Staff Contact:
John Cunningham
TRANSPLAN
30 Muir Road
Martinez CA 94553
Phone
(925) 674-7755
Email
john.cunningham@dcd.cccounty.us
Website
www.transplan.us

TRANSPLAN Committee Meeting
Thursday, March 11, 2021 – 6:30 PM

To slow the spread of COVID-19, the Contra Costa County Health Officer's most recent order of March 31, 2020, continues to prevent public gatherings. In lieu of a public gathering, the TRANSPLAN meeting will be accessible via Zoom Meeting to all members of the public, as permitted by the Governor's Executive Order 29-20. Members of the public may participate in the meeting online, or by telephone. To participate in the meeting please use the information.

To participate by phone, dial (669) 900-9128, and meeting ID is 940 8351 3586 (Passcode: 630673)
To participate online using Zoom, hold down CTRL + click the following:
Join Zoom Meeting
https://zoom.us/j/94083513586?pwd=MDgzKzZZSUx6djhGc3R0MW5ZdW52Zz09
Meeting ID: 940 8351 3586 (Passcode: 630673).

In lieu of making public comments at the meeting, members of the public also may submit public comments before or during the meeting by emailing comments to John Cunningham at john.cunningham@dcd.cccounty.us or at (925) 674-7833.

All comments submitted by email to the above email address before the conclusion of the meeting will be included in the record of the meeting. When feasible, the Board Chair, or designated staff, also will read the comments into the record at the meeting, subject to a two-minute time limit per comment.

The TRANSPLAN Chair may reduce the amount of time allotted to read comments at the beginning of each item or public comment period depending on the number of comments and the business of the day. Your patience is appreciated. A break may be called at the discretion of the Board Chair.

We will provide reasonable accommodations for persons with disabilities to participate in TRANSPLAN meetings if they contact staff at least 48 hours before the meeting. Please contact John Cunningham at john.cunningham@dcd.cccounty.us

AGENDA

Items may be taken out of order based on the business of the day and preferences of the Committee.

1. OPEN the meeting.

2. ACCEPT public comment on items not listed on agenda.

Consent Items (see attachments where noted [♦])

3. ADOPT Minutes from 2/11/21 TRANSPLAN Meeting ♦ **Page 3**

Action/Discussion Items *(see attachments where noted* [♦])

4. REVIW, REVISE as appropriate and APPROVE a **Letter to the Lamorinda Program Management Committee on a proposed amendment to the Lamorinda Action Plan**. TRANSPLAN received a letter (attached) from the Lamorinda Program Management Committee (LPMC) with the subject, "*Consideration of Amending the Lamorinda Action Plan to Allow for the Addition of a Short-Link Southbound Lane on Pleasant Hill Road (Trap Lane) as Part of the Proposed Terraces of Lafayette Project*.". LPMC also provided supporting material (attached) including: 1) an Action Plan Update Flowchart, 2) a 2/3/21 LPMC meeting packet with information relevant to the proposed amendment, and 3) material from the 1/11/21 LPMC related to the amendment. **Page 10**

5. REVIEW and COMMENT on the Accessible Transportation Strategic (ATS) Plan. The Contra Costa Transportation Authority's (CCTA's) 2017 Countywide Transportation Plan included direction to conduct the ATS Plan. In 2018, CCTA, with support from the County, initiated the ATS Planning process using a Caltrans planning grant. The study

examines ways to improve paratransit coordination and delivery for seniors, persons with disabilities and veterans. Attached is the staff report to the CCTA Planning Committee and the Executive Summary. The full report is available at this link. ♦ **Page 307**

7. ADJOURN to next meeting on Thursday, April 8, 2021 at 6:30 p.m. or other day/time as deemed appropriate by the Committee.

♦ = An attachment has been included for this agenda item.

ITEM 3
2/11/21 MEETING MINUTES

TRANSPLAN COMMITTEE
Antioch - Brentwood - Oakley - Pittsburg and Contra Costa County

MINUTES

February 11, 2021

The regular meeting of the TRANSPLAN Committee was convened via a web-based platform in locations not open to the public to provide the safest environment for staff and the public consistent with Contra Costa County Health Officer's most recent order of March 31, 2020, continuing to prevent public gatherings. In lieu of a public gathering, the Board of Directors was accessible via Zoom Meeting to all members of the public as permitted by the Governor's Executive Order 29-20. Members of the public were allowed to participate in the meeting online, or by telephone.

Chair Meadows opened the meeting at 6:30 P.M.

ROLL CALL / CALL TO ORDER

PRESENT: Joel Bryant (Brentwood), Diane Burgis (Contra Costa County), Bob Mankin (Contra Costa Planning Commission), Aaron Meadows (Oakley), Kerry Motts (Antioch), Anita Roberts (Brentwood), Lamar Thorpe (Antioch), Holland White (Pittsburg), and Anissa Williams (Oakley)

ABSENT: Sarah Foster (Pittsburg)

STAFF: John Cunningham, TRANSPLAN Staff, Contra Costa County Department of Conservation and Development

PUBLIC COMMENTS

No written comments were submitted, or oral comments made, by any member of the public.

CONSENT ITEMS

On motion by Lamar Thorpe, seconded by Anissa Williams, TRANSPLAN Committee members adopted the Consent Calendar, as follows, which carried by the following Roll Call vote:

- Adopted Minutes from December 10, 2020 TRANSPLAN Meeting.

Ayes: Bryant, Burgis, Roberts, Thorpe, White, Williams, Meadows
Noes: None
Abstain: Mankin, Motts
Absent: Foster

APPOINT KIRSTEN RIKER AS TRANSPLAN'S REPRESENTATIVE ON THE COUNTYWIDE BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE

John Cunningham, TRANSPLAN staff, advised that with the retirement of Paul Reinders, there was a need to fill a vacancy on the Countywide Bicycle and Pedestrian Advisory Committee. He reported that the TRANSPLAN Technical Advisory Committee (TAC) had recommended Kirsten Riker from 511 Contra Costa to represent TRANSPLAN on the Committee.

On motion by Diane Burgis to appoint ***Kirsten Riker*** as TRANSPLAN's representative on the Countywide Bicycle and Pedestrian Advisory Committee. The motion was seconded by Holland White and carried by the following Roll Call vote:

Ayes:	Bryant, Burgis, Mankin, Motts, Roberts, Thorpe, White, Williams, Meadows
Noes:	None
Abstain:	None
Absent:	Foster

REVIEW AND COMMENT ON PROPOSED REVISIONS TO THE CONTRA COSTA TRANSPORTATION AUTHORITY'S GROWTH MANAGEMENT PROGRAM (GMP) IMPLEMENTATION GUIDE

Matt Kelly, Senior Transportation Planner, Contra Costa Transportation Authority (CCTA), stated that the Growth Management Program (GMP) was part of Measure J that the CCTA administered, intended to manage growth within Contra Costa County and plan and fund growth around existing transportation and other infrastructure utilities. The Action Plans of Routes of Regional Significance were part of the GMP, which was also the mechanism for jurisdictions to receive 18 percent return to source Measure J revenues. He explained that the GMP Implementation Guide laid out all the policies for jurisdictions to follow. One of the main components of the update was a result of the passage of SB 743 and the removal of Level of Service (LOS) as a transportation metric from the California Environmental Quality Act (CEQA) to Vehicle Miles Traveled (VMT), which required an update to the guides the various jurisdictions used.

David Early, Placeworks, the on-call planning consultant for the CCTA, provided an overview of the draft of the Implementation Guide revisions and stated the work was a result of the planning seminars held in 2018, and the GMP Task Force of 2019 and 2020. Changes to the Implementation Guide related to the Action Plans to develop planning policies regarding transportation facilities and practices in the county. He explained that some Regional Transportation Planning Committees (RTPCs) had broadened regulations to look at a regional network of bicycle and pedestrian facilities and a regional transportation network including bus services as well as non-modal issues related to transportation safety, equity and climate change from transportation sources, all to be covered in the Action Plans. Each jurisdiction had discretion as to those topics.

On the topic of Multi-Modal Transportation Service Objectives (MTSOs), Mr. Early explained that the regional roadway network, the bicycle and pedestrian network, and the transit network would be done as had been done previously, to identify and map, consult, establish an area-wide goal, regional transportation method and action for each facility. The non-modal items were also identified, and while not related to facilities he asked that overall subregional goals and actions be established for those issues, such as the number of collisions, number of people with lower incomes that had access to equitable transportation programs and access passes, and the number of electric vehicle charging stations that would be subregion wide.

Mr. Early highlighted the changes in Chapter 3 of the Implementation Guide for Action Plans, with additional changes to Chapter 4 to clarify the process for major projects and General Plan Amendments (GPAs), explain how GPAs were to be evaluated, and offer guidance as the transportation impact analyses with respect to VMT in addition to LOS. Under SB 743, the jurisdiction was no longer required to look at LOS in an environmental document when looking at traffic for evaluations for consistency with the GMP and would now look at both congestion analysis and VMT. He noted certain limitations for the work for CEQA evaluations and continuing to look at congestion and delay as part of the GMP because the Routes of Regional Significance would continue to have levels of standards, and there would need to be a continuation of compliance with the GMP in the Action Plans to continue to receive the 18 percent return to source.

Mr. Kelly stated that the TRANSPLAN Committee was the last RTPC to receive this update and any comments from TRANSPLAN would be incorporated into the submittal to the CCTA Planning Committee. The Implementation Guide would be adopted by the CCTA in March, the technical procedures would then be updated, and later this year the development of a GMP Mitigation Program would be started to create a Countywide GMP Mitigation Program wherein communities that had land use developments or transportation improvements that may be a GMP improvement would be mitigated. That process would occur over the next couple of years. The CCTA would provide consultant work to put that together and would be working directly with the TACs to develop the Action Plans in 2021.

Joel Bryant asked about Habitat Conservancy and during the process wanted to make sure those funds remained in Contra Costa County. He also asked about the metrics regarding climate change and asked if there would be a list to target or an idea to measure in the steps to be taken toward climate change improvement through the new process.

Mr. Kelly stated that conversation would be started with TRANSPLAN and the first thing would be to measure that issue, establish a baseline, and monitor the Regional Transportation Objectives (RTOs) to access the Action Plan as to how the RTOs were doing over time.

Mr. Bryant noted two basic categories: the outcomes which were an estimate of greenhouse gas emissions and the tools that helped people to lessen their greenhouse gas emissions, and RTOs might need to be considered in both outcome and implementation.

Mr. Kelly stated that the program being developed was a mitigation program for Contra Costa County and there were no plans to do otherwise. Caltrans would fund the grant because they were the first to do it and were a test case for the state but the scope would be Contra Costa County.

Diane Burgis wanted to make sure that the metrics coincided with the other RTPCs to be able to create a larger story of the progress being made, and while it should be customized to East County, she wanted to have some parallels to what was going on with the rest of the county to show some progress and maybe the challenges of meeting some of those metrics in different parts of the county.

Mr. Cunningham referred to a letter submitted to TRANSPLAN from Bruce (Ole) Ohlson, an East County resident speaking for Bike East Bay and the Delta Pedalers Bicycle Club on the GMP. Mr. Ohlson offered six points to be added to or to be emphasized in the Implementation Guide, which would be forwarded to Mr. Early.

1. The inclusion of secure bicycle parking in every multi-family housing development with space for two bicycles per bedroom throughout the complex; one that had to be large enough for a cargo bike with electric charging availability making it easier to operate a non-car transportation option.

2. The installation of crosswalks in all four quadrants in every new intersection and existing intersections retrofitted when coming due for maintenance to make it more efficient and safe for pedestrians.

3. Encourage Caltrans to move forward with their bicycle highway project that would add bike paths and bike lanes parallel to existing freeways making it easier to go longer distances by bicycle and reduce the need to enlarge the freeway system.

4. Install bike facilities along all Routes of Regional Significance especially through business districts of business jurisdictions.

5. Any new construction along Routes of Regional Significance must include bicycle facilities especially important for Standard Oil Avenue in Pittsburg yet to be built.

6. Secure bicycle charging for charging for electrical bikes in VMT reduction strategies particularly shopping areas and single-family homes.

Mr. Cunningham explained that the TRANSPLAN TAC had reviewed the Implementation Guide and there were no further comments.

Mr. Early noted that all the ideas mentioned could be considered for inclusion in the Action Plan itself and might be included as examples in the Action Plan to be included in the GMP. An identified network of regional bike and pedestrian facilities would be sought for the Action Plans.

REVIEW AND COMMENT ON THE DRAFT CONTRA COSTA COUNTYWIDE VISION ZERO & SYSTEMIC TRANSPORTATION SAFETY POLICY AND IMPLEMENTATION GUIDE

Colin Clarke, Associate Transportation Planner, CCTA, provided some background and reported that in 2006 there had been a resolution from the Metropolitan Transportation Commission (MTC) for Complete Street policies and a checklist required for each construction project, to be updated as part the Regional Transportation Plan (RTP) to include vision zero and safety considerations. The countywide Vision Zero effort originated from the CCTA Countywide Bicycle and Pedestrian Plan. In June 2020, the CCTA adopted an Implementation Policy and by definition nationally there was a public health crises in the number of fatalities and injuries due to transportation travel. Equity, one of the top ten principles, was a concern given that people of low income and color were disproportionately affected, as was the case in Contra Costa County.

Mr. Clarke stated traditionally the method had been to prevent collisions and the proposed approach in terms of systemic safety was to prevent fatal injuries and shift focus to design and facilities and keep impacts on the body to less than severe. Fehr & Peers had been working with the CCTA since 2019 on the Policy and Implementation Guide. The countywide role was to collect and analyze the data and help with the technical assistance with local agencies in terms of implementation. Best practices review had been done as had mapping and safety locations. The draft had been presented to jurisdictions and to the Vision Zero Working Group, which had been meeting the last couple of years along with advisory boards and RTPC boards.

The focus and direction was from the CCTA Board. In terms of needs assessment, now that the Vision Zero and How to Guide was using artificial intelligence data countywide to be able to analyze existing collision data from 2008 to 2017, the common collision patterns in Contra Costa County had been identified and included driving under the influence and Transportation Priority Areas (TPAs). BART was also involved given that it was a Transit Priority Area. Given the vulnerable populations of seniors and youth, the Countywide Bike and Pedestrian Advisory Committee would now include one senior and one youth representative. There was also a partnership with the East Bay Regional Park District (EBRPD) to work on trails and the Policy Implementation Guide was intended to shift toward a responsive, proactive approach related to fatalities and severe injuries.

Mr. Clarke explained that only three percent of the overall county roadway miles represented 86 percent of collisions involving fatalities and severe injuries, and bicycle data showed the same statistics.

Pilot projects to help local agencies could be potential next steps countywide, and potential mechanisms to address the issues could be raised crosswalks, curb extensions and other methods to reduce fatalities and other injuries, as could a change in speed limits that would increase the chance of survival by potentially twice as much. Other opportunities included working with local agencies to incorporate potential mechanisms into existing plans.

With respect to funding, Mr. Clarke stated the Highway Safety Improvement Program offered federal funding through Caltrans and MTC, and the next cycle in April 2022 would require each local agency to have an adoptable Road Safety Plan to be eligible for that funding. Unincorporated Contra Costa County had already been working on its Vision Zero Plan, intended for consistency countywide.

In response to questions, Mr. Clarke stated the CCTA could serve the role as technical assistant, as needed, work on a training program, and had support from the different local agencies and staff in terms of when to take the next steps.

Lamar Thorpe asked about some of the data presented with respect to fatalities, and equity and the concern that people of color and people of low income were disproportionately likely to be affected by fatalities and severe injuries related to transportation. He wanted to know where those statistics had been taken, from specific areas or countywide.

Mr. Kelly stated the data had been collected accident by accident and each accident had all the demographic data related to the victims. That data was available and the location of the statistics in the database could be provided.

Mr. Thorpe was interested in knowing more about the East County region.

It was noted that underserved neighborhoods were car dependent, and in some areas there were not a lot of sidewalks and not a lot of crosswalks, which had added to the fatalities.

Anita Roberts clarified that the process would include using sidewalks, stop signs, speed bumps and other improvements not available in some neighborhoods to reduce fatalities.

No written comments were submitted, or oral comments made, by any member of the public.

ADJOURNMENT

Chair Meadows adjourned the meeting of the TRANSPLAN Committee at 7:22 P.M. to the next meeting on March 11, 2021 at 6:30 P.M. or other day/time as deemed appropriate by the Committee.

Respectfully submitted,

Anita L. Tucci-Smith
Minutes Clerk

ITEM 4
APPROVE LETTER TO THE LAMORINDA PROGRAM MANAGEMENT COMMITTEE ON A PROPOSED AMENDMENT TO THE LAMORINDA ACTION PLAN

TRANSPLAN COMMITTEE

EAST COUNTY TRANSPORTATION PLANNING
Antioch • Brentwood • Oakley • Pittsburg • Contra Costa County
30 Muir Road, Martinez, CA 94553

TO: TRANSPLAN Committee Members
TRANSPLAN Technical Advisory Committee (TAC)
FROM: John Cunningham, TRANSPLAN staff
DATE: March 1, 2021
SUBJECT: **Proposed Amendment to the Lamorinda Action Plan**

Background

Each Regional Transportation Planning Committee (RTPC) in the County maintains an "Action Plan" which establish policies for each subregion's Routes of Regional Significance. The policies in the Action Plans address projects and programs addressing needs unique to each sub-region. These Action Plans are included in the Contra Costa Transportation Authority's (CCTA's) Countywide Transportation Plan (CTP).

The City of Lafayette is requesting an amendment to the Lamorinda Action Plan, specifically the Gateway Constraint Policy. CCTA has the authority to grant these amendments. As shown in the attached flowchart, the process to implement such an amendment includes circulating the request to all RTPCs for their consideration which is why this item is before the TRANSPLAN Committee.

Update

TRANSPLAN received a letter (attached) from the Lamorinda Program Management Committee (LPMC) with the subject, "*Consideration of Amending the Lamorinda Action Plan to Allow for the Addition of a Short-Link Southbound Lane on Pleasant Hill Road (Trap Lane) as Part of the Proposed Terraces of Lafayette Project*.". LPMC provided supporting material (attached) including: 1) an Action Plan Update Flowchart, 2) a 2/3/21 LPMC meeting packet with information relevant to the proposed amendment, and 3) material from the 1/11/21 LPMC related to the amendment.

The TRANSPLAN Technical Advisory Committee (TAC) considered the issue at their February 16th meeting. The TAC expressed support for the roadway improvements described in LPMC's February 1st letter. The TAC was silent on the subject of amending the Gateway Constraint Policy.

The Lamorinda Action Plan includes a statement[1] establishing that gateway constraint policies shall only be determined by the locally elected board with jurisdiction over the gateway. In this case it is the City of Lafayette.

Recommendation

APPROVE the letter to the Lamorinda Program Management Committee supporting roadway changes described in the attached material.

Attachments

1) an Action Plan Update Flowchart
2) a 2/3/21 LPMC meeting packet with information relevant to the proposed amendment
3) material from the 1/11/21 LPMC related to the amendment.

[1] 2017 Lamorinda Action Plan: *5.5 Traffic Management Strategies: Gateway constraints and traffic management strategies considered for specific routes within Lamorinda shall be determined only by a policy decision made by the locally elected board having control over the gateway in question, after having undertaken a thorough public review process.*

TRANSPLAN COMMITTEE
EAST COUNTY TRANSPORTATION PLANNING
Antioch • Brentwood • Oakley • Pittsburg • Contra Costa County
30 Muir Road, Martinez, CA 94553

March 11, 2021

Bret Swain
LPMC Administrator
Senior Engineer
335 Rheem Blvd
Moraga, CA 94556

RE: February 1, 2021 Letter to TRANSPLAN: *Consideration of Amending the Lamorinda Action Plan to Allow for the Addition of a Short-Link Southbound Lane on Pleasant Hill Road (Trap Lane) as Part of the Proposed Terraces of Lafayette Project*

Dear Mr. Swain:

Thank you for circulating the proposed amendment to the Lamorinda Action Plan to TRANSPLAN. The Committee respects the autonomy of Lamorinda jurisdictions on gateway constraint matters and respectfully declines to comment.

The TRANSPLAN Technical Advisory Committee reviewed the issue and expressed support for the roadway changes being proposed by the City of Lafayette.

Thank you for the opportunity to review and comment on this matter. If you have any questions, please contact John Cunningham, TRANSPLAN staff at john.cunningham@dcd.cccounty.us or (925) 674-7833.

Sincerely,

Aaron Meadows
Chair, TRANSPLAN
Councilmember, City of Oakley

cc: TRANSPLAN TAC
Mike Moran, City of Lafayette

Lamorinda Program Management Committee

February 1, 2021

John Nemeth
WCCTAC
6333 Potrero Avenue, Suite 100
El Cerritos, CA 94530
Via email: jnemeth@wcctac.org

Mathew Todd, P.E.
TRANSPAC
1211 Newell Avenue, Suite 200
Walnut Creek, CA 94596
Via email: Matt@GrwayBowenScott.com

John Cunningham
TRANSPLAN
30 Muir Road
Martinez, CA 94553
Via email: john.cunningham@dcd.cccounty.us

Subject: Consideration of Amending the Lamorinda Action Plan to Allow for the Addition of a Short-Link Southbound Lane on Pleasant Hill Road (Trap Lane) as Part of the Proposed Terraces of Lafayette Project

Dear RTPC Administrators,

At its January 11, 2021 meeting, the Lamorinda Program Management Committee (LPMC), considered and discussed a proposed amendment to one of the gateway constraints in the Lamorinda Action Plan (LAP) that pertains to Pleasant Hill Road, a Route of Regional Significance. Currently, the LAP states: "The Gateway Constraint Policy would prohibit the addition of any through lanes, including short-link segments, on any portion of Pleasant Hill Road between SR-24 and the Lafayette city limits line north of the intersection with Taylor Boulevard." The proposed amendment would remove the prohibition against short-link segments and would allow for the construction of a southbound short-link travel lane on Pleasant Hill Road starting just north of Deer Hill Road and terminating at the State Route 24 westbound on-ramp (trap lane). The request for this amendment arises from the City of Lafayette's recent approval of the Terraces project -- a 315-unit multi-family housing project to be built at the southwest corner of Pleasant Hill Road and Deer Hill Road. The trap lane on Pleasant Hill Road

was submitted as part of a developer application to mitigate a.m. peak traffic generated from the Terraces project.

During its consideration of the proposed amendment, the LPMC noted the following:

- The LPMC is an advisory committee to SWAT, which is in turn an advisory committee to CCTA. The decision whether to amend the LAP to allow for the construction of the proposed trap lane rests exclusively and solely with CCTA. Neither LPMC nor SWAT has any decision-making authority.
- The Terraces development will proceed regardless of whether an amendment to the LAP that allows for the trap lane is or is not approved.
- There are pros and cons to the construction of the trap lane. Specifically, the LPMC reviewed a slide in the staff presentation that listed the following pros and cons:

  Reasons against the trap lane:
  - Added capacity will attract more traffic
  - Roadway will be even larger
  - Pedestrain crossing times will increase across a longer distance

  Reasons for the trap lane:
  - Delay for local traffic can be reduced while still metering regional traffic with signal coordination
  - Evacuation times will be decreased during an emergency
  - Provides an extra lane width under the City's control to utilize for future use
- The proposed amendment to the LAP raises an important policy question – namely, whether it is appropriate to amend an action plan such as the LAP specifically in response to a particular development project or whether any amendment should be done as part of a larger amendment or update to the action plan.

After receiving public comment, asking questions of staff, and deliberating, the LPMC instructed staff as follows:

- That the LPMC takes no position and expresses no view on whether or not the amendment to the LAP should or should not be made.
- That proposed amendment to the LAP be shared with SWAT and the other regional transportation planning committees (RTPC) that serve as advisory bodies to CCTA for their review and comment, if any.
- That the pros and cons of the proposed trap lane that were presented to LPMC also be shared with SWAT and the other RTPCs.

Enclosed for further background are the materials that were provided to the LPMC and made available to the public in advance of the January 11, 2021 meeting.

The LPMC Administrator duties are rotated among the three Lamorinda agencies annually and we are in the process of transitioning from the City of Orinda to the Town of Moraga. Please provide your RTPC comments to Bret Swain, Senior Engineer of the Town of Moraga, at bswain@moraga.ca.us Thank you.

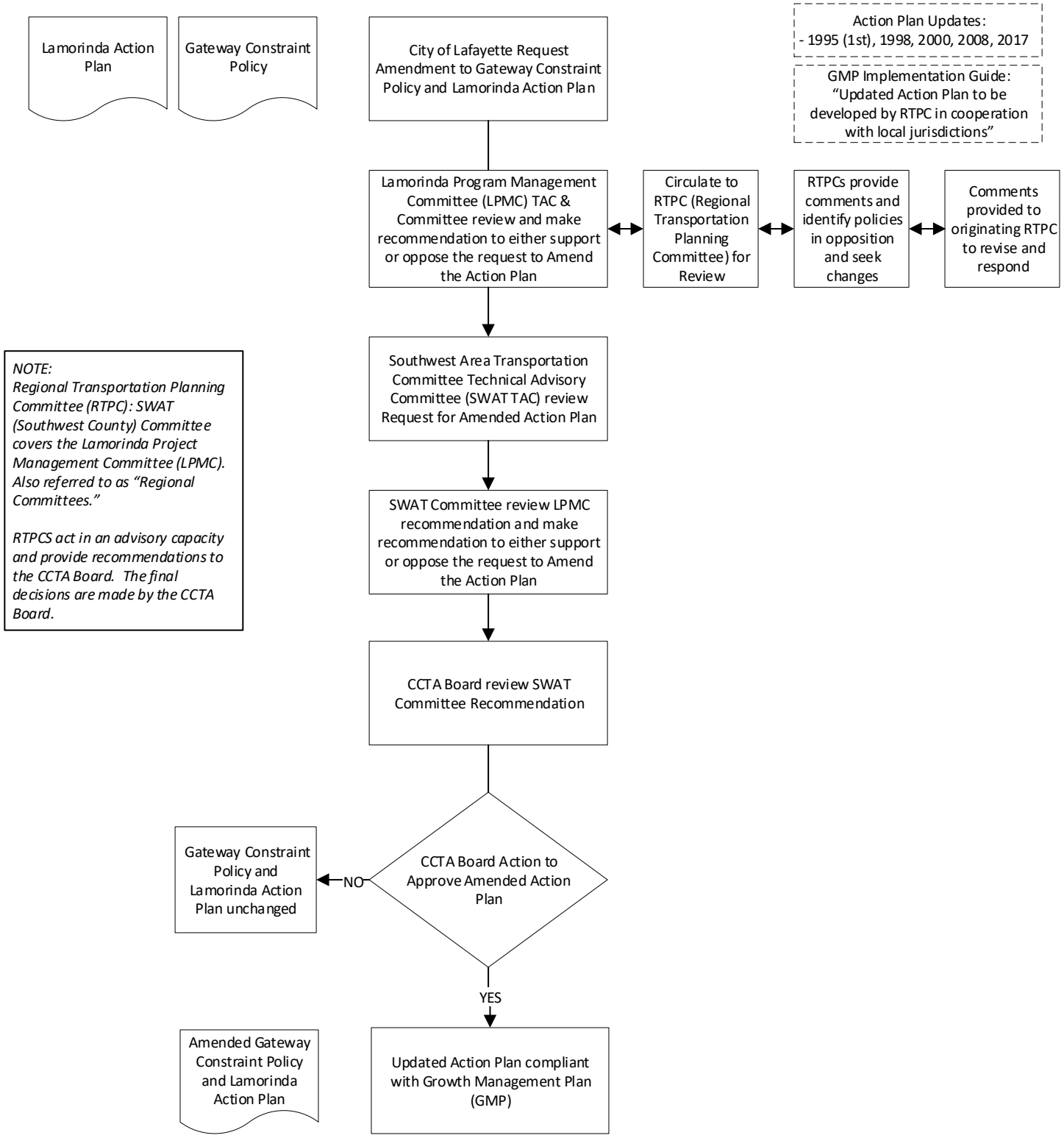
Sincerely,

Jason Chen, LPMC Administrator

Enclosures: LPMC January 11, 2021 Agenda Package
Public Communication Received as of 01-11-2021 8 a.m.

cc: Bret Swain, Moraga via email bswain@moraga.ca.us
Shawn Knapp, Moraga via email sknapp@moraga.ca.us
Mike Moran, Lafayette via email MMoran@ci.lafayette.ca.us
Lisa Bobadilla, SWAT via email lbobadilla@sanramon.ca.gov
John Hoang, CCTA via email jhoang@ccta.net
Matt Kelly, CCTA via email mkelly@ccta.net

CCTA Growth Management Program (GMP)
Action Plan Update Process



Updated 11/25/20

IMPORTANT NOTICE REGARDING THIS MEETING: To protect our residents, officials, and staff, and in alignment with the Governor's recent Executive Order N 29-20 in which certain teleconference requirements of the Brown Act have been suspended, including the requirement to provide a physical location for members of the public to participate in the meeting, this meeting will be held by Teleconference.

BY TELECONFERENCE VIA ZOOM WEBINAR	Attending by PC: MEETING URL: **https://tinyurl.com/y55szfo9** MEETING ID: 980 7543 8589 Attending by Telephone: +1 669-900-9128 MEETING ID: 980 7543 8589

LAMORINDA PROGRAM MANAGEMENT COMMITTEE (LPMC) MEETING AGENDA

Monday, January 11, 2021, 1:30 PM

City of Orinda

How to follow or participate in the meeting:

1. Members of the public may observe and participate in the meeting at the teleconference location highlighted above. (*Please note that due to the remote nature of the meeting, the City of Orinda cannot guarantee that the network or its site will not experience technical interruptions. To ensure that the LPMC receives your comments, we* ***strongly encourage you to submit your comments in writing in advance*** *of the meeting by following instructions in below.)*

2. Send your e-mail to JChen@cityoforinda.org by 8 am on the day of the meeting. Those e-mails will be forwarded to the LPMC. They will also be made a part of the public record and be available to view by 10 am on the day of the meeting by following this link: https://ccta-swat.net/upcoming-meeting-LPMC/

3. Comments may also be submitted by e-mail during the meeting up until the closure of public comment period on the relevant agenda item. These will be read into the record by staff at their normal cadence and will be limited to a maximum of 3 minutes. To be read into the record, e-mail must contain in the subject line "Public Comment – Not on the Agenda" or "Public Comment – Agenda Item #" with the relevant agenda item indicated.

4. During the meeting, the Chair will call for public comment. If you wish to address the LPMC, please so indicate by using the "raise your hand" function at that time and the Chair will add you to the speaker list and call your name when it is your turn.

a) App/Browser Attendees: Those who are joining us using the Zoom app or via internet browser, can click on the "raise your hand" icon found in the control panel. Generally, the control panel is located at the bottom of your screen; however, this may vary depending on the type of device and/or the method by which you're joining the meeting.
b) Telephone Attendees: Those who are joining us by telephone—only, please press **" *9 "** This lets the moderator know that you wish to make a comment.

1. **Call to Order the Lamorinda Program Management Committee**

2. **Roll Call**

3. **Adoption of the LPMC Agenda**

4. **Public Comment**

5. **Consent Calendar:**
   a. **February 3, 2020 Minutes**
      Recommendation: Approve

6. **New Business:**
   a. **Addition of a Short-Link Southbound Lane on Pleasant Hill Road as part of the Proposed Terraces of Lafayette Project**
      Recommendation:
      i. **LPMC review, provide comments, and distribute the recommended language for amending the Lamorinda Action Plan to all of the regional transportation planning committees (RTPCs) within Contra Costa County for comment. The recommended amendment language is specifically written in Recommended Action ii below.**

      ii. **LPMC review, provide comments, and forward the proposed amendment to the Southwest Area Transportation Committee (SWAT) for their review of the request to amend the Lamorinda Action Plan Gateway Constraint Policy for Pleasant Hill Road (page 57, 3rd paragraph, of the Lamorinda Action Plan, 2017) to read:**

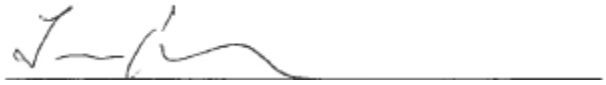
"The two southbound through lanes on Pleasant Hill Road-Taylor Boulevard are proposed as a gateway constraint. The Gateway Constraint Policy would prohibit the addition of any through lanes, except short-link segments providing access to SR-24."

The other details of the gateway constraint policy shall remain unchanged.

      iii. **LPMC review, provide comments, and forward the proposed request that SWAT review the request to allow construction of the proposed southbound trap lane.**

7. Adjourn LPMC Meeting to Monday, February 1, 2021 1:30 p.m.

I, Jason Chen, declare under penalty of perjury under the laws of the State of California that this regular meeting agenda has been posted at least 72 hours in advance at the Orinda City Hall, 22 Orinda Way and the Orinda Library, 26 Orinda Way.



Jason Chen, City Engineer

Location of Agendas and Agenda Packets: Agendas and packets are available for review by the public by following this link: https://ccta-swat.net/upcoming-meeting-LPMC/ and during regular business hours at the Orinda City Hall, 22 Orinda Way, Orinda, CA 94563. Agendas and packets shall be made available at least 72 hours in advance of regular meetings and 24 hours in advance of special meetings.

Any writings or documents pertaining to an open session item provided to a majority of the Lamorinda Program Management Committee less than 72 hours prior to the meeting, shall be made available for public inspection at this link: https://ccta-swat.net/upcoming-meeting-LPMC/ and at the Orinda City Hall, 22 Orinda Cay, Orinda, CA 94563.

LAMORINDA PROGRAM MANAGEMENT COMMITTEE

Monday, February 3, 2020

Supervisor Andersen's Office
3338 Mt. Diablo Blvd.
Lafayette, CA 94549

LPMC SUMMARY MINUTES

1. **Call to Order the Lamorinda Program Management Commitee**

   Chair Gerringer called the meeting to order at 1:40 p.m.

2. **Roll Call**

   LPMC Members Present: Chair Teresa Gerringer, Lafayette; Vice Chair Amy Worth, Orinda; and Mike McCluer for Renata Sos, Moraga.

   Staff Present: Mike Moran, Justin Horng, and Greg Wolff, Lafayette; Jason Chen, Orinda; Shawn Knapp, Moraga; and Matt Kelly, CCTA

3. **Adoption of the LPMC Agenda**

   Worth moved, Gerringer seconded, and the LPMC unanimously adopted the LPMC agenda.

4. **Public Comment -** None

5. **Old Business -** None

6. **New Business:**

   a. **Election of New Chair and Vice Chair for 2020**

      Gerringer moved, McCluer seconded, to elect Worth as Chair and Sos as Vice-Chair; the motion passes unanimous voice vote.

   b. **Briefing on the Proposed Terraces of Lafayette Development Project**

      Recommendation: For information only – No Action Required

      Wolff gave a briefing based on the staff report. Dave Baker, representing the applicant was also present at the meeting. Kristen Altbaum, a resident, provided her public comment based on the notes she provided to staff (attached).

The meeting was adjourned at 2:13 p.m.

Respectfully submitted by

_____

Jason Chen, City Engineer, Orinda

1:30
3338 Mt. Diablo

I would like to argue that this Site Plan for O'brien should NOT be approved or promoted for the following reasons:

1) The addition of a right hand solo lane will fill up on the first day that it is built because of traffic apps that promise to keep 680 and PH balanced, at the same efficiency. So looking at the volume of cars on PH Rd exclusive to 680 is pointless. TJKM, hired by the developer, didn't mention the effects of WAZE on the corridor and lacked 680 volume, queue times, and growth projections which effectively mirror our corridor. These are the biggest factors that impact us and we know this primarily by numerous first hand CHP accounts of the high percentages of outside jurisdictional cut-throughers who've had their traffic apps open when they've been pulled over within our corridor. Promoting a a new, single occupant vehicle lane will therefore not be a mitigator to reduce significant impact. **In fact, adding a lane to PH Rd, of what is essentially more 680 solo traffic, will make things significantly worse at PH/Deer Hill.** Please ask yourself if this is in the best interest of NE Lafayette residents, particularly for arguably the largest number of a.m. peak commuters - Lafayette students - who often carpool, take buses, or would only consider biking in protected bike lanes?

2) The reduction of parking spaces on PH Rd from over 15 to 5 for Happy Valley and North Lafayette residents to drop their children off to school, will require more cross traffic to funnel onto Stanley Blvd. and into the high school, creating longer queues.

3) The addition, or lengthening, of an unprotected bike lane, that must cross more lanes of traffic, won't attract any new bike ridership. Please ask yourself, "would I ride there?"

4) The idea that light changing technology, provided to emergency responders, will allow them access to respond during

a peak emergency is absurd, unless that technology includes wings for their vehicles.

5) Any egress, ingress and medians built for this project, that further restrict *future* chances for thoughtful and well conceived *multimodal* design, is rushed and irresponsible.

6) Agreeing to mass construction, across from a learning environment, without considering noise impacts that may effect concentration levels is rushed and irresponsible.

7) A plan that strips away all ability for more parking to be constructed on the only available land next to a high school, that will certainly incur higher growth numbers with the addition of city-wide high density, is rushed and irresponsible.

Nothing should be built at this intersection until Lafayette and SWAT harness the will to seek expert and state-of-the-art advice on how to promote safety and ***multimodal*** efficiency at various places on this corridor.

Further, the Gateway Restraint Policy, a policy designed for Lamorinda residents to be able to move about their city without being constrained, *is already leaving out the entirety of NE Lafayette residents.* Lafayette City has never seen to it that the constraint is north of Rancho View with a proper blinking metering light. It's concerning on #3 on Page 5 of this LPMC agenda that staff would consider heavier light metering at Rancho View ***as a mitigation for Obrien's project*, but not out of fairness to keep yesterday's and today's constraint north of the city.**

More concerning, is that after years of leaving NE Lafayette residents out of the Gateway Policy, anyone would actually

promote a change the policy to encourage more lanes of traffic, but at zero net efficiency.

Even more concerning are the various letters by Lamorinda School bus, Superintendents and Principals of Lafayette and Acalanes schools, **Fire Chief Carmen** all included in this PDF document:

...as well as hundreds of letters from the public expressing concerns over traffic: mainly emergency response times and student access to schools that are already significantly jeopardized.

We are in this predicament with O'Brien because of a 2010 failure by a self-admitted-pro-density-city manager, to finish the paperwork necessary to rezone this property to 1 home every 5 acres, as residents and Council had overwhelmingly and enthusiastically agreed to.

We are in this predicament because Lafayette has failed to take even the slightest steps to find multimodal solutions for its portion of the corridor and wants to forge ahead with development ahead of holistic road design and support.

We are in this predicament because of Lafayette's and County's inability to see the benefits of minimizing the illogical and outdated boundaries that plague and zigzag our corridor.

We are in this predicament because this corridor is decidedly at the intersection of three different County Supervisors: Mitchoff, Andersen, Glover; 4 different cities: Lafayette, Pleasant Hill, Walnut Creek and Martinez, plus unincorporated CCCounty; 2 state senators: Glazer and Dodd; and two transportation entities:

SWAT plus Transpac and NO ONE from any of those entities is prioritizing this or talking to one another.

We are in this predicament because the producers of the Lamorinda Action Plan, in the last few decades, have never jointly and decidedly seen NE Lafayette, particularly all NE Lafayette district students - as part of Lamorinda and as deserving of effective Gateway policies as residents elsewhere in Lamorinda.

Please do not rush to develop homes on PH Rd. Rather, please harness the will to first come up with a holistic plan for our corridor that decidedly makes all Lafayette and Acalanes students and their respective schools, the number one priority within Lafayette territory.

City of Lafayette
Staff Report

Date: January 11, 2021

To: Lamorinda Program Management Committee

From: Mike Moran, Lafayette Director of Engineering and Public Works, and Greg Wolff, Lafayette Planning Director

Subject: Addition of a Short-Link Southbound Lane on Pleasant Hill Road (Trap Lane) as Part of the Proposed Terraces of Lafayette Project

EXECUTIVE SUMMARY

If a project generates more than 50 net peak hour vehicle trips, the Lead Agency shall notify the other Lamorinda jurisdictions and the designated staff liaisons for the Lamorinda Program Management Committee (LPMC), so that affected jurisdictions may comment on proposed projects and subsequent environmental documentation. In 2013, Lafayette City staff notified and presented the Terraces of Lafayette project to LPMC. Since it had been several years since that presentation, Lafayette staff orally presented the findings of the updated traffic data and addendum to the original Final Environmental Impact Report (EIR) at LPMC's February 3, 2020, meeting. At that meeting, staff explained that part of the developer's proposed project design was to install a short-link southbound lane on Pleasant Hill Road starting north of Deer Hill Road and terminating at the Highway 24 westbound on-ramp (trap lane), in order to reduce traffic impacts. Staff also explained that adding the lane potentially violates the Gateway Constraint Policy of the Lamorinda Action Plan. Since adding the lane fully reduces the new development traffic in the a.m. peak hour to a less than significant level under the California Environmental Quality Act (CEQA), per a transportation model, and building the development without the lane would violate one of the Multimodal Transportation Service Objectives (MTSOs), staff is asking for an amendment to the Lamorinda Action Plan's Gateway Constraint Policy to allow installation of the trap lane.

It should be noted that amendment of the Lamorinda Action Plan and allowance of the trap lane is not required in order for development of the approved Terraces of Lafayette Development Project to move forward. The project has been approved either with or without the added lane. If the additional section of roadway is not allowed, then the development would still be built without the traffic mitigation benefit that the lane would provide (Project Variant).

LPMC has conferred with the Contra Costa Transportation Authority (CCTA) regarding the requested amendment to the Lamorinda Action Plan and has been advised to follow the process in the Growth Management Plan, the same procedures that have been followed for previous plan

updates. A flowchart outlining those procedures has been provided by CCTA and is attached to this report. Per that flowchart, it should be noted the proposed amendment will be escalated to the Southwest Area Transportation Committee (SWAT) regardless of the input from LPMC or the input from the other regional transportation planning committees (RTPCs). The CCTA Board will be making the final decision on whether to amend the Action Plan. LPMC and SWAT are advisory committees making a recommendation to the CCTA Board.

RECOMMENDED ACTION

1) LPMC review, provide comments, and distribute the recommended language for amending the Lamorinda Action Plan to all of the regional transportation planning committees (RTPCs) within Contra Costa County for comment. The recommended amendment language is specifically written in Recommended Action 2 below.

2) LPMC review, provide comments, and forward the proposed amendment to the Southwest Area Transportation Committee (SWAT) for their review of the request to amend the Lamorinda Action Plan Gateway Constraint Policy for Pleasant Hill Road (page 57, 3rd paragraph, of the Lamorinda Action Plan, 2017) to read:

"The two southbound through lanes on Pleasant Hill Road-Taylor Boulevard are proposed as a gateway constraint. The Gateway Constraint Policy would prohibit the addition of any through lanes, except short-link segments providing access to SR-24."

The other details of the gateway constraint policy shall remain unchanged.

3) LPMC review, provide comments, and forward the proposed request that SWAT review the request to allow construction of the proposed southbound trap lane.

BACKGROUND

In March 2011, O'Brien Land Company, LLC (Applicant) submitted an application to the City of Lafayette (City) for a multi-family residential project known as the Terraces of Lafayette (the Project). As proposed, the Project consisted of 315 moderate-income apartments in 14 separate buildings (7 three-story; 7 two-story) on a 22.27-acre parcel at the southwest corner of Pleasant Hill Road and Deer Hill Road. The Lafayette City Council certified a Final EIR for the Project in 2013. Later in 2013, the Applicant entered into a Project Alternative Process Agreement with the City which suspended the processing of the 315-unit Terraces Project, pending the review of the lower-density, single-family residential proposal known as the Homes at Deer Hill. This Project Alternative proposed 44 single-family detached residences on the 22.27-acre site, resulting in an average density of two dwellings per acre, and was considered by staff to be more in keeping with Lafayette's semi-rural character.

Following a rezoning that approved the Project Alternative, a citizens group named "Save Lafayette" subsequently filed a referendum seeking to invalidate the Homes at Deer Hill approval and sued the City in 2016. Following the lawsuit and its appeal, the City Council placed Measure L on the June 5, 2018, ballot. Measure L asked residents to vote either "yes" (approve) or "no" (deny) on the Project Alternative. Measure L failed and the approval of the Project Alternative was invalidated. On June 15, 2018, ten days after the June 5 ballot, the Applicant submitted a letter

requesting that the City resume processing the original 315-unit Terraces of Lafayette Project. An addendum to the Final EIR was prepared, and its conclusions relevant to the requested action by the LPMC are outlined in the discussion section below.

Lafayette's City Council determined that the Addendum was adequate under CEQA, made CEQA findings, adopted a statement of overriding considerations, adopted a mitigation monitoring and reporting program (MMRP) for the Project and approved the Project at an appeal hearing that began on August 24, 2020, and concluded on August 25, 2020. In doing so, the City Council upheld the Planning Commission's earlier decision to approve the Project on June 30, 2020.

The LPMC Technical Advisory Committee (TAC), in preparation for this public meeting, reviewed and recommended forwarding this Lamorinda Action Plan amendment item for LPMC to discuss and evaluate.

DISCUSSION

The following is a brief summary of the main transportation impacts/issues of the Addendum and supporting 2020 TJKM Traffic Study that pertain to LPMC:

> Pleasant Hill Road & Deer Hill Road/Stanley Boulevard: The Addendum determined that the Proposed Project would not have a significant impact at this intersection under Existing Plus Project conditions, in part because it would include an additional southbound through lane on Pleasant Hill Road that would start just north of Deer Hill Rd and become a trap lane for vehicles entering the on-ramp for WB SR-24. However, the additional lane would conflict with the Lamorinda Action Plan's Gateway Constraint Policy, as discussed further below, and this would be considered a significant impact. The Addendum concluded that the Project Variant (without the additional lane) would result in a significant and unavoidable level of service (LOS) impact at this intersection in the a.m. peak hour under Cumulative (2040) Plus Project conditions.

A key policy of the Lamorinda Action Plan is the Gateway Constraint Policy that controls peak-hour and peak-direction vehicle flows on major roadways leading into the Lamorinda area. The Gateway Constraint Policy is part of the Lamorinda Action Plan's recommended package of goals, goals, policies, objectives, and actions for addressing regional transportation issues within the Lamorinda area, and is not a mitigation measure for environmental impacts under CEQA. The Action Plan includes three gateway constraints: 1) **Pleasant Hill Road**, 2) Camino Pablo-San Pablo Dam Road, and 3) SR 24. Pleasant Hill Road is designated as a "Secondary Route of Regional Significance" that consists of two lanes in each direction from its merge with Taylor Boulevard south to SR 24, with additional turn lanes at most intersections. It is important to note that, to date, Lafayette has allowed the existing physical capacity of Pleasant Hill Road and traffic signal timing to act as the gateway constraints. The Lamorinda Action Plan was most recently updated in September 2017, and the current Lamorinda Action Plan Gateway Constraint Policy specifies:

> The two southbound through lanes on Pleasant Hill Road-Taylor Boulevard are proposed as a gateway constraint. The Gateway Constraint Policy would prohibit the addition of any through lanes, *including short-link segments*, on any portion of Pleasant Hill Road between SR-24 and the Lafayette city limit line north of the intersection with Taylor Boulevard. - Lamorinda Action Plan (2017) on page 57 (emphasis added).

The 2013 Final EIR for the Terraces Project identified the addition of a new short-link southbound lane to Pleasant Hill Road along the Project frontage, which had been proposed by the Applicant, as a potential mitigation measure that would reduce an LOS impact identified in the a.m. peak hour without the additional lane to a less than significant level. However, the 2013 Final EIR concluded that the additional southbound lane would conflict with the Gateway Constraint Policy, as specified in the 2009 Lamorinda Action Plan, which called for the investigation of "appropriate mechanisms, including maintaining existing roadway lanes and widths and restrictive signal timing, to discourage use of Pleasant Hill Road as a substitute for freeway travel." The 2013 Final EIR determined that this conflict with the Gateway Constraint Policy would result in the potential mitigation measure having a significant secondary impact.

As described above, and similar to the potential mitigation measure considered in the 2013 Final EIR, when processing of the Project resumed in 2018, the applicant proposed the addition of a new southbound lane on Pleasant Hill Road beginning just north of the Project site's frontage and proceeding southward to become a "trap" lane for the westbound SR 24 freeway on-ramp. The Addendum concluded that the addition of the trap lane would improve traffic conditions on southbound Pleasant Hill Road, and would result in a less-than-significant impact related to LOS at the Deer Hill Road/Stanley Boulevard intersection, unlike the Project Variant, under which this impact would be significant and unavoidable in the a.m. peak hour under Cumulative (2040) Plus Project Variant conditions.

The Addendum also concluded that under Cumulative (2040) Plus Project conditions, the delay index impact in the northbound direction on Pleasant Hill Road in the p.m. peak hour would be significant and unavoidable either with or without the additional southbound "trap" lane. The Addendum concluded that the delay index impact southbound on Pleasant Hill in the a.m. peak hour would be less than significant under the Project with the additional lane, but would be significant and unavoidable under the Project Variant without the additional lane under Cumulative (2040) Plus Project Variant conditions.

The LPMC cannot make a final decision with respect to the Gateway Constraint Policy, but rather will be making a recommendation to CCTA, which will be acting as a responsible agency under CEQA. As a responsible agency, the CCTA can rely upon the Final EIR and Addendum certified by and adopted by the City of Lafayette, as lead agency, for purposes of compliance with the environmental review requirements of CEQA if it approves the proposed amendment to the Gateway Constraint Policy. As explained above, the Final EIR and Addendum analyzed the transportation and circulation impacts, and other environmental impacts, including growth-inducing impacts, that potentially could occur under the proposed Project with the additional lane, as well as the Project Variant without the additional lane, and therefore analyzed the potential impacts of a decision by CCTA to approve the proposed Gateway Constraint Policy amendment. Further, notwithstanding the pendency of litigation by a party other than CCTA challenging the Project's Final EIR and Addendum, those documents must be assumed by the CCTA, as a responsible agency, to comply with CEQA. (Public Resources Code Section 21167.3; 14 Cal Code Regs. Section 15233).

NEXT STEPS

The LPMC and SWAT have already provided comments before the EIR was finalized in 2013, and both were updated in February of 2020 that the Project was working its way through Lafayette's approval process and could return for action to amend the Lamorinda Action Plan if the Project was approved.

Now that the Project has been approved by Lafayette's City Council, the City recognizes one of the vehicle traffic impacts violates the CCTA's MTSOs. This will be true under Cumulative (2040) Plus Project conditions for the northbound Pleasant Hill Road traffic in the p.m. peak travel times (either with or without the southbound trap lane), and for southbound Pleasant Hill Road traffic in the a.m. peak travel times (only if the southbound trap lane is not built). However, the Lamorinda Action Plan states:

> *Under adopted CCTA policy, exceedance of an MTSO does not constitute a compliance issue with the Growth Management Program. There is no consequence to local jurisdictions if an MTSO is exceeded over time and not the result of a single project. - Lamorinda Action Plan (Sept. 2017) on page 69*

Since the exceedance of an MTSO is a combination of the impacts of regional growth and the Project, the language in the above excerpt suggests there will not be consequences associated with the action from CCTA. However, peak time delay will likely increase at this already congested location that connects two schools and a freeway on-ramp/off-ramp.

Building the additional lane would conflict with the Gateway Constraint Policy by increasing vehicle capacity along the Pleasant Hill Road corridor, albeit for a brief portion of the roadway. The Addendum identified Mitigation Measure TRAF-22, which must be implemented pursuant to the MMRP, and which requires that the applicant either (a) obtain approval of amendments to the Lamorinda Action Plan such that there is no longer a conflict, obtain approval of an exception to the Gateway Constraint Policy for the Project's proposed additional southbound through lane, or obtain a determination that the proposed additional through lane does not conflict with the Gateway Constraint Policy, by LPMC, SWAT, and the CCTA Board, or (b) proceed with the Project Variant, which would not include the additional southbound through lane. Unlike a General Plan policy conflict, the City does not solely control the ability to amend the Gateway Constraint Policy. Amendment of the Policy, or obtaining an exception or a determination as described above, requires the City and the applicant to work with the other jurisdictions that comprise the LPMC, RTPCs, and CCTA.

The main goal of the Gateway Constraint Policy is to dis-incentivize vehicles from using local roads and to keep them on the freeway system. If the trap lane is built, it will slightly improve flow for southbound Pleasant Hill Road during peak travel times. As a possible strategy to control traffic flow, the City can adjust the signal timing on Pleasant Hill Road at Rancho View Dr. and the subsequent four signals before WB SR-24 to keep it at current travel times. This scenario allows traffic to be constrained at the entrance and throughout the Pleasant Hill Road corridor even though a short-segment trap lane would be added at the exit of the corridor.

Staff recommends LPMC forward to SWAT the proposed amendment to the Lamorinda Action Plan, which would allow the trap lane to be built, because the installation of the trap lane:

1. Will mitigate the impacts of traffic from the approved Terraces Project for southbound Pleasant Hill Road during a.m. peak travel times.
2. May help reduce oversaturated traffic conditions at the intersection of Pleasant Hill Road at Deer Hill Road/Stanley Boulevard while still constraining or metering traffic entering the City from the north with signal timing.
3. Will provide additional capacity to evacuate residents throughout the Pleasant Hill Road corridor in the event of an emergency.

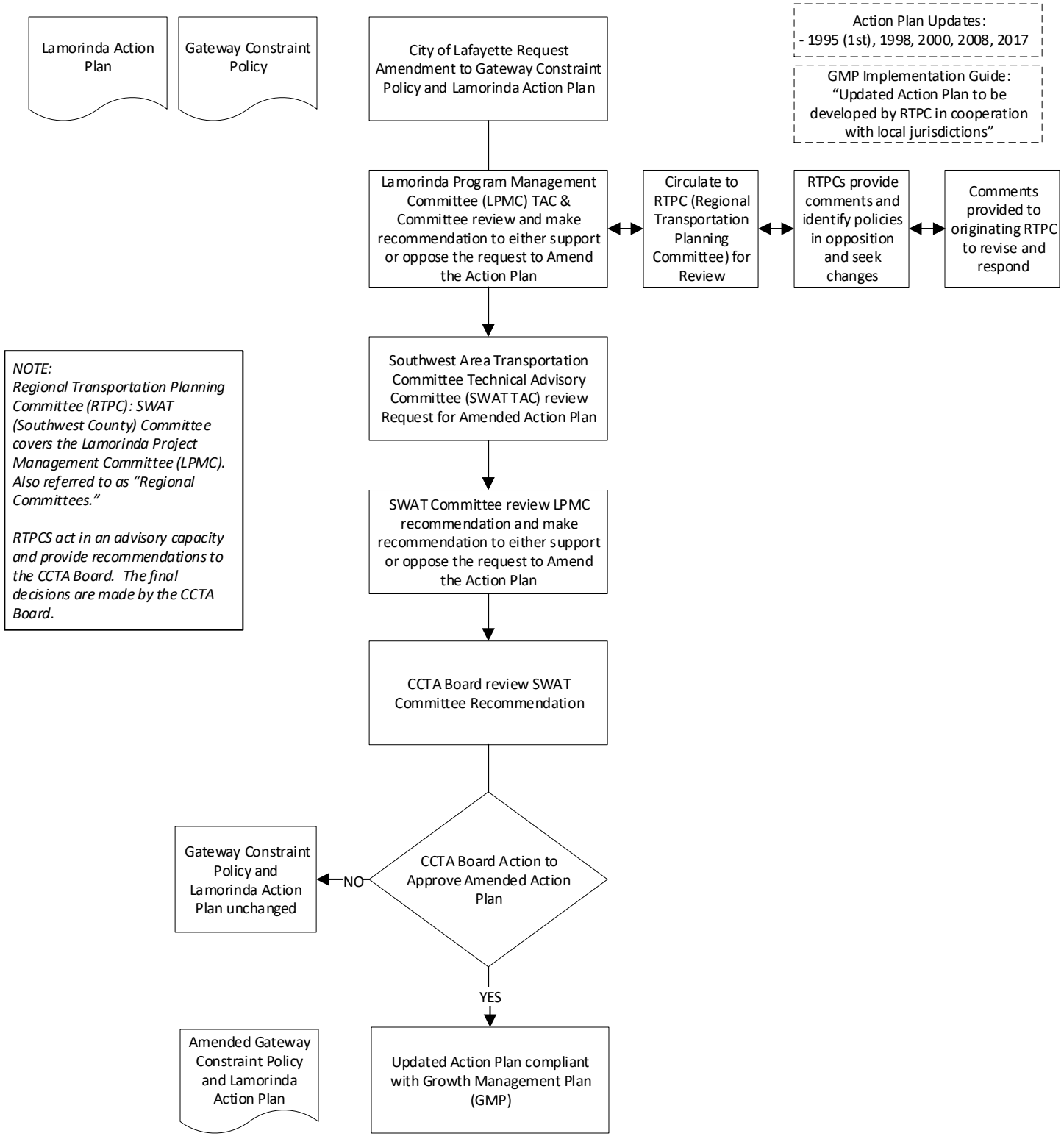
While the developer proposed adding the southbound trap lane to mitigate additional traffic from the Project, staff believes that the additional capacity for evacuating the corridor via southbound Pleasant Hill Road toward SR 24 may be the most compelling reason to allow the trap lane to be built. During public hearings, both the Planning Commissioners and City Council members heard numerous public commenters express concern with evacuation procedures and limited road capacity should the Pleasant Hill Road corridor area need to be evacuated during a fire or any other emergency. Although many commenters were expressing this concern as a reason to deny the Terraces Project, a supplemental analysis prepared by TJKM at the request of some of the Planning Commissioners demonstrated that the new through lane would reduce evacuation times to SR 24.

