Lamorinda Action Plan

Final

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1 INTRODUCTION

The 2014 Lamorinda Action Plan assesses regional transportation issues within the Lamorinda area and outlines a recommended package of vision statements, goals, policies, objectives, and actions for addressing those issues. The study area includes Moraga, Lafayette, Orinda, and portions of unincorporated Contra Costa. In addition to serving as a guide for transportation planning through 2040, the Plan also fulfills one of several requirements under the Measure J Growth Management Program that local jurisdictions participate in a multi-jurisdictional, cooperative planning process, which includes the preparation of Action Plans for Routes of Regional Significance.

The recommendations in this Plan and its counterparts in the other subareas of Contra Costa (West, Central, East County, and the Tri-Valley) will be carried forward into the 2014 Update to the Countywide Comprehensive Transportation Plan (CTP) prepared by the Contra Costa Transportation Authority (CCTA). The Lamorinda Action Plan, combined with the one for the Tri-Valley (which

includes the Contra Costa jurisdictions of Danville, San Ramon, and Contra Costa County), will be forwarded through the Southwest Area Transportation Committee (SWAT) to CCTA, for inclusion in the 2014 CTP Update.

The Lamorinda Program Management Committee (LPMC) is comprised of one elected official from each of the three Lamorinda jurisdictions, and serves as the policy oversight board for the planning and implementation of Measure C/J projects and programs. A Technical Advisory Committee (the LPMC-TAC), comprised of staff from each locality, provides technical input to the LPMC.

1.1 The Action Plan

In 1988, Contra Costa County voters approved Measure C, a one-half percent local sales tax that generated $1 billion (2008 dollars) in funding for transportation projects and programs over 20 years. Measure C also created the Contra Costa Transportation Authority (CCTA), with a board of 11 elected officials and 3 ex-officio members to guide the expenditure of the sales tax proceeds in accordance with the voter-approved expenditure plan. In 2004, the voters of Contra Costa approved Measure J, extending the sales tax for 25 years through 2034, and generating an additional $2 billion (2008 dollars).

Both Measures C and J have included an innovative Growth Management Program (GMP) that encourages local jurisdictions to participate in a cooperative, multi-jurisdictional planning process, and among other things, establish flexible, Multimodal Transportation Service Objectives (MTSOs) for Regional Routes. The CCTA allocates 18 percent of the sales tax revenue it receives to local jurisdictions that are found to be in compliance with the Growth Management Program. Under Measure J, an additional 5 percent of total sales-tax revenues are available to local jurisdictions for Transportation for Livable Communities (TLC) projects, subject also to GMP compliance.

As part of the cooperative planning process envisioned under Measure C/J, "Action Plans for Routes of Regional Significance" are to be developed by the Regional Transportation Planning Committees (RTPC) with input from the local jurisdictions. The LPMC serves as a sub-group to the SWAT committee. Under Measures C/J, the SWAT committee, which is comprised of the Lamorinda jurisdictions and Contra Costa County, the Town of Danville, and the City of San Ramon, is the designated RTPC that reports to CCTA on policy matters relating to transportation issues within both Lamorinda and the Tri-Valley.

The overall objective of the Action Plans is to give local jurisdictions an opportunity to cooperatively set goals, objectives, and actions to mitigate the cumulative impacts of growth on the regional transportation system. To be found in compliance with the CCTA's GMP, local jurisdictions are required to

participate in the development of the Action Plans, and also be willing to implement the actions, programs, projects, and measures identified within the Plans.

1.2 2014 Action Plan

In 1995, the LPMC developed and adopted the first Action Plan for Routes of Regional Significance. While this document included area-wide actions for Lamorinda, its primary focus was on the State Route 24 (SR-24) corridor, which at that time was the only regional route identified by the LPMC. Subsequently, both Pleasant Hill Road, north of SR-24, and Camino Pablo/San Pablo Dam Road were designated, which lead to the preparation of Action Plans for those routes in 1998. The Action Plan for the Camino Pablo/San Pablo Dam Road corridor, which connects West County to Lamorinda, was prepared jointly with the West County RTPC (called WCCTAC). The Pleasant Hill Road Action Plan was prepared by the City of Lafayette, and approved by LPMC in 1998. The Lamorinda Action Plan was updated in 2000 to incorporate the new plans for Pleasant Hill Road, north of SR-24, and the Camino Pablo/San Pablo Dam Road, along with other changes regarding the SR-24 corridor.

