D*	*55.0*	*E*	*69.7*
Westbound	*E*	*56.6*	*E*	*75.3*
Northbound	*B*	*14.5*	*A*	*3.9*
Southbound	*D*	*46.4*	*D*	*44.5*

1 – Level of Service
2 – Delay in seconds per vehicle

Table 13: Road Diet with 2044 Volumes 95th Percentile Queue (ft) Summary

Intersection	Weekday AM			Weekday PM		
	Left	Thru	Right	Left	Thru	Right
Moraga Road at Corliss Dr						
Eastbound	182	-	**135**	185	-	**119**
Westbound	-	-	-	-	-	-
Northbound	151	268	-	**132**	273	-
Southbound	-	616	**289**	-	458	**275**
Moraga Road at Draeger Dr						
Eastbound	-	-	-	-	-	-
Westbound	156	-	-	129	-	-
Northbound	-	6	-	-	7	-
Southbound	58	44	-	52	11	-
Moraga Road at Donald Dr						
Eastbound	-	253	102	-	162	77
Westbound	-	118	-	-	44	-
Northbound	**187**	473	-	**129**	261	-
Southbound	72	312	-	78	382	-
Moraga Road at Ascot Dr						
Eastbound	141	-	84	135	-	62
Westbound	-	68	-	-	74	-
Northbound	**147**	334	-	**188**	254	-
Southbound	97	349	-	**103**	392	-

Bold – Exceeds storage length

Some items of note are:

- At the intersection of Moraga Road at Corliss Dr, delay decreased by about 55 s/veh in the AM peak, and by about 20 s/veh in the PM peak after the installation of the traffic signal. Corliss Dr eastbound delays decreased by about 6 minutes in the AM peak, and by about 4 min in the PM peak.
    - LOS improved from LOS F to LOS D in the AM, or LOS C in the PM.
    - Turn bays northbound and the turn lane eastbound would need to be extended. On Corliss Dr, this would require removal of some on-street parking.
    - The southbound right-turn lane would need to be extended and the buffered bike lane shortened.
- At the intersection of Moraga Road at Draeger Dr, although the LOS is A, Drager Dr westbound delays are between 1.5 min and 2 min in both peak hours. This could be reduced with restriping to add dedicated left and right turn lanes, or by encouraging left turns to redistribute to the signalized intersection of Moraga Road and Donald Dr.
- At the intersection of Moraga Road at Donald Dr, the northbound left turn bay needs to be extended further south as queues extend past the turn bay.
- Compared to the no-build scenario at the intersection of Moraga Road and Donald Dr, the LOS worsened from LOS B to LOS C. Delay increased by about 18 s/veh. This is due to the introduction of split-phase signals

on the Donald Dr approaches. However, safety for turning vehicles and pedestrians is improved by this change.

- Compared to the no-build scenario, delay decreased at the intersection of Moraga Road and Ascot Dr by almost 6 s/veh in the AM peak, and by about 1 s/veh in the PM peak. LOS improved from LOS D to LOS C in the AM peak and remained at LOS C in the PM peak. This is due to the changes in cycle length which were made in coordination with the signal at Moraga Road and Donald Dr.

Safety Benefits

Using the high-level crash reduction factors as noted earlier, the potential reduction due to the road diet and operational changes can be estimated. Converting the number of crashes observed in the study area to an annual number, a rough estimate of the number of crashes that might occur between 2024 and 2044 can be created. From that, applying the crash reduction factors can determine the approximate number of crashes that would be reduced as a result of the road diet. The cost of a crash can then be estimated to determine the safety benefit from implementing the project.

Table 14. Crash Costs from USDOT (in 2024 $).

Crash Severity	Cost of Crashes (USDOT, 2024 $)
Fatal	$13,485,474
Serious Injury	$1,281,875
Minor Injury	$252,232
Possible Injury	$120,506

Table 15. Estimated safety benefit from implementing Road Diet on Moraga Road.

Crash Severity	# of Crashes (2018 – 2023)	Expected # of Crashes (2024 – 2044)	# of Crashes Reduced (2024 – 2044)	Cost Benefits from reduced Crashes
Fatal	0	-	-	-
Serious Injury	1	3.33	1.2	$1,538,250
Minor Injury	3	10.0	2.13	$538,095
Possible Injury	5	16.7	0.367	$44,186
			Cumulative benefit (2024 $)	**$2,120,530**
			Annual benefit	**$106,027/yr**

Comparison

To better understand the difference between the 2044 no-build conditions and the 2044 road diet conditions, the LOS and delays for each condition were put side by side. Table 16 shows the comparison of LOS and delay for the 2044 no-build conditions and the 2044 road diet conditions. In general, the 2044 no-build conditions report higher delays at the signalized, with exception of Donald Dr, and reports larger 95th percentile queues. The addition of the traffic signals in the 2044 road diet conditions relieves the congestion reported in the 2044 no-build conditions at Corliss Dr.

Table 16: Existing vs. Road Diet Roadway Configuration Delay Comparison – 2044 Volumes

Intersection	Weekday AM		Weekday PM	
	2044 Existing	2044 Road Diet	2044 Existing	2044 Road Diet
Moraga Road at Corliss Dr	F/91.7	**D/36.6**	E/48.7	**C/29.1**
Moraga Road at Draeger Dr	A/15.5	**A/3.20**	A/12.4	**A/2.80**
Moraga Road at Donald Dr	D/49.0	**D/39.9**	B/11.4	C/24.5
Moraga Road at Ascot Dr	D/37.9	**C/32.1**	C/30.3	C/29.3

Bold – Decreased Delay by 5 or more s/veh
Underline – Increased Delay by 5 or more s/veh

Green – Improved LOS
Orange – Worsened LOS

Conclusions and Recommendations

Overall, the repurposing of a travel lane in the northbound and southbound directions along Moraga Road between Corliss Dr and Donald Dr would operate more efficiently than the existing roadway configuration when combined with other operational and safety improvements. In the case of the intersection of Moraga Road at Donald Dr, delay increased in the PM peak, but operations are still at LOS C, well within acceptable operations.

Due to the increase in delay, implementing a road diet on Moraga Road between Donald Dr and Ascot Dr would not be recommended. However, improving the safety of the bike lane through those intersections will need to be addressed.

A traffic signal at the intersection of Moraga Road and Corliss Dr is potentially warranted in current conditions, but certainly will be by 2044. This will be made more urgent by the repurposing of lanes as part of the road diet, which would eliminate the additional merging lane for eastbound left turns off of Corliss Dr. The addition of a signal at Corliss Dr dramatically improves delay at that intersection while slightly increasing delay along Moraga Road.

Delay is reduced at the intersection of Moraga Road with Ascot Dr intersection due to operational changes in the signal system.

At the intersection of Moraga Road and Donald Dr, the delay is reduced in the AM peak by 10 s/veh. In the PM peak, delay increases by about 13 s/veh due to the need for southbound traffic to merge into one lane and from the need for northbound through traffic to filters into an auxiliary lane a few hundred feet south of the intersection.

Safety for pedestrians and cyclists will be improved at the intersection of Moraga Road and Corliss Dr intersection by signalizing the existing crosswalk. Safety at the Donald Dr intersection for drivers and pedestrians, particularly in the morning, will be improved by switching to split-phase signalization on Donald Dr.

The road diet option would represent a benefit to safety, both by reducing speeds of motor vehicles and by creating additional dedicated space for cyclists.

It is **recommended to move forward with the road diet option between Corliss Dr and Donald Dr**. The intersection at Corliss Dr should be programmed for signal installation based on existing traffic conditions, which warrant installation, and the potential safety benefit from reducing the number of sideswipe crashes at that intersection.

The intersections at Devin Dr and Draeger Dr should be analyzed at a future time in order to ascertain whether signals would be warranted as part of a coordinated signal system to better manage queuing.

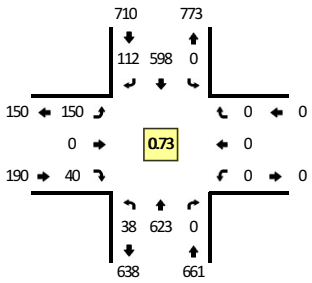
Appendix A

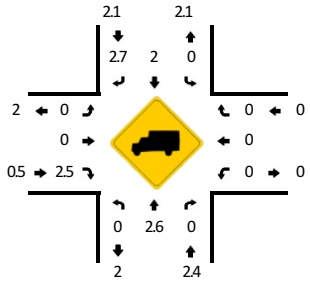
Collected Traffic Data

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Moraga Rd -- Corliss Dr | **QC JOB #:** 16580907
CITY/STATE: Moraga, CA | **DATE:** Wed, May 22 2024

Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:10 AM -- 8:25 AM





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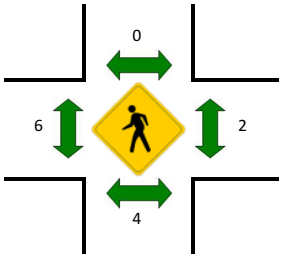
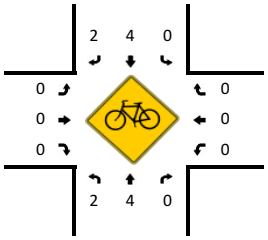
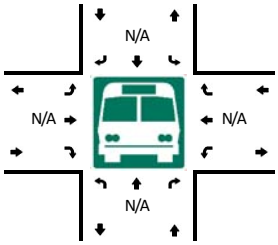
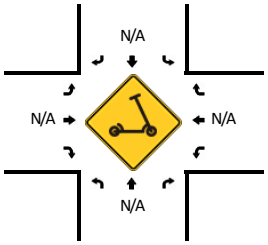








5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Corliss Dr (Eastbound)				Corliss Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	6	0	0	0	12	0	0	1	0	0	0	0	0	0	0	19	
6:05 AM	0	7	0	0	0	4	0	0	1	0	0	0	0	0	0	0	12	
6:10 AM	0	9	0	0	0	4	3	0	1	0	0	0	0	0	0	0	17	
6:15 AM	0	11	0	0	0	7	1	0	1	0	0	0	0	0	0	0	20	
6:20 AM	0	7	0	0	0	13	0	0	2	0	0	0	0	0	0	0	22	
6:25 AM	0	10	0	0	0	5	1	0	2	0	0	0	0	0	0	0	18	
6:30 AM	0	13	0	0	0	7	1	0	1	0	0	0	0	0	0	0	22	
6:35 AM	0	12	0	0	0	7	1	0	6	0	0	0	0	0	0	0	26	
6:40 AM	0	11	0	0	0	5	2	0	5	0	1	0	0	0	0	0	24	
6:45 AM	0	12	0	0	0	20	2	0	3	0	0	0	0	0	0	0	37	
6:50 AM	0	13	0	0	0	9	4	0	4	0	1	0	0	0	0	0	31	
6:55 AM	0	10	0	0	0	11	5	0	3	0	0	0	0	0	0	0	29	277
7:00 AM	0	14	0	0	0	9	1	0	0	0	0	0	0	0	0	0	24	282
7:05 AM	0	13	0	0	0	9	3	0	1	0	1	0	0	0	0	0	27	297
7:10 AM	0	19	0	0	0	20	2	0	2	0	0	0	0	0	0	0	43	323
7:15 AM	2	21	0	0	0	21	3	0	4	0	0	0	0	0	0	0	51	354
7:20 AM	2	23	0	0	0	21	4	0	3	0	0	0	0	0	0	0	53	385
7:25 AM	1	29	0	0	0	29	5	0	6	0	0	0	0	0	0	0	70	437
7:30 AM	1	24	0	0	0	22	6	0	5	0	1	0	0	0	0	0	59	474
7:35 AM	2	29	0	0	0	18	3	0	9	0	2	0	0	0	0	0	63	511
7:40 AM	1	28	0	0	0	30	6	0	8	0	0	0	0	0	0	0	73	560
7:45 AM	1	37	0	0	0	35	3	0	9	0	2	0	0	0	0	0	87	610
7:50 AM	1	31	0	0	0	31	11	0	10	0	1	0	0	0	0	0	85	664
7:55 AM	0	45	0	0	0	45	9	0	9	0	1	0	0	0	0	0	109	744
8:00 AM	4	56	0	0	0	42	5	0	8	0	5	0	0	0	0	0	120	840
8:05 AM	7	57	0	0	0	63	10	0	19	0	1	0	0	0	0	0	157	970
8:10 AM	9	84	0	0	0	53	15	0	16	0	0	0	0	0	0	0	177	1104
8:15 AM	4	70	0	0	0	93	14	0	9	0	4	0	0	0	0	0	194	1247
8:20 AM	6	58	0	0	0	52	9	0	31	0	6	0	0	0	0	0	162	1356
8:25 AM	3	51	0	0	0	46	9	0	10	0	8	0	0	0	0	0	127	1413
8:30 AM	1	50	0	0	0	49	15	0	8	0	4	0	0	0	0	0	127	1481
8:35 AM	1	47	0	0	0	46	8	0	10	0	3	0	0	0	0	0	115	1533
8:40 AM	1	37	0	0	0	43	4	0	11	0	5	0	0	0	0	0	101	1561
8:45 AM	2	44	0	0	0	25	5	0	8	0	3	0	0	0	0	0	87	1561
8:50 AM	2	34	0	0	0	28	5	0	12	0	3	0	0	0	0	0	84	1560
8:55 AM	1	38	0	0	0	46	5	0	4	0	5	0	0	0	0	0	99	1550

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	76	848	0	0	0	792	152	0	224	0	40	0	0	0	0	0	2132
Heavy Trucks	0	32	0		0	24	4		0	0	4		0	0	0		64
Buses																	
Pedestrians		0				0				8				0			8
Bicycles	0	4	0		0	8	0		0	0	0		0	0	0		12
Scooters																	

Comments:

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

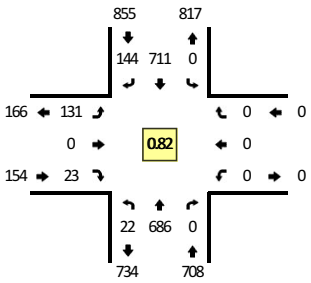
Type of peak hour being reported: Intersection Peak

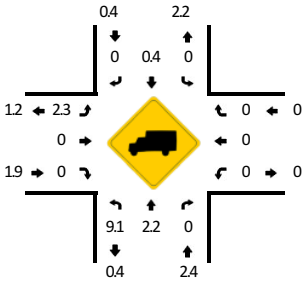
Method for determining peak hour: Total Entering Volume

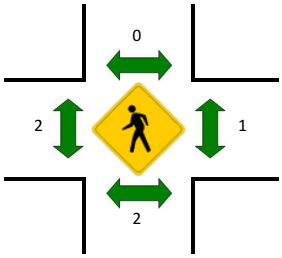
LOCATION: Moraga Rd -- Corliss Dr
CITY/STATE: Moraga, CA

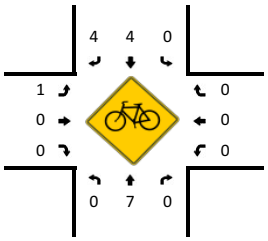
QC JOB #: 16580908
DATE: Wed, May 22 2024

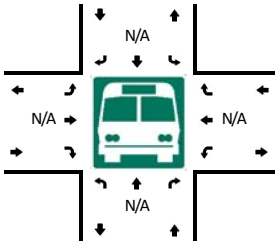
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:15 PM -- 3:30 PM

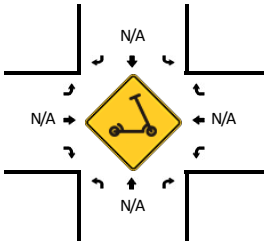












5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Corliss Dr (Eastbound)				Corliss Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	3	50	0	0	0	60	12	0	16	0	0	0	0	0	0	0	141	
3:05 PM	1	64	0	0	0	63	11	0	15	0	1	0	0	0	0	0	155	
3:10 PM	2	68	0	0	0	65	15	0	12	0	1	0	0	0	0	0	163	
3:15 PM	2	84	0	0	0	61	16	0	14	0	4	0	0	0	0	0	181	
3:20 PM	2	65	0	0	0	81	19	0	9	0	2	0	0	0	0	0	178	
3:25 PM	1	56	0	0	0	84	16	0	7	0	3	0	0	0	0	0	167	
3:30 PM	0	43	0	0	0	59	16	0	13	0	2	0	0	0	0	0	133	
3:35 PM	2	53	0	0	0	39	8	0	8	0	3	0	0	0	0	0	113	
3:40 PM	0	48	0	0	0	52	7	0	8	0	0	0	0	0	0	0	115	
3:45 PM	1	56	0	0	0	56	11	0	11	0	3	0	0	0	0	0	138	
3:50 PM	3	39	0	0	0	46	5	0	10	0	2	0	0	0	0	0	105	
3:55 PM	5	60	0	0	0	45	8	0	8	0	2	0	0	0	0	0	128	1717
4:00 PM	1	56	0	0	0	44	8	0	3	0	1	0	0	0	0	0	113	1689
4:05 PM	0	52	0	0	0	33	10	0	4	0	3	0	0	0	0	0	102	1636
4:10 PM	4	56	0	0	0	33	7	0	6	0	0	0	0	0	0	0	106	1579
4:15 PM	1	57	0	0	0	44	10	0	9	0	2	0	0	0	0	0	123	1521
4:20 PM	1	53	0	0	0	36	13	0	2	0	4	0	0	0	0	0	109	1452
4:25 PM	1	54	0	0	0	54	8	0	6	0	2	0	0	0	0	0	125	1410
4:30 PM	3	75	0	0	0	35	10	0	8	0	2	0	0	0	0	0	133	1410
4:35 PM	1	50	0	0	0	51	7	0	7	0	1	0	0	0	0	0	117	1414
4:40 PM	4	62	0	0	0	62	9	0	6	0	3	0	0	0	0	0	146	1445
4:45 PM	4	63	0	0	0	44	10	0	10	0	1	0	0	0	0	0	132	1439
4:50 PM	1	58	0	0	0	49	8	0	15	0	1	0	0	0	0	0	132	1466
4:55 PM	2	53	0	0	0	48	5	0	6	0	0	0	0	0	0	0	114	1452
5:00 PM	4	52	0	0	0	40	9	0	9	0	3	0	0	0	0	0	117	1456
5:05 PM	2	37	0	0	0	39	11	0	8	0	4	0	0	0	0	0	101	1455
5:10 PM	2	66	0	0	0	46	13	0	10	0	5	0	0	0	0	0	142	1491
5:15 PM	0	54	0	0	0	45	6	0	6	0	2	0	0	0	0	0	113	1481
5:20 PM	0	49	0	0	0	52	7	0	10	0	2	0	0	0	0	0	120	1492
5:25 PM	1	46	0	0	0	46	10	0	11	0	2	0	0	0	0	0	116	1483
5:30 PM	3	42	0	0	0	60	13	0	14	0	4	0	0	0	0	0	136	1486
5:35 PM	1	42	0	0	0	39	7	0	9	0	0	0	0	0	0	0	98	1467
5:40 PM	1	44	0	0	0	48	5	0	7	0	0	0	0	0	0	0	105	1426
5:45 PM	0	47	0	0	0	45	11	0	4	0	0	0	0	0	0	0	107	1401
5:50 PM	1	53	0	0	0	43	8	0	10	0	1	0	0	0	0	0	116	1385
5:55 PM	0	56	0	0	0	36	11	0	4	0	1	0	0	0	0	0	108	1379

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	820	0	0	0	904	204	0	120	0	36	0	0	0	0	0	2104
Heavy Trucks	8	12	0		0	8	0		4	0	0		0	0	0		32
Buses																	
Pedestrians		4				0				0				4			8
Bicycles	0	4	0		0	0	4		4	0	0		0	0	0		12
Scooters																	

Comments:

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

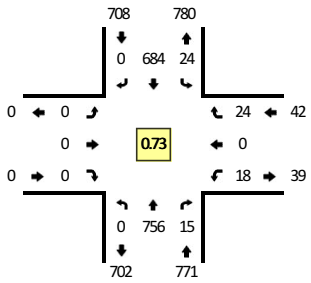
Type of peak hour being reported: Intersection Peak

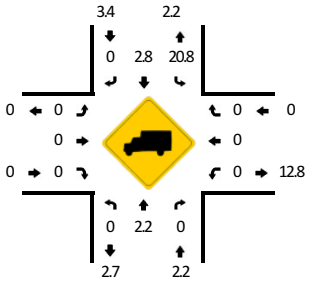
Method for determining peak hour: Total Entering Volume

LOCATION: Moraga Rd -- Draeger Dr
CITY/STATE: Moraga, CA

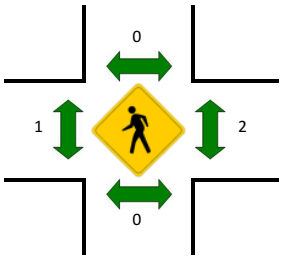
QC JOB #: 16580905
DATE: Wed, May 22 2024

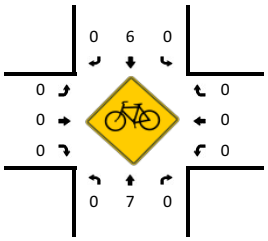
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

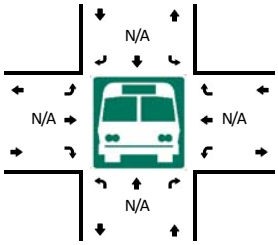


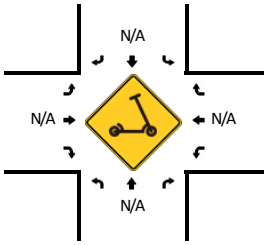


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Draeger Dr (Eastbound)				Draeger Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	8	0	0	0	11	0	0	0	0	0	0	0	0	0	0	19	
6:05 AM	0	9	1	0	0	5	0	0	0	0	0	0	0	0	0	0	15	
6:10 AM	0	10	0	0	0	6	0	0	0	0	0	0	0	0	0	0	16	
6:15 AM	0	12	0	0	0	7	0	0	0	0	0	0	1	0	1	0	21	
6:20 AM	0	9	0	0	0	14	0	0	0	0	0	0	0	0	1	0	24	
6:25 AM	0	12	0	0	0	5	0	0	0	0	0	0	0	0	0	0	17	
6:30 AM	0	16	0	0	0	8	0	0	0	0	0	0	0	0	1	0	25	
6:35 AM	0	18	0	0	0	7	0	0	0	0	0	0	1	0	1	0	27	
6:40 AM	0	16	0	0	0	9	0	0	0	0	0	0	0	0	0	0	25	
6:45 AM	0	12	0	0	1	20	0	0	0	0	0	0	0	0	1	0	34	
6:50 AM	0	19	0	0	1	14	0	0	0	0	0	0	0	0	1	0	35	
6:55 AM	0	13	0	0	1	16	0	0	0	0	0	0	0	0	3	0	33	291
7:00 AM	0	14	0	0	1	11	0	0	0	0	0	0	0	0	2	0	28	300
7:05 AM	0	15	1	0	0	12	0	0	0	0	0	0	0	0	4	0	32	317
7:10 AM	0	21	0	0	2	24	0	0	0	0	0	0	0	0	1	0	48	349
7:15 AM	0	24	0	0	1	22	0	0	0	0	0	0	0	0	2	0	49	377
7:20 AM	0	27	0	0	0	24	0	0	0	0	0	0	0	0	1	0	52	405
7:25 AM	0	32	1	0	0	33	0	0	0	0	0	0	1	0	4	0	71	459
7:30 AM	0	31	0	0	3	30	0	0	0	0	0	0	0	0	1	0	65	499
7:35 AM	0	40	1	0	1	18	0	0	0	0	0	0	0	0	5	0	65	537
7:40 AM	0	39	0	0	4	34	0	0	0	0	0	0	1	0	2	0	80	592
7:45 AM	0	43	1	0	1	39	0	0	0	0	0	0	0	0	0	0	84	642
7:50 AM	0	39	0	0	0	38	0	0	0	0	0	0	0	0	3	0	80	687
7:55 AM	0	57	0	0	3	56	0	0	0	0	0	0	0	0	4	0	120	774
8:00 AM	0	57	2	0	2	43	0	0	0	0	0	0	1	0	1	0	106	852
8:05 AM	0	73	2	0	0	71	0	0	0	0	0	0	5	0	7	0	158	978
8:10 AM	0	99	1	0	1	63	0	0	0	0	0	0	4	0	3	0	171	1101
8:15 AM	0	75	2	0	7	98	0	0	0	0	0	0	3	0	3	0	188	1240
8:20 AM	0	87	4	0	2	66	0	0	0	0	0	0	2	0	0	0	161	1349
8:25 AM	0	64	2	0	2	49	0	0	0	0	0	0	1	0	0	0	118	1396
8:30 AM	0	57	0	0	2	60	0	0	0	0	0	0	2	0	1	0	122	1453
8:35 AM	0	57	1	0	2	54	0	0	0	0	0	0	0	0	2	0	116	1504
8:40 AM	0	48	0	0	2	47	0	0	0	0	0	0	0	0	0	0	97	1521
8:45 AM	0	49	1	0	0	28	0	0	0	0	0	0	0	0	1	0	79	1516
8:50 AM	0	45	0	0	2	37	0	0	0	0	0	0	1	0	0	0	85	1521
8:55 AM	0	45	1	0	0	46	0	0	0	0	0	0	1	0	1	0	94	1495

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1044	28	0	40	908	0	0	0	0	0	0	36	0	24	0	2080
Heavy Trucks	0	32	0		0	32	0		0	0	0		0	0	0		64
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	4	0		0	4	0		0	0	0		0	0	0		8
Scooters																	

Comments:

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

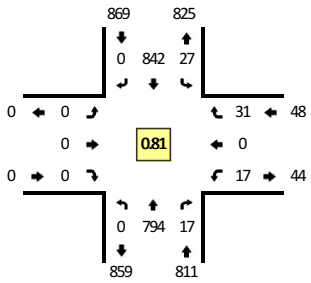
Type of peak hour being reported: Intersection Peak

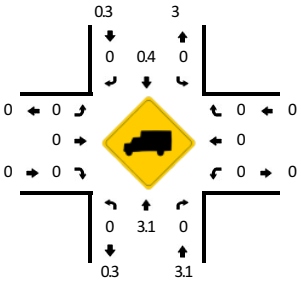
Method for determining peak hour: Total Entering Volume

LOCATION: Moraga Rd -- Draeger Dr
CITY/STATE: Moraga, CA

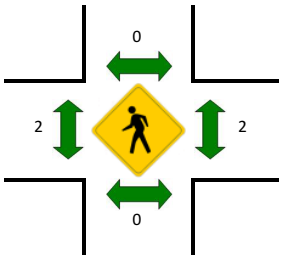
QC JOB #: 16580906
DATE: Wed, May 22 2024

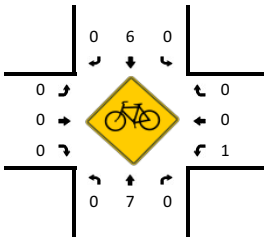
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:15 PM -- 3:30 PM

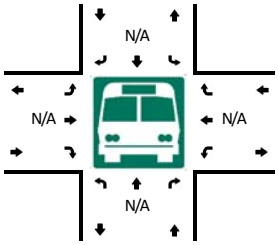


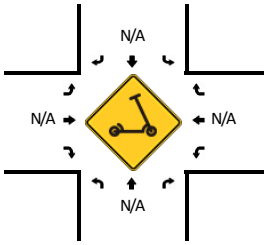


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Draeger Dr (Eastbound)				Draeger Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	62	1	0	1	72	0	0	0	0	0	0	2	0	0	0	138	
3:05 PM	0	79	2	0	0	69	0	0	0	0	0	0	2	0	1	0	153	
3:10 PM	0	77	2	0	2	76	0	0	0	0	0	0	4	0	3	0	164	
3:15 PM	0	89	2	0	2	76	0	0	0	0	0	0	1	0	2	0	172	
3:20 PM	0	74	3	0	4	103	0	0	0	0	0	0	2	0	3	0	189	
3:25 PM	0	64	1	0	4	99	0	0	0	0	0	0	1	0	3	0	172	
3:30 PM	0	56	2	0	4	77	0	0	0	0	0	0	0	0	2	0	141	
3:35 PM	0	58	3	0	2	45	0	0	0	0	0	0	1	0	5	0	114	
3:40 PM	0	51	1	0	2	57	0	0	0	0	0	0	0	0	2	0	113	
3:45 PM	0	63	0	0	2	66	0	0	0	0	0	0	2	0	5	0	138	
3:50 PM	0	59	0	0	1	49	0	0	0	0	0	0	1	0	2	0	112	
3:55 PM	0	62	0	0	3	53	0	0	0	0	0	0	1	0	3	0	122	1728
4:00 PM	0	66	0	0	3	49	0	0	0	0	0	0	1	0	3	0	122	1712
4:05 PM	0	54	3	0	2	46	0	0	0	0	0	0	1	0	3	0	109	1668
4:10 PM	0	58	0	0	3	43	0	0	0	0	0	0	0	0	3	0	107	1611
4:15 PM	0	72	0	0	3	53	0	0	0	0	0	0	0	0	2	0	130	1569
4:20 PM	0	49	2	0	4	45	0	0	0	0	0	0	0	0	4	0	104	1484
4:25 PM	0	57	3	0	4	67	0	0	0	0	0	0	0	0	3	0	134	1446
4:30 PM	0	77	3	0	3	41	0	0	0	0	0	0	3	0	2	0	129	1434
4:35 PM	0	62	1	0	2	55	0	0	0	0	0	0	0	0	4	0	124	1444
4:40 PM	0	66	1	0	2	72	0	0	0	0	0	0	0	0	1	0	142	1473
4:45 PM	0	68	1	0	2	49	0	0	0	0	0	0	1	0	2	0	123	1458
4:50 PM	0	68	1	0	2	54	0	0	0	0	0	0	1	0	2	0	128	1474
4:55 PM	0	63	3	0	3	58	0	0	0	0	0	0	0	0	1	0	128	1480
5:00 PM	0	58	2	0	1	46	0	0	0	0	0	0	2	0	4	0	113	1471
5:05 PM	0	42	1	0	5	50	0	0	0	0	0	0	1	0	2	0	101	1463
5:10 PM	0	75	2	0	3	54	0	0	0	0	0	0	1	0	3	0	138	1494
5:15 PM	0	54	3	0	4	51	0	0	0	0	0	0	0	0	1	0	113	1477
5:20 PM	0	60	3	0	0	55	0	0	0	0	0	0	3	0	0	0	121	1494
5:25 PM	0	57	1	0	0	56	0	0	0	0	0	0	0	0	0	0	114	1474
5:30 PM	0	54	2	0	2	68	0	0	0	0	0	0	3	0	1	0	130	1475
5:35 PM	0	49	0	0	1	44	0	0	0	0	0	0	0	0	1	0	95	1446
5:40 PM	0	49	0	0	4	53	0	0	0	0	0	0	0	0	1	0	107	1411
5:45 PM	0	46	0	0	3	56	0	0	0	0	0	0	0	0	3	0	108	1396
5:50 PM	0	63	0	0	1	52	0	0	0	0	0	0	0	0	1	0	117	1385
5:55 PM	0	56	3	0	4	46	0	0	0	0	0	0	0	0	2	0	111	1368

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	908	24	0	40	1112	0	0	0	0	0	0	16	0	32	0	2132
Heavy Trucks	0	28	0		0	8	0		0	0	0		0	0	0		36
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	8	0		0	4	0		0	0	0		0	0	0		12
Scooters																	

Comments:

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

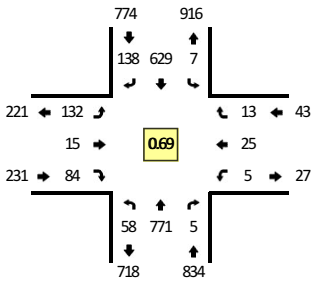
Type of peak hour being reported: Intersection Peak

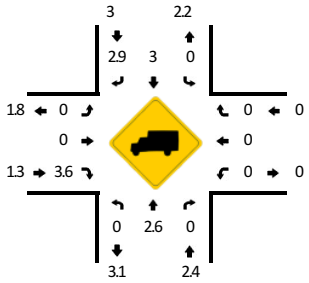
Method for determining peak hour: Total Entering Volume

LOCATION: Moraga Rd -- Donald Dr
CITY/STATE: Moraga, CA

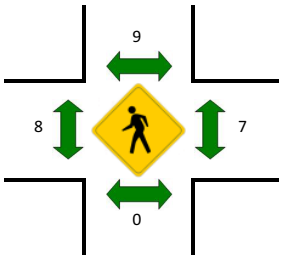
QC JOB #: 16580903
DATE: Wed, May 22 2024

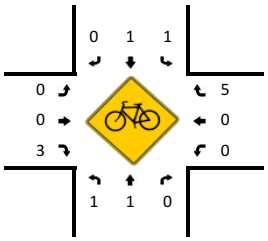
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