ATTACHMENTS

1. CCTA Growth Management Program (GMP) Action Plan Update Process Flowchart
2. Terraces of Lafayette Site Plan – Annotated
3. Lamorinda Action Plan
4. Traffic Impact Study Report – Terraces of Lafayette
5. Addendum to the Terraces of Lafayette Environmental Impact Report (May 2020)
   Including:
   - Appendix A – On-site Structures Survey & Demolition Permit
   - Appendix B – Biological Resources
   - Appendix C – Air Quality & Greenhouse Gas Technical Assessment
   - Appendix D – Traffic Impact Study *(see Item 4, above)*
   - Appendix E – Geotechnical Study
   - Appendix F – Noise Collection Data & Analysis

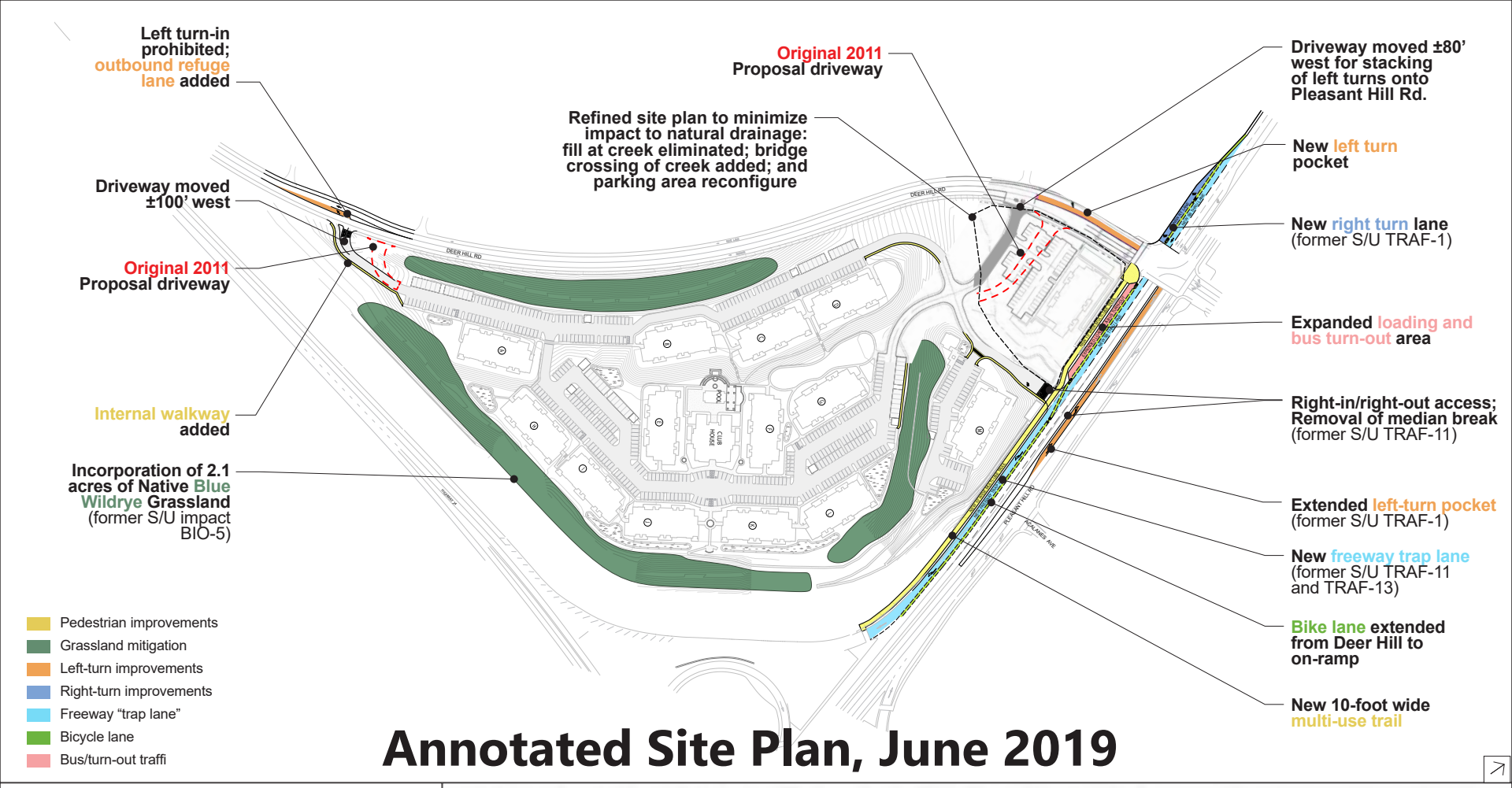
6. Revisions to the Addendum to the Terraces of Lafayette Environmental Impact Report (June 22, 2020)
7. Terraces of Lafayette Mitigation Monitoring and Reporting Program
8. TJKM Memorandum on TIS Data Sets and Evacuation Modeling (June 22, 2020)

CCTA Growth Management Program (GMP)
Action Plan Update Process

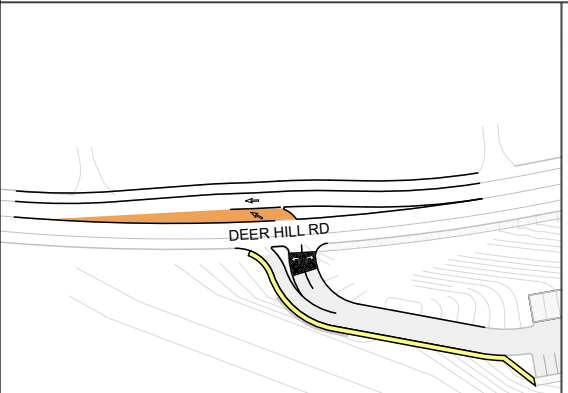


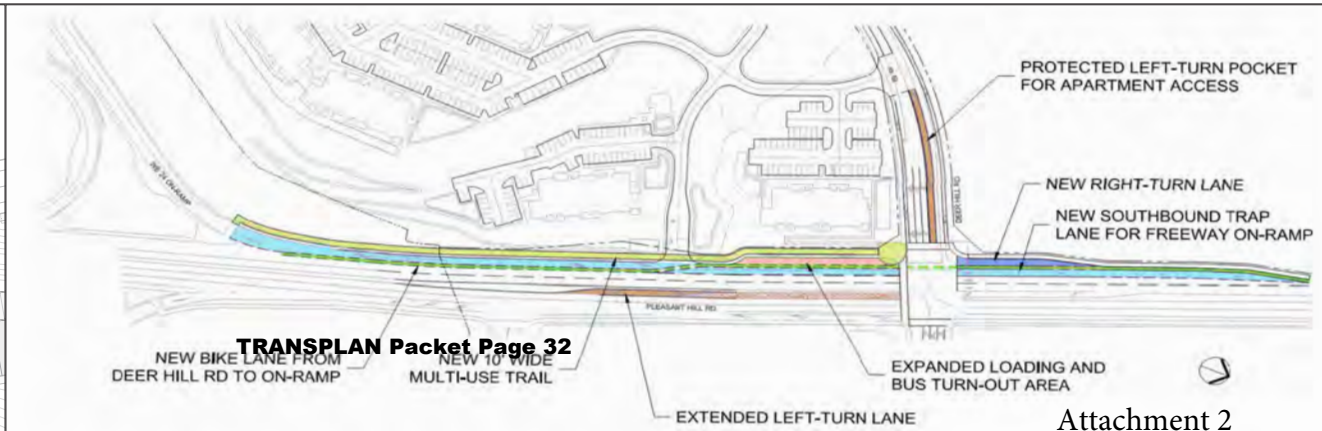
Updated 11/25/20

Attachment 1



Annotated Site Plan, June 2019





Attachment 2

Lamorinda Program Management Committee (LPMC) Meeting – January 11, 2021

Communication Received from the Public as of December 7, 2020

Jason Chen

From: Kristen Altbaum <altbaum@icloud.com>
Sent: Friday, December 4, 2020 1:35 PM
To: Robbins, Joanne; Matt Kelly; riwasaki@ccta.net; Jason Chen; Bobadilla, Lisa; Amaral, Darlene; supervisorandersen@bos.cccounty.us; supervisormitchoff@bos.cccounty.us
Subject: Massive Constituent mistrust of the CCTA/LPMC/SWAT will occur over faulty Gateway Policy changes - Focus and Meaningful policy changes needed NOW

CCTA, Joanne, LPMC,

Joanne, Please send to transportation, staff, and Council,

REGARDING: proposed *faulty* Gateway Policy change for Pleasant Hill Rd, Lafayette will lead to major constituent mistrust of our County's highest transportation staff

This letter urges LPMC to DENY the faulty gateway policy change intended to promote construction of a solo commuter turn lane that TJMK said "will not translate to higher throughput for the southbound through movement at this point" per the Pleasant Hill Rd corridor study in 2017 https://link.edgepilot.com/s/1515bf87/cEi8Yx3q70GdvxH1t_IS4A?u=https://www.lovelafayette.org/home/showdocument?id=3995%26fbclid=IwAR3SS39GJmflhc2xfcpdykIB9dAEcgW9G4BQZvOs3NJPtJ9AbozzU4GS340 and was only promoted by TJKM once they were hired by the developer to prove his project had insignificant effects at the intersection. TJKM is deemed biased and untrustworthy by constituents for multiple reasons.

Gaining LPMC's approval is the developer's tactic to further his case in court against the citizen action group Save Lafayette. LPMC's approval, PRIOR to the courts deciding the legality of this project 1) makes LMPC appear to be representatives of the developer, versus constituents, and 2) is reckless in promoting infrastructure that will be useless for efficiency and dangerous for the safety of commuters and pedestrians.

LPMC is urged to consider the following recommendations:

STEP ONE:

Decide NOTHING until the courts have made its decision and appeals have been exhausted.

STEP TWO:

After the courts approve OR deny this project, change the Gateway Policy to reflect meaningful infrastructure improvements that will actually aid peak commuter efficiency, including for students who already have much difficulty getting to local schools (sometimes 45 minutes over 3 miles - Lafayette has ample evidence of this) and promote safety.

Per https://link.edgepilot.com/s/3d47911b/qq3L7yLGoUe2r8vQqcXnLw?u=https://nacto.org/, this is achieved by:

1) promoting a carpool/bus only lane for the 30 minutes to 1 hour before school. Most students get to school by bus/carpool; and jurisdictions should provide lane incentives to get commuters to carpool and take buses - this achieves efficiency without inviting more solo traffic from 680

2) promoting SAFE/PROTECTED bike and pedestrian lanes - O'Brien's proposed bike lanes are deadly - and completely need to be re-concptualized BEFORE precious resources are spent.

3) understanding WAZE effects on this corridor: Building more SOLO short segment or turn lanes - OPENING CAPACITY - will encourage MORE solo commuters - *via traffic app algorithms* - to bypass the freeway and use PH Rd., which actually ***negates intended efficiency and causes significant delays for both local N.E. Lafayette residents and Pleasant Hill residents who buffer this corridor.*** **It also creates hazardous/boxed in conditions during emergencies.**

4) promote pedestrian bridges (if the project is approved by the courts). Currently, few pedestrians need to cross at this intersection:
315 units will potentially add a minimum of a few hundred kids to crosswalks that are currently unused (across Deer Hill to Springhill elementary); or barely used (across PH Rd to the Shell Station). **The effects of these added Terraces student pedestrians were admittedly NOT studied by TJKM and will cause additional, significant delays to an already grade F intersection.** Do you want all of these new students walking next to *more* lanes of solo traffic that YOU approve? Do you want more lanes of solo traffic across from a high school? 44,000 cars per day use this corridor. Do you want to encourage MORE cars to bypass 680 in favor of our local corridor and home to two schools?

Approval of this lane via a change to the Gateway Policy is reckless and is only being promoted to appease the developer.

Please do your due diligence and support meaningful gateway policies and meaningful infrastructure to keep our county moving and our students safe. We count on you to achieve this outcome and will only support CCTA objectives if the bureaucracy underneath it supports us. There are 20,000 of us who use this corridor and one developer outside your county jurisdiction - you decide who's support is more important to YOUR objectives. I will be educating voters to your decision. If you want to pass additional taxes on to residents of your county, we won't support you if we don't trust you. Aiding developers at the expense of voters does not help your cause.

Sincerely,
Kristen Altbaum
NE Lafayette resident who has studied and advocated for meaningful efficiency and safety for students since 2016.
925-285-8309

https://link.edgepilot.com/s/a046b63a/2HUKx6KaYE6jjx4S9TYGsQ?u=https://www.facebook.com/groups/1753415531541790 **Lafayette for School and Evacuation Routes**

Public group

·

397 members

Jason Chen

From: Kristen Altbaum <altbaum@icloud.com>
Sent: Friday, December 4, 2020 12:05 PM
To: Jason Chen
Subject: Re: LPMC 3rd lane mitigation - please deny

REGARDING: Gateway Policy change for Pleasant Hill Rd, Lafayette

LPMC,

Happy holidays.

This letter urges you to DENY the construction of a solo commuter turn lane that TJMK said "will not translate to higher throughput for the southbound through movement at this point" per the Pleasant Hill Rd corridor study in 2017 https://link.edgepilot.com/s/a5f85d11/CeRAzI4ydUiuLx64U2KCAQ?u=https://www.lovelafayette.org/home/showdocument?id=3995%26fbclid=IwAR3SS39GJmflhc2xfcpdykIB9dAEcgW9G4BQZvOs3NJPtJ9AbozzU4GS340 and was only promoted by TJKM once they were hired by the developer.

Gaining your approval is the developer's tactic to further his case in court against the citizen action group Save Lafayette. Your approval, PRIOR to the courts deciding the legality of this project, makes you a representative of the developer versus constituents and is reckless in promoting infrastructure that will be useless for efficiency and dangerous for the safety of commuters and pedestrians.

Please consider the following recommendations:

STEP ONE:

Decide NOTHING until the courts have made its decision and appeals have been exhausted.

STEP TWO:

After the courts approve OR deny this project, change the Gateway Policy to reflect meaningful infrastructure improvements that will actually aid peak commuter efficiency, including for students who already have much difficulty getting to local schools (sometimes 45 minutes over 3 miles - Lafayette has ample evidence of this) and promote safety.

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4) promote pedestrian bridges (if the project is approved by the courts). Currently, few pedestrians need to cross at this intersection:
315 units will potentially add a few hundred kids to crosswalks that are currently unused (across Deer Hill to Springhill elementary); or barely used (across PH Rd to the Shell Station). The effects of these added Terraces student pedestrians were admittedly **NOT** studied by TJKM. Do you want all of these new students walking next to more lanes of solo traffic that YOU approve? Do you want more lanes of solo traffic across from a high school? 44,000 cars per day use this corridor. Do you want to encourage MORE cars to bypass 680 in favor of our local corridor and home to two schools?

Approval of this lane is reckless and is only being promoting to appease a developer.

Please do your due diligence and support meaningful gateway policies and meaningful infrastructure to keep our County moving and our students safe. We count on you to achieve this outcome.

Thanks,
Kristen Altbaum
NE Lafayette resident who has studied and advocated for meaningful efficiency and safety for students since 2016.
925-285-8309

Jason Chen

From: Roger Chili <rchili@hotmail.com>
Sent: Saturday, December 5, 2020 12:55 PM
To: mkelly@ccta.net; Jason Chen; supervisorandersen@bos.cccounty.us; supervisormitchoff@ccccounty.us; lbobadilla@sanramon.ca.gov; damaral@sanramon.ca.gov; riwasaki@ccta.net
Cc: district5@bos.cccounty.us
Subject: LPMC Meeting 12/7

LPMC and CCTA,

I strongly urge you to DENY the gateway policy change intended to add a right turn lane on Pleasant Hill Road, turning right onto Deerhill Rd, the subject of Monday's meeting.

As a resident of NE Lafayette, I have advocated for traffic improvements along the Pleasant Hill Corridor for a few years, and I am certain that this right turn lane will:

1) Not improve traffic flows in this corridor...in fact, it will lead to more traffic as I will explain below, and

2) Most importantly, this turn lane will LIKELY result in car vs. pedestrian collisions, injuries and possibly deaths, I will also explain below.

Residents of NE Lafayette have advocated, for years, for traffic improvements along the Pleasant Hill Corridor. We learned, in today's world of WAZE, GoogleMaps, etc., improvements to this particular intersection will not any meaningful benefit (just as TJKM argued before they we paid by the Terraces developer to have a different view). Any improvements will simply draw more cars to the intersection, not fewer, result=no improvement. For those not familiar with this intersection, the majority of commuters from further north and east of this intersection take Hwy 680 to Hwy 24 to travel to Oakland/SF, etc. Of course, they check their apps, and detour onto Taylor Blvd/Pleasant Hill Road **through Pleasant Hill and Lafayette** if they can save a few minutes. In the past several years, there are literally thousands of additional cars taking this route and it has become very challenging to use in the mornings, taking Lafayette residents 30-45 minutes to get their children to school in the morning, when it used to take 10-15 minutes, and also landlocking and delaying hundreds of residents of Pleasant Hill who have no feasible traffic alternative. **This turn lane will not improve traffic.**

What we have also noticed over the past several years is that drivers, local and out-of-town, get very frustrated with the traffic on this corridor and resort to numerous poor behaviors...crossing double yellow lines to pass traffic, sometimes around stopped school busses, high-rates of speeding when the opportunity presents itself, and outright dangerous behaviors at the intersection of Pleasant Hill and Deerhill. Today, without a Terraces project, there is no pedestrian traffic going across Deerhill toward the elementary school. When the Terraces project is approved, there will be 100-200 students moving from the project to the local elementary school, crossing this intersection, in the peak of the morning commute. Frustrated drivers, looking to turn right onto Deerhill to get the BART station, or beyond, would be turning right directly into the student crossing area after spending 30 minutes in bumper-to-bumper traffic. At that intersection there is already a lot to navigate, including the new bike lanes which none of us even understand. There WILL be an

accident if we encourage a speedier right turn lane at this intersection, please do not greenlight a disaster waiting to happen.

We have also learned that any improvements at/near this intersection must be studied in the scheme of the entire route from Highway 680 onto Pleasant Hill Rd and Hwy 4 through Gregory Lane and Reliez Valley Road through this intersection to be meaningful. One-offs, like this lane suggestion, will not be helpful, it is honestly surprising that a traffic consultant would make such a suggestion, and that the city would support it...when we initially engaged with the City of Lafayette on our traffic challenges we too thought that a turn lane would be helpful, but the city's traffic engineers and staff were firmly opposed, tauting a TJKM study as supporting their position. Nothing has changed here except for money and politics, I encourage you not to take the bait, and I would absolutely delighted to take any of you on a drive through the area and neighborhoods to explain how this really looks and plays out once we are post-covid and why this lane is such a bad idea.

I appreciate your leadership.

Thank you,
Roger C

Jason Chen

From: Richard Drury <richard@lozeaudrury.com>
Sent: Sunday, December 6, 2020 5:41 PM
To: Jason Chen; lbobadilla@sanramon.ca.gov; damaral@sanramon.ca.gov
Cc: Laurel Stanley; Mike Griffiths; Scott Sommer
Subject: Opposition to Amendment to Gateway Constraint Policy
Attachments: 2020.12.07.LPMC Letter-Gateway Constraint Amendment.pdf

Lamorinda Program Management Committee (LPMC):

Attached please find the comments of Save Lafayette opposing the proposed amendment to the Gateway Constraint Policy. The attached comments concern the proposed Amendment ("Amendment") to the Southwest Area Transportation Committee (SWAT) for Request to Amend the Lamorinda Action Plan Gateway Constraint Policy (GCP) for Pleasant Hill Road (page 57, 3rd paragraph of Lamorinda Action Plan, 2017). This matter will be considered on December 7, 2020 as Agenda Item 6. We urge the LPMC to decline to consider this proposed Amendment until after it has been reviewed under the California Environmental Quality Act ("CEQA"), Pub. Res. Code section 21000. The Amendment is a discretionary action that may have significant adverse environmental impacts. Therefore CEQA review is required before any decision can be made on the Amendment.

Richard Drury
Counsel for Save Lafayette

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BY E-MAIL ONLY

December 7, 2020

Lamorinda Program Management Committee
c/o Jason Chen
Orinda City Hall
22 Orinda Way
Orinda, CA 94563
e-mail: JChen@cityoforinda.org

Re: Opposition to Proposed Amendment to Southwest Area Transportation Committee (SWAT) for Request to Amend the Lamorinda Action Plan Gateway Constraint Policy for Pleasant Hill Road (page 57, 3rd paragraph of Lamorinda Action Plan, 2017). Request for CEQA Review.

Lamorinda Program Management Committee (LPMC):

I am writing on behalf of Save Lafayette, a non-profit organization composed of residents living in and around the City of Lafayette ("City") concerning the proposed Amendment ("Amendment") to the Southwest Area Transportation Committee (SWAT) for Request to Amend the Lamorinda Action Plan Gateway Constraint Policy (GCP) for Pleasant Hill Road (page 57, 3rd paragraph of Lamorinda Action Plan, 2017). This matter will be considered on December 7, 2020 as Agenda Item 6. We urge the LPMC to decline to consider this proposed Amendment until after it has been reviewed under the California Environmental Quality Act ("CEQA"), Pub. Res. Code section 21000. The Amendment is a discretionary action that may have significant adverse environmental impacts. Therefore CEQA review is required before any decision can be made on the Amendment.

A. Proposed Amendment.

The proposal is to amend the GCP to state:

> The two southbound through lanes on Pleasant Hill Road – Taylor Boulevard are proposed as a gateway constraint. The Gateway Constraint Policy would prohibit the addition of any through lanes, except short-link segments providing access to SR-24.

The stated purpose of this amendment is to "allow construction of the proposed southbound trap lane" on Pleasant Hill Road. This trap lane would violate the Gateway Constraint Policy as currently written and adopted.

B. Gateway Constraint Policy.

The Lamorinda Action Plan Update explains that the Gateway Constraint Policy was adopted to limit growth and growth-inducing impacts in the Lamorinda area. (Dec. 12, 2008). The Action plan explains at page 27:

5.3 Proposed Gateway Constraint Policy. A key new strategy proposed in this Action Plan for Lamorinda, is to adopt a "gateway constraint" policy that controls peak-hour, peak-direction vehicle flows on major roadways leading into Lamorinda. Such a policy, if adopted, would set maximum lane widths for SR 24 inbound gateways, and similarly, would identify limits on number of lanes for arterials, such as Pleasant Hill Road and Camino Pablo. Initial evaluation indicates that adoption of a Gateway Constraint policy could be beneficial to Lamorinda residents, because such a policy would reserve some room on the regional system, so that access to the system will be maintained for traffic that has an origin and/or destination in Lamorinda. Furthermore, the modeling analysis indicates that adoption of a Gateway Constraint policy may be the key to achieving the MTSOs for Lamorinda. The south county jurisdictions of SWAT (Danville, San Ramon, and Contra Costa County) have a Gateway Constraint policy that has been in place since 1995, when the first Tri-Valley Transportation Plan/Action Plan was adopted. The policy has been successfully implemented through the TVTC, whose Contra Costa jurisdictions fall under the purview of SWAT as the designated RTPC under Measure C/J. The gateway constraint policies of the Tri-Valley Action Plan are available for review in the Draft Tri-Valley Action Plan, issued February 26 by TVTC.

Pleasant Hill Road: The two southbound through lanes on Pleasant Hill Road–Taylor Boulevard are proposed as a Gateway Constraint (Location to be Determined). Pleasant Hill Road is two lanes in each direction from its merge with Taylor Boulevard south to SR 24 with additional turn lanes at most intersections. The first signalized intersection south of the Pleasant Hill Road-Taylor Boulevard merge is at the "T" intersection with Rancho View Drive. Other major intersections are at Green Valley Road, Reliez Valley Road, Spring Hill Road and Stanley Road/Deer Hill Road. Each of these signalized intersections has left- and right-turn lanes on Pleasant Hill Road. The capacity constraints on arterials providing access to the Lamorinda area are determined by the number of lanes and the timing of signals at intersections near the entry point. On Pleasant Hill Road southbound during the AM peak period, capacity is determined primarily by the timing of signals at the four major intersections and how much green time is given to Pleasant Hill Road. While the gateway policy addresses physical characteristics at key intersections, the timing of signals can also act as a metering point, as discussed below in the Traffic Management strategy section. (p.28).

C. The Proposed Amendment is Subject to CEQA.

CEQA review is required for all discretionary "projects" that may have significant environmental impacts. The California Environmental Quality Act, Pub. Res. Code § 21000 et seq., applies to agency projects that may have an adverse environmental impact. (*Friends of Mammoth v. Board of Supervisors*, 8 Cal.3d 247, 259 (1972); *Friends of B Street v. City of Hayward*, 106 Cal.App.3d 988, 1003 (1980) (project that included removal of trees caused significant effect on environment).)

1. The GCP Amendment is Discretionary.

There is no question that the Amendment is discretionary since the LPMC is not required to Amend the GCP. CEQA applies to discretionary projects and approvals. (§ 21080, subds. (a), (b)(1); Guideline § 15268, subd. (a); *Health First v. March Joint Powers Authority* (2009) 174 Cal.App.4th 1135, 1142-1143 [96 Cal. Rptr. 3d 290].) "The statutory distinction between discretionary and purely ministerial projects implicitly recognizes that unless a public agency can shape the project in a way that would respond to concerns raised in an EIR, or its functional equivalent, environmental review would be a meaningless exercise." (*Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105.)

The CEQA Guidelines describe "discretionary" projects as those requiring "the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations." (Guidelines, § 15357.) Like the Guidelines, case law describes a decision as discretionary when it involves relatively personal decisions addressed to the sound judgment and enlightened choice of the administrator. (*People v. Department of Housing & Community Dev*. (1975) 45 Cal.App.3d 185, 193*; see also, e.g., Citizens for Non-Toxic Pest Control v. Department of Food & Agriculture* (1986) 187 Cal.App.3d 1575, 1583 [decision discretionary where agency determined whether pest could be eradicated "and what method would be most effective in doing so"].)

Since the LPMC is not required to adopt the Amendment, it is a discretionary action.

2. The GCP Amendment is a "Project."

Under CEQA, the term "project" includes the "issuance of rules, regulations, plans, or other general criteria." (14 CCR §15168(a)(3); *Bozung v. Local Agency Formation Comm'n* (1975) 13 Cal.3d 263, 277-279; *Dunn-Edwards v. BAAQMD*, 9 Cal.App.4th at 658-659.) The courts have held that CEQA applies to the promulgation of regulations unless there is some basis to find the agency exempt. (Pub. Resources Code §§ 21000 (g), 21001(f)&(g), 21092, 21106; 14 Cal. Code Regs. §15168(a)(3); *Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 195.)

Under CEQA, a "project" includes "an essential step leading to ultimate environmental impact." (*Kaufman & Broad-South Bay, Inc. v. Morgan Hill* (1992) 9 Cal.App.4th 464, 473.) "Agency action is not exempt from CEQA simply because it will not have an immediate or direct effect on the environment. CEQA applies if it is reasonably foreseeable that environmental impacts will ultimately result." (Kostka & Zischke, *Practice Under the California Environmental Quality Act* (CEB 1993), § 4.20, p. 151, citing Bozung v. LAFCO (1975) 13 Cal.3d 263, 277.) "If an agency's action is a necessary step that starts in motion a chain of events that will foreseeably result in impacts to the physical environment, the activity must be treated as a project subject to CEQA." (*Id*.; see also *Friends of Mammoth v. Board of Supervisors of Mono County* (1972) 8 Cal.3d 247, 265 (holding that the term "project" includes not only activities directly involving actual physical impacts on the environment, but also activities, such as the approval of permits, whose environmental effects are indirect).)

The stated reason for the Amendment is to "allow construction of the proposed southbound trap lane" on Pleasant Hill Road. Thus, the Amendment is a "project" within the meaning of CEQA.

3. The Amendment May Have Significant Adverse Environmental Impacts.

Elite Transportation Group (ETG) has determined that the southbound trap lane will have significant adverse impacts on levels of service on Pleasant Hill Road and several area intersections. (Exhibit A).

Also, as of July 1, 2020, CEQA requires traffic impacts to be analyzed using vehicle miles travelled (VMT) analysis. CEQA Guidelines section 15064.3. No such analysis has been conducted for the Amendment. However, it is likely that the southbound trap lane will result in an increase in VMT by encouraging more long-range commuting by automobile. The burden is on the agency to conduct the required analysis using the legally required methodology. Failure of the agency to conduct this analysis "enlarges the scope of the fair argument." "[U]nder CEQA, the lead agency bears a burden to investigate potential environmental impacts. 'If the local agency has failed to study an area of possible environmental impact, a fair argument may be based on the limited facts in the record. Deficiencies in the record may actually enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences.' (*Sundstrom v. County of Mendocino* (1988) 202 Cal. App. 3d 296, 311.) *County Sanitation Dist. No. 2 v. County of Kern* (2005) 127 Cal. App. 4th 1544). The impact of the southbound trap lane has not been analyzed in any environmental impact report or negative declaration.

The southbound trap lane will have growth-inducing impacts. CEQA requires that a CEQA document must include a detailed statement setting forth the growth-inducing impacts of a proposed project. Pub. Res. Code Section 21100(b)(5). A proposed project is either directly or indirectly growth inducing if it: (1) fosters economic or population growth or requires additional housing; (2) removes obstacles to growth; (3) taxes community services or facilities to such an extent that new services or facilities would be necessary; or (4) encourages or facilitates other activities that cause significant

environmental effects. CEQA Guidelines Section 15126.2(d). While growth inducing impacts of a project need not be labeled as adverse, the secondary impacts of growth (e.g., traffic, air pollution, etc.) may be significant and adverse. In such cases, the secondary impacts of growth inducement must be disclosed as significant secondary or indirect impacts of the project. The analysis required is similar in some respects to the analysis required to analyze impacts associated with population and housing. The clear purpose of the southbound trap lane is to "foster population growth" and "remove obstacles to growth." As such, it will have growth-inducing impacts that must be analyzed in a CEQA document.

4. The Amendment Abandons a Mitigation Measure Imposed by the GCP and Therefore Requires CEQA Review.

The Amendment removes a mitigation measure imposed by the Gateway Constraints Policy intended to limit growth. As such, it has adverse environmental impacts by definition that must be analyzed under CEQA.

If the agency fails to implement mitigation measures required by a prior EIR, this requires CEQA review, even for an otherwise ministerial project. *Katzeff v. Dept. of Forestry* (2010) 181 Cal.App.4th 601, 611, 614; *Lincoln Place Tenants v. City of Los Angeles* (2005) 130 Cal.App.4th 1491, 1507-1508. The purpose of this requirement "is to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded." *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1260-1261. The decision to abandon an adopted mitigation measure is a discretionary decision.

An agency fails proceed in a manner required by law when it fails to comply with adopted CEQA mitigation measures. *Lincoln Place*, 130 Cal.App.4th at 1508, 1510 ("[h]aving placed these conditions . . . the city cannot simply ignore them. Mitigating conditions are not mere expressions of hope . . . [i]n the present case the city failed to proceed according to law . . ."). "[T]his rule is applicable even if one of the smaller parts might require only ministerial, rather than discretionary, approval." *Katzeff*, 181 Cal.App.4th at 611; *Lincoln Place,* 130 Cal.App.4th 1491, 1507 n22 ("it cannot be argued CEQA does not apply to the . . . demolition on the ground the demolition permits are ministerial acts.")

"[T]his rule is applicable even if one of the smaller parts might require only ministerial, rather than discretionary, approval." *Katzeff,* 181 Cal.App.4th at 611. The *Katzeff* Court held at p. 614 "that where a public agency has adopted a mitigation measure for a project, it may not authorize destruction or cancellation of the mitigation – whether or not the approval is ministerial . . ." This same result was reached in *Lincoln Place,* 130 Cal.App.4th at 1507 n22, which holds that "it cannot be argued CEQA does not apply to the . . . demolition on the ground the demolition permits are ministerial acts."

Furthermore, in *Katzeff*, 118 Cal.App.4th at 606, the original mitigation conditions were twenty years old. It is the granting of the new permit, ministerial or not, that triggers

the CEQA violation. In *Katzeff*, mitigation conditions from timber harvesting plans dated 1988 and 1998 were at issue. In 2008, real party filed an application to convert the timberland to an orchard. *Id*. at 607. The permit conversion was ministerial, but the Court held that the twenty year old measures must be enforced *and stayed real party's project*. *Id*. at 615. Otherwise, "any mitigation required by CEQA . . . could be nullified simply by the passage of time . . . " *Id*. at 611. "We see no principled distinction between a conversion exemption sought immediately after the right to harvest under a THP has expired, and one sought a decade later. Whether or not the legal right to harvest timber has expired, the environmental effects are presumed to remain." *Id*. at 612.

In *Lincoln Place*, 130 Cal.App.4th at 1498, the original mitigation conditions were at least seven years old. There, the mitigation conditions for a renovation project were in a 1995 EIR. *Id*. In 2002, in connection with "ministerial" building permits, a dispute arose as to whether the mitigation conditions were to be followed. The City said no. *Id*. The Court of Appeal disagreed, and held that the City "failed to proceed according to law" under CEQA by granting the permits absent compliance with the (by then) ten year old mitigation conditions "without stating a legitimate reason for ignoring those measures and without preparing and circulating a supplemental EIR." *Id*. at 1510. The Court *issued a permanent injunction against real party's project* until the City did so. *Id*.

Thus, if the agency is taking a subsequent action – even if ministerial – it must evaluate previously imposed mitigations which have not been met. In *Katzeff*, 118 Cal.App.4th at 614-615, the Court stayed real party's project and ordered that the City revisit the issue to justify its decision on the mitigation. In *Lincoln Place*, 130 Cal.App.4th at 1510, the court issued a writ against the City for failing "to proceed according to law" and a permanent injunction against real party's project until the City made new CEQA findings.

Since LPMC is proposing to eliminate a measures that was intended to mitigate growth-inducing impacts, it must first analyze the proposal and its impacts under CEQA.

D. LPMC Already Determined that the Trap Lane Violates the Gateway Constraints Policy.

In 2013, the LPMC considered an almost identical proposal to "add a third through-lane to the existing two southbound lanes on Pleasant Hill Road in the southbound direction, from north of Deer Hill Road to the State Route 24 westbound onramp." LPMC determined:

> It appears from the information presented today that one of the proposed mitigations for the Terraces Project – to widen southbound Pleasant Hill Road from two to three lanes from Deer Hill Road to the westbound SR 24 onramp – is inconsistent with the Gateway Constraints Policy of the adopted Lamorinda Action Plan.

(Exhibit B).

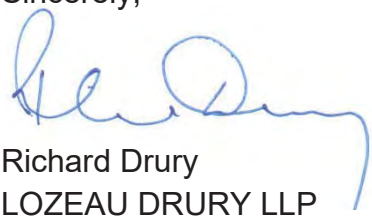
For the same reasons, the LPMC should reject the current proposal which conflicts with the Gateway Constraint Policy for the same reasons.

E. LPMC Should Not Consider the Proposed Amendment Until the Newly Elected City Council Members are Seated.

In the November 2020 election, two new members were elected to the Lafayette City Council. It is currently unknown what opinion these newly elected councilmembers will have on the proposed Amendment. However, it seems ill-advised to adopt a hastily proposed Amendment supported by a lame-duck Lafayette City Council when a new City Council has already been elected and will be sworn in in a matter of weeks.

There is certainly no rush to adopt the Amendment. The southbound land that is proposed is designed primarily for the proposed Terraces Project. This Project is currently embroiled in litigation that is only in its initial phases. The Project cannot proceed until that litigation is resolved – if ever. In any case, the decision can certainly wait for the new City Council to be seated.

Sincerely,



Richard Drury
LOZEAU DRURY LLP

Cc: "Bobadilla, Lisa" <lbobadilla@sanramon.ca.gov>
"Amaral, Darlene" <damaral@sanramon.ca.gov>

EXHIBIT A

Memorandum

Date: 3/5/2020

To: Michael Griffiths

From: Lin Zhang, PhD, PE, TE, PTOE
Elite Transportation Group, Inc. (ETG)

Subject: **Peer Review of Updated Traffic Study for the Proposed Terraces of Lafayette Project**

EXECUTIVE SUMMARY

This memorandum provides a summary of a peer review of the updated traffic impact study prepared by TJKM (hereinafter referred to as **updated traffic study**) for the proposed Terraces of Lafayette Project (hereinafter referred to as **proposed project**). The following areas are identified by Elite Transportation Group, Inc. (ETG) either unmitigable or inadequate:

- It was not clear whether the traffic analysis models used for the queueing and weaving analyses were calibrated to the local traffic condition. The conclusions drawn upon the model results would be questionable if the models were not properly calibrated.
- The proposed project would result in a significant and unavoidable impacts on the level of service at Pleasant Hill Road/Deer Hill Road intersection, as well as delay on Pleasant Hill Road.
- The projected delay indices used in the updated traffic study significantly underestimated the congestion level on Pleasant Hill Road and SR 24.
- Crossing three lanes for vehicles existing westbound SR 24 off-ramp to access the extended northbound left-turn lane at the intersection of Pleasant Hill Road/Deer Hill Road in this heavily congested short segment (approximately 600 feet only) will not only cause additional delay, but also pose safety risks. However, these impacts were not fully studied or mitigated.
- For a congested and gridlocked arterial such as Pleasant Hill Road during peak hours, installing Emergency vehicle preemption (EVP) would not fully mitigate the impact of the proposed project on emergency response time.
- The net loss of 15 parking spaces on Pleasant Hill Road would result in a significant impact on passenger loading.
- The proposed bicycle lane between Deer Hill Road and SR 24 on-ramp would create major conflict zones between bicycles and passenger-loading vehicles, between bicycles and vehicles in the trap lane, and between bicycles and vehicles entering & existing the property driveway.
- Analysis of impacts to traffic, noise, and pollution was not performed for the massive amount of heavy trucks in the grading stage of construction (approximately 45 heavy truck trips per hour).
- The updated traffic study lacks an analysis to quantify the traffic impact of the proposed project during wildfires and PG&E's power shut-offs. Also, an evacuation plan for the residents inside the Very High Fire Hazard Severity Zones (VHFHSZ) needs to be developed or updated.
- The updated traffic study omitted the analysis of the significant impact of the proposed project on westbound queues at the intersection of Laurel Drive/Deer Hill Road in the AM peak period under the Plus Project scenarios.

FIELD VISIT

To gain local knowledge of the study area, ETG conducted a field visit along Pleasant Hill Road between Withers Avenue and Old Tunnel Road, and Deer Hill Road between First Street and Pleasant Hill Road on October 22, 2019 (Tuesday), during AM peak, School peak, and PM peak periods.

On Pleasant Hill Road, our observations indicated that it experienced the most congestion in the southbound direction during the AM peak period. The southbound queue in the AM peak period extended as far as 1,500 feet north of Rancho View Drive. In the PM peak period, the northbound Pleasant Hill Road experienced congestion near the intersection at Pleasant Hill Road and Stanley Blvd/Deer Hill Rd, with the longest queue extending about 2,000 feet south of this intersection.

On Deer Hill Road, it was observed that there was an excessive left-turn queue on the westbound approach at the intersection of Deer Hill Road and Laurel Drive in the AM peak period. During the PM peak period, the eastbound Deer Hill Road experienced severe congestion with the longest queue extending more than one mile from the intersection of Pleasant Hill Road/Deer Hill Road/Stanley Boulevard.

ETG also conducted several travel time runs during the field visit. **Table 1** lists the average travel times and the delay indices in each peak direction of Pleasant Hill Road between Withers Avenue and Old Tunnel Road (approximately 2.8 miles). Note that the delay indices were calculated using the estimated free-flow travel time from Google Maps. Each average travel time was based on several travel time runs. **Table 1** also lists the Contra Costa Transportation Authority (CCTA) 2017 Multimodal Traffic Service Objectives (MTSO) delay indices, as well as the 2019 projected delay indices calculated by TJKM. The delay indices will be discussed in more detail in the next section.

Table 1. Travel Time and Delay Index - Pleasant Hill Road

Direction	Period	Average Travel Time (min)	Free-Flow Travel Time (min)	Delay Index	2017 MTSO Delay Index	2019 Projected (TJKM)
SB	AM Peak	16.4	5.5	2.98	2.4	1.34
NB	School Peak	7.4	5.5	1.35	-	-
NB	PM Peak	11.4	5.5	2.07	2.0	1.74

PEER REVIEW FINDINGS

Latest Traffic Data

The updated traffic study collected the turning movement counts at all 17 study intersections on April 30, 2019, and one intersection only at Pleasant Hill Road/Deer Hill Road/Stanley Boulevard on May 2, 2019. The counts at all study intersections were later scaled up based on the day-to-day traffic variation at the Pleasant Hill Road/Deer Hill Road/Stanley Boulevard intersection between April 30 and May 2, 2019, for the analysis.

The typical practice of collecting turning movement counts at an intersection is to collect counts on two midweek days and use the average for analysis. It is not certain that it was a budget constraint that did not allow the new data collection to cover two days at all study intersections. However, scaling up counts to a higher level would result in a more conservative analysis.

For the signal timing data, the updated study used the latest timings at intersections on Pleasant Hill Road provided by the City of Lafayette. However, for other signalized study intersections not on Pleasant Hill Road, default parameters were assumed, instead of using the actual signal timings, for unstated reasons.

Study Area Coverage

The study area in the updated study remains the same as the 2012 study. Based on our field visit observations, this study area is sufficient for the traffic impact analysis of the proposed Terraces of Lafayette project.

Analysis Methodologies

ETG evaluated the methodologies used in the updated traffic study, including the following:

- **Traffic Forecast** – The updated study used the latest CCTA Traffic Forecasting Model base year (2018) and future year (2040) outputs to calculate the annual average growth rate. This growth rate was later applied to the adjusted 2019 counts to estimate 2040 traffic. This is a reasonable and common practice.
- **Level of Service (LOS) Analysis** – The updated study used the Highway Capacity Manual (HCM) 2010 methodologies to determine LOS for the study intersections. This is different from the 2012 study that used the HCM 2000 methodologies, but is compliant with CCTA's preference as listed in the CCTA Technical Procedures.
- **Signal Warrant** – The updated study conducted peak hour signal warrant analyses for unsignalized intersections using the 2014 California Manual on Uniform Traffic Control Devices (MUTCD), which is the latest version of the manual. This is a reasonable and common practice.
- **Queuing Analysis** – Similar to the 2012 study, the updated study used the simulation approach to conduct queuing analysis. The simulated 95th percentile queue lengths were used to determine whether the existing turn-lanes provide sufficient storage. However, it was not mentioned in the report whether the simulation model was calibrated to the local traffic condition. Model calibration is the process of adjusting model parameters (which initially are defaults) to obtain a model that replicates the existing traffic conditions. Model calibration is critical in that it ensures that a traffic simulation model is able to reproduce the local traffic condition and is proper to use for analyzing alternatives or scenarios. For a corridor study, travel time is the most common performance measure that is used in model calibration. It was not clear from the updated study report if the traffic analysis models were calibrated. If the traffic analysis models were not calibrated, then the models would be unreliable and the conclusions drawn from the analysis would be questionable. TJKM should explain the calibration methods used.
- **Weaving Analysis** – It was concerned that the proposed project would worsen the weaving condition on Pleasant Hill Road between freeway ramps and nearby intersections. The updated study employed a similar simulation approach as used in the 2012 study to evaluate the impact

of the proposed project on weaving activities. However, it was not mentioned in the report whether the simulation model was calibrated to the local traffic condition.

- **Delay Index** – The Delay Index (DI) is an expression of the amount of time required to travel between two points during the peak hour as compared to the free-flow travel time baseline. The delay index is defined as: $Delay\ Index = \frac{Congested\ Peak-Hour\ Travel\ Time}{Free-Flow\ Travel\ Time}$. The updated traffic study estimated the 2019 delay indices for Pleasant Hill Road and SR 24 by using the 2013 MTSO monitoring results and growth rates between 2013 and 2019. It was stated in the report that the 2017 MTSO monitoring results for Pleasant Hill Road and SR 24 overestimated the existing delay index, therefore, the 2013 results were used to estimate the 2019 delay index. However, the 2017 MTSO monitoring results were based on INRIX data. INRIX gathers and aggregates data collected from a wide range of anonymous GPS-equipped devices (e.g., smartphones), and thus provides much better coverage of travel time data compared to traditional travel time tach runs (i.e., floating car survey). INRIX data has been validated and recognized as a reliable data source, and has been used by many agencies and organizations nationwide and locally in the Bay Area for congestion monitoring and other traffic-related projects. In addition, our travel time runs on Pleasant Hill Road conducted on October 22, 2019, show that the existing delay indices are higher but close to the 2017 monitoring results (**Table 1**). Therefore, our assessment is that the projected delay indices used in the updated traffic study significantly underestimated the congestion level on Pleasant Hill Road. See below under the heading Impacts on SR 24 for our similar comments on the impacts on Highway 24.

Trip Generation Calculations

The 2012 study calculated trip generations using the ITE Trip Generation Manual, 8th Edition. Since the 10th edition of the Manual was published in 2017, the updated traffic study calculated trip generation based on the latest Manual (i.e., 10th edition). However, because the new trip generation resulted in fewer trips than the original one in the 2012 study, the updated traffic study used the original trip generation for the analysis. As stated in the report, the proposed project was classified as "Multifamily Housing (Mid-Rise)" according to the latest Manual but was classified as "Apartments" based on the older version of the Manual. The change of land use classification would result in over a 25% reduction in trip generation, although it is unclear how such a change is warranted since we understand that half the buildings are 2-story and half are 3-story. The updated study report included the 10th Edition-based trip generation for comparison purposes only, but applied the higher trip generation used in the 2012 study.

We verified and confirmed that the trip generation calculations using both the 8th and 10th Edition of the Traffic Generation Manual in the updated traffic study report are valid.

Trip Distribution Assumptions

The updated study retained the trip distribution that was manually estimated in the 2012 study, because "it was determined that the 'plus project' model results could not be relied upon". It was not certain if it was caused by the model not being sensitive to the proposed project.

We reviewed the assumed trip distribution and they are reasonable given the traffic conditions in the study area.

Assumptions for Future Year Cumulative Scenarios

The future year was set as 2040 in the updated traffic study, which is reasonable and consistent with the future year of the latest CCTA Traffic Forecasting Model. The growth rate used to estimate 2040 traffic was derived based on the CCTA model outputs of the base year and future year. This is a common practice.

Impacts on Emergency Vehicles

Emergency vehicle preemption (EVP) system was recommended in the original study as the mitigation measure for the impact of the proposed project on emergency response time. Opticom, as one of the widely used EVP equipment in the US, was mentioned in the original study. EVP was retained in the updated traffic study to mitigate the impact on emergency response time.

While EVP enables faster emergency response, congestion and gridlock can prevent emergency vehicles from reaching the preemptive detection range at equipped signalized intersections. The priority logic used in the current EVP equipment (e.g., Opticom) does not consider congested queuing conditions such as the one on Pleasant Hill Road as shown in **Figure 1**. The technique that uses queue-based offset to adjust preemption time is still at the research and development stage, and thus not available to use yet.

Figure 1. Emergency Vehicle Stuck in Traffic Congestion on Pleasant Hill Road

Our assessment is that EVP equipment (e.g., Opticom) can help reduce emergency response time under non-congested or slightly-congested traffic conditions. However, for a congested and gridlocked arterial such as Pleasant Hill Road during the peak hours, the impact on emergency response time due to additional congestion caused by the proposed project is unlikely to be fully mitigated by installing EVP equipment. No analysis in the updated traffic report has shown emergency response time reduction by using EVP equipment on Pleasant Hill Road. Therefore, this impact is deemed significant and unavoidable.

Impacts during Construction

According to the traffic study report, grading on the proposed project site during construction would result in approximately 25,000 to 30,000 haul trips over a nine-month period. The traffic study assumed five-day work weeks, this would result in an average of approximately 150 haul trips per day, for a total of 300 truck trips (150 arriving empty, 150 leaving full) per day. The traffic study report suggested that large trucks should be prohibited during the hours of 7:00 to 9:00 a.m. and 3:00 to 7:00 p.m. on any school day, and 7:00 to 9:00 a.m. and 4:00-7:00 p.m. on any non-school weekday. This would result in six (6) to seven (7) hours per workday for active hauling operations. However, the traffic study report assumed eight (8) hours per workday instead, which resulted in an average of approximately 40 truck trips per hour. Our estimate is an average of approximately 45 truck trips per hour. This large amount of heavy truck traffic during construction will result in not only excessive intersection delay at the intersection of Pleasant Hill Road and Deer Hill Road/Stanley Boulevard, but also new traffic hazards when changing lanes or making wide turns when maneuvering on Pleasant Hill Road and Deer Hill Road. The updated traffic study report recommended to limit truck traffic to off-peak times, but did not analyze the potential impacts. Analysis should have been performed considering the massive amount of heavy trucks in the grading stage of construction (approximately 45 heavy truck trips per hour). The noise and pollution impacts of this amount of truck activity should be analyzed elsewhere in the CEQA analysis.

Weaving Activities

It was concerned that the proposed project would worsen the weaving condition on Pleasant Hill Road between freeway ramps and nearby intersections, especially when the original design allows full access at the proposed driveway on Pleasant Hill Road. The revised design has prohibited left-turn in/out at this driveway. In addition, the simulation experiments carried out in the updated traffic study show that the additional traffic due to the proposed project has little impact on traffic speeds along this weaving section. However, it was not clear in the updated traffic study report if the simulation models were calibrated to represent the real congestion level on Pleasant Hill Road. If the traffic analysis models were not calibrated, then the models would be unreliable and the conclusions drawn from the analysis would be questionable.

Furthermore, the updated traffic study states that the northbound to westbound left-turn lane at the intersection of Pleasant Hill Road/Deer Hill Road/Stanley Boulevard will be extended further south. This will result in approximately 600 feet only between the westbound SR 24 to northbound Pleasant Hill Road off-ramp and the extended northbound left-turn lane. Based on the estimated project trip generation, during the PM peak hour, there will be about 30 project-generated vehicles which will have to cross three lanes in order to access the left-turn lane from the off-ramp. Crossing three lanes in this

heavily congested short segment (approximately 600 feet) will not only cause additional delay, but also pose safety risks. However, these impacts were not fully studied or mitigated in the updated traffic study.

Impacts on SR 24

The updated traffic study used delay index to evaluate the impacts of the proposed project on SR 24 between the Caldecott Tunnel and I-680. it was stated in the report that the 2017 MTSO monitoring results for SR 24 overestimated the existing delay index, and therefore the 2013 results were used to estimate the 2019 delay index. As stated earlier, the 2017 MTSO monitoring results were based on INRIX data which has been validated and recognized as a reliable data source. We also performed a quick check using the Google Map peak-period travel times to calculate the delay index, as shown in **Table 2**. It can be seen that the Google Map-based delay indices are similar to the 2017 MTSO delay indices. Our assessment is that the projected delay indices used in the updated traffic study significantly underestimated the congestion level on SR 24.

Table 2. Travel Time and Delay Index – SR 24

Direction	Period	Average Travel Time (min)	Free-Flow Travel Time (min)	Delay Index	2017 MTSO Delay Index	2019 Projected (TJKM)
WB	AM Peak	20.3	10	2.03	2.0	1.7
EB	PM Peak	22.9	10	2.29	2.3	1.4

Site Access

As stated in the updated study report, several changes were made in the updated site plan:

- Driveway on Pleasant Hill Road permits only right-turn in/out
- Relocated east driveway on Deer Hill Road permits full access with an exclusive left-turn lane
- Relocated west driveway on Deer Hill Road permits only right-turn in/out and left-turn out with a median refuge lane

Our assessment is that compared to the original design used in the 2012 study, these changes would reduce interruptions to the existing traffic on Pleasant Hill Road and Deer Hill Road. The relocated east driveway on Deer Hill Road is further away from the intersection at Pleasant Hill Road/Deer Hill Road, which would provide more left-turn lane storage and some safety benefits, although allowing left turns out of this driveway could still be problematic given limited visibility, the steepness of Deer Hill Road at this point and the speed and momentum of traffic coming down the hill in off-peak times.

Parking Supply inside Development

The updated study used the same parking requirements by unit size as in the 2012 study. The calculated parking demand is 511 spaces and the updated parking supply is 557 spaces, which is slightly different from the original parking supply of 567 spaces. The conclusion that the project would have a less-than-significant impact on surrounding roadways since parking supply inside the development is sufficient.

Passenger Loading and On-Street Parking

As stated in the updated traffic study report, the proposed project would remove 19 on-street parking spaces along Pleasant Hill Road south of Deer Hill Road. These parking spaces are heavily used especially for student pick-ups in the afternoon for the nearby Acalanes High School, as illustrated in **Figure 2**. It was stated in the report that the new loading area could accommodate approximately eight (8) waiting vehicles. However, there is already an existing passenger loading zone between the intersection of Pleasant Hill Road/Deer Hill Road and the existing parking spaces that accommodate about four (4) vehicles. The net loss of 15 parking spaces (i.e., 19+4-8=15) would result in a significant impact on passenger loading in the study area, which contradicts the conclusion in the updated traffic study report.

Figure 2. Utilization of Existing Passenger Loading Zone & Parking Spaces (West Side of Pleasant Hill Road, South of Deer Hill Road)

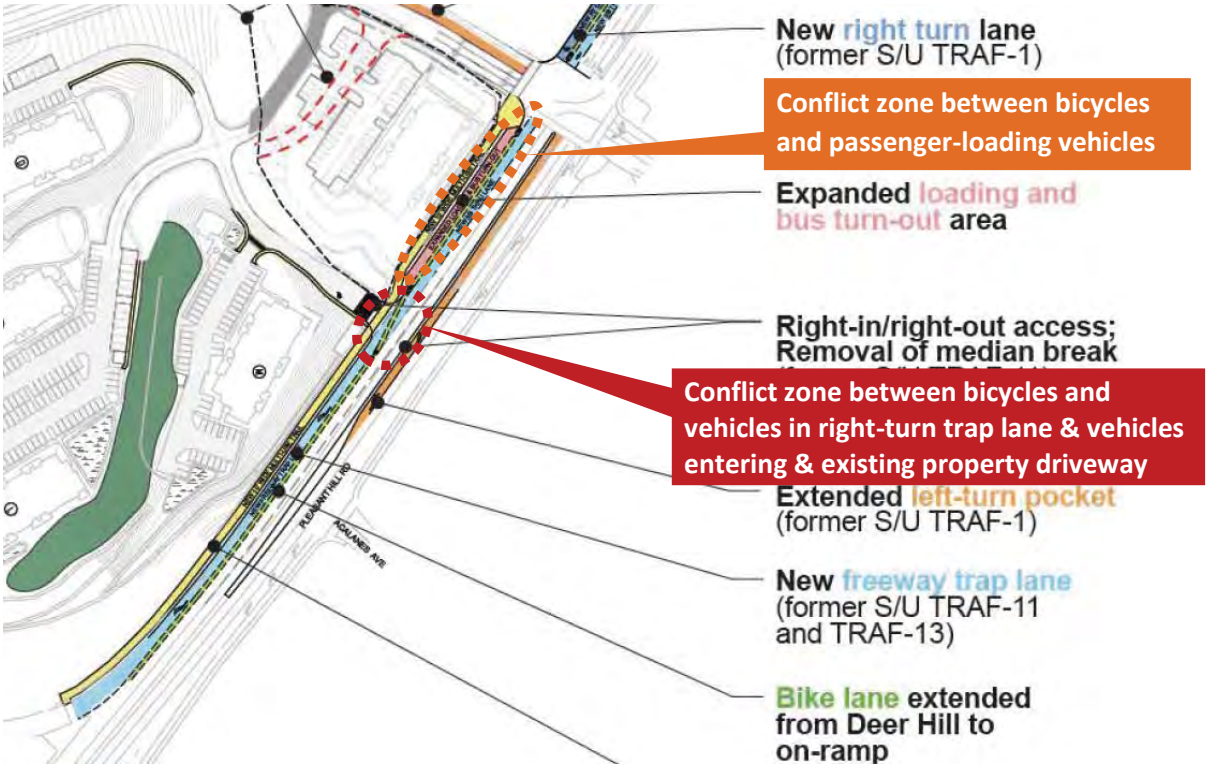
Bike Lane

The proposed bicycle lane between Deer Hill Road and SR 24 on-ramp would be located between the right-turn trap lane and through lanes, as illustrated in **Figure 3**. This will create two major neighboring conflict zones for bicycles, as listed below.

- Conflict zone between bicycles and passenger-loading vehicles, as illustrated in the area circled in orange.
- Conflict zone between bicycles and vehicles in the right-turn trap lane where bicycles need to cross the trap lane, and between bicycles and vehicles entering & existing the property driveway, as illustrated in the area circled in red.

The updated traffic study did not address these significant conflicts in the neighboring conflict zones between bicycles and vehicles.

Figure 3. Bicycle Conflict Zones



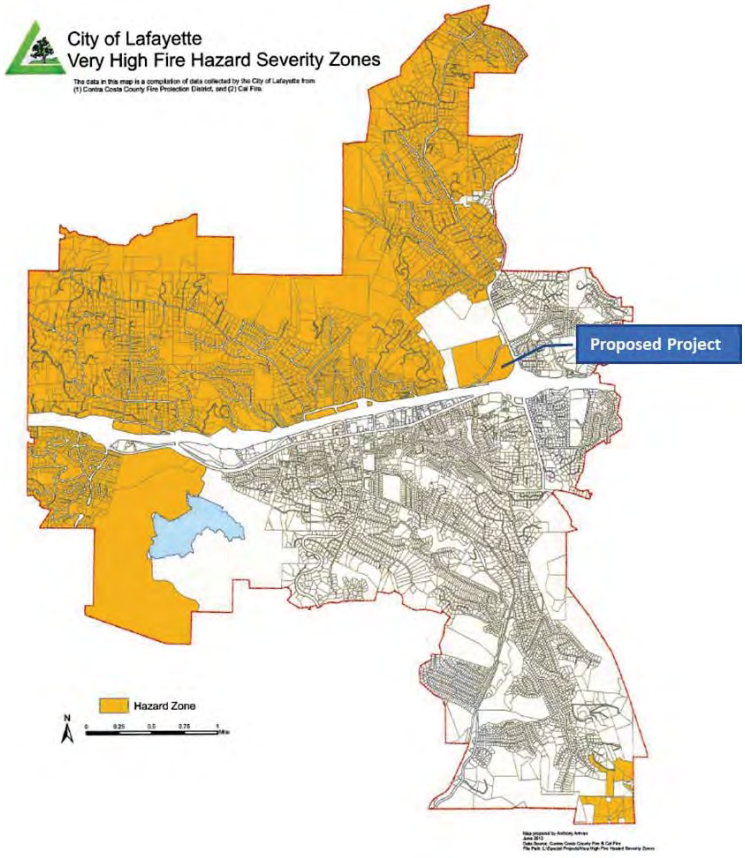
Wildfire, PG&E Power Shut-off, and Evacuation Plan

It is worth noting that the proposed project is located in the Very High Fire Hazard Severity Zones (VHFHSZ) according to the City Ordinance No. 620 (**Figure 4)**. Given the facts that: 1) semi-rural/urban interface wildfires have become a new reality; 2) all three fire stations within the study area use Pleasant Hill Road, and 3) all three fire stations fail to meet the target response time of five minutes, the extra delay on Pleasant Hill Road caused by the proposed project would worsen emergency response time as well as resident evacuation.

In addition, PG&E's power shut-offs, as a proactive measure to help avoid wildfires, have been affecting the study area and surrounding areas. As a consequence, affected signalized intersections become all-way-stop-controlled intersections due to traffic signal blackout (which would also affect any proposed EVP system also). It is recommended that the study should include an analysis to quantify the traffic impact of the proposed project under such conditions.

In addition, an evacuation plan for the residents in the area should be considered and how the proposed project would impact evacuation routes and emergency vehicles access if the proposed 315 units are being evacuated at the same time.

Figure 4. Very High Fire Hazard Severity Zones, City of Lafayette[1]



Other Issues

Significant and Unavoidable Impacts – According to the updated traffic study report, the proposed project would result in significant and unavoidable impacts on the level of service at the intersection of Pleasant Hill Road/Deer Hill Road/Stanley Boulevard and the delay index on Pleasant Hill Road, unless a third southbound through lane were added to Pleasant Hill Road between north of Deer Hill Road and SR-24. However, as discussed earlier, the projected delay indices used in the updated traffic study significantly underestimated the congestion level on Pleasant Hill Road. Therefore, it cannot be claimed for sure that a third southbound through lane will be able to mitigate the proposed project. In addition, the Gateway Constraints Policy outlined in the Lamorinda Action Plan precludes adding more through lanes. Pleasant Hill Road is used as an alternative route by traffic heading south on I-680 in the AM Peak period. One of the rationales for the Gateway Constraints Policy is the recognition that any improvement in through traffic flow on Pleasant Hill Road is likely to attract more traffic from I-680. Therefore, this impact is considered significant and unmitigable.

