

MEMORANDUM

DATE January 23, 2023
TO TVTC Policy Board Members
FROM David Early and Torina Wilson, PlaceWorks
SUBJECT Errata Memo for Changes Made to the Tri-Valley Action Plan

This memorandum lists revisions to be made to the Draft Tri-Valley Action Plan. These changes were requested by TVTC TAC members and local transit service providers after the Tri-Valley Action Plan Draft for TVTC Review was submitted for the January 23rd, 2023 agenda packet. The existing Draft Action Plan text is shown below, and ~~strikethrough~~ and double underline are used to show the changes to be made.

1. Acknowledgements (page i)

CCTA and PlaceWorks staff recommend that the titles of two advisory board members be revised as follows:

- Karen Stepper, ~~Council Member~~ Vice Mayor, Town of Danville
- Newell Arnerich, ~~Mayor~~ Council Member, Town of Danville

2. Transit RTO-4: High-Quality Transit

Both the Central Contra Costa Transit Authority (also known as 3CTA and County Connection) and the Livermore Amador Valley Transit Authority (also known as LAVTA and Wheels) have provided revised data on their pre- and post-pandemic routes, particularly in regard to “high-quality transit,” which in the case of bus service is defined as services with headways of no more than 15-minutes. This revised information will lead to new analyses and results, which will necessitate changes to Transit RTO-4.

This section of this memorandum contains revised maps that show the correct pre- and post-pandemic routes.

Unfortunately, the analysis of this new information could not be completed in time for the January 23 TVTC meeting. Therefore, CCTA and PlaceWorks staff request that the TVTC Board approve the following changes, which will be made after the analysis is complete and before forwarding the Draft Action Plan to CCTA for incorporation into the Draft Countywide Transportation Plan.

- The text and Table 5-4 regarding RTO-4 that appears on page 46 of the Action Plan be revised to show the correct percentage of land served by high-quality transit that exists today.