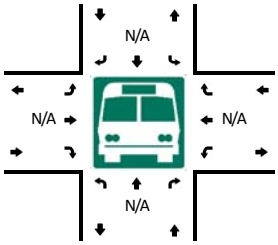


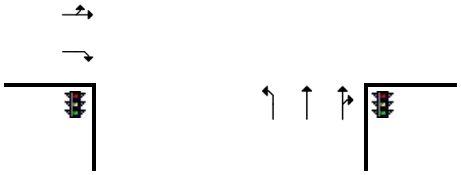


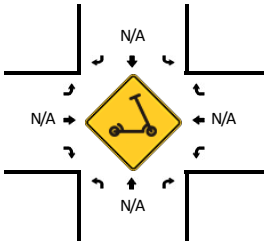
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Donald Dr (Eastbound)				Donald Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	8	0	0	0	8	1	0	3	0	1	0	1	0	0	0	22	
6:05 AM	0	9	0	0	0	5	0	0	0	0	0	0	0	0	0	0	14	
6:10 AM	1	10	0	0	0	5	0	0	0	0	0	0	0	0	1	0	17	
6:15 AM	2	9	0	0	1	9	0	0	1	0	0	0	0	0	0	0	22	
6:20 AM	1	12	0	0	0	12	1	0	2	0	0	0	1	0	0	0	29	
6:25 AM	0	9	0	0	0	4	1	0	0	0	0	0	0	0	0	0	14	
6:30 AM	1	16	0	0	0	6	0	0	2	0	2	0	0	0	1	0	28	
6:35 AM	0	20	0	0	0	8	0	0	1	0	0	0	0	1	0	0	30	
6:40 AM	2	13	1	0	0	8	1	0	4	0	1	0	0	0	0	0	30	
6:45 AM	0	17	0	0	1	18	0	0	1	0	4	0	0	0	2	0	43	
6:50 AM	0	19	0	0	0	17	3	0	1	0	2	0	0	0	0	0	42	
6:55 AM	0	17	0	0	0	9	0	0	1	0	2	0	0	0	1	0	30	321
7:00 AM	0	16	0	0	1	9	0	0	0	0	2	0	0	0	0	0	28	327
7:05 AM	1	20	0	0	1	11	1	0	0	0	1	0	0	0	2	0	37	350
7:10 AM	0	21	0	0	0	31	4	0	1	0	0	0	0	0	0	0	57	390
7:15 AM	4	21	0	0	0	18	0	0	1	0	1	0	0	0	1	0	46	414
7:20 AM	0	31	1	0	0	26	1	0	3	0	1	0	0	0	0	0	63	448
7:25 AM	1	36	0	0	0	33	2	0	8	0	1	0	0	0	0	0	81	515
7:30 AM	1	29	0	0	0	26	3	0	3	0	3	0	1	0	1	0	67	554
7:35 AM	1	45	1	0	0	14	2	0	4	0	4	0	0	0	1	0	72	596
7:40 AM	2	36	0	0	0	38	2	0	1	0	1	0	0	0	0	0	80	646
7:45 AM	2	36	0	0	1	38	7	0	2	0	3	0	0	0	1	0	90	693
7:50 AM	5	51	0	0	0	35	3	0	3	0	2	0	1	0	0	0	100	751
7:55 AM	2	56	0	0	1	57	9	0	5	0	4	0	1	0	1	0	136	857
8:00 AM	3	57	0	0	1	40	8	0	3	0	3	0	0	2	3	0	120	949
8:05 AM	10	77	0	0	2	68	22	0	4	0	5	0	1	4	0	0	193	1105
8:10 AM	9	99	1	0	0	73	23	0	17	2	11	0	1	5	4	0	245	1293
8:15 AM	13	75	1	0	0	72	20	0	18	2	19	0	1	8	3	0	232	1479
8:20 AM	7	79	0	0	0	49	23	0	21	4	18	0	0	4	0	0	205	1621
8:25 AM	6	62	3	0	2	54	11	0	30	5	8	0	0	2	1	0	184	1724
8:30 AM	2	53	0	0	1	57	5	0	15	2	9	0	0	0	1	0	145	1802
8:35 AM	1	56	0	0	0	51	7	0	6	0	4	0	0	0	0	0	125	1855
8:40 AM	0	55	0	0	0	41	4	0	5	0	1	0	0	0	0	0	106	1881
8:45 AM	0	51	0	0	0	32	3	0	5	0	0	0	0	0	0	0	91	1882
8:50 AM	1	41	1	0	0	35	0	0	4	0	3	0	0	0	0	0	85	1867
8:55 AM	3	41	0	0	0	42	5	0	3	0	2	0	1	0	0	0	97	1828

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	116	1012	8	0	0	776	264	0	224	32	192	0	8	68	28	0	2728
Heavy Trucks	0	24	0		0	24	4		0	0	8		0	0	0		60
Buses																	
Pedestrians		0				4				4				4			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	8		8
Scooters																	
Comments:																	

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

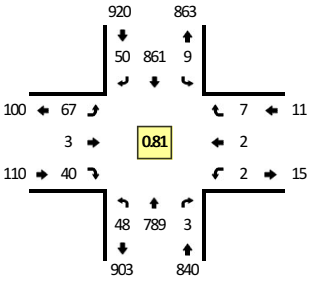
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

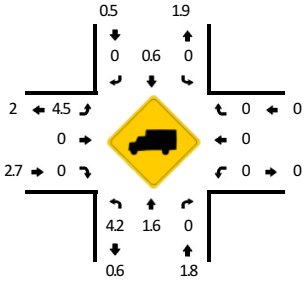
LOCATION: Moraga Rd -- Donald Dr
CITY/STATE: Moraga, CA

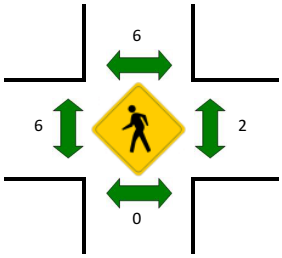
QC JOB #: 16580904
DATE: Wed, May 22 2024

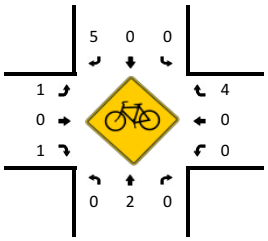
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:15 PM -- 3:30 PM

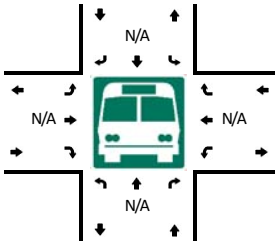


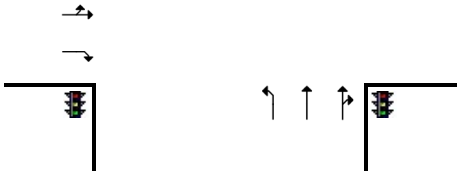
TRUE DATA TO IMPROVE MOBILITY

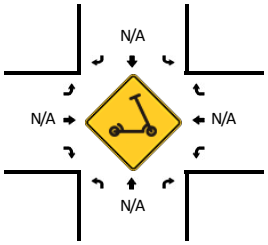












5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Donald Dr (Eastbound)				Donald Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	3	54	0	0	0	65	6	0	10	1	10	0	0	0	0	0	149	
3:05 PM	1	79	1	0	0	67	5	0	4	0	5	0	1	0	2	0	165	
3:10 PM	2	85	0	0	3	91	7	0	2	0	1	0	0	1	1	0	193	
3:15 PM	4	83	0	0	2	83	5	0	3	0	7	0	0	0	0	0	187	
3:20 PM	11	66	0	0	0	83	4	0	15	1	3	0	1	0	0	0	184	
3:25 PM	3	75	0	0	0	116	6	0	3	0	2	0	0	0	1	0	206	
3:30 PM	5	48	0	0	2	73	5	0	9	1	2	0	0	0	0	0	145	
3:35 PM	4	58	1	0	0	55	3	0	3	0	1	0	0	0	0	0	125	
3:40 PM	5	52	0	0	1	60	3	0	4	0	1	0	0	1	0	0	127	
3:45 PM	2	64	1	0	1	56	4	0	3	0	1	0	0	0	1	0	133	
3:50 PM	5	64	0	0	0	54	1	0	6	0	5	0	0	0	1	0	136	
3:55 PM	3	61	0	0	0	58	1	0	5	0	2	0	0	0	1	0	131	1881
4:00 PM	2	60	0	0	1	48	0	0	2	0	3	0	0	0	0	0	116	1848
4:05 PM	1	65	0	0	1	38	3	0	3	0	0	0	1	0	0	0	112	1795
4:10 PM	1	59	0	0	0	46	6	0	2	0	0	0	1	0	0	0	115	1717
4:15 PM	2	72	0	0	0	61	3	0	3	0	0	0	1	0	1	0	143	1673
4:20 PM	5	50	1	0	1	58	3	0	8	0	2	0	0	0	0	0	128	1617
4:25 PM	2	53	0	0	1	58	5	0	6	0	1	0	0	0	1	0	127	1538
4:30 PM	3	71	1	0	1	55	5	0	4	0	3	0	0	0	0	0	143	1536
4:35 PM	2	67	0	0	1	48	5	0	10	0	2	0	0	0	0	0	135	1546
4:40 PM	5	65	0	0	1	56	5	0	2	0	7	0	0	0	0	0	141	1560
4:45 PM	3	66	0	0	0	52	2	0	6	0	3	0	0	0	0	0	132	1559
4:50 PM	1	68	1	0	0	63	4	0	12	0	6	0	0	0	1	0	156	1579
4:55 PM	3	60	1	0	3	48	5	0	6	0	5	0	0	0	0	0	131	1579
5:00 PM	2	61	1	0	0	54	7	0	4	0	0	0	0	0	1	0	130	1593
5:05 PM	3	46	0	0	1	45	4	0	3	0	5	0	0	0	1	0	108	1589
5:10 PM	2	66	1	0	1	54	2	0	3	0	2	0	0	0	2	0	133	1607
5:15 PM	1	54	0	0	1	59	8	0	4	0	2	0	0	0	0	0	129	1593
5:20 PM	5	63	1	0	1	56	15	0	7	0	3	0	0	0	0	0	151	1616
5:25 PM	1	60	0	0	0	57	5	0	8	0	3	0	0	0	1	0	135	1624
5:30 PM	2	46	0	0	1	59	9	0	3	0	2	0	0	0	0	0	122	1603
5:35 PM	3	47	0	0	1	53	1	0	5	0	2	0	0	0	1	0	113	1581
5:40 PM	1	60	0	0	1	50	6	0	3	0	3	0	0	0	1	0	125	1565
5:45 PM	1	40	1	0	1	50	6	0	3	0	1	0	0	0	2	0	105	1538
5:50 PM	1	66	1	0	3	56	5	0	1	0	0	0	0	0	0	0	133	1515
5:55 PM	1	53	0	0	5	54	2	0	1	1	0	0	0	0	0	0	117	1501

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	72	896	0	0	8	1128	60	0	84	4	48	0	4	0	4	0	2308
Heavy Trucks	4	8	0		0	12	0		4	0	0		0	0	0		28
Buses																	
Pedestrians		0				20				4				4			28
Bicycles	0	4	0		0	0	4		0	0	0		0	0	4		12
Scooters																	
Comments:																	

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

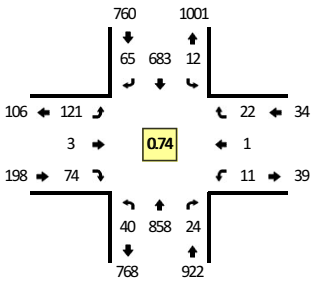
Type of peak hour being reported: Intersection Peak

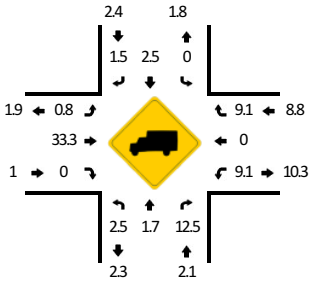
Method for determining peak hour: Total Entering Volume

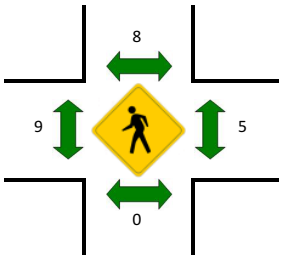
LOCATION: Moraga Rd -- Ascot Dr
CITY/STATE: Moraga, CA

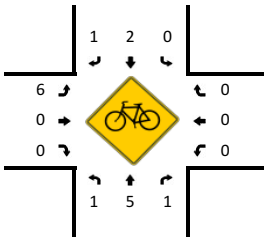
QC JOB #: 16580901
DATE: Wed, May 22 2024

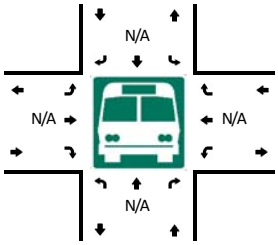
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

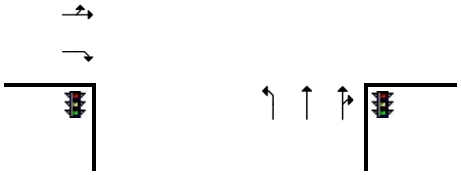


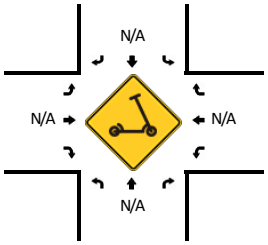












5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Ascot Dr (Eastbound)				Ascot Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	11	1	0	0	9	1	0	3	0	0	0	0	0	0	0	25	
6:05 AM	0	8	0	0	0	3	1	0	4	1	1	0	1	0	0	0	19	
6:10 AM	0	11	1	0	0	5	2	0	0	1	1	0	0	0	1	0	22	
6:15 AM	1	8	0	0	1	10	0	0	1	0	1	0	0	0	1	0	23	
6:20 AM	1	9	1	0	1	8	1	0	4	1	2	0	2	0	1	0	31	
6:25 AM	0	11	1	0	0	5	1	0	4	0	0	0	0	0	2	0	24	
6:30 AM	1	18	1	0	0	5	0	0	6	0	0	0	0	0	3	0	34	
6:35 AM	0	18	1	0	0	7	0	0	2	0	1	0	1	0	0	0	30	
6:40 AM	0	19	1	0	0	9	0	0	3	2	0	0	0	0	1	0	35	
6:45 AM	0	19	2	0	1	13	1	0	2	2	5	0	0	0	1	0	46	
6:50 AM	0	20	1	0	2	19	1	0	6	0	1	0	1	0	0	0	51	
6:55 AM	0	17	3	0	1	6	0	0	0	2	1	0	0	0	5	0	35	375
7:00 AM	0	15	0	0	0	11	2	0	6	0	0	0	0	0	3	0	37	387
7:05 AM	0	21	0	0	5	12	1	0	6	1	1	0	1	0	1	0	49	417
7:10 AM	1	19	0	0	1	31	1	0	5	0	2	0	0	0	3	0	63	458
7:15 AM	0	25	1	0	0	23	4	0	8	1	0	0	0	0	0	0	62	497
7:20 AM	0	33	1	0	2	23	6	0	10	0	2	0	1	0	0	0	78	544
7:25 AM	1	39	3	0	1	27	0	0	11	1	2	0	5	0	1	0	91	611
7:30 AM	0	34	1	0	0	22	1	0	8	0	3	0	2	0	1	0	72	649
7:35 AM	1	43	0	0	1	12	2	0	12	1	2	0	0	0	1	0	75	694
7:40 AM	0	41	0	0	1	27	2	0	11	1	8	0	2	1	1	0	95	754
7:45 AM	2	37	0	0	4	28	3	0	19	1	16	0	2	0	1	0	113	821
7:50 AM	3	52	2	0	0	35	5	0	10	0	5	0	1	0	2	0	115	885
7:55 AM	1	58	2	0	2	62	7	0	6	0	5	0	1	0	1	0	145	995
8:00 AM	2	56	2	0	0	39	3	0	13	0	4	0	1	1	1	0	122	1080
8:05 AM	1	75	1	0	3	83	7	0	8	0	6	0	1	0	2	0	187	1218
8:10 AM	2	110	5	0	0	84	10	0	10	1	14	0	3	0	1	0	240	1395
8:15 AM	3	97	1	0	1	83	10	0	9	0	13	0	0	0	0	0	217	1550
8:20 AM	2	83	1	0	2	58	7	0	15	0	6	0	1	0	2	0	177	1649
8:25 AM	5	103	3	0	1	55	3	0	9	0	8	0	1	0	3	0	191	1749
8:30 AM	10	57	2	0	0	58	2	0	13	0	2	0	0	0	5	0	149	1826
8:35 AM	4	59	2	0	1	56	2	0	4	0	4	0	0	0	1	0	133	1884
8:40 AM	3	53	1	0	0	37	4	0	12	1	3	0	2	0	0	0	116	1905
8:45 AM	4	55	2	0	2	33	5	0	12	1	4	0	0	0	4	0	122	1914
8:50 AM	1	44	2	0	1	27	7	0	3	0	4	0	2	1	1	0	93	1892
8:55 AM	4	39	1	0	1	44	1	0	7	1	2	0	2	0	1	0	103	1850

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	1128	28	0	16	1000	108	0	108	4	132	0	16	0	12	0	2576
Heavy Trucks	0	4	4		0	20	0		0	0	0		4	0	4		36
Buses																	
Pedestrians		0				8				8				4			20
Bicycles	0	4	4		0	4	0		4	0	0		0	0	0		16
Scooters																	

Comments:

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

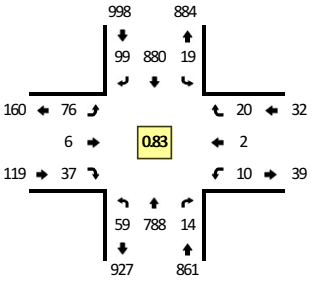
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

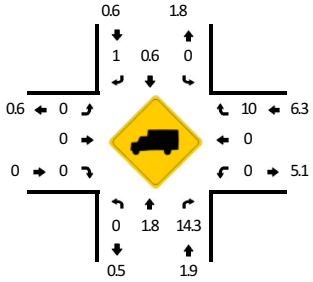
LOCATION: Moraga Rd -- Ascot Dr
CITY/STATE: Moraga, CA

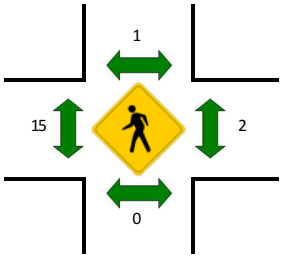
QC JOB #: 16580902
DATE: Wed, May 22 2024

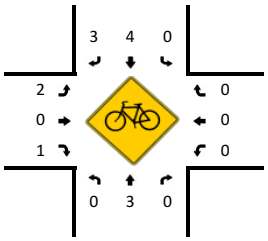
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:15 PM -- 3:30 PM

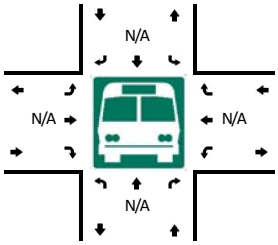


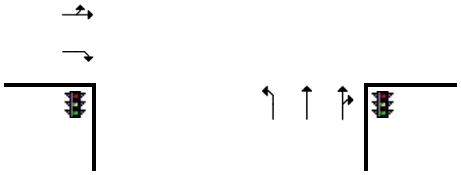
TRUE DATA TO IMPROVE MOBILITY

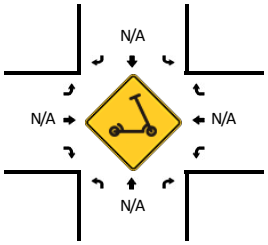












5-Min Count Period Beginning At	Moraga Rd (Northbound)				Moraga Rd (Southbound)				Ascot Dr (Eastbound)				Ascot Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	7	57	2	0	1	69	5	0	6	0	4	0	0	0	1	0	152	
3:05 PM	2	81	0	0	0	65	7	0	9	2	2	0	1	1	1	0	171	
3:10 PM	8	74	0	0	0	98	11	0	4	0	8	0	1	0	4	0	208	
3:15 PM	4	80	1	0	2	86	11	0	6	1	2	0	0	0	1	0	194	
3:20 PM	11	74	0	0	3	90	8	0	8	0	2	0	1	0	5	0	202	
3:25 PM	3	65	5	0	1	114	12	0	10	1	1	0	0	0	0	0	212	
3:30 PM	7	59	0	0	4	82	12	0	4	0	4	0	1	0	3	0	176	
3:35 PM	1	51	2	0	3	48	4	0	4	2	4	0	3	1	0	0	123	
3:40 PM	2	54	3	0	1	61	6	0	9	0	5	0	0	0	1	0	142	
3:45 PM	9	57	1	0	2	56	8	0	5	0	1	0	2	0	1	0	142	
3:50 PM	2	70	0	0	1	55	9	0	6	0	3	0	1	0	2	0	149	
3:55 PM	3	66	0	0	1	56	6	0	5	0	1	0	0	0	1	0	139	2010
4:00 PM	5	51	3	0	3	42	8	0	4	1	5	0	2	0	0	0	124	1982
4:05 PM	4	60	2	0	4	44	13	0	6	1	2	0	1	0	3	0	140	1951
4:10 PM	2	56	2	0	1	40	10	0	6	0	3	0	1	1	4	0	126	1869
4:15 PM	5	56	5	0	0	62	12	0	7	0	3	0	1	0	2	0	153	1828
4:20 PM	6	57	2	0	1	61	5	0	3	0	3	0	2	0	2	0	142	1768
4:25 PM	1	61	1	0	0	56	6	0	7	0	2	0	0	1	4	0	139	1695
4:30 PM	1	63	5	0	2	60	9	0	8	0	3	0	1	0	2	0	154	1673
4:35 PM	3	69	3	0	2	48	4	0	8	0	7	0	0	1	7	0	152	1702
4:40 PM	4	61	3	0	1	67	10	0	1	0	1	0	1	0	3	0	152	1712
4:45 PM	3	70	0	0	1	48	9	0	7	0	4	0	1	0	1	0	144	1714
4:50 PM	4	77	3	0	1	60	11	0	6	0	3	0	1	0	1	0	167	1732
4:55 PM	6	54	3	0	0	48	11	0	4	0	4	0	2	0	2	0	134	1727
5:00 PM	6	63	2	0	1	58	7	0	6	0	1	0	1	0	1	0	146	1749
5:05 PM	4	44	2	0	1	53	8	0	3	0	0	0	1	0	1	0	117	1726
5:10 PM	3	67	2	0	1	59	12	0	7	1	3	0	2	0	3	0	160	1760
5:15 PM	2	49	5	0	2	50	6	0	7	0	5	0	1	0	3	0	130	1737
5:20 PM	3	64	2	0	1	75	14	0	7	0	2	0	0	1	4	0	173	1768
5:25 PM	2	61	1	0	2	56	8	0	6	1	4	0	2	1	5	0	149	1778
5:30 PM	3	45	0	0	4	67	12	0	4	1	2	0	2	1	1	0	142	1766
5:35 PM	3	47	1	0	1	50	18	0	7	1	1	0	1	0	3	0	133	1747
5:40 PM	4	56	2	0	1	55	16	0	10	1	3	0	0	0	4	0	152	1747
5:45 PM	4	40	2	0	1	62	7	0	10	0	3	0	3	0	0	0	132	1735
5:50 PM	4	62	1	0	1	53	10	0	4	0	1	0	1	0	4	0	141	1709
5:55 PM	3	55	2	0	1	59	13	0	6	1	5	0	0	0	2	0	147	1722

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	72	876	24	0	24	1160	124	0	96	8	20	0	4	0	24	0	2432
Heavy Trucks	0	16	4		0	12	0		0	0	0		0	0	0		32
Buses																	
Pedestrians		0				0				12				8			20
Bicycles	0	4	0		0	4	0		0	0	0		0	0	0		8
Scooters																	

Comments:

Report generated on 5/28/2024 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

DONOT FORGET ADVANCE ON Ø4 WALK - 12 SECONDS

Morgan Rd / Donell

Intersection Name

☒ Additional Special Timing Required

If box is checked, see additional timing sheets.

C+0+F=2 FF+6=FLAG4
C+0+F=1 F+4+A=12 SECONDS

Turn On Date: __/__/__ By: _____

Notes: Det 14 & 34 detector vibrators changed

PHASE BANK 1

		PHASE 1	2	3	4	5	6	7	8
0	WALK		8		12		8		
1	DON'T WALK		12		5		12		
2	MIN INITIAL	5	20		4	5	20		
3	TYPE 3 LIMIT								
4	ADD PER VEH		1.5				1.5		
5	VEH EXT	2.0	4.0		3.0	2.0	4.0		
6	MAX GAP	2.0	6.0		2.0	2.0	6.0		
7	MIN GAP	2.0	5.0		2.0	2.0	5.0		
8	MAX LIMIT	15	60		31	14	57		
9	MAXIMUM 2								
A	ADV/DLY WALK				12				
B	MIN PED CLEAR								
C	COND SRV MIN								
D	REDUCE EVERY								
E	YELLOW	3.0	4.0		3.0	4.0	4.0		
F	RED CLEAR	1.0	2.0		1.0	1.0	2.0		

< C + 0 + F = 1 >

		MAX INITIAL 9	ALT WALK A	ALT FLH D/W B	ALT INITIAL C	ALT EXTEN D	PREEMPT E
0							
1	PHASE 1						
2	PHASE 2						
3	PHASE 3						
4	PHASE 4						
5	PHASE 5						
6	PHASE 6						
7	PHASE 7						
8	PHASE 8						

ALL RED START: (F/1 + C + 0) = 5.0

RED REVERT: (F/1 + 0 + F) = 5.0

Exclusive Pedestrian Operation

WALK: (F/1 + 0 + 0) = ____

DONT WALK: (F/1 + 0 + 1) = ____

RED CLEAR: (F/1 + 0 + 2) = ____

PHASE FUNCTION FLAGS

		RR1 DLY	RR1 CLR	EVA DLY	EVA CLR	EVB DLY	EVB CLR	EVC DLY	EVC CLR	EVD DLY	EVD CLR	RR2 DLY	RR2 CLR	EV CLR	EV DLY	RR CLR	RR DLY
0	PERMIT																
1	RED LOCK																
2	YELLOW LOCK																
3	VEH MIN CALL																
4	PED RECALL																
5	PEDESTRIANS																
6	REST IN WALK																
7	RED REST																
8	DOUBLE ENTRY																
9	VEH MAX CALL																
A	SOFT RECALL																
B	MAXIMUM 2																
C	COND SERVICE																
D	MAN CONT CALL																
E	YELLOW START																
F	FIRST PHASES																

< C + 0 + F = 1 >

Controller Intervals

0 = Walk
1 = FDW
2 = Min. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preemption
A = Stop Time
B = Red Revert
C = Gap Termination
D = Max. Termination
E = Forceoff Termination
F = Red Clearance

Display Movement

D
C F
A

Interval Timer Display

Ring A = F/0 + A + Interval
Ring B = F/0 + B + Interval

E Page Enable: F/1 + 9 + E = Not Zero

CONTROLLER CONFIGURATION FLAGS

		Column E PHASES 1 2 3 4 5 6 7 8	Column F PHASES 1 2 3 4 5 6 7 8
0	EXCLUSIVE		
1	RR 1 CLEAR		EXT PERMIT 1
2	RR 2 CLEAR		EXT PERMIT 2
3	RR 2 LTD SRV		EXCLU PED
4	PROT / PERM		
5	FLH TO PREMT		PED 2 P OUT
6	FLASH ENTRY		PED 6 P OUT
7	DSABL MIN YEL		PED 4 P OUT
8	DSABL OVP YEL		PED 8 P OUT
9	OVP FLH YEL		FLH YELLOW
A	EM VEH A		
B	EM VEH B		
C	EM VEH C		
D	EM VEH D		
E	EXTRA 1		RESTRICTED
F	IC SELECT		EXTRA 2

<C + 0 + E = 125 > < C + 0 + E = 125 >

Display Locations

Manual	= C/0 + A + 1
Master Plan	= C/0 + A + 2
Current Plan	= C/0 + A + 3
Next Plan	= C/0 + A + 4
TOD Plan	= C/0 + A + 5
Master Cycle	= C/0 + A + 0
Ring A Cycle	= C/0 + B + 0
Ring B Cycle	= C/0 + D + 0
MIN Cycle	= C/0 + A + E
MAX Cycle	= C/0 + B + E
Current Calculated Cycle Length	= C/0 + B + F
Phase Hold	= C/0 + F + D
Phase Next	= C/0 + F + E
Force Off	= C/0 + F + F

SYSTEM DETECTORS

		Column B C1 PIN NO.
0		
1	SYS DET #1	
2	SYS DET #2	
3	SYS DET #3	
4	SYS DET #4	
5	SYS DET #5	
6	SYS DET #6	
7	SYS DET #7	
8	SYS DET #8	

< C + 0 + E = 126 >

Controller Configuration Flags

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coord.
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
6 = International Ped
7 = Clear Outputs During FLASH
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
6 = Simplex Master
7 = 7 Wire Master
8 = Offset Interrupter

EXTRA 2
1 = AWB On During Phase Initial
2 = LMU Installed
3 =

FLASH TO PE
1 = EV A
2 = EV B
3 = EV C
4 = EV D
5 = RR 1
6 = RR 2
7 = SE 1
8 = SE 2

Manual Plan Select: (C/0 + A + 1) = 0
AUTO = 0, PLAN = 1-9, FREE = 14, FLASH = 15

Manual Offset Select: (C/0 + B + 1) = ____
AUTO = 0, OFFSET A = 1, OFFSET B = 2, OFFSET C = 3

COMM ADDRESS: (C/0 + 0 + 0) = 2
ZONE NUMBER: (C/0 + 0 + 1) = 1
AREA NUMBER: (C/0 + 0 + 2) = 3
AREA ADDRESS: (C/0 + 0 + 3) = 2

INPUT KEYSTROKES:
1) Set the PAGE to the required BANK # < C + 0 + PAGE = BANK # >
2) Keystroke: PAGE + COLUMN + ROW

ADVANCE WARNING -- SIGN #1: Phase # (F/1 + C + F) = ____
Time Before Yellow (F/1 + C + E) = ____
Output Pin # (E/127 + E + 8) = ____

SIGN #2: (F/1 + D + F) = ____
(F/1 + D + E) = ____
(F/127 + E + 9) = ____

Column / Row / C + 0 + E = ____ (×6)

BI Tran Systems, Inc.
510 Bercut Dr., Sacramento, Calif. 95814
916 / 441-0260
Traffic Signal Program 233
"QuicForm" Timing Card

168

Column --> 1	DELAY	CARRY-OVER 3	C1 Pin No.	Initialized Function	Location - 332 Cabinet
0			39	2-Ext/Cnt	I-2U
1			40	6-Ext/Cnt	J-2U
2			41	4-Ext/Cnt	I-6U
3			42	8-Ext/Cnt	J-6U
4			43	2-Ext/Cnt	I-2L
5			44	6-Ext/Cnt	J-2L
6			45	4-Ext/Cnt	I-6L
7			46	8-Ext/Cnt	J-6L
8			47	2-Type 3	I-4
9			48	6-Type 3	J-4
A			49	4-Type 3	I-8
B			50	8-Type 3	J-8
C			55	5-Ext/Cnt	J-1
D			56	1-Ext/Cnt	I-1
E			57	7-Ext/Cnt	J-5
F			58	3-Ext/Cnt	I-5

DETECTOR TIMING

Column --> 2	DELAY	CARRY-OVER 4	C1 Pin No.	Initialized Function	Location - 332 Cabinet
0			59	5-Ext/Cnt	J-9U
1			60	1-Ext/Cnt	I-9U
2			61	7-Ext/Cnt	J-9L
3			62	3-Ext/Cnt	I-9L
4			63	2-Ext/Cnt	I-3U
5			64	6-Ext/Cnt	J-3U
6			65	4-Ext/Cnt	I-7U
7	0		66	8-Ext/Cnt	J-7U
8			67	2P-Ped Call	I-12U
9			68	6P-Ped Call	I-13U
A			69	4P-Ped Call	I-12L
B			70	8P-Ped Call	I-13L
C			76	2-Ext/Cnt	I-3L
D			77	6-Ext/Cnt	J-3L
E	4		78	4-Ext/Cnt	I-7L
F			79	8-Ext/Cnt	J-7L

< C + 0 + D = 0 >

		PLAN NUMBER 1	2	3	4	5	6	7	8	9
0	CYCLE	120	120							
1	FORCE 1	18	20							
2	FORCE 2	83	89							
3	FORCE 3	–								
4	FORCE 4	119	119							
5	FORCE 5	21	22							
6	FORCE 6	83	89							
7	FORCE 7	–	–							
8	FORCE 8	–	–							
9	RING OFFSET									
A	OFFSET 1	40	40							
B	OFFSET 2									
C	OFFSET 3									
D	END PERM 1									
E	HOLD RELEASE									
F	ZONE OFFSET									