Excessive Queue at Laurel Drive/Deer Hill Road – During our field visit, excessive left-turn queues were observed on the westbound approach of Laurel Drive/Deer Hill Road intersection in the AM peak period. According to the 95th percentile queue lengths included in the queuing and blocking reports (Appendix

[1] https://www.lovelafayette.org/Home/ShowDocument?id=1950

C, D, E and F in the updated traffic study report), the proposed project would cause significant impact at this intersection under Existing Plus Project scenario. No discussion on this impact or corresponding mitigation measures were mentioned in the updated traffic study.

SUMMARY

Elite Transportation Group, Inc. (ETG) conducted a peer review of the updated traffic study report for the proposed Terraces of Lafayette project. The following areas are identified either unmitigable or inadequate:

- It was not clear from the updated traffic study report whether the traffic analysis models were calibrated to the local traffic condition before being used for traffic analysis, including queuing and weaving analysis. If the traffic analysis models were not calibrated, then the models would be unreliable and the conclusions drawn from the analysis would be questionable.
- The proposed project would result in significant and unavoidable impacts on the level of service at the intersection of Pleasant Hill Road/Deer Hill Road/Stanley Boulevard and the delay index on Pleasant Hill Road, unless a third southbound through lane were added to Pleasant Hill Road between north of Deer Hill Road and SR 24. However, the projected delay indices used in the updated traffic study significantly underestimated the congestion level on Pleasant Hill Road. Therefore, it cannot be claimed that a third southbound through lane will certainly be able to mitigate the proposed project. In addition, the Gateway Constraints Policy outlined in the Lamorinda Action Plan precludes adding more through lanes. Pleasant Hill Road is used as an alternative route by traffic heading south on I-680 in the AM Peak period. One of the rationales for the Gateway Constraints Policy is the recognition that any improvement in through traffic flow on Pleasant Hill Road is likely to attract more traffic from I-680. Therefore, this impact is considered significant and unmitigable.
- The updated traffic study stated that the 2017 MTSO monitoring results for Pleasant Hill Road and SR 24 overestimated the existing delay index, therefore, the 2013 results were used to estimate the 2019 delay index. However, the 2017 MTSO results were based on INRIX data, which has been validated and recognized as a reliable data source and has been used in many traffic-related projects. In addition, our travel time runs on Pleasant Hill Road conducted on October 22, 2019, show that the existing delay indices are higher but close to the 2017 monitoring results. The Google map-based delay indices are similar to the 2017 MTSO delay indices on SR 24. Therefore, our assessment is that the projected delay indices used in the updated traffic study significantly underestimated the congestion level on Pleasant Hill Road and SR 24.
- The northbound to westbound left-turn lane at the intersection of Pleasant Hill Road/Deer Hill Road/Stanley Boulevard will be extended further south based on the project site plan and the updated traffic study, which will result in approximately 600 feet only between the westbound SR 24 to northbound Pleasant Hill Road off-ramp and the extended northbound left-turn lane. During the PM peak hour, there will be about 30 project-generated vehicles exiting westbound SR 24 off-ramp which will have to cross three lanes in order to access the northbound left-turn lane. Crossing three lanes in this heavily congested short segment (approximately 600 feet) would not only cause additional delay, but also pose safety risks. However, these impacts were not fully studied or mitigated in the updated traffic study.
- Emergency vehicle preemption (EVP) equipment can help reduce emergency response time under non-congested or slightly-congested traffic conditions. For a congested and gridlocked arterial such as Pleasant Hill Road during peak hours, installing EVP would not fully mitigate the

impact of the proposed project on emergency response time. No analysis in the updated traffic report has shown emergency response time reduction by using EVP equipment on Pleasant Hill Road. This impact is deemed significant and unavoidable.

- The proposed project would remove 19 on-street parking spaces along Pleasant Hill Road south of Deer Hill Road. These parking spaces are heavily used especially for student pick-ups in the afternoon for the nearby Acalanes High School. It was stated in the report that the new loading area could accommodate approximately eight (8) waiting vehicles. The existing passenger loading zone can accommodate about four (4) vehicles. The net loss of 15 parking spaces would result in a significant impact on passenger loading in the study area and therefore deemed significant.
- The proposed bicycle lane between Deer Hill Road and SR 24 on-ramp would be located between the right-turn trap lane and through lanes. This will create major neighboring conflict zones - between bicycles and passenger-loading vehicles, between bicycles and vehicles in the right-turn trap lane where bicycles need to cross the trap lane, and between bicycles and vehicles entering & existing the property driveway. These significant conflicts in the conflict zones were not addressed in the updated traffic study.
- Grading on the proposed project site during construction would result in approximately 25,000 to 30,000 haul trips over a nine-month period. Our estimation shows 45 trucks per hour for seven (7) hours per weekday given that the construction trucks will avoid peak hours. This large amount of heavy truck traffic during construction will result in not only excessive intersection delay at the intersection of Pleasant Hill Road and Deer Hill Road/Stanley Boulevard, but also new traffic hazards when changing lanes or making wide turns when maneuvering on Pleasant Hill Road and Deer Hill Road. The updated traffic study report recommended to limit truck traffic to off-peak times, but did not analyze the potential impacts. Analysis should have been performed considering the massive amount of heavy trucks in the grading stage of construction (approximately 45 heavy truck trips per hour). The noise and pollution impacts of this amount of truck activity should be analyzed elsewhere in the CEQA analysis.
- Considering that the proposed project is located in the Very High Fire Hazard Severity Zones (VHFHSZ), as well as PG&E's power shut-offs as a proactive measure to help avoid wildfires, the study should include an analysis to quantify the traffic impact of the proposed project under such conditions. In addition, an evacuation plan for the residents inside the VHFHSZ needs to be developed or updated, given the new reality of wildfires and proximity to Acalanes High School buildings and student parking lot.
- During the field visit, excessive left-turn queues were observed on the westbound approach at the intersection of Laurel Drive/Deer Hill Road in the AM peak period. According to the 95th percentile queue lengths included in the queuing and blocking reports, the proposed project would cause a significant impact at this intersection under the Plus Project scenarios. No discussion on this impact or corresponding mitigation measures were mentioned in the updated traffic study.

August 24, 2020

Re: Terraces of Lafayette Emergency Evacuation Traffic Impact Study

Dear Mayor and Council Members

Apologies for the lateness in getting this to you, but we have been working on this since we got the latest TJKM memo on Tuesday. Attached is another memo prepared by Elite that reviews the TJKM memorandum dated August 10, 2020, which was a response to Elite's last memo of August 8, 2020. In addition, Elite has now run various simulations of the TJKM model, firstly to check they could duplicate TJKM's results, which they did, but then to look deeper at the results to answer some critical questions, such as "how many vehicles can actually get out if there was a fire". **Elite's findings are shocking**, and are summarized as follows:

1. Within the Terraces project including the Trap lane, of the 551 cars assumed, only 208 are able to get out in the first hour of the evacuation. 343 will be stuck. If there is no Trap lane **only 16 cars will make it out in the first hour -** 535 cars will be stuck in their driveways and unable to get to Pleasant Hill Road**.** This directly contradicts what the fire chief has been saying that he is not worried about the Terraces because it is by the freeway.
2. For evacuating traffic from the surrounding area, the situation is also bad. **If there is no trap lane built with the project, an additional 553 neighborhood cars will be stuck in their driveways after the first hour and unable to get to Pleasant Hill Road.** Adding the trap lane drops this to 152 extra cars stuck, but that is still 152 cars too many.
3. This explains TJKM's earlier conclusion that the Terraces only adds 10 to 16 seconds extra delay on Pleasant Hill Road; this is because the majority of evacuation traffic from the Terraces can't even make it to Pleasant Hill Road.
4. Another direct result is that TJKM's assumption that some parents will be able to pick up students from the schools on their way out is invalid – some of these parents don't even make it to Pleasant Hill Road in the first hour.
5. Elite looked at TJKM's response that although they started with an empty network, they did seed the network with some traffic before the evacuation begins. This is true, but TJKM only seeded it with enough traffic to form a back up from Deer Hill Road half way to Springhill Road. See page 8 of TJKM's memo for an illustration. This in not heavy commute hour traffic, and so the model is not being at all conservative in this respect.
6. Note that all these results are based on TJKM's assumption in the model that there will not be any traffic congestion on Highway 24. In fact, the situation will be much worse if Highway 24 is

backed up, which is likely. Elite addresses on page 9 of their memo TJKM's response that Highway 24 traffic does not matter – it does!

7. On page 10 of their memo, Elite also responds to TJKM's claims that the on-ramps to Highway 24 will have the capacity to handle the extra evacuation traffic that will be generated by the Terraces – that is not true.

In summary, it is clear from Elite's comprehensive report that the TJKM evacuation model actually shows that **the Terraces will impose significant safety threats on both the surrounding neighborhood as well as the residents within the project itself** due to the traffic congestion and emergency evacuation delays. You should therefore deny this project at your meeting this evening.

Sincerely,

Colin Elliott on behalf of Michael Griffiths

Attached:

1. Elite Peer Review memo dated 8/23/2020

Memorandum

Date: August 23, 2020

To: Michael Griffiths

From: Lin Zhang, PhD, PE, TE, PTOE
Elite Transportation Group, Inc. (ETG)

Subject: **Peer Review of TJKM's Evacuation Models and Response Memo for Terraces of Lafayette Traffic Impact Study**

TJKM, the traffic study consultant for the proposed Terraces of Lafayette Project, released a memorandum dated August 10, 2020, in response to ETG's comments regarding TJKM's emergency evacuation modeling and analysis. The purpose of this memorandum is to provide a summary of our latest findings based on a review of the TJKM's response memo and evacuation models.

TJKM's evacuation models were developed for AM and PM peak hours using Synchro/SimTraffic, a commonly used software package for arterial operations. TJKM's evacuation model files were organized for the following six scenarios ("Project" is referred as the Terraces of Lafayette):

- **Evac 1** – Evacuation (without project) in the AM Peak
- **Evac 1 + Project** – Evacuation plus project, with trap lane[1], in the AM Peak
- **Evac 1 + Project Variant** – Evacuation plus project, no trap lane, in the AM Peak
- **Evac 2** – Evacuation (without project) in the PM Peak
- **Evac 2 + Project** – Evacuation plus project, with trap lane, in the PM Peak
- **Evac 2 + Project Variant** – Evacuation plus project, no trap lane, in the PM Peak

In TJKM's memo, "denied entry vehicles", which will be explained in the next, were not reported. We re-ran SimTraffic simulation for the AM peak scenarios using the Synchro files and the same parameters that TJKM provided, as listed below:

- 5 runs per synchro file
- 10-minute seeding interval
- 60-minute analysis interval
- Random seed 1412

The SimTraffic simulation reports are attached in **Appendix**. We were able to replicate majority of the performance measures that were included in TJKM's memo. In addition, we also reported "denied entry vehicles", for both systemwide and individual intersections (see **Appendix**).

[1] The Gateway Constraints Policy outlined in the Lamorinda Action Plan precludes adding more through lanes. Pleasant Hill Road is used as an alternative route by traffic heading south on I-680 in the AM Peak period. One of the rationales for the Gateway Constraints Policy is the recognition that any improvement in through traffic flow on Pleasant Hill Road is likely to attract more traffic from I-680.

DENIED ENTRY VEHICLES (WAITING TO ENTER THE TRAFFIC NETWORK)

Denied entry vehicles (i.e., unserved vehicles) are the vehicles that are still waiting to enter the traffic network by the end of the traffic analysis period. We checked and found many denied entry vehicles in TJKM's evaluation models. For instance, in the AM peak hour evacuation model (7:00-8:00 AM), the number of denied entry vehicles including the Terraces of Lafayette project is **more than 3,400 vehicles** under the trap lane scenario (**Table 1**), or **more than 3,800 vehicles** under the no trap lane scenario (**Table 2**). This means that by 8:00 AM (the end of the traffic analysis period), there would still be more than 3,400 vehicles (under the trap lane scenario), or more than 3,800 vehicles (under the no trap lane scenario), waiting to get onto streets for evacuation.

Table 1. Systemwide Denied Entry Vehicles – AM Peak, with Project, with Trap Lane

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	2263	2295	2244	2328	2313	2288
Vehs Exited	2102	2093	2083	2150	2194	2124
Starting Vehs	258	221	256	240	270	249
Ending Vehs	419	423	417	418	389	413
Denied Entry Before	144	118	171	165	170	154
Denied Entry After	3606	3495	3527	3411	3573	3521
Travel Distance (mi)	1958	1940	1912	1998	1993	1960
Travel Time (hr)	2184.8	2082.6	2177.1	2092.5	2164.7	2140.3
Total Delay (hr)	2116.4	2014.8	2109.6	2022.3	2095.0	2071.6
Total Stops	8764	8548	8324	9019	8972	8724
Fuel Used (gal)	547.6	524.9	544.9	528.3	545.2	538.2

Table 2. Systemwide Denied Entry Vehicles – AM Peak, with Project, No Trap Lane (Project Variant)

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1791	1861	1881	1826	1818	1836
Vehs Exited	1693	1741	1734	1705	1729	1721
Starting Vehs	305	291	290	275	312	295
Ending Vehs	403	411	437	396	401	410
Denied Entry Before	150	161	149	162	161	157
Denied Entry After	4006	3989	3958	4088	3989	4005
Travel Distance (mi)	1583	1638	1617	1626	1663	1625
Travel Time (hr)	2421.0	2442.9	2410.2	2434.6	2418.7	2425.5
Total Delay (hr)	2365.5	2385.8	2353.9	2378.2	2361.2	2368.9
Total Stops	5726	6207	5810	6056	6244	6009
Fuel Used (gal)	590.3	597.6	588.3	594.4	592.5	592.6

We checked the project driveway connecting with Pleasant Hill Road, and saw that the project driveway is still packed with vehicles by the end of the traffic analysis period (see **Figure 1**). We then checked and found that there were more than 500 denied entry vehicles under the trap lane scenario (**Table 3**), or more than 700 denied entry vehicles under the no trap lane scenario (**Table 4**). Only 12 vehicles, or 2%, would be able to get out of the Terraces of Lafayette community during the 7:00-8:00 AM one-hour evacuation period under the no trap lane scenario. Even with the trap lane scenario, only 217 vehicles, or 30%, would be able to get out of the Terraces of Lafayette community. The denied entry vehicles would not show up on the short project driveway. To better visualize the stack of the denied entry vehicles, we "artificially" extended the project driveway, as shown in **Figure 1**. Majority of vehicles could not even leave Terraces of Lafayette community after the one-hour evacuation period.

Table 3. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, with Trap Lane

11: Pleasant Hill Road & Project Dwy Performance by movement

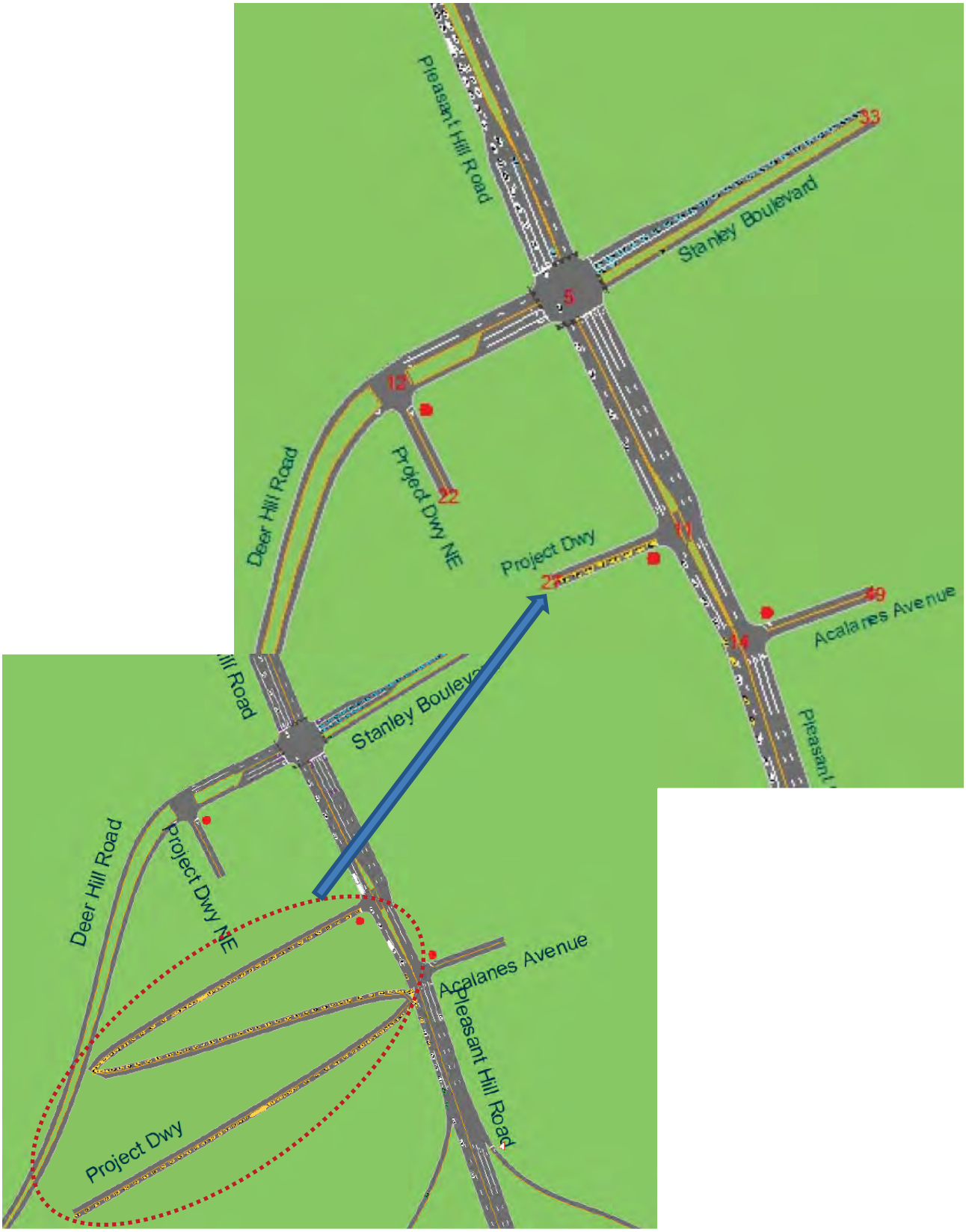
Movement	EBR	NBT	SBT	All
Denied Delay (hr)	294.0	0.0	0.0	294.0
Denied Del/Veh (s)	1369.0	0.0	0.0	446.0
Total Delay (hr)	7.0	0.0	13.7	20.7
Total Del/Veh (s)	112.7	0.0	31.4	40.6
Stop Delay (hr)	7.5	0.0	11.1	18.6
Stop Del/Veh (s)	120.4	0.0	25.4	36.5
Vehicles Entered	217	39	1561	1817
Vehicles Exited	217	39	1558	1814
Hourly Exit Rate	217	39	1558	1814
Input Volume	735	35	4244	5014
% of Volume	30	111	37	36
Denied Entry Before	31	0	0	31
Denied Entry After	556	0	0	556

Table 4. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, No Trap Lane (Project Variant)

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	420.6	0.0	0.0	420.6
Denied Del/Veh (s)	1907.0	0.0	0.0	688.9
Total Delay (hr)	7.9	0.0	8.2	16.2
Total Del/Veh (s)	1361.7	0.0	21.5	40.6
Stop Delay (hr)	8.0	0.0	4.7	12.6
Stop Del/Veh (s)	1366.8	0.0	12.2	31.7
Vehicles Entered	13	39	1365	1417
Vehicles Exited	12	39	1365	1416
Hourly Exit Rate	12	39	1365	1416
Input Volume	735	35	4244	5014
% of Volume	2	111	32	28
Denied Entry Before	61	0	0	61
Denied Entry After	781	0	0	781

Figure 1. Pleasant Hill Road & Project Driveway (by end of traffic analysis period in AM peak)



We noticed that TJKM assumed a peak hour factor (PHF) of 0.75 in the evacuation models. The PHF is usually used to convert the hourly traffic volume into the flow rate that represents the busiest 15 minutes of the rush hour.

$$PHF = \frac{Total\ Hourly\ Traffic\ Volume}{(Peak\ 15\text{–}Minute\ Traffic\ Volume\ with\ the\ Hour) \times 4}$$

Using a PHF of 0.75 means that the analysis flow rate (i.e., peak 15-minute traffic flow rate) is 33.3% more than the hourly traffic volume.

Different from a typical intersection delay and level of service (LOS) analysis, the purpose of an evacuation model is mainly focused on how quickly the evacuation can be achieved. Therefore, using PHFs may not be appropriate for evacuation analyses. We then ran SimTraffic simulation for the AM peak scenarios using the same Synchro files and primary parameters, with the only change of PHF from 0.75 to 1.0. The SimTraffic simulation reports based on PHF of 1.0 are attached in **Appendix**.

Even with a PHF of 1.0, we still found that there would be more than 300 denied entry vehicles under the trap lane scenario (**Table 5**), or more than 500 denied entry vehicles under the no trap lane scenario (**Table 6**). Only 13 vehicles, or 2%, would be able to get out of the Terraces of Lafayette community during the 7:00-8:00 AM one-hour evacuation period under the no trap lane scenario. Even with the trap lane scenario, only 210 vehicles, or 38%, would be able to get out of the Terraces of Lafayette community.

Table 5. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, with Trap Lane (PHF=1.0)

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	205.8	0.0	0.0	205.8
Denied Del/Veh (s)	1266.7	0.0	0.0	341.3
Total Delay (hr)	7.0	0.0	14.4	21.3
Total Del/Veh (s)	115.4	0.0	32.9	42.3
Stop Delay (hr)	7.4	0.0	11.8	19.2
Stop Del/Veh (s)	123.2	0.0	27.0	38.1
Vehicles Entered	211	26	1560	1797
Vehicles Exited	210	26	1556	1792
Hourly Exit Rate	210	26	1556	1792
Input Volume	551	26	3183	3760
% of Volume	38	100	49	48
Denied Entry Before	31	0	0	31
Denied Entry After	374	0	0	374

Table 6. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, No Trap Lane (Project Variant) (PHF=1.0)

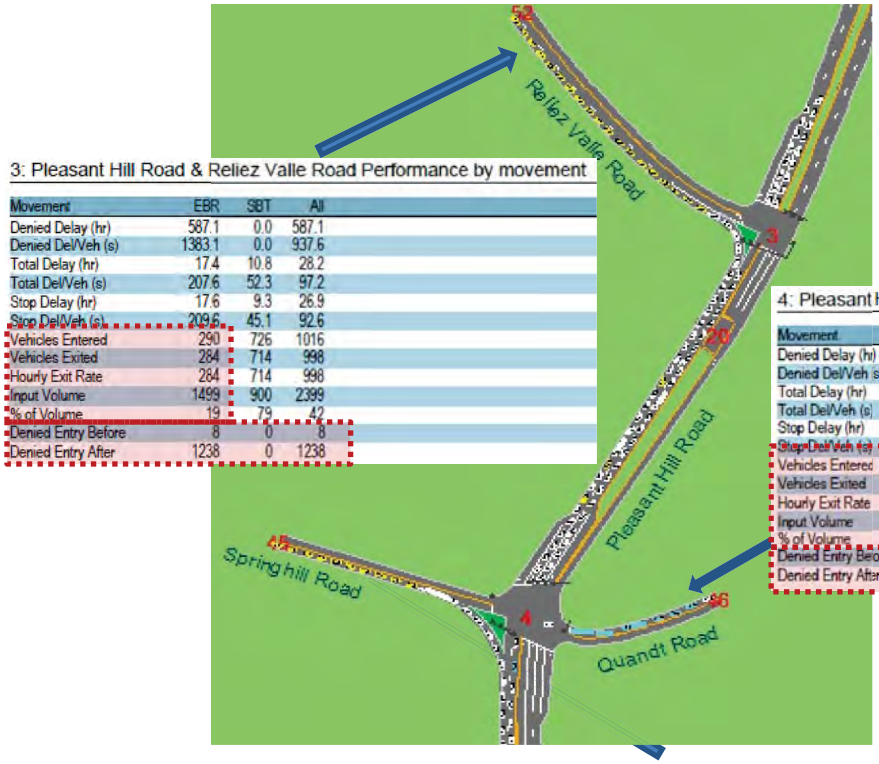
11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	333.1	0.0	0.0	333.1
Denied Del/Veh (s)	1956.2	0.0	0.0	598.1
Total Delay (hr)	8.0	0.0	8.0	16.1
Total Del/Veh (s)	1374.8	0.0	21.0	40.7
Stop Delay (hr)	8.1	0.0	4.5	12.5
Stop Del/Veh (s)	1380.2	0.0	11.7	31.7
Vehicles Entered	13	25	1367	1405
Vehicles Exited	13	25	1368	1406
Hourly Exit Rate	13	25	1368	1406
Input Volume	551	26	3183	3760
% of Volume	2	96	43	37
Denied Entry Before	65	0	0	65
Denied Entry After	600	0	0	600

The denied entry vehicles exist on other streets too, including Stanley Boulevard, Spring Hill Road, Quandt Road, and Reliez Valley Road, as shown in **Figure 2**. Keep it in mind that Stanley Boulevard is mainly for evacuating students from Acalanes High School, and denied entry vehicles (i.e., waiting to enter the traffic network) would be more than 900.

With so many denied entry vehicles systemwide (>3,400 vehicles under the trap lane scenario, or >3,800 vehicles under the no trap lane scenario), and 98% of vehicles under the no trap lane scenario (or more than 60% under the trap lane scenario) could not even leave Terraces of Lafayette community after the one-hour evacuation period, TJKM's evacuation models apparently lack credibility and the results coming out of the evacuation models are simply invalid.

Figure 2. Streets with Significant Denied Entry Vehicles (by end of traffic analysis period in AM peak)

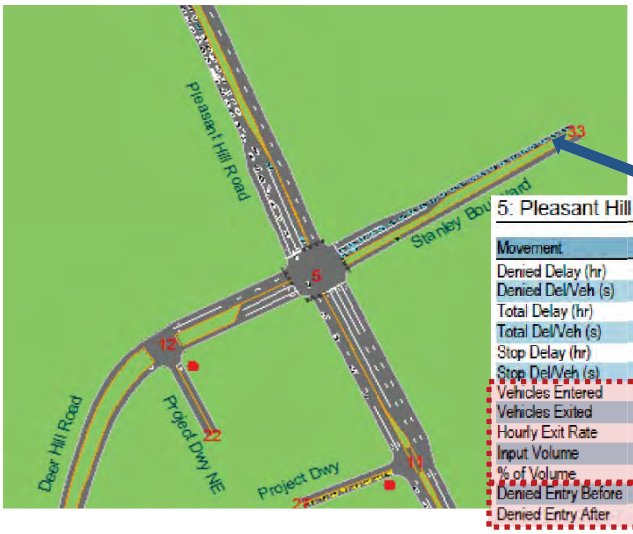


3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	587.1	0.0	587.1
Denied Del/Veh (s)	1383.1	0.0	937.6
Total Delay (hr)	17.4	10.8	28.2
Total Del/Veh (s)	207.6	52.3	97.2
Stop Delay (hr)	17.6	9.3	26.9
Stop Del/Veh (s)	209.6	45.1	92.6
Vehicles Entered	290	726	1016
Vehicles Exited	284	714	998
Hourly Exit Rate	284	714	998
Input Volume	1499	900	2399
% of Volume	19	79	42
Denied Entry Before	8	0	8
Denied Entry After	1238	0	1238

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	355.8	29.6	4.4	0.0	0.0	0.0	389.8
Denied Del/Veh (s)	1474.0	367.2	397.6	0.0	0.0	0.0	638.7
Total Delay (hr)	9.9	7.8	1.1	0.1	32.8	2.8	54.5
Total Del/Veh (s)	191.0	122.8	130.0	87.9	130.5	99.5	134.8
Stop Delay (hr)	10.2	7.6	1.1	0.1	33.2	2.9	55.0
Stop Del/Veh (s)	197.1	119.6	126.3	85.6	131.8	101.7	136.0
Vehicles Entered	177	227	31	5	894	99	1433
Vehicles Exited	176	222	30	5	865	97	1395
Hourly Exit Rate	176	222	30	5	865	97	1395
Input Volume	857	297	45	5	2168	231	3603
% of Volume	21	75	67	100	40	42	39
Denied Entry Before	16	0	0	0	0	0	16
Denied Entry After	692	63	9	0	0	0	764



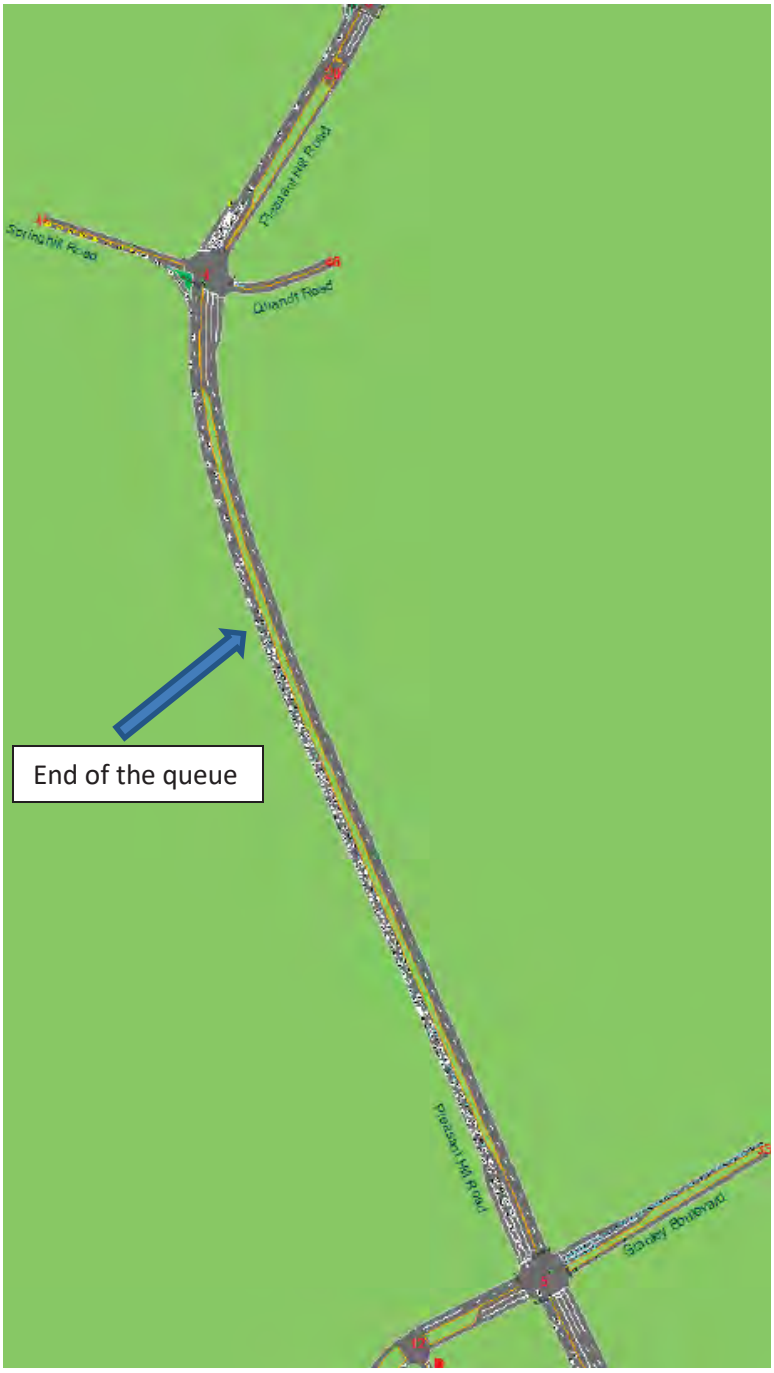
5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	570.7	0.0	0.0	0.0	0.2	570.9
Denied Del/Veh (s)	1589.0	0.0	0.0	0.0	0.6	792.0
Total Delay (hr)	23.8	0.0	0.0	13.1	142.7	179.7
Total Del/Veh (s)	318.8	18.9	2.4	387.3	397.2	375.6
Stop Delay (hr)	23.6	0.0	0.0	12.6	140.5	176.7
Stop Del/Veh (s)	315.9	16.8	2.5	371.1	391.1	369.4
Vehicles Entered	243	5	33	112	1152	1545
Vehicles Exited	242	5	33	108	1123	1511
Hourly Exit Rate	242	5	33	108	1123	1511
Input Volume	1212	6	29	291	3032	4570
% of Volume	20	83	114	37	37	33
Denied Entry Before	72	0	0	0	0	72
Denied Entry After	1050	0	0	0	0	1050

BACKGROUND TRAFFIC

In their response memo, TJKM mentioned that they included a 10-minute "seeding" period (i.e., 6:50-7:00 AM). We ran the 10-minute seeding period, and found that traffic was only backed up to somewhere between Deer Hill Road/Stanley Boulevard and Spring Hill Road/Quant Road, as shown in **Figure 3**.

Figure 3. Traffic Condition (by end of 10-minute seeding period in AM peak)



However, it is well known that the Pleasant Hill Road backs up much further upstream at 7:00 AM during the morning peak. There should have been many more vehicles (i.e., "background traffic") already in the roadway system when the evacuation starts during the AM peak hour.

In their response memo, TJKM claimed that "By including both evacuation traffic and normal commute traffic, these vehicles would be double counted." This would only be true if all of the traffic on Pleasant Hill Road would come only from Lafayette. However, Pleasant Hill Road carries traffic from many surrounding cities and communities. The right approach is to load the roadway network so that at the beginning of the evacuation (i.e., 7:00 AM during the morning peak), the modeled traffic condition represents what would look like during a normal day without evacuation. After that, no new non-evacuation traffic would enter Pleasant Hill Road from the north once a roadblock has been set up after the evacuation order is given. However, TJKM's evacuation models did not follow the right approach, and therefore significantly underestimated background traffic. Adding background traffic could make traffic delay exponentially worse.

SR 24 CAPACITY CONSTRAINT

The evacuation models assumed that all evacuating vehicles would use SR 24 to leave Lafayette – 50% would travel eastbound (EB) and 50% would travel westbound (WB). We raised the question that the evacuation models ended at the on-ramps (both EB and WB) and did not model or put capacity constraints on SR 24 mainline freeway, as illustrated in **Figure 4**. By doing this, TJKM assumed that SR 24 would have "unlimited" capacity to absorb the additional evacuating traffic. This assumption is unrealistic since SR 24 is already congested (WB in AM and EB in PM) and does not have enough extra capacity to accommodate the significant amount increase of traffic due to evacuation.

In their response memo, TJKM did not address this concern directly. It is only simply stated that "the evacuation traffic volumes are already extremely conservative."

Here is a simple example for the AM peak hour to illustrate the importance of SR 24 capacity constraint. Again, this example is for illustration purposes and it does not replace detailed and accurate modeling.

- Same assumption of all evacuating vehicles would use SR 24 to leave Lafayette – 50% would travel EB and 50% would travel WB.
- In the AM peak hour (7:00-8:00 AM), SR 24 WB has a capacity constraint – assuming 900 vehicles are able to get on and use SR 24 in the WB direction.
- Traffic demand during the evacuation is 1,800 vehicles to use the SR 24 WB on-ramp.
- With the above assumptions, vehicles cannot be fully evacuated in two hours (i.e., 1,800/900 = 2) In other words, **one additional hour** is needed after the one-hour peak period. However, with all the above assumptions except for the SR 24 capacity constraint, as modelled by TJKM, vehicles can be fully evacuated within the one-hour peak period.
- Additional evacuating traffic coming out of the Terraces of Lafayette community is 551 vehicles (based on TJKM's memo dated June 22, 2020). Now adding half of them to the SR 24 WB direction,

the additional 275 vehicles (i.e., 551/2 = 275) coming out of the Terraces of Lafayette community would cause additional 18 minutes (i.e., 275/900*60 = 18) to evacuate.

Therefore, the evacuation models must have significantly underestimated the level of traffic congestion, and the impacts of which is that traffic is unable to get onto the SR 24 freeway and gets backed up on surface streets.

Figure 4. Evacuation Models Ended at On-Ramps

ON-RAMP CAPACITY CONSTRAINT

We stated in our previous memo that the single-lane on-ramps (both EB and WB) may not be able to handle the significant amount of traffic getting onto SR 24 freeway during the peak hours, with a maximum capacity of 1,900 vehicles per hour per lane at on-ramps assuming no congestion on the freeway onto which the traffic merges. TJKM responded by stating that "it is not an absolute limit, and exceeding 1,900 vehicles per hour per lane does not immediately result in gridlock or excessive delays. In addition, the sections of SR-24 where the westbound and eastbound ramps enter the freeway feature long auxiliary lanes, such that evacuation traffic would have ample time to merge into the other travel lanes without slowing down ramp traffic."

- **On-Ramp Capacity**: TJKM stated that on-ramp maximum capacity of 1,900 vehicles per hour per lane "it is not an absolute limit". Traffic Engineers generally use 1,900 vehicles under the close to "ideal" condition without traffic congestion or traffic flow breakdown. 1,900 vehicles per hour per lane corresponds to 1.9 seconds in headway (i.e., 3,600 seconds/1,900 = 1.9). Headway is a

measure of the temporal space between two vehicles. Specifically, the headway is the time that elapses between the arrival of the leading vehicle and the following vehicle at the designated test point. In fact, on-ramp capacity drops when traffic is congested (traffic flow breakdown), causing "productivity loss". It is not uncommon to see on-ramp capacity drops to 1,200 vehicles per hour per lane or less when traffic follow breaks down. Under the emergency evacuation condition, traffic typically breaks down due to many factors such as poor visibility (due to smoke), rubbernecking, panicking, etc. We agree that the on-ramp capacity is not an absolute limit; instead, it drops significantly under the emergency evacuation condition. In this perspective, traffic congestion would be even much worse.

- **Auxiliary Lanes**: TJKM stated that "the sections of SR-24 where the westbound and eastbound ramps enter the freeway feature long auxiliary lanes, such that evacuation traffic would have ample time to merge into the other travel lanes without slowing down ramp traffic." Auxiliary lanes on SR 24 do not help when traffic is already congested (WB in AM and EB in PM) while much more additional traffic is being loaded onto SR 24 due to emergency evacuation.

CONCLUSION

In conclusion, the evacuation models that TJKM developed has critical fatal flaws. The results generated from the evacuation models are invalid and should not be used for any decision-making.

APPENDIX

SimTraffic Simulation Reports

- PHF = 0.75 (TJKM's assumption)
    - **Evac 1** – Evacuation (without project) in the AM Peak
    - **Evac 1 + Project** – Evacuation plus project, with trap lane, in the AM Peak
    - **Evac 1 + Project Variant** – Evacuation plus project, no trap lane, in the AM Peak
- PHF = 1.0
    - **Evac 1** – Evacuation without project in the AM Peak
    - **Evac 1 + Project** – Evacuation plus project, with trap lane, in the AM Peak
    - **Evac 1 + Project Variant** – Evacuation plus project, no trap lane, in the AM Peak

PHF = 0.75 (TJKM's assumption)

Evac 1 – Evacuation (without project) in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1839	1799	1853	1780	1801	1815
Vehs Exited	1731	1727	1714	1677	1712	1712
Starting Vehs	281	306	248	270	292	279
Ending Vehs	389	378	387	373	381	380
Denied Entry Before	111	134	82	89	97	102
Denied Entry After	3211	3348	3053	3274	3192	3215
Travel Distance (mi)	1650	1646	1657	1635	1633	1644
Travel Time (hr)	1970.3	2079.1	1891.0	2004.2	1963.6	1981.7
Total Delay (hr)	1913.1	2022.1	1833.3	1947.6	1906.9	1924.6
Total Stops	6129	6226	6137	6034	6042	6113
Fuel Used (gal)	490.2	515.2	471.8	497.7	486.6	492.3

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1839	1799	1853	1780	1801	1815
Vehs Exited	1731	1727	1714	1677	1712	1712
Starting Vehs	281	306	248	270	292	279
Ending Vehs	389	378	387	373	381	380
Denied Entry Before	111	134	82	89	97	102
Denied Entry After	3211	3348	3053	3274	3192	3215
Travel Distance (mi)	1650	1646	1657	1635	1633	1644
Travel Time (hr)	1970.3	2079.1	1891.0	2004.2	1963.6	1981.7
Total Delay (hr)	1913.1	2022.1	1833.3	1947.6	1906.9	1924.6
Total Stops	6129	6226	6137	6034	6042	6113
Fuel Used (gal)	490.2	515.2	471.8	497.7	486.6	492.3

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.2	0.1	0.2
Total Del/Veh (s)	3.6	6.3	4.1
Stop Delay (hr)	0.1	0.0	0.2
Stop Del/Veh (s)	2.8	4.5	3.1
Vehicles Entered	176	36	212
Vehicles Exited	175	36	211
Hourly Exit Rate	175	36	211
Input Volume	173	33	206
% of Volume	101	109	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.1	19.7	0.3	20.1
Total Del/Veh (s)	3.4	144.5	5.2	95.1
Stop Delay (hr)	0.1	18.6	0.2	18.9
Stop Del/Veh (s)	3.5	136.2	3.4	89.3
Vehicles Entered	56	479	212	747
Vehicles Exited	55	467	212	734
Hourly Exit Rate	55	467	212	734
Input Volume	56	637	207	900
% of Volume	98	73	102	82
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	571.5	0.0	571.5
Denied Del/Veh (s)	1365.2	0.0	918.1
Total Delay (hr)	17.5	8.3	25.7
Total Del/Veh (s)	199.0	39.8	87.2
Stop Delay (hr)	17.5	6.7	24.3
Stop Del/Veh (s)	199.8	32.4	82.2
Vehicles Entered	303	734	1037
Vehicles Exited	297	727	1024
Hourly Exit Rate	297	727	1024
Input Volume	1499	900	2399
% of Volume	20	81	43
Denied Entry Before	8	0	8
Denied Entry After	1204	0	1204

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	354.3	42.1	6.4	0.0	0.0	0.0	402.8
Denied Del/Veh (s)	1456.1	485.6	480.4	0.0	0.0	0.0	641.6
Total Delay (hr)	9.9	7.9	1.2	0.1	32.3	2.5	53.8
Total Del/Veh (s)	201.6	123.7	126.0	96.5	123.9	93.5	131.2
Stop Delay (hr)	10.2	7.7	1.1	0.1	32.5	2.6	54.2
Stop Del/Veh (s)	207.6	120.7	121.8	94.2	124.8	94.5	132.0
Vehicles Entered	167	228	33	5	922	97	1452
Vehicles Exited	166	223	32	5	897	94	1417
Hourly Exit Rate	166	223	32	5	897	94	1417
Input Volume	857	297	45	5	2168	231	3603
% of Volume	19	75	71	100	41	41	39
Denied Entry Before	11	1	0	0	0	0	12
Denied Entry After	709	84	15	0	0	0	808

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	573.7	0.0	0.0	0.0	0.0	573.7
Denied Del/Veh (s)	1606.0	0.0	0.0	0.0	0.0	792.8
Total Delay (hr)	23.6	0.0	0.0	13.0	140.8	177.4
Total Del/Veh (s)	320.2	17.2	2.9	373.8	389.2	369.9
Stop Delay (hr)	23.4	0.0	0.0	12.3	137.2	172.9
Stop Del/Veh (s)	317.5	15.6	2.9	353.2	379.4	360.7
Vehicles Entered	238	7	26	112	1174	1557
Vehicles Exited	241	7	26	113	1139	1526
Hourly Exit Rate	241	7	26	113	1139	1526
Input Volume	1212	6	29	291	3032	4570
% of Volume	20	117	90	39	38	33
Denied Entry Before	82	0	0	0	0	82
Denied Entry After	1048	0	0	0	0	1048

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	4.8	4.1
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	0.0	0.0	0.0
Vehicles Entered	2	11	13
Vehicles Exited	2	11	13
Hourly Exit Rate	2	11	13
Input Volume	7	28	35
% of Volume	29	39	37
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.8	1.8
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.1	0.1
Vehicles Entered	28	28
Vehicles Exited	28	28
Hourly Exit Rate	28	28
Input Volume	29	29
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.5	4.5
Total Del/Veh (s)	0.3	11.8	11.6
Stop Delay (hr)	0.0	1.4	1.4
Stop Del/Veh (s)	0.0	3.7	3.6
Vehicles Entered	33	1377	1410
Vehicles Exited	33	1376	1409
Hourly Exit Rate	33	1376	1409
Input Volume	35	4244	4279
% of Volume	94	32	33
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.7	2.9	6.5
Total Del/Veh (s)	0.7	18.8	15.1	16.6
Stop Delay (hr)	0.0	0.4	0.4	0.8
Stop Del/Veh (s)	0.0	2.1	2.2	2.1
Vehicles Entered	33	697	679	1409
Vehicles Exited	33	695	681	1409
Hourly Exit Rate	33	695	681	1409
Input Volume	35	2140	2104	4279
% of Volume	94	32	32	33
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.3	1.3
Total Del/Veh (s)	6.7	6.7
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	695	695
Vehicles Exited	695	695
Hourly Exit Rate	695	695
Input Volume	2140	2140
% of Volume	32	32
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1
Total Delay (hr)	0.0	1.3	1.3
Total Del/Veh (s)	7.3	6.3	6.3
Stop Delay (hr)	0.0	0.6	0.6
Stop Del/Veh (s)	1.7	3.2	3.1
Vehicles Entered	13	716	729
Vehicles Exited	13	716	729
Hourly Exit Rate	13	716	729
Input Volume	35	2140	2175
% of Volume	37	33	34
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	1613.5
Denied Del/Veh (s)	1154.8
Total Delay (hr)	311.1
Total Del/Veh (s)	535.4
Stop Delay (hr)	289.0
Stop Del/Veh (s)	497.3
Vehicles Entered	1815
Vehicles Exited	1712
Hourly Exit Rate	1712
Input Volume	37038
% of Volume	5
Denied Entry Before	102
Denied Entry After	3215

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.3	20.2	0.1	11
	11	0.0	4.0	0.0	34
Stanley Boulevard	5	17.2	24.2	0.1	12
Quandt Road	4	96.5	141.4	0.4	11
Total		113.9	189.8	0.6	12

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	6.3	21.5	0.2	26
	19	1.3	16.3	0.1	33
Greenvalley Drive	2	5.2	12.0	0.1	21
Reliez Valle Road	3	39.1	63.3	0.3	14
	20	24.2	27.8	0.0	4
Springhill Road	4	123.9	133.4	0.1	3
Deer Hill Road	5	359.4	398.0	0.4	4
	11	19.5	28.0	0.1	10
Acalanes Avenue	14	11.8	15.8	0.0	9
	15	18.8	25.0	0.1	9
	16	6.7	16.1	0.1	24
	17	7.3	16.4	0.1	16
Mt. Diablo Boulevard	6	4.8	12.9	0.1	19
SR 24 EB Off Ramp	7	1.8	4.6	0.1	48
Total		630.0	791.1	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	91	48	11
Average Queue (ft)	42	11	1
95th Queue (ft)	73	37	8
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	56	611	112	55	75
Average Queue (ft)	14	562	73	12	31
95th Queue (ft)	35	664	112	37	63
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		82	84		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		76			
Queuing Penalty (veh)		0			

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	467	486	360	366
Average Queue (ft)	283	457	200	198
95th Queue (ft)	631	473	292	304
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	33	96		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				34
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	370	255	20	523	520	96	217	222
Average Queue (ft)	338	231	3	470	470	76	169	181
95th Queue (ft)	355	246	15	612	625	140	262	266
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	100	89		86	88		28	86
Queuing Penalty (veh)	0	0		1036	1053		331	1036
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				87	81	0		
Queuing Penalty (veh)				0	188	3		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	554	32	47	275	2267	2401
Average Queue (ft)	194	524	3	11	183	2238	2366
95th Queue (ft)	304	543	17	34	335	2325	2480
Link Distance (ft)		504	347	347		2220	2220
Upstream Blk Time (%)		95				40	94
Queuing Penalty (veh)		0				672	1556
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	9	97			6	28	66
Queuing Penalty (veh)	52	587			88	81	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	B11	B11
Directions Served	T	T	T	T
Maximum Queue (ft)	190	254	400	387
Average Queue (ft)	45	206	186	334
95th Queue (ft)	142	305	430	436
Link Distance (ft)	147	147	347	347
Upstream Blk Time (%)	1	20	1	7
Queuing Penalty (veh)	17	428	25	146
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	361
Average Queue (ft)	183
95th Queue (ft)	427
Link Distance (ft)	266
Upstream Blk Time (%)	6
Queuing Penalty (veh)	117
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Pleasant Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	217
Average Queue (ft)	80
95th Queue (ft)	174
Link Distance (ft)	314
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 7415

PHF = 0.75 (TJKM's assumption)

Evac 1 + Project – Evacuation plus project, with trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	2263	2295	2244	2328	2313	2288
Vehs Exited	2102	2093	2083	2150	2194	2124
Starting Vehs	258	221	256	240	270	249
Ending Vehs	419	423	417	418	389	413
Denied Entry Before	144	118	171	165	170	154
Denied Entry After	3606	3495	3527	3411	3573	3521
Travel Distance (mi)	1958	1940	1912	1998	1993	1960
Travel Time (hr)	2184.8	2082.6	2177.1	2092.5	2164.7	2140.3
Total Delay (hr)	2116.4	2014.8	2109.6	2022.3	2095.0	2071.6
Total Stops	8764	8548	8324	9019	8972	8724
Fuel Used (gal)	547.6	524.9	544.9	528.3	545.2	538.2

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2263	2295	2244	2328	2313	2288
Vehs Exited	2102	2093	2083	2150	2194	2124
Starting Vehs	258	221	256	240	270	249
Ending Vehs	419	423	417	418	389	413
Denied Entry Before	144	118	171	165	170	154
Denied Entry After	3606	3495	3527	3411	3573	3521
Travel Distance (mi)	1958	1940	1912	1998	1993	1960
Travel Time (hr)	2184.8	2082.6	2177.1	2092.5	2164.7	2140.3
Total Delay (hr)	2116.4	2014.8	2109.6	2022.3	2095.0	2071.6
Total Stops	8764	8548	8324	9019	8972	8724
Fuel Used (gal)	547.6	524.9	544.9	528.3	545.2	538.2

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.2	0.1	0.2
Total Del/Veh (s)	3.8	5.4	4.1
Stop Delay (hr)	0.1	0.0	0.2
Stop Del/Veh (s)	2.9	3.8	3.0
Vehicles Entered	177	34	211
Vehicles Exited	176	33	209
Hourly Exit Rate	176	33	209
Input Volume	173	33	206
% of Volume	102	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.1	20.1	0.3	20.5
Total Del/Veh (s)	3.9	148.6	5.7	97.7
Stop Delay (hr)	0.1	19.1	0.2	19.4
Stop Del/Veh (s)	4.1	140.8	3.9	92.2
Vehicles Entered	59	475	209	743
Vehicles Exited	59	464	209	732
Hourly Exit Rate	59	464	209	732
Input Volume	56	637	207	900
% of Volume	105	73	101	81
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	400.7	0.0	400.7
Denied Del/Veh (s)	962.4	0.0	646.6
Total Delay (hr)	15.4	6.5	21.8
Total Del/Veh (s)	88.9	31.0	57.3
Stop Delay (hr)	13.7	5.1	18.8
Stop Del/Veh (s)	79.2	24.6	49.4
Vehicles Entered	609	732	1341
Vehicles Exited	606	725	1331
Hourly Exit Rate	606	725	1331
Input Volume	1499	900	2399
% of Volume	40	81	55
Denied Entry Before	7	0	7
Denied Entry After	890	0	890

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	381.4	20.4	3.7	0.0	0.0	0.0	405.4
Denied Del/Veh (s)	1544.3	254.1	269.8	0.0	0.0	0.0	570.4
Total Delay (hr)	9.2	7.5	1.4	0.1	21.9	2.0	42.0
Total Del/Veh (s)	224.5	108.8	117.4	81.8	65.0	53.8	84.7
Stop Delay (hr)	9.4	7.2	1.3	0.1	19.4	1.8	39.3
Stop Del/Veh (s)	229.7	104.7	112.5	81.0	57.8	50.3	79.3
Vehicles Entered	138	247	42	5	1198	129	1759
Vehicles Exited	137	244	41	5	1175	128	1730
Hourly Exit Rate	137	244	41	5	1175	128	1730
Input Volume	857	297	45	5	2168	231	3603
% of Volume	16	82	91	100	54	55	48
Denied Entry Before	40	0	0	0	0	0	40
Denied Entry After	751	42	7	0	0	0	800

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	564.4	0.0	0.0	0.0	0.0	564.4
Denied Del/Veh (s)	1578.8	0.0	0.0	0.0	0.0	725.7
Total Delay (hr)	21.7	0.0	0.0	3.5	24.7	50.0
Total Del/Veh (s)	326.5	12.8	3.7	97.3	64.6	100.7
Stop Delay (hr)	21.5	0.0	0.0	3.3	21.4	46.2
Stop Del/Veh (s)	323.2	11.6	3.9	91.1	55.9	93.1
Vehicles Entered	214	7	32	128	1346	1727
Vehicles Exited	215	7	32	128	1346	1728
Hourly Exit Rate	215	7	32	128	1346	1728
Input Volume	1212	6	29	291	3032	4570
% of Volume	18	117	110	44	44	38
Denied Entry Before	72	0	0	0	0	72
Denied Entry After	1073	0	0	0	0	1073

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	6.2	6.2
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	8	8
Vehicles Exited	8	8
Hourly Exit Rate	8	8
Input Volume	35	35
% of Volume	23	23
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.9	1.9
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.1	0.1
Vehicles Entered	34	34
Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	35	35
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	294.0	0.0	0.0	294.0
Denied Del/Veh (s)	1369.0	0.0	0.0	446.0
Total Delay (hr)	7.0	0.0	13.7	20.7
Total Del/Veh (s)	112.7	0.0	31.4	40.6
Stop Delay (hr)	7.5	0.0	11.1	18.6
Stop Del/Veh (s)	120.4	0.0	25.4	36.5
Vehicles Entered	217	39	1561	1817
Vehicles Exited	217	39	1558	1814
Hourly Exit Rate	217	39	1558	1814
Input Volume	735	35	4244	5014
% of Volume	30	111	37	36
Denied Entry Before	31	0	0	31
Denied Entry After	556	0	0	556

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	8.4	8.4
Total Del/Veh (s)	0.3	16.9	16.6
Stop Delay (hr)	0.0	8.1	8.1
Stop Del/Veh (s)	0.0	16.4	16.1
Vehicles Entered	39	1775	1814
Vehicles Exited	39	1768	1807
Hourly Exit Rate	39	1768	1807
Input Volume	35	4979	5014
% of Volume	111	36	36
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	10.4	1.6	12.0
Total Del/Veh (s)	0.7	41.4	6.8	23.9
Stop Delay (hr)	0.0	11.6	0.2	11.9
Stop Del/Veh (s)	0.0	46.5	0.9	23.6
Vehicles Entered	39	898	869	1806
Vehicles Exited	39	890	869	1798
Hourly Exit Rate	39	890	869	1798
Input Volume	35	2507	2472	5014
% of Volume	111	36	35	36
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	16.4	16.4
Total Del/Veh (s)	65.5	65.6
Stop Delay (hr)	18.7	18.7
Stop Del/Veh (s)	74.5	74.5
Vehicles Entered	890	890
Vehicles Exited	884	884
Hourly Exit Rate	884	884
Input Volume	2507	2507
% of Volume	35	35
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.2	19.5	19.7
Denied Del/Veh (s)	93.6	76.9	77.0
Total Delay (hr)	0.1	14.9	15.1
Total Del/Veh (s)	64.0	60.2	60.2
Stop Delay (hr)	0.2	17.4	17.6
Stop Del/Veh (s)	70.0	70.2	70.2
Vehicles Entered	8	876	884
Vehicles Exited	8	875	883
Hourly Exit Rate	8	875	883
Input Volume	35	2507	2542
% of Volume	23	35	35
Denied Entry Before	0	2	2
Denied Entry After	0	37	37

Total Network Performance

Denied Delay (hr)	1758.9
Denied Del/Veh (s)	1090.0
Total Delay (hr)	312.7
Total Del/Veh (s)	443.8
Stop Delay (hr)	287.8
Stop Del/Veh (s)	408.4
Vehicles Entered	2288
Vehicles Exited	2124
Hourly Exit Rate	2124
Input Volume	44058
% of Volume	5
Denied Entry Before	154
Denied Entry After	3521

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.3	20.3	0.1	11
Project Dwy	11	0.0	4.1	0.0	33
Stanley Boulevard	5	12.8	19.5	0.1	15
	37	1.7	9.9	0.1	30
Quandt Road	4	81.8	118.9	0.4	11
Total		96.5	172.8	0.6	13

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	5.4	20.8	0.2	26
	19	1.1	15.6	0.1	34
Greenvalley Drive	2	5.7	12.5	0.1	21
Reliez Valle Road	3	28.0	51.8	0.3	17
	20	14.3	18.0	0.0	7
Springhill Road	4	65.0	74.5	0.1	5
	37	198.8	234.1	0.4	6
Deer Hill Road	5	64.6	72.6	0.1	4
Project Dwy	11	31.6	40.1	0.1	7
Acalanes Avenue	14	17.6	21.7	0.0	6
	15	41.4	47.5	0.1	5
	16	65.5	74.9	0.1	5
	17	64.0	166.8	0.1	3
Mt. Diablo Boulevard	6	6.2	14.2	0.1	17
SR 24 EB Off Ramp	7	1.9	4.7	0.1	48
Total		611.1	869.5	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	83	37	16
Average Queue (ft)	43	9	1
95th Queue (ft)	72	31	9
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	60	607	112	64	71
Average Queue (ft)	15	567	73	15	32
95th Queue (ft)	39	637	109	45	64
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		85	87		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		77		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	454	488	332	355
Average Queue (ft)	271	459	183	195
95th Queue (ft)	627	478	280	308
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	18	83		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				30
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	365	272	24	512	519	96	208	214
Average Queue (ft)	337	235	3	379	380	71	103	125
95th Queue (ft)	354	256	15	625	640	139	241	277
Link Distance (ft)	318	217		406	406		127	127
Upstream Blk Time (%)	100	82		42	52		13	46
Queuing Penalty (veh)	0	0		502	621		153	551
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				56	58	0		
Queuing Penalty (veh)				0	133	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB	SB	B37	B37
Directions Served	L	LT	T	R	L	T	T	T	T	T
Maximum Queue (ft)	225	556	21	34	275	446	446	450	1878	2010
Average Queue (ft)	110	524	2	11	175	373	393	413	1622	1741
95th Queue (ft)	276	543	14	33	309	521	443	458	2450	2592
Link Distance (ft)		504	342	342		351	351	351	1832	1832
Upstream Blk Time (%)		96				26	36	40	20	76
Queuing Penalty (veh)		0				285	395	439	340	1267
Storage Bay Dist (ft)	185				175					
Storage Blk Time (%)	0	92			8	6		60		
Queuing Penalty (veh)	0	558			80	19		0		