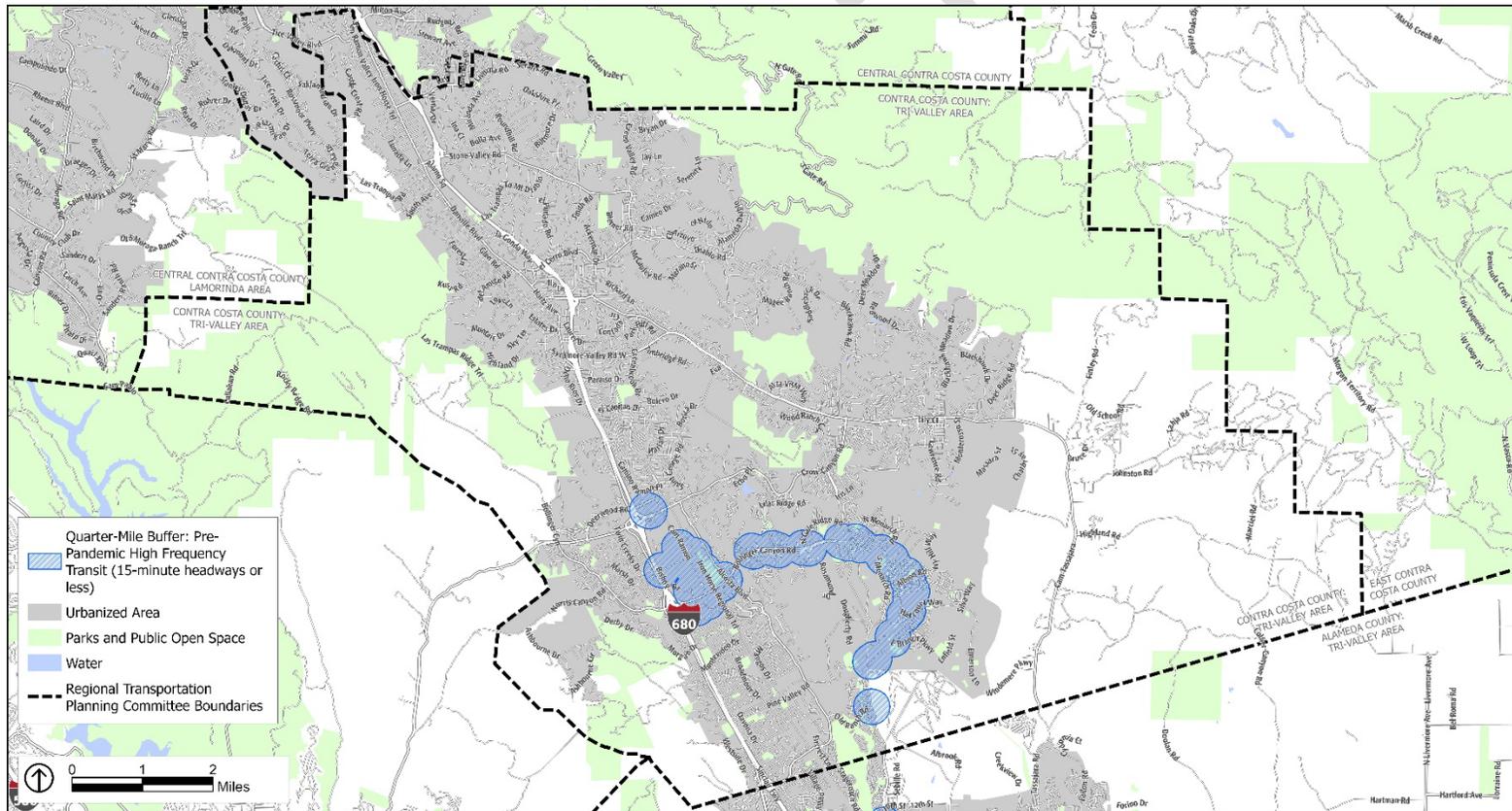
It will also be revised to set the 2027 target to the same percentage land coverage served by high-quality transit that existed before the pandemic. The 2050 target will be revised to be 30% more than the 2027 target.

- CCTA and PlaceWorks staff recommend that Figures 5-3 and 5-4 be amended as shown on the following two pages.

DRAFT

Change to Figure 5-3: Contra Costa County Portion of the Tri-Valley High-Quality Transit (page 47)

CCTA and PlaceWorks staff recommend that Figure 5-3 on page 47 be replaced with the following figure:

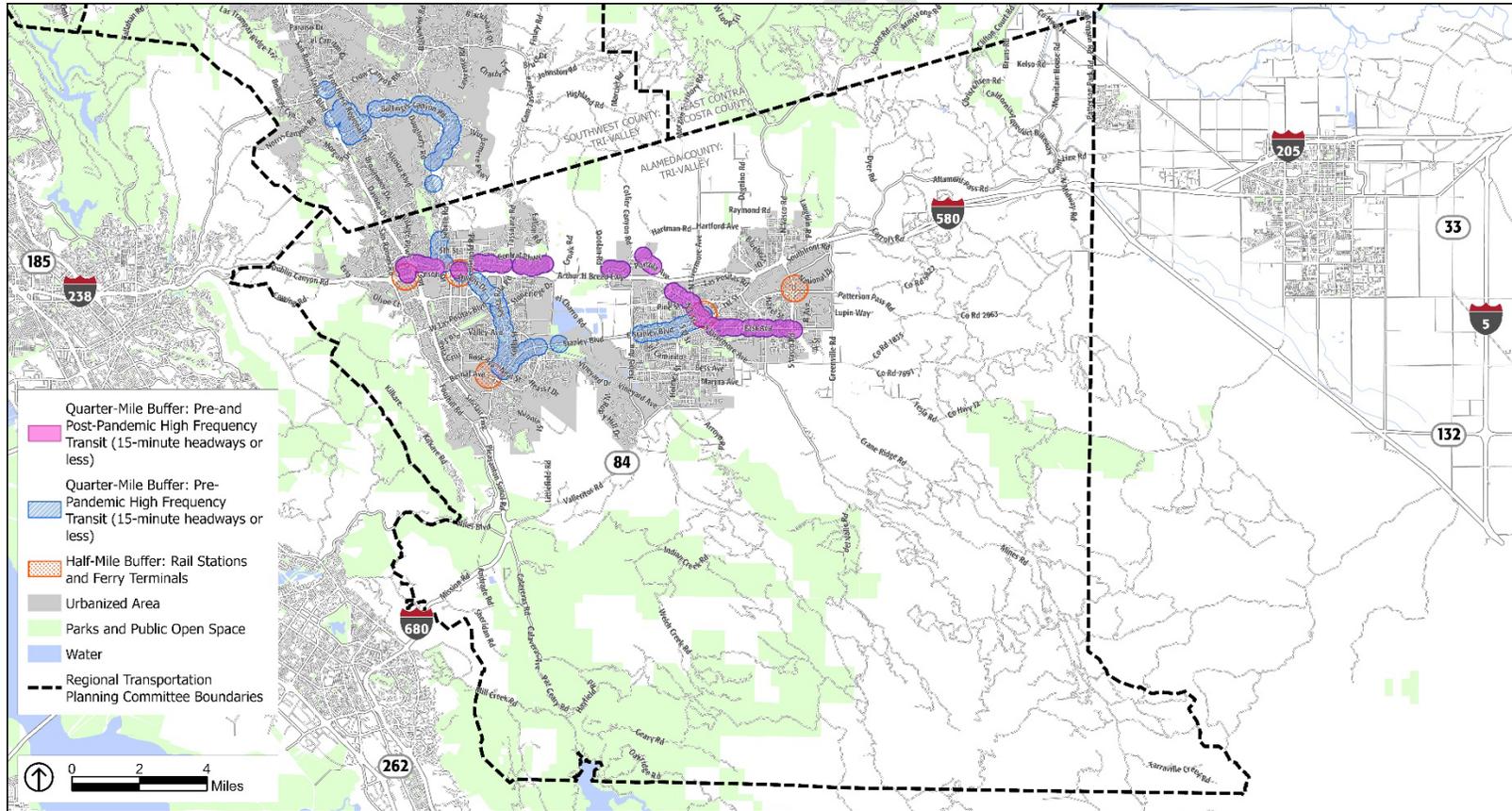


Source: CCTA, 2021; ESRI, 2021; PlaceWorks, 2022.



Change to Figure 5-4: Alameda County Portion of the Tri-Valley High-Quality Transit (page 49)

CCTA and PlaceWorks staff recommend that Figure 5-4 on page 49 be replaced with the following figure:



Source: CCTA, 2021; ESRI, 2021; PlaceWorks, 2022.

3. Active Transportation Action 7

Edit to Page 69:

CCTA and PlaceWorks staff recommend that Action Active Transportation-7 be removed from the list of Actions on page 69. This Action refers to facilities in Central County.

- ~~Active Transportation 7: Continue to implement the Cowell Road/Willow Pass Road Complete Street Feasibility Study.~~

Edit to Page 125:

CCTA and PlaceWorks staff recommend that Action Active Transportation-7 be removed from Table B-1 on page 125. This Action refers to facilities in Central County.

Agency	Lead Agency	Partner Agency	Timeline
Active Transportation 7: Continue to implement the Cowell Road/Willow Pass Road Complete Street Feasibility Study.	CCTA	Tri-Valley Member Jurisdictions	Ongoing

4. Appendix F (pages 201 and 202)

PlaceWorks mistakenly included information about the Lamorinda Gateway Constraints Policy in Appendix F, instead of information about the Tri-Valley Gateway Constraints Policy. CCTA and PlaceWorks staff recommend that Appendix F be replaced with the following excerpt directly from the 2017 Tri-Valley Transportation and Action Plan:

The following text is excerpted from the 2017 Tri-Valley Transportation Plan and Action Plan and Action Plan for Routes of Regional Significance, September 2017

Tri-Valley Transportation Plan and Action Plan

5.2 Roadways

The plan includes many improvement projects for freeways, interchanges, arterials, and intersections. These are all based on the reality of *gateway constraints*.