< C + 0 + C = 1 > COORDINATION

Column E

		1	2	3	4	5	6	7	8
0									
1	SYNC 1	X				X			
2	SYNC 2	X				X			
3	SYNC 3								
4	SYNC 4								
5	SYNC 5								
6	SYNC 6								
7	SYNC 7								
8	SYNC 8								
9	SYNC 9								
A	NEMA SYNC								
B	NEMA HOLD								
C									
D									
E	COOR XTRA								
F									

< C + 0 + C = 1 >

Column F

		1	2	3	4	5	6	7	8
0	LAG FREE	X				X			
1	LAG PLAN 1	X				X			
2	LAG PLAN 2	X				X			
3	LAG PLAN 3								
4	LAG PLAN 4								
5	LAG PLAN 5								
6	LAG PLAN 6								
7	LAG PLAN 7								
8	LAG PLAN 8								
9	LAG PLAN 9								
A	EXT. LAG								
B									
C									

< C + 0 + C = 1 >

Column 2 COORD MINIMUM

0	
1	
2	
3	
4	
5	
6	
7	
8	

TRANSITION TYPE: (C/5 + 1 + 9) = _____

< C + 0 + C = 5 >

COLUMN 0 C1 PIN NUMBER | COLUMN 1 ATTRIBUTES | COLUMN 2 PHASE(S) | COLUMN 3 ASSIGNMENTS (bits 1 2 3 4 5 6 7 8)

ROW	C1 PIN NUMBER	ATTRIBUTES	PHASE(S)	ASSIGNMENTS
8	47	X X X	X	X X X X
9	48	X X X	X	X X X X

DETECTOR REASSIGNMENTS < C + 0 + E = 126 >

Detector Monitor

MAX OFF: (D/0 + 0 + 1) = _____

MAX ON: (D/0 + 0 + 2) = _____

DETECTOR ATTRIBUTES
1 = Full Time Delay
2 = Pedestrian Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

DETECTOR ASSIGNMENTS
1 = Det. Set #1
2 = Det. Set #2
3 = Det. Set #3
4 =
5 =
6 = MIN Recall On Failure
7 = MAX Recall On Failure
8 = Report On Failure

T.O.D. FUNCTION

0 Thru C = "F + F" Function
D = Lag Phases
E = ——————>
F = Output 1 - 8

E = Bit 1 - Local Override
Bit 4 - Disable Det. OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor

		1	2	3	4
0	LOAD SW #				
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
1	VEH SET #1				
2	VEH SET #2				
3	VEH SET #3				
4	NEG VEH				
5	NEG PED				
6	GREEN OMIT				
7	GRN CLR OMT				
8					
D	GRN CLEAR				
E	YELLOW				
F	RED CLEAR				

OVERLAPS < C + 0 + E = 29 >

TOD FUNCT. (7 Key)

	TIME HHMM	FUNCT	DAY OF WEEK S M T W T F S (1 2 3 4 5 6 7)
0			X X X X X
1			
2			
3			
4			
5			
6			
7			
8			
9			
A			
B			
C			
D			
E			
F			

< C + 0 + 7 = 1 >

Column 4

	PHASES / BITS 1 2 3 4 5 6 7 8
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

< C + 0 + E = 27 >

COORD (9 Key)

	TIME HHMM	PLAN	OFFSET	DAY OF WEEK S M T W T F S (1 2 3 4 5 6 7)
0	700	1	A	X X X X X
1	900	E		X X X X X
2	1500	2	A	X X X X X
3	1800	E		X X X X X
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

< C + 0 + 9 = 0.1 >

Program 233 Rev. 07/95

FIRE PRE-EMPTION INTERVAL

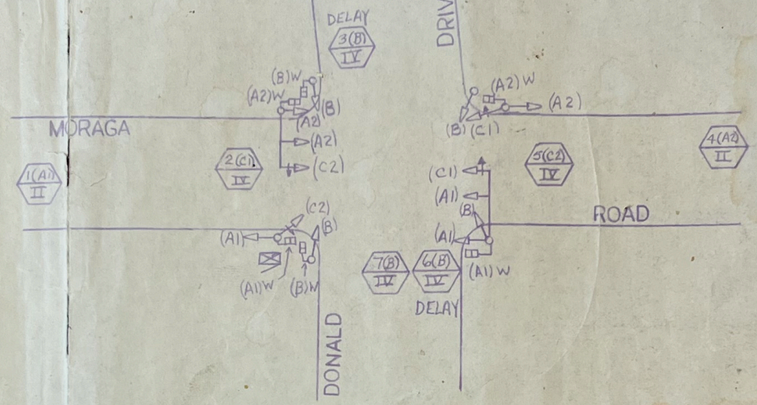
P 26 MULTILOGIC CONNECTOR

PIN	FUNCTION	TERM	PIN	FUNCTION	TERM
A	SPARE	133B	K	A2 GRN	159
B	+ 24 VDC	322	L	PHASE OMIT	381
C	LOG GND	351	M	PED CALL	346
D	PRE-EMPT CMD	131B	N	PED CALL	466
E	VOLT. MON.	321	P	SPARE	135B
F	FORCE TO YEL	361	R	SPARE	135B
G	STOP TIME	373	S	SPARE	136B
H	FLASH LOG	363	T	SPARE	136B
J	A1 GRN	339	U	SPARE	134B
SHELL	GND	GB#2	V	SPARE	136B

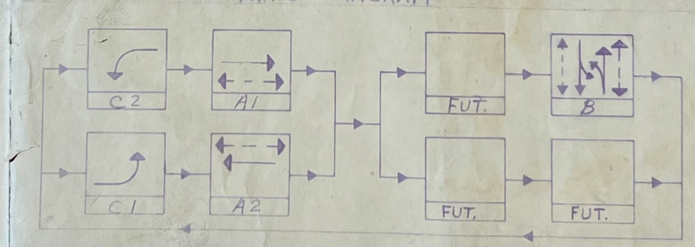
PART NO. * 011271-N
CABLE NO. * 005801-3N

TYPE 901 CONTROLLER

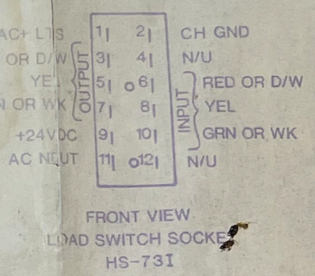
		C2	A1	BLANK	B	C1	A2	BLANK	BLANK	BLANK
LAMP DRIVER	PRO-GRAM	PHASE TIMER	PHASE TIMER	PHASE TIMER	PHASE TIMER	PHASE TIMER	PHASE TIMER	PHASE TIMER	PHASE TIMER	PHASE TIMER
		1	2	3	4	5	6	7	8	



PHASE DIAGRAM



P-P	AC+ (CONTROL)	GB#1	350	PA-U	AC- (COMMON)
P-C	VOLTAGE MONITOR	P26-C S2-5	351	PA-W 352	LOGIC GND
P-B	+24 VDC EXTERNAL	GB#2 S7-1	352	PA-V 354	CHASSIS GND
	SPARE		353	PA-M	CALL TO NON ACT I
DD	Ø1 PHASE ON		354	PA-Z	CALL TO NON ACT II
U	Ø1 CHECK		355	PA-GG	901 MAX 2 911 MAX 2 (1)
H	Ø1 HOLD		356	PA-K	MAN CONTROL ENABLE
S	Ø1 GRN DR	S7-2	357	PA-T	IND LAMP CONT
	Ø1 YEL DR		358	PA-R	EXTERNAL START
	Ø1 RED DR		359	PA-J	EXT MIN RECALL ALL Ø
	Ø1 WALK		360	PA-S	INTERVAL ADVANCE
S	Ø1 PED CL DR	P26-E	361	PA-N	901 SYNC 17 YEL 911 TEST A
E	Ø1 DONT WALK		362	PA-AA	901 FORCE (2) YEL 911 TEST B
F	Ø1 VEH CALL DET	P26-H	363	PA-X	FLASHING LOGIC OUT
G	Ø1 PED CALL DET		364	PB-Y	901 COND SERV 911 SPARE
	SPARE		365	PA-BB	901 Ø SYNC IN 911 WK MOD
	SPARE		366	PA-CC	901 Ø SYNC OUT 911 SPARE
	SPARE		367	PA-DD	901 SPARE 911 SPARE
	SPARE		368	PA-EE	901 SPARE 911 SPARE
	SPARE		369	PA-FF	901 SPARE 911 SPARE
	SPARE		370	PA-HH	901 SPARE 911 SPARE
	SPARE		371	PA-JJ	901 SPARE 911 SPARE
	SPARE		372	PA-KK	901 SPARE 911 SPARE
	SPARE		373	PA-LL	901 SPARE 911 SPARE
	SPARE		374	PA-MM	901 SPARE 911 SPARE
	SPARE		375	PA-NN	901 SPARE 911 SPARE
	SPARE		376	PA-PP	901 SPARE 911 SPARE
	SPARE		377	PA-RR	901 SPARE 911 SPARE
	SPARE		378	PA-SS	901 SPARE 911 SPARE
	SPARE		379	PA-TT	901 SPARE 911 SPARE
	SPARE		380	PB-A	Ø1 PHASE NEXT
	SPARE	P21-18	381	PB-U	Ø1 PHASE OMIT
	SPARE	P21-21	382	PB-C	Ø2 PHASE NEXT
	SPARE	P21-22	383	PB-S	Ø2 PHASE OMIT
	SPARE		384	PB-S	Ø3 PHASE ON
	SPARE		385	PB-R	Ø3 CHECK
	SPARE		386	PB-I	Ø3 HOLD
	SPARE	P21-18	387	PB-D	Ø3 GRN DR
	SPARE	P21-21	388	PB-E	Ø3 YEL DR
	SPARE	P21-22	389	PB-F	Ø3 RED DR
	SPARE		390	PB-Y	Ø3 WALK
	SPARE		391	PB-Z	Ø3 PED CL DR
	SPARE		392	PB-A	Ø3 DONT WALK
	SPARE	S13 192B	393	PB-N	Ø3 VEH CALL DET
	SPARE		394	PB-P	Ø3 PED CALL DET
	SPARE	S8-2 P23-5	395		SPARE
	SPARE		396		SPARE
	SPARE		397		SPARE
	SPARE		398		SPARE
	SPARE		399		SPARE
	SPARE		400		SPARE
	SPARE		401		SPARE
	SPARE		402		SPARE
	SPARE		403		SPARE
	SPARE		404		SPARE
	SPARE		405		SPARE
	SPARE		406		SPARE
	SPARE		407		SPARE
	SPARE		408		SPARE
	SPARE		409		SPARE
	SPARE		410	PB-T	Ø3 PHASE NEXT
	SPARE		411	PB-R	Ø3 PHASE OMIT
	SPARE		412	PB-F	Ø4 PHASE NEXT
	SPARE		413	PB-G	Ø4 PHASE OMIT
	SPARE		414	PB-AA	OL#1 GRN DR
	SPARE		415	PB-P	OL#1 YEL DR
	SPARE		416	PB-Q	OL#1 RED DR
	SPARE		417	PB-GG	OL#2 GRN DR
	SPARE		418	PB-BB	OL#2 YEL DR
	SPARE		419	PB-CC	OL#2 RED DR
	SPARE		420	PB-FF	OL#3 GRN DR
	SPARE		421	PB-HH	OL#3 YEL DR
	SPARE		422	PB-DD	OL#3 RED DR
	SPARE		423	PB-W	OL#4 GRN DR
	SPARE		424	PB-EE	OL#4 YEL DR
	SPARE		425	PB-JJ	OL#4 RED DR
	SPARE		426	PB-KK	OL#5 GRN DR
	SPARE		427	PB-LL	OL#5 YEL DR
	SPARE		428	PB-MM	OL#5 RED DR
	SPARE		429	PB-NN	OL#6 GRN DR
	SPARE		430	PB-PP	OL#6 YEL DR
	SPARE		431	PB-RR	OL#6 RED DR
	SPARE		432	PB-SS	OL#7 GRN DR
	SPARE		433	PB-TT	OL#7 YEL DR
	SPARE		434	PC-A	OL#7 RED DR
	SPARE		435	PC-U	OL#8 GRN DR
	SPARE		436	PC-V	OL#8 YEL DR
	SPARE		437	PC-W	OL#8 RED DR
	SPARE		438	PC-Z	Ø5 PHASE NEXT
	SPARE		439	PC-A	Ø5 PHASE OMIT
	SPARE		440	PC-M	Ø5 PHASE NEXT
	SPARE		441	PC-N	Ø5 PHASE OMIT
	SPARE		442	PC-DD	Ø6 PHASE NEXT
	SPARE		443	PC-Q	Ø6 PHASE OMIT
	SPARE		444	PC-M	Ø5 PHASE ON
	SPARE		445	PC-K	Ø5 CHECK
	SPARE		446	PC-M	Ø5 HOLD
	SPARE	P21-6	447	PC-I	Ø5 GRN DR
	SPARE	P21-9	448	PC-J	Ø5 YEL DR
	SPARE	P21-10	449	PC-H	Ø5 RED DR
	SPARE		450	PC-J	Ø5 WALK
	SPARE		451	PC-K	Ø5 PED CL DR
	SPARE		452	PC-L	Ø5 DONT WALK
	SPARE	S15 194B	453	PC-P	Ø5 VEH CALL DET
	SPARE		454	PC-R	Ø5 PED CALL DET
	SPARE		455		901 SPARE
	SPARE		456		SPARE
	SPARE		457		SPARE
	SPARE		458		SPARE
	SPARE		459		SPARE
	SPARE		460		SPARE
	SPARE		461		SPARE
	SPARE		462		SPARE
	SPARE		463		SPARE
	SPARE		464		SPARE
	SPARE		465		SPARE
	SPARE		466		SPARE
	SPARE		467		SPARE
	SPARE		468		SPARE
	SPARE		469		SPARE
	SPARE		470	PC-PP	Ø7 PHASE NEXT
	SPARE		471	PC-R	Ø7 PHASE OMIT
	SPARE		472	PC-HH	Ø8 PHASE NEXT
	SPARE		473	PC-S	Ø8 PHASE OMIT
	SPARE		474	PC-NN	Ø7 PHASE ON
	SPARE		475	PC-MM	Ø7 CHECK
	SPARE		476	PC-EE	Ø7 HOLD
	SPARE	P21-8	477	PC-F	Ø7 GRN DR
	SPARE	P21-4	478	PC-E	Ø7 YEL DR
	SPARE	P21-3	479	PC-F	Ø7 RED DR
	SPARE		480	PC-JJ	Ø7 WALK
	SPARE		481	PC-KK	Ø7 PED CL DR
	SPARE		482	PC-Y	Ø7 DONT WALK
	SPARE	S17 196B	483	PC-V	Ø7 VEH CALL DET
	SPARE		484	PC-U	Ø7 PED CALL DET
	SPARE		485		901 SPARE
	SPARE		486		SPARE
	SPARE		487		SPARE
	SPARE		488		SPARE
	SPARE		489		SPARE
	SPARE		490		SPARE
	SPARE		491		SPARE
	SPARE		492		SPARE
	SPARE		493		SPARE
	SPARE		494		SPARE
	SPARE		495		SPARE
	SPARE		496		SPARE
	SPARE		497		SPARE
	SPARE		498		SPARE
	SPARE		499		SPARE
	SPARE		500		SPARE

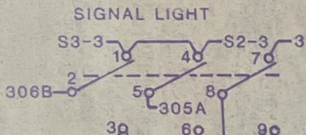


FRONT VIEW
LOAD SWITCH SOCKET
HS-731

CABINET L

LIGHT

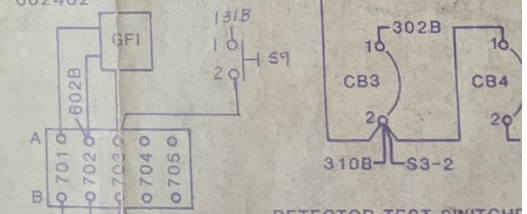
SIGNAL LIGHT



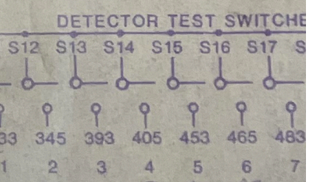
POLICE PANEL
AUX PANEL
002402

PRE-EMPT TEST

SIGNALS 10A



DETECTOR TEST SWITCHE



NEMA PHASE	1	2	3	4	5	6	7
CUSTOMER PHASE	C1	A1		B	C2	A2	

P12 SM 1500 CONNECTOR

PIN	FUNCTION	TERM
A	AC-	GB#1
B	CHAS GND	GB#2
C	AC+	302B
D		
E	Ø2	P22-9
F	Ø5	P22-30
G	Ø6	P22-34
H	Ø3	P22-18

Moraga Rd / Ascot Dr

Intersection Name

☐ **Additional Special Timing Required**

If box is checked, see additional timing sheets.

Turn On Date : 03/24/09 By : _____

Notes: _____

PHASE BANK 1

		PHASE 1	2	3	4	5	6	7	8
0	WALK		7				7		7
1	DON'T WALK		25				14		20 15
2	MIN INITIAL	6	4	4	4	6	4		4
3	TYPE 3 LIMIT		20				20		
4	ADD PER VEH		1.5				1.5		
5	VEH EXT	2	4	3	3	2	4		3
6	MAX GAP	2	6	2	2	2	6		2
7	MIN GAP	2	5	2	2	2	5		2
8	MAX LIMIT	9	36	6	18	9	36		27
9	MAXIMUM 2								
A	ADV / DLY WALK								
B	MIN PED CLEAR								
C	COND SRV MIN								
D	REDUCE EVERY								
E	YELLOW	3	4	3	3	3	4		3
F	RED CLEAR	1	2	1	1	1	2		1

< C + 0 + F = 1 >

		MAX INITIAL 9	ALT WALK A	ALT FLH D/W B	ALT INITIAL C	ALT EXTEN D	PREEMPT E
0							
1	PHASE 1						
2	PHASE 2						
3	PHASE 3						
4	PHASE 4						
5	PHASE 5						
6	PHASE 6						
7	PHASE 7						
8	PHASE 8						

ALL RED START : (F/1 + C + 0) = 5

RED REVERT : (F/1 + 0 + F) = 5

Exclusive Pedestrian Operation

WALK : (F/1 + 0 + 0) = _____

DON'T WALK : (F/1 + 0 + 1) = _____

RED CLEAR : (F/1 + 0 + 2) = _____

PHASE FUNCTION FLAGS

		Column F PHASES 1 2 3 4 5 6 7 8
0	PERMIT	X X X X X X X X
1	RED LOCK	X
2	YELLOW LOCK	
3	VEH MIN CALL	
4	PED RECALL	
5	PEDESTRIANS	
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	
9	VEH MAX CALL	
A	SOFT RECALL	X X X
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	X X X X
F	FIRST PHASES	X

		RR1 DLY	RR1 CLR	EVA DLY	EVA CLR	EVB DLY	EVB CLR	EVC DLY	EVC CLR	EVD DLY	EVD CLR	RR2 DLY	RR2 CLR	EV CLR	EV DLY	RR CLR	RR DLY
0																	
1	PHASE 1																
2	PHASE 2																
3	PHASE 3																
4	PHASE 4																
5	PHASE 5																
6	PHASE 6																
7	PHASE 7																
8	PHASE 8																

< C + 0 + F = 1 >

Controller Intervals

0 = Walk	8 = Red Rest
1 = FDW	9 = Preemption
2 = Min. Green	A = Stop Time
3 =	B = Red Revert
4 = Var. Initial	C = Gap Termination
5 = Extension	D = Max. Termination
6 =	E = Forceoff Termination
7 = Reduce Gap	F = Red Clearance

E Page Enable : F/1 + 9 + E = Not Zero

Display Movement

D / C F / A

Interval Timer Display

Ring A = F/0 + A + Interval

Ring B = F/0 + B + Interval

CONTROLLER CONFIGURATION FLAGS

		Column E PHASES 1 2 3 4 5 6 7 8
0	EXCLUSIVE	X X X
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT / PERM	
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM VEH A	X X
B	EM VEH B	X X
C	EM VEH C	X X
D	EM VEH D	
E	EXTRA 1	X X X
F	IC SELECT	X

<C + 0 + E = 125 >

		Column F PHASES 1 2 3 4 5 6 7 8
0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4		
5	PED 2 P OUT	X
6	PED 6 P OUT	X
7	PED 4 P OUT	
8	PED 8 P OUT	X
9	FLH YELLOW	
A		
B		
C		
D		
E	RESTRICTED	X X
F	EXTRA 2	X

< C + 0 + E = 125 >

Display Locations

Manual	= C/0 + A + 1
Master Plan	= C/0 + A + 2
Current Plan	= C/0 + A + 3
Next Plan	= C/0 + A + 4
TOD Plan	= C/0 + A + 5
Master Cycle	= C/0 + A + 0
Ring A Cycle	= C/0 + B + 0
Ring B Cycle	= C/0 + D + 0
MIN Cycle	= C/0 + A + E
MAX Cycle	= C/0 + B + E
Current Calculated Cycle Length	= C/0 + B + F
Phase Hold	= C/0 + F + D
Phase Next	= C/0 + F + E
Force Off	= C/0 + F + F

SYSTEM DETECTORS

		Column B C1 PIN NO.
0		
1	SYS DET #1	
2	SYS DET #2	
3	SYS DET #3	
4	SYS DET #4	
5	SYS DET #5	
6	SYS DET #6	
7	SYS DET #7	
8	SYS DET #8	

< C + 0 + E = 126 >

Controller Configuration Flags

EXTRA 1

1 = TBC Type 1
2 = NEMA External Coord.
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
6 = International Ped
7 = Clear Outputs During FLASH
8 = Split Ring Operation

IC SELECT

2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
6 = Simplex Master
7 = 7 Wire Master
8 = Offset Interrupter

EXTRA 2

1 = AWB On During Phase Initial
2 = LMU Installed
3 =

FLASH TO PE

1 = EV A
2 = EV B
3 = EV C
4 = EV D
5 = RR 1
6 = RR 2
7 = SE 1
8 = SE 2

Manual Plan Select : (C/0 + A + 1) = 0

AUTO = 0
PLAN = 1-9
FREE = 14
FLASH = 15

Manual Offset Select : (C/0 + B + 1) = 0

AUTO = 0
OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS : (C/0 + 0 + 0) = 1

ZONE NUMBER : (C/0 + 0 + 1) = 1

AREA NUMBER : (C/0 + 0 + 2) = 3

AREA ADDRESS : (C/0 + 0 + 3) = 1

INPUT KEYSTROKES :

1) Set the PAGE to the required BANK # < C + 0 + PAGE = BANK # >
2) Keystroke : PAGE + COLUMN + ROW

ADVANCE WARNING -- SIGN # 1 : Phase # (F/1 + C + F) = _____ SIGN # 2 : (F/1 + D + F) = _____

Time Before Yellow (F/1 + C + E) = _____ (F/1 + D + E) = _____

Output Pin # (E/127 + E + 8) = _____ (E/127 + E + 9) = _____

INPUT / OUTPUT PIN # REASSIGNMENTS

	Column	Row	C + 0 + E =
1			
2			
3			
4			
5			
6			

BI Tran Systems, Inc.
510 Bercut Dr., Sacramento, Calif. 95814
916 / 441-0260
Traffic Signal Program 233
"QuicForm" Timing Card
(Revised 07/95)

COORDINATION

	PLAN NUMBER								
	1	2	3	4	5	6	7	8	9
CLE	120	120	110						
RCE 1	56	62	52						
RCE 2	43	49	39						
RCE 3	66	72	62						
RCE 4	~~88~~ 93	88	78						
RCE 5	12	12	12						
RCE 6	56	62	52						
RCE 7	—	—	—						
RCE 8	119	119	109						
NG OFFSET									
FSET 1	0	0	0						
FSET 2									
FSET 3									
D PERM 1									
LD RELEASE									
NE OFFSET									

< C + 0 + C = 1 >

Column E < C + 0 + C = 1 >

		1	2	3	4	5	6	7	8
0									
1	SYNC 1	X					X		
2	SYNC 2	X					X		
3	SYNC 3								
4	SYNC 4								
5	SYNC 5								
6	SYNC 6								
7	SYNC 7								
8	SYNC 8								
9	SYNC 9								
A	NEMA SYNC								
B	NEMA HOLD								
C									
D									
E	COOR XTRA								
F									

Column F < C + 0 + C = 1 >

		1	2	3	4	5	6	7	8
0	LAG FREE	X		X		X		X	
1	LAG PLAN 1	X		X		X		X	
2	LAG PLAN 2	X		X		X		X	
3	LAG PLAN 3	X		X		X		X	
4	LAG PLAN 4								
5	LAG PLAN 5								
6	LAG PLAN 6								
7	LAG PLAN 7								
8	LAG PLAN 8								
9	LAG PLAN 9								
A	EXT. LAG								
B									
C									

Column 2 COORD MINIMUM

1	
2	
3	
4	
5	
6	
7	
8	

TRANSITION TYPE: (C/5 + 1 + 9) = _____ < C + 0 + C = 5 >

OVERLAPS < C + 0 + E = 29 >

T.O.D. FUNCTION

0 Thru C = "F + F" Function
D = Lag Phases
E = ——→
F = Output 1 - 8

E = Bit 1 - Local Override
Bit 4 - Disable Det. OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor

		1								2								3								4							
0	LOAD SW #																														
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	VEH SET #1																														
2	VEH SET #2																														
3	VEH SET #3																														
4	NEG VEH																														
5	NEG PED																														
6	GREEN OMIT																														
7	GRN CLR OMIT																														
8																															
0	GRN CLEAR																														
E	YELLOW																														
F	RED CLEAR																														

TOD FUNCT. (7 Key) < C + 0 + 7 = 1 >

	TIME HHMM	FUNCT	DAY OF WEEK S	M	T	W	T	F	S
			1	2	3	4	5	6	7
0									
1									
2									
3									
4									
5									
6									
7									
8									
9									
A									
B									
C									
D									
E									
F									

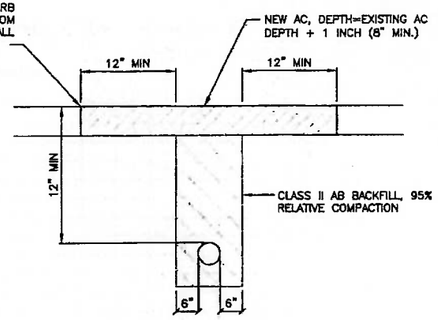
Column 4 < C + 0 + E = 27 >

	PHASES / BITS 1	2	3	4	5	6	7	8
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
A								
B								
C								
D								
E								
F								

COORD (9 Key) < C + 0 + 9 = 0.1 >

	TIME HHMM	PLAN	OFFSET	DAY OF WEEK S	M	T	W	T	F	S
				1	2	3	4	5	6	7
0	0700	1	A	X	X	X	X	X	X	
1	0900	E		X	X	X	X	X		
2	1500	1	A	X	X	X	X	X		
3	1800	E		X	X	X	X	X		
4										
5										
6										
7										
8										
9										
A										
B										
C										
D										
E										
F										

NOTE:
WHERE TRENCH PARALLELS CURB AND IS LESS THAN 3 FEET FROM GUTTER LIP, ALL EXISTING AC SHALL BE REPLACED TO THE GUTTER LIP.



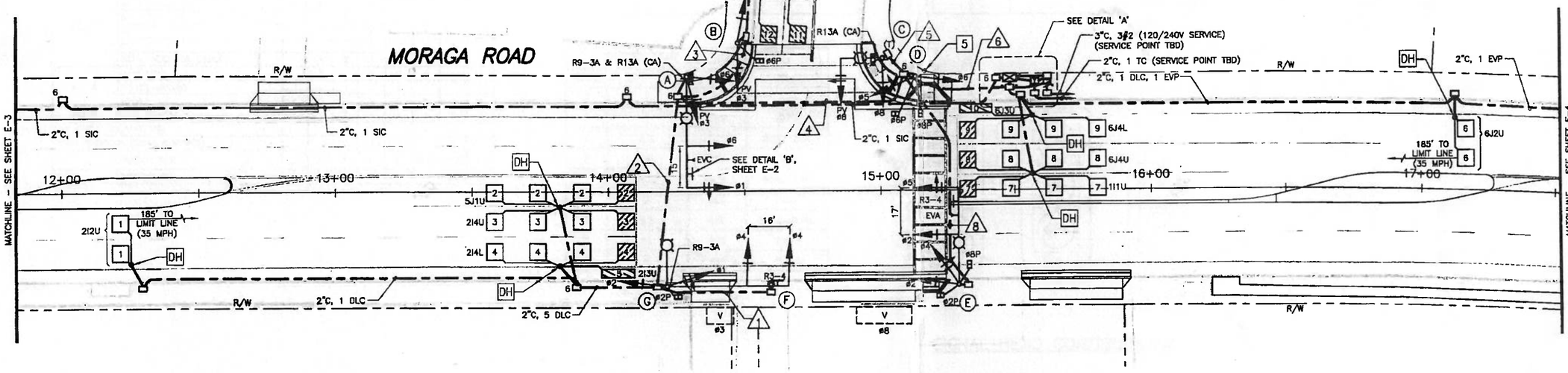
CONDUIT TRENCH DETAIL
N.T.S.

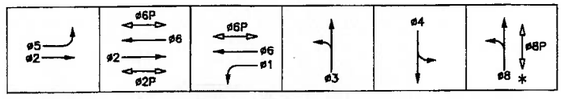
PROJECT NOTES (THIS SHEET ONLY):

1. INSTALL TYPE 332 CABINET WITH TYPE 170E MASTER AND LOCAL CONTROLLER ASSEMBLY. FRONT DOOR SHALL FACE NORTH.
2. INSTALL TYPE III-AF SERVICE CABINET WITH TESCO TYPE 22-000 BBS. SEE CALTRANS STANDARD PLAN ES-2C, ES-2D.
3. INSTALL 20"x42" (CHRISTY N44 OR EQUIVALENT) PULL BOX WITH SPLIT LID
4. INSTALL TYPE C TELEPHONE DEMARCATION CABINET. SEE CALTRANS STANDARD PLAN ES-3F, ES-3G FOR CABINET AND FOUNDATION DETAIL.
5. REMOVE AND SALVAGE (TO COUNTY CORP. YARD) EXISTING STREET LIGHT AND POLE. ABANDON FOUNDATION TO 12" BELOW GRADE. INSTALL No. 3 1/2 (1) PULL BOX WITH STEEL LID, SPLICE STREET LIGHTING CONDUCTORS TO MAINTAIN EXISTING CIRCUITS.

LEGEND: (SEE CALTRANS STD PLAN ES-1A FOR ABBREVIATIONS):

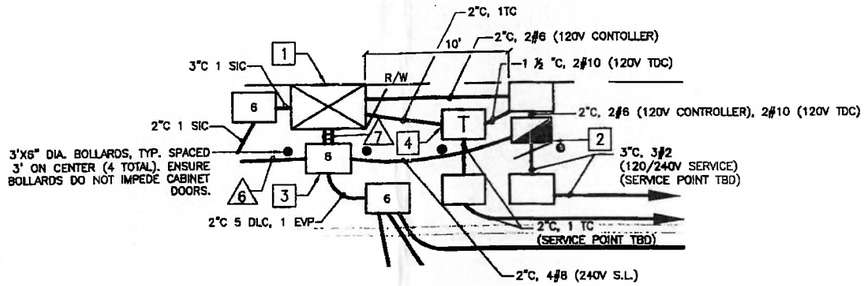
- V — VIDEO DETECTION ZONE
- X — CONDUIT RUN – SEE SHEET E-2 FOR CONDUCTOR SCHEDULE
- 1 — TYPE 'D' AND 'A' DETECTOR LOOPS
- X — POLE LOCATION – SEE SHEET E-2 FOR EQUIPMENT SCHEDULE



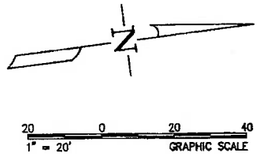


*ø8 SHALL NOT OPERATE CONCURRENTLY WITH ø3 OR ø4.

PROPOSED PHASE DIAGRAM
EVA = ø2 + ø5
EVC = ø1 + ø6



DETAIL 'A'
N.T.S.



ENGINEER'S NOTE TO CONTRACTOR:

Underground Service Alert
Call: TOLL FREE
811/800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND FACILITIES, PIPES,AND/OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR SHOULD ASCERTAIN THE TRUE VERTICAL AND HORIZONTAL LOCATION AND SIZE OF ANY UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR DAMAGE TO ANY PUBLIC OR PRIVATE UTILITIES SHOWN OR NOT SHOWN HEREIN.