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	7
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB	SB
Directions Served	R	T	T	TR
Maximum Queue (ft)	216	390	391	394
Average Queue (ft)	183	154	327	324
95th Queue (ft)	199	383	459	484
Link Distance (ft)	164	342	342	342
Upstream Blk Time (%)	100	2	14	11
Queuing Penalty (veh)	0	21	201	159
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement			
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	166	267	238
Average Queue (ft)	34	230	174
95th Queue (ft)	110	305	277
Link Distance (ft)	152	152	152
Upstream Blk Time (%)	1	94	11
Queuing Penalty (veh)	10	1555	180
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Pleasant Hill Road

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	60	369	287
Average Queue (ft)	12	336	103
95th Queue (ft)	50	408	228
Link Distance (ft)	262	262	262
Upstream Blk Time (%)		96	0
Queuing Penalty (veh)		1586	5
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: Pleasant Hill Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	540
Average Queue (ft)	512
95th Queue (ft)	545
Link Distance (ft)	302
Upstream Blk Time (%)	99
Queuing Penalty (veh)	1240
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	125	532
Average Queue (ft)	4	506
95th Queue (ft)	63	530
Link Distance (ft)	314	314
Upstream Blk Time (%)	0	99
Queuing Penalty (veh)	0	830
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 11131

PHF = 0.75 (TJKM's assumption)

Evac 1 + Project Variant– Evacuation plus project, no trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1791	1861	1881	1826	1818	1836
Vehs Exited	1693	1741	1734	1705	1729	1721
Starting Vehs	305	291	290	275	312	295
Ending Vehs	403	411	437	396	401	410
Denied Entry Before	150	161	149	162	161	157
Denied Entry After	4006	3989	3958	4088	3989	4005
Travel Distance (mi)	1583	1638	1617	1626	1663	1625
Travel Time (hr)	2421.0	2442.9	2410.2	2434.6	2418.7	2425.5
Total Delay (hr)	2365.5	2385.8	2353.9	2378.2	2361.2	2368.9
Total Stops	5726	6207	5810	6056	6244	6009
Fuel Used (gal)	590.3	597.6	588.3	594.4	592.5	592.6

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1791	1861	1881	1826	1818	1836
Vehs Exited	1693	1741	1734	1705	1729	1721
Starting Vehs	305	291	290	275	312	295
Ending Vehs	403	411	437	396	401	410
Denied Entry Before	150	161	149	162	161	157
Denied Entry After	4006	3989	3958	4088	3989	4005
Travel Distance (mi)	1583	1638	1617	1626	1663	1625
Travel Time (hr)	2421.0	2442.9	2410.2	2434.6	2418.7	2425.5
Total Delay (hr)	2365.5	2385.8	2353.9	2378.2	2361.2	2368.9
Total Stops	5726	6207	5810	6056	6244	6009
Fuel Used (gal)	590.3	597.6	588.3	594.4	592.5	592.6

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.2	0.1	0.3
Total Del/Veh (s)	3.9	7.2	4.4
Stop Delay (hr)	0.1	0.0	0.2
Stop Del/Veh (s)	3.0	5.4	3.4
Vehicles Entered	173	31	204
Vehicles Exited	174	31	205
Hourly Exit Rate	174	31	205
Input Volume	173	33	206
% of Volume	101	94	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.1	20.0	0.3	20.3
Total Del/Veh (s)	3.4	148.1	5.0	97.5
Stop Delay (hr)	0.1	18.9	0.2	19.2
Stop Del/Veh (s)	3.6	140.1	3.3	91.8
Vehicles Entered	60	476	205	741
Vehicles Exited	60	462	204	726
Hourly Exit Rate	60	462	204	726
Input Volume	56	637	207	900
% of Volume	107	73	99	81
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	587.1	0.0	587.1
Denied Del/Veh (s)	1383.1	0.0	937.6
Total Delay (hr)	17.4	10.8	28.2
Total Del/Veh (s)	207.6	52.3	97.2
Stop Delay (hr)	17.6	9.3	26.9
Stop Del/Veh (s)	209.6	45.1	92.6
Vehicles Entered	290	726	1016
Vehicles Exited	284	714	998
Hourly Exit Rate	284	714	998
Input Volume	1499	900	2399
% of Volume	19	79	42
Denied Entry Before	8	0	8
Denied Entry After	1238	0	1238

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	355.8	29.6	4.4	0.0	0.0	0.0	389.8
Denied Del/Veh (s)	1474.0	367.2	397.6	0.0	0.0	0.0	638.7
Total Delay (hr)	9.9	7.8	1.1	0.1	32.8	2.8	54.5
Total Del/Veh (s)	191.0	122.8	130.0	87.9	130.5	99.5	134.8
Stop Delay (hr)	10.2	7.6	1.1	0.1	33.2	2.9	55.0
Stop Del/Veh (s)	197.1	119.8	126.3	85.6	131.8	101.7	136.0
Vehicles Entered	177	227	31	5	894	99	1433
Vehicles Exited	176	222	30	5	865	97	1395
Hourly Exit Rate	176	222	30	5	865	97	1395
Input Volume	857	297	45	5	2168	231	3603
% of Volume	21	75	67	100	40	42	39
Denied Entry Before	16	0	0	0	0	0	16
Denied Entry After	692	63	9	0	0	0	764

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	570.7	0.0	0.0	0.0	0.2	570.9
Denied Del/Veh (s)	1589.0	0.0	0.0	0.0	0.6	792.0
Total Delay (hr)	23.8	0.0	0.0	13.1	142.7	179.7
Total Del/Veh (s)	318.8	18.9	2.4	387.3	397.2	375.6
Stop Delay (hr)	23.6	0.0	0.0	12.6	140.5	176.7
Stop Del/Veh (s)	315.9	16.8	2.5	371.1	391.1	369.4
Vehicles Entered	243	5	33	112	1152	1545
Vehicles Exited	242	5	33	108	1123	1511
Hourly Exit Rate	242	5	33	108	1123	1511
Input Volume	1212	6	29	291	3032	4570
% of Volume	20	83	114	37	37	33
Denied Entry Before	72	0	0	0	0	72
Denied Entry After	1050	0	0	0	0	1050

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	4.4	4.4
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	10	10
Vehicles Exited	10	10
Hourly Exit Rate	10	10
Input Volume	35	35
% of Volume	29	29
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.1	0.1
Vehicles Entered	35	35
Vehicles Exited	35	35
Hourly Exit Rate	35	35
Input Volume	35	35
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	420.6	0.0	0.0	420.6
Denied Del/Veh (s)	1907.0	0.0	0.0	688.9
Total Delay (hr)	7.9	0.0	8.2	16.2
Total Del/Veh (s)	1361.7	0.0	21.5	40.6
Stop Delay (hr)	8.0	0.0	4.7	12.6
Stop Del/Veh (s)	1366.8	0.0	12.2	31.7
Vehicles Entered	13	39	1365	1417
Vehicles Exited	12	39	1365	1416
Hourly Exit Rate	12	39	1365	1416
Input Volume	735	35	4244	5014
% of Volume	2	111	32	28
Denied Entry Before	61	0	0	61
Denied Entry After	781	0	0	781

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.8	4.8
Total Del/Veh (s)	0.2	12.4	12.1
Stop Delay (hr)	0.0	1.7	1.7
Stop Del/Veh (s)	0.0	4.3	4.2
Vehicles Entered	39	1377	1416
Vehicles Exited	39	1376	1415
Hourly Exit Rate	39	1376	1415
Input Volume	35	4979	5014
% of Volume	111	28	28
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.6	3.0	6.6
Total Del/Veh (s)	0.6	19.1	15.3	16.7
Stop Delay (hr)	0.0	0.4	0.4	0.8
Stop Del/Veh (s)	0.0	2.1	2.1	2.1
Vehicles Entered	39	676	701	1416
Vehicles Exited	39	676	701	1416
Hourly Exit Rate	39	676	701	1416
Input Volume	35	2507	2472	5014
% of Volume	111	27	28	28
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.2	1.2
Total Del/Veh (s)	6.6	6.6
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	676	676
Vehicles Exited	675	675
Hourly Exit Rate	675	675
Input Volume	2507	2507
% of Volume	27	27
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	1.0
Total Del/Veh (s)	6.9	5.0	5.1
Stop Delay (hr)	0.0	0.4	0.4
Stop Del/Veh (s)	1.0	2.0	2.0
Vehicles Entered	10	700	710
Vehicles Exited	10	699	709
Hourly Exit Rate	10	699	709
Input Volume	35	2507	2542
% of Volume	29	28	28
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	2043.4
Denied Del/Veh (s)	1259.4
Total Delay (hr)	325.5
Total Del/Veh (s)	549.9
Stop Delay (hr)	305.5
Stop Del/Veh (s)	516.0
Vehicles Entered	1836
Vehicles Exited	1721
Hourly Exit Rate	1721
Input Volume	40731
% of Volume	4
Denied Entry Before	157
Denied Entry After	4005

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.2	0.1	11
Project Dwy	11	0.0	4.1	0.0	34
Stanley Boulevard	5	18.9	26.8	0.1	11
Quandt Road	4	87.9	129.0	0.4	12
Total		107.0	180.0	0.6	12

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	7.2	22.7	0.2	24
	19	1.3	15.6	0.1	34
Greenvalley Drive	2	5.0	11.8	0.1	22
Reliez Valle Road	3	49.1	72.3	0.3	12
	20	26.2	29.9	0.0	4
Springhill Road	4	130.5	139.9	0.1	3
Deer Hill Road	5	360.6	399.0	0.4	4
Project Dwy	11	20.9	29.5	0.1	10
Acalanes Avenue	14	12.5	16.6	0.0	8
	15	19.1	25.3	0.1	9
	16	6.6	16.0	0.1	24
	17	6.9	16.3	0.1	16
Mt. Diablo Boulevard	6	4.4	12.9	0.1	19
SR 24 EB Off Ramp	7	1.7	4.5	0.1	49
Total		652.1	812.3	1.7	7

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	91	41	22
Average Queue (ft)	45	11	1
95th Queue (ft)	75	34	9
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	51	611	114	53	79
Average Queue (ft)	14	566	74	11	29
95th Queue (ft)	35	656	113	34	66
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		84	87		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		76		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	455	481	425	447
Average Queue (ft)	218	456	230	228
95th Queue (ft)	582	471	381	408
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	21	97		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				41
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	372	263	21	530	527	96	214	236
Average Queue (ft)	337	231	2	477	478	79	174	186
95th Queue (ft)	353	248	11	599	609	138	256	263
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	100	83		88	90		31	88
Queuing Penalty (veh)	0	0		1062	1077		368	1061
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				89	84	0		
Queuing Penalty (veh)				0	194	4		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	556	27	42	275	2273	2409
Average Queue (ft)	204	523	2	11	185	2245	2372
95th Queue (ft)	299	542	14	32	342	2275	2427
Link Distance (ft)		504	342	342		2220	2220
Upstream Blk Time (%)		95				42	95
Queuing Penalty (veh)		0				693	1585
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	8	97			6	27	69
Queuing Penalty (veh)	49	586			85	80	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	10
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	202	399	396
Average Queue (ft)	179	223	342
95th Queue (ft)	198	460	416
Link Distance (ft)	176	342	342
Upstream Blk Time (%)	100	2	8
Queuing Penalty (veh)	0	37	174
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	186	264
Average Queue (ft)	50	226
95th Queue (ft)	147	279
Link Distance (ft)	150	150
Upstream Blk Time (%)	1	24
Queuing Penalty (veh)	19	590
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	353
Average Queue (ft)	165
95th Queue (ft)	408
Link Distance (ft)	266
Upstream Blk Time (%)	5
Queuing Penalty (veh)	112
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Pleasant Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	184
Average Queue (ft)	73
95th Queue (ft)	144
Link Distance (ft)	314
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 7775

PHF = 1.0

Evac 1 – Evacuation (without project) in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1829	1780	1769	1792	1766	1788
Vehs Exited	1731	1679	1706	1700	1710	1706
Starting Vehs	281	262	307	270	292	282
Ending Vehs	379	363	370	362	348	362
Denied Entry Before	111	105	100	89	97	101
Denied Entry After	1982	2023	2037	1992	2107	2029
Travel Distance (mi)	1600	1579	1608	1611	1609	1601
Travel Time (hr)	1351.0	1392.4	1406.7	1353.8	1407.4	1382.3
Total Delay (hr)	1295.1	1337.5	1350.7	1297.7	1351.6	1326.5
Total Stops	6213	6007	6125	6099	6108	6112
Fuel Used (gal)	348.4	356.7	360.7	349.6	362.3	355.5

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1829	1780	1769	1792	1766	1788
Vehs Exited	1731	1679	1706	1700	1710	1706
Starting Vehs	281	262	307	270	292	282
Ending Vehs	379	363	370	362	348	362
Denied Entry Before	111	105	100	89	97	101
Denied Entry After	1982	2023	2037	1992	2107	2029
Travel Distance (mi)	1600	1579	1608	1611	1609	1601
Travel Time (hr)	1351.0	1392.4	1406.7	1353.8	1407.4	1382.3
Total Delay (hr)	1295.1	1337.5	1350.7	1297.7	1351.6	1326.5
Total Stops	6213	6007	6125	6099	6108	6112
Fuel Used (gal)	348.4	356.7	360.7	349.6	362.3	355.5

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.1	0.0	0.2
Total Del/Veh (s)	3.5	5.4	3.8
Stop Delay (hr)	0.1	0.0	0.1
Stop Del/Veh (s)	2.7	4.1	2.9
Vehicles Entered	131	24	155
Vehicles Exited	131	24	155
Hourly Exit Rate	131	24	155
Input Volume	130	25	155
% of Volume	101	96	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	11.9	0.2	12.2
Total Del/Veh (s)	2.8	90.1	5.4	64.9
Stop Delay (hr)	0.0	10.8	0.2	11.0
Stop Del/Veh (s)	3.0	81.4	3.7	58.4
Vehicles Entered	44	467	154	665
Vehicles Exited	44	461	155	660
Hourly Exit Rate	44	461	155	660
Input Volume	42	478	155	675
% of Volume	105	96	100	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	340.2	0.0	340.2
Denied Del/Veh (s)	1091.5	0.0	687.3
Total Delay (hr)	17.0	6.6	23.7
Total Del/Veh (s)	157.5	35.4	80.1
Stop Delay (hr)	16.8	5.4	22.2
Stop Del/Veh (s)	155.7	28.7	75.2
Vehicles Entered	376	660	1036
Vehicles Exited	369	660	1029
Hourly Exit Rate	369	660	1029
Input Volume	1124	675	1799
% of Volume	33	98	57
Denied Entry Before	6	0	6
Denied Entry After	746	0	746

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	256.6	6.0	1.0	0.0	0.0	0.0	263.6
Denied Del/Veh (s)	1364.6	96.2	92.9	0.0	0.0	0.0	482.6
Total Delay (hr)	10.0	6.9	1.2	0.1	31.9	2.8	52.9
Total Del/Veh (s)	206.2	114.7	114.1	99.9	122.7	94.6	128.9
Stop Delay (hr)	10.3	6.8	1.1	0.1	31.9	2.9	53.0
Stop Del/Veh (s)	212.2	111.7	110.2	97.4	122.8	95.7	129.3
Vehicles Entered	166	216	36	3	918	107	1446
Vehicles Exited	165	212	36	3	896	103	1415
Hourly Exit Rate	165	212	36	3	896	103	1415
Input Volume	643	223	34	4	1626	173	2703
% of Volume	26	95	106	75	55	60	52
Denied Entry Before	11	1	0	0	0	0	12
Denied Entry After	511	8	1	0	0	0	520

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	422.6	0.0	0.0	0.0	0.0	422.6
Denied Del/Veh (s)	1507.7	0.0	0.0	0.0	0.0	659.7
Total Delay (hr)	24.0	0.0	0.0	13.3	141.8	179.2
Total Del/Veh (s)	315.9	29.4	3.3	380.3	396.7	377.1
Stop Delay (hr)	23.9	0.0	0.0	12.7	138.9	175.6
Stop Del/Veh (s)	313.5	27.4	3.4	363.3	388.7	369.4
Vehicles Entered	246	4	21	115	1157	1543
Vehicles Exited	248	3	22	112	1123	1508
Hourly Exit Rate	248	3	22	112	1123	1508
Input Volume	909	4	22	218	2274	3427
% of Volume	27	75	100	51	49	44
Denied Entry Before	83	0	0	0	0	83
Denied Entry After	763	0	0	0	0	763

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	4.5	4.5
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	12	12
Vehicles Exited	12	12
Hourly Exit Rate	12	12
Input Volume	26	26
% of Volume	46	46
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.8	1.8
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.2	0.2
Vehicles Entered	29	29
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	26	26
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.5	4.5
Total Del/Veh (s)	0.2	11.9	11.7
Stop Delay (hr)	0.0	1.4	1.4
Stop Del/Veh (s)	0.0	3.8	3.7
Vehicles Entered	25	1372	1397
Vehicles Exited	25	1372	1397
Hourly Exit Rate	25	1372	1397
Input Volume	26	3183	3209
% of Volume	96	43	44
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.7	2.9	6.5
Total Del/Veh (s)	0.6	19.0	15.1	16.8
Stop Delay (hr)	0.0	0.4	0.4	0.9
Stop Del/Veh (s)	0.0	2.3	2.3	2.3
Vehicles Entered	25	689	683	1397
Vehicles Exited	25	689	683	1397
Hourly Exit Rate	25	689	683	1397
Input Volume	26	1605	1578	3209
% of Volume	96	43	43	44
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.3	1.3
Total Del/Veh (s)	6.6	6.6
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	689	689
Vehicles Exited	689	689
Hourly Exit Rate	689	689
Input Volume	1605	1605
% of Volume	43	43
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.0	1.0	1.1
Total Del/Veh (s)	7.8	5.3	5.3
Stop Delay (hr)	0.0	0.4	0.4
Stop Del/Veh (s)	1.8	2.1	2.1
Vehicles Entered	12	705	717
Vehicles Exited	12	704	716
Hourly Exit Rate	12	704	716
Input Volume	26	1605	1631
% of Volume	46	44	44
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	1027.1
Denied Del/Veh (s)	968.7
Total Delay (hr)	299.5
Total Del/Veh (s)	521.3
Stop Delay (hr)	277.9
Stop Del/Veh (s)	483.8
Vehicles Entered	1788
Vehicles Exited	1706
Hourly Exit Rate	1706
Input Volume	27792
% of Volume	6
Denied Entry Before	101
Denied Entry After	2029

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.1	0.1	11
	11	0.0	4.0	0.0	34
Stanley Boulevard	5	29.4	36.5	0.1	8
Quandt Road	4	99.9	148.7	0.4	11
Total		129.5	209.3	0.6	11

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	5.4	20.6	0.2	27
	19	0.9	16.0	0.1	33
Greenvalley Drive	2	5.4	12.3	0.1	21
Reliez Valle Road	3	31.8	55.7	0.3	16
	20	23.5	27.1	0.0	4
Springhill Road	4	122.7	132.1	0.1	3
Deer Hill Road	5	365.6	404.1	0.4	4
	11	19.1	27.7	0.1	10
Acalanes Avenue	14	11.9	15.9	0.0	9
	15	19.0	25.1	0.1	9
	16	6.6	16.0	0.1	24
	17	7.8	16.2	0.1	16
Mt. Diablo Boulevard	6	4.5	12.4	0.1	20
SR 24 EB Off Ramp	7	1.8	4.6	0.1	49
Total		625.8	785.8	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	68	32	11
Average Queue (ft)	37	6	0
95th Queue (ft)	65	25	5
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	34	562	73	47	71
Average Queue (ft)	9	413	19	9	26
95th Queue (ft)	24	637	74	32	58
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		22	12		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		67		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	454	486	339	344
Average Queue (ft)	237	456	177	175
95th Queue (ft)	599	474	273	281
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	24	94		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				26
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	368	254	15	521	527	96	212	215
Average Queue (ft)	336	227	1	470	472	76	161	179
95th Queue (ft)	353	257	8	597	611	140	252	267
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	99	70		83	87		22	82
Queuing Penalty (veh)	0	0		748	784		202	736
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				86	82	0		
Queuing Penalty (veh)				0	142	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	547	23	38	275	2273	2408
Average Queue (ft)	210	523	3	9	173	2241	2368
95th Queue (ft)	283	537	15	30	328	2310	2462
Link Distance (ft)		504	347	347		2220	2220
Upstream Blk Time (%)		95				42	95
Queuing Penalty (veh)		0				520	1178
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	8	97			4	26	66
Queuing Penalty (veh)	36	441			51	56	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	5
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	B11	B11
Directions Served	T	T	T	T
Maximum Queue (ft)	167	258	387	387
Average Queue (ft)	36	209	196	337
95th Queue (ft)	119	296	420	420
Link Distance (ft)	147	147	347	347
Upstream Blk Time (%)	1	20	1	6
Queuing Penalty (veh)	9	324	13	99
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	11	354
Average Queue (ft)	0	191
95th Queue (ft)	8	441
Link Distance (ft)	266	266
Upstream Blk Time (%)		6
Queuing Penalty (veh)		94
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Pleasant Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 17: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	14	165
Average Queue (ft)	0	75
95th Queue (ft)	10	147
Link Distance (ft)	314	314
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 5435

PHF = 1.0

Evac 1 + Project – Evacuation plus project, with trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	2313	2278	2198	2250	2209	2249
Vehs Exited	2165	2144	2089	2068	2058	2105
Starting Vehs	258	231	256	249	270	256
Ending Vehs	406	365	365	431	421	397
Denied Entry Before	144	167	171	169	170	165
Denied Entry After	2127	2179	2246	2233	2121	2181
Travel Distance (mi)	1976	1959	1927	1894	1879	1927
Travel Time (hr)	1489.0	1424.4	1515.3	1507.4	1458.8	1479.0
Total Delay (hr)	1419.8	1355.7	1448.0	1441.1	1392.7	1411.4
Total Stops	9117	8435	8871	8651	8322	8680
Fuel Used (gal)	391.0	376.5	395.1	393.7	380.7	387.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2313	2278	2198	2250	2209	2249
Vehs Exited	2165	2144	2089	2068	2058	2105
Starting Vehs	258	231	256	249	270	256
Ending Vehs	406	365	365	431	421	397
Denied Entry Before	144	167	171	169	170	165
Denied Entry After	2127	2179	2246	2233	2121	2181
Travel Distance (mi)	1976	1959	1927	1894	1879	1927
Travel Time (hr)	1489.0	1424.4	1515.3	1507.4	1458.8	1479.0
Total Delay (hr)	1419.8	1355.7	1448.0	1441.1	1392.7	1411.4
Total Stops	9117	8435	8871	8651	8322	8680
Fuel Used (gal)	391.0	376.5	395.1	393.7	380.7	387.4

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1
Total Delay (hr)	0.1	0.0	0.2
Total Del/Veh (s)	3.5	5.8	3.9
Stop Delay (hr)	0.1	0.0	0.1
Stop Del/Veh (s)	2.8	4.2	3.0
Vehicles Entered	133	23	156
Vehicles Exited	133	23	156
Hourly Exit Rate	133	23	156
Input Volume	130	25	155
% of Volume	102	92	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	13.6	0.2	13.9
Total Del/Veh (s)	2.7	101.7	5.2	73.8
Stop Delay (hr)	0.0	12.5	0.2	12.7
Stop Del/Veh (s)	3.0	93.2	3.6	67.3
Vehicles Entered	39	469	156	664
Vehicles Exited	38	463	156	657
Hourly Exit Rate	38	463	156	657
Input Volume	42	478	155	675
% of Volume	90	97	101	97
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	183.4	0.0	183.4
Denied Del/Veh (s)	578.6	0.0	367.2
Total Delay (hr)	14.4	4.6	19.0
Total Del/Veh (s)	72.8	24.8	49.4
Stop Delay (hr)	12.4	3.6	15.9
Stop Del/Veh (s)	62.7	19.0	41.5
Vehicles Entered	698	657	1355
Vehicles Exited	692	658	1350
Hourly Exit Rate	692	658	1350
Input Volume	1124	675	1799
% of Volume	62	97	75
Denied Entry Before	8	0	8
Denied Entry After	443	0	443

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	277.0	0.8	0.1	0.0	0.0	0.0	278.0
Denied Del/Veh (s)	1445.2	13.3	15.6	0.0	0.0	0.0	434.5
Total Delay (hr)	9.2	5.0	0.8	0.1	21.5	1.9	38.4
Total Del/Veh (s)	221.2	78.3	84.8	80.9	62.7	52.3	77.8
Stop Delay (hr)	9.4	4.7	0.8	0.1	19.1	1.8	35.9
Stop Del/Veh (s)	226.4	74.7	80.3	80.3	55.8	49.2	72.6
Vehicles Entered	141	226	34	4	1220	129	1754
Vehicles Exited	141	225	33	4	1196	127	1726
Hourly Exit Rate	141	225	33	4	1196	127	1726
Input Volume	643	223	34	4	1626	173	2703
% of Volume	22	101	97	100	74	73	64
Denied Entry Before	40	0	0	0	0	0	40
Denied Entry After	549	0	0	0	0	0	549

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	429.5	0.0	0.0	0.0	0.0	429.5
Denied Del/Veh (s)	1546.1	0.0	0.0	0.0	0.0	619.4
Total Delay (hr)	22.1	0.0	0.0	3.5	24.5	50.2
Total Del/Veh (s)	326.7	19.3	3.6	95.9	64.4	101.8
Stop Delay (hr)	21.8	0.0	0.0	3.3	21.3	46.4
Stop Del/Veh (s)	323.3	17.4	3.8	89.6	55.8	94.2
Vehicles Entered	218	4	22	129	1341	1714
Vehicles Exited	218	4	22	131	1342	1717
Hourly Exit Rate	218	4	22	131	1342	1717
Input Volume	909	4	22	218	2274	3427
% of Volume	24	100	100	60	59	50
Denied Entry Before	82	0	0	0	0	82
Denied Entry After	782	0	0	0	0	782

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	5.8	5.8
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	7	7
Vehicles Exited	7	7
Hourly Exit Rate	7	7
Input Volume	26	26
% of Volume	27	27
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.9	1.9
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.3	0.3
Vehicles Entered	31	31
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	26	26
% of Volume	119	119
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	205.8	0.0	0.0	205.8
Denied Del/Veh (s)	1266.7	0.0	0.0	341.3
Total Delay (hr)	7.0	0.0	14.4	21.3
Total Del/Veh (s)	115.4	0.0	32.9	42.3
Stop Delay (hr)	7.4	0.0	11.8	19.2
Stop Del/Veh (s)	123.2	0.0	27.0	38.1
Vehicles Entered	211	26	1560	1797
Vehicles Exited	210	26	1556	1792
Hourly Exit Rate	210	26	1556	1792
Input Volume	551	26	3183	3760
% of Volume	38	100	49	48
Denied Entry Before	31	0	0	31
Denied Entry After	374	0	0	374

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	8.6	8.6
Total Del/Veh (s)	0.2	17.6	17.3
Stop Delay (hr)	0.0	8.4	8.4
Stop Del/Veh (s)	0.0	17.2	16.9
Vehicles Entered	26	1766	1792
Vehicles Exited	26	1758	1784
Hourly Exit Rate	26	1758	1784
Input Volume	26	3734	3760
% of Volume	100	47	47
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	10.7	1.6	12.3
Total Del/Veh (s)	0.6	42.8	6.6	24.6
Stop Delay (hr)	0.0	12.0	0.2	12.2
Stop Del/Veh (s)	0.0	48.3	0.8	24.5
Vehicles Entered	26	889	869	1784
Vehicles Exited	26	882	870	1778
Hourly Exit Rate	26	882	870	1778
Input Volume	26	1880	1854	3760
% of Volume	100	47	47	47
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	16.6	16.6
Total Del/Veh (s)	66.3	66.3
Stop Delay (hr)	18.9	18.9
Stop Del/Veh (s)	75.5	75.5
Vehicles Entered	882	882
Vehicles Exited	882	882
Hourly Exit Rate	882	882
Input Volume	1880	1880
% of Volume	47	47
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.2	14.9	15.2
Denied Del/Veh (s)	106.7	59.3	59.7
Total Delay (hr)	0.1	15.0	15.1
Total Del/Veh (s)	59.2	60.5	60.4
Stop Delay (hr)	0.1	17.5	17.6
Stop Del/Veh (s)	63.0	70.6	70.5
Vehicles Entered	7	876	883
Vehicles Exited	7	875	882
Hourly Exit Rate	7	875	882
Input Volume	26	1880	1906
% of Volume	27	47	46
Denied Entry Before	0	2	2
Denied Entry After	1	30	31

Total Network Performance

Denied Delay (hr)	1113.6
Denied Del/Veh (s)	905.0
Total Delay (hr)	297.8
Total Del/Veh (s)	428.5
Stop Delay (hr)	274.0
Stop Del/Veh (s)	394.3
Vehicles Entered	2249
Vehicles Exited	2105
Hourly Exit Rate	2105
Input Volume	33042
% of Volume	6
Denied Entry Before	165
Denied Entry After	2181

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.2	0.1	11
Project Dwy	11	0.0	4.1	0.0	33
Stanley Boulevard	5	19.3	27.1	0.1	10
	37	1.8	9.7	0.1	31
Quandt Road	4	80.9	116.6	0.4	11
Total		102.1	177.8	0.6	13

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	5.8	21.2	0.2	26
	19	1.0	16.4	0.1	33
Greenvalley Drive	2	5.2	12.0	0.1	21
Reliez Valle Road	3	20.2	43.9	0.3	21
	20	11.5	15.1	0.0	8
Springhill Road	4	62.7	72.2	0.1	5
	37	196.3	231.5	0.4	6
Deer Hill Road	5	64.4	72.3	0.1	4
Project Dwy	11	33.0	41.4	0.1	7
Acalanes Avenue	14	18.2	22.3	0.0	6
	15	42.8	48.9	0.1	5
	16	66.3	75.6	0.1	5
	17	59.2	189.6	0.1	4
Mt. Diablo Boulevard	6	5.8	13.5	0.1	18
SR 24 EB Off Ramp	7	1.9	4.7	0.1	48
Total		594.2	880.6	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	76	46	16
Average Queue (ft)	39	7	1
95th Queue (ft)	64	28	7
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	34	585	84	47	61
Average Queue (ft)	10	446	27	10	23
95th Queue (ft)	26	659	87	31	52
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		32	26		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		70		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	467	487	270	294
Average Queue (ft)	281	459	147	161
95th Queue (ft)	634	478	215	228
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	17	80		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				20
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	368	258	15	506	515	96	212	229
Average Queue (ft)	336	211	2	375	383	62	94	130
95th Queue (ft)	353	278	10	632	651	137	222	278
Link Distance (ft)	318	217		406	406		127	127
Upstream Blk Time (%)	100	32		37	51		8	41
Queuing Penalty (veh)	0	0		337	458		69	371
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				56	57	0		
Queuing Penalty (veh)				0	98	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB	SB	B37	B37
Directions Served	L	LT	T	R	L	T	T	T	T	T
Maximum Queue (ft)	225	550	22	43	275	442	447	441	1884	2009
Average Queue (ft)	108	522	2	8	174	366	392	410	1590	1711
95th Queue (ft)	271	536	13	29	316	523	454	467	2522	2656
Link Distance (ft)		504	342	342		351	351	351	1832	1832
Upstream Blk Time (%)		96				23	33	41	21	76
Queuing Penalty (veh)		0				193	278	337	260	943
Storage Bay Dist (ft)	185				175					
Storage Blk Time (%)		92			9	4		60		
Queuing Penalty (veh)		418			69	9		0		

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	5
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB	SB
Directions Served	R	T	T	TR
Maximum Queue (ft)	218	395	389	391
Average Queue (ft)	184	156	346	337
95th Queue (ft)	201	366	416	447
Link Distance (ft)	164	342	342	342
Upstream Blk Time (%)	100	2	15	10
Queuing Penalty (veh)	0	17	158	109
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement			
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	164	267	237
Average Queue (ft)	36	237	184
95th Queue (ft)	122	258	270
Link Distance (ft)	152	152	152
Upstream Blk Time (%)	1	97	11
Queuing Penalty (veh)	12	1208	140
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Pleasant Hill Road

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	56	370	283
Average Queue (ft)	11	341	106
95th Queue (ft)	47	363	244
Link Distance (ft)	262	262	262
Upstream Blk Time (%)		99	0
Queuing Penalty (veh)		1230	5
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: Pleasant Hill Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	542
Average Queue (ft)	512
95th Queue (ft)	534
Link Distance (ft)	302
Upstream Blk Time (%)	100
Queuing Penalty (veh)	939
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	188	535
Average Queue (ft)	15	505
95th Queue (ft)	123	526
Link Distance (ft)	314	314
Upstream Blk Time (%)	0	99
Queuing Penalty (veh)	0	622
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 8283

PHF = 1.0

Evac 1 + Project Variant– Evacuation plus project, no trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1718	1770	1818	1793	1804	1781
Vehs Exited	1667	1680	1753	1687	1699	1696
Starting Vehs	332	280	318	278	287	299
Ending Vehs	383	370	383	384	392	380
Denied Entry Before	188	149	166	161	143	161
Denied Entry After	2724	2604	2474	2543	2560	2582
Travel Distance (mi)	1573	1588	1620	1618	1608	1601
Travel Time (hr)	1799.8	1669.5	1677.1	1653.3	1680.2	1696.0
Total Delay (hr)	1745.0	1614.2	1620.7	1597.2	1624.2	1640.3
Total Stops	6005	6096	6145	6278	6138	6134
Fuel Used (gal)	447.6	420.7	423.1	417.9	422.6	426.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1718	1770	1818	1793	1804	1781
Vehs Exited	1667	1680	1753	1687	1699	1696
Starting Vehs	332	280	318	278	287	299
Ending Vehs	383	370	383	384	392	380
Denied Entry Before	188	149	166	161	143	161
Denied Entry After	2724	2604	2474	2543	2560	2582
Travel Distance (mi)	1573	1588	1620	1618	1608	1601
Travel Time (hr)	1799.8	1669.5	1677.1	1653.3	1680.2	1696.0
Total Delay (hr)	1745.0	1614.2	1620.7	1597.2	1624.2	1640.3
Total Stops	6005	6096	6145	6278	6138	6134
Fuel Used (gal)	447.6	420.7	423.1	417.9	422.6	426.4

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.1	0.0	0.2
Total Del/Veh (s)	3.5	6.8	4.0
Stop Delay (hr)	0.1	0.0	0.1
Stop Del/Veh (s)	2.7	5.1	3.1
Vehicles Entered	135	26	161
Vehicles Exited	135	26	161
Hourly Exit Rate	135	26	161
Input Volume	130	25	155
% of Volume	104	104	104
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	10.7	0.2	11.0
Total Del/Veh (s)	3.2	82.0	5.0	58.4
Stop Delay (hr)	0.0	9.6	0.2	9.8
Stop Del/Veh (s)	3.4	73.3	3.4	52.0
Vehicles Entered	45	457	160	662
Vehicles Exited	45	454	159	658
Hourly Exit Rate	45	454	159	658
Input Volume	42	478	155	675
% of Volume	107	95	103	97
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	366.7	0.0	366.7
Denied Del/Veh (s)	1156.1	0.0	733.9
Total Delay (hr)	17.0	7.7	24.7
Total Del/Veh (s)	170.9	41.0	86.2
Stop Delay (hr)	17.1	6.4	23.4
Stop Del/Veh (s)	171.0	34.2	81.8
Vehicles Entered	348	657	1005
Vehicles Exited	340	655	995
Hourly Exit Rate	340	655	995
Input Volume	1124	675	1799
% of Volume	30	97	55
Denied Entry Before	12	0	12
Denied Entry After	794	0	794

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	232.9	5.0	0.9	0.0	0.0	0.0	238.9
Denied Del/Veh (s)	1302.1	78.2	89.6	0.0	0.0	0.0	450.7
Total Delay (hr)	9.8	6.7	1.2	0.1	32.7	3.0	53.4
Total Del/Veh (s)	181.3	106.8	120.8	81.7	129.3	109.9	131.2
Stop Delay (hr)	10.2	6.5	1.1	0.1	32.9	3.0	53.8
Stop Del/Veh (s)	187.4	103.4	116.2	79.8	130.5	111.8	132.2
Vehicles Entered	186	223	35	5	894	97	1440
Vehicles Exited	185	220	35	5	869	93	1407
Hourly Exit Rate	185	220	35	5	869	93	1407
Input Volume	643	223	34	4	1626	173	2703
% of Volume	29	99	103	125	53	54	52
Denied Entry Before	15	0	0	0	0	0	15
Denied Entry After	458	9	1	0	0	0	468

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	392.5	0.0	0.0	0.0	0.0	392.5
Denied Del/Veh (s)	1474.8	0.0	0.0	0.0	0.0	625.7
Total Delay (hr)	24.1	0.0	0.0	13.2	142.1	179.4
Total Del/Veh (s)	329.5	21.8	2.9	374.4	394.4	377.1
Stop Delay (hr)	23.9	0.0	0.0	12.5	139.4	175.8
Stop Del/Veh (s)	327.1	19.9	3.0	354.8	386.9	369.6
Vehicles Entered	238	5	21	115	1159	1538
Vehicles Exited	235	5	21	113	1132	1506
Hourly Exit Rate	235	5	21	113	1132	1506
Input Volume	909	4	22	218	2274	3427
% of Volume	26	125	95	52	50	44
Denied Entry Before	69	0	0	0	0	69
Denied Entry After	720	0	0	0	0	720

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	4.9	4.9
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	8	8
Vehicles Exited	8	8
Hourly Exit Rate	8	8
Input Volume	26	26
% of Volume	31	31
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	23	23
Vehicles Exited	23	23
Hourly Exit Rate	23	23
Input Volume	26	26
% of Volume	88	88
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	333.1	0.0	0.0	333.1
Denied Del/Veh (s)	1956.2	0.0	0.0	598.1
Total Delay (hr)	8.0	0.0	8.0	16.1
Total Del/Veh (s)	1374.8	0.0	21.0	40.7
Stop Delay (hr)	8.1	0.0	4.5	12.5
Stop Del/Veh (s)	1380.2	0.0	11.7	31.7
Vehicles Entered	13	25	1367	1405
Vehicles Exited	13	25	1368	1406
Hourly Exit Rate	13	25	1368	1406
Input Volume	551	26	3183	3760
% of Volume	2	96	43	37
Denied Entry Before	65	0	0	65
Denied Entry After	600	0	0	600

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.7	4.7
Total Del/Veh (s)	0.2	12.3	12.1
Stop Delay (hr)	0.0	1.6	1.6
Stop Del/Veh (s)	0.0	4.0	4.0
Vehicles Entered	25	1381	1406
Vehicles Exited	25	1382	1407
Hourly Exit Rate	25	1382	1407
Input Volume	26	3734	3760
% of Volume	96	37	37
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.7	2.9	6.6
Total Del/Veh (s)	0.6	19.0	15.3	16.8
Stop Delay (hr)	0.0	0.4	0.4	0.8
Stop Del/Veh (s)	0.0	2.1	2.1	2.1
Vehicles Entered	25	694	688	1407
Vehicles Exited	25	697	686	1408
Hourly Exit Rate	25	697	686	1408
Input Volume	26	1880	1854	3760
% of Volume	96	37	37	37
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.3	1.3
Total Del/Veh (s)	6.6	6.6
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	697	697
Vehicles Exited	697	697
Hourly Exit Rate	697	697
Input Volume	1880	1880
% of Volume	37	37
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	1.0
Total Del/Veh (s)	7.6	4.8	4.8
Stop Delay (hr)	0.0	0.3	0.3
Stop Del/Veh (s)	1.2	1.7	1.7
Vehicles Entered	8	716	724
Vehicles Exited	8	714	722
Hourly Exit Rate	8	714	722
Input Volume	26	1880	1906
% of Volume	31	38	38
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	1331.4
Denied Del/Veh (s)	1098.6
Total Delay (hr)	308.8
Total Del/Veh (s)	535.6
Stop Delay (hr)	287.7
Stop Del/Veh (s)	499.0
Vehicles Entered	1781
Vehicles Exited	1696
Hourly Exit Rate	1696
Input Volume	30546
% of Volume	6
Denied Entry Before	161
Denied Entry After	2582

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.2	0.1	11
Project Dwy	11	0.0	4.1	0.0	34
Stanley Boulevard	5	21.8	29.1	0.1	10
Quandt Road	4	81.7	122.2	0.4	13
Total		103.8	175.6	0.6	13

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	6.8	22.1	0.2	25
	19	1.2	15.8	0.1	34
Greenvalley Drive	2	5.0	11.9	0.1	22
Reliez Valle Road	3	37.7	61.6	0.3	15
	20	24.4	28.0	0.0	4
Springhill Road	4	129.3	138.7	0.1	3
Deer Hill Road	5	358.8	396.8	0.4	4
Project Dwy	11	20.5	29.0	0.1	10
Acalanes Avenue	14	12.4	16.4	0.0	8
	15	19.0	25.1	0.1	9
	16	6.6	16.0	0.1	24
	17	7.6	17.2	0.1	15
Mt. Diablo Boulevard	6	4.9	13.5	0.1	18
SR 24 EB Off Ramp	7	1.7	4.5	0.1	50
Total		635.7	796.7	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	77	45	16
Average Queue (ft)	38	8	1
95th Queue (ft)	63	30	7
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	44	567	56	50	64
Average Queue (ft)	11	385	10	9	25
95th Queue (ft)	29	611	51	31	57
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		12	5		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		63		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	459	488	358	394
Average Queue (ft)	253	456	187	189
95th Queue (ft)	615	491	312	337
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	27	94		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				28
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	369	258	16	526	525	96	207	220
Average Queue (ft)	338	223	2	476	476	76	164	183
95th Queue (ft)	355	265	9	581	604	140	245	262
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	100	64		86	90		24	85
Queuing Penalty (veh)	0	0		775	809		213	762
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				89	84	0		
Queuing Penalty (veh)				0	145	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	547	28	29	275	2274	2410
Average Queue (ft)	212	521	3	8	192	2241	2371
95th Queue (ft)	276	536	15	28	344	2292	2451
Link Distance (ft)		504	342	342		2220	2220
Upstream Blk Time (%)		95				41	95
Queuing Penalty (veh)		0				506	1182
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	11	97			4	30	68
Queuing Penalty (veh)	52	440			47	64	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	204	392	380
Average Queue (ft)	180	212	338
95th Queue (ft)	199	435	410
Link Distance (ft)	176	342	342
Upstream Blk Time (%)	100	1	7
Queuing Penalty (veh)	0	23	114
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	180	257
Average Queue (ft)	48	214
95th Queue (ft)	146	294
Link Distance (ft)	150	150
Upstream Blk Time (%)	1	22
Queuing Penalty (veh)	15	409
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	351
Average Queue (ft)	179
95th Queue (ft)	424
Link Distance (ft)	266
Upstream Blk Time (%)	5
Queuing Penalty (veh)	89
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Pleasant Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	161
Average Queue (ft)	67
95th Queue (ft)	128
Link Distance (ft)	314
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 5648

EXHIBIT B

Lamorinda Program Management Committee

October 24, 2013

City of Lafayette
Attn: Greg Wolff, Senior Planner
3675 Mt. Diablo Blvd, Suite 210
Lafayette, CA 94549

Dear Greg:

The Lamorinda Program Management Committee (LPMC), at its regular meeting on Monday, October 7, 2013, reviewed the Terraces project in Lafayette (Agenda Item 5.a). Present were member Amy Worth of Orinda, and vice-chair Mike Metcalf, who chaired the meeting. Chair Don Tatzin recused himself from the meeting.

LPMC Staff from the City of Lafayette provided the following background on the Terraces project:

- The project consists of 315 apartment units located in the northwest quadrant of the SR 24/Pleasant Hill Road interchange.
- The City of Lafayette recently certified the Final Environmental Impact Report for the project.
- Lafayette staff notified the LPMC and adjacent Regional Transportation Planning Committees about the Terraces Project because forecast traffic generated by the project would exceed the 50 net-new-peak-hour-vehicle-trip threshold established in the adopted 2009 Lamorinda Action Plan [Adopted December 7, 2009, p. 32] for notification to LPMC and informational discussion about the project.

Lafayette staff noted that one of the traffic impact mitigations proposed by the applicant is to add a third through-lane to the existing two southbound lanes on Pleasant Hill Road in the southbound direction, from north of Deer Hill Road to the State Route 24 westbound onramp.

LPMC discussed the impacts of the proposed project. Following staff's presentation, Contra Costa Transportation Authority (CCTA) staff provided background information on the Measure J Growth Management Program requirements for multi-jurisdictional cooperative planning. CCTA staff explained

Attachment 3

the LPMC's role in the discussion and review of the project, noting that the Lamorinda Action Plan identifies Pleasant Hill Road as a Route of Regional significance. Since the project exceeds the trip threshold identified in the Lamorinda Action Plan, the LPMC should make a determination as to whether the proposed project would adversely affect the sub-region's ability to meet the objectives in the Action Plan and whether it is consistent with adopted Action Plan policy.

Members of the public were asked to speak. David Bowie representing the applicant, spoke about the project.

During the discussion, it was also noted that one of the proposed mitigations for the project – the widening of southbound Pleasant Hill Road – could conflict with the Gateway Constraint Policy in the Lamorinda Action Plan [pp. 23-25]. This policy limits the width of Pleasant Hill Road to two through-lanes.

After significant discussion, the LPMC agreed to transmit the following statement to the City of Lafayette by letter:

> *It appears from the information presented today that one of the proposed mitigations for the Terraces Project – to widen southbound Pleasant Hill Road from two to three lanes from north of Deer Hill Road to the westbound SR 24 onramp – is inconsistent with the Gateway Constraints Policy of the adopted Lamorinda Action Plan.*

The statement was agreed upon with a motion by Amy Worth, and a second by Michael Metcalf.

Please feel free to contact me or our LPMC staff member, Shawna Brekke-Read, if you have any questions.

Sincerely,

Michael Metcalf

cc: Lafayette City Council
Leah Greenblat, City of Lafayette
Martin Engelmann, CCTA
LPMC and LPMC TAC
SWAT and SWAT TAC

Jason Chen

From: Colin Elliott <colin@chelliott.com>
Sent: Sunday, December 6, 2020 7:48 PM
To: Jason Chen
Cc: 'Gerringer, Teresa'
Subject: LPMC - December 7, 2020 Meeting Agenda Item 6. Proposed Amendment to Lamorinda Action Plan Gateway Constraint Policy for Pleasant Hill Road

Dear Jason

I'm writing to object to Item 6 in the Agenda for Monday's meeting. Information on this was just forwarded to me by another resident of NE Lafayette. I can find no agenda or staff report for this proposal on the SWAT/LMPC website. Your website is, in fact, completely out of date! Is there a staff report? If so perhaps you could forward it to me. There appears to have been no notice or communications regarding this import change in policy given to the residents of Lafayette who will be most affected! I do not believe this policy change has even been the subject of a public hearing in the City of Lafayette yet.

A change like this will have the effect of drawing more traffic to Pleasant Hill Road from I-680 because of traffic apps like Waze and Apple maps. This needs to be studied.

If this policy change is solely because of the proposed Terraces of Lafayette project, then it is premature. That project is currently tied up in a CEQA lawsuit which will likely require parts if not all of the EIR to be re-done. The traffic impacts and impacts on emergency evacuations are among the topics that will probably require further study. Ultimately, the project may not ever get developed. The current zoning and General Plan designations for that site allow low density residential, which do not require a change to the Gateway Policy.

Sincerely

Colin Elliott

Reliez Valley, Lafayette

Jason Chen

From: Jenifer Lamken Paul <jenlamkenpaul@hotmail.com>
Sent: Sunday, December 6, 2020 11:55 PM
To: Jason Chen; lbobadilla@sanramon.ca.gov
Subject: Item 6, LPMC Meeting December 7, 2020

Dear Members of the Lamorinda Program Management Committee,

I am writing to you to oppose the amendment to the Gateway Constraint Policy, Item 6 on the agenda for your meeting on Monday, December 7th, 2020.

In 2013, the firm TJKM studied the addition of the southbound lane and beyond the obvious that it conflicted with the Gateway Constraints Policy, they found several negative potential impacts. For example:

*It would increase the pedestrian crossing distance on the Pleasant Hill Road crosswalk at the Deer Hill Road – Stanley Boulevard signal, which a high volume of Acalanes High School students currently use.

*It would result in secondary negative impacts such as:

*loss of existing curb parking

*loss or loading zones along the west curb

*loss of the designated spaces currently used for school passenger loading which would cause hazardous passenger loading activity at unsuitable locations.

*The intersection would still operate at LOS F

Source - EIR 4.13 Pgs. 36-40
https://link.edgepilot.com/s/adc83150/LyxIz5IdsEiNlND1JRHZNQ?u=https://www.lovelafayette.org/home/showdocument?id=1553

In 2017, Lafayette hired TJKM to conduct a Pleasant Hill Corridor Study. On Pages 19 and 20, you can read the section where TJKM again evaluated to see if extending the southbound right-turn storage lane could help mitigate the existing traffic conditions. TJKM said this change would not have any material benefit on southbound movement.

Source - TJKM 2017 Pleasant Hill Road Corridor Study, Pgs. 19-20
https://link.edgepilot.com/s/2769f9bc/G9HlvBX3g0iKYHVskQ-HLA?u=https://www.lovelafayette.org/home/showdocument?id=3995

In 2020, TJKM studied the area again and stated that "adding more capacity for southbound through movements at Deer Hill Road does **have the potential to increase speeds upstream and attract more drivers onto the corridor**. Initial simulations using SimTraffic suggest that this would be the case. **As such, the proposed lane may violate both the letter and spirit of the Gateway Constraints Policy.**"

Source TJKM 2020 Terraces of Lafayette Impact Study, Pgs. 90-98
https://link.edgepilot.com/s/ee695b48/LqA8I47MXUq1bCPk5Ihbtw?u=https://lafayette.granicus.com/MetaViewer.php?view_id=19%26clip_id=4753%26meta_id=111125

The Gateway Constraints Policy was implemented to LIMIT the impacts to residents. This amendment to add a “Short-Link Southbound Lane on Pleasant Hill Road as part of the Proposed Terraces of Lafayette Project” will do the opposite and I urge you to reject it.

The Gateway Constraints Policy should not be changed solely based on the Terraces Project as your agenda item states it is. That Project is currently involved in a lawsuit. Furthermore, residents should be given much better notice about meetings involving topics like this. I ask you to consider placing “A” frame boards up with notices at the intersection of Pleasant Hill Road, Deer Hill Road and Stanley Boulevard for any future meeting involving this intersection.

Sincerely,
Jenifer Paul
Lafayette, CA

Lamorinda Program Management Committee (LPMC) Meeting – January 11, 2021

Communication Received from the Public by January 11, 2021 8 a.m.

Jason Chen

From: Paul Melmed <paulmelmed@gmail.com>
Sent: Saturday, January 9, 2021 1:17 PM
To: Jason Chen; lbodadilla@sanramon.ca.gov
Cc: Paul Melmed
Subject: Deny a short lane southbound on Pleasant Hill Road before Hwy 24

To: lbobadilla@sanramon.ca.gov. jchen@cityof orinda.org

From: Paul J. Melmed, Ph.D. 35 Prado Way Lafayette, CA 94549

RE: "Public Comment" 01/11/2021: Deny an additional southbound short lane on Pleasant Hill Road before HWY 24

Attention LPMC members

Danger: Keep the Gateway Constraint Policy as is, do not add a trap or short lane southbound before Hwy 24 on Pleasant Hill Road.

Deny the staff report re: a trap lane or short lane to accommodate the O'Brien development of the Terraces of Lafayette apartments even before that project is fully vetted by the Superior Court of CCC. This is not only a premature action but also would show a conflict of interest of LPMC to favor a combative developer's profit driven plan. Terraces is a decade old extremely controversial project that was recently approved by Lafayette City Council. Of the five member council voting on the project in August 2020, two, including the Mayor have since stepped down. The new LPMC chairperson voted in favor of the project while acknowledging 13 unavoidable and unmitigatable conditions. The project is being contested in a formal lawsuit brought by over 4600 Lafayette residents. Putting 315 apartments at this location does not meet CEQA requirements, is in a VHFHSZ (Very High Fire Hazard Severity Zone) and would be putting ConFire and CCC Emergency Evacuation teams at greater risk during a serious event. With WAZE and other social media commuter traffic sites, such a short segment lane will only encourage more commuters to congest one of Lafayette's most heavily travelled interactions during peak hours (see the Elite Transportation formal report filed with the City of Lafayette). This will bring even more safety, health and emergency danger to students and staff of Acalanes High School, bikers and families who drop off their children or drive to surrounding schools including Springhill Elementary School and daycare centers.

Jason Chen

From: Richard Drury <richard@lozeaudrury.com>
Sent: Sunday, January 10, 2021 9:10 PM
To: Jason Chen
Subject: Save Lafayette Comment on Gateway Constraints Policy revision
Attachments: 2021.01.10.Save Lafayette Constraints ComLtr.pdf

Dear Mr. Chen:
Attached please find the comments of Save Lafayette concerning Agenda Item 6 on the Lamorinda Program Management Committee meeting scheduled for Monday, January 11, 2021. Please provide this letter to the members of the LPMC. Thank you.
Richard Drury
Counsel for Save Lafayette

--
Richard Drury
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612
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richard@lozeaudrury.com

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T 510.836.4200
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www.lozeaudrury.com
richard@lozeaudrury.com

BY E-MAIL ONLY

January 10, 2021

Lamorinda Program Management Committee
c/o Jason Chen
Orinda City Hall
22 Orinda Way
Orinda, CA 94563
e-mail: JChen@cityoforinda.org

Re: Opposition to Proposed Amendment to Southwest Area Transportation Committee (SWAT) for Request to Amend the Lamorinda Action Plan Gateway Constraint Policy for Pleasant Hill Road (page 57, 3rd paragraph of Lamorinda Action Plan, 2017).

Lamorinda Program Management Committee (LPMC):

I am writing on behalf of Save Lafayette, a non-profit organization composed of residents living in and around the City of Lafayette ("City") concerning the proposed Amendment ("Amendment") to the Southwest Area Transportation Committee (SWAT) for Request to Amend the Lamorinda Action Plan Gateway Constraint Policy (GCP) for Pleasant Hill Road (page 57, 3rd paragraph of Lamorinda Action Plan, 2017). I sent a letter on December 7, 2020, and there appears to be no substantive response to this letter in the Staff Report. I request that that LPMC at the very least provide a substantive response to the December 7 letter, which is incorporated herein by reference.

In addition to the issues raised in the December 7, 2020 letter, Save Lafayette raises these additional issues.

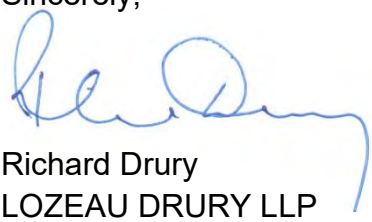
First, LPMC has not provided adequate notice to sister agencies. Page 32 of the Lamorinda Action Plan (page 36 of the PDF) (http://ccta-swat.net/wp-content/uploads/2014/07/2009-Lamorinda-Action-Plan.pdf) provides that if a project would result in 100 or more new trips (which the Lafayette Terraces project would do), then the adjacent Regional Transportation Planning Committees (RTPCs) must be notified. This would include SWAT-Tri Valley and Transpac. It appears that such notice has not been provided. The decision must be continued to allow for notice to the RTPCs.

Second, the staff report for the LPMC meeting makes clear that that the sole reason for the trap lane proposal is to facilitate the Lafayette Terraces project, and that the LPMC is relying upon the CEQA Addendum ("Addendum") certified by the City of Lafayette ("City") for the Terraces Project. However, Save Lafayette has sued the City alleging that the Addendum is legally insufficient and that a supplemental environmental

impact report (SEIR) is required. If Save Lafayette is successful, then the CEQA Addendum and the approval of the Terraces Project itself must be set aside. Therefore, there is no reason for the LPMC to approve the trap lane at least until the pending CEQA litigation is set aside. Quite simply, if the court sets aside the Addendum and Project approval, then the trap lane will be unnecessary. Since LPMC is relying on the alleged flawed CEQA Addendum, then its decision must also be set aside. If LPMC proceeds to approve the trap lane, then Save Lafayette will have no option other than to sue LPMC by amending the agency into the pending lawsuit as a Respondent agency in order to set aside LPMC's decision. It seems much more prudent for LPMC simply to wait for the outcome of the pending litigation and then decide at that time whether or not to approve any trap lane.

For the foregoing reasons, and the reasons set forth in out letter of December 7, 2020, Save Lafayette urges LPMC to continue the consideration of the trap lane proposal at least until resolution of the pending litigation challenging the Terraces Project and its CEQA Addendum. Thank you for considering our comments.

Sincerely,



Richard Drury
LOZEAU DRURY LLP

Jason Chen

From: Jenifer Lamken Paul <jenlamkenpaul@hotmail.com>
Sent: Sunday, January 10, 2021 12:52 PM
To: Jason Chen; lbobadilla@sanramon.ca.gov
Subject: LPMC 1/11/21 - Agenda item 6

Dear Members of the Lamorinda Program Management Committee,

I am writing to you to oppose the amendment to the Gateway Constraint Policy agenda item 6 for your meeting on Monday, January 11th, 2021.

As I stated in a letter to this committee in December of 2020, the Gateway Constraints Policy should not be changed and certainly not solely based on the Terraces Project as your agenda item states it is. That Project is currently involved in a lawsuit. Furthermore, residents should be given much better notice about meetings involving topics like this. Input from the community and should be considered and should have been posted in various ways such as on Nextdoor and via city communications. I had asked that you consider placing "A" frame boards up with notices at the intersection of Pleasant Hill Road, Deer Hill Road, and Stanley Boulevard for any future meeting involving this intersection.

As I also stated in my previous letter, in 2013, the firm TJKM studied the addition of the southbound lane, and beyond the obvious that it conflicted with the Gateway Constraints Policy, they found several negative potential impacts. For example:

*It would increase the pedestrian crossing distance on the Pleasant Hill Road crosswalk at the Deer Hill Road – Stanley Boulevard signal, which a high volume of Acalanes High School students currently uses.

*It would result in secondary negative impacts such as:

- *loss of existing curb parking
- *loss or loading zones along the west curb
- *loss of the designated spaces currently used for school passenger loading which would cause hazardous passenger loading activity at unsuitable locations.

*The intersection would still operate at LOS F

Source - EIR 4.13 Pgs. 36-40
https://link.edgepilot.com/s/90efbccb/juGp9uKTa0eyu0JFoFXGpg?u=https://www.lovelafayette.org/home/showdocument?id=1553

In 2017, Lafayette hired TJKM to conduct a Pleasant Hill Corridor Study. On Pages 19 and 20, you can read the section where TJKM again evaluated to see if extending the southbound right-turn storage lane could help mitigate the existing traffic conditions. TJKM said this change would not have any material benefit on southbound movement.