Gateway Constraint Policy: In the development of the first Tri-Valley Transportation Plan/Action Plan in 1995, analysis of alternatives through the planning process showed that the TVTC’s mobility and accessibility would not be improved by widening any of the gateways for single-occupant vehicles leading into the area.

The gateways include I-680 north and south, I-580 east and west, Crow Canyon Road to Castro Valley, and Vasco Road in Alameda County. Their locations are illustrated in Figure 13. Widening of these gateways would leave the freeways congested, lead to more through traffic, and increase traffic volumes on other Tri-Valley roads. This is because of the Tri-Valley’s strategic location between San Joaquin County and the Bay Area and also between Central and Eastern Contra Costa County and Santa Clara County.

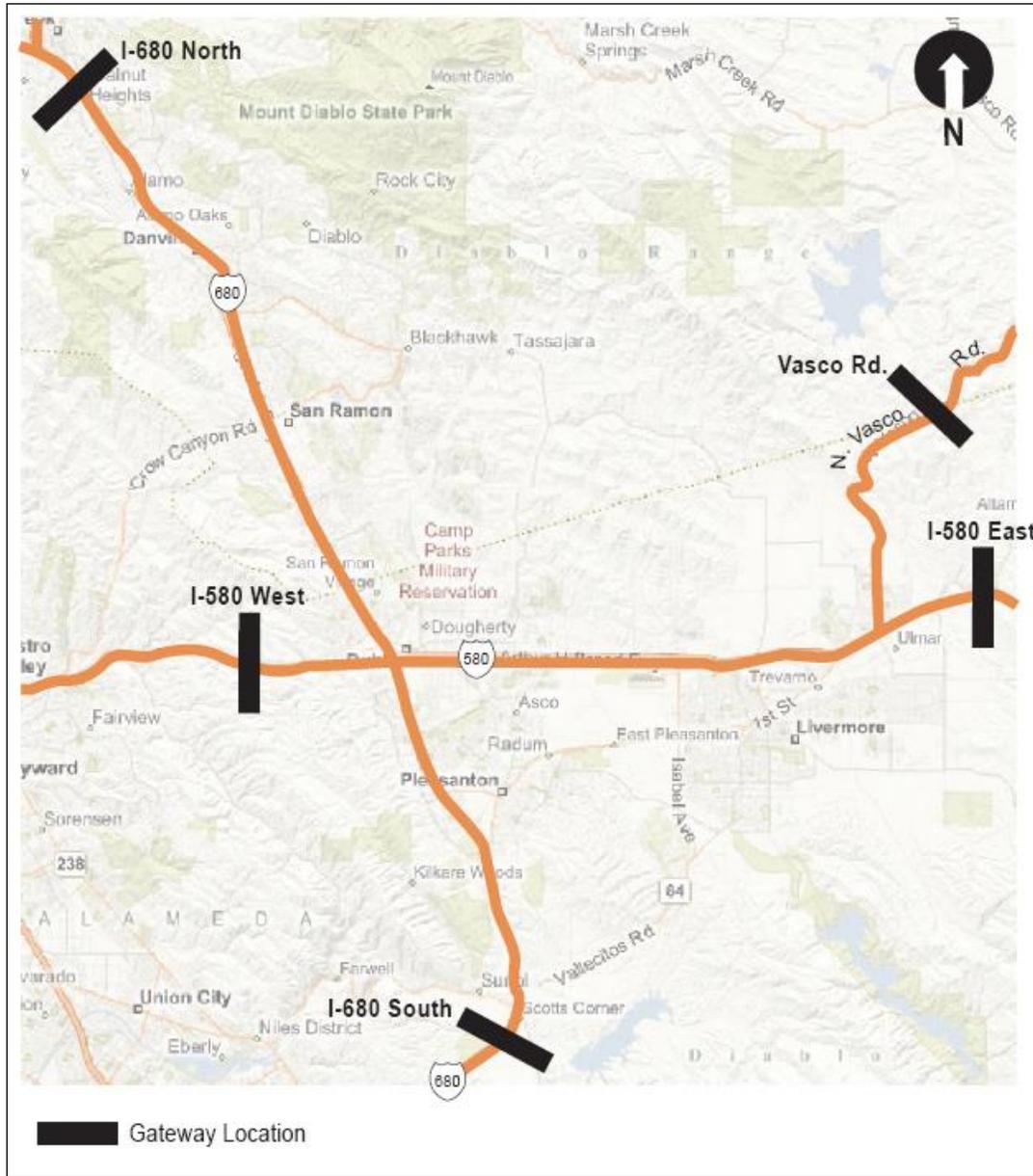


The implication of gateway constraints for roadway planning is that the interior freeways and arterials should be sized to handle only what traffic can get through the gateways. Thus, the TVTC Plan recognizes that congestion will occur for several hours each weekday at the gateways, but this will have the positive effect of metering single-occupant vehicle travel to and from the area. Within the Tri-Valley area, the road system is designed to function with these gateways constrained to minimize congestion. The roadway plan, when combined with a balance between jobs and housing, and given expected financial constraints and forecast travel demands, produces the best conditions that can reasonably be expected.

The rationale for the TVTC Gateway Constraint Policy is described below:

- **I-680 North.** The section north of Diablo Road cannot be widened beyond the HOV/Express Lanes without overcoming several significant constraints: the widening would require additional right-of-way, construction of new retaining structures, and the costly reconstruction of existing overpasses and undercrossings, as well as increase impacts on adjoining land uses. The gateway constraint assumption recognizes these constraints. This concept should not be construed as an effort to preclude all potential solutions to mitigate increasing congestion on I-680 between Interstate 580 and SR-24. TVTC and SWAT should work cooperatively with TRANSPAC and CCTA to identify and pursue strategies that are mutually beneficial.