The last update to the Lamorinda Action Plan in 2009 was incorporated into CCTA's 2009 CTP Update. Since the last Action Plan update in 2009, new demographic data has become available and the countywide travel forecasts have been updated. MTC also updated its Regional Transportation Plan (Plan Bay Area) in 2013, which incorporated many of the elements of the 2009 Action Plan updates and the 2009 CTP Update. These and other events have triggered the need to undertake a comprehensive update to the Lamorinda Action Plan to reflect these changes in traffic and policy.

During the course of the 2014 Update, the LPMC reviewed and updated several major elements of the Action Plan, including the Statements of Vision, Goals and Policies; Routes of Regional Significance; Multimodal Transportation Service Objectives; Actions; the Subregional Transportation Impact Fee; and Development Review Procedures. These elements of the Action Plan are defined as follows:

Statements of Vision, Goals and Policies of an Action Plan help guide its overall direction. Decisions regarding investments, program development, and development approvals are based on these policies.

Routes of Regional Significance are transportation facilities or services that:

1. Connect two or more "regions" of Contra Costa County;
2. Cross County boundaries;
3. Carry a significant amount of through-trips; and

4. Provide access to a regional highway or transit facility (e.g., a BART station or freeway interchange) that serves regional mobility and connect multiple jurisdictions.

CCTA may designate a Route of Regional Significance that meets one or more of these criteria.

Lamorinda Interjurisdictional Routes. LPMC has also designated a new category of route called Lamorinda Interjurisdictional Routes. While these routes do not warrant designation as Routes of Regional Significance, they do cross jurisdictional boundaries, and would benefit from the multi-jurisdictional planning process envisioned in Measure J. The purpose of this designation is to identify the need for interjurisdictional planning for these routes. It was not the intention of the LPMC that this designation be a stepping stone to designation as Routes of Regional Significance at a later time. Rather, it is the LPMC's intent that this designation provide a structured forum for collaboration among the three jurisdictions, with final control of the routes remaining with the local jurisdiction. It is also the intent of the LPMC that the local jurisdictions have an opportunity to "opt out" of the designation at any time for the portion of any of the routes within their own boundary.

Multimodal Transportation Service Objectives (MTSOs) are quantifiable measures of performance and effectiveness that include a target date for attaining the objective. MTSOs may include, for example, average peak-hour speeds, peak-period congestion duration, roadway level of service, transit loading, or transit service frequency. MTSOs can also represent targets for system utilization and efficiency such as transit ridership, mode shares, or average vehicle occupancy. In this Action Plan update, additional performance measures have also been added for Secondary Routes of Regional Significance and for Lamorinda Interjurisdictional Routes to help the LPMC identify the need for additional actions for the routes to which they apply. Target values for each performance measure have not yet been specified and could be the topic for future LPMC discussion and inclusion in the next Action Plan update. The performance measures do not qualify as MTSOs because no target value has been specified or because the performance measure is being used for a route that is not designated as a Route of Regional Significance and therefore, not subject to Measure J requirements and guidelines.

Actions are the specific steps (actions, measures, projects, and programs) that the local jurisdictions and other regional partner agencies such as Caltrans, BART, County connection or CCTA have agreed to implement to achieve the transportation goals, objectives, and policies set forth in the Action Plan. The party responsible for carrying out the actions is identified as the local jurisdictions, the RTPC, or other affected parties. Actions may involve

implementing specific projects at the local level, or they may call for regional cooperation among the local jurisdictions and adjoining RTPCs.

Subregional Transportation Mitigation Program (STMP) is the subregional fee or other mitigations program required under Measure C/J, and designed to mitigate the traffic impacts of new developments on the regional transportation system. Lamorinda implements its STMP through a subarea developer fee that is overseen by the Lamorinda Fee and Financing Authority (LFFA), a Joint Exercise of Powers Authority (JEPA) comprised of elected officials from each jurisdiction within Lamorinda.