Source - TJKM 2017 Pleasant Hill Road Corridor Study, Pgs. 19-20
https://link.edgepilot.com/s/351d3860/cWFbER-DzkeCOD2xVlC_Lw?u=https://www.lovelafayette.org/home/showdocument?id=3995

In 2020, TJKM studied the area again and stated that “adding more capacity for southbound through movements at Deer Hill Road does **have the potential to increase speeds upstream and attract more drivers onto the corridor**. Initial simulations using SimTraffic suggest that this would be the case. **As such, the proposed lane may violate both the letter and spirit of the Gateway Constraints Policy.**”

Source TJKM 2020 Terraces of Lafayette Impact Study, Pgs. 90-98
https://link.edgepilot.com/s/9d03f79a/LeI-_qX2Z0mC6t4uwJucCg?u=https://lafayette.granicus.com/MetaViewer.php?view_id=19%26clip_id=4753%26meta_id=111125

The Gateway Constraints Policy was implemented to <u>LIMIT the impacts</u> to residents. This amendment to add a “Short-Link Southbound Lane on Pleasant Hill Road as part of the Proposed Terraces of Lafayette Project” will do the opposite and I urge you to reject it.

Sincerely,
Jenifer Paul
Lafayette, CA

Jason Chen

From: Jenifer Lamken Paul <jenlamkenpaul@hotmail.com>
Sent: Sunday, January 10, 2021 8:48 PM
To: Jason Chen; lbobadilla@sanramon.ca.gov
Cc: cityhall@lovelafayette.org; scandell@lovelafayette.org
Subject: LPMC 1/11/21 - Agenda item 6
Attachments: pg 36flowchartLamorindaActionPlan.pdf; CCTA GMP Action Plan Update Process Flowchart.pdf

Dear Members of the LPMC,

I have previously written to you regarding my opposition to your proposed approval of item 6 on your agenda for tomorrow's meeting, "Addition of a Short-Link Southbound Lane on Pleasant Hill Road as part of the Proposed Terraces of Lafayette Project"

However, I wanted to bring another piece of information to your attention. The flow chart from the Lamorinda Action Plan presents a different pathway than the one that is being presented in the Lafayette staff report which is from CCTA. I have also attached both flow charts to this email. The Lamorinda Action Plan flow chart can also be found on Page 36 using this link: https://link.edgepilot.com/s/cca6559f/3ez6Q5qlSk6tDTfzbzlgdg?u=http://ccta-swat.net/wp-content/uploads/2014/07/2009-Lamorinda-Action-Plan.pdf

As you will see, the Lamorinda Action Plan Action Review Process is for General Plan Amendments and Projects. It states that if a project would result in 100+ new trips, which the Terraces would do, then adjacent Regional Transportation Planning Committees (RTPC) have to be notified. That would therefore not just be SWAT-Lamorinda. It would include other RTPCs such as SWAT-Tri Valley and Transpac since this would impact them as well.

I did read in the staff report that according to the CCTA flowchart, "it should be noted the proposed amendment will be escalated to the Southwest Area Transportation Committee (SWAT) regardless of the input from LPMC or the input from the other regional transportation planning committees (RTPCs). The CCTA Board will be making the final decision on whether to amend the Action Plan. LPMC and SWAT are advisory committees making a recommendation to the CCTA Board." And that one of the two action items directs the "LPMC review, provide comments, and distribute the recommended language for amending the Lamorinda Action Plan to all of the regional transportation planning committees (RTPCs) within Contra Costa County for comment." However, I question why we are not looking at the Lamorinda Action Plan Process first. This report seems to dismiss the importance of notifying other RTPCs yet the Lamorinda Action Plan appears to make that a priority.

I am writing to bring this to your attention and to make sure we follow the process set forth in the Lamorinda Action Plan.

Sincerely,
Jenifer Paul
Lafayette, CA

From: Jenifer Lamken Paul <jenlamkenpaul@hotmail.com>
Sent: Sunday, January 10, 2021 12:52 PM
To: Jason Chen <jchen@cityoforinda.org>; lbobadilla@sanramon.ca.gov <lbobadilla@sanramon.ca.gov>
Subject: LPMC 1/11/21 - Agenda item 6

Dear Members of the Lamorinda Program Management Committee,

I am writing to you to oppose the amendment to the Gateway Constraint Policy agenda item 6 for your meeting on Monday, January 11th, 2021.

As I stated in a letter to this committee in December of 2020, the Gateway Constraints Policy should not be changed and certainly not solely based on the Terraces Project as your agenda item states it is. That Project is currently involved in a lawsuit. Furthermore, residents should be given much better notice about meetings involving topics like this. Input from the community and should be considered and should have been posted in various ways such as on Nextdoor and via city communications. I had asked that you consider placing "A" frame boards up with notices at the intersection of Pleasant Hill Road, Deer Hill Road, and Stanley Boulevard for any future meeting involving this intersection.

As I also stated in my previous letter, in 2013, the firm TJKM studied the addition of the southbound lane, and beyond the obvious that it conflicted with the Gateway Constraints Policy, they found several negative potential impacts. For example:
*It would increase the pedestrian crossing distance on the Pleasant Hill Road crosswalk at the Deer Hill Road – Stanley Boulevard signal, which a high volume of Acalanes High School students currently uses.
*It would result in secondary negative impacts such as:
*loss of existing curb parking
*loss or loading zones along the west curb
*loss of the designated spaces currently used for school passenger loading which would cause hazardous passenger loading activity at unsuitable locations.
*The intersection would still operate at LOS F

Source - EIR 4.13 Pgs. 36-40
https://link.edgepilot.com/s/27c4e690/yqyFABsND0eOsF8MPtxv8w?u=https://www.lovelafayette.org/home/showdocument?id=1553

In 2017, Lafayette hired TJKM to conduct a Pleasant Hill Corridor Study. On Pages 19 and 20, you can read the section where TJKM again evaluated to see if extending the southbound right-turn storage lane could help mitigate the existing traffic conditions. TJKM said this change would not have any material benefit on southbound movement.

Source - TJKM 2017 Pleasant Hill Road Corridor Study, Pgs. 19-20
https://link.edgepilot.com/s/f81096f3/e0oUMtuxyUu8-tJz9WUkmQ?u=https://www.lovelafayette.org/home/showdocument?id=3995

In 2020, TJKM studied the area again and stated that "adding more capacity for southbound through movements at Deer Hill Road does **have the potential to increase speeds upstream and attract more drivers onto the corridor**. Initial simulations using SimTraffic suggest that

this would be the case. **As such, the proposed lane may violate both the letter and spirit of the Gateway Constraints Policy.**"

Source TJKM 2020 Terraces of Lafayette Impact Study, Pgs. 90-98
https://link.edgepilot.com/s/f370c148/O0MLj0DDo0GdHa-_B1GQNw?u=https://lafayette.granicus.com/MetaViewer.php?view_id=19%26clip_id=4753%26meta_id=111125

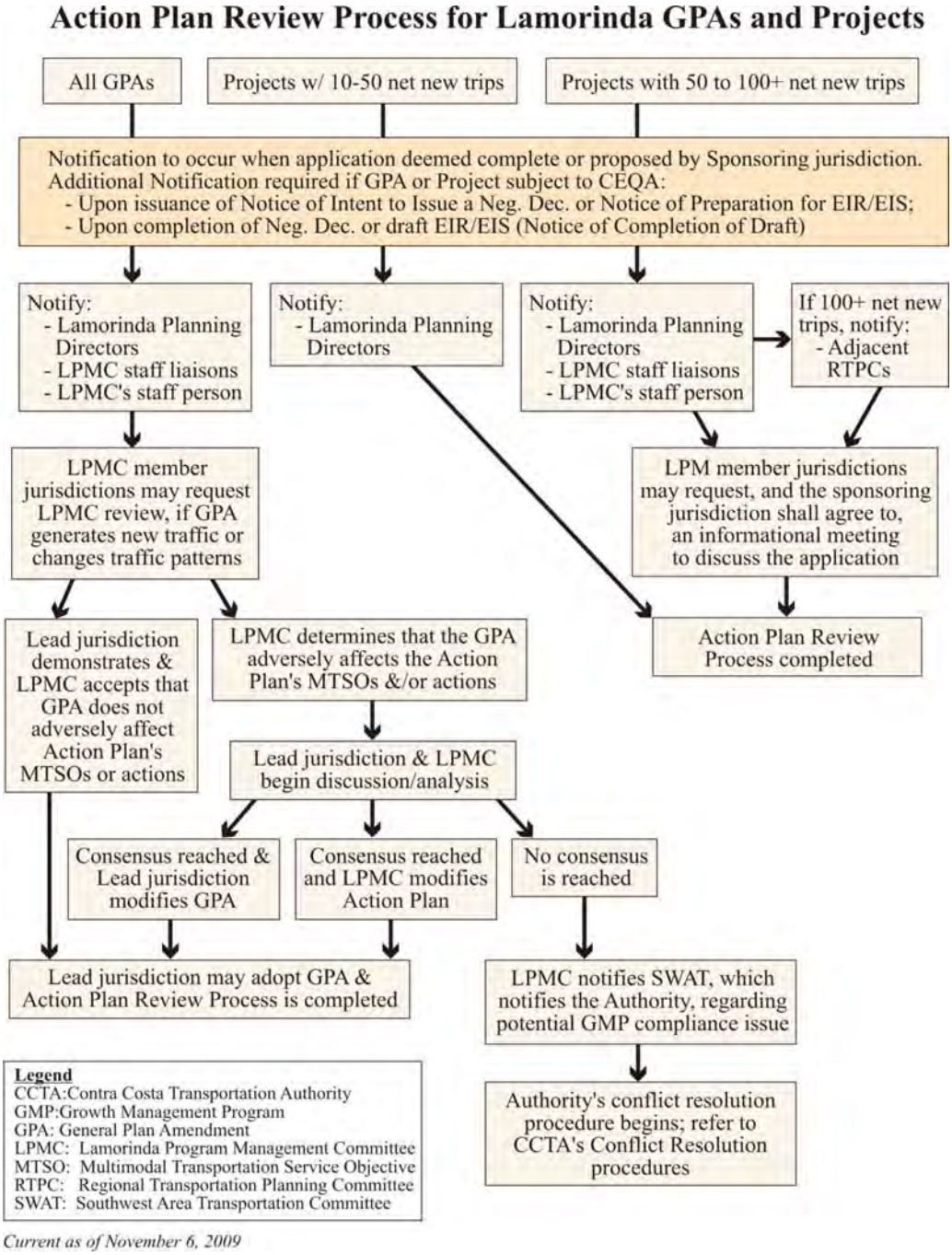
The Gateway Constraints Policy was implemented to LIMIT the impacts to residents. This amendment to add a "Short-Link Southbound Lane on Pleasant Hill Road as part of the Proposed Terraces of Lafayette Project" will do the opposite and I urge you to reject it.

Sincerely,
Jenifer Paul
Lafayette, CA

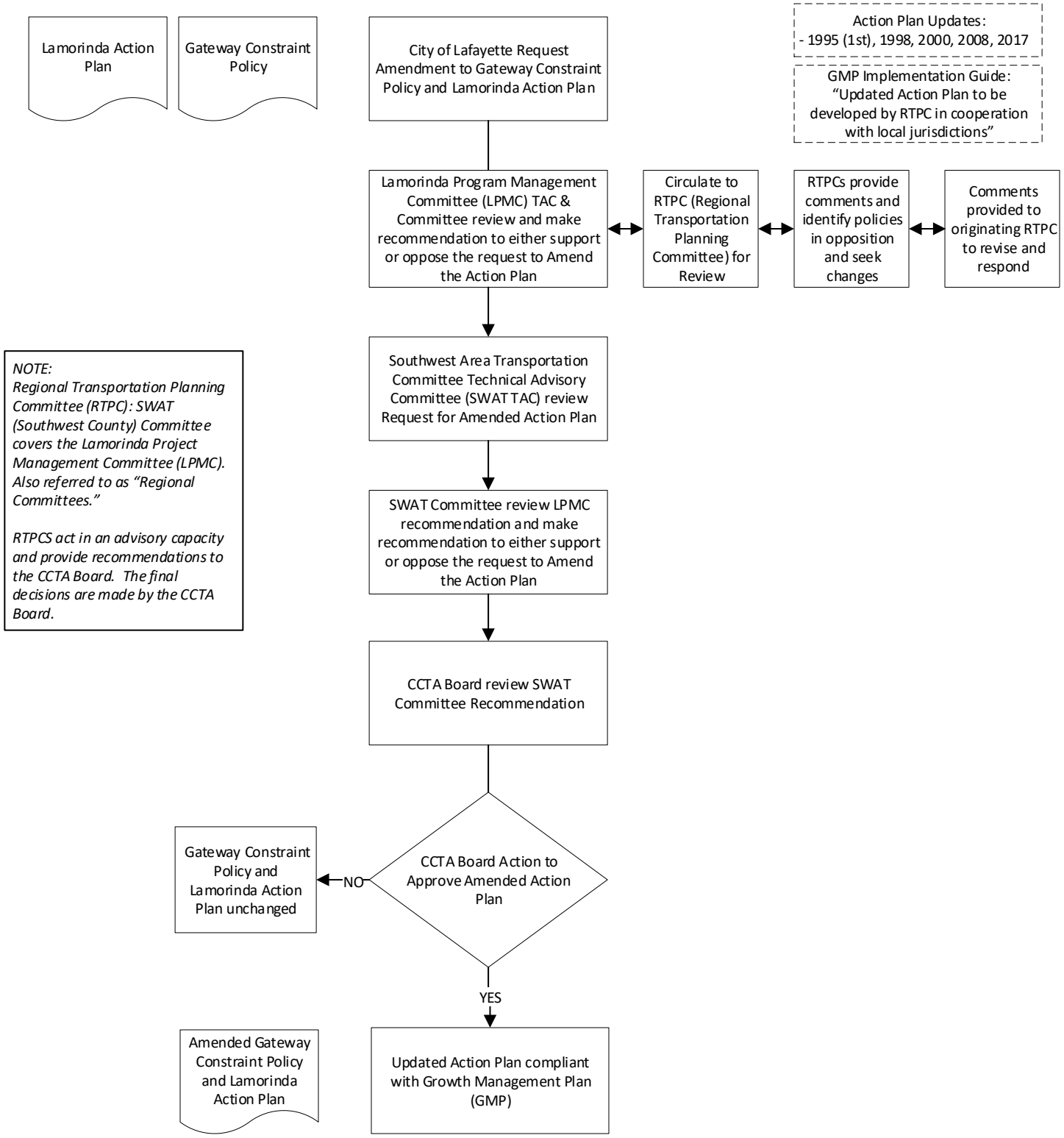
(b) If the results of the monitoring effort show that a regional route has exceeded the adopted MTSO, a focused Action Plan may be prepared by the RTPC; and

(c) A complete review of the Lamorinda Action Plan shall be conducted on a four-to-five-year cycle (jointly by the RTPC and CCTA) in coordination with updates to the Authority's Countywide Comprehensive Transportation Plan Update.

Figure 12: Action Plan Review Process for Lamorinda GPAs and Projects



CCTA Growth Management Program (GMP)
Action Plan Update Process



Updated 11/25/20

Sivakumar Natarajan

From: Kristen Altbaum <altbaum@icloud.com>
Sent: Friday, January 8, 2021 3:43 PM
To: Joanne Robbins; Jason Chen; Bobadilla, Lisa
Subject: LPMC meeting - necessary information - please circulate today, thanks.
Attachments: Travis Bell endorsement (1).pdf; Lttr fm Con Fire re RVR problems.pdf; Elite Evacuation Model .pdf; PDF-Streetlight data for PH Rd by segment and time period.pdf

Joanne and Jason - please make sure this circulates TODAY to all of the members of the below organizations. Thanks for your help.

LMPC, SWAT, CCTA:

I'd like to share this with you today and during the next LPMC meeting via screen sharing.

Please allow this you tube video link to load. The left, congested lane, is an average non-covid southbound commute on PH Rd:

https://link.edgepilot.com/s/7827ed1c/65AT1rrUBkeWJ1ZVAPRXdA?u=https://www.youtube.com/watch?v=Uwlx0o7lTs0

This is what an average p.m. Deer Hill eastbound commute looks like from BART 1.5 miles to Pleasant Hill Rd:

These are what average side streets to Pleasant Hill Rd look like during a.m. peak:

Links contained in this email have been replaced. If you click on a link in the email above, the link will be analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.

This one is 3 miles from the bottle neck of PH and Deer Hill Rd. - these cars are not waiting at a light or stop sign, they are crawling ever so slowly over 3 miles. Multiple people have seen Acalanes students passing around 10-15 of these cars at a time on the wrong side of the road, just to try and make it to 1st period on time!

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7AFM513

Dozens more photos and videos can be found on the Facebook group: https://link.edgepilot.com/s/8657d5b3/2DR6mURYm0GqX4tp96OZWw?u=https://www.facebook.com/groups/1753415531541790, which has been in existence since 2016. I created this group after being HORRIFIED as to how long it was taking our students to get to school - school commutes rose from 6 minutes to over 35 over just 3 miles. 6 miles to Stanley middle school often takes over an hour.

Our local school principals and superintendents have written multiple letters with concerns about student tardiness and safety, as did ex fire Chief Carmen, and our school bus company. These are just a few of the letters that were written. I'm happy to forward additional letters.

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LAMORINDA SCHOOL BUS PROGRAM

A cooperative effort by the communities of Lafayette, Orinda, Moraga and the Contra Costa Transportation Authority to mitigate traffic.

November 9, 2017

Lafayette City Council
Re: Reliez Valley Rd.

Dear Mayor Anderson and Council Members:

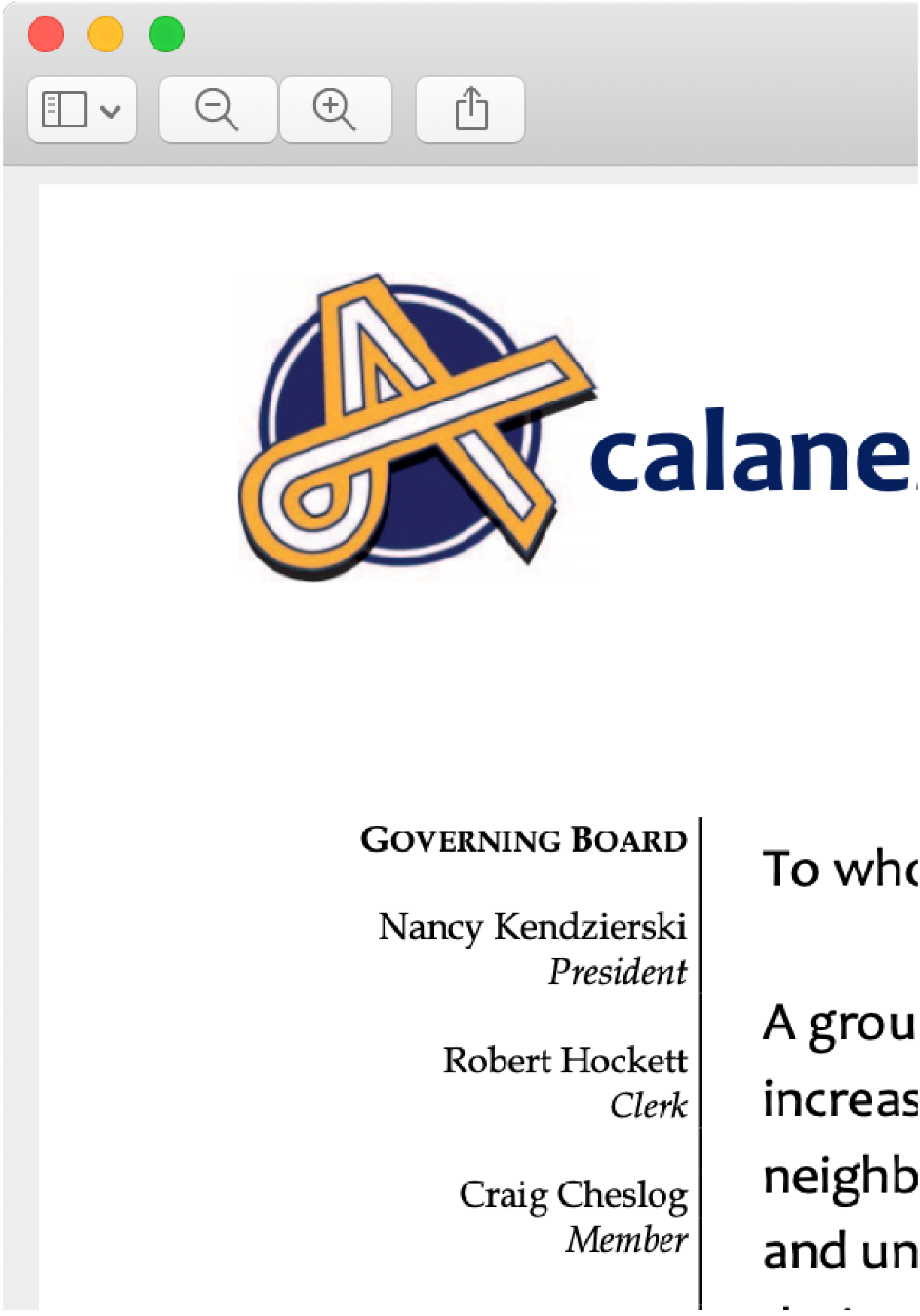
The Lamorinda School Bus Program has experienced increased traffic on Reliez Valley Rd. over the last several years as noted in First Student's letter to the Reliez Valley Residents for Reduced Traffic (RVRRT) dated October 13, 2017. The increased traffic has resulted in earlier pick up times in the a.m. for all three school buses running through the Reliez Valley/Pleasant Hill Rd. corridor. The illegal and unsafe passing of school buses by private vehicles on Reliez Valley Rd. is also an ongoing issue. We have requested (and received) enforcement from the Lafayette Police Department, but unfortunately the problem persists.

Please feel free to contact me with any questions at (925) 299-3216 or jhansen@ci.lafayette.ca.us.

Sincerely,

Juliet Hansen
Program Manager
Lamorinda School Bus Program

Links contained in this email have been replaced. If you click on a link in the email above, the link will be analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.



calane

GOVERNING BOARD

Nancy Kendzierski
President

Robert Hockett
Clerk

Craig Cheslog
Member

To whc

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TJKM would most recently have you believe that delays are <2.0, but their analysis is not considered credible for multiple reasons. Elite Transportation and Streetlight are both aligned in delays being longer than TJKM data shows.

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TJMK ADMITTED TO NOT HAVING STUDIED THE ADDITIONAL TERRACES STUDENTS IN CROSSWALKS AND HOW THOSE PEDESTRIANS WOULD AFFECT TRAFFIC THAT ALREADY EXISTS. THIS IS WHAT THAT INTERSECTION WILL LOOK LIKE, SO I ASK YOU - HOW EFFECTIVE WILL A NEW RIGHT HAND TURN LANE BE, WHEN IT A) IS FILLED UP WITH MORE WAZE TRAFFIC COMING OF HWY 680 (WHEN WE CREATE MORE CAPACITY FOR SOLO OCCUPANT CARS, THE TRAFFIC APP ALGORITHMS SHIFT THE TRAFFIC TO “FILL UP” THAT CAPACITY; AND 2) HAS TO TURN AGAINST, AND WAIT FOR, A SLEW OF NEW TERRACES STUDENTS WALKING TO SPRINGHILL AND ACALANES DURING PEAK?

Links contained in this email have been replaced. If you click on a link in the email above, the link will be analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.


ACTUALLY PROPOSED DEER HILL RD/PLEASANT HILL RD INTERSECTION

You guys have a responsibility to tax payers to make good on the goals and objectives laid out in the Lamorinda Action Plan on growth is to be handled, PARTICULARLY BECAUSE THIS IS A HIGH RISK FIRE ZONE.

The Lamorinda Action Plan says the following:

2008, page 5:

1) where appropriate, provide priority for buses, carpools; Establish and maintain LOS standards on major arterials. 2) Reduce automobile demand by promoting and accommodating ridesharing, transit, bicycling, walking, and telecommuting. 3) Discourage freeway bypass traffic on Lamorinda roads.

2008, page 6:

1. ***Pursue actions to meet or sustain service objectives that will reduce reliance on single occupant automobile travel.***
2. ***Avoid the addition of roadway capacity for single-occupant vehicles.***
3. ***Enhance mobility by providing alternative travel options.***
4. ***Actions should not lead to an increase in the use of BART parking in Lamorinda by people driving into the area from outside communities.***
5. ***Pursue actions to improve safety of travelers by all modes.***
6. ***Encourage through-trips and interregional travel to stay on freeways and discourage diversion of these trips to arterial and local streets as a mechanism for ensuring intraregional mobility.***
7. ***Maintain capacity constraints at selected gateways***
8.
9. ***2008***Page 7
1. ***Establish CCCTA bus service on Pleasant Hill Road and/or Taylor Boulevard that has a composite frequency of at least two buses per hour during peak commute and school times (6:30 AM – 9:30 AM and 3:30 PM – 6:30 PM) and direct connection to the Lafayette BART station.***
2. ***Maintain school bus service on Pleasant Hill Road and Taylor Boulevard.***
3. ***Maintain a maximum wait time for drivers on side streets wishing to access Pleasant Hill Road or Taylor Boulevard of one signal cycle or less.***
4. ***Maintain peak hour peak direction delay index of 2.0 or lower."***

Proposed Actions for Pleasant Hill Rd (Lamorinda Action Plans 2008, page 25):

4) If the CCCTA cannot increase service to Acalanes School, evaluate the feasibility of augmenting the existing school bus program to add the high school as funding permits
6) Support development of HOV lane programs on all freeways and regional routes where feasible
7) Support the provision of public transit service in the Pleasant Hill Road / Taylor Boulevard Corridor with connections to BART and other CCCTA services in Lafayette
8) Support the provision of Park and Ride lots north of Lafayette's segment of Pleasant Hill Road
10) Investigate appropriate mechanisms, including maintaining existing roadway lanes and widths and restrictive signal timing, to discourage use of Pleasant Hill Road as a substitute for freeway travel
11) Support pedestrian and bicycle safety improvements around schools, trailheads, and at intersections and along the bikeway network
12) Work with TRANSPAC to develop a traffic management program to encourage delay in order to discourage use of westbound/southbound traffic using Pleasant Hill Road to bypass the I-680 SR 24 interchange

So I ask you, if you permit a solo occupant short lane segment and turn lane, and resources are spent on this, are you doing your job per the goals and objectives of the Lamorinda Action Plan which should be your ultimate guide No. You need to FOLLOW THE LAMORINDA ACTION PLAN, PAID FOR BY TAX PAYERS. THIS IS HOW WE COME TO TRUST YOU. DO NOT MODIFY THE GATEWAY CONSTRAINT POLICY WITHOUT MINIMALLY REQUIRING PEDESTRIAN BRIDGES, PROTECTED BIKE LANES, MORE BUSING, AND CARPOOL LANES ALONG PLEASANT HILL RD.

LET'S MAKE CIRCULATION IN THIS AREA THE BEST IT CAN BE. BEING LAZY, BECAUSE YOU DON'T LIVE HERE, AND ADDING SOLO LANES TO APPEASE A DEVELOPER AND A CITY DETERMINED TO AVOID A LAWSUIT, IS KNOWINGLY MAKING IT WORSE. MORE SOLO LANES ACROSS FROM A HIGHSCHOOL AND NEXT TO MORE UNPROTECTED PEDESTRIANS AND UNPROTECTED BIKE LANES IS POTENTIALLY DEADLY, PARTICULARLY WITH MANY FRUSTRATED, LATE DRIVERS ON THE ROADWAY.

THIS AREA NEEDS A HOLISTIC PLAN LAID OUT BY A SOPHISTICATED, STATE OF THE ART TRANSPORTATION CONSULTANT. ANYTHING LESS WILL RESULT IN DEATH. MY CONSCIENCE AND LOVE FOR MY COMMUNITY PROPELS ME TO GO ON RECORD AND MAKE SURE YOU ARE AWARE OF THIS AHEAD OF ANY DECISION YOU MAKE.

— KRISTEN ALTBAUM
Reliez Valley resident since 1998.
925-285-8309

Contra Costa County Fire Protection District

February 1, 2018

To Whom It May Concern:

Residents of the Reliez Valley Road neighborhoods in Lafayette have voiced concerns regarding travelling on Reliez Valley Road, particularly during the A.M. commute.

Based on photographs provided by the neighbors and the personal experiences of Fire District staff moving through the area, there has obviously been a marked increase in congestion through the corridor. Although a significant number of people moving through the area are going to the local schools, the congestion cannot be attributed to school traffic alone,. A significant number of vehicles are using Taylor Road, Reliez Valley Road, and Pleasant Hill Road as bypasses to Interstate 680. It is not uncommon for morning traffic on Taylor Road to back up onto Geary Road.

The traffic situation through this area definitely has an impact on fire responses. Engine 2, responding from Geary Road to calls along the Taylor Road corridor, has significantly increased response times during that time of the morning. If there were to be a fire call, or a severe medical call, on Reliez Valley Road, we might experience significant difficulty in getting to the scene. This is the case even if traveling in the non-commute direction because of people passing illegally and just general congestion. Making a left turn across the traffic direction would be especially difficult.

While the traffic situation is a definite concern during the school year, there is not much improvement when school is on break. We bring this to your attention because there is a high level of wildland fire danger in certain areas of Reliez Valley Road. During a high wind event, the combination of high traffic congestion from commuters and potential evacuee traffic could make response into the area very difficult for fire resources.

The Contra Costa County Fire Protection District is supportive of all solutions that would improve the quality of life for the residents along the Reliez Valley Road corridor. Any solutions that help the residents would also improve our ability to respond in the case of an emergency. We do not feel that doing nothing is a viable option.

The Fire District would welcome the opportunity to meet with stakeholders in order to evaluate possible solutions. Please let us know if you identify anything specific that we can do to help.

Sincerely,

Jeff Carman
Fire Chief

2010 Geary Road • Pleasant Hill, California 94523-4619 • Telephone (925) 941-3300 • Fax (925) 941-3309
East County • Telephone (925) 757-1303 • Fax (925) 941-3329 West County • Telephone (510) 374-7070
www.cccfpd.org

Acalanes High School
"Home of the Dons"
1200 Pleasant Hill Rd. Lafayette CA 94349 | (925) 280-3970 | FAX: (925) 280-3971

September 27, 2017

To Whom it May Concern:

I received a request to voice my concern regarding the increased traffic on Reliez Valley Road during morning commute time. It is assumed this is due to an increase in the use of driving traffic applications such as "Waze" rerouting "fastest routes" for commuters. While it may very well be that fastest routes are side residential roads, it has been reported to me by multiple students and parents that commute traffic specifically on Reliez Valley Road has significantly impacted traffic safety and the time and stress of students getting to school.

As the principal of Acalanes High School, it is important to me that students have access to a safe route to school. While my background and training is in educational leadership, I do think it is imperative that appropriate city and county agencies evaluate and consider solutions that keep roads designed as local community streets free from heavy outside use and therefore helping our students get to school in a safe and calm manner. We would hate to wait for a tragic accident to be the impetus for the needed regulation and change.

I would also like to highlight that the Acalanes Union High School District as a whole recently changed the school-day schedule to include three "late start days" for students, wherein the first period of instruction is 8:30AM versus, what was for many years standard, 8:00AM. This was done in an effort to allow students an opportunity for more sleep and decreasing student stress as indicated as a high priority for all stakeholders. The current traffic situation on Reliez Valley Road hinders the positive movement made by the school district for those students that have reported having to wake up significantly earlier than previous years to leave before traffic builds.

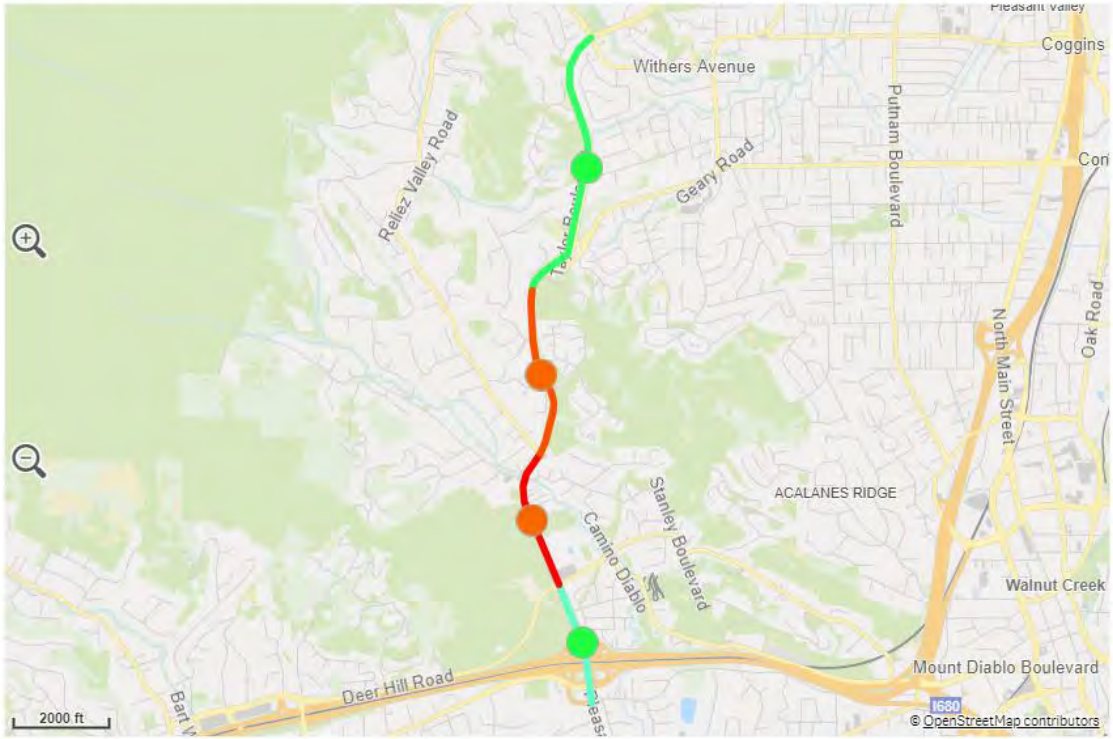
Please reach out if you have any questions or concerns. I appreciate your consideration of this issue.

Best,

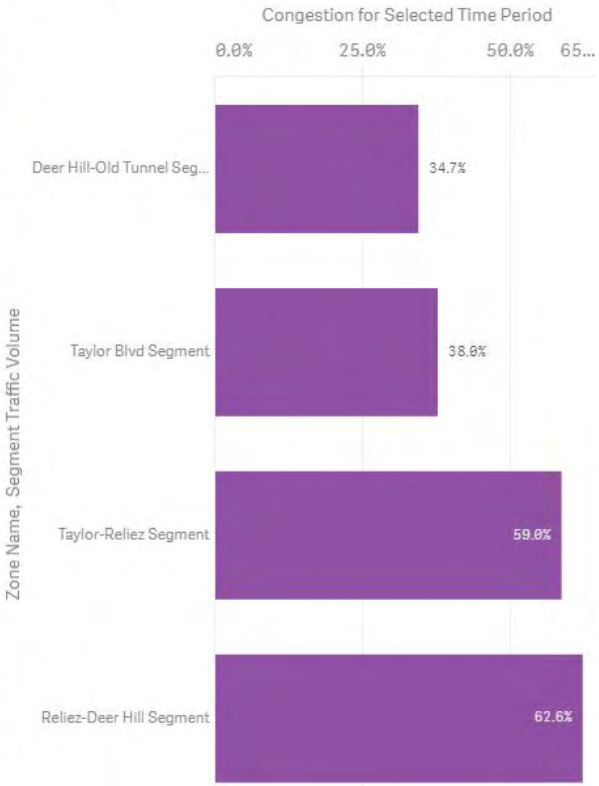
Travis Bell
Principal
Acalanes High School

Heatmap of Congestion

Colors indicate the on each Segment during the selected time period.



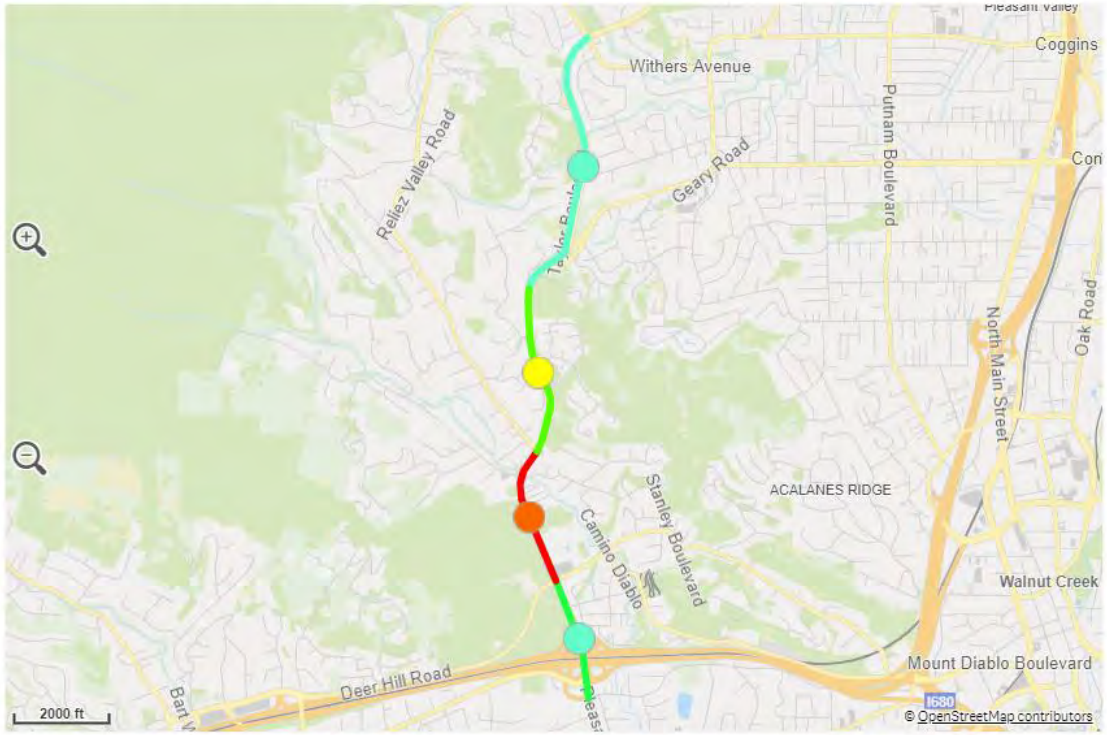
Congestion



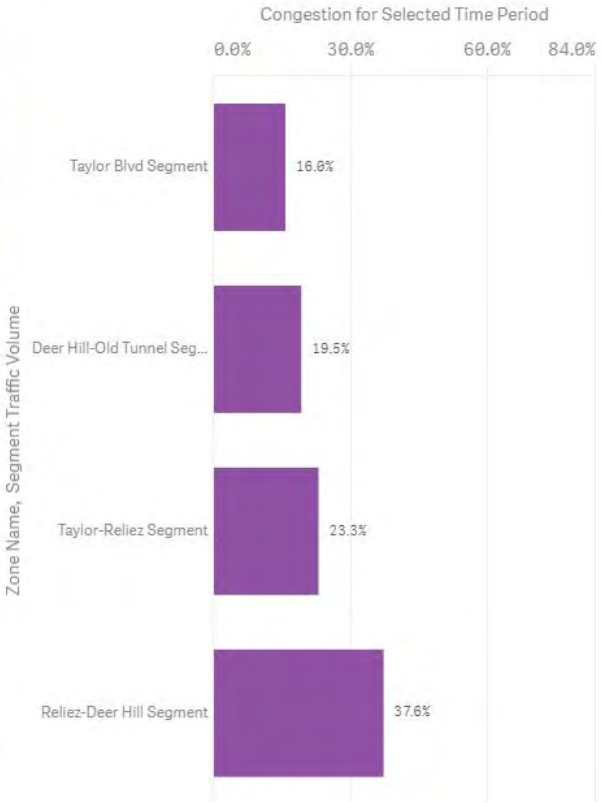
SB Peak AM (7:00-9:00am)

Heatmap of Congestion

Colors indicate the on each Segment during the selected time period.



Congestion



NB Peak PM (4:00-7:00pm)

August 24, 2020

Re: Terraces of Lafayette Emergency Evacuation Traffic Impact Study

Dear Mayor and Council Members

Apologies for the lateness in getting this to you, but we have been working on this since we got the latest TJKM memo on Tuesday. Attached is another memo prepared by Elite that reviews the TJKM memorandum dated August 10, 2020, which was a response to Elite's last memo of August 8, 2020. In addition, Elite has now run various simulations of the TJKM model, firstly to check they could duplicate TJKM's results, which they did, but then to look deeper at the results to answer some critical questions, such as "how many vehicles can actually get out if there was a fire". **Elite's findings are shocking**, and are summarized as follows:

1. Within the Terraces project including the Trap lane, of the 551 cars assumed, only 208 are able to get out in the first hour of the evacuation. 343 will be stuck. If there is no Trap lane **only 16 cars will make it out in the first hour -** 535 cars will be stuck in their driveways and unable to get to Pleasant Hill Road**.** This directly contradicts what the fire chief has been saying that he is not worried about the Terraces because it is by the freeway.
2. For evacuating traffic from the surrounding area, the situation is also bad. **If there is no trap lane built with the project, an additional 553 neighborhood cars will be stuck in their driveways after the first hour and unable to get to Pleasant Hill Road.** Adding the trap lane drops this to 152 extra cars stuck, but that is still 152 cars too many.
3. This explains TJKM's earlier conclusion that the Terraces only adds 10 to 16 seconds extra delay on Pleasant Hill Road; this is because the majority of evacuation traffic from the Terraces can't even make it to Pleasant Hill Road.
4. Another direct result is that TJKM's assumption that some parents will be able to pick up students from the schools on their way out is invalid – some of these parents don't even make it to Pleasant Hill Road in the first hour.
5. Elite looked at TJKM's response that although they started with an empty network, they did seed the network with some traffic before the evacuation begins. This is true, but TJKM only seeded it with enough traffic to form a back up from Deer Hill Road half way to Springhill Road. See page 8 of TJKM's memo for an illustration. This in not heavy commute hour traffic, and so the model is not being at all conservative in this respect.
6. Note that all these results are based on TJKM's assumption in the model that there will not be any traffic congestion on Highway 24. In fact, the situation will be much worse if Highway 24 is

backed up, which is likely. Elite addresses on page 9 of their memo TJKM's response that Highway 24 traffic does not matter – it does!

7. On page 10 of their memo, Elite also responds to TJKM's claims that the on-ramps to Highway 24 will have the capacity to handle the extra evacuation traffic that will be generated by the Terraces – that is not true.

In summary, it is clear from Elite's comprehensive report that the TJKM evacuation model actually shows that **the Terraces will impose significant safety threats on both the surrounding neighborhood as well as the residents within the project itself** due to the traffic congestion and emergency evacuation delays. You should therefore deny this project at your meeting this evening.

Sincerely,

Colin Elliott on behalf of Michael Griffiths

Attached:

1. Elite Peer Review memo dated 8/23/2020

Memorandum

Date: August 23, 2020

To: Michael Griffiths

From: Lin Zhang, PhD, PE, TE, PTOE
Elite Transportation Group, Inc. (ETG)

Subject: **Peer Review of TJKM's Evacuation Models and Response Memo for Terraces of Lafayette Traffic Impact Study**

TJKM, the traffic study consultant for the proposed Terraces of Lafayette Project, released a memorandum dated August 10, 2020, in response to ETG's comments regarding TJKM's emergency evacuation modeling and analysis. The purpose of this memorandum is to provide a summary of our latest findings based on a review of the TJKM's response memo and evacuation models.

TJKM's evacuation models were developed for AM and PM peak hours using Synchro/SimTraffic, a commonly used software package for arterial operations. TJKM's evacuation model files were organized for the following six scenarios ("Project" is referred as the Terraces of Lafayette):

- **Evac 1** – Evacuation (without project) in the AM Peak
- **Evac 1 + Project** – Evacuation plus project, with trap lane[1], in the AM Peak
- **Evac 1 + Project Variant** – Evacuation plus project, no trap lane, in the AM Peak
- **Evac 2** – Evacuation (without project) in the PM Peak
- **Evac 2 + Project** – Evacuation plus project, with trap lane, in the PM Peak
- **Evac 2 + Project Variant** – Evacuation plus project, no trap lane, in the PM Peak

In TJKM's memo, "denied entry vehicles", which will be explained in the next, were not reported. We re-ran SimTraffic simulation for the AM peak scenarios using the Synchro files and the same parameters that TJKM provided, as listed below:

- 5 runs per synchro file
- 10-minute seeding interval
- 60-minute analysis interval
- Random seed 1412

The SimTraffic simulation reports are attached in **Appendix**. We were able to replicate majority of the performance measures that were included in TJKM's memo. In addition, we also reported "denied entry vehicles", for both systemwide and individual intersections (see **Appendix**).

[1] The Gateway Constraints Policy outlined in the Lamorinda Action Plan precludes adding more through lanes. Pleasant Hill Road is used as an alternative route by traffic heading south on I-680 in the AM Peak period. One of the rationales for the Gateway Constraints Policy is the recognition that any improvement in through traffic flow on Pleasant Hill Road is likely to attract more traffic from I-680.

DENIED ENTRY VEHICLES (WAITING TO ENTER THE TRAFFIC NETWORK)

Denied entry vehicles (i.e., unserved vehicles) are the vehicles that are still waiting to enter the traffic network by the end of the traffic analysis period. We checked and found many denied entry vehicles in TJKM's evaluation models. For instance, in the AM peak hour evacuation model (7:00-8:00 AM), the number of denied entry vehicles including the Terraces of Lafayette project is **more than 3,400 vehicles** under the trap lane scenario (**Table 1**), or **more than 3,800 vehicles** under the no trap lane scenario (**Table 2**). This means that by 8:00 AM (the end of the traffic analysis period), there would still be more than 3,400 vehicles (under the trap lane scenario), or more than 3,800 vehicles (under the no trap lane scenario), waiting to get onto streets for evacuation.

Table 1. Systemwide Denied Entry Vehicles – AM Peak, with Project, with Trap Lane

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	2263	2295	2244	2328	2313	2288
Vehs Exited	2102	2093	2083	2150	2194	2124
Starting Vehs	258	221	256	240	270	249
Ending Vehs	419	423	417	418	389	413
Denied Entry Before	144	118	171	165	170	154
Denied Entry After	3606	3495	3527	3411	3573	3521
Travel Distance (mi)	1958	1940	1912	1998	1993	1960
Travel Time (hr)	2184.8	2082.6	2177.1	2092.5	2164.7	2140.3
Total Delay (hr)	2116.4	2014.8	2109.6	2022.3	2095.0	2071.6
Total Stops	8764	8548	8324	9019	8972	8724
Fuel Used (gal)	547.6	524.9	544.9	528.3	545.2	538.2

Table 2. Systemwide Denied Entry Vehicles – AM Peak, with Project, No Trap Lane (Project Variant)

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1791	1861	1881	1826	1818	1836
Vehs Exited	1693	1741	1734	1705	1729	1721
Starting Vehs	305	291	290	275	312	295
Ending Vehs	403	411	437	396	401	410
Denied Entry Before	150	161	149	162	161	157
Denied Entry After	4006	3989	3958	4088	3989	4005
Travel Distance (mi)	1583	1638	1617	1626	1663	1625
Travel Time (hr)	2421.0	2442.9	2410.2	2434.6	2418.7	2425.5
Total Delay (hr)	2365.5	2385.8	2353.9	2378.2	2361.2	2368.9
Total Stops	5726	6207	5810	6056	6244	6009
Fuel Used (gal)	590.3	597.6	588.3	594.4	592.5	592.6

We checked the project driveway connecting with Pleasant Hill Road, and saw that the project driveway is still packed with vehicles by the end of the traffic analysis period (see **Figure 1**). We then checked and found that there were more than 500 denied entry vehicles under the trap lane scenario (**Table 3**), or more than 700 denied entry vehicles under the no trap lane scenario (**Table 4**). Only 12 vehicles, or 2%, would be able to get out of the Terraces of Lafayette community during the 7:00-8:00 AM one-hour evacuation period under the no trap lane scenario. Even with the trap lane scenario, only 217 vehicles, or 30%, would be able to get out of the Terraces of Lafayette community. The denied entry vehicles would not show up on the short project driveway. To better visualize the stack of the denied entry vehicles, we "artificially" extended the project driveway, as shown in **Figure 1**. Majority of vehicles could not even leave Terraces of Lafayette community after the one-hour evacuation period.

Table 3. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, with Trap Lane

11: Pleasant Hill Road & Project Dwy Performance by movement

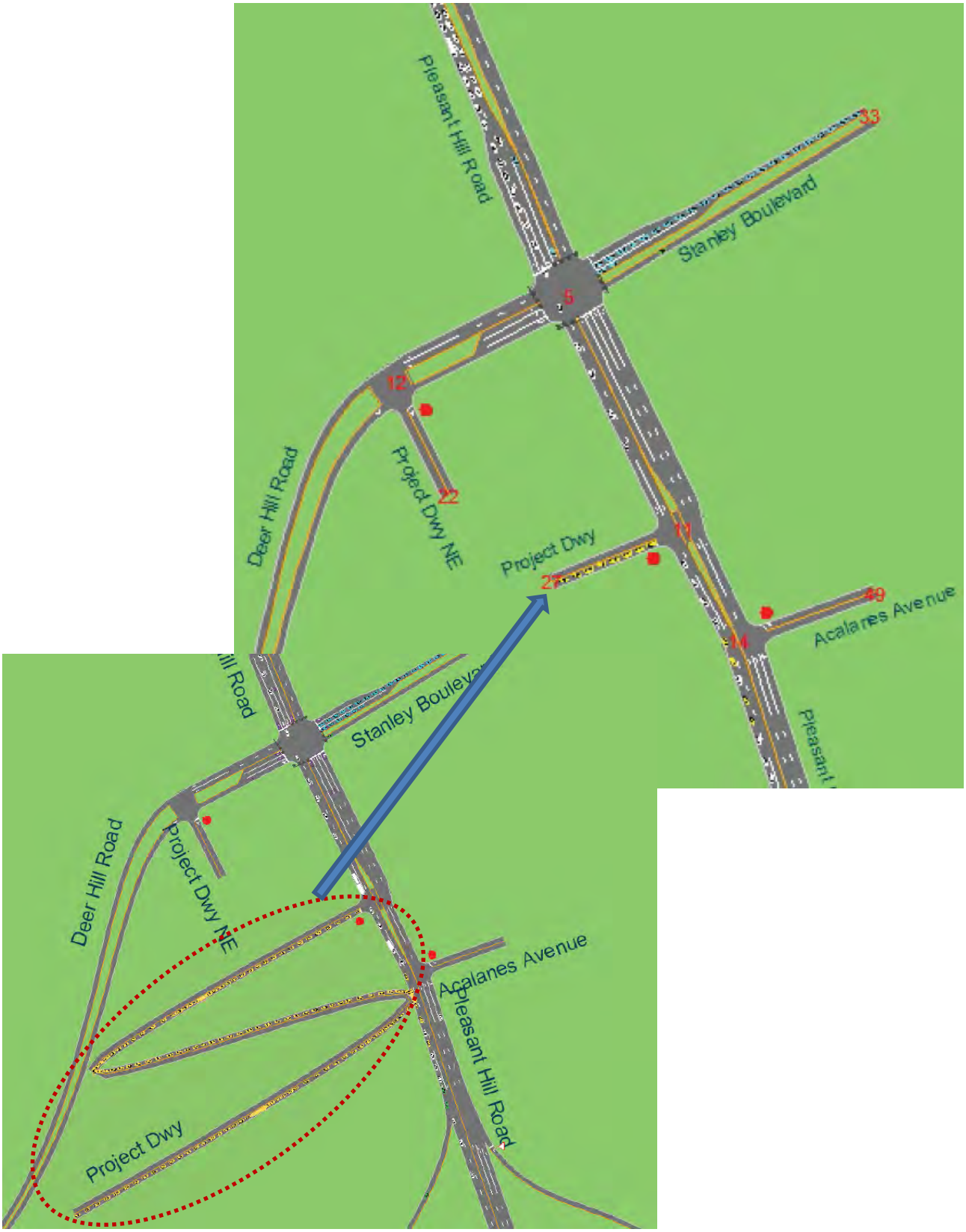
Movement	EBR	NBT	SBT	All
Denied Delay (hr)	294.0	0.0	0.0	294.0
Denied Del/Veh (s)	1369.0	0.0	0.0	446.0
Total Delay (hr)	7.0	0.0	13.7	20.7
Total Del/Veh (s)	112.7	0.0	31.4	40.6
Stop Delay (hr)	7.5	0.0	11.1	18.6
Stop Del/Veh (s)	120.4	0.0	25.4	36.5
Vehicles Entered	217	39	1561	1817
Vehicles Exited	217	39	1558	1814
Hourly Exit Rate	217	39	1558	1814
Input Volume	735	35	4244	5014
% of Volume	30	111	37	36
Denied Entry Before	31	0	0	31
Denied Entry After	556	0	0	556

Table 4. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, No Trap Lane (Project Variant)

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	420.6	0.0	0.0	420.6
Denied Del/Veh (s)	1907.0	0.0	0.0	688.9
Total Delay (hr)	7.9	0.0	8.2	16.2
Total Del/Veh (s)	1361.7	0.0	21.5	40.6
Stop Delay (hr)	8.0	0.0	4.7	12.6
Stop Del/Veh (s)	1366.8	0.0	12.2	31.7
Vehicles Entered	13	39	1365	1417
Vehicles Exited	12	39	1365	1416
Hourly Exit Rate	12	39	1365	1416
Input Volume	735	35	4244	5014
% of Volume	2	111	32	28
Denied Entry Before	61	0	0	61
Denied Entry After	781	0	0	781

Figure 1. Pleasant Hill Road & Project Driveway (by end of traffic analysis period in AM peak)



We noticed that TJKM assumed a peak hour factor (PHF) of 0.75 in the evacuation models. The PHF is usually used to convert the hourly traffic volume into the flow rate that represents the busiest 15 minutes of the rush hour.

$$PHF = \frac{Total\ Hourly\ Traffic\ Volume}{(Peak\ 15\text{–}Minute\ Traffic\ Volume\ with\ the\ Hour) \times 4}$$

Using a PHF of 0.75 means that the analysis flow rate (i.e., peak 15-minute traffic flow rate) is 33.3% more than the hourly traffic volume.

Different from a typical intersection delay and level of service (LOS) analysis, the purpose of an evacuation model is mainly focused on how quickly the evacuation can be achieved. Therefore, using PHFs may not be appropriate for evacuation analyses. We then ran SimTraffic simulation for the AM peak scenarios using the same Synchro files and primary parameters, with the only change of PHF from 0.75 to 1.0. The SimTraffic simulation reports based on PHF of 1.0 are attached in **Appendix**.

Even with a PHF of 1.0, we still found that there would be more than 300 denied entry vehicles under the trap lane scenario (**Table 5**), or more than 500 denied entry vehicles under the no trap lane scenario (**Table 6**). Only 13 vehicles, or 2%, would be able to get out of the Terraces of Lafayette community during the 7:00-8:00 AM one-hour evacuation period under the no trap lane scenario. Even with the trap lane scenario, only 210 vehicles, or 38%, would be able to get out of the Terraces of Lafayette community.

Table 5. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, with Trap Lane (PHF=1.0)

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	205.8	0.0	0.0	205.8
Denied Del/Veh (s)	1266.7	0.0	0.0	341.3
Total Delay (hr)	7.0	0.0	14.4	21.3
Total Del/Veh (s)	115.4	0.0	32.9	42.3
Stop Delay (hr)	7.4	0.0	11.8	19.2
Stop Del/Veh (s)	123.2	0.0	27.0	38.1
Vehicles Entered	211	26	1560	1797
Vehicles Exited	210	26	1556	1792
Hourly Exit Rate	210	26	1556	1792
Input Volume	551	26	3183	3760
% of Volume	38	100	49	48
Denied Entry Before	31	0	0	31
Denied Entry After	374	0	0	374

Table 6. Denied Entry Vehicles at Project Driveway – AM Peak, with Project, No Trap Lane (Project Variant) (PHF=1.0)

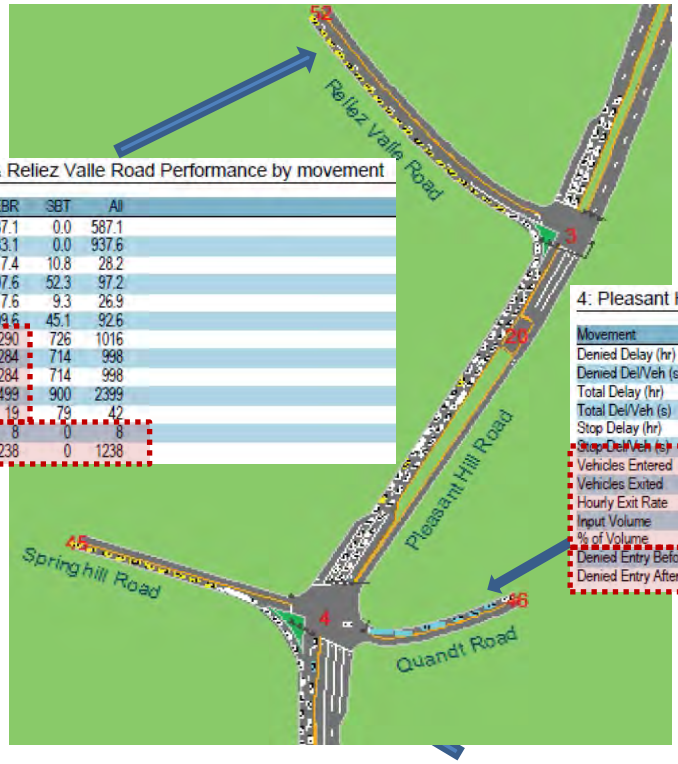
11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	333.1	0.0	0.0	333.1
Denied Del/Veh (s)	1956.2	0.0	0.0	598.1
Total Delay (hr)	8.0	0.0	8.0	16.1
Total Del/Veh (s)	1374.8	0.0	21.0	40.7
Stop Delay (hr)	8.1	0.0	4.5	12.5
Stop Del/Veh (s)	1380.2	0.0	11.7	31.7
Vehicles Entered	13	25	1367	1405
Vehicles Exited	13	25	1368	1406
Hourly Exit Rate	13	25	1368	1406
Input Volume	551	26	3183	3760
% of Volume	2	96	43	37
Denied Entry Before	65	0	0	65
Denied Entry After	600	0	0	600

The denied entry vehicles exist on other streets too, including Stanley Boulevard, Spring Hill Road, Quandt Road, and Reliez Valley Road, as shown in **Figure 2**. Keep it in mind that Stanley Boulevard is mainly for evacuating students from Acalanes High School, and denied entry vehicles (i.e., waiting to enter the traffic network) would be more than 900.

With so many denied entry vehicles systemwide (>3,400 vehicles under the trap lane scenario, or >3,800 vehicles under the no trap lane scenario), and 98% of vehicles under the no trap lane scenario (or more than 60% under the trap lane scenario) could not even leave Terraces of Lafayette community after the one-hour evacuation period, TJKM's evacuation models apparently lack credibility and the results coming out of the evacuation models are simply invalid.