- **I-680 South.** The section south of SR-84 has limited room to be widened, and this limited widening would help accommodate and balance increased flows into this section from both I-680 and the new planned SR-84 project. Accordingly, the plan recommends the addition of northbound HOV/Express Lanes. It is important to note that Alameda CTC has undertaken this project and is in project development stage. Gateway constraints would still apply for single-occupant vehicles.

Figure 13: Locations Where Gateway Capacity Constraint Policy Applies



Source: DKS Associates, 2009

- **I-580 West.** The topographic constraints along the Dublin Grade and the limits imposed at the I-680/I-580 interchange make widening beyond the current mixed flow lanes and planned HOV/Express Lanes prohibitively expensive. The 1997 opening of the Dublin – Pleasanton BART line provided a new alternative to vehicular use of I-580. The Plan relies on the HOV/Express Lanes and BART to provide needed additional capacity through the gateway.
- **I-580 East (Altamont Pass).** Alameda County policy, in recognition of the need to encourage shorter commuter trips and not overload Tri-Valley roads with regional traffic, opposes increases to capacity for single-occupant vehicles across this gateway. The gateway constraint policy also applies to Patterson Pass Road, Tesla Road, and Old Altamont Road. The plan, however, includes HOV/Express Lanes as a priority project, in recognition of the importance of I-580 as a regional facility. The Plan also relies on and supports the continuation of the recent ACE service across this gateway.
- **Crow Canyon Road (to Castro Valley).** Safety improvements are planned for this section of Crow Canyon Road, although, the TVTC supports maintaining the two-lane cross-section.
- **Vasco Road.** The Plan includes safety improvements to Vasco Road. Any future upgrade should include future accommodation of public transit or other improvements as subsequently determined appropriate.