Development Review Procedures. The CCTA Growth Management *Implementation Guide* includes a process for review and consultation on projects and general plan amendments that could generate traffic impacts on the transportation system. As described further in Chapter 7, the CCTA also requires local participation in a General Plan Amendment (GPA) review procedure. This 2014 Update carries forward and refines these development review procedures, which were included in the previous Action Plans.

1.3 Outline of the Document

This introductory section (**Chapter 1**) to the Plan presents a brief history of the Action Plan concept and its relevance to transportation planning in Lamorinda.

Chapter 2 of this document describes the review of statements of vision, goals and policies that was undertaken and presents a revised set of statements to guide the 2014 Action Plan. This chapter identifies the Routes of Regional Significance and the newly identified Lamorinda Interjurisdictional Routes. The chapter also identifies the MTSOs and supplemental performance measures that have been specified for each Route of Regional Significance and suggests performance measures for each Lamorinda Interjurisdictional Route.

Chapter 3 provides a description of the existing transportation conditions in Lamorinda. An assessment of the MTSOs from 2013 monitoring is used to indicate the current status of Lamorinda with respect to the Action Plan.

A forecast of future population, employment and transportation conditions is presented in **Chapter 4** for the year 2040. In this chapter an assessment of the MTSOs for the Routes of Regional Significances is provided for the 2040 forecast for a baseline condition that assumes that only currently funded transportation improvements are in place.

Chapter 5 of the report defines the key elements of the 2014 Action Plan. This includes an updated description of actions intended to achieve the MTSOs for the Routes of Regional Significance. The actions include projects and programs specifically designed to implement policies and meet goals on individual Routes

of Regional Significance and Lamorinda Interjurisdictional Routes. For each action, the agency or agencies responsible for implementing the action is identified.

The financial plan for meeting the needs of the Action Plan is presented in **Chapter 6**. This includes a brief description of the existing funding sources that support the Action Plan projects and programs and the Subregional Traffic Impact Fee Program designed to implement "regionally significant projects" in the Action Plan.

Chapter 7 provides guidance on implementation of the Action Plan, including the procedures for circulation of environmental documents and review of General Plan Amendments (GPAs). The chapter also includes the process for monitoring and review of the Action Plan.

2 ACTION PLAN FRAMEWORK

2.1 Statements of Vision, Goals and Policies

Statements of vision, goals and policies from the previous Action Plan were reviewed in light of recent changes in regional policies and plans and those of the local Lamorinda jurisdictions. The vision, goals, and policies for the 2014 Action Plan are as follows:

1. Preserve and enhance the semi-rural character of the community.
2. Pursue actions to meet or sustain Multimodal Transportation Service Objectives (MTSOs).
3. Support actions that help achieve environmental goals, through participation in countywide, regional, and statewide transportation improvement plans.
4. Avoid the addition of roadway capacity for single-occupant vehicles.
5. Enhance mobility by providing alternative mode options.