Figure 2. Streets with Significant Denied Entry Vehicles (by end of traffic analysis period in AM peak)

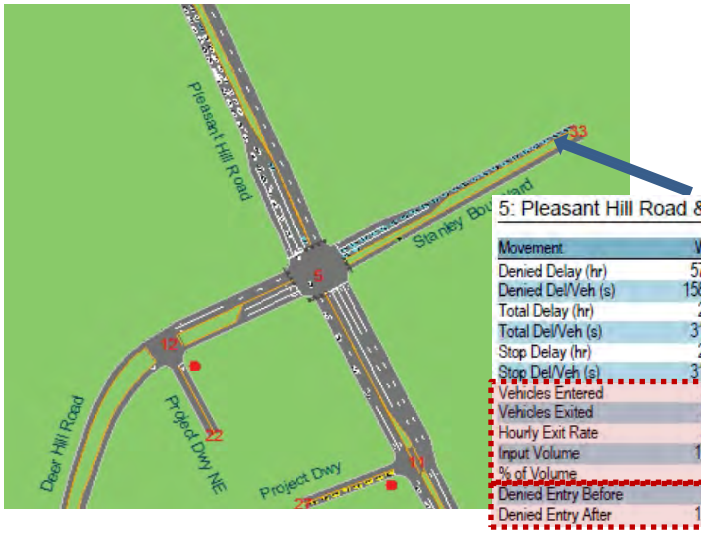


3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	587.1	0.0	587.1
Denied Del/Veh (s)	1383.1	0.0	937.6
Total Delay (hr)	17.4	10.8	28.2
Total Del/Veh (s)	207.6	52.3	97.2
Stop Delay (hr)	17.6	9.3	26.9
Stop Del/Veh (s)	209.6	45.1	92.6
Vehicles Entered	290	726	1016
Vehicles Exited	284	714	998
Hourly Exit Rate	284	714	998
Input Volume	1499	900	2399
% of Volume	19	79	42
Denied Entry Before	8	0	8
Denied Entry After	1238	0	1238

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	355.8	29.6	4.4	0.0	0.0	0.0	389.8
Denied Del/Veh (s)	1474.0	367.2	397.6	0.0	0.0	0.0	638.7
Total Delay (hr)	9.9	7.8	1.1	0.1	32.8	2.8	54.5
Total Del/Veh (s)	191.0	122.8	130.0	87.9	130.5	99.5	134.8
Stop Delay (hr)	10.2	7.6	1.1	0.1	33.2	2.9	55.0
Stop Del/Veh (s)	197.1	119.8	126.3	85.6	131.8	101.7	136.0
Vehicles Entered	177	227	31	5	894	99	1433
Vehicles Exited	176	222	30	5	865	97	1395
Hourly Exit Rate	176	222	30	5	865	97	1395
Input Volume	857	297	45	5	2168	231	3603
% of Volume	21	75	67	100	40	42	39
Denied Entry Before	16	0	0	0	0	0	16
Denied Entry After	692	63	9	0	0	0	764



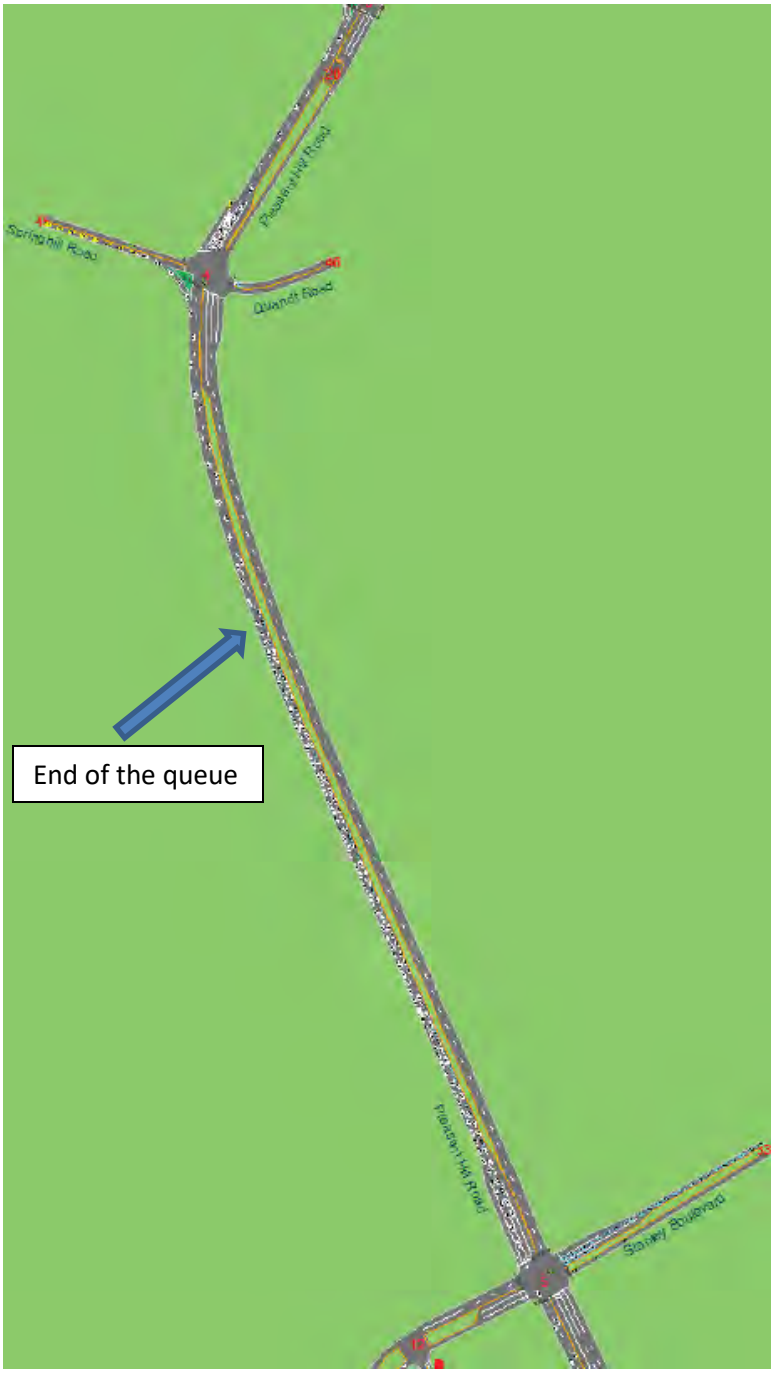
5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	570.7	0.0	0.0	0.0	0.2	570.9
Denied Del/Veh (s)	1589.0	0.0	0.0	0.0	0.6	792.0
Total Delay (hr)	23.8	0.0	0.0	13.1	142.7	179.7
Total Del/Veh (s)	318.8	18.9	2.4	387.3	397.2	375.6
Stop Delay (hr)	23.6	0.0	0.0	12.6	140.5	176.7
Stop Del/Veh (s)	315.9	16.8	2.5	371.1	391.1	369.4
Vehicles Entered	243	5	33	112	1152	1545
Vehicles Exited	242	5	33	108	1123	1511
Hourly Exit Rate	242	5	33	108	1123	1511
Input Volume	1212	6	29	291	3032	4570
% of Volume	20	83	114	37	37	33
Denied Entry Before	72	0	0	0	0	72
Denied Entry After	1050	0	0	0	0	1050

BACKGROUND TRAFFIC

In their response memo, TJKM mentioned that they included a 10-minute "seeding" period (i.e., 6:50-7:00 AM). We ran the 10-minute seeding period, and found that traffic was only backed up to somewhere between Deer Hill Road/Stanley Boulevard and Spring Hill Road/Quant Road, as shown in **Figure 3**.

Figure 3. Traffic Condition (by end of 10-minute seeding period in AM peak)



However, it is well known that the Pleasant Hill Road backs up much further upstream at 7:00 AM during the morning peak. There should have been many more vehicles (i.e., "background traffic") already in the roadway system when the evacuation starts during the AM peak hour.

In their response memo, TJKM claimed that "By including both evacuation traffic and normal commute traffic, these vehicles would be double counted." This would only be true if all of the traffic on Pleasant Hill Road would come only from Lafayette. However, Pleasant Hill Road carries traffic from many surrounding cities and communities. The right approach is to load the roadway network so that at the beginning of the evacuation (i.e., 7:00 AM during the morning peak), the modeled traffic condition represents what would look like during a normal day without evacuation. After that, no new non-evacuation traffic would enter Pleasant Hill Road from the north once a roadblock has been set up after the evacuation order is given. However, TJKM's evacuation models did not follow the right approach, and therefore significantly underestimated background traffic. Adding background traffic could make traffic delay exponentially worse.

SR 24 CAPACITY CONSTRAINT

The evacuation models assumed that all evacuating vehicles would use SR 24 to leave Lafayette – 50% would travel eastbound (EB) and 50% would travel westbound (WB). We raised the question that the evacuation models ended at the on-ramps (both EB and WB) and did not model or put capacity constraints on SR 24 mainline freeway, as illustrated in **Figure 4**. By doing this, TJKM assumed that SR 24 would have "unlimited" capacity to absorb the additional evacuating traffic. This assumption is unrealistic since SR 24 is already congested (WB in AM and EB in PM) and does not have enough extra capacity to accommodate the significant amount increase of traffic due to evacuation.

In their response memo, TJKM did not address this concern directly. It is only simply stated that "the evacuation traffic volumes are already extremely conservative."

Here is a simple example for the AM peak hour to illustrate the importance of SR 24 capacity constraint. Again, this example is for illustration purposes and it does not replace detailed and accurate modeling.

- Same assumption of all evacuating vehicles would use SR 24 to leave Lafayette – 50% would travel EB and 50% would travel WB.
- In the AM peak hour (7:00-8:00 AM), SR 24 WB has a capacity constraint – assuming 900 vehicles are able to get on and use SR 24 in the WB direction.
- Traffic demand during the evacuation is 1,800 vehicles to use the SR 24 WB on-ramp.
- With the above assumptions, vehicles cannot be fully evacuated in two hours (i.e., 1,800/900 = 2) In other words, **one additional hour** is needed after the one-hour peak period. However, with all the above assumptions except for the SR 24 capacity constraint, as modelled by TJKM, vehicles can be fully evacuated within the one-hour peak period.
- Additional evacuating traffic coming out of the Terraces of Lafayette community is 551 vehicles (based on TJKM's memo dated June 22, 2020). Now adding half of them to the SR 24 WB direction,

the additional 275 vehicles (i.e., 551/2 = 275) coming out of the Terraces of Lafayette community would cause additional 18 minutes (i.e., 275/900*60 = 18) to evacuate.

Therefore, the evacuation models must have significantly underestimated the level of traffic congestion, and the impacts of which is that traffic is unable to get onto the SR 24 freeway and gets backed up on surface streets.

Figure 4. Evacuation Models Ended at On-Ramps

ON-RAMP CAPACITY CONSTRAINT

We stated in our previous memo that the single-lane on-ramps (both EB and WB) may not be able to handle the significant amount of traffic getting onto SR 24 freeway during the peak hours, with a maximum capacity of 1,900 vehicles per hour per lane at on-ramps assuming no congestion on the freeway onto which the traffic merges. TJKM responded by stating that "it is not an absolute limit, and exceeding 1,900 vehicles per hour per lane does not immediately result in gridlock or excessive delays. In addition, the sections of SR-24 where the westbound and eastbound ramps enter the freeway feature long auxiliary lanes, such that evacuation traffic would have ample time to merge into the other travel lanes without slowing down ramp traffic."

- **On-Ramp Capacity**: TJKM stated that on-ramp maximum capacity of 1,900 vehicles per hour per lane "it is not an absolute limit". Traffic Engineers generally use 1,900 vehicles under the close to "ideal" condition without traffic congestion or traffic flow breakdown. 1,900 vehicles per hour per lane corresponds to 1.9 seconds in headway (i.e., 3,600 seconds/1,900 = 1.9). Headway is a

measure of the temporal space between two vehicles. Specifically, the headway is the time that elapses between the arrival of the leading vehicle and the following vehicle at the designated test point. In fact, on-ramp capacity drops when traffic is congested (traffic flow breakdown), causing "productivity loss". It is not uncommon to see on-ramp capacity drops to 1,200 vehicles per hour per lane or less when traffic follow breaks down. Under the emergency evacuation condition, traffic typically breaks down due to many factors such as poor visibility (due to smoke), rubbernecking, panicking, etc. We agree that the on-ramp capacity is not an absolute limit; instead, it drops significantly under the emergency evacuation condition. In this perspective, traffic congestion would be even much worse.

- **Auxiliary Lanes**: TJKM stated that "the sections of SR-24 where the westbound and eastbound ramps enter the freeway feature long auxiliary lanes, such that evacuation traffic would have ample time to merge into the other travel lanes without slowing down ramp traffic." Auxiliary lanes on SR 24 do not help when traffic is already congested (WB in AM and EB in PM) while much more additional traffic is being loaded onto SR 24 due to emergency evacuation.

CONCLUSION

In conclusion, the evacuation models that TJKM developed has critical fatal flaws. The results generated from the evacuation models are invalid and should not be used for any decision-making.

APPENDIX

SimTraffic Simulation Reports

- PHF = 0.75 (TJKM's assumption)
    - **Evac 1** – Evacuation (without project) in the AM Peak
    - **Evac 1 + Project** – Evacuation plus project, with trap lane, in the AM Peak
    - **Evac 1 + Project Variant** – Evacuation plus project, no trap lane, in the AM Peak
- PHF = 1.0
    - **Evac 1** – Evacuation without project in the AM Peak
    - **Evac 1 + Project** – Evacuation plus project, with trap lane, in the AM Peak
    - **Evac 1 + Project Variant** – Evacuation plus project, no trap lane, in the AM Peak

PHF = 0.75 (TJKM's assumption)

Evac 1 – Evacuation (without project) in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1839	1799	1853	1780	1801	1815
Vehs Exited	1731	1727	1714	1677	1712	1712
Starting Vehs	281	306	248	270	292	279
Ending Vehs	389	378	387	373	381	380
Denied Entry Before	111	134	82	89	97	102
Denied Entry After	3211	3348	3053	3274	3192	3215
Travel Distance (mi)	1650	1646	1657	1635	1633	1644
Travel Time (hr)	1970.3	2079.1	1891.0	2004.2	1963.6	1981.7
Total Delay (hr)	1913.1	2022.1	1833.3	1947.6	1906.9	1924.6
Total Stops	6129	6226	6137	6034	6042	6113
Fuel Used (gal)	490.2	515.2	471.8	497.7	486.6	492.3

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1839	1799	1853	1780	1801	1815
Vehs Exited	1731	1727	1714	1677	1712	1712
Starting Vehs	281	306	248	270	292	279
Ending Vehs	389	378	387	373	381	380
Denied Entry Before	111	134	82	89	97	102
Denied Entry After	3211	3348	3053	3274	3192	3215
Travel Distance (mi)	1650	1646	1657	1635	1633	1644
Travel Time (hr)	1970.3	2079.1	1891.0	2004.2	1963.6	1981.7
Total Delay (hr)	1913.1	2022.1	1833.3	1947.6	1906.9	1924.6
Total Stops	6129	6226	6137	6034	6042	6113
Fuel Used (gal)	490.2	515.2	471.8	497.7	486.6	492.3

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.2	0.1	0.2
Total Del/Veh (s)	3.6	6.3	4.1
Stop Delay (hr)	0.1	0.0	0.2
Stop Del/Veh (s)	2.8	4.5	3.1
Vehicles Entered	176	36	212
Vehicles Exited	175	36	211
Hourly Exit Rate	175	36	211
Input Volume	173	33	206
% of Volume	101	109	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.1	19.7	0.3	20.1
Total Del/Veh (s)	3.4	144.5	5.2	95.1
Stop Delay (hr)	0.1	18.6	0.2	18.9
Stop Del/Veh (s)	3.5	136.2	3.4	89.3
Vehicles Entered	56	479	212	747
Vehicles Exited	55	467	212	734
Hourly Exit Rate	55	467	212	734
Input Volume	56	637	207	900
% of Volume	98	73	102	82
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	571.5	0.0	571.5
Denied Del/Veh (s)	1365.2	0.0	918.1
Total Delay (hr)	17.5	8.3	25.7
Total Del/Veh (s)	199.0	39.8	87.2
Stop Delay (hr)	17.5	6.7	24.3
Stop Del/Veh (s)	199.8	32.4	82.2
Vehicles Entered	303	734	1037
Vehicles Exited	297	727	1024
Hourly Exit Rate	297	727	1024
Input Volume	1499	900	2399
% of Volume	20	81	43
Denied Entry Before	8	0	8
Denied Entry After	1204	0	1204

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	354.3	42.1	6.4	0.0	0.0	0.0	402.8
Denied Del/Veh (s)	1456.1	485.6	480.4	0.0	0.0	0.0	641.6
Total Delay (hr)	9.9	7.9	1.2	0.1	32.3	2.5	53.8
Total Del/Veh (s)	201.6	123.7	126.0	96.5	123.9	93.5	131.2
Stop Delay (hr)	10.2	7.7	1.1	0.1	32.5	2.6	54.2
Stop Del/Veh (s)	207.6	120.7	121.8	94.2	124.8	94.5	132.0
Vehicles Entered	167	228	33	5	922	97	1452
Vehicles Exited	166	223	32	5	897	94	1417
Hourly Exit Rate	166	223	32	5	897	94	1417
Input Volume	857	297	45	5	2168	231	3603
% of Volume	19	75	71	100	41	41	39
Denied Entry Before	11	1	0	0	0	0	12
Denied Entry After	709	84	15	0	0	0	808

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	573.7	0.0	0.0	0.0	0.0	573.7
Denied Del/Veh (s)	1606.0	0.0	0.0	0.0	0.0	792.8
Total Delay (hr)	23.6	0.0	0.0	13.0	140.8	177.4
Total Del/Veh (s)	320.2	17.2	2.9	373.8	389.2	369.9
Stop Delay (hr)	23.4	0.0	0.0	12.3	137.2	172.9
Stop Del/Veh (s)	317.5	15.6	2.9	353.2	379.4	360.7
Vehicles Entered	238	7	26	112	1174	1557
Vehicles Exited	241	7	26	113	1139	1526
Hourly Exit Rate	241	7	26	113	1139	1526
Input Volume	1212	6	29	291	3032	4570
% of Volume	20	117	90	39	38	33
Denied Entry Before	82	0	0	0	0	82
Denied Entry After	1048	0	0	0	0	1048

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	4.8	4.1
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	0.0	0.0	0.0
Vehicles Entered	2	11	13
Vehicles Exited	2	11	13
Hourly Exit Rate	2	11	13
Input Volume	7	28	35
% of Volume	29	39	37
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.8	1.8
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.1	0.1
Vehicles Entered	28	28
Vehicles Exited	28	28
Hourly Exit Rate	28	28
Input Volume	29	29
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.5	4.5
Total Del/Veh (s)	0.3	11.8	11.6
Stop Delay (hr)	0.0	1.4	1.4
Stop Del/Veh (s)	0.0	3.7	3.6
Vehicles Entered	33	1377	1410
Vehicles Exited	33	1376	1409
Hourly Exit Rate	33	1376	1409
Input Volume	35	4244	4279
% of Volume	94	32	33
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.7	2.9	6.5
Total Del/Veh (s)	0.7	18.8	15.1	16.6
Stop Delay (hr)	0.0	0.4	0.4	0.8
Stop Del/Veh (s)	0.0	2.1	2.2	2.1
Vehicles Entered	33	697	679	1409
Vehicles Exited	33	695	681	1409
Hourly Exit Rate	33	695	681	1409
Input Volume	35	2140	2104	4279
% of Volume	94	32	32	33
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.3	1.3
Total Del/Veh (s)	6.7	6.7
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	695	695
Vehicles Exited	695	695
Hourly Exit Rate	695	695
Input Volume	2140	2140
% of Volume	32	32
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1
Total Delay (hr)	0.0	1.3	1.3
Total Del/Veh (s)	7.3	6.3	6.3
Stop Delay (hr)	0.0	0.6	0.6
Stop Del/Veh (s)	1.7	3.2	3.1
Vehicles Entered	13	716	729
Vehicles Exited	13	716	729
Hourly Exit Rate	13	716	729
Input Volume	35	2140	2175
% of Volume	37	33	34
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	1613.5
Denied Del/Veh (s)	1154.8
Total Delay (hr)	311.1
Total Del/Veh (s)	535.4
Stop Delay (hr)	289.0
Stop Del/Veh (s)	497.3
Vehicles Entered	1815
Vehicles Exited	1712
Hourly Exit Rate	1712
Input Volume	37038
% of Volume	5
Denied Entry Before	102
Denied Entry After	3215

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.3	20.2	0.1	11
	11	0.0	4.0	0.0	34
Stanley Boulevard	5	17.2	24.2	0.1	12
Quandt Road	4	96.5	141.4	0.4	11
Total		113.9	189.8	0.6	12

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	6.3	21.5	0.2	26
	19	1.3	16.3	0.1	33
Greenvalley Drive	2	5.2	12.0	0.1	21
Reliez Valle Road	3	39.1	63.3	0.3	14
	20	24.2	27.8	0.0	4
Springhill Road	4	123.9	133.4	0.1	3
Deer Hill Road	5	359.4	398.0	0.4	4
	11	19.5	28.0	0.1	10
Acalanes Avenue	14	11.8	15.8	0.0	9
	15	18.8	25.0	0.1	9
	16	6.7	16.1	0.1	24
	17	7.3	16.4	0.1	16
Mt. Diablo Boulevard	6	4.8	12.9	0.1	19
SR 24 EB Off Ramp	7	1.8	4.6	0.1	48
Total		630.0	791.1	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	91	48	11
Average Queue (ft)	42	11	1
95th Queue (ft)	73	37	8
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	56	611	112	55	75
Average Queue (ft)	14	562	73	12	31
95th Queue (ft)	35	664	112	37	63
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		82	84		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		76			
Queuing Penalty (veh)		0			

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	467	486	360	366
Average Queue (ft)	283	457	200	198
95th Queue (ft)	631	473	292	304
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	33	96		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				34
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	370	255	20	523	520	96	217	222
Average Queue (ft)	338	231	3	470	470	76	169	181
95th Queue (ft)	355	246	15	612	625	140	262	266
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	100	89		86	88		28	86
Queuing Penalty (veh)	0	0		1036	1053		331	1036
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				87	81	0		
Queuing Penalty (veh)				0	188	3		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	554	32	47	275	2267	2401
Average Queue (ft)	194	524	3	11	183	2238	2366
95th Queue (ft)	304	543	17	34	335	2325	2480
Link Distance (ft)		504	347	347		2220	2220
Upstream Blk Time (%)		95				40	94
Queuing Penalty (veh)		0				672	1556
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	9	97			6	28	66
Queuing Penalty (veh)	52	587			88	81	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	B11	B11
Directions Served	T	T	T	T
Maximum Queue (ft)	190	254	400	387
Average Queue (ft)	45	206	186	334
95th Queue (ft)	142	305	430	436
Link Distance (ft)	147	147	347	347
Upstream Blk Time (%)	1	20	1	7
Queuing Penalty (veh)	17	428	25	146
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	361
Average Queue (ft)	183
95th Queue (ft)	427
Link Distance (ft)	266
Upstream Blk Time (%)	6
Queuing Penalty (veh)	117
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Pleasant Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 17: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	217
Average Queue (ft)	80
95th Queue (ft)	174
Link Distance (ft)	314
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 7415

PHF = 0.75 (TJKM's assumption)

Evac 1 + Project – Evacuation plus project, with trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	2263	2295	2244	2328	2313	2288
Vehs Exited	2102	2093	2083	2150	2194	2124
Starting Vehs	258	221	256	240	270	249
Ending Vehs	419	423	417	418	389	413
Denied Entry Before	144	118	171	165	170	154
Denied Entry After	3606	3495	3527	3411	3573	3521
Travel Distance (mi)	1958	1940	1912	1998	1993	1960
Travel Time (hr)	2184.8	2082.6	2177.1	2092.5	2164.7	2140.3
Total Delay (hr)	2116.4	2014.8	2109.6	2022.3	2095.0	2071.6
Total Stops	8764	8548	8324	9019	8972	8724
Fuel Used (gal)	547.6	524.9	544.9	528.3	545.2	538.2

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2263	2295	2244	2328	2313	2288
Vehs Exited	2102	2093	2083	2150	2194	2124
Starting Vehs	258	221	256	240	270	249
Ending Vehs	419	423	417	418	389	413
Denied Entry Before	144	118	171	165	170	154
Denied Entry After	3606	3495	3527	3411	3573	3521
Travel Distance (mi)	1958	1940	1912	1998	1993	1960
Travel Time (hr)	2184.8	2082.6	2177.1	2092.5	2164.7	2140.3
Total Delay (hr)	2116.4	2014.8	2109.6	2022.3	2095.0	2071.6
Total Stops	8764	8548	8324	9019	8972	8724
Fuel Used (gal)	547.6	524.9	544.9	528.3	545.2	538.2

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.2	0.1	0.2
Total Del/Veh (s)	3.8	5.4	4.1
Stop Delay (hr)	0.1	0.0	0.2
Stop Del/Veh (s)	2.9	3.8	3.0
Vehicles Entered	177	34	211
Vehicles Exited	176	33	209
Hourly Exit Rate	176	33	209
Input Volume	173	33	206
% of Volume	102	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.1	20.1	0.3	20.5
Total Del/Veh (s)	3.9	148.6	5.7	97.7
Stop Delay (hr)	0.1	19.1	0.2	19.4
Stop Del/Veh (s)	4.1	140.8	3.9	92.2
Vehicles Entered	59	475	209	743
Vehicles Exited	59	464	209	732
Hourly Exit Rate	59	464	209	732
Input Volume	56	637	207	900
% of Volume	105	73	101	81
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	400.7	0.0	400.7
Denied Del/Veh (s)	962.4	0.0	646.6
Total Delay (hr)	15.4	6.5	21.8
Total Del/Veh (s)	88.9	31.0	57.3
Stop Delay (hr)	13.7	5.1	18.8
Stop Del/Veh (s)	79.2	24.6	49.4
Vehicles Entered	609	732	1341
Vehicles Exited	606	725	1331
Hourly Exit Rate	606	725	1331
Input Volume	1499	900	2399
% of Volume	40	81	55
Denied Entry Before	7	0	7
Denied Entry After	890	0	890

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	381.4	20.4	3.7	0.0	0.0	0.0	405.4
Denied Del/Veh (s)	1544.3	254.1	269.8	0.0	0.0	0.0	570.4
Total Delay (hr)	9.2	7.5	1.4	0.1	21.9	2.0	42.0
Total Del/Veh (s)	224.5	108.8	117.4	81.8	65.0	53.8	84.7
Stop Delay (hr)	9.4	7.2	1.3	0.1	19.4	1.8	39.3
Stop Del/Veh (s)	229.7	104.7	112.5	81.0	57.8	50.3	79.3
Vehicles Entered	138	247	42	5	1198	129	1759
Vehicles Exited	137	244	41	5	1175	128	1730
Hourly Exit Rate	137	244	41	5	1175	128	1730
Input Volume	857	297	45	5	2168	231	3603
% of Volume	16	82	91	100	54	55	48
Denied Entry Before	40	0	0	0	0	0	40
Denied Entry After	751	42	7	0	0	0	800

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	564.4	0.0	0.0	0.0	0.0	564.4
Denied Del/Veh (s)	1578.8	0.0	0.0	0.0	0.0	725.7
Total Delay (hr)	21.7	0.0	0.0	3.5	24.7	50.0
Total Del/Veh (s)	326.5	12.8	3.7	97.3	64.6	100.7
Stop Delay (hr)	21.5	0.0	0.0	3.3	21.4	46.2
Stop Del/Veh (s)	323.2	11.6	3.9	91.1	55.9	93.1
Vehicles Entered	214	7	32	128	1346	1727
Vehicles Exited	215	7	32	128	1346	1728
Hourly Exit Rate	215	7	32	128	1346	1728
Input Volume	1212	6	29	291	3032	4570
% of Volume	18	117	110	44	44	38
Denied Entry Before	72	0	0	0	0	72
Denied Entry After	1073	0	0	0	0	1073

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	6.2	6.2
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	8	8
Vehicles Exited	8	8
Hourly Exit Rate	8	8
Input Volume	35	35
% of Volume	23	23
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.9	1.9
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.1	0.1
Vehicles Entered	34	34
Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	35	35
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	294.0	0.0	0.0	294.0
Denied Del/Veh (s)	1369.0	0.0	0.0	446.0
Total Delay (hr)	7.0	0.0	13.7	20.7
Total Del/Veh (s)	112.7	0.0	31.4	40.6
Stop Delay (hr)	7.5	0.0	11.1	18.6
Stop Del/Veh (s)	120.4	0.0	25.4	36.5
Vehicles Entered	217	39	1561	1817
Vehicles Exited	217	39	1558	1814
Hourly Exit Rate	217	39	1558	1814
Input Volume	735	35	4244	5014
% of Volume	30	111	37	36
Denied Entry Before	31	0	0	31
Denied Entry After	556	0	0	556

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	8.4	8.4
Total Del/Veh (s)	0.3	16.9	16.6
Stop Delay (hr)	0.0	8.1	8.1
Stop Del/Veh (s)	0.0	16.4	16.1
Vehicles Entered	39	1775	1814
Vehicles Exited	39	1768	1807
Hourly Exit Rate	39	1768	1807
Input Volume	35	4979	5014
% of Volume	111	36	36
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	10.4	1.6	12.0
Total Del/Veh (s)	0.7	41.4	6.8	23.9
Stop Delay (hr)	0.0	11.6	0.2	11.9
Stop Del/Veh (s)	0.0	46.5	0.9	23.6
Vehicles Entered	39	898	869	1806
Vehicles Exited	39	890	869	1798
Hourly Exit Rate	39	890	869	1798
Input Volume	35	2507	2472	5014
% of Volume	111	36	35	36
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	16.4	16.4
Total Del/Veh (s)	65.5	65.6
Stop Delay (hr)	18.7	18.7
Stop Del/Veh (s)	74.5	74.5
Vehicles Entered	890	890
Vehicles Exited	884	884
Hourly Exit Rate	884	884
Input Volume	2507	2507
% of Volume	35	35
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.2	19.5	19.7
Denied Del/Veh (s)	93.6	76.9	77.0
Total Delay (hr)	0.1	14.9	15.1
Total Del/Veh (s)	64.0	60.2	60.2
Stop Delay (hr)	0.2	17.4	17.6
Stop Del/Veh (s)	70.0	70.2	70.2
Vehicles Entered	8	876	884
Vehicles Exited	8	875	883
Hourly Exit Rate	8	875	883
Input Volume	35	2507	2542
% of Volume	23	35	35
Denied Entry Before	0	2	2
Denied Entry After	0	37	37

Total Network Performance

Denied Delay (hr)	1758.9
Denied Del/Veh (s)	1090.0
Total Delay (hr)	312.7
Total Del/Veh (s)	443.8
Stop Delay (hr)	287.8
Stop Del/Veh (s)	408.4
Vehicles Entered	2288
Vehicles Exited	2124
Hourly Exit Rate	2124
Input Volume	44058
% of Volume	5
Denied Entry Before	154
Denied Entry After	3521

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.3	20.3	0.1	11
Project Dwy	11	0.0	4.1	0.0	33
Stanley Boulevard	5	12.8	19.5	0.1	15
	37	1.7	9.9	0.1	30
Quandt Road	4	81.8	118.9	0.4	11
Total		96.5	172.8	0.6	13

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	5.4	20.8	0.2	26
	19	1.1	15.6	0.1	34
Greenvalley Drive	2	5.7	12.5	0.1	21
Reliez Valle Road	3	28.0	51.8	0.3	17
	20	14.3	18.0	0.0	7
Springhill Road	4	65.0	74.5	0.1	5
	37	198.8	234.1	0.4	6
Deer Hill Road	5	64.6	72.6	0.1	4
Project Dwy	11	31.6	40.1	0.1	7
Acalanes Avenue	14	17.6	21.7	0.0	6
	15	41.4	47.5	0.1	5
	16	65.5	74.9	0.1	5
	17	64.0	166.8	0.1	3
Mt. Diablo Boulevard	6	6.2	14.2	0.1	17
SR 24 EB Off Ramp	7	1.9	4.7	0.1	48
Total		611.1	869.5	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	83	37	16
Average Queue (ft)	43	9	1
95th Queue (ft)	72	31	9
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	60	607	112	64	71
Average Queue (ft)	15	567	73	15	32
95th Queue (ft)	39	637	109	45	64
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		85	87		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		77		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	454	488	332	355
Average Queue (ft)	271	459	183	195
95th Queue (ft)	627	478	280	308
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	18	83		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				30
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	365	272	24	512	519	96	208	214
Average Queue (ft)	337	235	3	379	380	71	103	125
95th Queue (ft)	354	256	15	625	640	139	241	277
Link Distance (ft)	318	217		406	406		127	127
Upstream Blk Time (%)	100	82		42	52		13	46
Queuing Penalty (veh)	0	0		502	621		153	551
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				56	58	0		
Queuing Penalty (veh)				0	133	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB	SB	B37	B37
Directions Served	L	LT	T	R	L	T	T	T	T	T
Maximum Queue (ft)	225	556	21	34	275	446	446	450	1878	2010
Average Queue (ft)	110	524	2	11	175	373	393	413	1622	1741
95th Queue (ft)	276	543	14	33	309	521	443	458	2450	2592
Link Distance (ft)		504	342	342		351	351	351	1832	1832
Upstream Blk Time (%)		96				26	36	40	20	76
Queuing Penalty (veh)		0				285	395	439	340	1267
Storage Bay Dist (ft)	185				175					
Storage Blk Time (%)	0	92			8	6		60		
Queuing Penalty (veh)	0	558			80	19		0		

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	7
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB	SB
Directions Served	R	T	T	TR
Maximum Queue (ft)	216	390	391	394
Average Queue (ft)	183	154	327	324
95th Queue (ft)	199	383	459	484
Link Distance (ft)	164	342	342	342
Upstream Blk Time (%)	100	2	14	11
Queuing Penalty (veh)	0	21	201	159
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement			
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	166	267	238
Average Queue (ft)	34	230	174
95th Queue (ft)	110	305	277
Link Distance (ft)	152	152	152
Upstream Blk Time (%)	1	94	11
Queuing Penalty (veh)	10	1555	180
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Pleasant Hill Road

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	60	369	287
Average Queue (ft)	12	336	103
95th Queue (ft)	50	408	228
Link Distance (ft)	262	262	262
Upstream Blk Time (%)		96	0
Queuing Penalty (veh)		1586	5
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: Pleasant Hill Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	540
Average Queue (ft)	512
95th Queue (ft)	545
Link Distance (ft)	302
Upstream Blk Time (%)	99
Queuing Penalty (veh)	1240
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	125	532
Average Queue (ft)	4	506
95th Queue (ft)	63	530
Link Distance (ft)	314	314
Upstream Blk Time (%)	0	99
Queuing Penalty (veh)	0	830
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 11131

PHF = 0.75 (TJKM's assumption)

Evac 1 + Project Variant– Evacuation plus project, no trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1791	1861	1881	1826	1818	1836
Vehs Exited	1693	1741	1734	1705	1729	1721
Starting Vehs	305	291	290	275	312	295
Ending Vehs	403	411	437	396	401	410
Denied Entry Before	150	161	149	162	161	157
Denied Entry After	4006	3989	3958	4088	3989	4005
Travel Distance (mi)	1583	1638	1617	1626	1663	1625
Travel Time (hr)	2421.0	2442.9	2410.2	2434.6	2418.7	2425.5
Total Delay (hr)	2365.5	2385.8	2353.9	2378.2	2361.2	2368.9
Total Stops	5726	6207	5810	6056	6244	6009
Fuel Used (gal)	590.3	597.6	588.3	594.4	592.5	592.6

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1791	1861	1881	1826	1818	1836
Vehs Exited	1693	1741	1734	1705	1729	1721
Starting Vehs	305	291	290	275	312	295
Ending Vehs	403	411	437	396	401	410
Denied Entry Before	150	161	149	162	161	157
Denied Entry After	4006	3989	3958	4088	3989	4005
Travel Distance (mi)	1583	1638	1617	1626	1663	1625
Travel Time (hr)	2421.0	2442.9	2410.2	2434.6	2418.7	2425.5
Total Delay (hr)	2365.5	2385.8	2353.9	2378.2	2361.2	2368.9
Total Stops	5726	6207	5810	6056	6244	6009
Fuel Used (gal)	590.3	597.6	588.3	594.4	592.5	592.6

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.2	0.1	0.3
Total Del/Veh (s)	3.9	7.2	4.4
Stop Delay (hr)	0.1	0.0	0.2
Stop Del/Veh (s)	3.0	5.4	3.4
Vehicles Entered	173	31	204
Vehicles Exited	174	31	205
Hourly Exit Rate	174	31	205
Input Volume	173	33	206
% of Volume	101	94	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.1	20.0	0.3	20.3
Total Del/Veh (s)	3.4	148.1	5.0	97.5
Stop Delay (hr)	0.1	18.9	0.2	19.2
Stop Del/Veh (s)	3.6	140.1	3.3	91.8
Vehicles Entered	60	476	205	741
Vehicles Exited	60	462	204	726
Hourly Exit Rate	60	462	204	726
Input Volume	56	637	207	900
% of Volume	107	73	99	81
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	587.1	0.0	587.1
Denied Del/Veh (s)	1383.1	0.0	937.6
Total Delay (hr)	17.4	10.8	28.2
Total Del/Veh (s)	207.6	52.3	97.2
Stop Delay (hr)	17.6	9.3	26.9
Stop Del/Veh (s)	209.6	45.1	92.6
Vehicles Entered	290	726	1016
Vehicles Exited	284	714	998
Hourly Exit Rate	284	714	998
Input Volume	1499	900	2399
% of Volume	19	79	42
Denied Entry Before	8	0	8
Denied Entry After	1238	0	1238

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	355.8	29.6	4.4	0.0	0.0	0.0	389.8
Denied Del/Veh (s)	1474.0	367.2	397.6	0.0	0.0	0.0	638.7
Total Delay (hr)	9.9	7.8	1.1	0.1	32.8	2.8	54.5
Total Del/Veh (s)	191.0	122.8	130.0	87.9	130.5	99.5	134.8
Stop Delay (hr)	10.2	7.6	1.1	0.1	33.2	2.9	55.0
Stop Del/Veh (s)	197.1	119.8	126.3	85.6	131.8	101.7	136.0
Vehicles Entered	177	227	31	5	894	99	1433
Vehicles Exited	176	222	30	5	865	97	1395
Hourly Exit Rate	176	222	30	5	865	97	1395
Input Volume	857	297	45	5	2168	231	3603
% of Volume	21	75	67	100	40	42	39
Denied Entry Before	16	0	0	0	0	0	16
Denied Entry After	692	63	9	0	0	0	764

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	570.7	0.0	0.0	0.0	0.2	570.9
Denied Del/Veh (s)	1589.0	0.0	0.0	0.0	0.6	792.0
Total Delay (hr)	23.8	0.0	0.0	13.1	142.7	179.7
Total Del/Veh (s)	318.8	18.9	2.4	387.3	397.2	375.6
Stop Delay (hr)	23.6	0.0	0.0	12.6	140.5	176.7
Stop Del/Veh (s)	315.9	16.8	2.5	371.1	391.1	369.4
Vehicles Entered	243	5	33	112	1152	1545
Vehicles Exited	242	5	33	108	1123	1511
Hourly Exit Rate	242	5	33	108	1123	1511
Input Volume	1212	6	29	291	3032	4570
% of Volume	20	83	114	37	37	33
Denied Entry Before	72	0	0	0	0	72
Denied Entry After	1050	0	0	0	0	1050

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	4.4	4.4
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	10	10
Vehicles Exited	10	10
Hourly Exit Rate	10	10
Input Volume	35	35
% of Volume	29	29
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.1	0.1
Vehicles Entered	35	35
Vehicles Exited	35	35
Hourly Exit Rate	35	35
Input Volume	35	35
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	420.6	0.0	0.0	420.6
Denied Del/Veh (s)	1907.0	0.0	0.0	688.9
Total Delay (hr)	7.9	0.0	8.2	16.2
Total Del/Veh (s)	1361.7	0.0	21.5	40.6
Stop Delay (hr)	8.0	0.0	4.7	12.6
Stop Del/Veh (s)	1366.8	0.0	12.2	31.7
Vehicles Entered	13	39	1365	1417
Vehicles Exited	12	39	1365	1416
Hourly Exit Rate	12	39	1365	1416
Input Volume	735	35	4244	5014
% of Volume	2	111	32	28
Denied Entry Before	61	0	0	61
Denied Entry After	781	0	0	781

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.8	4.8
Total Del/Veh (s)	0.2	12.4	12.1
Stop Delay (hr)	0.0	1.7	1.7
Stop Del/Veh (s)	0.0	4.3	4.2
Vehicles Entered	39	1377	1416
Vehicles Exited	39	1376	1415
Hourly Exit Rate	39	1376	1415
Input Volume	35	4979	5014
% of Volume	111	28	28
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.6	3.0	6.6
Total Del/Veh (s)	0.6	19.1	15.3	16.7
Stop Delay (hr)	0.0	0.4	0.4	0.8
Stop Del/Veh (s)	0.0	2.1	2.1	2.1
Vehicles Entered	39	676	701	1416
Vehicles Exited	39	676	701	1416
Hourly Exit Rate	39	676	701	1416
Input Volume	35	2507	2472	5014
% of Volume	111	27	28	28
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.2	1.2
Total Del/Veh (s)	6.6	6.6
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	676	676
Vehicles Exited	675	675
Hourly Exit Rate	675	675
Input Volume	2507	2507
% of Volume	27	27
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	1.0
Total Del/Veh (s)	6.9	5.0	5.1
Stop Delay (hr)	0.0	0.4	0.4
Stop Del/Veh (s)	1.0	2.0	2.0
Vehicles Entered	10	700	710
Vehicles Exited	10	699	709
Hourly Exit Rate	10	699	709
Input Volume	35	2507	2542
% of Volume	29	28	28
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	2043.4
Denied Del/Veh (s)	1259.4
Total Delay (hr)	325.5
Total Del/Veh (s)	549.9
Stop Delay (hr)	305.5
Stop Del/Veh (s)	516.0
Vehicles Entered	1836
Vehicles Exited	1721
Hourly Exit Rate	1721
Input Volume	40731
% of Volume	4
Denied Entry Before	157
Denied Entry After	4005

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.2	0.1	11
Project Dwy	11	0.0	4.1	0.0	34
Stanley Boulevard	5	18.9	26.8	0.1	11
Quandt Road	4	87.9	129.0	0.4	12
Total		107.0	180.0	0.6	12

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	7.2	22.7	0.2	24
	19	1.3	15.6	0.1	34
Greenvalley Drive	2	5.0	11.8	0.1	22
Reliez Valle Road	3	49.1	72.3	0.3	12
	20	26.2	29.9	0.0	4
Springhill Road	4	130.5	139.9	0.1	3
Deer Hill Road	5	360.6	399.0	0.4	4
Project Dwy	11	20.9	29.5	0.1	10
Acalanes Avenue	14	12.5	16.6	0.0	8
	15	19.1	25.3	0.1	9
	16	6.6	16.0	0.1	24
	17	6.9	16.3	0.1	16
Mt. Diablo Boulevard	6	4.4	12.9	0.1	19
SR 24 EB Off Ramp	7	1.7	4.5	0.1	49
Total		652.1	812.3	1.7	7

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	91	41	22
Average Queue (ft)	45	11	1
95th Queue (ft)	75	34	9
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	51	611	114	53	79
Average Queue (ft)	14	566	74	11	29
95th Queue (ft)	35	656	113	34	66
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		84	87		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		76		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	455	481	425	447
Average Queue (ft)	218	456	230	228
95th Queue (ft)	582	471	381	408
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	21	97		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				41
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	372	263	21	530	527	96	214	236
Average Queue (ft)	337	231	2	477	478	79	174	186
95th Queue (ft)	353	248	11	599	609	138	256	263
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	100	83		88	90		31	88
Queuing Penalty (veh)	0	0		1062	1077		368	1061
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				89	84	0		
Queuing Penalty (veh)				0	194	4		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	556	27	42	275	2273	2409
Average Queue (ft)	204	523	2	11	185	2245	2372
95th Queue (ft)	299	542	14	32	342	2275	2427
Link Distance (ft)		504	342	342		2220	2220
Upstream Blk Time (%)		95				42	95
Queuing Penalty (veh)		0				693	1585
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	8	97			6	27	69
Queuing Penalty (veh)	49	586			85	80	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	10
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	202	399	396
Average Queue (ft)	179	223	342
95th Queue (ft)	198	460	416
Link Distance (ft)	176	342	342
Upstream Blk Time (%)	100	2	8
Queuing Penalty (veh)	0	37	174
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	186	264
Average Queue (ft)	50	226
95th Queue (ft)	147	279
Link Distance (ft)	150	150
Upstream Blk Time (%)	1	24
Queuing Penalty (veh)	19	590
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	353
Average Queue (ft)	165
95th Queue (ft)	408
Link Distance (ft)	266
Upstream Blk Time (%)	5
Queuing Penalty (veh)	112
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Pleasant Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	184
Average Queue (ft)	73
95th Queue (ft)	144
Link Distance (ft)	314
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 7775

PHF = 1.0

Evac 1 – Evacuation (without project) in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1829	1780	1769	1792	1766	1788
Vehs Exited	1731	1679	1706	1700	1710	1706
Starting Vehs	281	262	307	270	292	282
Ending Vehs	379	363	370	362	348	362
Denied Entry Before	111	105	100	89	97	101
Denied Entry After	1982	2023	2037	1992	2107	2029
Travel Distance (mi)	1600	1579	1608	1611	1609	1601
Travel Time (hr)	1351.0	1392.4	1406.7	1353.8	1407.4	1382.3
Total Delay (hr)	1295.1	1337.5	1350.7	1297.7	1351.6	1326.5
Total Stops	6213	6007	6125	6099	6108	6112
Fuel Used (gal)	348.4	356.7	360.7	349.6	362.3	355.5

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1829	1780	1769	1792	1766	1788
Vehs Exited	1731	1679	1706	1700	1710	1706
Starting Vehs	281	262	307	270	292	282
Ending Vehs	379	363	370	362	348	362
Denied Entry Before	111	105	100	89	97	101
Denied Entry After	1982	2023	2037	1992	2107	2029
Travel Distance (mi)	1600	1579	1608	1611	1609	1601
Travel Time (hr)	1351.0	1392.4	1406.7	1353.8	1407.4	1382.3
Total Delay (hr)	1295.1	1337.5	1350.7	1297.7	1351.6	1326.5
Total Stops	6213	6007	6125	6099	6108	6112
Fuel Used (gal)	348.4	356.7	360.7	349.6	362.3	355.5

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.1	0.0	0.2
Total Del/Veh (s)	3.5	5.4	3.8
Stop Delay (hr)	0.1	0.0	0.1
Stop Del/Veh (s)	2.7	4.1	2.9
Vehicles Entered	131	24	155
Vehicles Exited	131	24	155
Hourly Exit Rate	131	24	155
Input Volume	130	25	155
% of Volume	101	96	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	11.9	0.2	12.2
Total Del/Veh (s)	2.8	90.1	5.4	64.9
Stop Delay (hr)	0.0	10.8	0.2	11.0
Stop Del/Veh (s)	3.0	81.4	3.7	58.4
Vehicles Entered	44	467	154	665
Vehicles Exited	44	461	155	660
Hourly Exit Rate	44	461	155	660
Input Volume	42	478	155	675
% of Volume	105	96	100	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	340.2	0.0	340.2
Denied Del/Veh (s)	1091.5	0.0	687.3
Total Delay (hr)	17.0	6.6	23.7
Total Del/Veh (s)	157.5	35.4	80.1
Stop Delay (hr)	16.8	5.4	22.2
Stop Del/Veh (s)	155.7	28.7	75.2
Vehicles Entered	376	660	1036
Vehicles Exited	369	660	1029
Hourly Exit Rate	369	660	1029
Input Volume	1124	675	1799
% of Volume	33	98	57
Denied Entry Before	6	0	6
Denied Entry After	746	0	746

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	256.6	6.0	1.0	0.0	0.0	0.0	263.6
Denied Del/Veh (s)	1364.6	96.2	92.9	0.0	0.0	0.0	482.6
Total Delay (hr)	10.0	6.9	1.2	0.1	31.9	2.8	52.9
Total Del/Veh (s)	206.2	114.7	114.1	99.9	122.7	94.6	128.9
Stop Delay (hr)	10.3	6.8	1.1	0.1	31.9	2.9	53.0
Stop Del/Veh (s)	212.2	111.7	110.2	97.4	122.8	95.7	129.3
Vehicles Entered	166	216	36	3	918	107	1446
Vehicles Exited	165	212	36	3	896	103	1415
Hourly Exit Rate	165	212	36	3	896	103	1415
Input Volume	643	223	34	4	1626	173	2703
% of Volume	26	95	106	75	55	60	52
Denied Entry Before	11	1	0	0	0	0	12
Denied Entry After	511	8	1	0	0	0	520

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	422.6	0.0	0.0	0.0	0.0	422.6
Denied Del/Veh (s)	1507.7	0.0	0.0	0.0	0.0	659.7
Total Delay (hr)	24.0	0.0	0.0	13.3	141.8	179.2
Total Del/Veh (s)	315.9	29.4	3.3	380.3	396.7	377.1
Stop Delay (hr)	23.9	0.0	0.0	12.7	138.9	175.6
Stop Del/Veh (s)	313.5	27.4	3.4	363.3	388.7	369.4
Vehicles Entered	246	4	21	115	1157	1543
Vehicles Exited	248	3	22	112	1123	1508
Hourly Exit Rate	248	3	22	112	1123	1508
Input Volume	909	4	22	218	2274	3427
% of Volume	27	75	100	51	49	44
Denied Entry Before	83	0	0	0	0	83
Denied Entry After	763	0	0	0	0	763

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	4.5	4.5
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	12	12
Vehicles Exited	12	12
Hourly Exit Rate	12	12
Input Volume	26	26
% of Volume	46	46
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.8	1.8
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.2	0.2
Vehicles Entered	29	29
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	26	26
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.5	4.5
Total Del/Veh (s)	0.2	11.9	11.7
Stop Delay (hr)	0.0	1.4	1.4
Stop Del/Veh (s)	0.0	3.8	3.7
Vehicles Entered	25	1372	1397
Vehicles Exited	25	1372	1397
Hourly Exit Rate	25	1372	1397
Input Volume	26	3183	3209
% of Volume	96	43	44
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.7	2.9	6.5
Total Del/Veh (s)	0.6	19.0	15.1	16.8
Stop Delay (hr)	0.0	0.4	0.4	0.9
Stop Del/Veh (s)	0.0	2.3	2.3	2.3
Vehicles Entered	25	689	683	1397
Vehicles Exited	25	689	683	1397
Hourly Exit Rate	25	689	683	1397
Input Volume	26	1605	1578	3209
% of Volume	96	43	43	44
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.3	1.3
Total Del/Veh (s)	6.6	6.6
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	689	689
Vehicles Exited	689	689
Hourly Exit Rate	689	689
Input Volume	1605	1605
% of Volume	43	43
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.0	1.0	1.1
Total Del/Veh (s)	7.8	5.3	5.3
Stop Delay (hr)	0.0	0.4	0.4
Stop Del/Veh (s)	1.8	2.1	2.1
Vehicles Entered	12	705	717
Vehicles Exited	12	704	716
Hourly Exit Rate	12	704	716
Input Volume	26	1605	1631
% of Volume	46	44	44
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	1027.1
Denied Del/Veh (s)	968.7
Total Delay (hr)	299.5
Total Del/Veh (s)	521.3
Stop Delay (hr)	277.9
Stop Del/Veh (s)	483.8
Vehicles Entered	1788
Vehicles Exited	1706
Hourly Exit Rate	1706
Input Volume	27792
% of Volume	6
Denied Entry Before	101
Denied Entry After	2029

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.1	0.1	11
	11	0.0	4.0	0.0	34
Stanley Boulevard	5	29.4	36.5	0.1	8
Quandt Road	4	99.9	148.7	0.4	11
Total		129.5	209.3	0.6	11

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	5.4	20.6	0.2	27
	19	0.9	16.0	0.1	33
Greenvalley Drive	2	5.4	12.3	0.1	21
Reliez Valle Road	3	31.8	55.7	0.3	16
	20	23.5	27.1	0.0	4
Springhill Road	4	122.7	132.1	0.1	3
Deer Hill Road	5	365.6	404.1	0.4	4
	11	19.1	27.7	0.1	10
Acalanes Avenue	14	11.9	15.9	0.0	9
	15	19.0	25.1	0.1	9
	16	6.6	16.0	0.1	24
	17	7.8	16.2	0.1	16
Mt. Diablo Boulevard	6	4.5	12.4	0.1	20
SR 24 EB Off Ramp	7	1.8	4.6	0.1	49
Total		625.8	785.8	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	68	32	11
Average Queue (ft)	37	6	0
95th Queue (ft)	65	25	5
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	34	562	73	47	71
Average Queue (ft)	9	413	19	9	26
95th Queue (ft)	24	637	74	32	58
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		22	12		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		67		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	454	486	339	344
Average Queue (ft)	237	456	177	175
95th Queue (ft)	599	474	273	281
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	24	94		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				26
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	368	254	15	521	527	96	212	215
Average Queue (ft)	336	227	1	470	472	76	161	179
95th Queue (ft)	353	257	8	597	611	140	252	267
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	99	70		83	87		22	82
Queuing Penalty (veh)	0	0		748	784		202	736
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				86	82	0		
Queuing Penalty (veh)				0	142	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	547	23	38	275	2273	2408
Average Queue (ft)	210	523	3	9	173	2241	2368
95th Queue (ft)	283	537	15	30	328	2310	2462
Link Distance (ft)		504	347	347		2220	2220
Upstream Blk Time (%)		95				42	95
Queuing Penalty (veh)		0				520	1178
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	8	97			4	26	66
Queuing Penalty (veh)	36	441			51	56	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	5
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	B11	B11
Directions Served	T	T	T	T
Maximum Queue (ft)	167	258	387	387
Average Queue (ft)	36	209	196	337
95th Queue (ft)	119	296	420	420
Link Distance (ft)	147	147	347	347
Upstream Blk Time (%)	1	20	1	6
Queuing Penalty (veh)	9	324	13	99
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	11	354
Average Queue (ft)	0	191
95th Queue (ft)	8	441
Link Distance (ft)	266	266
Upstream Blk Time (%)		6
Queuing Penalty (veh)		94
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Pleasant Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 17: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	14	165
Average Queue (ft)	0	75
95th Queue (ft)	10	147
Link Distance (ft)	314	314
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 5435

PHF = 1.0

Evac 1 + Project – Evacuation plus project, with trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	2313	2278	2198	2250	2209	2249
Vehs Exited	2165	2144	2089	2068	2058	2105
Starting Vehs	258	231	256	249	270	256
Ending Vehs	406	365	365	431	421	397
Denied Entry Before	144	167	171	169	170	165
Denied Entry After	2127	2179	2246	2233	2121	2181
Travel Distance (mi)	1976	1959	1927	1894	1879	1927
Travel Time (hr)	1489.0	1424.4	1515.3	1507.4	1458.8	1479.0
Total Delay (hr)	1419.8	1355.7	1448.0	1441.1	1392.7	1411.4
Total Stops	9117	8435	8871	8651	8322	8680
Fuel Used (gal)	391.0	376.5	395.1	393.7	380.7	387.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2313	2278	2198	2250	2209	2249
Vehs Exited	2165	2144	2089	2068	2058	2105
Starting Vehs	258	231	256	249	270	256
Ending Vehs	406	365	365	431	421	397
Denied Entry Before	144	167	171	169	170	165
Denied Entry After	2127	2179	2246	2233	2121	2181
Travel Distance (mi)	1976	1959	1927	1894	1879	1927
Travel Time (hr)	1489.0	1424.4	1515.3	1507.4	1458.8	1479.0
Total Delay (hr)	1419.8	1355.7	1448.0	1441.1	1392.7	1411.4
Total Stops	9117	8435	8871	8651	8322	8680
Fuel Used (gal)	391.0	376.5	395.1	393.7	380.7	387.4

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1
Total Delay (hr)	0.1	0.0	0.2
Total Del/Veh (s)	3.5	5.8	3.9
Stop Delay (hr)	0.1	0.0	0.1
Stop Del/Veh (s)	2.8	4.2	3.0
Vehicles Entered	133	23	156
Vehicles Exited	133	23	156
Hourly Exit Rate	133	23	156
Input Volume	130	25	155
% of Volume	102	92	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	13.6	0.2	13.9
Total Del/Veh (s)	2.7	101.7	5.2	73.8
Stop Delay (hr)	0.0	12.5	0.2	12.7
Stop Del/Veh (s)	3.0	93.2	3.6	67.3
Vehicles Entered	39	469	156	664
Vehicles Exited	38	463	156	657
Hourly Exit Rate	38	463	156	657
Input Volume	42	478	155	675
% of Volume	90	97	101	97
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	183.4	0.0	183.4
Denied Del/Veh (s)	578.6	0.0	367.2
Total Delay (hr)	14.4	4.6	19.0
Total Del/Veh (s)	72.8	24.8	49.4
Stop Delay (hr)	12.4	3.6	15.9
Stop Del/Veh (s)	62.7	19.0	41.5
Vehicles Entered	698	657	1355
Vehicles Exited	692	658	1350
Hourly Exit Rate	692	658	1350
Input Volume	1124	675	1799
% of Volume	62	97	75
Denied Entry Before	8	0	8
Denied Entry After	443	0	443

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	277.0	0.8	0.1	0.0	0.0	0.0	278.0
Denied Del/Veh (s)	1445.2	13.3	15.6	0.0	0.0	0.0	434.5
Total Delay (hr)	9.2	5.0	0.8	0.1	21.5	1.9	38.4
Total Del/Veh (s)	221.2	78.3	84.8	80.9	62.7	52.3	77.8
Stop Delay (hr)	9.4	4.7	0.8	0.1	19.1	1.8	35.9
Stop Del/Veh (s)	226.4	74.7	80.3	80.3	55.8	49.2	72.6
Vehicles Entered	141	226	34	4	1220	129	1754
Vehicles Exited	141	225	33	4	1196	127	1726
Hourly Exit Rate	141	225	33	4	1196	127	1726
Input Volume	643	223	34	4	1626	173	2703
% of Volume	22	101	97	100	74	73	64
Denied Entry Before	40	0	0	0	0	0	40
Denied Entry After	549	0	0	0	0	0	549

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	429.5	0.0	0.0	0.0	0.0	429.5
Denied Del/Veh (s)	1546.1	0.0	0.0	0.0	0.0	619.4
Total Delay (hr)	22.1	0.0	0.0	3.5	24.5	50.2
Total Del/Veh (s)	326.7	19.3	3.6	95.9	64.4	101.8
Stop Delay (hr)	21.8	0.0	0.0	3.3	21.3	46.4
Stop Del/Veh (s)	323.3	17.4	3.8	89.6	55.8	94.2
Vehicles Entered	218	4	22	129	1341	1714
Vehicles Exited	218	4	22	131	1342	1717
Hourly Exit Rate	218	4	22	131	1342	1717
Input Volume	909	4	22	218	2274	3427
% of Volume	24	100	100	60	59	50
Denied Entry Before	82	0	0	0	0	82
Denied Entry After	782	0	0	0	0	782