Accordingly, the TVTC Plan includes the following Gateway Constraint Policy, which establishes maximum roadway widths for the freeways and major arterials that access the Tri-Valley:

- **I-680 North:** Six lanes plus HOV/Express Lanes and auxiliary lanes
- **I-680 South:** Six lanes plus HOV/Express Lanes and auxiliary lanes
- **I-580 West:** Eight lanes with HOV/Express Lanes
- **I-580 East (Altamont Pass):** Eight lanes plus HOV/Express Lanes
- **Crow Canyon Road (to Castro Valley):** Two lanes with safety improvements
- **Vasco Road:** Two lanes with safety improvements

Any departure from these assumptions would require amending the TVTC Plan.

To address the technical challenges raised by incorporation of the Gateway Constraints Policy into the TVTC Plan, CCTA has established a gateway constraint

analysis methodology as part of its *Technical Procedures*.² This methodology takes into account physical roadway constraints, queuing, and recurrent delay at the gateways.

Current gateways are established by two factors: geographic constraints and financial constraints. To some degree, the geographic constraints can be overcome through significant capital investments in new highway projects. However, the TVTC Plan is based upon the assumption that significant capacity enhancements to the gateways serving Tri-Valley are not financially feasible. The policy of the TVTC is to work closely with neighboring jurisdictions, Congestion Management Agencies, Caltrans, and MTC to resolve capacity problems at the gateways and, as needed, through the partnership activities and to subsequently adjust Tri-Valley Transportation Plan should funding of mutually acceptable facilities become possible.

Corridor Management Congestion Strategies. A number of alternative strategies to adding new lanes or building new roads are available for addressing congestion. These strategies focus on improving the efficiency of traffic flow on roads, and thereby increasing the number of vehicles or people that can move through that corridor. The range of potential strategies is broad. They can include the addition of auxiliary lanes to freeways, incident management programs such as the Freeway Service Patrol, changeable message signs that provide information to travelers on travel alternatives, ramp metering, and support for travel alternatives such as park-and-ride lots and HOV bypass lanes at freeway ramps. In a sense, the gateway constraint concept is a strategy for managing the main travel corridors within the Tri-Valley.

Caltrans, with support from MTC, is in the process of implementing Traffic Operations Systems (TOS) along freeway corridors within the Bay Area. These systems will provide information to travelers on accidents and other delays on freeways, alternative routes to avoid these delays, and other information to encourage traveler decisions that would improve efficient roadway operations.

Ramp metering controls the volume of traffic entering a freeway at selected ramps to avoid break-down in the flow on the freeway. By avoiding break-down, the freeway is able to maintain the highest level of throughput and the system is kept as efficient as possible. Although a single freeway lane can carry as many as 2,000 to 2,200 vehicles per hour under optimal conditions (maximum throughput generally occurs at a level of service E), as demand exceeds those optimal conditions, the volumes carried actually drop. Under the most congested conditions (level of service F), travel lanes have been observed to carry only

around 1,600 to 1,700 vehicles per hour. One source of this congestion is the “turbulence” caused by the merging of vehicles at freeway ramps. By smoothing out this merging, ramp metering can help make the flow of traffic on the freeway lanes more efficient and thus increase the vehicle throughput and speeds.

An additional benefit from ramp metering is a decrease in the accident rate. Reductions from 20 to 50 percent have been achieved through improved merging operations. The reduction of accidents not only improves the safety of the freeway, but also reduces non-recurring delay and increases freeway throughput. Ramp meters can also encourage the peak spreading that needs to occur to keep the gateways flowing. This happens because motorists are generally willing to accept no more than about a 10-minute wait at the meters. Beyond that, they tend to adjust their trip making (i.e., choose to travel at a different time or choose a different mode). This peak spreading helps to get the most out of the system when gateway constraints are a reality. When combined with HOV bypasses, ramp metering can also provide an additional incentive for carpooling and can help buses increase average speeds. When combined with HOV lanes on the freeways, the ramp metering-with-bypass system allows carpools and buses to achieve real travel time advantages compared to single-occupant vehicles.