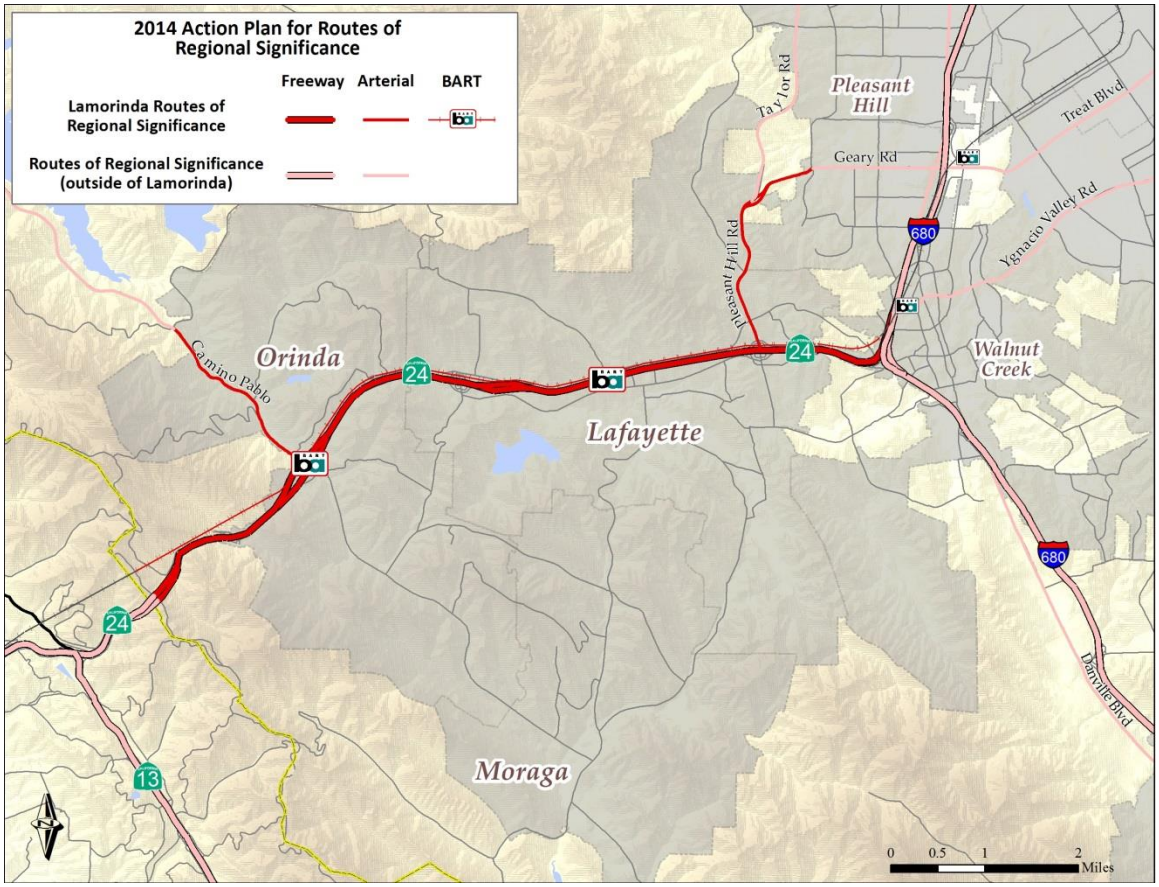
6. Pursue actions to make transit more attractive and increase transit ridership.
7. Improve multimodal access to BART in ways that will not lead to an increase in the use of BART parking by people driving into Lamorinda from outside communities.
8. Pursue actions to improve safety of travelers using any mode of travel.
9. Coordinate local land use planning and regional transportation planning.
10. 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.
11. Maintain capacity constraints at selected gateways with the intent of preserving and improving mobility on Routes of Regional Significance within Lamorinda.
12. Pursue efficiency improvements, such as signal timing and other operational improvements, especially those that help side street traffic and buses, but without compromising pedestrian and bicycle safety.
13. Support the implementation of the Complete Streets Policies of the Lamorinda jurisdictions.
14. Support programs and actions that will improve mobility to, from and within the Lamorinda communities' downtowns.

2.2 Routes of Regional Significance

As indicated in Figure 1, the Lamorinda Action Plan identifies four Routes of Regional Significance:

- SR-24 – From the Caldecott tunnel on the west end to the interchange with I-680 on the east end.
- Bay Area Rapid Transit (BART) – For service to and from the Orinda and Lafayette stations. This is a new designation in the 2014 Action Plan with the intent to assure high quality service to those who use the Orinda and Lafayette station, not to include major transportation infrastructure.
- Camino Pablo/San Pablo Dam Road – From Moraga Way just south of SR-24 to Inspiration Trail on the north.
- Pleasant Hill Road – from the SR-24 interchange on the south to Taylor Blvd on the north.

Figure 1: Lamorinda Routes of Regional Significance



Within Lamorinda, the four Routes of Regional Significance have been further differentiated by their role within the county. SR-24 and BART are identified as "Primary" Routes of Regional Significance because they are high-capacity, high-volume facilities designed to serve longer-distance trips between Lamorinda and other sub-regions as well as trips though Lamorinda. Pleasant Hill Road (between Taylor Boulevard and SR-24) and Camino Pablo/San Pablo Dam Road are designated as "Secondary" Routes of Regional Significance. They provide a linkage between Lamorinda and other sub-regions and they also provide access to major regional facilities (SR-24 and BART), but they are not designed to carry high volumes and are designed to serve the residential neighborhoods and schools along them.