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	5.8	5.8
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	7	7
Vehicles Exited	7	7
Hourly Exit Rate	7	7
Input Volume	26	26
% of Volume	27	27
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.9	1.9
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.3	0.3
Vehicles Entered	31	31
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	26	26
% of Volume	119	119
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	205.8	0.0	0.0	205.8
Denied Del/Veh (s)	1266.7	0.0	0.0	341.3
Total Delay (hr)	7.0	0.0	14.4	21.3
Total Del/Veh (s)	115.4	0.0	32.9	42.3
Stop Delay (hr)	7.4	0.0	11.8	19.2
Stop Del/Veh (s)	123.2	0.0	27.0	38.1
Vehicles Entered	211	26	1560	1797
Vehicles Exited	210	26	1556	1792
Hourly Exit Rate	210	26	1556	1792
Input Volume	551	26	3183	3760
% of Volume	38	100	49	48
Denied Entry Before	31	0	0	31
Denied Entry After	374	0	0	374

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	8.6	8.6
Total Del/Veh (s)	0.2	17.6	17.3
Stop Delay (hr)	0.0	8.4	8.4
Stop Del/Veh (s)	0.0	17.2	16.9
Vehicles Entered	26	1766	1792
Vehicles Exited	26	1758	1784
Hourly Exit Rate	26	1758	1784
Input Volume	26	3734	3760
% of Volume	100	47	47
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	10.7	1.6	12.3
Total Del/Veh (s)	0.6	42.8	6.6	24.6
Stop Delay (hr)	0.0	12.0	0.2	12.2
Stop Del/Veh (s)	0.0	48.3	0.8	24.5
Vehicles Entered	26	889	869	1784
Vehicles Exited	26	882	870	1778
Hourly Exit Rate	26	882	870	1778
Input Volume	26	1880	1854	3760
% of Volume	100	47	47	47
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	16.6	16.6
Total Del/Veh (s)	66.3	66.3
Stop Delay (hr)	18.9	18.9
Stop Del/Veh (s)	75.5	75.5
Vehicles Entered	882	882
Vehicles Exited	882	882
Hourly Exit Rate	882	882
Input Volume	1880	1880
% of Volume	47	47
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.2	14.9	15.2
Denied Del/Veh (s)	106.7	59.3	59.7
Total Delay (hr)	0.1	15.0	15.1
Total Del/Veh (s)	59.2	60.5	60.4
Stop Delay (hr)	0.1	17.5	17.6
Stop Del/Veh (s)	63.0	70.6	70.5
Vehicles Entered	7	876	883
Vehicles Exited	7	875	882
Hourly Exit Rate	7	875	882
Input Volume	26	1880	1906
% of Volume	27	47	46
Denied Entry Before	0	2	2
Denied Entry After	1	30	31

Total Network Performance

Denied Delay (hr)	1113.6
Denied Del/Veh (s)	905.0
Total Delay (hr)	297.8
Total Del/Veh (s)	428.5
Stop Delay (hr)	274.0
Stop Del/Veh (s)	394.3
Vehicles Entered	2249
Vehicles Exited	2105
Hourly Exit Rate	2105
Input Volume	33042
% of Volume	6
Denied Entry Before	165
Denied Entry After	2181

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.2	0.1	11
Project Dwy	11	0.0	4.1	0.0	33
Stanley Boulevard	5	19.3	27.1	0.1	10
	37	1.8	9.7	0.1	31
Quandt Road	4	80.9	116.6	0.4	11
Total		102.1	177.8	0.6	13

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	5.8	21.2	0.2	26
	19	1.0	16.4	0.1	33
Greenvalley Drive	2	5.2	12.0	0.1	21
Reliez Valle Road	3	20.2	43.9	0.3	21
	20	11.5	15.1	0.0	8
Springhill Road	4	62.7	72.2	0.1	5
	37	196.3	231.5	0.4	6
Deer Hill Road	5	64.4	72.3	0.1	4
Project Dwy	11	33.0	41.4	0.1	7
Acalanes Avenue	14	18.2	22.3	0.0	6
	15	42.8	48.9	0.1	5
	16	66.3	75.6	0.1	5
	17	59.2	189.6	0.1	4
Mt. Diablo Boulevard	6	5.8	13.5	0.1	18
SR 24 EB Off Ramp	7	1.9	4.7	0.1	48
Total		594.2	880.6	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	76	46	16
Average Queue (ft)	39	7	1
95th Queue (ft)	64	28	7
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	34	585	84	47	61
Average Queue (ft)	10	446	27	10	23
95th Queue (ft)	26	659	87	31	52
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		32	26		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		70		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	467	487	270	294
Average Queue (ft)	281	459	147	161
95th Queue (ft)	634	478	215	228
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	17	80		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				20
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	368	258	15	506	515	96	212	229
Average Queue (ft)	336	211	2	375	383	62	94	130
95th Queue (ft)	353	278	10	632	651	137	222	278
Link Distance (ft)	318	217		406	406		127	127
Upstream Blk Time (%)	100	32		37	51		8	41
Queuing Penalty (veh)	0	0		337	458		69	371
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				56	57	0		
Queuing Penalty (veh)				0	98	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB	SB	B37	B37
Directions Served	L	LT	T	R	L	T	T	T	T	T
Maximum Queue (ft)	225	550	22	43	275	442	447	441	1884	2009
Average Queue (ft)	108	522	2	8	174	366	392	410	1590	1711
95th Queue (ft)	271	536	13	29	316	523	454	467	2522	2656
Link Distance (ft)		504	342	342		351	351	351	1832	1832
Upstream Blk Time (%)		96				23	33	41	21	76
Queuing Penalty (veh)		0				193	278	337	260	943
Storage Bay Dist (ft)	185				175					
Storage Blk Time (%)		92			9	4		60		
Queuing Penalty (veh)		418			69	9		0		

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	5
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB	SB
Directions Served	R	T	T	TR
Maximum Queue (ft)	218	395	389	391
Average Queue (ft)	184	156	346	337
95th Queue (ft)	201	366	416	447
Link Distance (ft)	164	342	342	342
Upstream Blk Time (%)	100	2	15	10
Queuing Penalty (veh)	0	17	158	109
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement			
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	164	267	237
Average Queue (ft)	36	237	184
95th Queue (ft)	122	258	270
Link Distance (ft)	152	152	152
Upstream Blk Time (%)	1	97	11
Queuing Penalty (veh)	12	1208	140
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Pleasant Hill Road

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	56	370	283
Average Queue (ft)	11	341	106
95th Queue (ft)	47	363	244
Link Distance (ft)	262	262	262
Upstream Blk Time (%)		99	0
Queuing Penalty (veh)		1230	5
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: Pleasant Hill Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	542
Average Queue (ft)	512
95th Queue (ft)	534
Link Distance (ft)	302
Upstream Blk Time (%)	100
Queuing Penalty (veh)	939
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	188	535
Average Queue (ft)	15	505
95th Queue (ft)	123	526
Link Distance (ft)	314	314
Upstream Blk Time (%)	0	99
Queuing Penalty (veh)	0	622
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 8283

PHF = 1.0

Evac 1 + Project Variant– Evacuation plus project, no trap lane, in the AM Peak

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
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	1718	1770	1818	1793	1804	1781
Vehs Exited	1667	1680	1753	1687	1699	1696
Starting Vehs	332	280	318	278	287	299
Ending Vehs	383	370	383	384	392	380
Denied Entry Before	188	149	166	161	143	161
Denied Entry After	2724	2604	2474	2543	2560	2582
Travel Distance (mi)	1573	1588	1620	1618	1608	1601
Travel Time (hr)	1799.8	1669.5	1677.1	1653.3	1680.2	1696.0
Total Delay (hr)	1745.0	1614.2	1620.7	1597.2	1624.2	1640.3
Total Stops	6005	6096	6145	6278	6138	6134
Fuel Used (gal)	447.6	420.7	423.1	417.9	422.6	426.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1718	1770	1818	1793	1804	1781
Vehs Exited	1667	1680	1753	1687	1699	1696
Starting Vehs	332	280	318	278	287	299
Ending Vehs	383	370	383	384	392	380
Denied Entry Before	188	149	166	161	143	161
Denied Entry After	2724	2604	2474	2543	2560	2582
Travel Distance (mi)	1573	1588	1620	1618	1608	1601
Travel Time (hr)	1799.8	1669.5	1677.1	1653.3	1680.2	1696.0
Total Delay (hr)	1745.0	1614.2	1620.7	1597.2	1624.2	1640.3
Total Stops	6005	6096	6145	6278	6138	6134
Fuel Used (gal)	447.6	420.7	423.1	417.9	422.6	426.4

1: Pleasant Hill Road & Rancho View Drive Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2
Total Delay (hr)	0.1	0.0	0.2
Total Del/Veh (s)	3.5	6.8	4.0
Stop Delay (hr)	0.1	0.0	0.1
Stop Del/Veh (s)	2.7	5.1	3.1
Vehicles Entered	135	26	161
Vehicles Exited	135	26	161
Hourly Exit Rate	135	26	161
Input Volume	130	25	155
% of Volume	104	104	104
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Pleasant Hill Road & Greenvalley Drive Performance by movement

Movement	EBR	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	10.7	0.2	11.0
Total Del/Veh (s)	3.2	82.0	5.0	58.4
Stop Delay (hr)	0.0	9.6	0.2	9.8
Stop Del/Veh (s)	3.4	73.3	3.4	52.0
Vehicles Entered	45	457	160	662
Vehicles Exited	45	454	159	658
Hourly Exit Rate	45	454	159	658
Input Volume	42	478	155	675
% of Volume	107	95	103	97
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: Pleasant Hill Road & Reliez Valle Road Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	366.7	0.0	366.7
Denied Del/Veh (s)	1156.1	0.0	733.9
Total Delay (hr)	17.0	7.7	24.7
Total Del/Veh (s)	170.9	41.0	86.2
Stop Delay (hr)	17.1	6.4	23.4
Stop Del/Veh (s)	171.0	34.2	81.8
Vehicles Entered	348	657	1005
Vehicles Exited	340	655	995
Hourly Exit Rate	340	655	995
Input Volume	1124	675	1799
% of Volume	30	97	55
Denied Entry Before	12	0	12
Denied Entry After	794	0	794

4: Pleasant Hill Road & Springhill Road/Quandt Road Performance by movement

Movement	EBR	WBL	WBT	NBL	SBT	SBR	All
Denied Delay (hr)	232.9	5.0	0.9	0.0	0.0	0.0	238.9
Denied Del/Veh (s)	1302.1	78.2	89.6	0.0	0.0	0.0	450.7
Total Delay (hr)	9.8	6.7	1.2	0.1	32.7	3.0	53.4
Total Del/Veh (s)	181.3	106.8	120.8	81.7	129.3	109.9	131.2
Stop Delay (hr)	10.2	6.5	1.1	0.1	32.9	3.0	53.8
Stop Del/Veh (s)	187.4	103.4	116.2	79.8	130.5	111.8	132.2
Vehicles Entered	186	223	35	5	894	97	1440
Vehicles Exited	185	220	35	5	869	93	1407
Hourly Exit Rate	185	220	35	5	869	93	1407
Input Volume	643	223	34	4	1626	173	2703
% of Volume	29	99	103	125	53	54	52
Denied Entry Before	15	0	0	0	0	0	15
Denied Entry After	458	9	1	0	0	0	468

5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	392.5	0.0	0.0	0.0	0.0	392.5
Denied Del/Veh (s)	1474.8	0.0	0.0	0.0	0.0	625.7
Total Delay (hr)	24.1	0.0	0.0	13.2	142.1	179.4
Total Del/Veh (s)	329.5	21.8	2.9	374.4	394.4	377.1
Stop Delay (hr)	23.9	0.0	0.0	12.5	139.4	175.8
Stop Del/Veh (s)	327.1	19.9	3.0	354.8	386.9	369.6
Vehicles Entered	238	5	21	115	1159	1538
Vehicles Exited	235	5	21	113	1132	1506
Hourly Exit Rate	235	5	21	113	1132	1506
Input Volume	909	4	22	218	2274	3427
% of Volume	26	125	95	52	50	44
Denied Entry Before	69	0	0	0	0	69
Denied Entry After	720	0	0	0	0	720

6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp Performance by movement

Movement	SBR	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	4.9	4.9
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	8	8
Vehicles Exited	8	8
Hourly Exit Rate	8	8
Input Volume	26	26
% of Volume	31	31
Denied Entry Before	0	0
Denied Entry After	0	0

7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.1	0.1
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	23	23
Vehicles Exited	23	23
Hourly Exit Rate	23	23
Input Volume	26	26
% of Volume	88	88
Denied Entry Before	0	0
Denied Entry After	0	0

11: Pleasant Hill Road & Project Dwy Performance by movement

Movement	EBR	NBT	SBT	All
Denied Delay (hr)	333.1	0.0	0.0	333.1
Denied Del/Veh (s)	1956.2	0.0	0.0	598.1
Total Delay (hr)	8.0	0.0	8.0	16.1
Total Del/Veh (s)	1374.8	0.0	21.0	40.7
Stop Delay (hr)	8.1	0.0	4.5	12.5
Stop Del/Veh (s)	1380.2	0.0	11.7	31.7
Vehicles Entered	13	25	1367	1405
Vehicles Exited	13	25	1368	1406
Hourly Exit Rate	13	25	1368	1406
Input Volume	551	26	3183	3760
% of Volume	2	96	43	37
Denied Entry Before	65	0	0	65
Denied Entry After	600	0	0	600

14: Pleasant Hill Road & Acalanes Avenue Performance by movement

Movement	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	4.7	4.7
Total Del/Veh (s)	0.2	12.3	12.1
Stop Delay (hr)	0.0	1.6	1.6
Stop Del/Veh (s)	0.0	4.0	4.0
Vehicles Entered	25	1381	1406
Vehicles Exited	25	1382	1407
Hourly Exit Rate	25	1382	1407
Input Volume	26	3734	3760
% of Volume	96	37	37
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

15: Pleasant Hill Road Performance by movement

Movement	WBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	3.7	2.9	6.6
Total Del/Veh (s)	0.6	19.0	15.3	16.8
Stop Delay (hr)	0.0	0.4	0.4	0.8
Stop Del/Veh (s)	0.0	2.1	2.1	2.1
Vehicles Entered	25	694	688	1407
Vehicles Exited	25	697	686	1408
Hourly Exit Rate	25	697	686	1408
Input Volume	26	1880	1854	3760
% of Volume	96	37	37	37
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

16: Pleasant Hill Road Performance by movement

Movement	SBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	1.3	1.3
Total Del/Veh (s)	6.6	6.6
Stop Delay (hr)	0.0	0.0
Stop Del/Veh (s)	0.0	0.0
Vehicles Entered	697	697
Vehicles Exited	697	697
Hourly Exit Rate	697	697
Input Volume	1880	1880
% of Volume	37	37
Denied Entry Before	0	0
Denied Entry After	0	0

17: Pleasant Hill Road Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	1.0
Total Del/Veh (s)	7.6	4.8	4.8
Stop Delay (hr)	0.0	0.3	0.3
Stop Del/Veh (s)	1.2	1.7	1.7
Vehicles Entered	8	716	724
Vehicles Exited	8	714	722
Hourly Exit Rate	8	714	722
Input Volume	26	1880	1906
% of Volume	31	38	38
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	1331.4
Denied Del/Veh (s)	1098.6
Total Delay (hr)	308.8
Total Del/Veh (s)	535.6
Stop Delay (hr)	287.7
Stop Del/Veh (s)	499.0
Vehicles Entered	1781
Vehicles Exited	1696
Hourly Exit Rate	1696
Input Volume	30546
% of Volume	6
Denied Entry Before	161
Denied Entry After	2582

Arterial Level of Service: NB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Acalanes Avenue	14	0.2	20.2	0.1	11
Project Dwy	11	0.0	4.1	0.0	34
Stanley Boulevard	5	21.8	29.1	0.1	10
Quandt Road	4	81.7	122.2	0.4	13
Total		103.8	175.6	0.6	13

Arterial Level of Service: SB Pleasant Hill Road

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Rancho View Drive	1	6.8	22.1	0.2	25
	19	1.2	15.8	0.1	34
Greenvalley Drive	2	5.0	11.9	0.1	22
Reliez Valle Road	3	37.7	61.6	0.3	15
	20	24.4	28.0	0.0	4
Springhill Road	4	129.3	138.7	0.1	3
Deer Hill Road	5	358.8	396.8	0.4	4
Project Dwy	11	20.5	29.0	0.1	10
Acalanes Avenue	14	12.4	16.4	0.0	8
	15	19.0	25.1	0.1	9
	16	6.6	16.0	0.1	24
	17	7.6	17.2	0.1	15
Mt. Diablo Boulevard	6	4.9	13.5	0.1	18
SR 24 EB Off Ramp	7	1.7	4.5	0.1	50
Total		635.7	796.7	1.7	8

Intersection: 1: Pleasant Hill Road & Rancho View Drive

Movement	EB	SB	SB
Directions Served	LTR	T	TR
Maximum Queue (ft)	77	45	16
Average Queue (ft)	38	8	1
95th Queue (ft)	63	30	7
Link Distance (ft)	306	773	773
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Pleasant Hill Road & Greenvalley Drive

Movement	EB	WB	B60	SB	SB
Directions Served	LTR	LT	T	T	TR
Maximum Queue (ft)	44	567	56	50	64
Average Queue (ft)	11	385	10	9	25
95th Queue (ft)	29	611	51	31	57
Link Distance (ft)	333	494	53	288	288
Upstream Blk Time (%)		12	5		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)		63		0	
Queuing Penalty (veh)		0		0	

Intersection: 3: Pleasant Hill Road & Reliez Valle Road

Movement	EB	EB	SB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	459	488	358	394
Average Queue (ft)	253	456	187	189
95th Queue (ft)	615	491	312	337
Link Distance (ft)	438	438	1259	1259
Upstream Blk Time (%)	27	94		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				28
Queuing Penalty (veh)				0

Intersection: 4: Pleasant Hill Road & Springhill Road/Quandt Road

Movement	EB	WB	NB	SB	SB	SB	B20	B20
Directions Served	LTR	LTR	L	T	T	R	T	T
Maximum Queue (ft)	369	258	16	526	525	96	207	220
Average Queue (ft)	338	223	2	476	476	76	164	183
95th Queue (ft)	355	265	9	581	604	140	245	262
Link Distance (ft)	318	213		414	414		127	127
Upstream Blk Time (%)	100	64		86	90		24	85
Queuing Penalty (veh)	0	0		775	809		213	762
Storage Bay Dist (ft)			200			71		
Storage Blk Time (%)				89	84	0		
Queuing Penalty (veh)				0	145	2		

Intersection: 5: Pleasant Hill Road & Deer Hill Road/Stanley Boulevard

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	R	L	T	T
Maximum Queue (ft)	225	547	28	29	275	2274	2410
Average Queue (ft)	212	521	3	8	192	2241	2371
95th Queue (ft)	276	536	15	28	344	2292	2451
Link Distance (ft)		504	342	342		2220	2220
Upstream Blk Time (%)		95				41	95
Queuing Penalty (veh)		0				506	1182
Storage Bay Dist (ft)	185				175		
Storage Blk Time (%)	11	97			4	30	68
Queuing Penalty (veh)	52	440			47	64	0

Intersection: 6: Pleasant Hill Road & Mt. Diablo Boulevard/SR 24 EB On Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Pleasant Hill Road & SR 24 EB Off Ramp/Old Tunnel Road

Movement	SB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Brown Avenue/Miller Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 9: First Street/Sierra Vista Way & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: SR 24 WB Ramps/Laurel Drive & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Pleasant Hill Road & Project Dwy

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	204	392	380
Average Queue (ft)	180	212	338
95th Queue (ft)	199	435	410
Link Distance (ft)	176	342	342
Upstream Blk Time (%)	100	1	7
Queuing Penalty (veh)	0	23	114
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Project Dwy NE & Deer Hill Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: Project Dwy SW & Deer Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Pleasant Hill Road & Acalanes Avenue

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	180	257
Average Queue (ft)	48	214
95th Queue (ft)	146	294
Link Distance (ft)	150	150
Upstream Blk Time (%)	1	22
Queuing Penalty (veh)	15	409
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	351
Average Queue (ft)	179
95th Queue (ft)	424
Link Distance (ft)	266
Upstream Blk Time (%)	5
Queuing Penalty (veh)	89
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Pleasant Hill Road

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Pleasant Hill Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	161
Average Queue (ft)	67
95th Queue (ft)	128
Link Distance (ft)	314
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 5648

ITEM 5

5. REVIEW AND COMMENT ON THE ACCESSIBLE TRANSPORTATION STRATEGIC (ATS) PLAN

CONTRA COSTA transportation authority

Planning Committee ***STAFF REPORT***

Meeting Date: March 03, 2021

Subject	**Request Authority Board Approval of the Draft Final Contra Costa Accessible Transportation Strategic Plan (ATSP) and to Submit the Final Report to the California Department of Transportation (Caltrans)**
Summary of Issues	In 2019, the Authority received a Sustainable Communities Planning grant from Caltrans in the amount of $400,000 to complete a countywide ATSP to address disparate transportation services in the county related to transportation for seniors and people with disabilities. The study was recommended in the 2017 Countywide Transportation Plan (CTP). The ATSP was prepared by Nelson\Nygaard Consulting Associates, Inc. (Nelson\Nygaard) with oversight provided in partnership between the Authority and Contra Costa County (County) and a Technical Advisory Committee (TAC) and a Policy Advisory Committee (PAC).
Recommendations	Staff seeks Authority Board approval of the attached Draft Final Contra Costa ATSP so that Authority staff may forward the final report to Caltrans to complete the Sustainable Communities Planning grant, authorize implementation of the recommended Coordinating Structure by creating an Accessible Transportation Implementation Task Force (TF) to address and implement the ATSP, and continue to collect input from the public and stakeholders to provide information to the TF.
Staff Contact	Peter Engel

Financial Implications	The ATSP was completed using a Caltrans Sustainable Communities Planning grant and within budget. Authority staff will return at a later meeting with a proposed budget to fund the ATSP TF.
Options	None
Attachments	**A.** Draft Final Contra Costa ATSP Executive Summary **B.** Draft Contra Costa ATSP
Changes from Committee	*N/A*

Background

The ATSP originated from the 2017 Contra Costa CTP. The CTP identified a need to address the challenges associated with: (1) different types of accessible transportation services for older adults and people with disabilities; (2) multiple transportation providers including cities/towns, transit operators, social services agencies, and non-profit organizations; and (3) diverse, and sometimes overlapping service areas.

The ATSP is also intended to address several unimplemented recommendations of three previous studies which were similar in scope. The 2016 and 2020 Transportation Expenditure Plans (TEP) was unsuccessful in assessing new sales tax measure funds; however, they did further set expectations for the ATSP to ultimately "implement a customer-focused, user-friendly, seamless coordinated system". The ATSP will also help fulfill a requirement by the Metropolitan Transportation Commission (MTC) in its Resolution 4321, that County Transportation Agencies (CTA)/Congestion Management Agencies (CMA) must meet the following mobility management requirement:

"Each county must establish or enhance mobility management programs to help provide equitable and effective access to transportation." Mobility management in this context refers to a centralized point-of-contact that facilitates ease of use of a variety of transportation modes by people with disabilities, veterans, and older adults.

MTC uses the following description to define mobility management activities:

The region's Coordinated Public Transit-Human Services Transportation Plan directs counties

to develop mobility management programs with three key components:

- Countywide travel training;
- In-person Americans with Disabilities Act (ADA) paratransit certification; and
- Coordination of information and referrals (I&R) through the provision of a mobility manager.

The Authority and the County jointly applied for the Caltrans Sustainable Communities Transportation Planning grant and agreed that the project would be managed by the Authority with assistance from the County's Department of Conservation and Development. As part of the preparation for the project, the Authority and the County met with each transit agency to ensure they were supportive of the study, consulted with the Authority's Bus Transit Coordinating Committee (BTCC), and had each transit agency review and comment on the Scope-of-Work (SOW) and proposed oversight structure before the study was initiated.

This ATSP effort was a partnership between the Authority and the County, funded by a Caltrans Sustainable Communities Transportation Planning grant. The Authority issued a Request for Proposals (RFP) and selected Nelson\Nygaard to complete the ATSP. The process of developing the plan was originally intended to involve multiple oversight committees. The project team eventually defined and set-up a TAC and a PAC.

Technical Advisory Committee (TAC)

The role of the TAC was to provide subject matter expertise and public policy implications on service concepts under review by the study team. The TAC first met in November 2019 and continued meeting approximately monthly throughout the Study.

Policy Advisory Committee (PAC)

The role of the PAC was to provide input on addressing policy barriers, communicate with stakeholders about the Study, liaise with elected or appointed Boards, and review and prioritize recommended strategies. The PAC first met in August 2020 and was originally slated to meet three times. Given the online meeting format and the complicated nature of the County's transportation challenges, the PAC ended up meeting approximately monthly

since October 2020.

As noted above, previous paratransit-related studies have been completed. Four studies of note are the 1990 Contra Costa County Paratransit Plan, the 2004 Contra Costa County Paratransit Improvement Study, the 2013 Contra Costa County Mobility Management Plan, and the 2018 West Contra Costa Transportation Advisory Committee (WCCTAC) Transportation Needs Assessment. While many of the strategies recommended in those plans are considered to be best practices in other locations, a significant proportion have not been implemented in the County. There are a variety of reasons for the failure to implement these previous studies such as lack of political support, structural issues related to the existence of multiple agencies involved in service delivery, and the lack of funding. A primary factor in the Authority's design and development of this study was to uncover and address these previous barriers to ensure that recommendations from this study are more likely to be implemented. The process incorporated into the ATSP resulted in a more collaborative and engaging discussion than was the case in previous studies. It is therefore anticipated that the recommended strategies will have greater community and agency support than previous efforts, and therefore have a greater likelihood of implementation.

Seniors and people with disabilities face significant challenges navigating a disparate transportation system. In addition, the proportion of seniors in the population is growing significantly leading to an increase in demand for ADA paratransit services and a continuing magnification of related transportation challenges including the need for greater transportation resources. The growing challenges facing seniors, people with disabilities, and eligible veterans in accessing needed transportation have been integrated into the recommended strategies of the ATSP.

The study's three primary goals were to:

1. Evaluate the existing services and provide corresponding recommendations for improvements;

2. Identify alternative models for service delivery, present those alternatives to stakeholders, and select a final preferred model; and

3. Develop a detailed implementation plan for that model.

Any study related to transportation for seniors and people with disabilities needs to address the issues of funding and demand. The Authority and the County recognize that current funding for these areas is limited. Grants for planning (e.g. Caltrans) and mobility management pilots may be obtained (e.g. Federal Transit Administration 5310) but jurisdictions must still establish sustainable funding for ongoing operations. Significant portions of current funding, such as for ADA-mandated paratransit programs, are restricted on how and to whom they can provide service. Regulatory concerns also affect transportation to and from healthcare, and inter-jurisdictional travel. Although some organizations and jurisdictions have proposed legislative fixes to these issues, it is challenging to change State or Federal law.

Outreach

At the outset of this effort, a framework was developed for public outreach and engagement that would solicit input from key individuals and organizations, as well as a broad cross-section of the County's communities and stakeholder groups, particularly seniors and persons with disabilities. The outreach plan included five key goals to support a successful ATSP:

1. Educate community members about the Study and different transportation options in the County;
2. Engage with community members and learn about current transportation usage;
3. Identify strengths and challenges of existing services and unmet needs;
4. Gather and incorporate feedback on alternative models; and
5. Create support within the community for new models and identify potential barriers to implementation.

<u>Outcomes from ATSP Outreach</u>

- Presentations pre-COVID
    - Developmental Disabilities Council of Contra Costa County
    - Pleasant Hill Commission on Aging

- Surveys – 1000+
    - English, Spanish and Mandarin
- Flyer/survey emailed and on paper with meal delivery
- Five Virtual Focus groups
    - Diablo Valley College Disability Support Services
    - Lighthouse for the Blind
    - San Pablo Senior Center (Spanish)
    - San Ramon Senior Center
    - El Cerrito Senior Center
- Eleven Stakeholder interviews
- Telephone Town Hall Meeting – Oct 27, 2020
    - Call available in English, Spanish, and Mandarin
    - 225 people pre-registered
    - 23,000 phone numbers dialed, 1,149 accepted.
    - 4 simple polls; 17 audience questions answered by staff
- Partner websites
- Social media
    - Instagram, Facebook, Nextdoor, and Twitter
- Public Strategy Input on Recommendations through the project website (www.https://www.atspcontracosta.com/)

The outreach effort provided significant input into the identification of transportation needs and gaps, which are provided in Chapter 4 of the ATSP.

The final two chapters of the ATSP provide recommended mobility strategies to address the needs and gaps, as well as an implementation plan which includes a blueprint to implementation of these strategies.

The primary recommended strategy that is necessary to implement several of the mobility strategies is the implementation of a Coordinated Structure as defined in detail below.

Coordinated Structure

A coordinated structure will need to be in place to implement countywide and centralized mobility strategies. Due to the complexity of implementing a coordinated service, establishment of this structure is proposed to be an iterative, two-phase process. In the short-term, a TF should be established that will be responsible for identifying which mobility strategies require a dedicated entity to increase the likelihood of implementation of countywide study recommendations, and which strategies could be assigned to existing entities for implementation in the shorter term.

Phase 1: Establish a Task Force (TF)

The ATSP recommends that a TF be established to take the study recommendations to the next level of implementation. Following are some of the elements of this task that will need to be implemented:

Composition: The TF should include representatives of a broad variety of individuals representing agencies or user groups that have a stake in the project outcomes. This TF should include representatives of relevant human service agencies, transit agencies, elected officials, disabled and older adult advocates representing a range of segments of these communities, veterans, funding bodies, and other representatives.

To expedite the development of the TF, the ATSP recommends that it be composed of a modified version of the study's PAC, depending on interest, availability, and representation of a diversity of interests.

Mission: The TF is proposed to have three primary tasks:

1. Identify ATSP recommended strategies that can be delegated to existing agencies or non-profit organizations that do not require a Coordinated Entity (CE) for short-term

implementation;

2. Define and establish a dedicated countywide CE for implementation of countywide strategies; and

3. Identify funding.

Activities should include prioritizing of the strategies presented in this study, and development of an incremental approach to strategy implementation. This would ensure that select study recommendations can be implemented in the short-term rather than waiting for the creation or designation of a unified entity for implementation of large-scale, longer term strategies.

Reporting Structure and Administrative Support: Authority staff is recommending that the responsibility of interim oversight of the TF be provided by the Authority to ensure continuity moving to the next phase from the ATSP.

The TF could be an advisory committee to the Authority Board and report regularly on activities. It would need to be determined how and when the TF would report to the County Board of Supervisors (BOS), and/or transit agency Boards.

Funding Sources: Potential overhead costs for this task should be relatively limited beyond the required staffing support. Authority staff will bring a recommendation of proposed funding for staffing support to a future Authority Board meeting.

Time Frame: Once the ATSP has been approved by the Authority Board and County BOS, the TF could begin operating within three to six months. If the PAC is used as the basis for the formulation of the TF, it will ease implementation of this recommendation. The TF would remain in place until it completed its mission and could be dissolved once a CE is in place.

Phase 2: Establish a Dedicated Countywide Coordinated Entity (CE)

A dedicated CE should either be created or designated to implement countywide study recommendations. The TF will be responsible for determining where this entity should be housed – it could be in an existing non-profit or public agency, or the TF could determine that a new entity will need to be established.

Mission: The role of the CE would be to implement study recommendations. Examples of strategies to be implemented by the CE could include:

- Identify and pursue new funding sources.
- Administer a uniform countywide ADA paratransit eligibility certification.
- Expand mobility management function.
- Procure joint paratransit scheduling software.
- Present a unified voice regarding policy and funding at the local, state, and federal levels.
- Oversee a one-seat ride for inter-jurisdictional trips both within and outside the county.

Additional opportunities for countywide service could be considered in the future as appropriate.

Successful implementation of this recommendation will require political commitment at the highest levels of elected representatives in the County serving on the Authority Board, County BOS, and transit agencies.

Substantial effort will be required to set-up this organization (or to designate an existing organization to take on this role). Some of the considerations include potentially lengthy negotiations between stakeholders, resolution of legal issues, governance decisions, incorporating and otherwise incubating a non-profit, setting up joint powers agreements, etc.

The CE could have significant potential for implementing some of the longer term strategies proposed in the ATSP depending on the strength of leadership and the ability to secure dedicated funding.

The CE will need to seek funding through a variety of means, likely including funding dedicated through a sales tax measure. A non-profit could have access to funding not available to public entities, such as grant funding and Community Development Block Grants, foundation funding, donations, other public funding options, etc.

One role of the TF and CE will be to explore comprehensive funding opportunities outside of “transportation” dollars. State and federal agencies provide funding through social service departments for transportation, outside of the traditional transportation silos.

Recommendations

Authority staff is recommending that the Authority take the following actions:

1. Approve the attached Draft Final Contra Costa ATSP and forward to Caltrans to close out the Sustainable Communities Planning grant by the end of March;
2. Authorize the implementation of the recommended Coordinating Structure by creating a TF to address and implement the ATSP recommendations; and
3. Continue to collect input from the public and stakeholders for informing and consideration by the TF.

Next Steps

If the creation of the TF is authorized, Authority staff will work with County staff to bring back to the Authority Board a work plan, budget, possible funding, schedule and proposed member roster for the TF in May or June 2021 to incorporate into the Fiscal Year 2021-22 workplan and budget.

CONTRA COSTA COUNTY, CALIFORNIA

CONTRA COSTA transportation authority

CONTRA COSTA ACCESSIBLE TRANSPORTATION STRATEGIC PLAN

EXECUTIVE SUMMARY

FEBRUARY 2021

ACKNOWLEDGEMENTS

The Contra Costa Accessible Transportation Strategic Plan was funded by a Caltrans Sustainable Transportation Planning Grant.

Project Team

Peter Engel, Director of Programs, Contra Costa Transportation Authority

John Cunningham, Principal Transportation Planner, Contra Costa County Department of Conservation and Development

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Marvin Ranaldson

Tanya Shah

Kevin Lucas

Emily Roach

Brian Manford

Kevin Ottem

NELSON NYGAARD

Table of Contents


Pinole Valley Rd
1½ MILES
Hercules Exit
Pinole Valley Rd
Appian Way
EXIT 23
Hercules
½ MILE
EXIT 24
Willow Ave
Rodeo

Executive Summary

STUDY BACKGROUND

The Accessible Transportation Strategic (ATS) Plan provides a coordination structure with strategies to improve accessible transportation services, based on an examination of transportation challenges facing seniors, people with disabilities, and veterans in Contra Costa County.

Sponsored by a partnership between CCTA and the County, the ATS was funded by a Caltrans Sustainable Communities Transportation Planning grant.

Inclusive and equitable public engagement was a key focus of the Plan, with input from organizations, key stakeholders, and the broader Contra Costa community.

Project Oversight

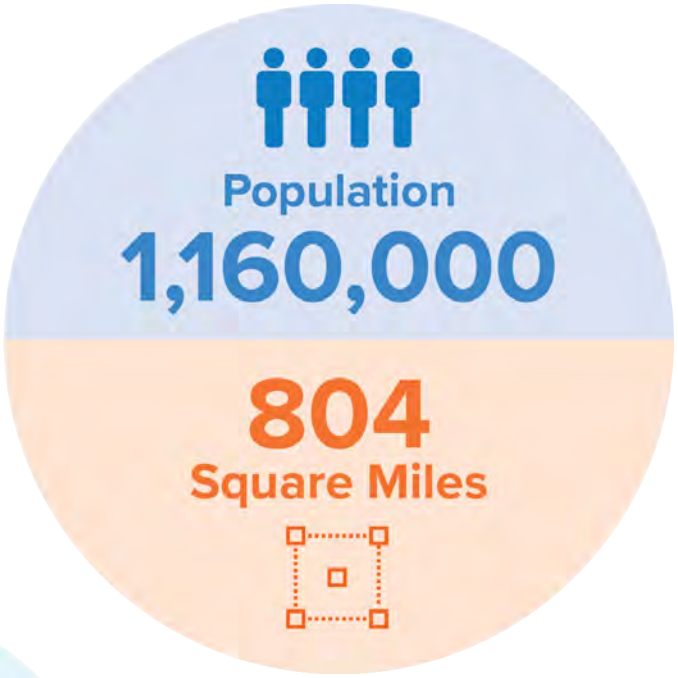
The ATS process was overseen by Technical Advisory and Policy Advisory Committees. In March 2020, due to the COVID-19 outbreak, the project team started working "virtually" to allow people to participate safely.

- **Technical Advisory Committee (TAC)** Provided subject matter expertise and public policy implications on service concepts
- **Policy Advisory Committee (PAC)** Provided input on addressing policy barriers, communicating with stakeholders about the Study, liaising with elected or appointed Boards, and reviewing and prioritizing recommended strategies

STUDY CONTEXT

Contra Costa County has a diverse population spread across a relatively large area.

3rd
largest population and area in Bay Area



Not including census-designated places and unincorporated areas

Related Planning Initiatives 2016-2020

2016 and 2020 Transportation Expenditure Plan

"CCTA will develop an Accessible Transportation Strategic Plan to implement a customer-focused, user-friendly, seamless coordinated system..."

2017 Countywide Comprehensive Transportation Plan

"Initiate the ATS Plan: Ensure services are delivered in a coordinated system..."

2019 Metropolitan Transportation Commission (MTC) Resolution 4321

"Each county must establish or enhance mobility management programs to help provide equitable and effective access to transportation."

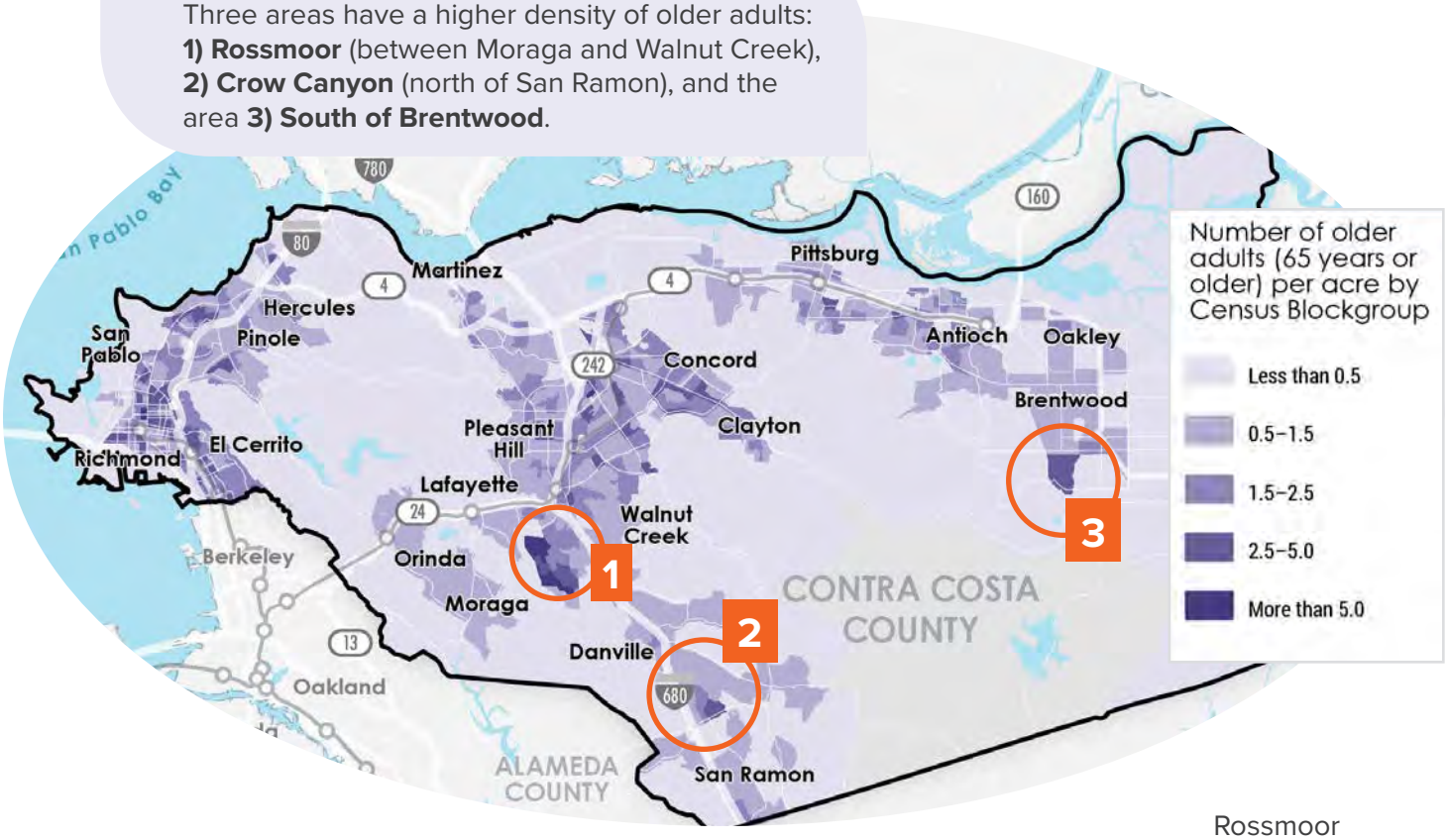
EXISTING CONDITIONS

Older Adults and Adults with Disabilities

The distribution of older adults and prople with disabilities reflects the general population spread throughout the county, with a few areas of unusual concentration. Rossmoor has a higher population both of older adults and people with disabilities—countywide, those two groups constitute 23% of the population.

Older Adults

Three areas have a higher density of older adults: **1) Rossmoor** (between Moraga and Walnut Creek), **2) Crow Canyon** (north of San Ramon), and the area **3) South of Brentwood**.



23%
over 65 or disabled

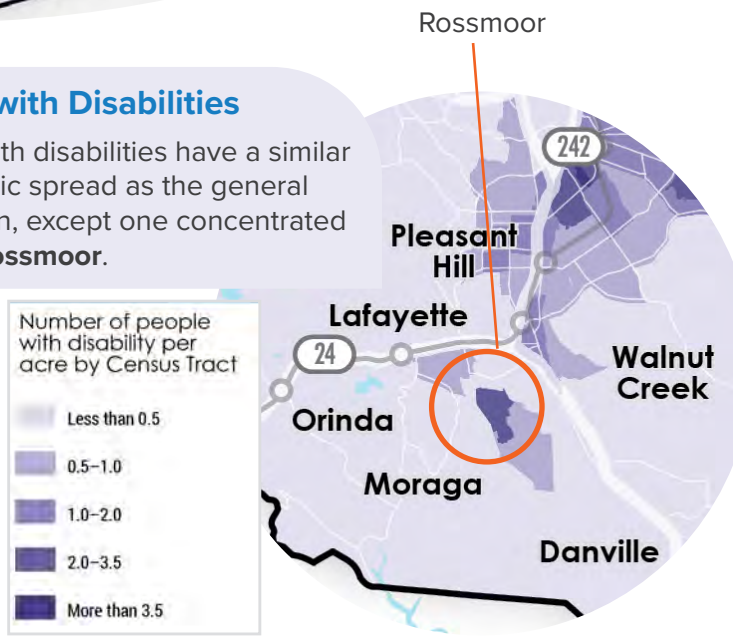
15%
over 65

8%
under 65, with disability

County Residents

People with Disabilities

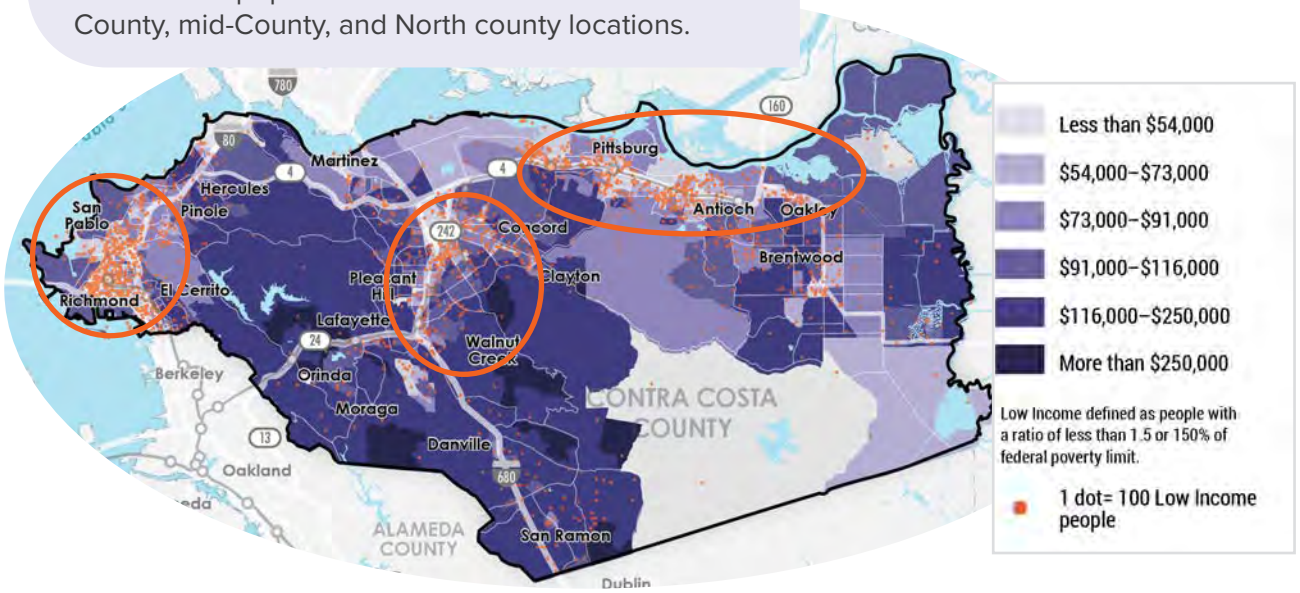
People with disabilities have a similar geographic spread as the general population, except one concentrated area in **Rossmoor**.



Equity Considerations

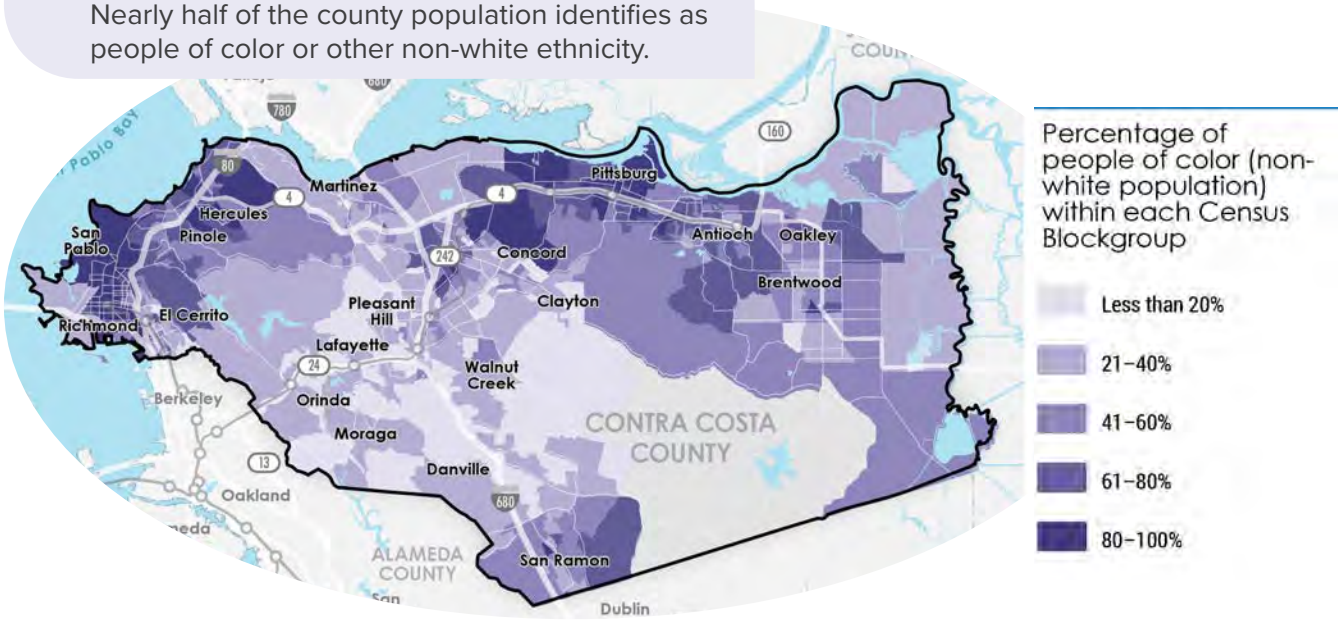
Household Income

Low income population concentrations include West County, mid-County, and North county locations.



People of Color

Nearly half of the county population identifies as people of color or other non-white ethnicity.



Countywide Ethnicity

52% White	48% People of Color/Other

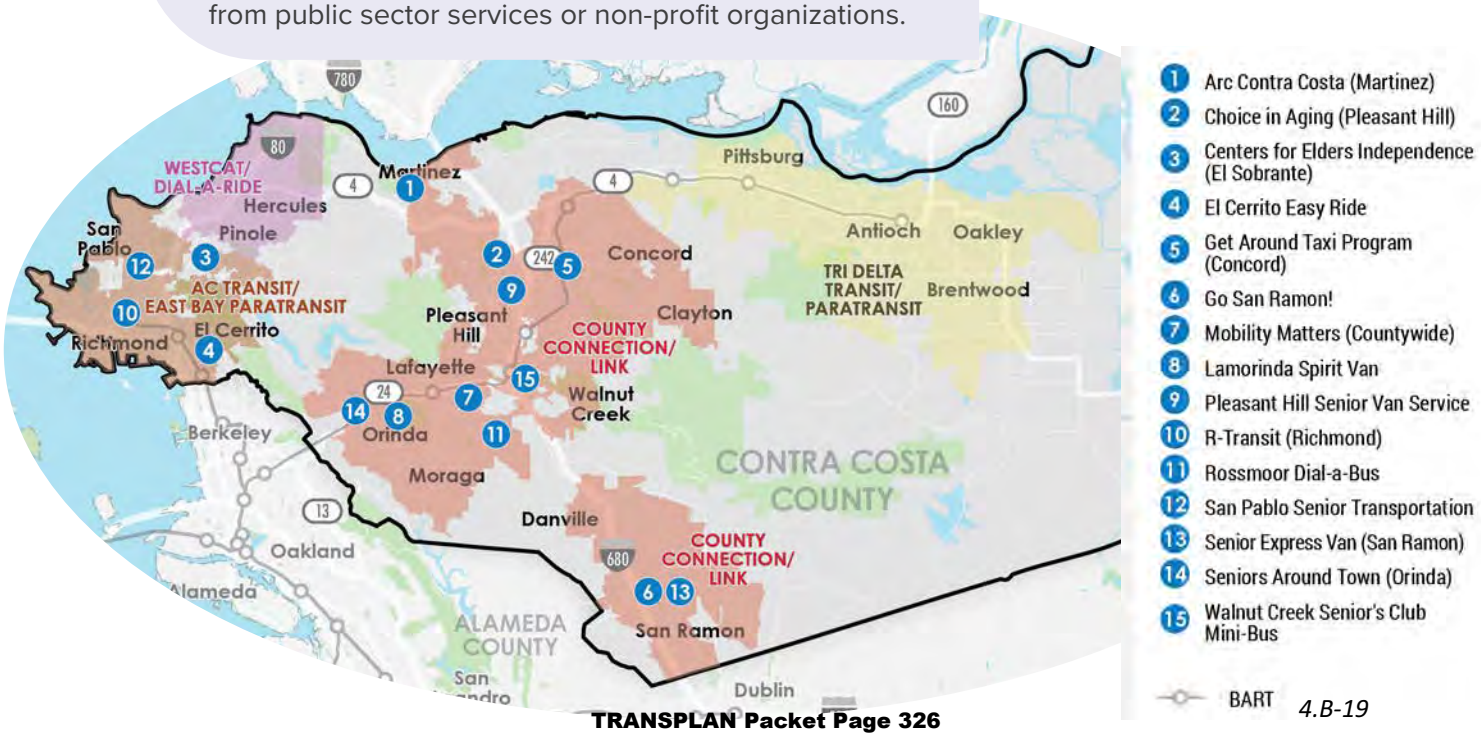
Transportation Need and Services

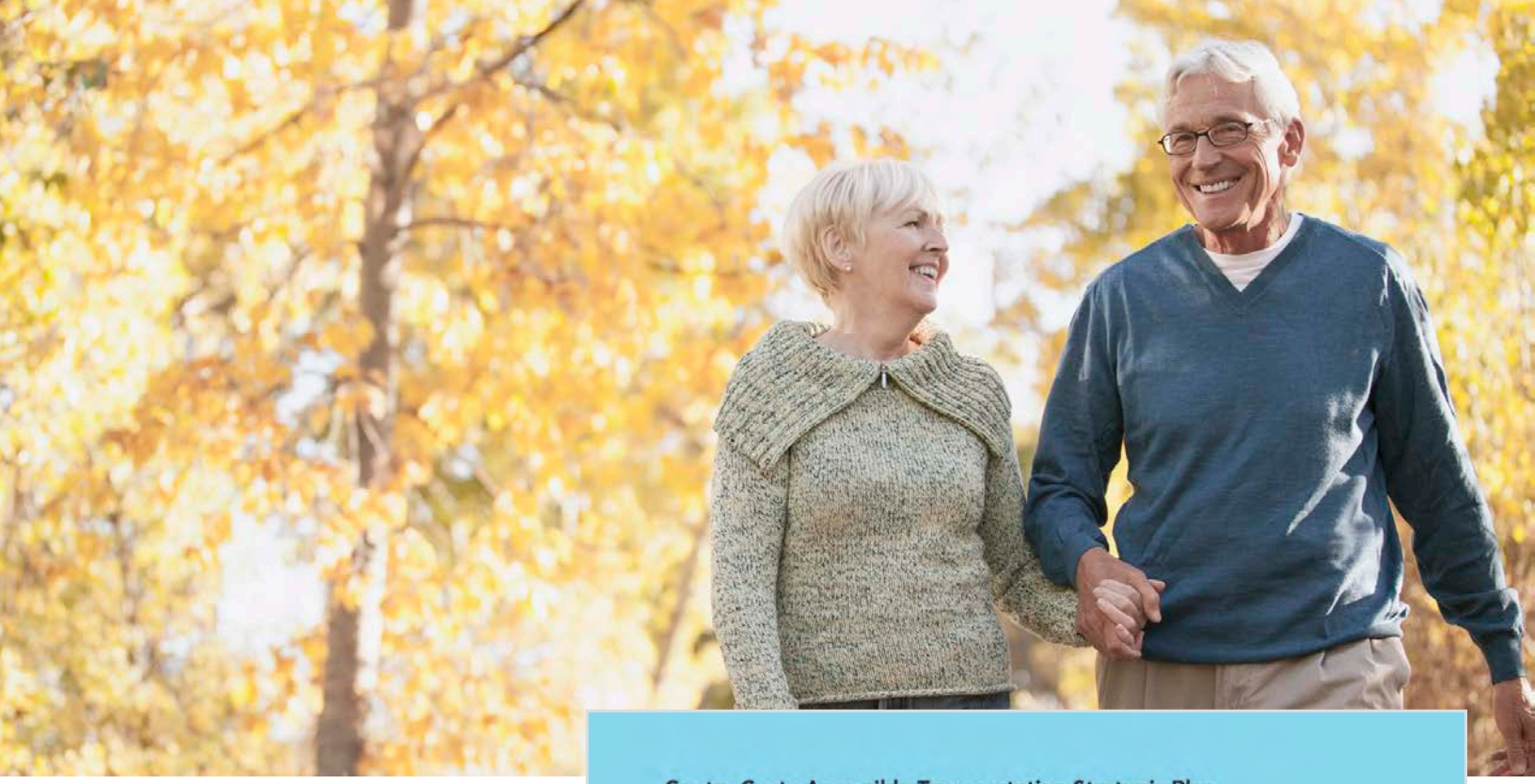
Access to Medical Facilities

Most medical facilities are clustered in the center of the County between Pleasant Hill and Walnut Creek (2). Two facilities needed by residents throughout the County are the **Contra Costa County Medical Center** and the **VA Medical Center**, both in Martinez (2).

Community-Based Transportation

Services areas don't always overlap areas of greatest demand, increasing the need for transit and paratransit services provided by community-transportation programs from public sector services or non-profit organizations.





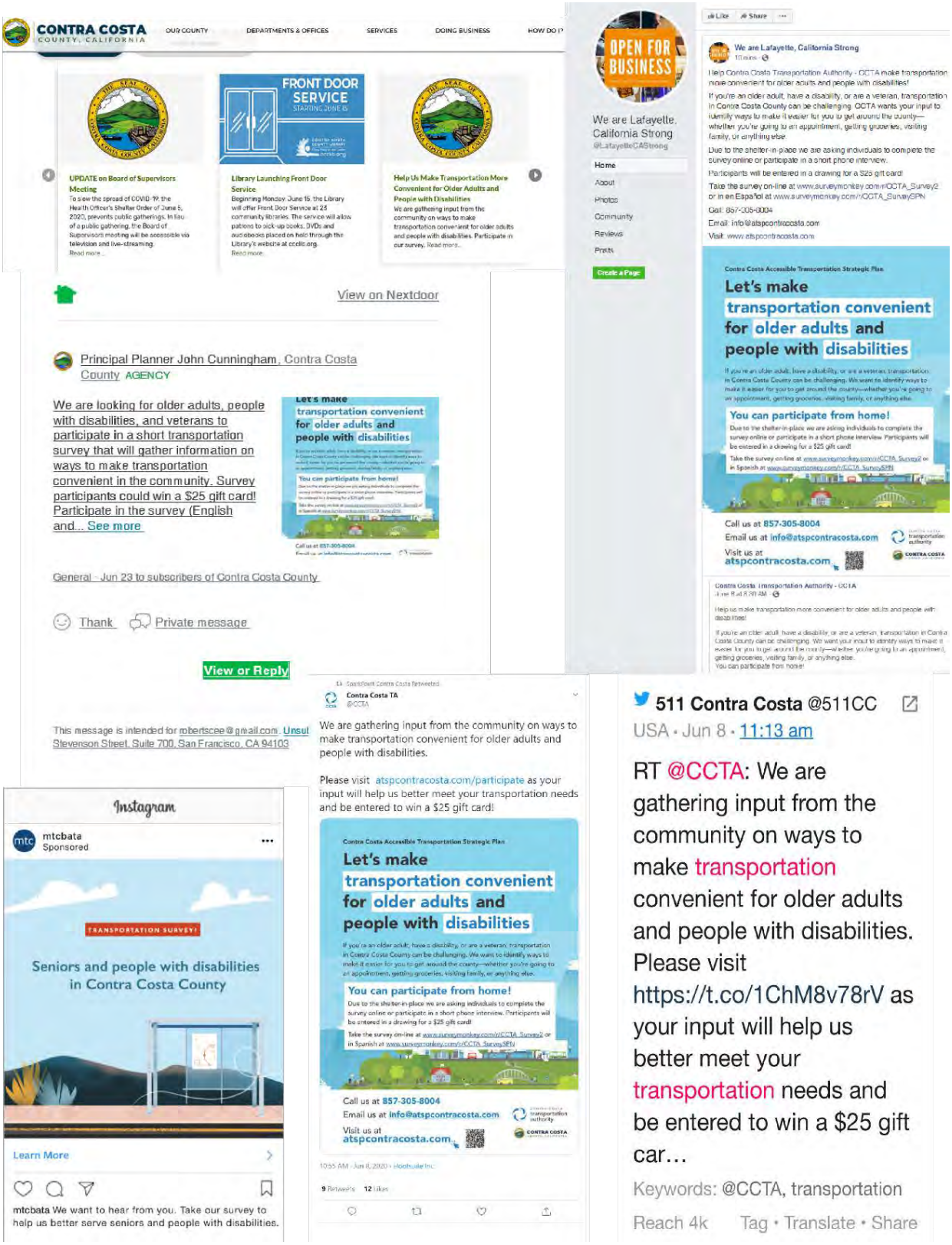
OUTREACH

Outreach Toolkit

A virtual and paper flyer, along with tweets and postings on provider websites were distributed via social media, encouraging people to provide input through the online survey.