ACCURATE FOR ELECTRICAL WORK ONLY
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED

TRAFFIC SIGNAL PLAN

SHEET: E-1
SHEET NO. 10 OF

ASCOT DRIVE/MORAGA ROAD
INTERSECTION IMPROVEMENTS

DESIGNED: ER
DRAFTED: JM
CHECKED: JP
DATE: 06/24/08

REGISTERED PROFESSIONAL ENGINEER — JAMES M. PETERMAN — 62301 — Exp. 9/30/09 — CIVIL — STATE OF CALIFORNIA
REGISTERED CIVIL ENGINEER — DATE 6.24.08

FEHR & PEERS
TRANSPORTATION CONSULTANTS
100 Pringle Avenue
Suite 600
Walnut Creek, CA 94596
(925) 930-7100
Walnut Creek, CA · Los Angeles County, CA · Riverside, CA · Orange County, CA · San Jose, CA · Salt Lake City, UT · Pleasanton, CA · Irvine, CO · Sacramento, CA · Denver, CO · Seattle, WA

WITD13

Town of Moraga

Appendix B

Current Year (2024) Existing Conditions Synchro Outputs

Intersection	
Int Delay, s/veh	93.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	41	39	630	588	114
Future Vol, veh/h	149	41	39	630	588	114
Conflicting Peds, #/hr	0	4	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	201	55	53	851	795	154

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1755	803	953	0	-	0
Stage 1	799	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 94	384	721	-	-	-
Stage 1	443	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 86	381	719	-	-	-
Mov Cap-2 Maneuver	~ 86	-	-	-	-	-
Stage 1	409	-	-	-	-	-
Stage 2	372	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $/762.66		0.61	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	719	-	103	-	-
HCM Lane V/C Ratio	0.073	-	2.486	-	-
HCM Control Delay (s/veh)	10.4	-	$ 762.7	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	23.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	Yes
RRFB?	Yes
K-Factor	0.08
Approach Delay(s)	555.14
Level of Service	F
Average Dissatisfaction Prob	0.203
Crossing Level of Service	C

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.93
Prob of Delayed Crossing	0.99
Delay for adq Gap (s)	558.02
Avg Ped Delay (s)	555.14

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1808.02
Level of Service	F
Average Dissatisfaction Prob	0.828
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1810.94
Avg Ped Delay (s)	1808.02

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	25	762	15	23	673
Future Vol, veh/h	18	25	762	15	23	673
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	34	1044	21	32	922

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1580	534	0	0	1066	0
Stage 1	1056	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	100	490	-	-	649	-
Stage 1	296	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	93	489	-	-	648	-
Mov Cap-2 Maneuver	93	-	-	-	-	-
Stage 1	295	-	-	-	-	-
Stage 2	522	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	35.44	0	1
HCM LOS	E		

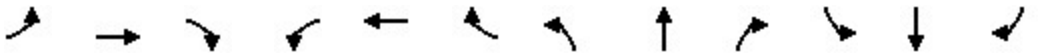
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	176	119	-
HCM Lane V/C Ratio	-	-	0.335	0.049	-
HCM Control Delay (s/veh)	-	-	35.4	10.8	0.7
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	1.4	0.2	-

Approach		
Approach Direction	NB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	34.75	
Level of Service	E	
Average Dissatisfaction Prob	0.461	
Crossing Level of Service	E	

Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	1
Veh Vol Crossed (veh/h)	762	673
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.49	0.88
Prob of Delayed Crossing	0.74	0.88
Delay for adq Gap (s)	9.77	31.27
Avg Ped Delay (s)	7.27	27.48

Approach		
Approach Direction	SB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	41.50	
Level of Service	E	
Average Dissatisfaction Prob	0.463	
Crossing Level of Service	E	

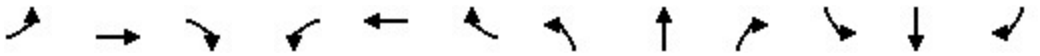
Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	2
Veh Vol Crossed (veh/h)	673	762
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.45	0.70
Prob of Delayed Crossing	0.70	0.91
Delay for adq Gap (s)	8.60	39.07
Avg Ped Delay (s)	6.01	35.49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		6.0	6.0		4.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.97	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.95		1.00	0.99		1.00	0.97	
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1745	1583		1753		1770	3535		1770	3416	
Flt Permitted		0.70	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1292	1583		1703		1770	3535		1770	3416	
Peak-hour factor, PHF	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	189	21	120	7	36	19	83	1101	7	10	899	197
RTOR Reduction (vph)	0	0	96	0	14	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	210	24	0	48	0	83	1108	0	10	1083	0
Confl. Peds. (#/hr)	9					9	8		7	7		8
Confl. Bikes (#/hr)									1			1
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4								
Actuated Green, G (s)		23.8	23.8		23.8		8.9	77.3		1.3	67.7	
Effective Green, g (s)		23.8	23.8		23.8		8.9	77.3		1.3	67.7	
Actuated g/C Ratio		0.20	0.20		0.20		0.07	0.64		0.01	0.56	
Clearance Time (s)		4.0	4.0		4.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)		256	313		337		131	2277		19	1927	
v/s Ratio Prot							c0.05	0.31		0.01	c0.32	
v/s Ratio Perm		c0.16	0.02		0.03							
v/c Ratio		0.82	0.07		0.14		0.63	0.48		0.52	0.56	
Uniform Delay, d1		46.0	39.1		39.6		53.9	11.0		59.0	16.6	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.02	1.69	
Incremental Delay, d2		18.5	0.1		0.1		7.1	0.7		10.5	1.0	
Delay (s)		64.6	39.2		39.8		61.1	11.8		71.2	29.3	
Level of Service		E	D		D		E	B		E	C	
Approach Delay (s/veh)		55.4			39.8			15.2			29.7	
Approach LOS		E			D			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.91		1.00	0.99		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1776	1583		1631		1770	3522		1770	3479	
Flt Permitted		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1776	1583		1631		1770	3522		1770	3479	
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	164	4	100	15	1	30	54	1159	32	16	923	88
RTOR Reduction (vph)	0	0	86	0	27	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	168	14	0	19	0	54	1190	0	16	1007	0
Confl. Peds. (#/hr)	8					8	9		5	5		9
Confl. Bikes (#/hr)									5			2
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3 8	3 8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)		16.6	16.6		11.1		6.2	65.5		2.8	64.1	
Effective Green, g (s)		16.6	16.6		11.1		6.2	65.5		2.8	64.1	
Actuated g/C Ratio		0.14	0.14		0.09		0.05	0.55		0.02	0.53	
Clearance Time (s)		4.0	4.0				4.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0				1.0	4.0		2.0	4.0	
Lane Grp Cap (vph)		245	218		150		91	1922		41	1858	
v/s Ratio Prot		c0.09			c0.01		0.03	c0.34		0.01	c0.29	
v/s Ratio Perm			0.01									
v/c Ratio		0.68	0.06		0.12		0.59	0.61		0.39	0.54	
Uniform Delay, d1		49.2	44.9		49.9		55.6	18.6		57.7	18.3	
Progression Factor		1.00	1.00		1.00		0.98	1.29		1.00	1.00	
Incremental Delay, d2		7.7	0.1		0.3		5.9	1.3		2.2	1.1	
Delay (s)		56.9	45.0		50.3		60.8	25.5		59.9	19.4	
Level of Service		E	D		D		E	C		E	B	
Approach Delay (s/veh)		52.5			50.3			27.1			20.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

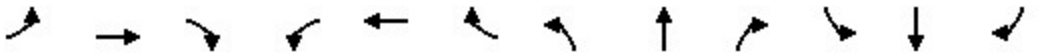
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	149	41	39	630	588	114
Future Volume (vph)	149	41	39	630	588	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971					0.850
Flt Protected	0.962		0.950			
Satd. Flow (prot)	1740	0	1770	1863	1863	1583
Flt Permitted	0.962		0.950			
Satd. Flow (perm)	1740	0	1770	1863	1863	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	188			238	831	
Travel Time (s)	4.3			5.4	9.1	
Confl. Peds. (#/hr)		4	4			4
Confl. Bikes (#/hr)						6
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	201	55	53	851	795	154
Shared Lane Traffic (%)						
Lane Group Flow (vph)	256	0	53	851	795	154
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	25	762	15	23	673
Future Volume (vph)	18	25	762	15	23	673
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.922		0.997			
Flt Protected	0.979					0.998
Satd. Flow (prot)	1681	0	3529	0	0	3356
Flt Permitted	0.979					0.998
Satd. Flow (perm)	1681	0	3529	0	0	3356
Link Speed (mph)	30		30			30
Link Distance (ft)	165		831			1562
Travel Time (s)	3.8		9.8			16.8
Confl. Peds. (#/hr)				2	2	
Confl. Bikes (#/hr)				7		
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Parking (#/hr)						0
Adj. Flow (vph)	25	34	1044	21	32	922
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	1065	0	0	954
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.07
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		



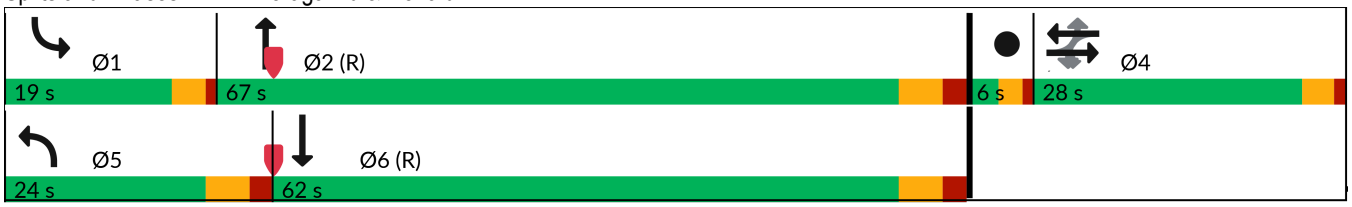
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.98		0.99	0.99		0.99	0.99	
Frt			0.850		0.959			0.999			0.973	
Flt Protected		0.957			0.994		0.950			0.950		
Satd. Flow (prot)	0	1783	1583	0	1753	0	1770	3535	0	1770	3416	0
Flt Permitted		0.709			0.966		0.950			0.950		
Satd. Flow (perm)	0	1293	1583	0	1704	0	1760	3535	0	1762	3416	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		17			1			29	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			1562			457	
Travel Time (s)		5.5			4.4			35.5			10.4	
Confl. Peds. (#/hr)	9					9	8		7	7		8
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	189	21	120	7	36	19	83	1101	7	10	899	197
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	210	120	0	62	0	83	1108	0	10	1096	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4								
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	8.0	8.0	8.0	8.0	8.0		11.0	26.0		9.0	26.0	
Total Split (s)	28.0	28.0	28.0	28.0	28.0		24.0	67.0		19.0	62.0	
Total Split (%)	23.3%	23.3%	23.3%	23.3%	23.3%		20.0%	55.8%		15.8%	51.7%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0		18.0	61.0		15.0	56.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0			8.0			8.0	
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)	9	9	9	9	9			7			8	
Act Effct Green (s)		23.8	23.8		23.8		10.0	82.9		5.5	71.4	
Actuated g/C Ratio		0.20	0.20		0.20		0.08	0.69		0.05	0.60	
v/c Ratio		0.82	0.29		0.17		0.56	0.45		0.12	0.53	
Control Delay (s/veh)		70.6	8.7		30.3		66.8	10.2		59.2	28.6	
Queue Delay		30.5	0.0		0.2		0.0	0.0		0.0	2.9	
Total Delay (s/veh)		101.2	8.7		30.5		66.8	10.3		59.2	31.5	
LOS		F	A		C		E	B		E	C	
Approach Delay (s/veh)		67.6			30.6			14.3			31.8	
Approach LOS		E			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 40 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 28.4		Intersection LOS: C	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Moraga Rd & Donald Dr



Lane Group	Ø3
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	6.0
Total Split (s)	6.0
Total Split (%)	5%
Maximum Green (s)	3.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	0.2
Recall Mode	None
Walk Time (s)	2.8
Flash Dont Walk (s)	0.2
Pedestrian Calls (#/hr)	9
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	

Intersection Summary

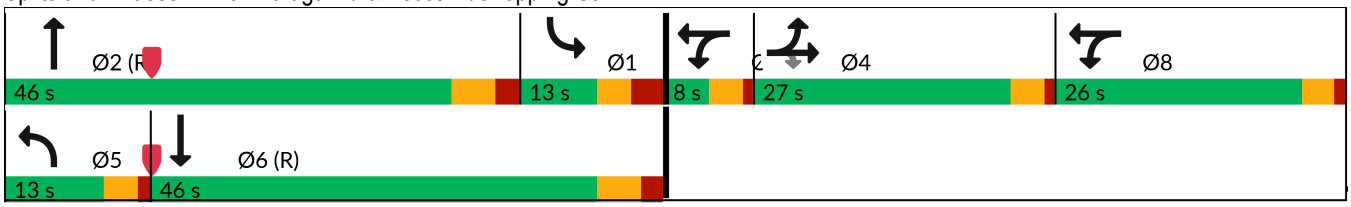
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.98		0.99	0.99		0.99	0.99	
Frt			0.850		0.912			0.996			0.987	
Flt Protected		0.953			0.984		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1647	0	1770	3522	0	1770	3479	0
Flt Permitted		0.953			0.984		0.950			0.950		
Satd. Flow (perm)	0	1755	1583	0	1647	0	1758	3522	0	1766	3479	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191		30			2			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			102			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	8					8	9		5	5		9
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	164	4	100	15	1	30	54	1159	32	16	923	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	100	0	46	0	54	1191	0	16	1011	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3 8	3 8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	3 8	3 8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				6.0	4.0		6.0	4.0	
Minimum Split (s)	8.0	8.0	8.0				10.0	38.0		12.0	27.0	
Total Split (s)	27.0	27.0	27.0				13.0	46.0		13.0	46.0	
Total Split (%)	22.5%	22.5%	22.5%				10.8%	38.3%		10.8%	38.3%	
Maximum Green (s)	23.0	23.0	23.0				9.0	40.0		7.0	40.0	
Yellow Time (s)	3.0	3.0	3.0				3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0				1.0	2.0		3.0	2.0	
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0				4.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0				1.0	4.0		2.0	4.0	
Recall Mode	None	None	None				None	C-Max		None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								25.0			14.0	
Pedestrian Calls (#/hr)								5			9	
Act Effct Green (s)		16.6	16.6		13.0		7.4	70.8		6.4	66.6	
Actuated g/C Ratio		0.14	0.14		0.11		0.06	0.59		0.05	0.56	
v/c Ratio		0.68	0.26		0.22		0.49	0.57		0.17	0.52	
Control Delay (s/veh)		63.0	1.6		15.7		67.3	26.5		58.2	22.2	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	0.2	
Total Delay (s/veh)		63.0	1.7		15.8		67.3	27.3		58.2	22.5	
LOS		E	A		B		E	C		E	C	
Approach Delay (s/veh)		40.2			15.9			29.1			23.1	
Approach LOS		D			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 27.6		Intersection LOS: C	
Intersection Capacity Utilization 55.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Lane Group	Ø3	Ø8
Turn Type		
Protected Phases	3	8
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	8.0	26.0
Total Split (s)	8.0	26.0
Total Split (%)	7%	22%
Maximum Green (s)	4.0	22.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		7.0
Flash Dont Walk (s)		15.0
Pedestrian Calls (#/hr)		8
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		

Intersection Summary

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:40	7:40	7:40	7:40	7:40	7:40
End Time	8:50	8:50	8:50	8:50	8:50	8:50
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2157	2208	2227	2164	2178	2187
Vehs Exited	2168	2214	2232	2171	2172	2193
Starting Vehs	58	52	50	61	54	52
Ending Vehs	47	46	45	54	60	47
Travel Distance (mi)	1013	1051	1043	1022	1007	1027
Travel Time (hr)	52.8	55.5	55.3	52.9	53.4	54.0
Total Delay (hr)	17.1	18.5	18.5	16.8	17.8	17.7
Total Stops	1689	1827	1792	1645	1834	1757
Fuel Used (gal)	38.6	40.3	40.0	38.7	38.9	39.3

Interval #0 Information Seeding

Start Time	7:40
End Time	7:50
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:50
End Time	8:50
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2157	2208	2227	2164	2178	2187
Vehs Exited	2168	2214	2232	2171	2172	2193
Starting Vehs	58	52	50	61	54	52
Ending Vehs	47	46	45	54	60	47
Travel Distance (mi)	1013	1051	1043	1022	1007	1027
Travel Time (hr)	52.8	55.5	55.3	52.9	53.4	54.0
Total Delay (hr)	17.1	18.5	18.5	16.8	17.8	17.7
Total Stops	1689	1827	1792	1645	1834	1757
Fuel Used (gal)	38.6	40.3	40.0	38.7	38.9	39.3

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	162	48	47	74	13
Average Queue (ft)	77	16	3	4	1
95th Queue (ft)	139	43	24	32	10
Link Distance (ft)	148		214	768	768
Upstream Blk Time (%)	2				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		100			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	67	164	102
Average Queue (ft)	29	24	4
95th Queue (ft)	57	89	42
Link Distance (ft)	115	1493	1493
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	200	81	91	112	152	160	137	266	274
Average Queue (ft)	104	33	28	50	67	79	9	152	133
95th Queue (ft)	182	63	69	100	128	143	60	253	238
Link Distance (ft)	196	196	146		1493	1493		390	390
Upstream Blk Time (%)	1								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)				125			100		
Storage Blk Time (%)				0	1			15	
Queuing Penalty (veh)				2	0			1	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	116	58	63	161	241	247	72	269	236
Average Queue (ft)	84	29	26	36	80	91	13	108	81
95th Queue (ft)	128	53	55	92	189	202	45	219	178
Link Distance (ft)	101	101	55		390	390		307	307
Upstream Blk Time (%)	12		3					0	
Queuing Penalty (veh)	0		0					0	
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)				0	4			9	
Queuing Penalty (veh)				0	1			1	

Network Summary

Network wide Queuing Penalty: 6

Intersection: 12: Moraga Rd & Donald Dr

Phase	1	2	3	4	5	6
Movement(s) Served	SBL	NBT	Hold	EBWB	NBL	SBT
Maximum Green (s)	15.0	61.0	3.0	24.0	18.0	56.0
Minimum Green (s)	5.0	20.0	3.0	4.0	5.0	20.0
Recall	None	C-Max	None	None	None	C-Max
Avg. Green (s)	5.7	2.0	0.0	19.1	7.8	-7.2
g/C Ratio	NA	NA	0.00	NA	NA	NA
Cycles Skipped (%)	89	0	100	0	17	0
Cycles @ Minimum (%)	7	0	0	0	28	0
Cycles Maxed Out (%)	0	100	0	7	0	100
Cycles with Peds (%)	0	17	0	36	0	21

Controller Summary
Average Cycle Length (s): -15.6

Number of Complete Cycles : 29

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Phase	1	2	3	4	5	6	8
Movement(s) Served	SBL	NBT	WBTL	EBTL	NBL	SBT	WBTL
Maximum Green (s)	7.0	40.0	4.0	23.0	9.0	40.0	22.0
Minimum Green (s)	6.0	4.0	4.0	4.0	6.0	4.0	4.0
Recall	None	C-Max	None	None	None	C-Max	None
Avg. Green (s)	7.4	-5.1	4.0	13.4	6.7	-8.7	21.2
g/C Ratio	NA	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	71	0	76	0	28	0	75
Cycles @ Minimum (%)	0	0	24	0	48	0	0
Cycles Maxed Out (%)	29	100	24	0	0	100	0
Cycles with Peds (%)	0	14	0	0	0	29	21

Controller Summary
Average Cycle Length (s): -15.6

Number of Complete Cycles : 29

Intersection	
Int Delay, s/veh	45.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	131	23	22	686	711	144
Future Vol, veh/h	131	23	22	686	711	144
Conflicting Peds, #/hr	0	2	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	28	27	837	867	176

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1759	871	1045	0	-	0
Stage 1	869	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 93	350	666	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 89	349	665	-	-	-
Mov Cap-2 Maneuver	~ 89	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $/5	501.64	0.33	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	665	-	100	-	-
HCM Lane V/C Ratio	0.04	-	1.877	-	-
HCM Control Delay (s/veh)	10.6	-	$ 501.6	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	15.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	Yes
RRFB?	Yes
K-Factor	0.08
Approach Delay(s)	1066.69
Level of Service	F
Average Dissatisfaction Prob	0.220
Crossing Level of Service	C

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.95
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1069.23
Avg Ped Delay (s)	1066.69

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	4082.20
Level of Service	F
Average Dissatisfaction Prob	0.842
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	4084.76
Avg Ped Delay (s)	4082.20

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	31	794	17	27	842
Future Vol, veh/h	17	31	794	17	27	842
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	38	980	21	33	1040

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1579	503	0	0	1003	0
Stage 1	993	-	-	-	-	-
Stage 2	586	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	100	514	-	-	686	-
Stage 1	319	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	93	513	-	-	685	-
Mov Cap-2 Maneuver	93	-	-	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	30.91	0	0.98
HCM LOS	D		

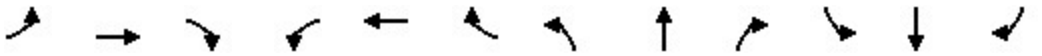
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	197	112	-
HCM Lane V/C Ratio	-	-	0.3	0.049	-
HCM Control Delay (s/veh)	-	-	30.9	10.5	0.7
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

Approach		
Approach Direction	NB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	52.08	
Level of Service	F	
Average Dissatisfaction Prob	0.502	
Crossing Level of Service	F	

Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	1
Veh Vol Crossed (veh/h)	794	842
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.51	0.93
Prob of Delayed Crossing	0.76	0.93
Delay for adq Gap (s)	10.23	47.74
Avg Ped Delay (s)	7.75	44.33

Approach		
Approach Direction	SB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	47.34	
Level of Service	F	
Average Dissatisfaction Prob	0.502	
Crossing Level of Service	F	

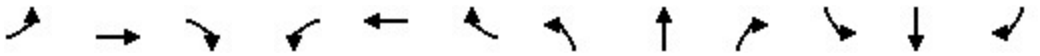
Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	2
Veh Vol Crossed (veh/h)	842	794
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.53	0.71
Prob of Delayed Crossing	0.78	0.92
Delay for adq Gap (s)	10.96	42.33
Avg Ped Delay (s)	8.53	38.82



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		6.0	6.0		4.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.98	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.90		1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1745	1583		1640		1770	3537		1770	3503	
Flt Permitted		0.72	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1329	1583		1598		1770	3537		1770	3503	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	83	4	49	2	2	9	59	1085	4	11	1063	62
RTOR Reduction (vph)	0	0	44	0	8	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	87	5	0	5	0	59	1089	0	11	1123	0
Confl. Peds. (#/hr)	6					6	6		2	2		6
Confl. Bikes (#/hr)									2			
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4								
Actuated Green, G (s)		13.0	13.0		13.0		7.4	88.1		1.3	80.0	
Effective Green, g (s)		13.0	13.0		13.0		7.4	88.1		1.3	80.0	
Actuated g/C Ratio		0.11	0.11		0.11		0.06	0.73		0.01	0.67	
Clearance Time (s)		4.0	4.0		4.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)		143	171		173		109	2596		19	2335	
v/s Ratio Prot							c0.03	0.31		0.01	c0.32	
v/s Ratio Perm		c0.07	0.00		0.00							
v/c Ratio		0.60	0.03		0.02		0.54	0.41		0.57	0.48	
Uniform Delay, d1		51.0	47.8		47.8		54.6	6.1		59.0	9.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.04	2.06	
Incremental Delay, d2		7.1	0.0		0.0		2.9	0.5		20.7	0.6	
Delay (s)		58.2	47.9		47.9		57.5	6.6		82.4	20.9	
Level of Service		E	D		D		E	A		F	C	
Approach Delay (s/veh)		54.5			47.9			9.2			21.5	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.91		1.00	0.99		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1780	1583		1663		1770	3528		1770	3463	
Flt Permitted		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1780	1583		1663		1770	3528		1770	3463	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	92	7	45	12	2	24	71	949	17	23	1060	119
RTOR Reduction (vph)	0	0	41	0	22	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	99	5	0	16	0	71	965	0	23	1175	0
Confl. Peds. (#/hr)	1					1	15		2	2		15
Confl. Bikes (#/hr)									3			4
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3 8	3 8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)		12.0	12.0		10.3		7.4	70.3		5.4	68.3	
Effective Green, g (s)		12.0	12.0		10.3		7.4	70.3		5.4	68.3	
Actuated g/C Ratio		0.10	0.10		0.09		0.06	0.59		0.05	0.57	
Clearance Time (s)		4.0	4.0				4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0	3.0				1.0	4.0		2.0	4.0	
Lane Grp Cap (vph)		178	158		142		109	2066		79	1971	
v/s Ratio Prot		c0.06			c0.01		c0.04	0.27		0.01	c0.34	
v/s Ratio Perm			0.00									
v/c Ratio		0.55	0.02		0.11		0.65	0.46		0.29	0.59	
Uniform Delay, d1		51.4	48.7		50.6		55.0	14.1		55.4	16.8	
Progression Factor		1.00	1.00		1.00		0.93	1.24		1.00	1.00	
Incremental Delay, d2		3.7	0.0		0.3		9.5	0.7		0.7	1.3	
Delay (s)		55.1	48.8		50.9		60.9	18.4		56.1	18.1	
Level of Service		E	D		D		E	B		E	B	
Approach Delay (s/veh)		53.1			50.9			21.3			18.9	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	131	23	22	686	711	144
Future Volume (vph)	131	23	22	686	711	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.980					0.850
Flt Protected	0.959		0.950			
Satd. Flow (prot)	1751	0	1770	1863	1863	1583
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	1751	0	1770	1863	1863	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	188			238	831	
Travel Time (s)	4.3			5.4	9.1	
Confl. Peds. (#/hr)		2	2			2
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	160	28	27	837	867	176
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	0	27	837	867	176
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	31	794	17	27	842
Future Volume (vph)	17	31	794	17	27	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.913		0.997			
Flt Protected	0.983					0.998
Satd. Flow (prot)	1672	0	3529	0	0	3356
Flt Permitted	0.983					0.998
Satd. Flow (perm)	1672	0	3529	0	0	3356
Link Speed (mph)	30		30			30
Link Distance (ft)	165		831			1562
Travel Time (s)	3.8		9.8			16.8
Confl. Peds. (#/hr)				2	2	
Confl. Bikes (#/hr)				7		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Parking (#/hr)						0
Adj. Flow (vph)	21	38	980	21	33	1040
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	1001	0	0	1073
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.07
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			

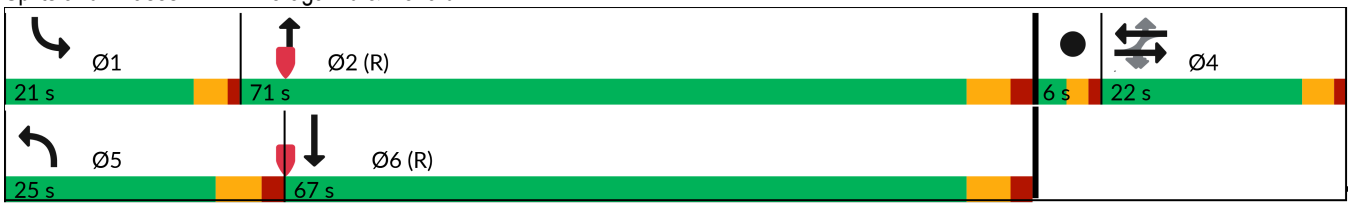
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.97		0.99	0.99		0.99	0.99	
Frt			0.850		0.907			0.999			0.992	
Flt Protected		0.954			0.992		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1640	0	1770	3535	0	1770	3504	0
Flt Permitted		0.727			0.967		0.950			0.950		
Satd. Flow (perm)	0	1329	1583	0	1598	0	1763	3535	0	1767	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91		9						7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			1562			457	
Travel Time (s)		5.5			4.4			35.5			10.4	
Confl. Peds. (#/hr)	6					6	6		2	2		6
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	83	4	49	2	2	9	59	1085	4	11	1063	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	49	0	13	0	59	1089	0	11	1125	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4								
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		11.0	26.0		9.0	26.0	
Total Split (s)	22.0	22.0	22.0	22.0	22.0		25.0	71.0		21.0	67.0	
Total Split (%)	18.3%	18.3%	18.3%	18.3%	18.3%		20.8%	59.2%		17.5%	55.8%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		19.0	65.0		17.0	61.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0			8.0			8.0	
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)	6	6	6	6	6			2			6	
Act Effct Green (s)		13.0	13.0		13.0		8.4	93.7		5.6	83.6	
Actuated g/C Ratio		0.11	0.11		0.11		0.07	0.78		0.05	0.70	
v/c Ratio		0.60	0.19		0.07		0.47	0.39		0.13	0.46	
Control Delay (s/veh)		67.9	2.9		28.1		65.3	5.8		60.2	21.1	
Queue Delay		1.1	0.0		0.0		0.0	0.0		0.0	9.4	
Total Delay (s/veh)		69.1	2.9		28.1		65.3	5.9		60.2	30.5	
LOS		E	A		C		E	A		E	C	
Approach Delay (s/veh)		45.3			28.2			9.0			30.9	
Approach LOS		D			C			A			C	

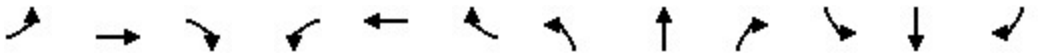
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 40 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 21.3		Intersection LOS: C	
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Moraga Rd & Donald Dr



Lane Group	Ø3
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	6.0
Total Split (s)	6.0
Total Split (%)	5%
Maximum Green (s)	3.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	0.2
Recall Mode	None
Walk Time (s)	2.8
Flash Dont Walk (s)	0.2
Pedestrian Calls (#/hr)	6
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	

Intersection Summary



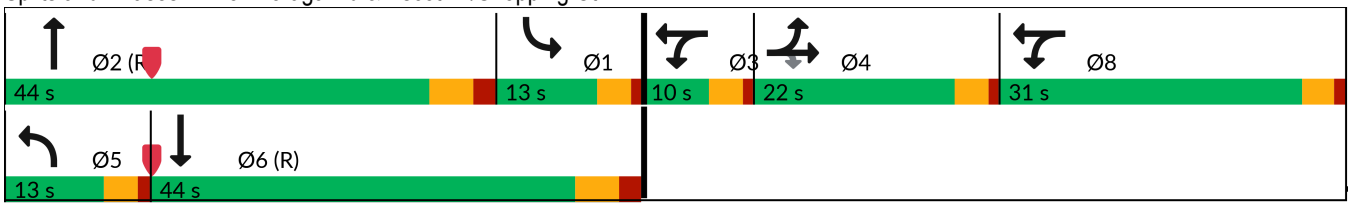
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.99	0.99		0.99	0.99	
Frt			0.850		0.915			0.997			0.985	
Flt Protected		0.956			0.984		0.950			0.950		
Satd. Flow (prot)	0	1781	1583	0	1663	0	1770	3527	0	1770	3463	0
Flt Permitted		0.956			0.984		0.950			0.950		
Satd. Flow (perm)	0	1778	1583	0	1663	0	1755	3527	0	1768	3463	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191		24			2			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			103			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	1					1	15		2	2		15
Confl. Bikes (#/hr)									3			4
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
Adj. Flow (vph)	92	7	45	12	2	24	71	949	17	23	1060	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	45	0	38	0	71	966	0	23	1179	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3 8	3 8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	3 8	3 8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				6.0	4.0		6.0	4.0	
Minimum Split (s)	8.0	8.0	8.0				10.0	10.0		10.0	10.0	
Total Split (s)	22.0	22.0	22.0				13.0	44.0		13.0	44.0	
Total Split (%)	18.3%	18.3%	18.3%				10.8%	36.7%		10.8%	36.7%	
Maximum Green (s)	18.0	18.0	18.0				9.0	38.0		9.0	38.0	
Yellow Time (s)	3.0	3.0	3.0				3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0				1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0				4.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag	Lag				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0				1.0	4.0		2.0	4.0	
Recall Mode	None	None	None				None	C-Max		None	C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								25.0			14.0	
Pedestrian Calls (#/hr)								2			15	
Act Effct Green (s)		12.0	12.0		14.7		8.6	75.1		7.8	72.3	
Actuated g/C Ratio		0.10	0.10		0.12		0.07	0.63		0.07	0.60	
v/c Ratio		0.55	0.13		0.16		0.56	0.43		0.20	0.56	
Control Delay (s/veh)		62.7	0.8		16.1		66.0	21.8		56.6	20.9	
Queue Delay		0.0	0.0		0.0		0.0	0.2		0.0	0.6	
Total Delay (s/veh)		62.7	0.8		16.1		66.0	22.1		56.6	21.5	
LOS		E	A		B		E	C		E	C	
Approach Delay (s/veh)		43.4			16.1			25.1			22.2	
Approach LOS		D			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay (s/veh): 24.6		Intersection LOS: C	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Lane Group	Ø3	Ø8
Turn Type		
Protected Phases	3	8
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	8.0	8.0
Total Split (s)	10.0	31.0
Total Split (%)	8%	26%
Maximum Green (s)	6.0	27.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	1	1
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		