Ramp metering has two potential drawbacks: backups on the local street system and rewarding long-distance commuters. The potential for backups on local streets can be minimized through ramp widening and strategic placement of the meters. Where these mitigation measures are not possible, ramp metering can significantly reduce levels of service adjoining intersections and along adjacent streets. Backup onto local streets can also be avoided by installing detectors at the end of ramps and adjusting metering rates to avoid backups beyond the end of the ramp. Some of the recent ramp-metering implementations in the Bay Area have proceeded with formal agreements between Caltrans and the local jurisdictions that spill-back detectors and metering rates will be used to prevent the backups onto local streets.

Ramp metering can result in a disproportional benefit to long-distant commutes when there is a high percentage of through travelers and the metering rates in the corridor are set low to maintain the highest possible speeds on the freeway through lanes. The risk of rewarding long-distance commutes can be minimized by implementing the following three policies: 1) deploy the system of ramp metering for the entire length of a freeway corridor rather than in isolated locations, 2) meter to achieve maximum throughput rather than maximum freeway speed, and 3) set upper limits on the delay imposed at individual ramps.

Ramp metering has recently been implemented in the Tri-Valley on the eastbound and westbound ramps of I-580. An evaluation of the benefits and impacts of the ramp metering will continue. The Contra Costa jurisdictions have not reached consensus on the implementation of ramp metering on I-680. Ramp me-

tering should not be implemented on I-680 until a general consensus is reached among affected jurisdictions on a workable and equitable implementation plan for the I-680 corridor. Consideration should be given to how ramp metering would affect the local roadway network as well as the effect it would have on the freeway.

Freeway HOV and Express Lanes. Significant changes to freeway operations are underway in the Tri-Valley. Significant portions of I-580 and I-680 within the Tri-Valley will be part of a 550 miles Bay Area Express Lanes Network. The Bay Area Express Lanes Network is part of Plan Bay Area, the Regional Transportation Plan adopted by MTC's Commissioners in July 2013. It designates a network of existing or planned HOV lanes that will be converted to Express Lanes, in which drivers not eligible for use of the HOV lanes will be allowed to pay a toll to use the lane.

Planning for the Bay Area Express Lanes Network has been coordinated by MTC, but has included the direct planning and design work of the Congestion Management Agencies and Transportation Authorities of the counties in which the lanes will operate. Included in the network is the existing southbound Express Lane on I-680 between SR-84 and SR-237 which opened in September 2010, and the eastbound and westbound I-580 Express Lanes that are under construction by Alameda CTC. Eastbound I-580 Express Lanes will be double express lanes while the westbound direction will include a single express lane. The southbound I-680 express lane is the first Express Lane in the Bay Area was planned and designed by the Alameda CTC, in cooperation with the Santa Clara Valley Transportation Authority, Caltrans and the local jurisdictions along the route. It is operated by Sunol JPA. Since the opening of the Express Lane on I-680, a second Express Lane was opened at the interchange of SR-237 and I-880 in Santa Clara County.

The plans for the Bay Area Express Lanes Network identify three stages of Express Lanes system development: existing lanes, near-term projects (by 2020) and long-term projects. Included in the near-term projects are the conversion of the planned northbound HOV lane on I-680 between SR-237 and SR-84; the conversion of the westbound HOV lane on I-580 between Greenville Road and San Ramon Road/Foothill Road (construction underway); the conversion of the existing eastbound HOV lane on I-580 between Hacienda Drive and Greenville Road; the addition of a second Express Lane eastbound between El Charro Road and Vasco Road (construction underway); and the conversion of existing HOV lanes on I-680 between Alcosta Road and Livorna Road in the northbound direction and Alcosta Road and Rudgear Road in the southbound direction. Other portions on I-680 north of Rudgear Road are also planned for near-term implementation but are outside of the Tri-Valley. The long-term plans for the Bay Area Express Lane Network within the Tri-Valley include the portion of I-680 between the Contra

Costa/Alameda county line and SR-84, and the portion of I-580 between Greenville Road and the Alameda/San Joaquin county line.