Virtual Outreach Flyer

Public Engagement Collateral



Pre-COVID Outreach

Before the onset of the pandemic, surveys and engagement flyers were distributed and the project team made public presentations at the Developmental Disabilities Council of Contra Costa County and the Pleasant Hill Commission on Aging.

CONTRA COSTA transportation authority

CONTRA COSTA COUNTY, CALIFORNIA

SURVEY CONTRA COSTA ACCESSIBLE TRANSPORTATION STRATEGIC PLAN

The Contra Costa Transportation Authority (CCTA), in coordination with Contra Costa County, is conducting a study to find out how to improve transportation services for seniors, people with disabilities, and eligible veterans who live or travel in Contra Costa County.

Please take a few minutes to fill out this survey and return it to the person who gave it to you, or you can also take the survey on-line at: **https://www.surveymonkey.com/r/CCTA_Survey**.

If you have any questions or need assistance filling out this survey, please contact 510-506-7586 or info@atspcontracosta.com.

1. Which modes of transportation do you usually use? *(Check all that apply; answer any related follow-up questions for BUS, ADA PARATRANSIT and LYFT/UBER)*

- ☐ BART
- ☐ Bus ➔ *Answer follow-up Q 2-4*
- ☐ Bicycle
- ☐ Walk/Roll
- ☐ ADA Paratransit (East Bay Paratransit, WestCAT Dial-a-Ride, County Connection LINK, Tri Delta Paratransit) ➔ *Answer follow-up Q 5-7*
- ☐ Drive myself
- ☐ Lyft/Uber ➔ *Answer follow-up Q 8-9*
- ☐ Taxi
- ☐ Family, neighbor, or paid helper drives me
- ☐ Other *(example: R-Transit, Rossmoor Dial-a-Bus, Lamorinda Spirit Van, etc)*: _____

Q 2-4. BUS RIDER QUESTIONS

Skip questions 2-4 if you don't ride the bus.

2. If you use the BUS, what service(s) do you use?

- ☐ AC Transit
- ☐ WestCAT
- ☐ County Connection
- ☐ Tri Delta
- ☐ Other (please specify): _____

3. Please tell us about your BUS-riding experience and interactions with drivers:

- ☐ Excellent
- ☐ Satisfactory
- ☐ Poor
- ☐ Additional comments: _____

4. Please share any other comments about your BUS-riding experience, such as ease of use, maintenance issues, or vehicle cleanliness:

_____

Q 5-7. ADA PARATRANSIT RIDER QUESTIONS

Skip questions 5-7 if you don't ride paratransit.

5. If you use ADA PARATRANSIT, what service(s) do you use?

- ☐ East Bay Paratransit
- ☐ WestCAT Dial-a-Ride
- ☐ County Connection LINK
- ☐ Tri Delta Paratransit
- ☐ Other (please specify): _____

6. Please tell us about your ADA PARATRANSIT-riding experience and interactions with drivers:

- ☐ Excellent
- ☐ Satisfactory
- ☐ Poor
- ☐ Additional comments: _____

7. Please share any ot PARATRANSIT-riding maintenance issues

_____

Q 8-9. LYFT/UBER RIDER

Skip questions 8-9 if you

8. If you use LYFT/UBER experience and inte

- ☐ Excellent
- ☐ Satisfactory
- ☐ Poor

9. Please share any other comments about your LYFT/UBER-riding experience, such as ease of use, maintenance issues, or vehicle cleanliness:

_____

Q 10-16 GENERAL RIDER QUESTIONS

10. Where are you usually going? *(Please select up to three)*

I go to...

- ☐ Medical appointment
- ☐ Grocery shopping/drugstore
- ☐ Non-medical appointment
- ☐ See friends or family
- ☐ Attend a class
- ☐ The Senior Center
- ☐ Church
- ☐ Work or Volunteer position
- ☐ Other (please specify): _____

OVER►

1,000+ Surveys

Distributed via e-mail and meal deliveries

Post-COVID Outreach

Once the pandemic set in, the project team moved all outreach activities to safe platforms, utilizing virtual focus groups, stakeholder interviews, an online survey, and virtual town hall to safely interact with participants.

5 Focus Groups

Focus Groups

Five virtual focus groups with seniors and persons with disabilities involved in-depth conversations with the project team, with an emphasis on reaching populations often overlooked through other forms of public engagement, such as adults with disabilities, people with Limited English Proficiency, and West County residents.

11 Interviews

Stakeholder Interviews

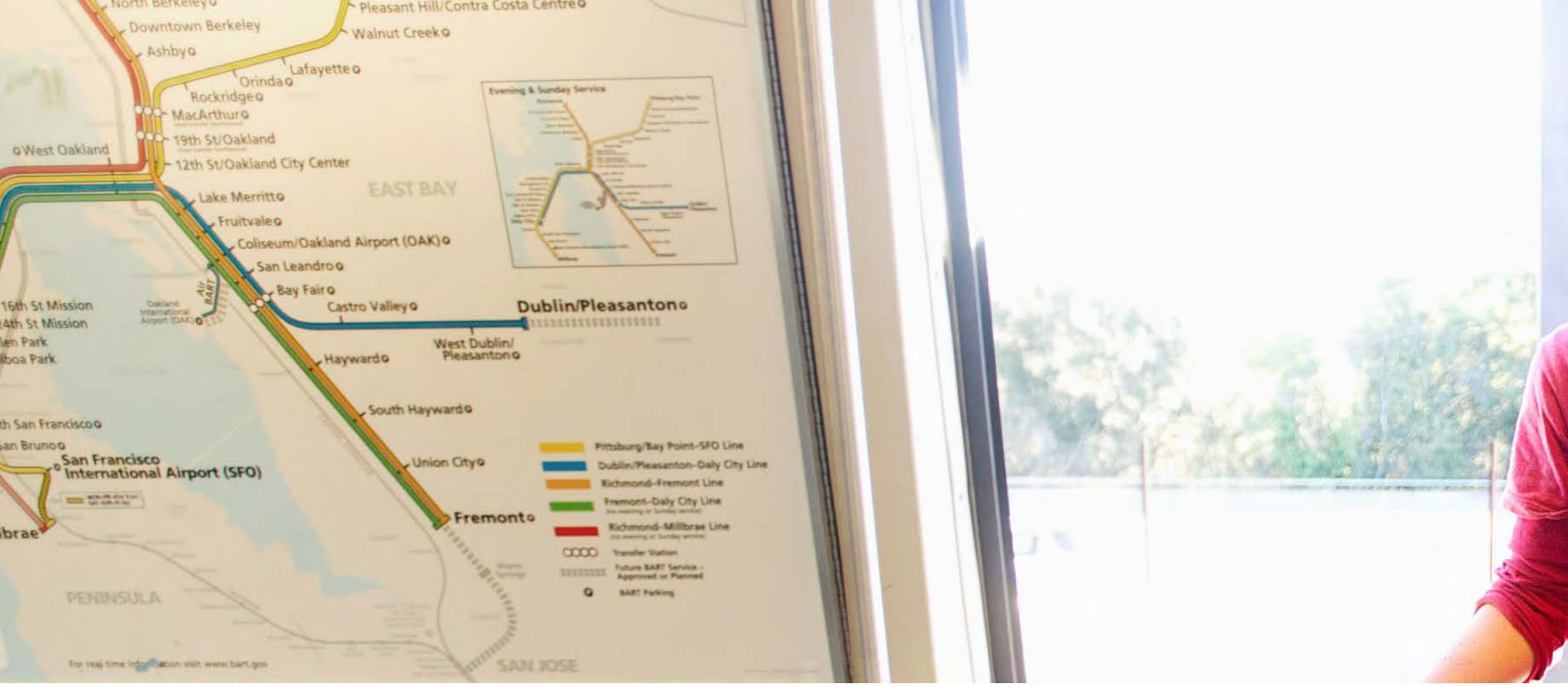
Interview commencing in March of 2020 were put on hold in light of the onset of the COVID-19 pandemic. Interview questions were reevaluated to reflect the circumstances, and the interviews with public and nonprofit agencies, representing an array of stakeholder groups and interests, were completed between September and November.

1,149 participants
out of 23,000 invitations

3 languages
English, Spanish, Mandarin

Telephone Town Hall

Nelson\Nygaard hosted a live Telephone Town Hall on October 27, 2020 to outline the project and answer questions.



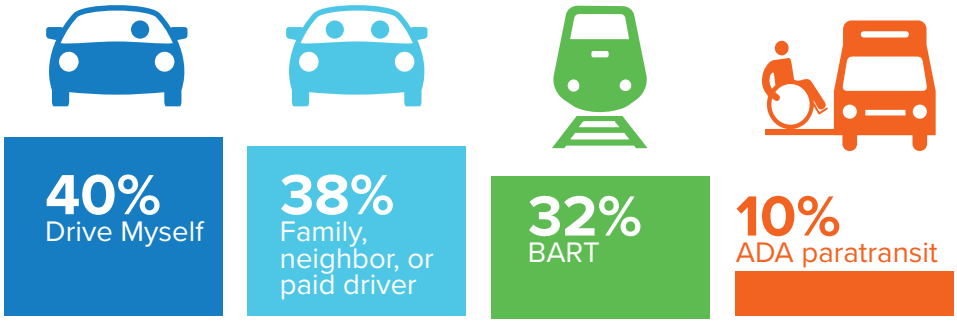
SURVEY RESULTS

Trip Destinations and Challenges

An online survey provided insight into how respondents get where they are going, where they go, and what factors complicate their trips.

Mode to Destination

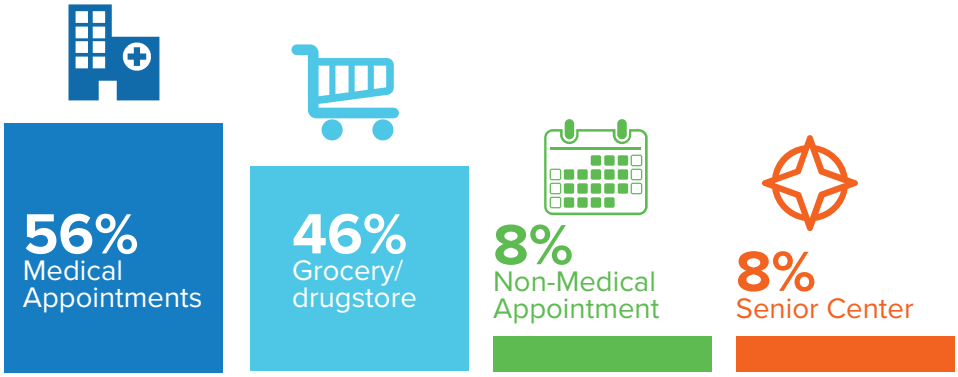
Trips were most commonly made by solo drivers, followed by those driven by a family, neighbor or paid helper. BART was used by about a third of respondents, with ADA paratransit utilized by 10% of the entire survey sample.



* Respondents could choose as many modes as they used. Percentages reflect total respondents (1,063) selecting a particular mode they used.

Destinations

The top destination was medical appointments, with grocery/drugstore shopping in second place. Senior Center trips and non-medical appointments each accounted for an 8% share of destinations.



* Respondents could choose up to three trips that they take most often. Percentages reflect total respondents (1,063) identifying each trip type.

Trip Difficulty

Mirroring the top destinations, respondents had the most difficulty with medical appointments and making grocery/ drugstore trips. Seeing friends/family and getting to the Senior Center rounded up the top four types of difficult trips.

35% Medical Appointments

20% Grocery/ drugstore

19% Friends/Family

11% Senior Center

* Respondents could choose up to three trips that they take most often. Percentages reflect total respondents (1,063) for each trip type.

Trip Challenges

Almost one-third of respondents feel unsafe while traveling, with about a quarter unable to go where or when they want, or feeling their trip takes too long.

29% Feel unsafe when traveling

24% Can't go when needed

22% Can't go where needed

23% Trip takes too long

* Respondents could choose up to three challenges that they faced most often. Percentages reflect total respondents (1,063) identifying each trip type.

TRANSPORTATION NEEDS AND GAPS

The project team's review of existing conditions and survey data identified key needs and gaps in accessible transportation in Contra Costa County. These include:

New Funding – Grants are sometimes available for planning and pilots, but all recommendations will require new sustainable funding

Safety – Many respondents feel unsafe while traveling

Volunteer Driving Programs – Additional volunteers are needed, with more reliable funding to increase capacity

Medical Access – The Regional Medical Center and VA Medical Center in Martinez need reliable access throughout the county

Quality of Life Visits – Consumers have difficulty making quality-of-life essential trips to visit friends and family, the senior center, and church

Service Coordination – Accessible services need improved coordination because they are siloed between agencies, cities, and non-profit organizations

RECOMMENDATIONS

The Accessible Transportation Plan identified an urgent need for a coordinated structure to address transportation needs and gaps in Contra Costa County accessible transportation. A crucial first step would be the creation of an Accessible Transportation Task Force.

Accessible Transportation Task Force

The Task Force would:

- **Oversee Strategic Planning**, identifying coordinated strategies to be implemented by existing agencies/non-profits
- **Create a Countywide Coordination Entity** responsible for countywide strategy implementation
- **Investigate** funding opportunities

Countywide Coordinated Entity (CE)

- **The countywide CE Organization** could be an existing non-profit or public agency–or an entirely new entity
- **Strategy implementation** would be a key function of the CE, prioritizing projects to improve and expand countywide accessible transportation

Strategies and Implementation

A five-year timeline for strategy development and implemetation was developed, with recommended strategies divided into tiered groups.

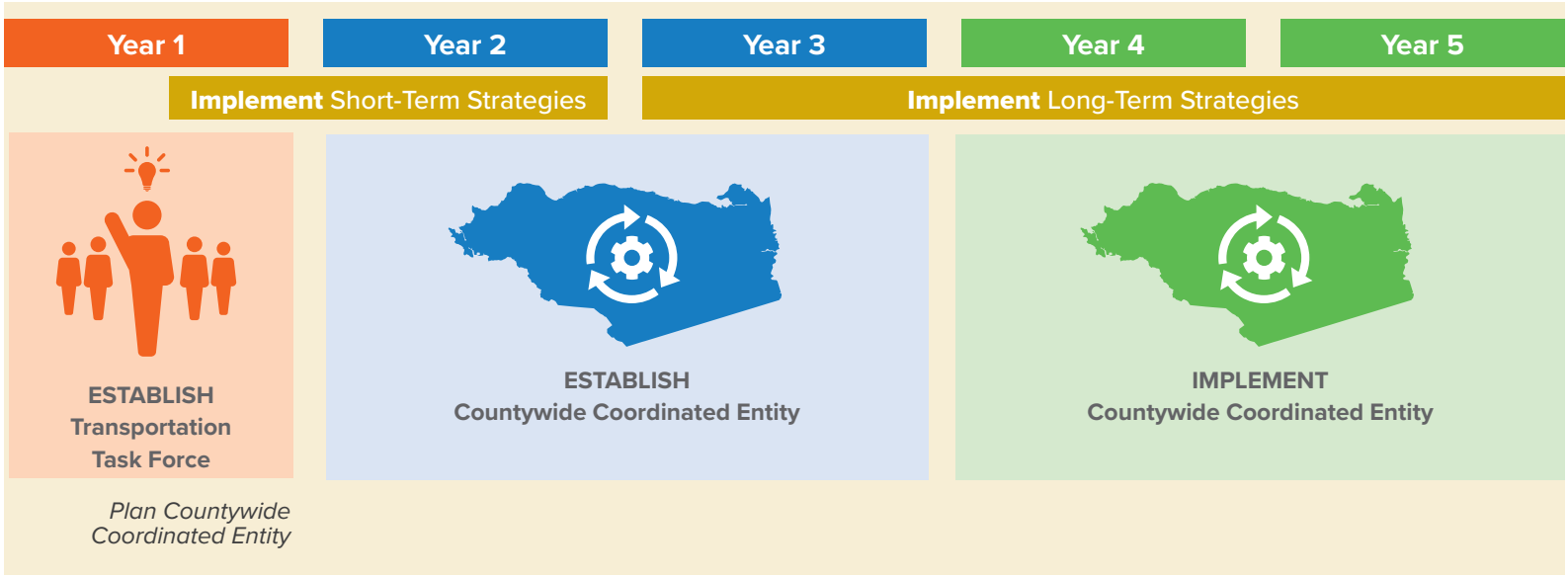
Tier I

- High transportation benefit
- Strong community support
- Leverages existing programs/resources
- Easy to implement (in stages or because of lower cost)

Tier II

High ranking strategies, sorted by:

- Service impact
- Cost
- Implementation challenges



Implementation Timeframes

Tiered Strategies will be implemented in phases, pending ATSP approval.

Immediate-Term
Within
1 Year

Short-Term
Within
2 Years

Long-Term
2 Years
or on-going implementation beyond five years

Implementation Agency

Recommended agencies for each strategy have been identified across three categories.

Public Agency

(e.g. Contra Costa Transportation Authority, County Administrator's Office, County Health Services)

Non-Profit

(e.g. Mobility Matters, Choice in Aging)

Transit Agency

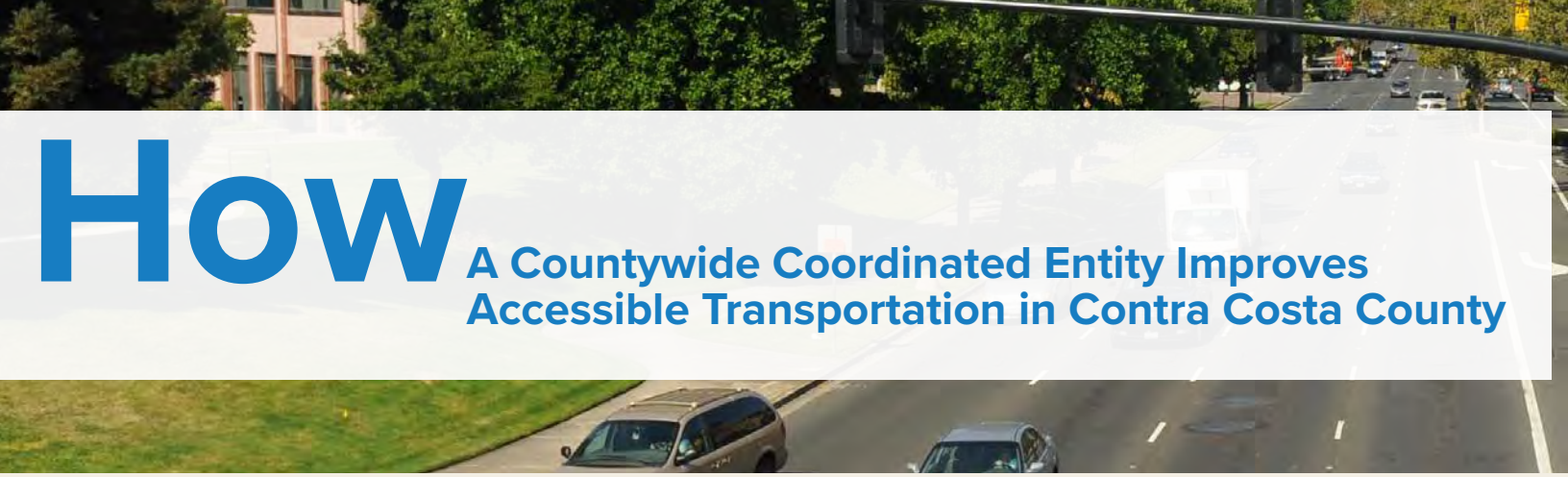
(e.g. County Connection, Tri Delta Transit, WestCAT)

Implementation Workplan

Tier I | Tier II | Short-Term | Long Term

Strategy Description	Implementation Term	Implementation Agency: Public Agency	Non-Profit	Transit Agency
Increase Local and Regional Mobility				
1 Improve connectivity between paratransit programs/eliminate transfer trips	●			✓
2 Same-day trip programs (including wheelchair-accessible service)	■	✓	✓	✓
3 Expand existing and add new Volunteer Driver programs	●	✓	✓	
4 Service beyond ADA service areas	■		✓	✓
5 Early morning and late-night service	■		✓	✓
6 On-demand subsidies	■	✓		✓
Improve Coordination Among Providers and Community Stakeholders				
7 Shopping trips with package assistance	●	✓	✓	
8 Hospital discharge service	●		✓	✓
9 Customized guaranteed ride home programs for people with disabilities	●	✓		✓
10 Means-based car-share including accessible option	■	✓	✓	
11 One-call / one-click; information & referral (I&R)	●		✓	✓
12 Programs for disabled/senior veterans	●	✓		
13 Real-time transportation information (paratransit vehicle location, BART elevators, wheelchair spaces on buses)	■			✓
14 Travel training (including inter-operator trips)	●		✓	✓
15 Mobility-as-a-Service (MaaS)	■		✓	✓
Develop Partnerships for Supportive Infrastructure				
16 Administer a uniform countywide ADA paratransit eligibility certification program	■	✓		✓
17 Fare integration	■			✓
18 Procure joint paratransit scheduling software	■			✓
19 Sidewalk improvements to enhance safety for older adults and wheelchair accessibility in high-priority locations	■	✓		
20 Means-based fare subsidy	●	✓		✓
21 Wheelchair breakdown service	●	✓	✓	✓
22 Accessible bikeshare program	●	✓	✓	


Bus
Stop



How A Countywide Coordinated Entity Improves Accessible Transportation in Contra Costa County

Functions of the Coordinated Entity

Identifies/pursues new funding

Develops and administers uniform countywide ADA paratransit eligibility certification

Expands mobility management

Implements joint paratransit scheduling software

Oversees seamless rides for inter-jurisdictional trips inside and outside the county

Supports Service beyond ADA service areas and regular service times

Expands Travel Training

Advocates for Safe Routes for Seniors/ Safe Routes for All

Helps establish means-based fare subsidy

Accessible Transportation Strategic Plan

Contra Costa County Board of Supervisors

Presented by ATS Plan Staff

March 9, 2021

WHAT IS THE ATSP?

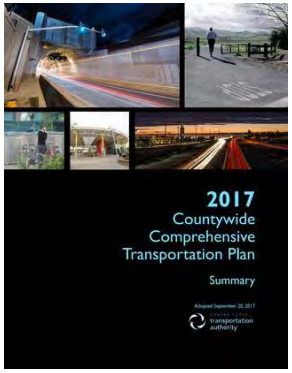
- **The Accessible Transportation Strategic (ATS) Plan** examines transportation challenges of seniors, people with disabilities, and veterans in Contra Costa County
- **Partnership between CCTA and the County** -- funded by a Caltrans Sustainable Communities Transportation Planning grant
- **Recommends a coordination structure and strategies** to improve accessible transportation services
- **Scheduled to be complete in early 2021**

BACKGROUND AND OVERVIEW OF PROJECT

Policy Background

2016 and 2020 Transportation Expenditure Plan

"CCTA will develop an Accessible Transportation Strategic Plan to implement a customer-focused, user-friendly, seamless coordinated system…"



2017 Countywide Comprehensive Transportation Plan

"Initiate the ATS Plan: Ensure services are delivered in a coordinated system…"

2019 Metropolitan Transportation Commission (MTC) Resolution 4321

"Each county must establish or enhance mobility management programs to help provide equitable and effective access to transportation."

BACKGROUND AND OVERVIEW OF PROJECT

Oversight Committees

- **Technical Advisory Committee (TAC)** – providing subject matter expertise and public policy implications on service concepts
- **Policy Advisory Committee (PAC)** – providing input on addressing policy barriers, communicating with stakeholders about the Study, liaising with elected or appointed Boards, and reviewing and prioritizing recommended strategies

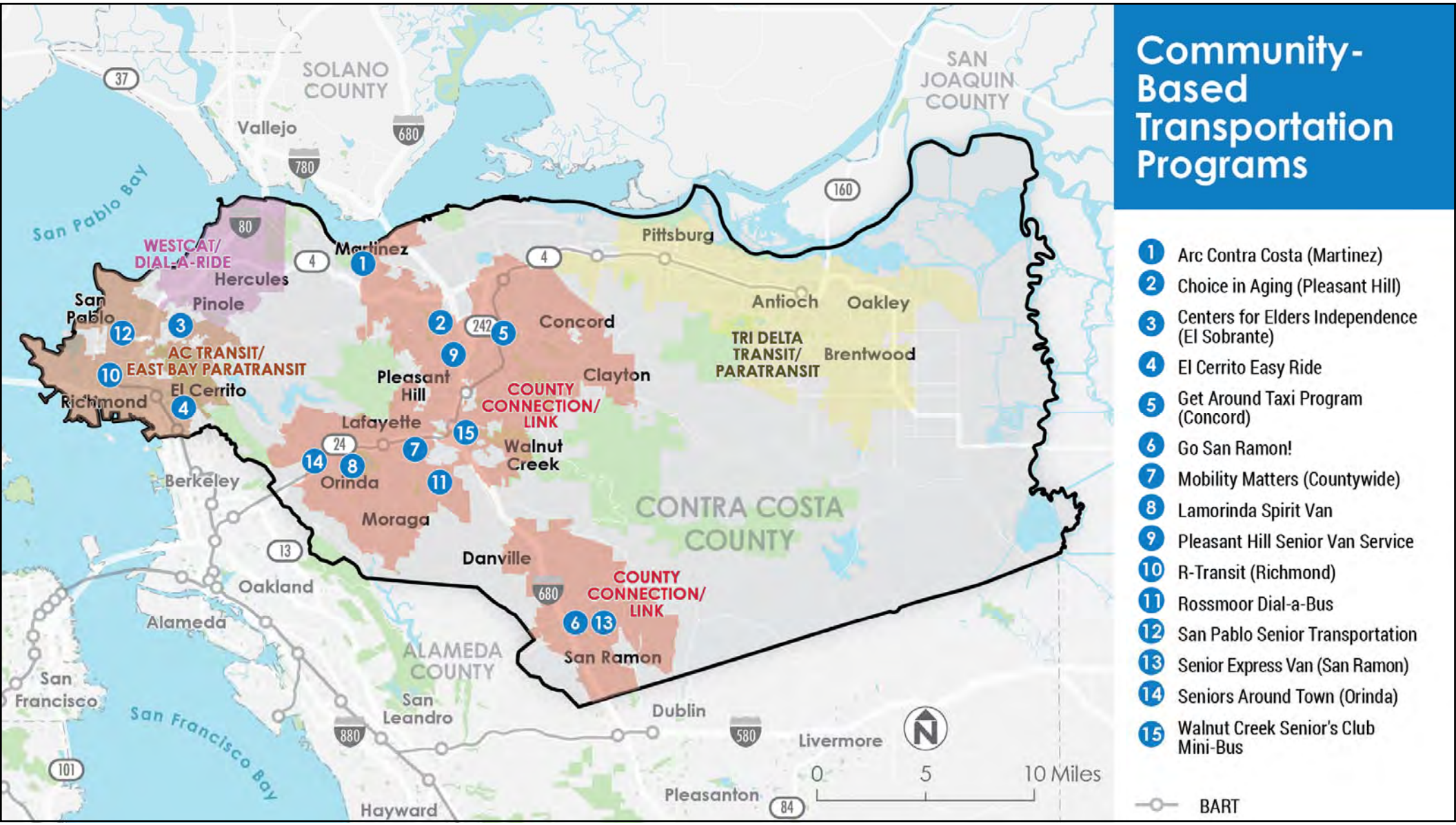
CHALLENGES AND OPPORTUNITIES

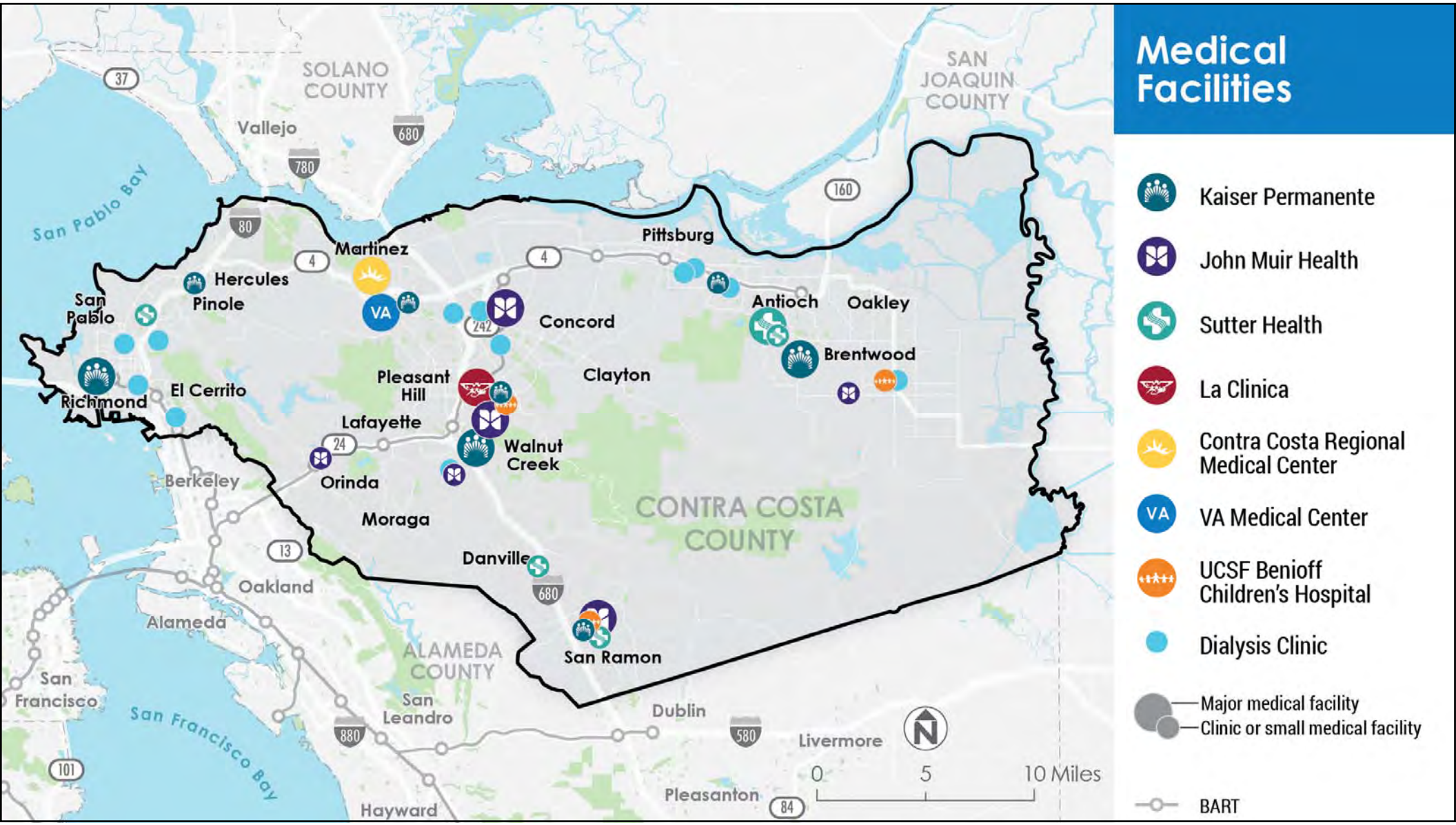
Past Studies

- Contra Costa County Paratransit Plan – 1990
- CCTA Paratransit Improvement Study – 2004
- Contra Costa Mobility Management Plan – 2013

Barriers to Coordination

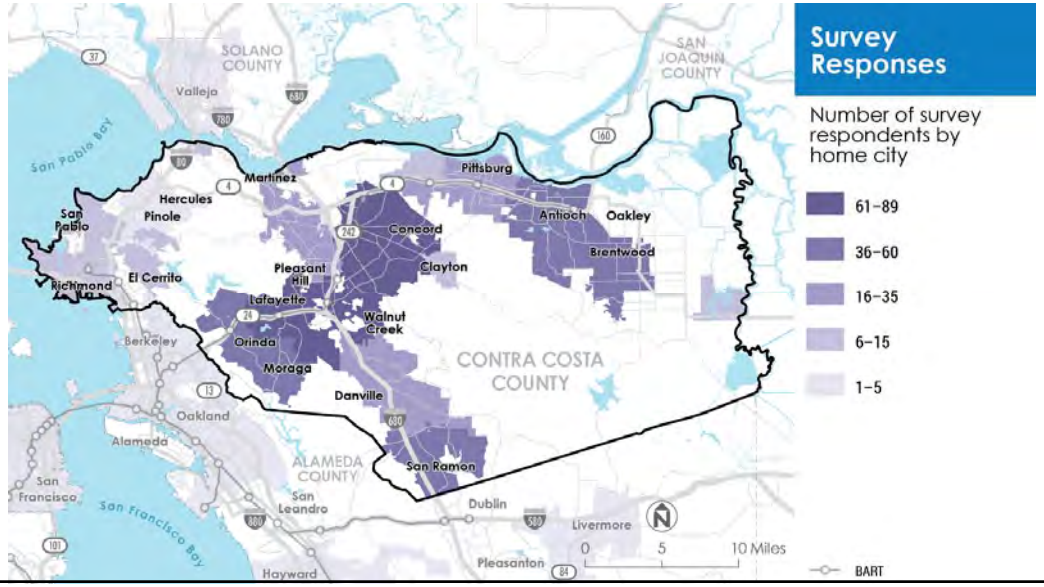
- Multiple missions serving different populations
- Multiple regulatory requirements
- Measure J, Federal Transit Administration, State Transportation Act, Grants
- CCTA and County do not have policy authority over operations, but can provide funding opportunities, policy direction, and leadership.


Community-Based Transportation Programs
1 Arc Contra Costa (Martinez)
2 Choice in Aging (Pleasant Hill)
3 Centers for Elders Independence (El Sobrante)
4 El Cerrito Easy Ride
5 Get Around Taxi Program (Concord)
6 Go San Ramon!
7 Mobility Matters (Countywide)
8 Lamorinda Spirit Van
9 Pleasant Hill Senior Van Service
10 R-Transit (Richmond)
11 Rossmoor Dial-a-Bus
12 San Pablo Senior Transportation
13 Senior Express Van (San Ramon)
14 Seniors Around Town (Orinda)
15 Walnut Creek Senior's Club Mini-Bus
BART
0 5 10 Miles
SOLANO COUNTY
SAN JOAQUIN COUNTY
CONTRA COSTA COUNTY
ALAMEDA COUNTY
WESTCAT/ DIAL-A-RIDE
AC TRANSIT/ EAST BAY PARATRANSIT
COUNTY CONNECTION/ LINK
TRI DELTA TRANSIT/ PARATRANSIT
Vallejo
Martinez
Pittsburg
Antioch
Oakley
Brentwood
Concord
Clayton
Pleasant Hill
Lafayette
Walnut Creek
Orinda
Moraga
Danville
San Ramon
Dublin
Livermore
Pleasanton
Hercules
Pinole
San Pablo
Richmond
El Cerrito
Berkeley
Oakland
Alameda
San Francisco
San Leandro
Hayward
San Pablo Bay
San Francisco Bay


Medical Facilities
Kaiser Permanente
John Muir Health
Sutter Health
La Clinica
Contra Costa Regional Medical Center
VA Medical Center
UCSF Benioff Children's Hospital
Dialysis Clinic
Major medical facility
Clinic or small medical facility
BART
SOLANO COUNTY
SAN JOAQUIN COUNTY
CONTRA COSTA COUNTY
ALAMEDA COUNTY
San Pablo Bay
San Francisco Bay
Vallejo
Martinez
Pittsburg
Antioch
Oakley
Brentwood
Concord
Clayton
Pleasant Hill
Walnut Creek
Lafayette
Orinda
Moraga
Danville
San Ramon
Hercules
Pinole
San Pablo
Richmond
El Cerrito
Berkeley
Oakland
Alameda
San Francisco
San Leandro
Hayward
Dublin
Livermore
Pleasanton
0 5 10 Miles

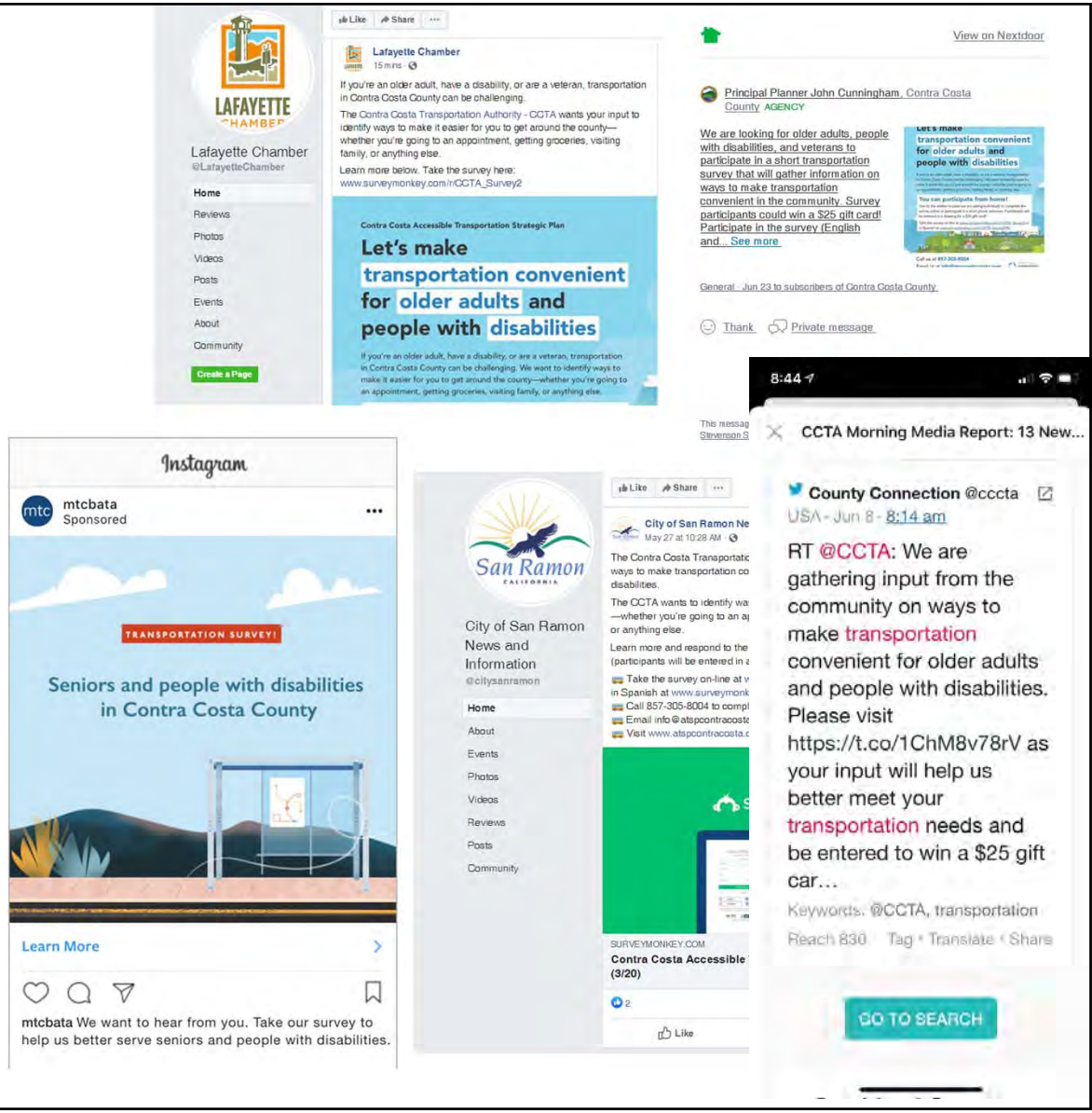
OUTREACH EFFORTS

- **Presentations pre-COVID**
  - Developmental Disabilities Council of Contra Costa County
  - Pleasant Hill Commission on Aging
- **Surveys** – 1000+
- **Flyer/survey** emailed and on paper with meal delivery



OUTREACH EFFORTS *(CONTINUED)*

- **Focus groups** – 5
- **Stakeholder interviews** – 11
- **Telephone Town Hall Meeting** – Oct 27, 2020
  - Call available in English, Spanish, and Mandarin
  - 225 people pre-registered
  - 23,000 phone numbers dialed, 1,149 accepted
  - 4 simple polls; 17 audience questions answered by staff
- **Partner websites**
- **Social media**
  - Instagram, Facebook, Nextdoor, Twitter



TRANSPORTATION NEEDS AND GAPS IDENTIFIED

Categories

Issues and Needs Related to:

- Fixed Route Transit Service
- ADA Mandated Paratransit Service
- Community Based Transportation Services
- Geographic and Temporal Inequities

TRANSPORTATION NEEDS AND GAPS IDENTIFIED

Categories

- Lack of Affordability
- Access to Essential Services
- Access to Information
- Programmatic Needs and Organizational Structure

TRANSPORTATION NEEDS AND GAPS IDENTIFIED

Examples

Same-day trips and
wheelchair accessible trips

Expanded service during evenings and weekends

Most medical facilities appear to be clustered in center of the County

TRANSPORTATION NEEDS AND GAPS IDENTIFIED

Examples

Veterans' transportation programs have specific limitations, availability and limits may not be well-known

Limited service options in East County

Affordability related to all transportation services

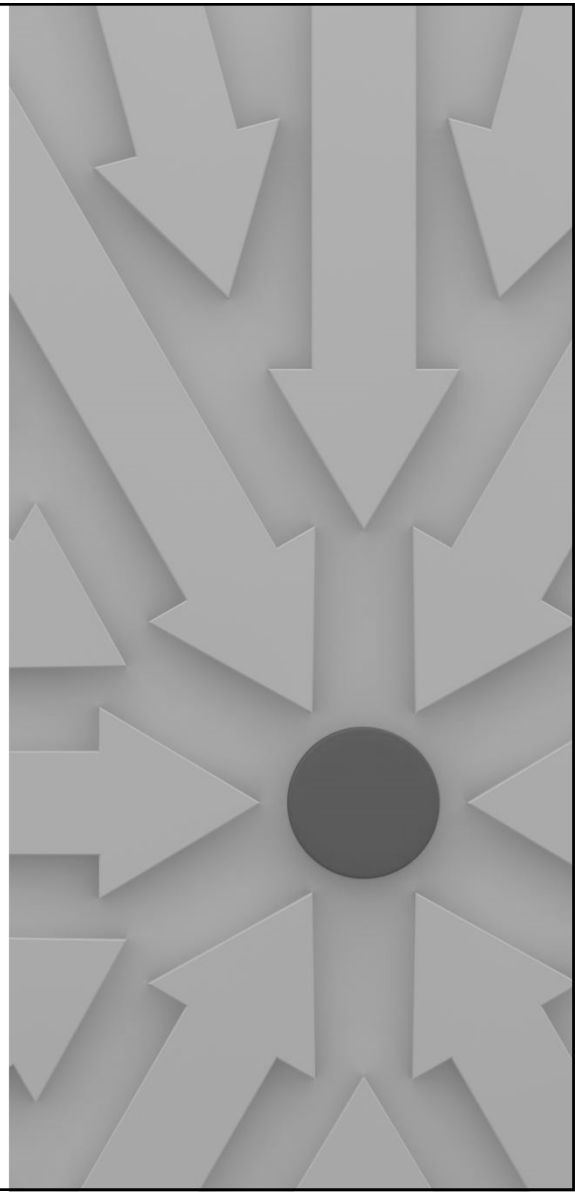
Historical lack of political support/need a champion for these types of recommendations

RECOMMENDATIONS

Establish a Coordinated Structure

Establish a Task Force (TF)

- **Modeled on PAC** – similar representation
  - **ID strategies** that can be delegated to existing agencies/ non-profit organizations for short term implementation
  - **Establish dedicated countywide Coordinated Entity** (CE) for implementation of countywide strategies
  - **Identify funding**

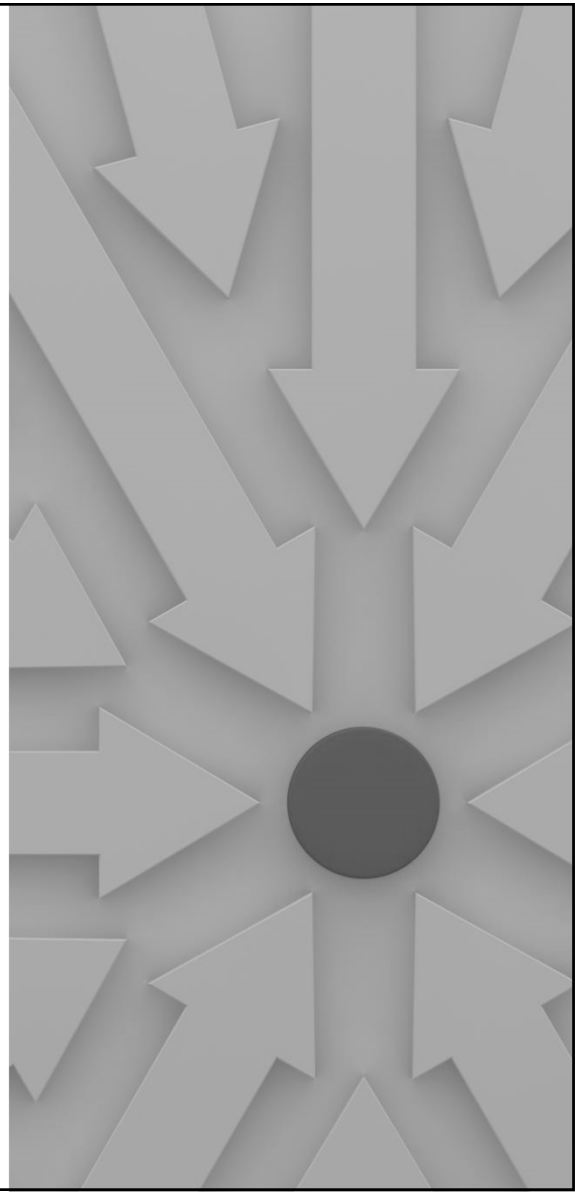


RECOMMENDATIONS (CONTINUED)

Establish a Coordinated Structure

Countywide Coordinated Entity (CE)

- Could be an existing non-profit, public agency, or new entity
- Could apply to become CTSA if appropriate, or look at other models



RECOMMENDATIONS (CONTINUED)

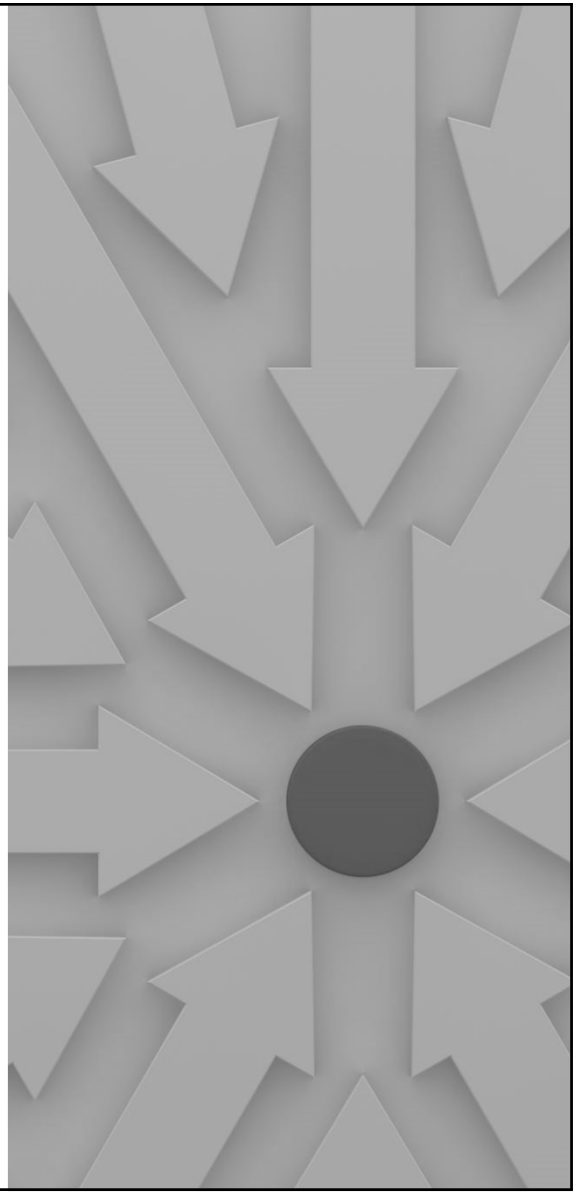
Coordinated Entity (CE) Mission

Identify and pursue new funding sources

Administer uniform countywide ADA paratransit eligibility certification

Expand mobility management function

Procure joint paratransit scheduling software



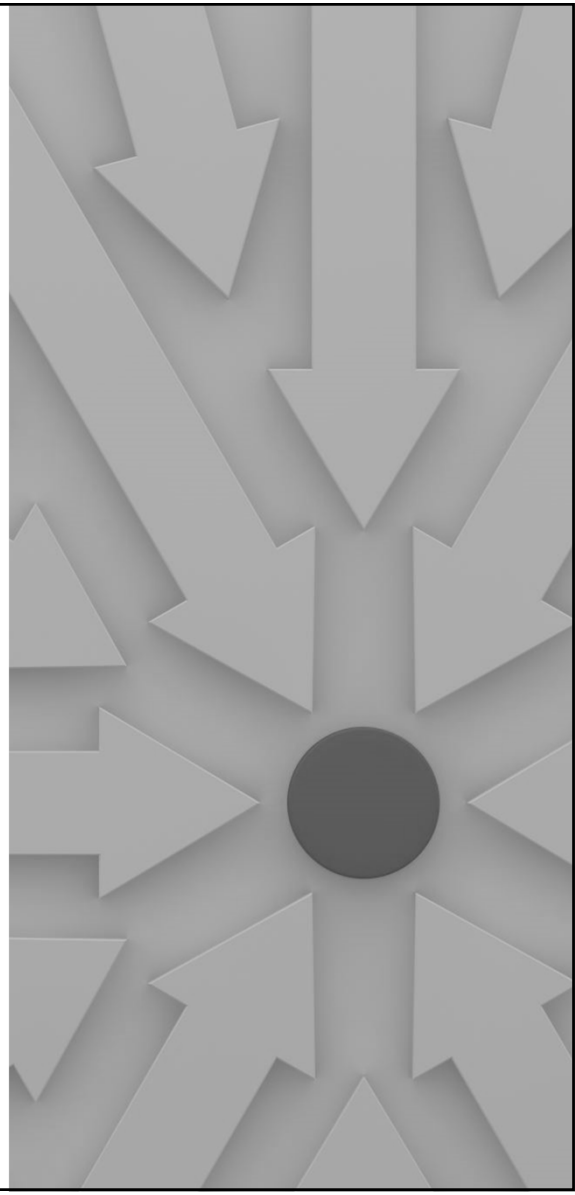
RECOMMENDATIONS (CONTINUED)

Coordinated Entity (CE) Mission

Present unified voice regarding policy and funding at local, state, and federal levels

Oversee one-seat ride for inter-jurisdictional trips within/ outside the county

Consider additional opportunities for countywide service in the future



MOBILITY STRATEGIES

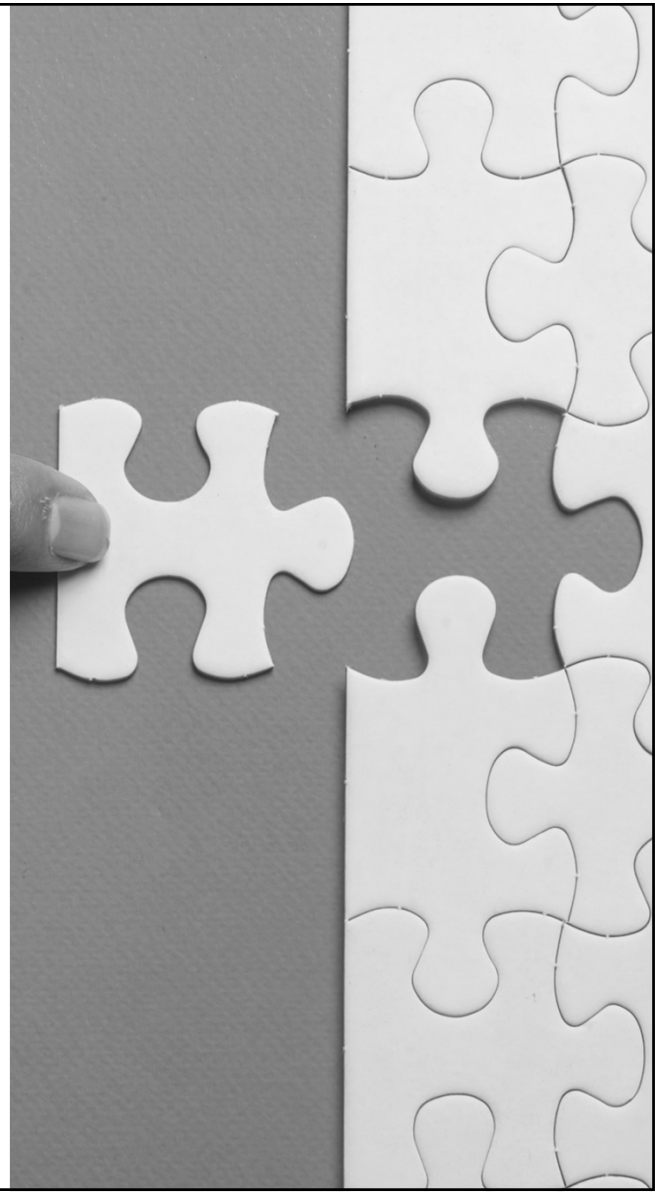
Examples

Expand current one-seat ride pilot program improve connectivity between paratransit programs/eliminate transfer trips

Same-day trip programs (including wheelchair-accessible service)

Expand volunteer driver programs

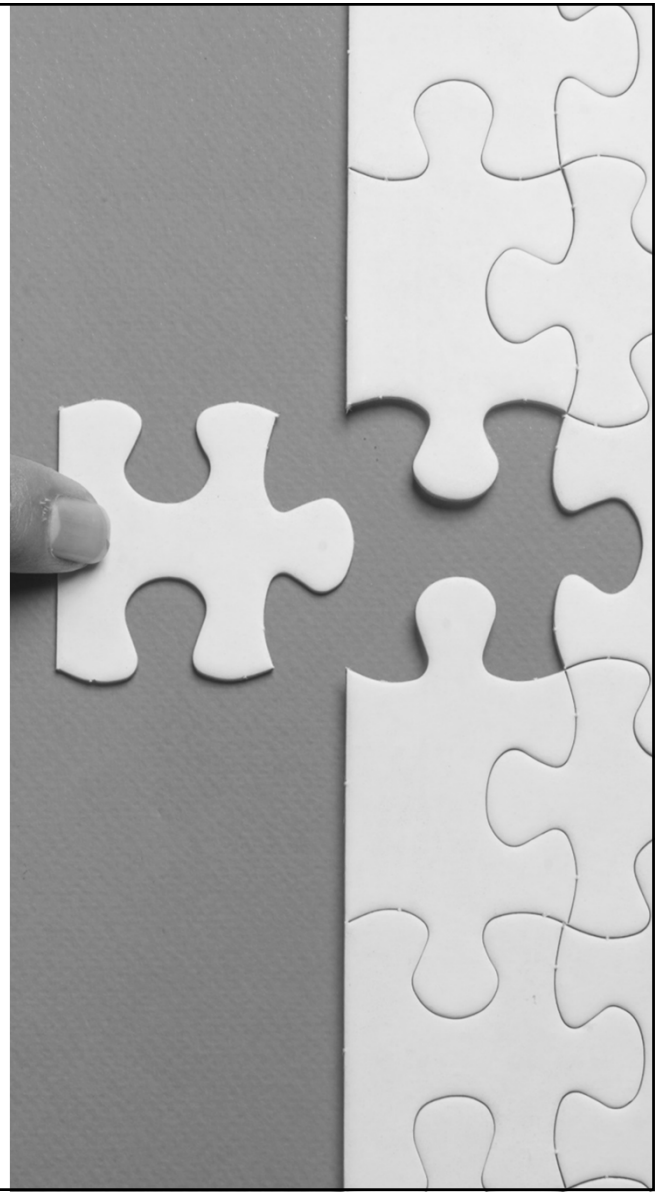
Shopping Trips with package assistance



MOBILITY STRATEGIES

Examples

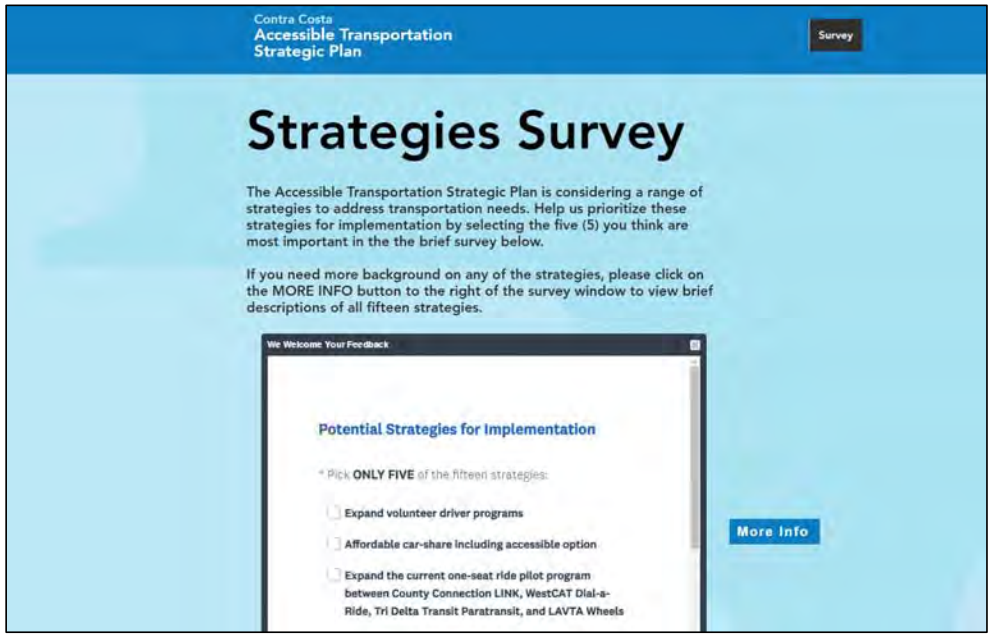
- **Hospital discharge service**
- **One call/One click** (and/or Information and Referral Service)
- **Programs for veterans**
- **Fare integration**
- **Uniform countywide ADA** paratransit eligibility certification program



PHASE TWO

Public Engagement

- **Give stakeholders an opportunity** to prioritize strategies for implementation



THANK YOU!

NELSON NYGAARD

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