Intersection Summary

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	2:50	2:50	2:50	2:50	2:50	2:50
End Time	4:00	4:00	4:00	4:00	4:00	4:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2296	2248	2235	2271	2231	2253
Vehs Exited	2280	2261	2239	2278	2232	2258
Starting Vehs	56	56	58	56	45	51
Ending Vehs	72	43	54	49	44	48
Travel Distance (mi)	1171	1128	1136	1132	1138	1141
Travel Time (hr)	55.0	55.6	53.7	55.2	55.1	54.9
Total Delay (hr)	14.2	16.3	14.3	15.9	15.5	15.2
Total Stops	1461	1522	1473	1582	1517	1510
Fuel Used (gal)	42.5	41.6	41.1	41.6	41.4	41.6

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2296	2248	2235	2271	2231	2253
Vehs Exited	2280	2261	2239	2278	2232	2258
Starting Vehs	56	56	58	56	45	51
Ending Vehs	72	43	54	49	44	48
Travel Distance (mi)	1171	1128	1136	1132	1138	1141
Travel Time (hr)	55.0	55.6	53.7	55.2	55.1	54.9
Total Delay (hr)	14.2	16.3	14.3	15.9	15.5	15.2
Total Stops	1461	1522	1473	1582	1517	1510
Fuel Used (gal)	42.5	41.6	41.1	41.6	41.4	41.6

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	163	39	32	55	16
Average Queue (ft)	71	10	1	3	1
95th Queue (ft)	134	35	14	28	11
Link Distance (ft)	148		214	768	768
Upstream Blk Time (%)	3				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		100			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	77	197	140
Average Queue (ft)	29	29	7
95th Queue (ft)	58	109	54
Link Distance (ft)	115	1493	1493
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	125	68	44	95	142	149	78	267	252
Average Queue (ft)	57	24	8	46	52	60	12	137	114
95th Queue (ft)	107	55	32	87	111	118	46	230	211
Link Distance (ft)	196	196	146		1493	1493		390	390
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				125			100		
Storage Blk Time (%)				0	0			11	
Queuing Penalty (veh)				0	0			1	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	112	58	60	102	182	206	98	266	225
Average Queue (ft)	65	21	22	46	64	73	24	130	81
95th Queue (ft)	112	48	50	90	139	159	68	236	175
Link Distance (ft)	101	101	56		390	390		306	306
Upstream Blk Time (%)	4		2					0	
Queuing Penalty (veh)	0		0					0	
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)					1			11	
Queuing Penalty (veh)					1			2	

Network Summary

Network wide Queuing Penalty: 4

Intersection: 12: Moraga Rd & Donald Dr

Phase	1	2	3	4	5	6
Movement(s) Served	SBL	NBT	Hold	EBWB	NBL	SBT
Maximum Green (s)	17.0	65.0	3.0	18.0	19.0	61.0
Minimum Green (s)	5.0	20.0	3.0	4.0	5.0	20.0
Recall	None	C-Max	None	None	None	C-Max
Avg. Green (s)	6.0	9.4	0.0	11.1	7.2	1.9
g/C Ratio	NA	NA	0.00	NA	NA	NA
Cycles Skipped (%)	79	3	100	4	21	0
Cycles @ Minimum (%)	18	0	0	0	31	0
Cycles Maxed Out (%)	0	97	0	4	0	100
Cycles with Peds (%)	0	3	0	21	0	14

Controller Summary
Average Cycle Length (s): -15.6

Number of Complete Cycles : 29

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

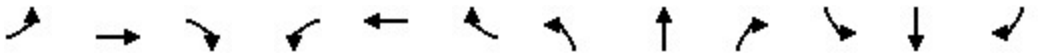
Phase	1	2	3	4	5	6	8
Movement(s) Served	SBL	NBT	WBTL	EBTL	NBL	SBT	WBTL
Maximum Green (s)	9.0	38.0	6.0	18.0	9.0	38.0	27.0
Minimum Green (s)	6.0	4.0	4.0	4.0	6.0	4.0	4.0
Recall	None	C-Max	None	None	None	C-Max	None
Avg. Green (s)	9.4	0.5	6.0	11.0	7.3	-3.6	9.2
g/C Ratio	NA	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	54	4	72	10	10	0	90
Cycles @ Minimum (%)	0	0	0	0	45	0	3
Cycles Maxed Out (%)	46	96	10	0	0	100	0
Cycles with Peds (%)	0	7	0	0	0	36	0

Controller Summary
Average Cycle Length (s): -15.6

Number of Complete Cycles : 29

Appendix C

2044 No-Build Conditions (Existing Roadway Configuration) Synchro Outputs



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (veh/h)	121	3	74	11	1	22	40	858	24	12	683	65
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		0.95	1.00		0.96	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	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	244	6	149	22	2	44	81	1728	48	24	1375	131
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	7	246	35	3	70	291	1719	48	253	1523	144
Arrive On Green	0.16	0.16	0.16	0.07	0.07	0.07	0.33	0.97	0.97	0.14	0.47	0.47
Sat Flow, veh/h	1741	43	1549	515	47	1029	1781	3527	98	1781	3268	309
Grp Volume(v), veh/h	250	0	149	68	0	0	81	867	909	24	744	762
Grp Sat Flow(s),veh/h/ln	1783	0	1549	1591	0	0	1781	1777	1848	1781	1777	1801
Q Serve(g_s), s	17.1	0.0	11.2	5.2	0.0	0.0	4.2	60.9	60.9	1.5	48.0	49.0
Cycle Q Clear(g_c), s	17.1	0.0	11.2	5.2	0.0	0.0	4.2	60.9	60.9	1.5	48.0	49.0
Prop In Lane	0.98		1.00	0.32		0.65	1.00		0.05	1.00		0.17
Lane Grp Cap(c), veh/h	284	0	246	108	0	0	291	866	901	253	828	839
V/C Ratio(X)	0.88	0.00	0.60	0.63	0.00	0.00	0.28	1.00	1.01	0.09	0.90	0.91
Avail Cap(c_a), veh/h	328	0	285	204	0	0	291	881	917	253	853	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.49	0.49	0.49	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	0.0	48.9	56.8	0.0	0.0	36.7	1.6	1.6	46.6	30.6	30.9
Incr Delay (d2), s/veh	21.2	0.0	2.8	6.0	0.0	0.0	0.1	21.7	23.3	0.1	14.5	15.4
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	9.3	0.0	4.5	2.3	0.0	0.0	1.8	5.9	6.5	0.7	23.4	24.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	72.6	0.0	51.7	62.8	0.0	0.0	36.7	23.3	24.9	46.7	45.2	46.3
LnGrp LOS	E		D	E			D	F	F	D	D	D
Approach Vol, veh/h		399			68			1857			1530	
Approach Delay, s/veh		64.8			62.8			24.7			45.8	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.2	67.5		23.9	24.4	64.3		12.5				
Change Period (Y+Rc), s	4.0	6.0		4.0	4.0	6.0		4.0				
Max Green Setting (Gmax), s	6.0	62.0		23.0	8.0	60.0		16.0				
Max Q Clear Time (g_c+I1), s	3.5	62.9		19.1	6.2	51.0		7.2				
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	7.3		0.2				

Intersection Summary			
HCM 7th Control Delay, s/veh		37.9	
HCM 7th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	743.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	41	39	630	588	114
Future Vol, veh/h	149	41	39	630	588	114
Conflicting Peds, #/hr	0	6	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	300	83	79	1269	1184	230

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2616	1196	1419	0	-	0
Stage 1	1190	-	-	-	-	-
Stage 2	1426	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 27	227	480	-	-	-
Stage 1	~ 289	-	-	-	-	-
Stage 2	~ 222	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 22	224	477	-	-	-
Mov Cap-2 Maneuver	~ 22	-	-	-	-	-
Stage 1	~ 240	-	-	-	-	-
Stage 2	~ 220	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 6106.81	0.82	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	477	-	27	-	-
HCM Lane V/C Ratio	0.165	-	13.96	-	-
HCM Control Delay (s/veh)	14	-	$ 6106.8	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	47.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	Yes
RRFB?	Yes
K-Factor	0.08
Approach Delay(s)	555.14
Level of Service	F
Average Dissatisfaction Prob	0.203
Crossing Level of Service	C

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.93
Prob of Delayed Crossing	0.99
Delay for adq Gap (s)	558.02
Avg Ped Delay (s)	555.14

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1808.02
Level of Service	F
Average Dissatisfaction Prob	0.828
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1810.94
Avg Ped Delay (s)	1808.02

Intersection	
Int Delay, s/veh	15.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	25	762	15	23	673
Future Vol, veh/h	18	25	762	15	23	673
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	51	1555	31	47	1374

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2354	796	0	0	1589	0
Stage 1	1574	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 30	330	-	-	409	-
Stage 1	156	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 24	329	-	-	408	-
Mov Cap-2 Maneuver	~ 24	-	-	-	-	-
Stage 1	156	-	-	-	-	-
Stage 2	335	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $/s	$497.44	0	3.02
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	53	119	-
HCM Lane V/C Ratio	-	-	1.672	0.115	-
HCM Control Delay (s/veh)	-	-	$ 497.4	15	2.6
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	8.3	0.4	-

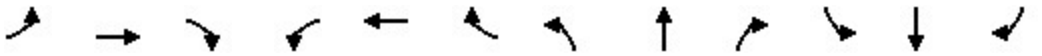
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach		
Approach Direction	NB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	34.75	
Level of Service	E	
Average Dissatisfaction Prob	0.461	
Crossing Level of Service	E	

Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	1
Veh Vol Crossed (veh/h)	762	673
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.49	0.88
Prob of Delayed Crossing	0.74	0.88
Delay for adq Gap (s)	9.77	31.27
Avg Ped Delay (s)	7.27	27.48

Approach		
Approach Direction	SB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	41.50	
Level of Service	E	
Average Dissatisfaction Prob	0.463	
Crossing Level of Service	E	

Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	2
Veh Vol Crossed (veh/h)	673	762
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.45	0.70
Prob of Delayed Crossing	0.70	0.91
Delay for adq Gap (s)	8.60	39.07
Avg Ped Delay (s)	6.01	35.49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		5.0	6.0		4.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.99		1.00	0.98	
Flpb, ped/bikes		0.96	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.95		1.00	0.99		1.00	0.97	
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1729	1583		1744		1770	3534		1770	3407	
Flt Permitted		0.66	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1200	1583		1671		1770	3534		1770	3407	
Peak-hour factor, PHF	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor (vph)	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	281	32	179	11	53	28	123	1641	11	15	1339	294
RTOR Reduction (vph)	0	0	127	0	12	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	313	52	0	80	0	123	1652	0	15	1618	0
Confl. Peds. (#/hr)	14					14	12		11	11		12
Confl. Bikes (#/hr)									2			2
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		36.3	36.3		36.3		15.1	68.5		2.0	54.4	
Effective Green, g (s)		36.3	36.3		36.3		15.1	68.5		2.0	54.4	
Actuated g/C Ratio		0.29	0.29		0.29		0.12	0.55		0.02	0.44	
Clearance Time (s)		4.0	4.0		4.0		5.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)		348	459		485		213	1936		28	1482	
v/s Ratio Prot							0.07	c0.47		0.01	c0.47	
v/s Ratio Perm		c0.26	0.03		0.05							
v/c Ratio		0.89	0.11		0.16		0.57	0.85		0.53	1.09	
Uniform Delay, d1		42.5	32.5		33.0		51.9	23.9		61.0	35.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.45	0.50	
Incremental Delay, d2		24.6	0.1		0.1		2.3	5.0		6.7	49.6	
Delay (s)		67.2	32.6		33.2		54.2	28.9		95.4	67.6	
Level of Service		E	C		C		D	C		F	E	
Approach Delay (s/veh)		54.6			33.2			30.7			67.8	
Approach LOS		D			C			C			E	

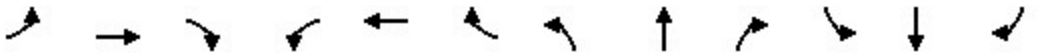
Intersection Summary			
HCM 2000 Control Delay (s/veh)	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	149	41	39	630	588	114
Future Volume (vph)	149	41	39	630	588	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971					0.850
Flt Protected	0.962		0.950			
Satd. Flow (prot)	1740	0	1770	1863	1863	1583
Flt Permitted	0.962		0.950			
Satd. Flow (perm)	1740	0	1770	1863	1863	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	188			238	831	
Travel Time (s)	4.3			5.4	9.1	
Confl. Peds. (#/hr)		6	6			6
Confl. Bikes (#/hr)						9
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	300	83	79	1269	1184	230
Shared Lane Traffic (%)						
Lane Group Flow (vph)	383	0	79	1269	1184	230
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.2%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	25	762	15	23	673
Future Volume (vph)	18	25	762	15	23	673
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.922		0.997			
Flt Protected	0.979					0.998
Satd. Flow (prot)	1681	0	3529	0	0	3356
Flt Permitted	0.979					0.998
Satd. Flow (perm)	1681	0	3529	0	0	3356
Link Speed (mph)	30		30			30
Link Distance (ft)	165		831			1562
Travel Time (s)	3.8		9.8			16.8
Confl. Peds. (#/hr)				3	3	
Confl. Bikes (#/hr)				11		
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Growth Factor	149%	149%	149%	149%	149%	149%
Parking (#/hr)						0
Adj. Flow (vph)	37	51	1555	31	47	1374
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	1586	0	0	1421
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.07
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.0%		ICU Level of Service B	
Analysis Period (min) 15			



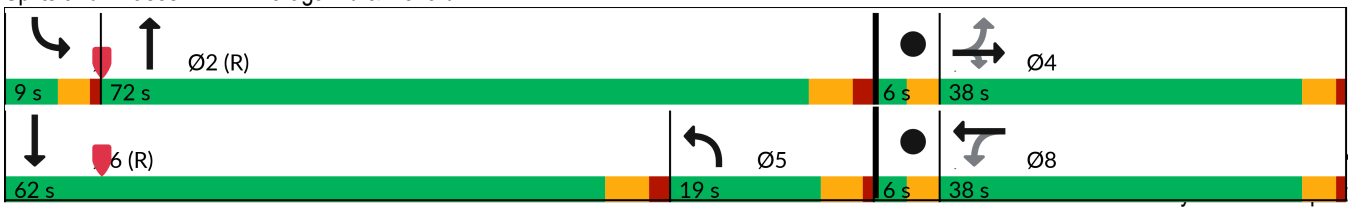
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.98		0.99	0.99		0.99	0.98	
Frt			0.850		0.959			0.999			0.973	
Flt Protected		0.957			0.994		0.950			0.950		
Satd. Flow (prot)	0	1783	1583	0	1744	0	1770	3534	0	1770	3407	0
Flt Permitted		0.664			0.953		0.950			0.950		
Satd. Flow (perm)	0	1200	1583	0	1672	0	1763	3534	0	1763	3407	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		17			1			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			1562			457	
Travel Time (s)		5.5			4.4			35.5			10.4	
Confl. Peds. (#/hr)	14					14	12		11	11		12
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	281	32	179	11	53	28	123	1641	11	15	1339	294
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	313	179	0	92	0	123	1652	0	15	1633	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	9.0	9.0	9.0	15.0	15.0		10.0	26.0		9.0	26.0	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		19.0	72.0		9.0	62.0	
Total Split (%)	30.4%	30.4%	30.4%	30.4%	30.4%		15.2%	57.6%		7.2%	49.6%	
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0		14.0	66.0		5.0	56.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		5.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Walk Time (s)				6.0	6.0			8.0			8.0	
Flash Dont Walk (s)				5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)				14	14			11			12	
Act Effct Green (s)		36.3	36.3		36.3		12.7	72.7		5.0	58.6	
Actuated g/C Ratio		0.29	0.29		0.29		0.10	0.58		0.04	0.47	
v/c Ratio		0.89	0.30		0.18		0.68	0.80		0.21	1.01	
Control Delay (s/veh)		71.8	6.4		28.4		73.0	25.6		90.0	41.5	
Queue Delay		50.0	0.0		0.1		0.0	0.2		0.0	1.9	
Total Delay (s/veh)		121.9	6.4		28.6		73.0	25.8		90.0	43.5	
LOS		F	A		C		E	C		F	D	
Approach Delay (s/veh)		79.9			28.6			29.1			43.9	
Approach LOS		E			C			C			D	

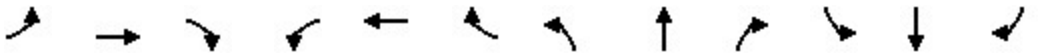
Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 9 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay (s/veh): 41.4		Intersection LOS: D	
Intersection Capacity Utilization 68.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Moraga Rd & Donald Dr



Lane Group	Ø3	Ø7
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	6.0	6.0
Total Split (s)	6.0	6.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	0.2	0.2
Recall Mode	None	None
Walk Time (s)	2.8	2.8
Flash Dont Walk (s)	0.2	0.2
Pedestrian Calls (#/hr)	14	14
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		

Intersection Summary

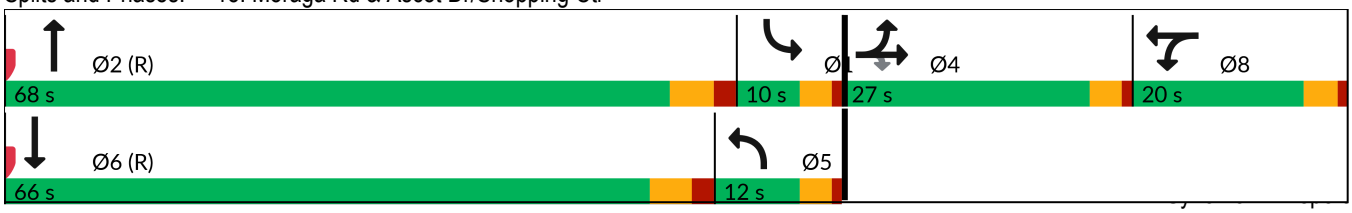


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.97		0.99	0.99		0.99	0.99	
Frt			0.850		0.913			0.996			0.987	
Flt Protected		0.953			0.984		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1639	0	1770	3521	0	1770	3474	0
Flt Permitted		0.953			0.984		0.950			0.950		
Satd. Flow (perm)	0	1743	1583	0	1639	0	1761	3521	0	1767	3474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149		44			3			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			102			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	12					12	14		8	8		14
Confl. Bikes (#/hr)									8			3
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	244	6	149	22	2	44	81	1728	48	24	1375	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	149	0	68	0	81	1776	0	24	1506	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		6.0	4.0		6.0	4.0	
Minimum Split (s)	8.0	8.0	8.0	26.0	26.0		10.0	38.0		10.0	27.0	
Total Split (s)	27.0	27.0	27.0	20.0	20.0		12.0	68.0		10.0	66.0	
Total Split (%)	21.6%	21.6%	21.6%	16.0%	16.0%		9.6%	54.4%		8.0%	52.8%	
Maximum Green (s)	23.0	23.0	23.0	16.0	16.0		8.0	62.0		6.0	60.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	6.0		4.0	6.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		1.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				15.0	15.0			25.0			14.0	
Pedestrian Calls (#/hr)				12	12			8			14	
Act Effct Green (s)		21.0	21.0		10.1		9.9	75.8		6.0	68.0	
Actuated g/C Ratio		0.17	0.17		0.08		0.08	0.61		0.05	0.54	
v/c Ratio		0.83	0.38		0.39		0.58	0.83		0.28	0.79	
Control Delay (s/veh)		74.1	9.7		29.4		57.1	20.5		66.3	28.1	
Queue Delay		0.0	0.0		0.0		0.0	0.5		0.0	5.6	
Total Delay (s/veh)		74.1	9.8		29.5		57.1	21.0		66.3	33.8	
LOS		E	A		C		E	C		E	C	
Approach Delay (s/veh)		50.2			29.5			22.6			34.3	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 120 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay (s/veh): 30.2		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:40	7:40	7:40	7:40	7:40	7:40
End Time	8:50	8:50	8:50	8:50	8:50	8:50
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3192	3167	3150	3264	3219	3197
Vehs Exited	3203	3164	3133	3248	3216	3192
Starting Vehs	95	78	81	97	92	87
Ending Vehs	84	81	98	113	95	93
Travel Distance (mi)	1478	1467	1451	1523	1490	1482
Travel Time (hr)	154.9	140.6	119.3	156.0	123.2	138.8
Total Delay (hr)	102.9	88.9	68.2	102.4	70.7	86.6
Total Stops	2491	2576	2424	2678	2566	2545
Fuel Used (gal)	75.9	72.3	67.1	77.7	68.9	72.4

Interval #0 Information Seeding

Start Time	7:40
End Time	7:50
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:50
End Time	8:50
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3192	3167	3150	3264	3219	3197
Vehs Exited	3203	3164	3133	3248	3216	3192
Starting Vehs	95	78	81	97	92	87
Ending Vehs	84	81	98	113	95	93
Travel Distance (mi)	1478	1467	1451	1523	1490	1482
Travel Time (hr)	154.9	140.6	119.3	156.0	123.2	138.8
Total Delay (hr)	102.9	88.9	68.2	102.4	70.7	86.6
Total Stops	2491	2576	2424	2678	2566	2545
Fuel Used (gal)	75.9	72.3	67.1	77.7	68.9	72.4

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	198	71	111	203	70
Average Queue (ft)	167	29	10	13	5
95th Queue (ft)	183	62	63	93	31
Link Distance (ft)	148		214	768	768
Upstream Blk Time (%)	99		0		
Queuing Penalty (veh)	0		0		
Storage Bay Dist (ft)		100			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		1	0		

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	112	329	291
Average Queue (ft)	47	71	31
95th Queue (ft)	101	222	157
Link Distance (ft)	115	1493	1493
Upstream Blk Time (%)	2		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	212	107	108	170	254	253	69	390	390
Average Queue (ft)	158	42	44	66	141	153	13	128	136
95th Queue (ft)	230	79	94	131	234	244	47	323	325
Link Distance (ft)	196	196	146		1493	1493		390	390
Upstream Blk Time (%)	8							0	0
Queuing Penalty (veh)	0							2	2
Storage Bay Dist (ft)				125			100		
Storage Blk Time (%)				1	9			9	
Queuing Penalty (veh)				7	7			1	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	124	109	76	177	385	384	159	326	333
Average Queue (ft)	105	41	38	56	169	183	28	228	201
95th Queue (ft)	138	89	73	132	329	340	98	371	349
Link Distance (ft)	101	101	55		390	390		307	307
Upstream Blk Time (%)	31	1	14		0	0		6	4
Queuing Penalty (veh)	0	0	0		2	2		0	0
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)				1	11		0	27	
Queuing Penalty (veh)				5	6		0	5	

Network Summary

Network wide Queuing Penalty: 39

Intersection: 12: Moraga Rd & Donald Dr

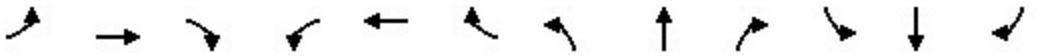
Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SBL	NBT	Hold	EBTL	NBL	SBT	Hold	WBTL
Maximum Green (s)	5.0	66.0	3.0	34.0	14.0	56.0	3.0	34.0
Minimum Green (s)	5.0	20.0	3.0	4.0	5.0	20.0	3.0	4.0
Recall	None	C-Min	None	None	None	C-Min	None	None
Avg. Green (s)	6.0	-9.7	3.0	-19.6	13.6	-21.6	0.0	-17.7
g/C Ratio	NA	NA	NA	NA	NA	NA	0.00	NA
Cycles Skipped (%)	74	0	64	0	11	0	100	0
Cycles @ Minimum (%)	19	0	36	0	0	0	0	0
Cycles Maxed Out (%)	0	100	4	7	11	100	0	7
Cycles with Peds (%)	0	25	36	0	0	32	0	39

Controller Summary
Average Cycle Length (s): -15.4
Number of Complete Cycles : 28

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	6.0	62.0	23.0	8.0	60.0	16.0
Minimum Green (s)	6.0	4.0	4.0	6.0	4.0	4.0
Recall	None	C-Min	None	None	C-Min	None
Avg. Green (s)	16.9	-17.0	19.2	14.2	-22.5	16.8
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	59	0	4	25	4	36
Cycles @ Minimum (%)	11	0	0	4	0	0
Cycles Maxed Out (%)	11	100	11	18	96	7
Cycles with Peds (%)	0	22	0	0	39	36

Controller Summary
Average Cycle Length (s): -15.4
Number of Complete Cycles : 28



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (veh/h)	76	6	37	10	2	20	59	788	14	19	880	99
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		0.99	1.00		0.99	1.00		0.96	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	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	136	11	66	18	4	36	106	1415	25	34	1580	178
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	166	13	158	25	5	49	285	2383	42	60	1684	187
Arrive On Green	0.10	0.10	0.10	0.05	0.05	0.05	0.21	0.89	0.89	0.03	0.52	0.52
Sat Flow, veh/h	1654	134	1576	511	114	1022	1781	3570	63	1781	3208	356
Grp Volume(v), veh/h	147	0	66	58	0	0	106	704	736	34	864	894
Grp Sat Flow(s),veh/h/ln	1788	0	1576	1646	0	0	1781	1777	1856	1781	1777	1786
Q Serve(g_s), s	9.7	0.0	4.7	4.2	0.0	0.0	6.1	11.3	11.3	2.3	53.9	57.2
Cycle Q Clear(g_c), s	9.7	0.0	4.7	4.2	0.0	0.0	6.1	11.3	11.3	2.3	53.9	57.2
Prop In Lane	0.93		1.00	0.31		0.62	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	179	0	158	79	0	0	285	1186	1239	60	933	938
V/C Ratio(X)	0.82	0.00	0.42	0.73	0.00	0.00	0.37	0.59	0.59	0.56	0.93	0.95
Avail Cap(c_a), veh/h	238	0	210	233	0	0	285	1186	1239	104	933	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	0.0	50.7	56.3	0.0	0.0	42.1	2.9	2.9	57.1	26.3	27.1
Incr Delay (d2), s/veh	15.4	0.0	1.8	12.1	0.0	0.0	0.2	1.6	1.6	3.0	16.2	20.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	1.9	2.0	0.0	0.0	2.7	2.8	2.9	1.1	25.9	28.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	68.3	0.0	52.5	68.4	0.0	0.0	42.3	4.5	4.4	60.1	42.5	47.2
LnGrp LOS	E		D	E			D	A	A	E	D	D
Approach Vol, veh/h		213			58			1546			1792	
Approach Delay, s/veh		63.4			68.4			7.1			45.2	
Approach LOS		E			E			A			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	86.1		16.0	25.2	69.0		9.8				
Change Period (Y+Rc), s	4.0	6.0		4.0	6.0	* 6		4.0				
Max Green Setting (Gmax), s	7.0	62.0		16.0	6.0	* 63		17.0				
Max Q Clear Time (g_c+I1), s	4.3	13.3		11.7	8.1	59.2		6.2				
Green Ext Time (p_c), s	0.0	22.9		0.4	0.0	3.5		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	30.3
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	395.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	131	23	22	686	711	144
Future Vol, veh/h	131	23	22	686	711	144
Conflicting Peds, #/hr	0	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	42	40	1247	1292	262

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2621	1298	1557	0	-	0
Stage 1	1295	-	-	-	-	-
Stage 2	1326	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 26	198	425	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 24	196	424	-	-	-
Mov Cap-2 Maneuver	~ 24	-	-	-	-	-
Stage 1	~ 232	-	-	-	-	-
Stage 2	247	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 4412.04	0.45	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	424	-	27	-	-
HCM Lane V/C Ratio	0.094	-	10.19	-	-
HCM Control Delay (s/veh)	14.4	-	$ 4412	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.3	-	34.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	Yes
RRFB?	Yes
K-Factor	0.08
Approach Delay(s)	1066.69
Level of Service	F
Average Dissatisfaction Prob	0.220
Crossing Level of Service	C

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.95
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1069.23
Avg Ped Delay (s)	1066.69

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	4082.20
Level of Service	F
Average Dissatisfaction Prob	0.842
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	4084.76
Avg Ped Delay (s)	4082.20

Intersection	
Int Delay, s/veh	12.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	31	794	17	27	842
Future Vol, veh/h	17	31	794	17	27	842
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	57	1461	31	50	1549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2353	749	0	0	1495	0
Stage 1	1479	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 30	354	-	-	445	-
Stage 1	176	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 24	353	-	-	444	-
Mov Cap-2 Maneuver	~ 24	-	-	-	-	-
Stage 1	175	-	-	-	-	-
Stage 2	296	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 394.2	0	2.97
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	60	112	-
HCM Lane V/C Ratio	-	-	1.466	0.112	-
HCM Control Delay (s/veh)	-	-	$ 394.2	14.1	2.6
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	7.8	0.4	-

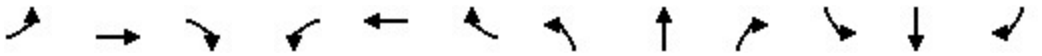
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach		
Approach Direction	NB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	52.08	
Level of Service	F	
Average Dissatisfaction Prob	0.502	
Crossing Level of Service	F	

Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	1
Veh Vol Crossed (veh/h)	794	842
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.51	0.93
Prob of Delayed Crossing	0.76	0.93
Delay for adq Gap (s)	10.23	47.74
Avg Ped Delay (s)	7.75	44.33

Approach		
Approach Direction	SB	
Median Present?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	47.34	
Level of Service	F	
Average Dissatisfaction Prob	0.502	
Crossing Level of Service	F	

Crosswalk		
Length (ft)	12	29
Lanes Crossed	2	2
Veh Vol Crossed (veh/h)	842	794
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	11.29
Prob of Blocked Lane	0.53	0.71
Prob of Delayed Crossing	0.78	0.92
Delay for adq Gap (s)	10.96	42.33
Avg Ped Delay (s)	8.53	38.82



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		5.0	6.0		4.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.97	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.91		1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1729	1583		1648		1770	3537		1770	3501	
Flt Permitted		0.72	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1306	1583		1587		1770	3537		1770	3501	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor (vph)	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	123	6	74	4	4	13	88	1617	6	17	1584	92
RTOR Reduction (vph)	0	0	64	0	11	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	129	10	0	10	0	88	1623	0	17	1673	0
Confl. Peds. (#/hr)	9					9	9		3	3		9
Confl. Bikes (#/hr)									3			
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		16.0	16.0		16.0		11.4	84.4		2.0	74.0	
Effective Green, g (s)		16.0	16.0		16.0		11.4	84.4		2.0	74.0	
Actuated g/C Ratio		0.13	0.13		0.13		0.10	0.70		0.02	0.62	
Clearance Time (s)		4.0	4.0		4.0		5.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)		174	211		211		168	2487		29	2158	
v/s Ratio Prot							c0.05	c0.46		0.01	c0.48	
v/s Ratio Perm		c0.10	0.01		0.01							
v/c Ratio		0.74	0.04		0.04		0.52	0.65		0.58	0.77	
Uniform Delay, d1		50.0	45.3		45.3		51.7	9.7		58.5	16.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		0.94	0.06	
Incremental Delay, d2		15.5	0.0		0.0		1.3	1.3		11.5	1.7	
Delay (s)		65.5	45.4		45.4		53.0	11.1		66.7	2.8	
Level of Service		E	D		D		D	B		E	A	
Approach Delay (s/veh)		58.2			45.4			13.2			3.4	
Approach LOS		E			D			B			A	

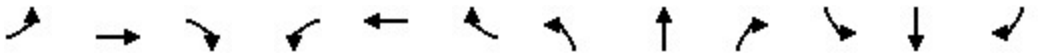
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	131	23	22	686	711	144
Future Volume (vph)	131	23	22	686	711	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.980					0.850
Flt Protected	0.959		0.950			
Satd. Flow (prot)	1751	0	1770	1863	1863	1583
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	1751	0	1770	1863	1863	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	188			238	831	
Travel Time (s)	4.3			5.4	9.1	
Confl. Peds. (#/hr)		3	3			3
Confl. Bikes (#/hr)						6
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	238	42	40	1247	1292	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	280	0	40	1247	1292	262
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	31	794	17	27	842
Future Volume (vph)	17	31	794	17	27	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.913		0.997			
Flt Protected	0.983					0.998
Satd. Flow (prot)	1672	0	3529	0	0	3356
Flt Permitted	0.983					0.998
Satd. Flow (perm)	1672	0	3529	0	0	3356
Link Speed (mph)	30		30			30
Link Distance (ft)	165		831			1562
Travel Time (s)	3.8		9.8			16.8
Confl. Peds. (#/hr)				3	3	
Confl. Bikes (#/hr)				11		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	149%	149%	149%	149%	149%	149%
Parking (#/hr)						0
Adj. Flow (vph)	31	57	1461	31	50	1549
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	1492	0	0	1599
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.07
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.7%		ICU Level of Service D	
Analysis Period (min) 15			