HOV and Express Lanes provide the advantage of reducing travel times for ridesharers and transit patrons. They also enhance mobility during off-peak hours by being available for all vehicles. This is especially important when considering truck traffic, which increasingly relies on off-peak hours to reach destinations without undue delays. The TVTC recognizes the benefits of HOV and Express Lanes, but realizes that take-a-lane programs do not work. Thus, HOV and Express Lanes must be added to the freeways.

Arterial Issues. The planned arterial system has been designed to provide smooth circulation in and between the Tri-Valley cities and to provide access to the freeway system. Intersections and freeway interchanges are the focal points of the arterial system. All of the widenings and extensions are necessary to serve new development, so the plan calls for direct developer construction or at least funding. The primary issue is how to share costs between jurisdictions having joint responsibility for a particular road. This is discussed further in the Financing Plan chapter.



There are two major arterials in the Tri-Valley that do not provide direct access to planned development but rather serve interregional traffic between Alameda County and Contra Costa County: Crow Canyon Road and Vasco Road.

Crow Canyon Road. The portion of Crow Canyon Road west of Bolinger Canyon Road is a two-lane rural road that lies within the jurisdiction of Alameda County and Contra Costa County. While once used by its adjacent residents to bring goods to the market, today Crow Canyon Road is being used by commuters as an alternate to the I-580/I-680 freeways. Development in the vicinity of Crow Canyon Road, especially in the fast-growing San Ramon Valley area, has generated a significant increase in traffic on this roadway. The expected forecast for this roadway is LOS F.

The roadway, which is a narrow and winding road, was not designed to handle commuter traffic and does not have adequate width or alignment. Alameda County, in collaboration with Contra Costa County and the City of San Ramon, prepared and developed a project study report, pursuant to California Senate Bill 1149. The report recommended the construction of widened shoulders, climbing lanes, left-turn lanes, safety measures, and road realignment eliminating short-radii curves.

Contra Costa County has in its Measure C program the improvement of Crow Canyon Road within Contra Costa County. Alameda County, how-

ever, is seeking funds to improve the two-lane section of the roadway. Unfortunately, improvement of this portion of Crow Canyon Road cannot be directed to a particular developer construction. But since the traffic forecast clearly indicates that traffic increase on this roadway is development-related, it is recommended that subregional transportation impact fees be used to improve the section of Crow Canyon Road within the Tri-Valley.

Vasco Road. Vasco Road is a narrow and winding rural road that is a major commuter and truck route linking the Tri-Valley with eastern Contra Costa County. Approximately 17 miles of Vasco Road, starting at a point on Vasco Road approximately one-half mile south of the county line to the intersection of Camino Diablo in Contra Costa County, has been relocated as a result of the construction of the Los Vaqueros Reservoir. This portion of Vasco Road is designed to State and County standards. The remaining section of the roadway in Alameda County needs to be upgraded to these standards as well to improve traffic flow and safety. Alameda County is currently seeking funds to improve the section of the roadway from the new Vasco Road to the Livermore City limit. This proposed improvement includes realignment of the roadway, widening of shoulders, installing median barriers, installing guardrails, and installing passing lanes without increasing its capacity, consistent with the standards being used in the Los Vaqueros-Vasco Road project.

There are also numerous rural roads within the Tri-Valley that are not Routes of Regional Significance but are significantly impacted by congestion on the designated Routes of Regional Significance. These rural routes often become reliever routes for the main roads during periods of heavy congestion or lane closures. It is important to monitor growth in traffic on these rural roads to determine whether new management actions are required on the Routes of Regional Significance to reduce the diversion of traffic.