2.3 Lamorinda Interjurisdictional Routes

Four additional routes have also been designated by the LPMC as "Interjurisdictional Routes." While these routes do not warrant designation as Routes of Regional Significance, they do cross jurisdictional boundaries, and would benefit from the multi-jurisdictional planning process envisioned in Measure J. It is not the intent or expectation that this designation would serve as a stepping stone towards designation as a Route of Regional Significance. This designation will allow the LPMC to monitor the performance of these routes and work cooperatively to specify projects and programs to increase the safety and reliability of the routes while increasing multimodal mobility within Lamorinda. The designation is also intended to help the Lamorinda jurisdictions maintain the existing character, function, and use of the routes. Cooperatively defining projects that will help the Lamorinda area may also improve the chances of receiving funding for the projects from countywide or regional grant programs.

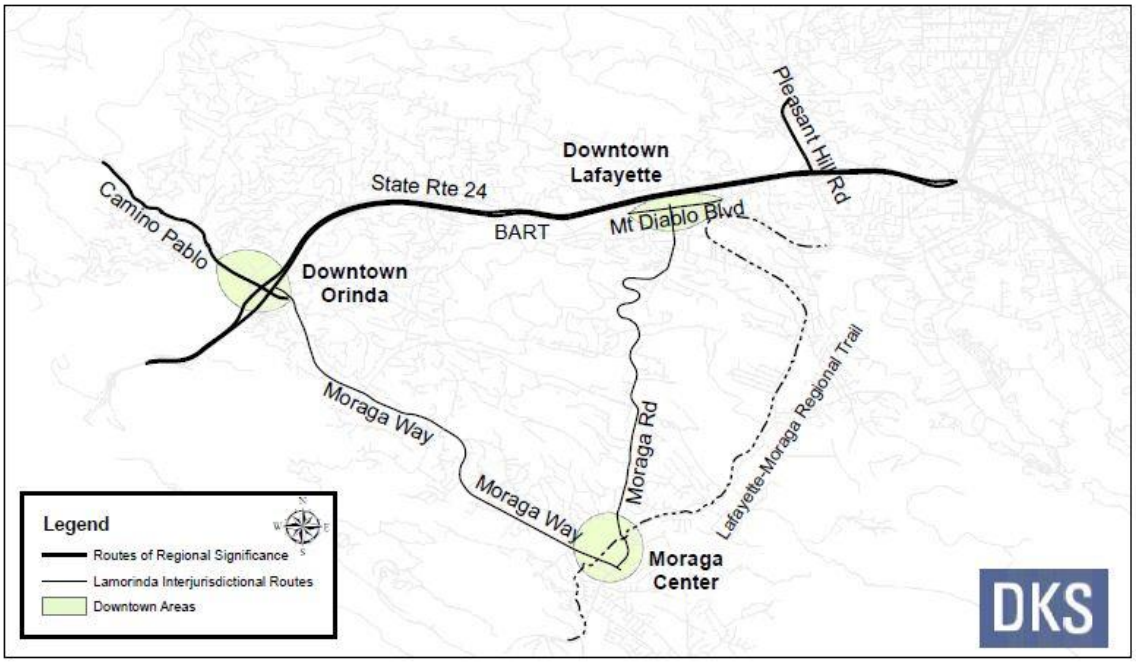
LPMC and the individual Lamorinda jurisdictions will determine the implication of this designation rather than SWAT or CCTA. Interjurisdictional Routes would remain under the classification of "non-regional routes" under the Measure J Growth Management Implementation Guidelines and would be exempt from the requirements that apply to Routes of Regional Significance. In that way, this designation preserves the Lamorinda jurisdictions' ability to maintain the existing character, function, and use of the routes and does not restrict the authority of the local jurisdiction to manage their own facilities. With this designation, the local jurisdictions would not experience any loss of control over the routes within their boundaries. Decisions by the LPMC about the Lamorinda Interjurisdictional Routes would have to have the support of the jurisdiction(s) affected by the decision. Each jurisdiction would also have the opportunity to opt out of the designation for the portion of a Lamorinda Interjurisdictional Route within its boundaries.

The four Lamorinda Interjurisdictional Routes are as follows:

- Moraga Way – From Moraga Road on the south end to Bryant Way on the north end.
- Moraga Road – From Moraga Way on the south end to Mount Diablo Boulevard on the north end.
- Mount Diablo Boulevard – From Happy Valley Road on the west end to Brown Avenue on the east end.
- Lafayette-Moraga Regional Trail[1] – For the entire length of the trail within Lamorinda.