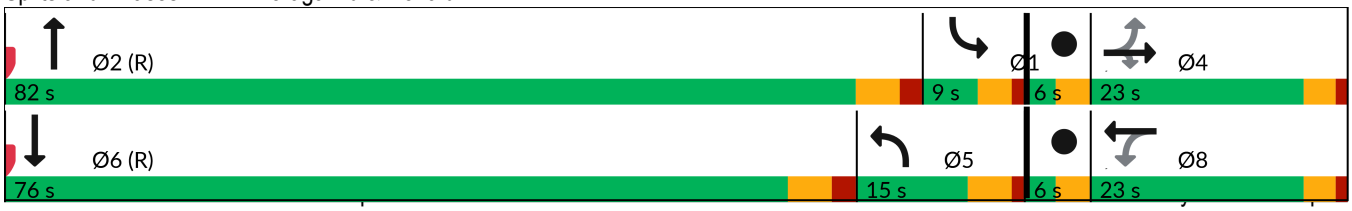
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.97		0.99	0.99		0.99	0.99	
Frt			0.850		0.916			0.999			0.992	
Flt Protected		0.954			0.991		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1648	0	1770	3535	0	1770	3502	0
Flt Permitted		0.721			0.954		0.950			0.950		
Satd. Flow (perm)	0	1306	1583	0	1587	0	1765	3535	0	1768	3502	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100		13			1			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			1562			457	
Travel Time (s)		5.5			4.4			35.5			10.4	
Confl. Peds. (#/hr)	9					9	9		3	3		9
Confl. Bikes (#/hr)									3			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	123	6	74	4	4	13	88	1617	6	17	1584	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	74	0	21	0	88	1623	0	17	1676	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Growth Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	9.0	9.0	9.0	15.0	15.0		10.0	26.0		9.0	26.0	
Total Split (s)	23.0	23.0	23.0	23.0	23.0		15.0	82.0		9.0	76.0	
Total Split (%)	19.2%	19.2%	19.2%	19.2%	19.2%		12.5%	68.3%		7.5%	63.3%	
Maximum Green (s)	19.0	19.0	19.0	19.0	19.0		10.0	76.0		5.0	70.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		5.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				6.0	6.0			8.0			8.0	
Flash Dont Walk (s)				5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)				9	9			3			9	
Act Effct Green (s)		16.0	16.0		16.0		8.9	89.2		5.0	78.8	
Actuated g/C Ratio		0.13	0.13		0.13		0.07	0.74		0.04	0.66	
v/c Ratio		0.74	0.24		0.09		0.67	0.61		0.23	0.72	
Control Delay (s/veh)		74.0	5.9		26.5		78.3	10.2		57.5	2.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.2	
Total Delay (s/veh)		74.0	5.9		26.5		78.3	10.2		57.5	2.5	
LOS		E	A		C		E	B		E	A	
Approach Delay (s/veh)		49.3			26.6			13.8			3.1	
Approach LOS		D			C			B			A	

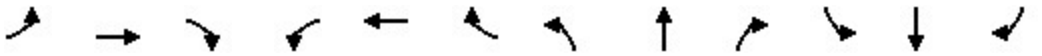
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 114 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 10.8		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Moraga Rd & Donald Dr



Lane Group	Ø3	Ø7
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	6.0	6.0
Total Split (s)	6.0	6.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	0.2	0.2
Recall Mode	None	None
Walk Time (s)	2.8	2.8
Flash Dont Walk (s)	0.2	0.2
Pedestrian Calls (#/hr)	9	9
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		

Intersection Summary

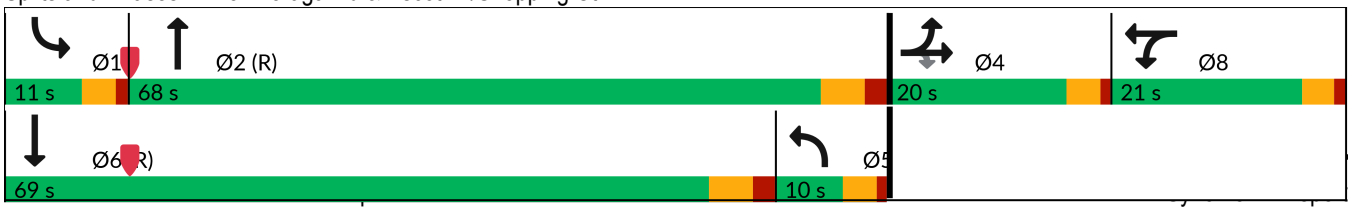


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.99	0.99		0.99	0.99	
Frt			0.850		0.916			0.997			0.985	
Flt Protected		0.956			0.985		0.950			0.950		
Satd. Flow (prot)	0	1781	1583	0	1665	0	1770	3527	0	1770	3455	0
Flt Permitted		0.956			0.985		0.950			0.950		
Satd. Flow (perm)	0	1776	1583	0	1665	0	1759	3527	0	1768	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155		36			2			15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			103			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	2					2	23		3	3		23
Confl. Bikes (#/hr)									5			6
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
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	136	11	66	18	4	36	106	1415	25	34	1580	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	66	0	58	0	106	1440	0	34	1758	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		6.0	4.0		6.0	4.0	
Minimum Split (s)	8.0	8.0	8.0	26.0	26.0		10.0	38.0		10.0	27.0	
Total Split (s)	20.0	20.0	20.0	21.0	21.0		10.0	68.0		11.0	69.0	
Total Split (%)	16.7%	16.7%	16.7%	17.5%	17.5%		8.3%	56.7%		9.2%	57.5%	
Maximum Green (s)	16.0	16.0	16.0	17.0	17.0		6.0	62.0		7.0	63.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	6.0		4.0	6.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		1.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				15.0	15.0			25.0			14.0	
Pedestrian Calls (#/hr)				2	2			3			23	
Act Effct Green (s)		13.9	13.9		8.7		6.0	78.6		6.7	75.3	
Actuated g/C Ratio		0.12	0.12		0.07		0.05	0.66		0.06	0.63	
v/c Ratio		0.71	0.20		0.37		1.20	0.62		0.34	0.80	
Control Delay (s/veh)		70.1	1.4		31.0		194.0	9.2		64.1	22.5	
Queue Delay		0.0	0.0		0.0		0.0	0.1		0.0	0.0	
Total Delay (s/veh)		70.1	1.4		31.0		194.0	9.3		64.1	22.5	
LOS		E	A		C		F	A		E	C	
Approach Delay (s/veh)		48.9			31.0			22.0			23.3	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay (s/veh): 24.4		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	2:50	2:50	2:50	2:50	2:50	2:50
End Time	4:00	4:00	4:00	4:00	4:00	4:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3317	3322	3330	3255	3307	3305
Vehs Exited	3335	3305	3344	3253	3324	3314
Starting Vehs	85	87	97	88	103	89
Ending Vehs	67	104	83	90	86	84
Travel Distance (mi)	1688	1668	1685	1652	1686	1676
Travel Time (hr)	121.5	123.5	128.6	150.4	151.4	135.1
Total Delay (hr)	62.9	65.5	70.1	93.0	92.8	76.9
Total Stops	2371	1886	2033	2023	2110	2085
Fuel Used (gal)	73.3	71.6	73.9	78.1	79.4	75.3

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3317	3322	3330	3255	3307	3305
Vehs Exited	3335	3305	3344	3253	3324	3314
Starting Vehs	85	87	97	88	103	89
Ending Vehs	67	104	83	90	86	84
Travel Distance (mi)	1688	1668	1685	1652	1686	1676
Travel Time (hr)	121.5	123.5	128.6	150.4	151.4	135.1
Total Delay (hr)	62.9	65.5	70.1	93.0	92.8	76.9
Total Stops	2371	1886	2033	2023	2110	2085
Fuel Used (gal)	73.3	71.6	73.9	78.1	79.4	75.3

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	203	66	108	248	148
Average Queue (ft)	167	23	11	20	14
95th Queue (ft)	186	57	74	120	99
Link Distance (ft)	148		214	768	768
Upstream Blk Time (%)	98		0		
Queuing Penalty (veh)	0		0		
Storage Bay Dist (ft)		100			
Storage Blk Time (%)		1	0		
Queuing Penalty (veh)		5	0		

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	NB	NB	SB	SB
Directions Served	LR	T	TR	LT	T
Maximum Queue (ft)	120	4	4	351	284
Average Queue (ft)	60	0	0	98	44
95th Queue (ft)	123	3	4	264	177
Link Distance (ft)	115	768	768	1493	1493
Upstream Blk Time (%)	9				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	194	71	48	136	266	254	43	314	303
Average Queue (ft)	78	31	11	49	120	132	12	77	81
95th Queue (ft)	146	57	37	105	223	230	38	234	222
Link Distance (ft)	196	196	146		1493	1493		390	390
Upstream Blk Time (%)	0							0	0
Queuing Penalty (veh)	0							0	0
Storage Bay Dist (ft)				125			100		
Storage Blk Time (%)				1	6			3	
Queuing Penalty (veh)				3	4			0	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	134	78	72	156	237	260	159	333	335
Average Queue (ft)	87	29	33	83	104	116	37	228	195
95th Queue (ft)	136	62	69	161	252	269	102	368	346
Link Distance (ft)	101	101	56		390	390		306	306
Upstream Blk Time (%)	15	0	9		2	1		4	3
Queuing Penalty (veh)	0	0	0		13	6		0	0
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)				10	1		0	19	
Queuing Penalty (veh)				56	1		2	5	

Network Summary

Network wide Queuing Penalty: 96

Intersection: 12: Moraga Rd & Donald Dr

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SBL	NBT	Hold	EBTL	NBL	SBT	Hold	WBTL
Maximum Green (s)	5.0	76.0	3.0	19.0	10.0	70.0	3.0	19.0
Minimum Green (s)	5.0	20.0	3.0	4.0	5.0	20.0	3.0	4.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	5.4	2.1	3.8	14.0	8.9	-6.3	0.0	15.4
g/C Ratio	NA	NA	NA	NA	NA	NA	0.00	NA
Cycles Skipped (%)	68	0	71	3	17	0	100	0
Cycles @ Minimum (%)	32	0	29	0	0	0	0	0
Cycles Maxed Out (%)	32	100	14	3	41	100	0	3
Cycles with Peds (%)	0	11	29	0	0	24	0	24

Controller Summary
Average Cycle Length (s): -15.6
Number of Complete Cycles : 29

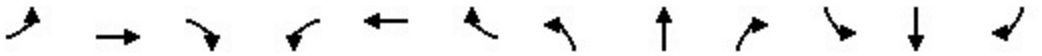
Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	7.0	62.0	16.0	6.0	63.0	17.0
Minimum Green (s)	6.0	4.0	4.0	6.0	4.0	4.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	6.8	-4.7	12.9	6.1	-7.1	11.6
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	37	7	7	10	4	57
Cycles @ Minimum (%)	37	0	0	90	0	4
Cycles Maxed Out (%)	0	93	31	90	96	4
Cycles with Peds (%)	0	3	0	0	50	7

Controller Summary
Average Cycle Length (s): -15.6
Number of Complete Cycles : 29

Appendix D

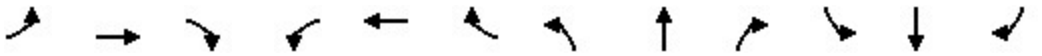
Road Diet with Current Year (2024) Volumes Synchro Outputs



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (veh/h)	132	15	84	5	25	13	58	771	5	7	629	138
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		0.97	1.00		0.94	1.00		0.96	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	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	189	21	120	7	36	19	83	1101	7	10	899	197
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	25	213	13	66	35	413	1592	10	370	1197	262
Arrive On Green	0.14	0.14	0.14	0.07	0.07	0.07	0.23	0.44	0.44	0.42	0.83	0.83
Sat Flow, veh/h	1611	179	1537	195	1001	528	1781	3619	23	1781	2876	630
Grp Volume(v), veh/h	210	0	120	62	0	0	83	541	567	10	555	541
Grp Sat Flow(s),veh/h/ln	1790	0	1537	1723	0	0	1781	1777	1865	1781	1777	1729
Q Serve(g_s), s	14.3	0.0	9.1	4.4	0.0	0.0	4.7	30.6	30.6	0.4	17.5	17.5
Cycle Q Clear(g_c), s	14.3	0.0	9.1	4.4	0.0	0.0	4.7	30.6	30.6	0.4	17.5	17.5
Prop In Lane	0.90		1.00	0.11		0.31	1.00		0.01	1.00		0.36
Lane Grp Cap(c), veh/h	248	0	213	113	0	0	413	782	821	370	739	719
V/C Ratio(X)	0.85	0.00	0.56	0.55	0.00	0.00	0.20	0.69	0.69	0.03	0.75	0.75
Avail Cap(c_a), veh/h	344	0	295	234	0	0	413	782	821	370	739	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	52.6	0.0	50.3	56.6	0.0	0.0	38.7	28.2	28.2	29.0	7.6	7.6
Incr Delay (d2), s/veh	13.3	0.0	2.3	4.1	0.0	0.0	0.2	5.0	4.8	0.0	6.1	6.3
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	7.3	0.0	3.7	2.0	0.0	0.0	2.1	13.9	14.6	0.2	4.3	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	65.8	0.0	52.7	60.6	0.0	0.0	38.9	33.1	32.9	29.1	13.7	13.9
LnGrp LOS	E		D	E			D	C	C	C	B	B
Approach Vol, veh/h		330			62			1191			1106	
Approach Delay, s/veh		61.1			60.6			33.4			14.0	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.5	61.0		21.3	33.5	58.0		12.2				
Change Period (Y+Rc), s	4.5	6.0		4.0	4.5	6.0		4.0				
Max Green Setting (Gmax), s	10.5	55.0		24.0	13.5	52.0		17.0				
Max Q Clear Time (g_c+I1), s	2.4	32.6		16.3	6.7	19.5		6.4				
Green Ext Time (p_c), s	0.0	10.8		1.0	0.1	13.0		0.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			29.4									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (veh/h)	121	3	74	11	1	22	40	858	24	12	683	65
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		0.97	1.00		0.93	1.00		0.97	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	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	164	4	100	15	1	30	54	1159	32	16	923	88
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	5	178	28	2	55	425	2349	65	36	1411	134
Arrive On Green	0.12	0.12	0.12	0.05	0.05	0.05	0.48	1.00	1.00	0.02	0.43	0.43
Sat Flow, veh/h	1741	42	1536	513	34	1026	1781	3528	97	1781	3265	311
Grp Volume(v), veh/h	168	0	100	46	0	0	54	584	607	16	502	509
Grp Sat Flow(s),veh/h/ln	1783	0	1536	1573	0	0	1781	1777	1849	1781	1777	1800
Q Serve(g_s), s	11.5	0.0	7.7	3.6	0.0	0.0	2.1	0.0	0.0	1.1	28.0	28.0
Cycle Q Clear(g_c), s	11.5	0.0	7.7	3.6	0.0	0.0	2.1	0.0	0.0	1.1	28.0	28.0
Prop In Lane	0.98		1.00	0.33		0.65	1.00		0.05	1.00		0.17
Lane Grp Cap(c), veh/h	207	0	178	85	0	0	425	1183	1231	36	768	777
V/C Ratio(X)	0.81	0.00	0.56	0.54	0.00	0.00	0.13	0.49	0.49	0.44	0.65	0.65
Avail Cap(c_a), veh/h	371	0	319	201	0	0	425	1183	1231	157	768	777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	0.0	52.2	57.7	0.0	0.0	25.5	0.0	0.0	60.5	28.1	28.1
Incr Delay (d2), s/veh	7.5	0.0	2.8	5.4	0.0	0.0	0.0	1.3	1.2	3.1	4.3	4.3
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	5.6	0.0	3.1	1.5	0.0	0.0	0.9	0.4	0.4	0.5	12.7	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.4	0.0	55.0	63.0	0.0	0.0	25.5	1.3	1.2	63.6	32.4	32.4
LnGrp LOS	E		E	E			C	A	A	E	C	C
Approach Vol, veh/h		268			46			1245			1027	
Approach Delay, s/veh		59.0			63.0			2.3			32.9	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	89.2		18.5	35.8	60.0		10.7				
Change Period (Y+Rc), s	4.0	6.0		4.0	6.0	* 6		4.0				
Max Green Setting (Gmax), s	11.0	54.0		26.0	11.0	* 54		16.0				
Max Q Clear Time (g_c+I1), s	3.1	2.0		13.5	4.1	30.0		5.6				
Green Ext Time (p_c), s	0.0	17.0		1.0	0.0	10.1		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	21.4
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	41	39	630	588	114
Future Vol, veh/h	149	41	39	630	588	114
Conflicting Peds, #/hr	0	6	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	100	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	201	55	53	851	795	154

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1757	807	955	0	-	0
Stage 1	801	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 93	382	720	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 85	377	716	-	-	-
Mov Cap-2 Maneuver	216	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	75.14	0.61	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	716	-	216	377	-	-
HCM Lane V/C Ratio	0.074	-	0.932	0.147	-	-
HCM Control Delay (s/veh)	10.4	-	91.4	16.2	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.2	-	7.8	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	555.14
Level of Service	F
Average Dissatisfaction Prob	0.827
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.93
Prob of Delayed Crossing	0.99
Delay for adq Gap (s)	558.02
Avg Ped Delay (s)	555.14

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1808.02
Level of Service	F
Average Dissatisfaction Prob	0.828
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1810.94
Avg Ped Delay (s)	1808.02

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	25	762	15	23	673
Future Vol, veh/h	18	25	762	15	23	673
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	34	1044	21	32	922

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2042	1057	0	0	1067	0
Stage 1	1057	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	62	273	-	-	653	-
Stage 1	334	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	59	273	-	-	651	-
Mov Cap-2 Maneuver	181	-	-	-	-	-
Stage 1	333	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	26.56	0	0.36
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	225	651	-
HCM Lane V/C Ratio	-	-	0.262	0.048	-
HCM Control Delay (s/veh)	-	-	26.6	10.8	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1	0.2	-

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1226.70
Level of Service	F
Average Dissatisfaction Prob	0.844
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1435
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1229.18
Avg Ped Delay (s)	1226.70

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1226.70
Level of Service	F
Average Dissatisfaction Prob	0.844
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1435
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1229.18
Avg Ped Delay (s)	1226.70

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	149	41	39	630	588	114
Future Volume (vph)	149	41	39	630	588	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	75	100			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	188			238	831	
Travel Time (s)	4.3			5.4	18.9	
Confl. Peds. (#/hr)		6	6			6
Confl. Bikes (#/hr)						9
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	201	55	53	851	795	154
Shared Lane Traffic (%)						
Lane Group Flow (vph)	201	55	53	851	795	154
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	25	762	15	23	673
Future Volume (vph)	18	25	762	15	23	673
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.922		0.997			
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1681	0	1857	0	1770	1676
Flt Permitted	0.979				0.950	
Satd. Flow (perm)	1681	0	1857	0	1770	1676
Link Speed (mph)	30		30			30
Link Distance (ft)	165		831			1190
Travel Time (s)	3.8		9.8			16.8
Confl. Peds. (#/hr)				3	3	
Confl. Bikes (#/hr)				11		
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Parking (#/hr)						0
Adj. Flow (vph)	25	34	1044	21	32	922
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	1065	0	32	922
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

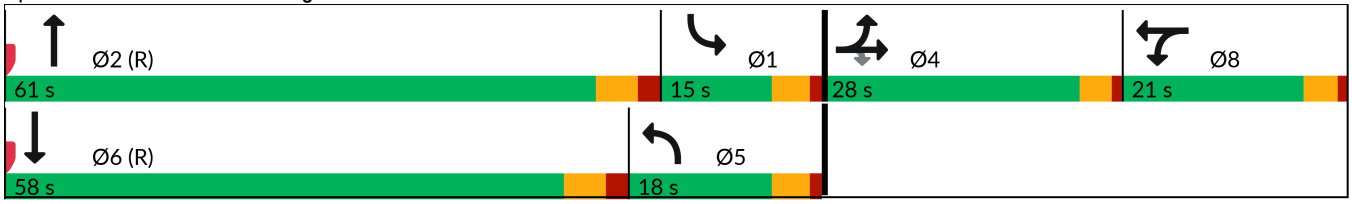
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		150	100		0
Storage Lanes	0		1	0		0	1		1	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.98		0.99	0.99		0.99	0.98	
Frt			0.850		0.959			0.999			0.973	
Flt Protected		0.957			0.994		0.950			0.950		
Satd. Flow (prot)	0	1783	1583	0	1753	0	1770	3534	0	1770	3407	0
Flt Permitted		0.957			0.994		0.950			0.950		
Satd. Flow (perm)	0	1737	1583	0	1753	0	1755	3534	0	1757	3407	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		15			1			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			374			457	
Travel Time (s)		5.5			4.4			8.5			10.4	
Confl. Peds. (#/hr)	14					14	12		11	11		12
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	189	21	120	7	36	19	83	1101	7	10	899	197
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	210	120	0	62	0	83	1108	0	10	1096	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		9.5	26.0		9.5	26.0	
Total Split (s)	28.0	28.0	28.0	21.0	21.0		18.0	61.0		15.0	58.0	
Total Split (%)	22.4%	22.4%	22.4%	16.8%	16.8%		14.4%	48.8%		12.0%	46.4%	
Maximum Green (s)	24.0	24.0	24.0	17.0	17.0		13.5	55.0		10.5	52.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.5	6.0		4.5	6.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				12.0	12.0			8.0			8.0	
Flash Dont Walk (s)				5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)				9	9			7			8	
Act Effct Green (s)		19.3	19.3		9.8		10.8	80.8		6.9	70.8	
Actuated g/C Ratio		0.15	0.15		0.08		0.09	0.65		0.06	0.57	
v/c Ratio		0.76	0.34		0.41		0.54	0.48		0.10	0.56	
Control Delay (s/veh)		68.1	10.3		49.4		67.5	15.3		52.8	7.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		68.1	10.3		49.4		67.5	15.3		52.8	7.6	
LOS		E	B		D		E	B		D	A	
Approach Delay (s/veh)		47.1			49.4			18.9			8.0	
Approach LOS		D			D			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 121 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay (s/veh): 18.6		Intersection LOS: B	
Intersection Capacity Utilization 53.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Moraga Rd & Donald Dr

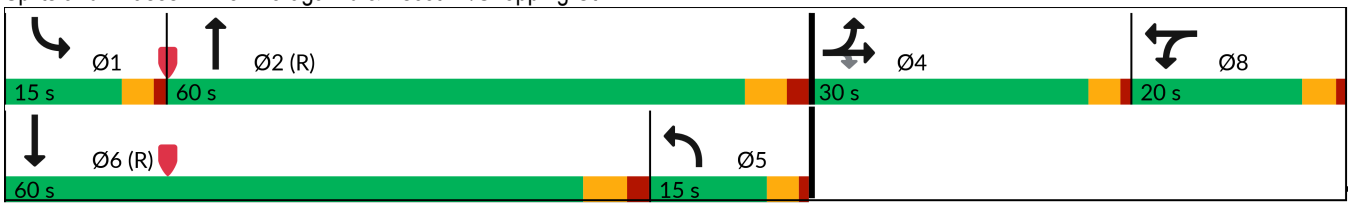


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.97		0.98	0.99		0.99	0.99	
Frt			0.850		0.912			0.996			0.987	
Flt Protected		0.953			0.984		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1637	0	1770	3521	0	1770	3474	0
Flt Permitted		0.953			0.984		0.950			0.950		
Satd. Flow (perm)	0	1742	1583	0	1637	0	1752	3521	0	1764	3474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148		30			3			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			102			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	12					12	14		8	8		14
Confl. Bikes (#/hr)									8			3
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	164	4	100	15	1	30	54	1159	32	16	923	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	100	0	46	0	54	1191	0	16	1011	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		6.0	4.0		6.0	4.0	
Minimum Split (s)	8.0	8.0	8.0	26.0	26.0		10.0	38.0		10.0	27.0	
Total Split (s)	30.0	30.0	30.0	20.0	20.0		15.0	60.0		15.0	60.0	
Total Split (%)	24.0%	24.0%	24.0%	16.0%	16.0%		12.0%	48.0%		12.0%	48.0%	
Maximum Green (s)	26.0	26.0	26.0	16.0	16.0		11.0	54.0		11.0	54.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	6.0		4.0	6.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		1.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				15.0	15.0			25.0			14.0	
Pedestrian Calls (#/hr)				8	8			5			9	
Act Effct Green (s)		17.1	17.1		8.9		10.0	82.5		6.4	74.9	
Actuated g/C Ratio		0.14	0.14		0.07		0.08	0.66		0.05	0.60	
v/c Ratio		0.69	0.29		0.31		0.38	0.51		0.17	0.48	
Control Delay (s/veh)		65.9	3.9		30.9		49.5	7.5		61.2	18.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		65.9	3.9		30.9		49.5	7.6		61.2	18.2	
LOS		E	A		C		D	A		E	B	
Approach Delay (s/veh)		42.8			30.9			9.4			18.9	
Approach LOS		D			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 124 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 17.0		Intersection LOS: B	
Intersection Capacity Utilization 55.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:40	7:40	7:40	7:40	7:40	7:40
End Time	8:50	8:50	8:50	8:50	8:50	8:50
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2235	2218	2231	2258	2226	2232
Vehs Exited	2234	2236	2229	2248	2225	2234
Starting Vehs	51	62	64	53	63	56
Ending Vehs	52	44	66	63	64	53
Travel Distance (mi)	1037	1030	1047	1051	1050	1043
Travel Time (hr)	57.7	54.7	56.1	58.4	57.0	56.8
Total Delay (hr)	21.1	18.4	19.3	21.3	20.0	20.0
Total Stops	1760	1628	1718	1837	1749	1740
Fuel Used (gal)	40.0	38.7	39.7	40.6	40.0	39.8

Interval #0 Information Seeding

Start Time	7:40
End Time	7:50
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:50
End Time	8:50
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2235	2218	2231	2258	2226	2232
Vehs Exited	2234	2236	2229	2248	2225	2234
Starting Vehs	51	62	64	53	63	56
Ending Vehs	52	44	66	63	64	53
Travel Distance (mi)	1037	1030	1047	1051	1050	1043
Travel Time (hr)	57.7	54.7	56.1	58.4	57.0	56.8
Total Delay (hr)	21.1	18.4	19.3	21.3	20.0	20.0
Total Stops	1760	1628	1718	1837	1749	1740
Fuel Used (gal)	40.0	38.7	39.7	40.6	40.0	39.8

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	159	122	51	43	28	26
Average Queue (ft)	87	32	18	2	2	2
95th Queue (ft)	155	93	45	19	17	12
Link Distance (ft)	142			202	767	
Upstream Blk Time (%)	7	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)		75	100			200
Storage Blk Time (%)	25	0				
Queuing Penalty (veh)	10	0				

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	66	44
Average Queue (ft)	28	11
95th Queue (ft)	58	36
Link Distance (ft)	129	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	194	72	108	145	232	198	84	330	308
Average Queue (ft)	108	35	41	44	109	98	10	121	60
95th Queue (ft)	177	60	85	96	199	173	56	292	205
Link Distance (ft)	196	196	145		222			390	390
Upstream Blk Time (%)	1		0		0	0		0	0
Queuing Penalty (veh)	0		0		2	0		1	0
Storage Bay Dist (ft)				125		150	100		
Storage Blk Time (%)				0	5	2		10	
Queuing Penalty (veh)				2	21	7		1	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	121	73	68	86	178	203	116	312	252
Average Queue (ft)	85	30	28	35	70	80	19	156	87
95th Queue (ft)	132	57	62	73	152	166	69	278	198
Link Distance (ft)	101	101	55		390	390		307	307
Upstream Blk Time (%)	11	0	7					1	
Queuing Penalty (veh)	0	0	0					0	
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)					1			17	
Queuing Penalty (veh)					0			2	

Network Summary

Network wide Queuing Penalty: 46

Intersection: 12: Moraga Rd & Donald Dr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	10.5	55.0	24.0	13.5	52.0	17.0
Minimum Green (s)	5.0	20.0	4.0	5.0	20.0	4.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	7.7	-8.6	15.6	9.9	-15.2	12.9
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	82	0	0	15	0	21
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	0	100	4	7	100	0
Cycles with Peds (%)	0	32	0	0	41	36

Controller Summary
Average Cycle Length (s): -15.4

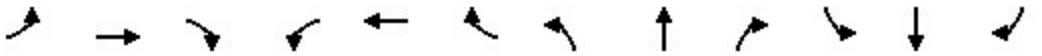
Number of Complete Cycles : 28

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	11.0	54.0	26.0	11.0	54.0	16.0
Minimum Green (s)	6.0	4.0	4.0	6.0	4.0	4.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	6.5	-7.1	13.5	11.2	-12.7	15.7
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	64	0	0	26	0	46
Cycles @ Minimum (%)	29	0	0	0	0	0
Cycles Maxed Out (%)	0	100	0	74	100	0
Cycles with Peds (%)	0	19	0	0	41	29

Controller Summary
Average Cycle Length (s): -15.4

Number of Complete Cycles : 28



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (veh/h)	76	6	37	10	2	20	59	788	14	19	880	99
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		0.99	1.00		0.98	1.00		0.95	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	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	92	7	45	12	2	24	71	949	17	23	1060	119
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	120	9	114	17	3	34	504	1770	32	463	1515	170
Arrive On Green	0.07	0.07	0.07	0.03	0.03	0.03	0.28	0.50	0.50	0.26	0.47	0.47
Sat Flow, veh/h	1661	126	1572	518	86	1035	1781	3568	64	1781	3202	359
Grp Volume(v), veh/h	99	0	45	38	0	0	71	473	493	23	588	591
Grp Sat Flow(s),veh/h/ln	1787	0	1572	1639	0	0	1781	1777	1855	1781	1777	1784
Q Serve(g_s), s	7.1	0.0	3.6	3.0	0.0	0.0	3.9	23.7	23.7	1.3	33.9	34.0
Cycle Q Clear(g_c), s	7.1	0.0	3.6	3.0	0.0	0.0	3.9	23.7	23.7	1.3	33.9	34.0
Prop In Lane	0.93		1.00	0.32		0.63	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	130	0	114	54	0	0	504	882	920	463	841	844
V/C Ratio(X)	0.76	0.00	0.39	0.71	0.00	0.00	0.14	0.54	0.54	0.05	0.70	0.70
Avail Cap(c_a), veh/h	268	0	236	216	0	0	504	882	920	463	841	844
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	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	0.0	57.6	62.3	0.0	0.0	34.8	22.5	22.5	36.1	27.0	27.0
Incr Delay (d2), s/veh	8.9	0.0	2.2	15.6	0.0	0.0	0.1	2.2	2.1	0.0	4.8	4.8
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	3.5	0.0	1.5	1.5	0.0	0.0	1.7	10.4	10.8	0.6	15.3	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	68.1	0.0	59.8	77.9	0.0	0.0	34.9	24.7	24.6	36.1	31.8	31.8
LnGrp LOS	E		E	E			C	C	C	D	C	C
Approach Vol, veh/h		144			38			1037			1202	
Approach Delay, s/veh		65.5			77.9			25.3			31.9	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.3	69.0		13.9	41.3	66.0		8.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.4	64.5		19.5	13.4	61.5		17.1				
Max Q Clear Time (g_c+I1), s	3.3	25.7		9.1	5.9	36.0		5.0				
Green Ext Time (p_c), s	0.0	7.6		0.4	0.1	9.2		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	31.8
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	131	23	22	686	711	144
Future Vol, veh/h	131	23	22	686	711	144
Conflicting Peds, #/hr	0	3	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	100	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	28	27	837	867	176

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1760	873	1046	0	-	0
Stage 1	870	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 93	349	665	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 89	347	663	-	-	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	392	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	48.94	0.33	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	663	-	221	347	-	-
HCM Lane V/C Ratio	0.04	-	0.722	0.081	-	-
HCM Control Delay (s/veh)	10.7	-	54.7	16.3	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	4.8	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1066.69
Level of Service	F
Average Dissatisfaction Prob	0.841
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.95
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1069.23
Avg Ped Delay (s)	1066.69

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	4082.20
Level of Service	F
Average Dissatisfaction Prob	0.842
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	4084.76
Avg Ped Delay (s)	4082.20

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	31	794	17	27	842
Future Vol, veh/h	17	31	794	17	27	842
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	38	980	21	33	1040

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2100	994	0	0	1004	0
Stage 1	994	-	-	-	-	-
Stage 2	1106	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	57	298	-	-	690	-
Stage 1	358	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	54	297	-	-	688	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	357	-	-	-	-	-
Stage 2	301	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	25.16	0	0.33
HCM LOS	D		

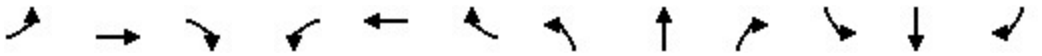
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	237	688	-
HCM Lane V/C Ratio	-	-	0.25	0.048	-
HCM Control Delay (s/veh)	-	-	25.2	10.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1	0.2	-

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	2586.81
Level of Service	F
Average Dissatisfaction Prob	0.859
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1636
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	2589.00
Avg Ped Delay (s)	2586.81

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	2586.81
Level of Service	F
Average Dissatisfaction Prob	0.859
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1636
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	2589.00
Avg Ped Delay (s)	2586.81



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.97	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.90		1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1729	1583		1628		1770	3537		1770	3501	
Flt Permitted		0.72	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1316	1583		1583		1770	3537		1770	3501	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	83	4	49	2	2	9	59	1085	4	11	1063	62
RTOR Reduction (vph)	0	0	44	0	8	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	87	5	0	5	0	59	1089	0	11	1123	0
Confl. Peds. (#/hr)	9					9	9		3	3		9
Confl. Bikes (#/hr)									3			
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		13.1	13.1		13.1		10.4	91.3		2.1	83.0	
Effective Green, g (s)		13.1	13.1		13.1		10.4	91.3		2.1	83.0	
Actuated g/C Ratio		0.11	0.11		0.11		0.09	0.76		0.02	0.69	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		143	172		172		153	2691		30	2421	
v/s Ratio Prot							c0.03	c0.31		0.01	c0.32	
v/s Ratio Perm		c0.07	0.00		0.00							
v/c Ratio		0.60	0.03		0.02		0.38	0.40		0.36	0.46	
Uniform Delay, d1		51.0	47.7		47.7		51.7	4.9		58.2	8.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.1	0.0		0.0		1.6	0.4		7.4	0.6	
Delay (s)		58.1	47.8		47.8		53.3	5.4		65.7	9.0	
Level of Service		E	D		D		D	A		E	A	
Approach Delay (s/veh)		54.4			47.8			7.8			9.5	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	131	23	22	686	711	144
Future Volume (vph)	131	23	22	686	711	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	75	100			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	188			238	831	
Travel Time (s)	4.3			5.4	18.9	
Confl. Peds. (#/hr)		3	3			3
Confl. Bikes (#/hr)						6
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	160	28	27	837	867	176
Shared Lane Traffic (%)						
Lane Group Flow (vph)	160	28	27	837	867	176
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.9%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	31	794	17	27	842
Future Volume (vph)	17	31	794	17	27	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.913		0.997			
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1672	0	1857	0	1770	1676
Flt Permitted	0.983				0.950	
Satd. Flow (perm)	1672	0	1857	0	1770	1676
Link Speed (mph)	30		30			30
Link Distance (ft)	165		831			1189
Travel Time (s)	3.8		9.8			16.8
Confl. Peds. (#/hr)				3	3	
Confl. Bikes (#/hr)				11		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Parking (#/hr)						0
Adj. Flow (vph)	21	38	980	21	33	1040
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	1001	0	33	1040
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		150	100		0
Storage Lanes	0		1	0		0	1		1	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.97		0.99	0.99		0.99	0.99	
Frt			0.850		0.907			0.999			0.992	
Flt Protected		0.954			0.992		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1629	0	1770	3535	0	1770	3502	0
Flt Permitted		0.727			0.965		0.950			0.950		
Satd. Flow (perm)	0	1317	1583	0	1584	0	1760	3535	0	1766	3502	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		9						7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			375			457	
Travel Time (s)		5.5			4.4			8.5			10.4	
Confl. Peds. (#/hr)	9					9	9		3	3		9
Confl. Bikes (#/hr)									3			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	83	4	49	2	2	9	59	1085	4	11	1063	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	49	0	13	0	59	1089	0	11	1125	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

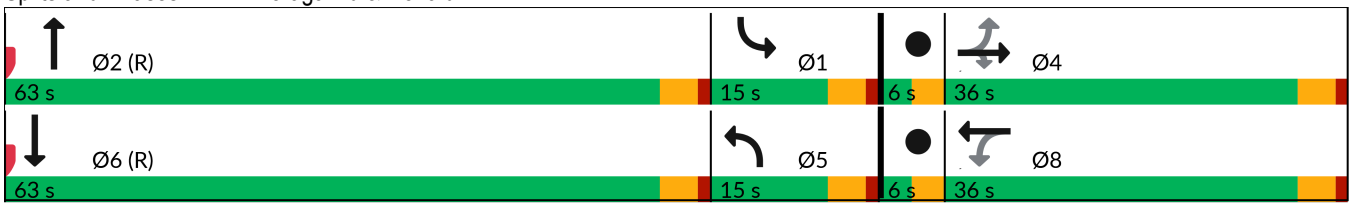
Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		9.5	24.5		9.5	24.5	
Total Split (s)	36.0	36.0	36.0	36.0	36.0		15.0	63.0		15.0	63.0	
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%		12.5%	52.5%		12.5%	52.5%	
Maximum Green (s)	31.5	31.5	31.5	31.5	31.5		10.5	58.5		10.5	58.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				6.0	6.0			8.0			8.0	
Flash Dont Walk (s)				5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)				6	6			2			6	
Act Effct Green (s)		13.1	13.1		13.1		8.8	94.9		6.9	86.6	
Actuated g/C Ratio		0.11	0.11		0.11		0.07	0.79		0.06	0.72	
v/c Ratio		0.60	0.20		0.07		0.45	0.38		0.10	0.44	
Control Delay (s/veh)		67.5	4.6		27.9		64.1	5.4		54.6	8.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.7	
Total Delay (s/veh)		67.5	4.6		27.9		64.1	5.4		54.6	9.3	
LOS		E	A		C		E	A		D	A	
Approach Delay (s/veh)		44.8			27.9			8.4			9.8	
Approach LOS		D			C			A			A	

Intersection Summary

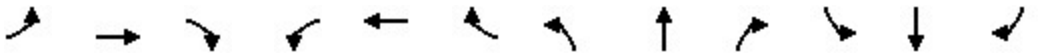
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay (s/veh): 11.2 Intersection LOS: B
Intersection Capacity Utilization 51.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: Moraga Rd & Donald Dr



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.5	1.5
Minimum Split (s)	6.0	6.0
Total Split (s)	6.0	6.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		

Intersection Summary

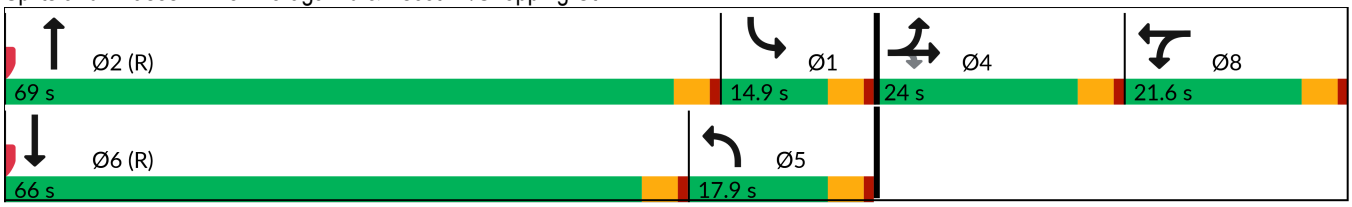


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		250	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.98	0.99		0.99	0.99	
Frt			0.850		0.915			0.997			0.985	
Flt Protected		0.956			0.984		0.950			0.950		
Satd. Flow (prot)	0	1781	1583	0	1661	0	1770	3527	0	1770	3453	0
Flt Permitted		0.956			0.984		0.950			0.950		
Satd. Flow (perm)	0	1775	1583	0	1661	0	1745	3527	0	1767	3453	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			88		24			2			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			103			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	2					2	23		3	3		23
Confl. Bikes (#/hr)									5			6
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
Adj. Flow (vph)	92	7	45	12	2	24	71	949	17	23	1060	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	45	0	38	0	71	966	0	23	1179	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	36.5	36.5		9.5	36.5		9.5	25.5	
Total Split (s)	24.0	24.0	24.0	21.6	21.6		17.9	69.0		14.9	66.0	
Total Split (%)	18.5%	18.5%	18.5%	16.7%	16.7%		13.8%	53.3%		11.5%	51.0%	
Maximum Green (s)	19.5	19.5	19.5	17.1	17.1		13.4	64.5		10.4	61.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				15.0	15.0			25.0			14.0	
Pedestrian Calls (#/hr)				1	1			2			15	
Act Effct Green (s)		12.5	12.5		8.9		10.3	88.5		7.8	84.0	
Actuated g/C Ratio		0.10	0.10		0.07		0.08	0.68		0.06	0.65	
v/c Ratio		0.57	0.19		0.27		0.50	0.40		0.21	0.52	
Control Delay (s/veh)		68.6	2.2		32.5		69.0	12.4		61.8	16.3	
Queue Delay		0.0	0.0		0.0		0.0	0.5		0.0	0.0	
Total Delay (s/veh)		68.6	2.2		32.5		69.0	13.0		61.8	16.3	
LOS		E	A		C		E	B		E	B	
Approach Delay (s/veh)		47.9			32.6			16.9			17.2	
Approach LOS		D			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 129.5			
Actuated Cycle Length: 129.5			
Offset: 120 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay (s/veh): 19.1		Intersection LOS: B	
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	2:50	2:50	2:50	2:50	2:50	2:50
End Time	4:00	4:00	4:00	4:00	4:00	4:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2315	2238	2299	2312	2259	2286
Vehs Exited	2302	2255	2293	2282	2244	2275
Starting Vehs	52	57	65	42	49	50
Ending Vehs	65	40	71	72	64	61
Travel Distance (mi)	1178	1145	1162	1160	1141	1157
Travel Time (hr)	59.7	56.3	60.6	59.3	58.5	58.9
Total Delay (hr)	18.8	16.4	20.1	19.0	18.8	18.6
Total Stops	1599	1381	1647	1660	1445	1546
Fuel Used (gal)	43.4	41.3	43.1	42.7	42.0	42.5

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2315	2238	2299	2312	2259	2286
Vehs Exited	2302	2255	2293	2282	2244	2275
Starting Vehs	52	57	65	42	49	50
Ending Vehs	65	40	71	72	64	61
Travel Distance (mi)	1178	1145	1162	1160	1141	1157
Travel Time (hr)	59.7	56.3	60.6	59.3	58.5	58.9
Total Delay (hr)	18.8	16.4	20.1	19.0	18.8	18.6
Total Stops	1599	1381	1647	1660	1445	1546
Fuel Used (gal)	43.4	41.3	43.1	42.7	42.0	42.5

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	161	104	49	32	41	25
Average Queue (ft)	91	24	13	2	2	1
95th Queue (ft)	159	86	40	17	24	10
Link Distance (ft)	142			202	767	
Upstream Blk Time (%)	9	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)		75	100			200
Storage Blk Time (%)	30					
Queuing Penalty (veh)	7					

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	78	4	45
Average Queue (ft)	29	0	16
95th Queue (ft)	61	3	43
Link Distance (ft)	129	767	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	110	58	39	98	143	150	111	399	369
Average Queue (ft)	48	22	8	35	56	56	12	184	96
95th Queue (ft)	95	49	31	76	122	119	59	391	306
Link Distance (ft)	196	196	145		224			390	390
Upstream Blk Time (%)								1	0
Queuing Penalty (veh)								2	0
Storage Bay Dist (ft)				125		150	100		
Storage Blk Time (%)				0	1	0		13	
Queuing Penalty (veh)				2	3	0		1	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	124	57	67	155	193	217	98	329	288
Average Queue (ft)	68	21	29	52	61	79	22	195	106
95th Queue (ft)	121	49	64	113	139	169	72	329	242
Link Distance (ft)	101	101	56		390	390		306	306
Upstream Blk Time (%)	8		8					2	0
Queuing Penalty (veh)	0		0					0	0
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)				1	1		0	17	
Queuing Penalty (veh)				2	0		0	3	

Network Summary

Network wide Queuing Penalty: 21

Intersection: 12: Moraga Rd & Donald Dr

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SBL	NBT	Hold	EBTL	NBL	SBT	Hold	WBTL
Maximum Green (s)	10.5	58.5	3.0	31.5	10.5	58.5	3.0	31.5
Minimum Green (s)	5.0	5.0	1.5	5.0	5.0	5.0	1.5	5.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.9	9.1	0.0	12.1	8.2	2.2	0.0	12.1
g/C Ratio	NA	NA	0.00	NA	NA	NA	0.00	NA
Cycles Skipped (%)	75	7	100	10	31	0	100	10
Cycles @ Minimum (%)	0	0	0	0	0	0	0	0
Cycles Maxed Out (%)	0	93	0	0	10	100	0	0
Cycles with Peds (%)	0	7	0	0	0	25	0	34

Controller Summary
Average Cycle Length (s): -15.6

Number of Complete Cycles : 29

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	10.4	64.5	19.5	13.4	61.5	17.1
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	8.1	0.5	11.9	9.7	-5.0	9.7
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	58	0	8	12	0	54
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	8	100	4	15	100	0
Cycles with Peds (%)	0	12	0	0	50	4

Controller Summary
Average Cycle Length (s): -21.7

Number of Complete Cycles : 26

Appendix E

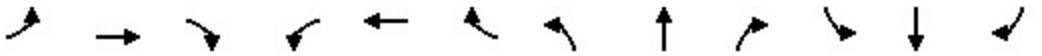
Road Diet with 2044 Volumes Synchro Outputs

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	149	41	39	630	588	114
Future Volume (veh/h)	149	41	39	630	588	114
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			0.97
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	300	83	79	1269	1184	230
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	329	293	101	1369	1186	975
Arrive On Green	0.18	0.18	0.06	0.73	0.63	0.63
Sat Flow, veh/h	1781	1585	1781	1870	1870	1538
Grp Volume(v), veh/h	300	83	79	1269	1184	230
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1538
Q Serve(g_s), s	17.8	4.9	4.7	61.1	68.2	7.0
Cycle Q Clear(g_c), s	17.8	4.9	4.7	61.1	68.2	7.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	329	293	101	1369	1186	975
V/C Ratio(X)	0.91	0.28	0.78	0.93	1.00	0.24
Avail Cap(c_a), veh/h	338	301	124	1393	1186	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	37.9	50.3	12.1	19.7	8.5
Incr Delay (d2), s/veh	27.6	0.5	22.8	10.8	25.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	4.6	2.7	24.5	34.6	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	70.8	38.4	73.1	22.8	45.5	8.6
LnGrp LOS	E	D	E	C	D	A
Approach Vol, veh/h	383			1348	1414	
Approach Delay, s/veh	63.8			25.8	39.5	
Approach LOS	E			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		83.6		24.4	10.6	73.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		80.5		20.5	7.5	68.5
Max Q Clear Time (g_c+I1), s		63.1		19.8	6.7	70.2
Green Ext Time (p_c), s		11.2		0.1	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	36.6
HCM 7th LOS	D

Notes
User approved pedestrian interval to be less than phase max green.



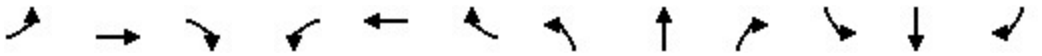
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (veh/h)	132	15	84	5	25	13	58	771	5	7	629	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.94	1.00		0.97	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	281	32	179	11	53	28	123	1641	11	15	1339	294
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	35	295	14	67	36	164	1710	11	180	1392	299
Arrive On Green	0.19	0.19	0.19	0.07	0.07	0.07	0.09	0.47	0.47	0.20	0.96	0.96
Sat Flow, veh/h	1607	183	1550	206	994	525	1781	3618	24	1781	2889	621
Grp Volume(v), veh/h	313	0	179	92	0	0	123	805	847	15	813	820
Grp Sat Flow(s),veh/h/ln	1790	0	1550	1725	0	0	1781	1777	1865	1781	1777	1733
Q Serve(g_s), s	18.9	0.0	11.6	5.8	0.0	0.0	7.4	48.1	48.2	0.8	21.5	35.5
Cycle Q Clear(g_c), s	18.9	0.0	11.6	5.8	0.0	0.0	7.4	48.1	48.2	0.8	21.5	35.5
Prop In Lane	0.90		1.00	0.12		0.30	1.00		0.01	1.00		0.36
Lane Grp Cap(c), veh/h	340	0	295	117	0	0	164	840	882	180	856	835
V/C Ratio(X)	0.92	0.00	0.61	0.79	0.00	0.00	0.75	0.96	0.96	0.08	0.95	0.98
Avail Cap(c_a), veh/h	342	0	296	125	0	0	164	840	882	180	856	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.58	0.58	0.58
Uniform Delay (d), s/veh	43.7	0.0	40.8	50.5	0.0	0.0	48.7	28.0	28.0	39.7	1.4	1.7
Incr Delay (d2), s/veh	29.1	0.0	3.5	26.1	0.0	0.0	17.3	22.5	22.1	0.1	14.1	19.9
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	11.0	0.0	4.7	3.3	0.0	0.0	4.1	24.7	25.9	0.3	4.1	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	72.8	0.0	44.3	76.6	0.0	0.0	66.0	50.5	50.1	39.8	15.5	21.6
LnGrp LOS	E		D	E			E	D	D	D	B	C
Approach Vol, veh/h		492			92			1775			1648	
Approach Delay, s/veh		62.5			76.6			51.4			18.8	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.6	58.0		24.9	14.6	59.0		11.5				
Change Period (Y+Rc), s	4.5	6.0		4.0	4.5	6.0		4.0				
Max Green Setting (Gmax), s	10.5	52.0		21.0	9.5	53.0		8.0				
Max Q Clear Time (g_c+I1), s	2.8	50.2		20.9	9.4	37.5		7.8				
Green Ext Time (p_c), s	0.0	1.6		0.0	0.0	12.3		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		39.9	
HCM 7th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (veh/h)	121	3	74	11	1	22	40	858	24	12	683	65
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		0.95	1.00		0.96	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	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	244	6	149	22	2	44	81	1728	48	24	1375	131
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	7	252	34	3	68	240	2043	57	50	1485	141
Arrive On Green	0.16	0.16	0.16	0.07	0.07	0.07	0.18	0.77	0.77	0.03	0.45	0.45
Sat Flow, veh/h	1741	43	1550	514	47	1029	1781	3528	98	1781	3268	309
Grp Volume(v), veh/h	250	0	149	68	0	0	81	867	909	24	744	762
Grp Sat Flow(s),veh/h/ln	1783	0	1550	1590	0	0	1781	1777	1848	1781	1777	1800
Q Serve(g_s), s	15.0	0.0	9.8	4.6	0.0	0.0	4.4	35.1	36.0	1.5	43.2	44.0
Cycle Q Clear(g_c), s	15.0	0.0	9.8	4.6	0.0	0.0	4.4	35.1	36.0	1.5	43.2	44.0
Prop In Lane	0.98		1.00	0.32		0.65	1.00		0.05	1.00		0.17
Lane Grp Cap(c), veh/h	290	0	252	105	0	0	240	1029	1070	50	808	818
V/C Ratio(X)	0.86	0.00	0.59	0.65	0.00	0.00	0.34	0.84	0.85	0.48	0.92	0.93
Avail Cap(c_a), veh/h	357	0	310	202	0	0	240	1029	1070	97	808	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.44	0.44	0.44	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	0.0	42.6	50.1	0.0	0.0	40.9	9.4	9.5	52.6	28.1	28.4
Incr Delay (d2), s/veh	16.2	0.0	2.2	6.5	0.0	0.0	0.1	3.9	3.9	2.6	17.4	18.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	3.9	2.0	0.0	0.0	1.9	9.0	9.6	0.7	21.5	22.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.0	0.0	44.8	56.6	0.0	0.0	41.0	13.3	13.4	55.2	45.6	47.0
LnGrp LOS	E		D	E			D	B	B	E	D	D
Approach Vol, veh/h		399			68			1857			1530	
Approach Delay, s/veh		55.0			56.6			14.5			46.4	
Approach LOS		D			E			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	69.7		21.9	20.8	56.0		11.3				
Change Period (Y+Rc), s	4.0	6.0		4.0	6.0	* 6		4.0				
Max Green Setting (Gmax), s	6.0	50.0		22.0	6.0	* 50		14.0				
Max Q Clear Time (g_c+I1), s	3.5	38.0		17.0	6.4	46.0		6.6				
Green Ext Time (p_c), s	0.0	10.4		0.9	0.0	3.4		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	32.1	
HCM 7th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

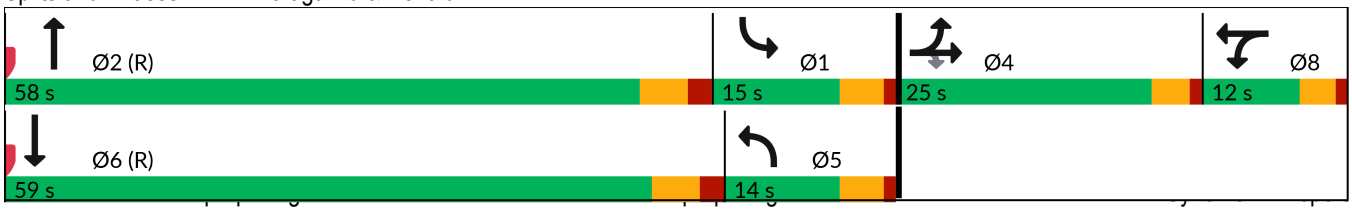
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Future Volume (vph)	132	15	84	5	25	13	58	771	5	7	629	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		150	100		0
Storage Lanes	0		1	0		0	1		1	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.98		0.99	0.99		0.99	0.99	
Frt			0.850		0.959			0.999			0.973	
Flt Protected		0.957			0.994		0.950			0.950		
Satd. Flow (prot)	0	1783	1583	0	1755	0	1770	3534	0	1770	3410	0
Flt Permitted		0.957			0.994		0.950			0.950		
Satd. Flow (perm)	0	1744	1583	0	1755	0	1764	3534	0	1764	3410	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		15			1			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			374			457	
Travel Time (s)		5.5			4.4			8.5			10.4	
Confl. Peds. (#/hr)	14					14	12		11	11		12
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	281	32	179	11	53	28	123	1641	11	15	1339	294
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	313	179	0	92	0	123	1652	0	15	1633	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		9.5	26.0		9.5	26.0	
Total Split (s)	25.0	25.0	25.0	12.0	12.0		14.0	58.0		15.0	59.0	
Total Split (%)	22.7%	22.7%	22.7%	10.9%	10.9%		12.7%	52.7%		13.6%	53.6%	
Maximum Green (s)	21.0	21.0	21.0	8.0	8.0		9.5	52.0		10.5	53.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.5	6.0		4.5	6.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				12.0	12.0			8.0			8.0	
Flash Dont Walk (s)				5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)				14	14			11			12	
Act Effct Green (s)		20.7	20.7		7.6		9.4	61.6		7.7	53.7	
Actuated g/C Ratio		0.19	0.19		0.07		0.09	0.56		0.07	0.49	
v/c Ratio		0.93	0.40		0.68		0.81	0.83		0.12	0.97	
Control Delay (s/veh)		79.5	8.6		66.5		86.7	26.6		34.7	25.3	
Queue Delay		0.0	0.0		0.0		0.0	3.8		0.0	0.8	
Total Delay (s/veh)		79.5	8.6		66.5		86.7	30.4		34.7	26.1	
LOS		E	A		E		F	C		C	C	
Approach Delay (s/veh)		53.8			66.5			34.4			26.2	
Approach LOS		D			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 100 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay (s/veh): 34.1		Intersection LOS: C	
Intersection Capacity Utilization 68.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Moraga Rd & Donald Dr

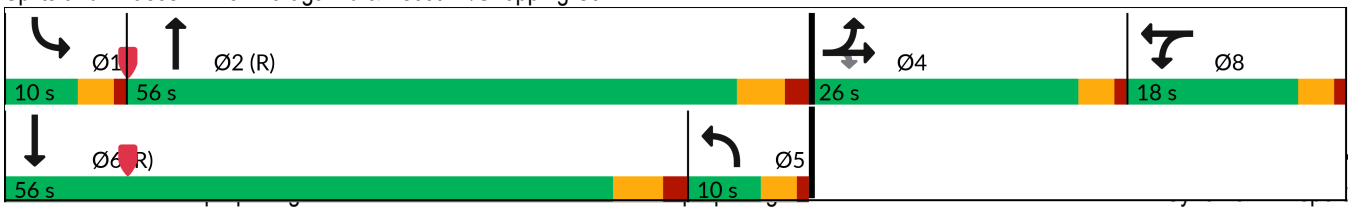


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Future Volume (vph)	121	3	74	11	1	22	40	858	24	12	683	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.98		0.99	0.99		0.99	0.99	
Frt			0.850		0.913			0.996			0.987	
Flt Protected		0.953			0.984		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1641	0	1770	3521	0	1770	3475	0
Flt Permitted		0.953			0.984		0.950			0.950		
Satd. Flow (perm)	0	1747	1583	0	1641	0	1762	3521	0	1768	3475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		44			3			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			102			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	12					12	14		8	8		14
Confl. Bikes (#/hr)									8			3
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	244	6	149	22	2	44	81	1728	48	24	1375	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	149	0	68	0	81	1776	0	24	1506	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		6.0	4.0		6.0	4.0	
Minimum Split (s)	8.0	8.0	8.0	26.0	26.0		10.0	38.0		10.0	27.0	
Total Split (s)	26.0	26.0	26.0	18.0	18.0		10.0	56.0		10.0	56.0	
Total Split (%)	23.6%	23.6%	23.6%	16.4%	16.4%		9.1%	50.9%		9.1%	50.9%	
Maximum Green (s)	22.0	22.0	22.0	14.0	14.0		6.0	50.0		6.0	50.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	6.0		4.0	6.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		1.0	4.0		2.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				15.0	15.0			25.0			14.0	
Pedestrian Calls (#/hr)				12	12			8			14	
Act Effct Green (s)		19.3	19.3		8.2		6.0	64.3		6.2	60.5	
Actuated g/C Ratio		0.18	0.18		0.07		0.05	0.58		0.06	0.55	
v/c Ratio		0.80	0.35		0.41		0.84	0.86		0.24	0.78	
Control Delay (s/veh)		62.9	6.6		29.1		75.0	15.8		55.9	25.3	
Queue Delay		0.0	0.0		0.0		0.0	0.5		0.0	1.0	
Total Delay (s/veh)		62.9	6.7		29.1		75.0	16.4		55.9	26.3	
LOS		E	A		C		E	B		E	C	
Approach Delay (s/veh)		41.9			29.1			19.0			26.8	
Approach LOS		D			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 108 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 24.7		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	555.14
Level of Service	F
Average Dissatisfaction Prob	0.827
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.93
Prob of Delayed Crossing	0.99
Delay for adq Gap (s)	558.02
Avg Ped Delay (s)	555.14

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1808.02
Level of Service	F
Average Dissatisfaction Prob	0.828
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1218
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1810.94
Avg Ped Delay (s)	1808.02

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	25	762	15	23	673
Future Vol, veh/h	18	25	762	15	23	673
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	51	1555	31	47	1374

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3041	1574	0	0	1589	0
Stage 1	1574	-	-	-	-	-
Stage 2	1468	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 14	136	-	-	413	-
Stage 1	188	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 12	135	-	-	412	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	187	-	-	-	-	-
Stage 2	187	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/veh	104.65	0	0.49
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	112	412	-
HCM Lane V/C Ratio	-	-	0.781	0.114	-
HCM Control Delay (s/veh)	-	-	104.6	14.9	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	4.4	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1226.70
Level of Service	F
Average Dissatisfaction Prob	0.844
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1435
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1229.18
Avg Ped Delay (s)	1226.70

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1226.70
Level of Service	F
Average Dissatisfaction Prob	0.844
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1435
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.96
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1229.18
Avg Ped Delay (s)	1226.70

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:40	7:40	7:40	7:40	7:40	7:40
End Time	8:50	8:50	8:50	8:50	8:50	8:50
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3323	3378	3305	3279	3214	3300
Vehs Exited	3323	3314	3265	3243	3173	3263
Starting Vehs	111	132	107	98	90	103
Ending Vehs	111	196	147	134	131	142
Travel Distance (mi)	1548	1553	1539	1505	1489	1527
Travel Time (hr)	151.2	190.8	145.0	106.3	114.3	141.5
Total Delay (hr)	96.8	136.0	91.0	53.2	61.7	87.7
Total Stops	4244	5737	4134	3603	3765	4296
Fuel Used (gal)	77.5	86.7	75.1	65.4	66.4	74.2

Interval #0 Information Seeding

Start Time	7:40
End Time	7:50
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:50
End Time	8:50
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3323	3378	3305	3279	3214	3300
Vehs Exited	3323	3314	3265	3243	3173	3263
Starting Vehs	111	132	107	98	90	103
Ending Vehs	111	196	147	134	131	142
Travel Distance (mi)	1548	1553	1539	1505	1489	1527
Travel Time (hr)	151.2	190.8	145.0	106.3	114.3	141.5
Total Delay (hr)	96.8	136.0	91.0	53.2	61.7	87.7
Total Stops	4244	5737	4134	3603	3765	4296
Fuel Used (gal)	77.5	86.7	75.1	65.4	66.4	74.2

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	164	125	176	245	755	300
Average Queue (ft)	125	50	49	180	302	91
95th Queue (ft)	183	122	126	271	603	278
Link Distance (ft)	142			202	767	
Upstream Blk Time (%)	10	0	0	10	0	
Queuing Penalty (veh)	0	0	0	0	1	
Storage Bay Dist (ft)		75	100			200
Storage Blk Time (%)	33	1	0	16	13	
Queuing Penalty (veh)	20	2	5	9	23	

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	NB	SB	SB	B5
Directions Served	LR	TR	L	T	T
Maximum Queue (ft)	148	169	70	222	221
Average Queue (ft)	70	43	24	9	11
95th Queue (ft)	140	302	56	108	101
Link Distance (ft)	129	767		1053	222
Upstream Blk Time (%)	13	1			0
Queuing Penalty (veh)	0	10			1
Storage Bay Dist (ft)			100		
Storage Blk Time (%)			0	1	
Queuing Penalty (veh)			0	0	

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	B5	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	T	L	T	TR
Maximum Queue (ft)	238	139	139	194	427	222	259	164	421	416
Average Queue (ft)	182	46	57	93	218	156	98	31	320	282
95th Queue (ft)	258	105	114	187	452	275	551	121	511	513
Link Distance (ft)	196	196	145		222		1053		390	390
Upstream Blk Time (%)	38	0	1		7	1	1		8	4
Queuing Penalty (veh)	0	0	0		88	0	16		47	25
Storage Bay Dist (ft)				125		150		100		
Storage Blk Time (%)				14	15	11		0	42	
Queuing Penalty (veh)				162	101	70		0	4	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	134	107	74	173	365	384	160	351	335
Average Queue (ft)	109	37	36	63	141	165	50	277	238
95th Queue (ft)	140	80	73	134	310	342	148	407	405
Link Distance (ft)	101	101	55		390	390		307	307
Upstream Blk Time (%)	43	0	15		0	0		32	27
Queuing Penalty (veh)	0	0	0		0	1		0	0
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)				1	7		0	46	
Queuing Penalty (veh)				5	4		0	8	

Network Summary

Network wide Queuing Penalty: 603

Intersection: 4: Moraga Rd & Corliss Dr

Phase	2	4	5	6
Movement(s) Served	NBT	EBL	NBL	SBT
Maximum Green (s)	80.5	20.5	7.5	68.5
Minimum Green (s)	5.0	5.0	5.0	5.0
Recall	Min	None	None	Min
Avg. Green (s)	-2.5	-16.2	13.3	-12.6
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	43	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	26	38	45	33
Cycles with Peds (%)	0	15	0	10

Controller Summary
Average Cycle Length (s): -10.1
Number of Complete Cycles : 40

Intersection: 12: Moraga Rd & Donald Dr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	10.5	52.0	21.0	9.5	53.0	8.0
Minimum Green (s)	5.0	20.0	4.0	5.0	20.0	4.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	10.0	-11.5	20.1	9.2	-20.6	12.8
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	78	26	25	28	26	38
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	16	74	50	53	74	47
Cycles with Peds (%)	0	23	0	0	26	31

Controller Summary
Average Cycle Length (s): -12.9
Number of Complete Cycles : 32

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	6.0	50.0	22.0	6.0	50.0	14.0
Minimum Green (s)	6.0	4.0	4.0	6.0	4.0	4.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	6.9	-14.5	19.2	6.2	-16.3	17.5
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	58	26	25	35	23	47
Cycles @ Minimum (%)	30	0	0	65	0	0
Cycles Maxed Out (%)	6	74	38	65	77	28
Cycles with Peds (%)	0	23	0	0	29	31