A map of the four Lamorinda Interjurisdictional Routes is provided in Figure 2.

Figure 2: Lamorinda Interjurisdictional Routes



2.4 Multimodal Transportation Service Objectives (MTSOs) and Performance Measures

Multimodal Transportation Service Objectives (MTSOs) are measures that can be used to monitor the performance of each of the Routes of Regional Significance. For Lamorinda Interjurisdictional Routes, Performance Measures have been identified. The Measure J *Implementation Guide* defines MTSOs as quantifiable

[1] The Lafayette-Moraga Trail is to retain its existing use restrictions. Designation as a Lamorinda Interjurisdictional Routes is not intended to imply any possible change in purpose or use.

measures of effectiveness that include a target date for achieving the objective. MTSOs should specify the standards or levels of performance desired by the LPMC and the local jurisdictions. MTSOs can also help the LPMC determine when improvement projects or programs are needed to achieve a desired level of performance for a route. MTSOs are monitored each time an Action Plan is updated and values are forecast for a target year at least 25 years in the future. For this Action Plan, MTSOs in place in the 2009 Action Plan were monitored in 2013 and values forecast to 2040.

Additional performance measures have also been identified for the Secondary Routes of Regional Significance and for the Lamorinda Interjurisdictional Routes. Data will be collected for these measures in a joint effort by CCTA and the local jurisdictions to provide indicators of how well the routes are currently performing. They are not considered MTSOs and for most, no target values for performance have been identified. This may be done at a later time once values have been estimated for the existing conditions for each route. For any performance measure for the Lamorinda Interjurisdictional Routes, there are no penalties or required procedures for not meeting the target value. They are meant only to guide the LPMC and the local jurisdiction in identifying appropriate actions for the routes. As performance measures, they will be used by the local jurisdictions and LPMC to plan for actions that will improve the safety and multimodal mobility of the routes. Table 1 identifies the MTSOs and additional performance measures for the Routes of Regional Significance. Table 2 identifies the performance measures for the Lamorinda Interjurisdictional Routes.

Table 1: MTSOs for Routes of Regional Significance

Route of Regional Significance	MTSOs
SR-24	1. Maintain a Delay Index (DI) of 2.0 (2.5 after 2030) or lower on the SR-24 corridor between I-680 and the Caldecott Tunnel during peak hour in the peak commute direction including freeway on-ramps.[2] The DI is a ratio of peak period travel time to off-peak period travel time. A Delay Index of 2.0 indicates that the trip would take twice as long during the peak hour as during the uncongested off-peak. 2. Maintain a Delay Index (DI) of 1.5 or less for all but the six most congested hours of the day.
BART	1. Maintain an hourly average loading factor (ratio of passengers to seats) of 1.5 or less approaching Lafayette Station westbound and Orinda Station eastbound during each and every hour of service. An hourly averaging loading factor of 1.5 indicates that the number of passengers served during the hour is fifty percent greater than the number of seats available during that hour.

[2] Monitoring or modeling of Delay Index should be for the entire length of corridor. The measurements should be made inside any points of capacity constraint imposed by either a gateway constraint policy or traffic management strategies designed to limit the flow of vehicles into the corridor. Doing so will insure that the effects of the gateway constraint policy or traffic management strategies are reflected in the MTSO values.

Table 1: MTSOs for Routes of Regional Significance

Route of Regional Significance	MTSOs
Pleasant Hill Road[3]	1. Maintain peak hour peak direction delay index of 2.0 or lower. 2. 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. 3. Increase the average vehicle occupancy on Pleasant Hill Road/Taylor Boulevard to at least 1.3 during the peak commute hours by 2018. 4. Maintain a peak-hour level of service of "Good D"[4] or better at signalized intersections consistent with the Lafayette General Plan for intersections not in the downtown area except at the gateways to the Action Plan area such as Rancho View Drive. **Additional Performance Measures** 5. Maintain an inventory of available pedestrian and bicycle facilities. 6. Monitor vehicle crash frequency. 7. Monitor pedestrian or bicycle injury crash frequency.