Controller Summary
Average Cycle Length (s): -12.9

Number of Complete Cycles : 32

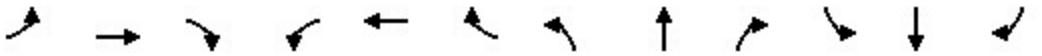
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	131	23	22	686	711	144
Future Volume (veh/h)	131	23	22	686	711	144
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	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	238	42	40	1247	1292	262
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	275	245	56	1432	1299	1073
Arrive On Green	0.15	0.15	0.03	0.77	0.69	0.69
Sat Flow, veh/h	1781	1585	1781	1870	1870	1545
Grp Volume(v), veh/h	238	42	40	1247	1292	262
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1545
Q Serve(g_s), s	14.7	2.6	2.5	52.9	77.2	7.1
Cycle Q Clear(g_c), s	14.7	2.6	2.5	52.9	77.2	7.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	275	245	56	1432	1299	1073
V/C Ratio(X)	0.86	0.17	0.71	0.87	0.99	0.24
Avail Cap(c_a), veh/h	512	456	87	1464	1299	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	41.5	54.2	9.3	17.1	6.4
Incr Delay (d2), s/veh	8.0	0.3	15.1	5.9	23.6	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	1.4	19.1	36.6	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.6	41.8	69.3	15.2	40.7	6.5
LnGrp LOS	D	D	E	B	D	A
Approach Vol, veh/h	280			1287	1554	
Approach Delay, s/veh	52.7			16.9	34.9	
Approach LOS	D			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		91.1		22.0	8.1	83.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		88.5		32.5	5.5	78.5
Max Q Clear Time (g_c+I1), s		54.9		16.7	4.5	79.2
Green Ext Time (p_c), s		16.3		0.7	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	29.1
HCM 7th LOS	C

Notes

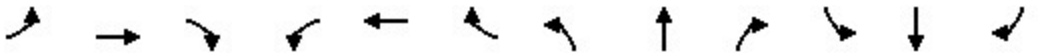
User approved pedestrian interval to be less than phase max green.
User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (veh/h)	67	3	40	2	2	7	48	879	3	9	861	50
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		0.97	1.00		0.93	1.00		0.97	1.00		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	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	6	74	4	4	13	88	1617	6	17	1584	92
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	7	136	11	11	36	407	1971	7	363	1767	102
Arrive On Green	0.09	0.09	0.09	0.04	0.04	0.04	0.23	0.54	0.54	0.41	1.00	1.00
Sat Flow, veh/h	1702	83	1537	302	302	982	1781	3631	13	1781	3413	197
Grp Volume(v), veh/h	129	0	74	21	0	0	88	791	832	17	821	855
Grp Sat Flow(s),veh/h/ln	1785	0	1537	1586	0	0	1781	1777	1867	1781	1777	1833
Q Serve(g_s), s	9.9	0.0	6.5	1.8	0.0	0.0	5.6	51.4	51.4	0.8	0.0	0.0
Cycle Q Clear(g_c), s	9.9	0.0	6.5	1.8	0.0	0.0	5.6	51.4	51.4	0.8	0.0	0.0
Prop In Lane	0.95		1.00	0.19		0.62	1.00		0.01	1.00		0.11
Lane Grp Cap(c), veh/h	158	0	136	58	0	0	407	965	1014	363	920	949
V/C Ratio(X)	0.82	0.00	0.54	0.36	0.00	0.00	0.22	0.82	0.82	0.05	0.89	0.90
Avail Cap(c_a), veh/h	230	0	198	261	0	0	407	965	1014	363	920	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.55	0.55	0.55
Uniform Delay (d), s/veh	62.7	0.0	61.1	65.9	0.0	0.0	43.8	26.4	26.4	33.3	0.0	0.0
Incr Delay (d2), s/veh	13.7	0.0	3.4	3.8	0.0	0.0	0.3	7.8	7.4	0.0	7.7	8.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	2.7	0.8	0.0	0.0	2.5	23.3	24.4	0.4	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.4	0.0	64.5	69.6	0.0	0.0	44.1	34.1	33.8	33.3	7.7	8.1
LnGrp LOS	E		E	E			D	C	C	C	A	A
Approach Vol, veh/h		203			21			1711			1693	
Approach Delay, s/veh		72.1			69.6			34.5			8.1	
Approach LOS		E			E			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.0	80.5		16.9	36.5	77.0		9.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	76.0		18.0	8.5	72.5		23.0				
Max Q Clear Time (g_c+I1), s	2.8	53.4		11.9	7.6	2.0		3.8				
Green Ext Time (p_c), s	0.0	13.2		0.4	0.0	22.8		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			24.5									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (veh/h)	76	6	37	10	2	20	59	788	14	19	880	99
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		0.99	1.00		0.99	1.00		0.96	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	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	136	11	66	18	4	36	106	1415	25	34	1580	178
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	164	13	156	24	5	49	330	2493	44	47	1730	192
Arrive On Green	0.10	0.10	0.10	0.05	0.05	0.05	0.37	1.00	1.00	0.03	0.54	0.54
Sat Flow, veh/h	1654	134	1575	511	113	1021	1781	3570	63	1781	3208	356
Grp Volume(v), veh/h	147	0	66	58	0	0	106	704	736	34	864	894
Grp Sat Flow(s),veh/h/ln	1788	0	1575	1646	0	0	1781	1777	1856	1781	1777	1787
Q Serve(g_s), s	11.3	0.0	5.5	4.9	0.0	0.0	6.0	0.0	0.0	2.7	61.0	64.7
Cycle Q Clear(g_c), s	11.3	0.0	5.5	4.9	0.0	0.0	6.0	0.0	0.0	2.7	61.0	64.7
Prop In Lane	0.93		1.00	0.31		0.62	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	177	0	156	78	0	0	330	1241	1296	47	958	963
V/C Ratio(X)	0.83	0.00	0.42	0.74	0.00	0.00	0.32	0.57	0.57	0.73	0.90	0.93
Avail Cap(c_a), veh/h	275	0	242	194	0	0	330	1241	1296	146	958	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	0.0	59.3	65.8	0.0	0.0	37.8	0.0	0.0	67.7	28.9	29.8
Incr Delay (d2), s/veh	11.6	0.0	1.8	12.8	0.0	0.0	0.4	1.4	1.4	19.3	13.2	16.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	2.3	2.3	0.0	0.0	2.5	0.5	0.5	1.5	28.8	31.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.5	0.0	61.1	78.6	0.0	0.0	38.2	1.4	1.4	87.0	42.1	45.9
LnGrp LOS	E		E	E			D	A	A	F	D	D
Approach Vol, veh/h		213			58			1546			1792	
Approach Delay, s/veh		69.7			78.6			3.9			44.8	
Approach LOS		E			E			A			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	102.3		18.4	30.4	80.0		11.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.5	72.5		21.5	8.5	75.5		16.5				
Max Q Clear Time (g_c+I1), s	4.7	2.0		13.3	8.0	66.7		6.9				
Green Ext Time (p_c), s	0.0	16.2		0.6	0.0	7.0		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	29.3
HCM 7th LOS	C

Notes

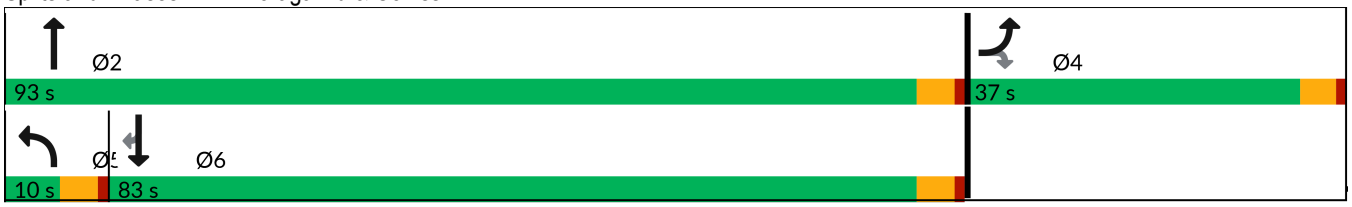
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	131	23	22	686	711	144
Future Volume (vph)	131	23	22	686	711	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	75	100			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	0.99			0.96
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1538	1767	1863	1863	1532
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		26				128
Link Speed (mph)	30			30	30	
Link Distance (ft)	188			238	831	
Travel Time (s)	4.3			5.4	18.9	
Confl. Peds. (#/hr)		3	3			3
Confl. Bikes (#/hr)						6
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	238	42	40	1247	1292	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	238	42	40	1247	1292	262
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.5	26.5	9.5	22.5	26.5	26.5
Total Split (s)	37.0	37.0	10.0	93.0	83.0	83.0
Total Split (%)	28.5%	28.5%	7.7%	71.5%	63.8%	63.8%
Maximum Green (s)	32.5	32.5	5.5	88.5	78.5	78.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Min	Min	Min
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)	3	3			3	3
Act Effct Green (s)	21.1	21.1	5.5	88.4	80.5	80.5
Actuated g/C Ratio	0.18	0.18	0.05	0.75	0.68	0.68
v/c Ratio	0.75	0.14	0.48	0.89	1.02	0.24
Control Delay (s/veh)	61.7	21.6	77.2	23.4	52.2	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.7	21.6	77.2	23.4	52.2	5.0
LOS	E	C	E	C	D	A
Approach Delay (s/veh)	55.7			25.1	44.3	
Approach LOS	E			C	D	

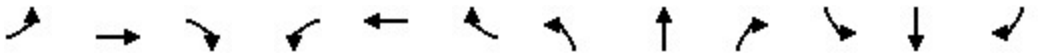
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 118.5			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay (s/veh): 37.4		Intersection LOS: D	
Intersection Capacity Utilization 74.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Moraga Rd & Corliss Dr



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	31	794	17	27	842
Future Volume (vph)	17	31	794	17	27	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.913		0.997			
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1672	0	1857	0	1770	1676
Flt Permitted	0.983				0.950	
Satd. Flow (perm)	1672	0	1857	0	1770	1676
Link Speed (mph)	30		30			30
Link Distance (ft)	165		831			1186
Travel Time (s)	3.8		9.8			16.8
Confl. Peds. (#/hr)				3	3	
Confl. Bikes (#/hr)				11		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	149%	149%	149%	149%	149%	149%
Parking (#/hr)						0
Adj. Flow (vph)	31	57	1461	31	50	1549
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	1492	0	50	1549
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

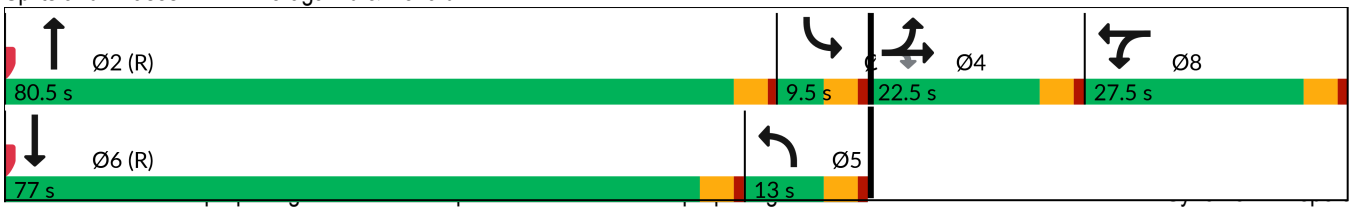


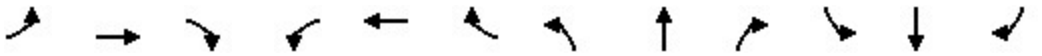
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Future Volume (vph)	67	3	40	2	2	7	48	879	3	9	861	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		150	100		0
Storage Lanes	0		1	0		0	1		1	1		0
Taper Length (ft)	25			25			70			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.97		0.99	0.99		0.99	0.99	
Frt			0.850		0.916			0.999			0.992	
Flt Protected		0.954			0.991		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1656	0	1770	3535	0	1770	3501	0
Flt Permitted		0.954			0.991		0.950			0.950		
Satd. Flow (perm)	0	1740	1583	0	1656	0	1764	3535	0	1768	3501	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		13						6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		243			192			378			457	
Travel Time (s)		5.5			4.4			8.6			10.4	
Confl. Peds. (#/hr)	9					9	9		3	3		9
Confl. Bikes (#/hr)									3			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	123	6	74	4	4	13	88	1617	6	17	1584	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	74	0	21	0	88	1623	0	17	1676	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	27.5	27.5		9.5	24.5		9.5	24.5	
Total Split (s)	22.5	22.5	22.5	27.5	27.5		13.0	80.5		9.5	77.0	
Total Split (%)	16.1%	16.1%	16.1%	19.6%	19.6%		9.3%	57.5%		6.8%	55.0%	
Maximum Green (s)	18.0	18.0	18.0	23.0	23.0		8.5	76.0		5.0	72.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				12.0	12.0			8.0			8.0	
Flash Dont Walk (s)				5.0	5.0			12.0			12.0	
Pedestrian Calls (#/hr)				9	9			3			9	
Act Effct Green (s)		14.8	14.8		8.2		8.5	103.7		5.0	94.5	
Actuated g/C Ratio		0.11	0.11		0.06		0.06	0.74		0.04	0.68	
v/c Ratio		0.68	0.30		0.19		0.82	0.62		0.26	0.70	
Control Delay (s/veh)		78.7	12.6		38.0		113.0	13.0		64.5	2.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.2	
Total Delay (s/veh)		78.7	12.6		38.0		113.0	13.0		64.5	2.6	
LOS		E	B		D		F	B		E	A	
Approach Delay (s/veh)		54.6			38.1			18.2			3.3	
Approach LOS		D			D			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 13.4		Intersection LOS: B	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Moraga Rd & Donald Dr



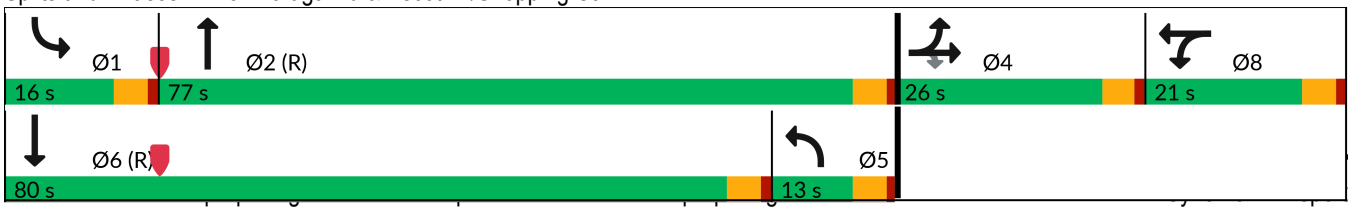


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Future Volume (vph)	76	6	37	10	2	20	59	788	14	19	880	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		250	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.99	0.99		0.99	0.98	
Frt			0.850		0.916			0.997			0.985	
Flt Protected		0.956			0.985		0.950			0.950		
Satd. Flow (prot)	0	1781	1583	0	1664	0	1770	3527	0	1770	3451	0
Flt Permitted		0.956			0.985		0.950			0.950		
Satd. Flow (perm)	0	1775	1583	0	1664	0	1758	3527	0	1768	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117		36			2			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		148			103			457			336	
Travel Time (s)		3.4			2.3			10.4			7.6	
Confl. Peds. (#/hr)	2					2	23		3	3		23
Confl. Bikes (#/hr)									5			6
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
Growth Factor	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%	149%
Adj. Flow (vph)	136	11	66	18	4	36	106	1415	25	34	1580	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	66	0	58	0	106	1440	0	34	1758	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	26.5	26.5		9.5	36.5		9.5	25.5	
Total Split (s)	26.0	26.0	26.0	21.0	21.0		13.0	77.0		16.0	80.0	
Total Split (%)	18.6%	18.6%	18.6%	15.0%	15.0%		9.3%	55.0%		11.4%	57.1%	
Maximum Green (s)	21.5	21.5	21.5	16.5	16.5		8.5	72.5		11.5	75.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				15.0	15.0			25.0			14.0	
Pedestrian Calls (#/hr)				2	2			3			23	
Act Effct Green (s)		16.5	16.5		8.8		8.5	94.8		8.1	90.2	
Actuated g/C Ratio		0.12	0.12		0.06		0.06	0.68		0.06	0.64	
v/c Ratio		0.70	0.22		0.42		0.99	0.60		0.33	0.78	
Control Delay (s/veh)		76.6	2.1		37.7		131.9	7.9		71.1	23.2	
Queue Delay		0.0	0.0		0.0		0.0	0.1		0.0	0.0	
Total Delay (s/veh)		76.6	2.1		37.7		131.9	8.1		71.1	23.3	
LOS		E	A		D		F	A		E	C	
Approach Delay (s/veh)		53.5			37.8			16.6			24.2	
Approach LOS		D			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay (s/veh): 22.9		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: Moraga Rd & Ascot Dr/Shopping Ctr



Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	1066.69
Level of Service	F
Average Dissatisfaction Prob	0.841
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.95
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	1069.23
Avg Ped Delay (s)	1066.69

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	4082.20
Level of Service	F
Average Dissatisfaction Prob	0.842
Crossing Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1397
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	4084.76
Avg Ped Delay (s)	4082.20

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	31	794	17	27	842
Future Vol, veh/h	17	31	794	17	27	842
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	57	1461	31	50	1549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3127	1479	0	0	1495	0
Stage 1	1479	-	-	-	-	-
Stage 2	1648	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 12	154	-	-	449	-
Stage 1	209	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 11	154	-	-	448	-
Mov Cap-2 Maneuver	85	-	-	-	-	-
Stage 1	208	-	-	-	-	-
Stage 2	153	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	91.84	0	0.44
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	120	448	-
HCM Lane V/C Ratio	-	-	0.737	0.111	-
HCM Control Delay (s/veh)	-	-	91.8	14	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	4.1	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	2586.81
Level of Service	F
Average Dissatisfaction Prob	0.859
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1636
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	2589.00
Avg Ped Delay (s)	2586.81

Approach	
Approach Direction	SB
Median Present?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	2586.81
Level of Service	F
Average Dissatisfaction Prob	0.859
Crossing Level of Service	F

Crosswalk	
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1636
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	15.57
Prob of Blocked Lane	0.97
Prob of Delayed Crossing	1.00
Delay for adq Gap (s)	2589.00
Avg Ped Delay (s)	2586.81

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	2:50	2:50	2:50	2:50	2:50	2:50
End Time	4:00	4:00	4:00	4:00	4:00	4:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3320	3322	3260	3230	3301	3288
Vehs Exited	3318	3328	3256	3231	3271	3281
Starting Vehs	115	132	108	116	115	115
Ending Vehs	117	126	112	115	145	124
Travel Distance (mi)	1665	1667	1609	1624	1663	1645
Travel Time (hr)	193.9	225.9	136.7	178.7	217.5	190.5
Total Delay (hr)	136.1	167.8	80.7	122.3	159.6	133.3
Total Stops	4304	4358	4033	4088	4248	4206
Fuel Used (gal)	89.3	96.7	74.7	84.4	94.0	87.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3320	3322	3260	3230	3301	3288
Vehs Exited	3318	3328	3256	3231	3271	3281
Starting Vehs	115	132	108	116	115	115
Ending Vehs	117	126	112	115	145	124
Travel Distance (mi)	1665	1667	1609	1624	1663	1645
Travel Time (hr)	193.9	225.9	136.7	178.7	217.5	190.5
Total Delay (hr)	136.1	167.8	80.7	122.3	159.6	133.3
Total Stops	4304	4358	4033	4088	4248	4206
Fuel Used (gal)	89.3	96.7	74.7	84.4	94.0	87.8

4: Moraga Rd & Corliss Dr Performance by movement

7: Moraga Rd & Draeger Dr Performance by movement

12: Moraga Rd & Donald Dr Performance by movement

15: Moraga Rd & Ascot Dr/Shopping Ctr Performance by movement

Total Network Performance

Intersection: 4: Moraga Rd & Corliss Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	161	125	199	228	552	300
Average Queue (ft)	111	31	40	174	238	73
95th Queue (ft)	180	92	115	273	492	237
Link Distance (ft)	142			202	767	
Upstream Blk Time (%)	7	0	0	8		
Queuing Penalty (veh)	0	0	0	0		
Storage Bay Dist (ft)		75	100			200
Storage Blk Time (%)	27	0	0	13	9	
Queuing Penalty (veh)	9	1	1	4	20	

Intersection: 7: Moraga Rd & Draeger Dr

Movement	WB	NB	SB	SB	B5	B5
Directions Served	LR	TR	L	T	T	
Maximum Queue (ft)	144	18	63	95	11	11
Average Queue (ft)	88	1	24	4	1	1
95th Queue (ft)	165	10	56	46	12	10
Link Distance (ft)	128	767		1049	226	226
Upstream Blk Time (%)	27					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)			100			
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			2	0		

Intersection: 12: Moraga Rd & Donald Dr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	188	55	52	187	355	224	165	429	426
Average Queue (ft)	95	28	13	64	146	133	46	372	344
95th Queue (ft)	169	54	40	130	290	227	156	487	497
Link Distance (ft)	196	196	145		226			390	390
Upstream Blk Time (%)	1				1	1		7	2
Queuing Penalty (veh)	0				13	0		50	16
Storage Bay Dist (ft)				125		150	100		
Storage Blk Time (%)				1	7	4	0	48	
Queuing Penalty (veh)				19	52	30	0	6	

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	125	76	71	183	306	322	160	359	360
Average Queue (ft)	95	31	39	84	101	115	74	324	320
95th Queue (ft)	137	61	74	161	221	238	189	361	383
Link Distance (ft)	101	101	56		390	390		306	306
Upstream Blk Time (%)	18	0	12		0	0		71	62
Queuing Penalty (veh)	0	0	0		0	0		0	0
Storage Bay Dist (ft)				140			100		
Storage Blk Time (%)				6	2		1	62	
Queuing Penalty (veh)				35	2		10	17	

Network Summary

Network wide Queuing Penalty: 287

Intersection: 4: Moraga Rd & Corliss Dr

Phase	2	4	5	6
Movement(s) Served	NBT	EBL	NBL	SBT
Maximum Green (s)	88.5	32.5	5.5	78.5
Minimum Green (s)	5.0	5.0	5.0	5.0
Recall	Min	None	None	Min
Avg. Green (s)	0.9	15.7	5.5	-4.6
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	44	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	36	0	50	47
Cycles with Peds (%)	0	6	0	6

Controller Summary
Average Cycle Length (s): -11.9
Number of Complete Cycles : 36

Intersection: 12: Moraga Rd & Donald Dr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	5.0	76.0	18.0	8.5	72.5	23.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	5.3	1.9	13.6	8.2	-5.9	13.8
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	63	0	0	8	0	56
Cycles @ Minimum (%)	38	0	0	0	0	0
Cycles Maxed Out (%)	38	100	21	71	100	0
Cycles with Peds (%)	0	13	0	0	32	28

Controller Summary
Average Cycle Length (s): -17.3
Number of Complete Cycles : 25

Intersection: 15: Moraga Rd & Ascot Dr/Shopping Ctr

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBT	EBTL	NBL	SBT	WBTL
Maximum Green (s)	11.5	72.5	21.5	8.5	75.5	16.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	8.0	-4.1	15.5	8.8	-8.7	11.7
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	42	0	4	4	0	46
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	0	100	13	96	100	4
Cycles with Peds (%)	0	4	0	0	67	8

Controller Summary
Average Cycle Length (s): -17.3
Number of Complete Cycles : 25

Meeting Date: February 25, 2026

TOWN OF MORAGA **STAFF REPORT**

To: **Honorable Mayor and Councilmembers**

From: **Town Attorney Performance Review Ad Hoc Council Committee (Mayor Kerry Hillis & Councilmember Lisa Maglio)**

Subject: **First Amendment to Agreement for Town Attorney Services Between the Town of Moraga and Burke, Williams & Sorensen, LLP**

RECOMMENDATION

Adopt a resolution authorizing and approving a First Amendment to Agreement for Town Attorney Services between the Town of Moraga and Burke, Williams & Sorensen, LLP; and authorizing the Town Mayor to execute the First Amendment.

BACKGROUND

Michelle Marchetta Kenyon has served as the Town Attorney for the Town of Moraga since 1996. Initially, Ms. Kenyon provided Town Attorney services through the prior law firm of McDonough Holland & Allen PC (“MHA”). However, in 2010, Ms. Kenyon joined Burke Williams & Sorensen, LLP ("Burke" or "Firm") and Burke and Michelle Kenyon have continued to provide Town Attorney services since that time pursuant to the August 30, 2010 Agreement for Town Attorney Services between the Town and Burke. Burke has not raised its rates for general counsel services since 2010.

DISCUSSION

Burke has been in existence since 1927 and was one of the select number of private law firms to have originated the specialized practice of public law in California. Burke is a full-service law firm providing public entities with a full range of legal, advisory, transactional and litigation services. The Firm's practice is organized into six practice groups: Public Law; Labor and Employment; Litigation; Environmental and Natural Resources; Real Estate and Business, and Education. The Firm’s attorneys currently serve clients from 10 regional offices located in Inland Empire, Los Angeles, Marin County, Oakland, Orange County, Palm Desert, San Diego, San Francisco, Silicon Valley and Ventura County.

Recognizing that public entities exist in a legal environment which is both diverse and

complex, Burke's Public Law Practice Group contains a number of specialized inter-divisions, allowing many of its attorneys to focus their attention in a particular area of public law in addition to maintaining general public law expertise. This enables Burke's attorneys to quickly draw upon the experience of an in-house expert for assistance with a wide range of legal problems that may confront its public law clients.

The Firm's public law attorneys specialize in issues including, but not limited to, the following: water/wastewater, planning, land use, CEQA, labor and employment, police, fire, parks and community services, engineering, public works, solid waste, sewer and wastewater treatment, real estate, property acquisition, eminent domain, inverse condemnation, trial and appellate litigation. The Firm also specializes in representing public agencies in construction disputes having some of the pre-eminent legal experts in advice and litigation (including trials) surrounding bid protests, construction management, design defects, surety issues, change orders, extra work and delay claims. In addition, Burke has an outstanding record in representing public employers in all areas of employment law including labor relations, administrative hearings, arbitrations, investigation, training and personnel litigation.

Because Burke is focused primarily on public agency representation, it understands the tremendous fiscal pressures that are facing cities and towns throughout the State, in particular those which are facing the Town of Moraga. Accordingly, when Ms. Kenyon joined Burke in 2010, the Agreement for Town Attorney services recommended proposed rates of $240 per hour for work performed by Michelle Marchetta Kenyon, an amount not to exceed $225 for work performed by other shareholders and senior associates and an amount not to exceed $195 per hour for work performed by junior associates for general counsel services. These rates have not changed, and have stayed the same for over 15 years.

Due to ever increasing costs since 2010, Burke is now requesting a 10% rate adjustment for general counsel services in order to maintain the highest standard of legal services for the Town. Burke is proposing to amend the rates for general counsel services as follows: $265 per hour for work performed by Michelle Marchetta Kenyon, an amount not to exceed $248 per hour for work performed by other partners and senior associates and an amount not to exceed $215 per hour for work performed by junior associates.

These proposed rate increases are comparable and in some instances lower than rates being charged in the neighboring jurisdictions of Orinda and Lafayette. Orinda's rates for general legal services are $244 - $359 per hour depending on the level of attorney and Lafayette's charges a flat retainer for general legal services equating to $26,605/month.

For "Special Legal Services" (such as litigation), the proposed amendment would require the Town Attorney to provide the Town Manager with an updated list of Specialty Service rates each year.

Please note that this request has been reviewed by the Town Manager and he concurs that the request is reasonable.

FISCAL IMPACT

The Town Attorney's Office adopted budget for FY 2025-2026 and FY 2026-2027 is $359,000 for each fiscal year. Based on the actual expenditures through the first seven months of FY 2025-2026, it is anticipated that year-end expenditures for this office will be well below the

total $359,000 budget appropriation authority.

With a 10% increase to the firm's general counsel services billable hourly rate, it is possible that this will result in a total annual cost increase of up to $30,000. Even at this amount, the total cost to the General Fund is anticipated to remain under the $359,000 appropriation included in the adopted budget for both FY 2025-2026 and F 2026-2027.

As a result, the General Fund Budget does not need to be amended for either fiscal year. There is sufficient budget authority in both fiscal years to absorb the proposed 10% general counsel services hourly rate adjustment.

CEQA COMPLIANCE

Approval of the proposed First Amendment to Agreement for Town Attorney Services is not subject to review under the California Environmental Quality Act (California Public Resources Code §§ 21000, et seq., "CEQA") and CEQA Guidelines (Title 14 California Code of Regulations §§ 15000, et seq.), because it constitutes an organizational or administrative activity that will not result in direct or indirect physical changes in the environment.

ALTERNATIVES

1. Make revisions to the proposed First Amendment to the Agreement.

2. Not approve the proposed First Amendment to the Agreement and provide direction to staff.

NEXT STEPS

Upon approval by Town Council, the amended Agreement will go into effect upon adoption of the proposed resolution.

ATTACHMENTS

Attachment A - Resolution Approving First Amendment to Agreement for Town Attorney Services.docx
Attachment B - First Amendment to Agreement for Town Attorney Services.docx

TOWN OF MORAGA
TOWN COUNCIL

RESOLUTION NO. xx-2026

APPROVING AND AUTHORIZING THE FIRST AMENDMENT TO AGREEMENT FOR TOWN ATTORNEY SERVICES BETWEEN TOWN OF MORAGA AND BURKE, WILLIAMS & SORENSEN, LLP; AND AUTHORIZING THE TOWN MAYOR TO EXECUTE THE FIRST AMENDMENT

WHEREAS, the Town of Moraga ("Town") has retained Burke, Williams & Sorensen, LLP (“Burke”) to provide legal services pursuant to the Agreement for Town Attorney Services dated August 30, 2010 (the “Agreement”);

WHEREAS, the Town desires to enter into a First Amendment to the Agreement to amend the amount of compensation paid to Burke for general Town Attorney services.

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Moraga hereby approves this First Amendment to Agreement for Town Attorney Services in substantially the same form attached hereto as “Exhibit A," and authorizes the Mayor to execute the same.

PASSED AND ADOPTED by the Town Council of the Town of Moraga at a regular meeting held on February 25, 2026, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

_____
Kerry Hillis, Mayor

ATTEST:

_____
Melisa Melcher Acting Town Clerk

EXHIBIT A

First Amendment to Agreement for Town Attorney Services between the Town of Moraga and Burke, Williams & Sorensen, LLP

FIRST AMENDMENT TO AGREEMENT FOR TOWN ATTORNEY SERVICES BETWEEN TOWN OF MORAGA AND BURKE, WILLIAMS & SORENSEN, LLP

THIS FIRST AMENDMENT to Agreement for Town Attorney Services is made and entered into by and between the Town of Moraga, a municipal corporation (hereinafter "Town"), and Burke, Williams & Sorensen, LLP, a Limited Liability Partnership (hereinafter "Burke"), and shall be effective as of _____.

RECITALS

WHEREAS, Town has retained Burke to provide legal services pursuant to the Agreement for Town Attorney Services dated August 30, 2010 (the "Agreement"); and

WHEREAS, Town desires to continue retention of Burke and Burke desires to continue providing legal services to Town; and

WHEREAS, Town and Burke desire to adjust the amount of compensation paid by Town to Burke for general Town Attorney services;

NOW, THEREFORE, Town and Burke agree as follows below.

AGREEMENT

1. Section 3.A. of the Agreement is hereby amended to read in its entirety as follows:

> A. For general counsel services which shall include attendance at Town Council meetings; rendition of legal advice; preparation of ordinances, resolutions, contracts and other legal documents; and preparation of formal written opinions, Town shall pay to Burke $265 per hour for work performed by Michelle Marchetta Kenyon, an amount not to exceed $248 per hour for work performed by other Partners and Senior Associates and an amount not to exceed $215 per hour for work performed by Junior Associates, together with a 4% surcharge on the total amount of each invoice to cover routine costs such as postage, routine copying, telephone and similar items which will not be billed separately. The hourly rate for general counsel services shall be increased annually on January 1 in an amount equal to the Consumer Price Index increase for the Metropolitan San Francisco Bay Area.

2. For Section 3.B. of the Agreement, is hereby amended to read in its entirety to read as follows:

> For additional services rendered in connection with preparation, prosecution and defense of litigation and/or formal adjudicative or investigative proceedings, as well as for services rendered in connection with specialized real estate or personnel legal services ("Special Legal Services"), the Town shall be billed by Burke at the standard public agency hourly rate established by Burke and as changed from time to time by Burke, together with a 4% surcharge to cover

routine costs such as postage, routine copying, telephone and similar items which will not be separately billed. On or about January 1st of each year, the Town Attorney shall provide the Town Manager with an updated list of Special Legal Service rates for Burke attorneys and will notify the Town Manager when any new attorney works on Special Legal Services matters.

3. Except as specifically modified in this Amendment, all remaining terms and conditions of the Agreement shall remain in full force and effect.

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This First Amendment to Agreement shall be effective as of the date first above written.

TOWN OF MORAGA

By:_____
Kerry Hillis, Mayor

ATTEST:

_____
Melisa Melcher Deputy Town Clerk

BURKE, WILLIAMS & SORENSEN, LLP

By:_____
Michelle Marchetta Kenyon