[3] Regarding Pleasant Hill Road, the listed MTSOs can potentially conflict with one another, as maintaining a maximum wait time of one cycle or fewer on the side street can lead to an increase in the delay index on Pleasant Hill Road or the level of service at a signalized intersection. In this case, the MTSO addressing maximum wait time for drivers on side streets takes precedence. The City of Lafayette's preference, per its General Plan, is to accommodate local traffic over through traffic.

[4] "Good D" reflects an average delay per vehicle of 25 to 33 seconds, as defined in the City of Lafayette's General Plan.

Table 1: MTSOs for Routes of Regional Significance

Route of Regional Significance	MTSOs
Camino Pablo/ San Pablo Dam Road	1. Maintain peak hour peak direction delay index of 2.0 or lower. 2. The maximum wait time for drivers on side streets wishing to access San Pablo Dam Road or Camino Pablo should be no greater than one signal cycle. 3. Increase the average vehicle occupancy on Camino Pablo/San Pablo Dam Road to at least 1.3 during the peak commute hours by 2018. **Additional Performance Measures** 4. Maintain an inventory of available pedestrian and bicycle facilities. 5. Monitor vehicle crash frequency. 6. Monitor pedestrian or bicycle injury crash frequency. 7. Monitor the frequency and cause of unplanned lane closures of any type.

Table 2: Performance Measures for Lamorinda Interjurisdictional Routes

Lamorinda Interjurisdictional Route	Performance Measures
Moraga Way	1. Maintain an inventory of available pedestrian and bicycle facilities. 2. Monitor vehicle crash frequency. 3. Monitor pedestrian or bicycle injury crash frequency 4. Monitor the frequency and cause of unplanned lane closures of any type. 5. Maintain peak hour peak direction delay index of 2.0 or lower.
Moraga Road[5]	1. Maintain an inventory of available pedestrian and bicycle facilities. 2. Monitor vehicle crash frequency. 3. Monitor pedestrian or bicycle injury crash frequency 4. Maintain peak hour peak direction delay index of 2.0 or lower. 5. Achieve and maintain a peak-hour level of service of "Poor D"[6] or better at signalized intersections within downtown Lafayette consistent with the Lafayette General Plan for intersections in the downtown area. 6. Maintain a maximum wait time for drivers on side streets wishing to access Moraga Road at any signalized intersection between Herman Drive /St. Mary's Road and Mount Diablo Boulevard of one signal cycle or fewer.

[5] As with the MTSOs, when there is a potential conflict between the performance measure for wait time for drivers on side streets and the delay index or the level of service at a signalized intersection within Lafayette, the maximum wait time for drivers on side streets takes precedence because the City of Lafayette's preference, as per its General Plan, is to accommodate local traffic over through traffic.

[6] "Poor D" reflects an average delay per vehicle of 33 to 40 seconds, as defined in the City of Lafayette's General Plan.

Table 2: Performance Measures for Lamorinda Interjurisdictional Routes

Lamorinda Interjurisdictional Route	Performance Measures
Mount Diablo Boulevard	1. Maintain an inventory of available pedestrian and bicycle facilities. 2. Monitor vehicle crash frequency. 3. Monitor pedestrian or bicycle injury crash frequency. 4. Maintain peak hour peak direction delay index of 2.0 or lower. 5. Maintain a peak hour level of service "Poor D" or better at signalized intersections within downtown Lafayette consistent with the Lafayette General Plan for intersections in the downtown area. 6. Maintain a maximum wait time for drivers on side streets wishing to access Mount Diablo Boulevard at any signalized intersection of one signal cycle or fewer.
Lafayette-Moraga Regional Trail	1. Monitor pedestrian and bicycle volumes at crossings. 2. Monitor auto volumes at crossings. 3. Monitor average trail user delay at major road crossings. 4. Monitor pedestrian or bicycle injury crash frequency at crossings. 5. Monitor pavement condition over the entire trail.

3 EXISTING TRANSPORTATION CONDITIONS

This section describes existing transportation conditions in Lamorinda including those of major roadways and transit services.

3.1 Routes of Regional Significance

3.1.1 State Route 24 (SR-24)

SR-24 is a major freeway connection serving Central Contra Costa County, the Lamorinda area, and Alameda County, and carries between an average of 150,000 and 188,000 vehicles per day (2012 Caltrans ADT). In Contra Costa

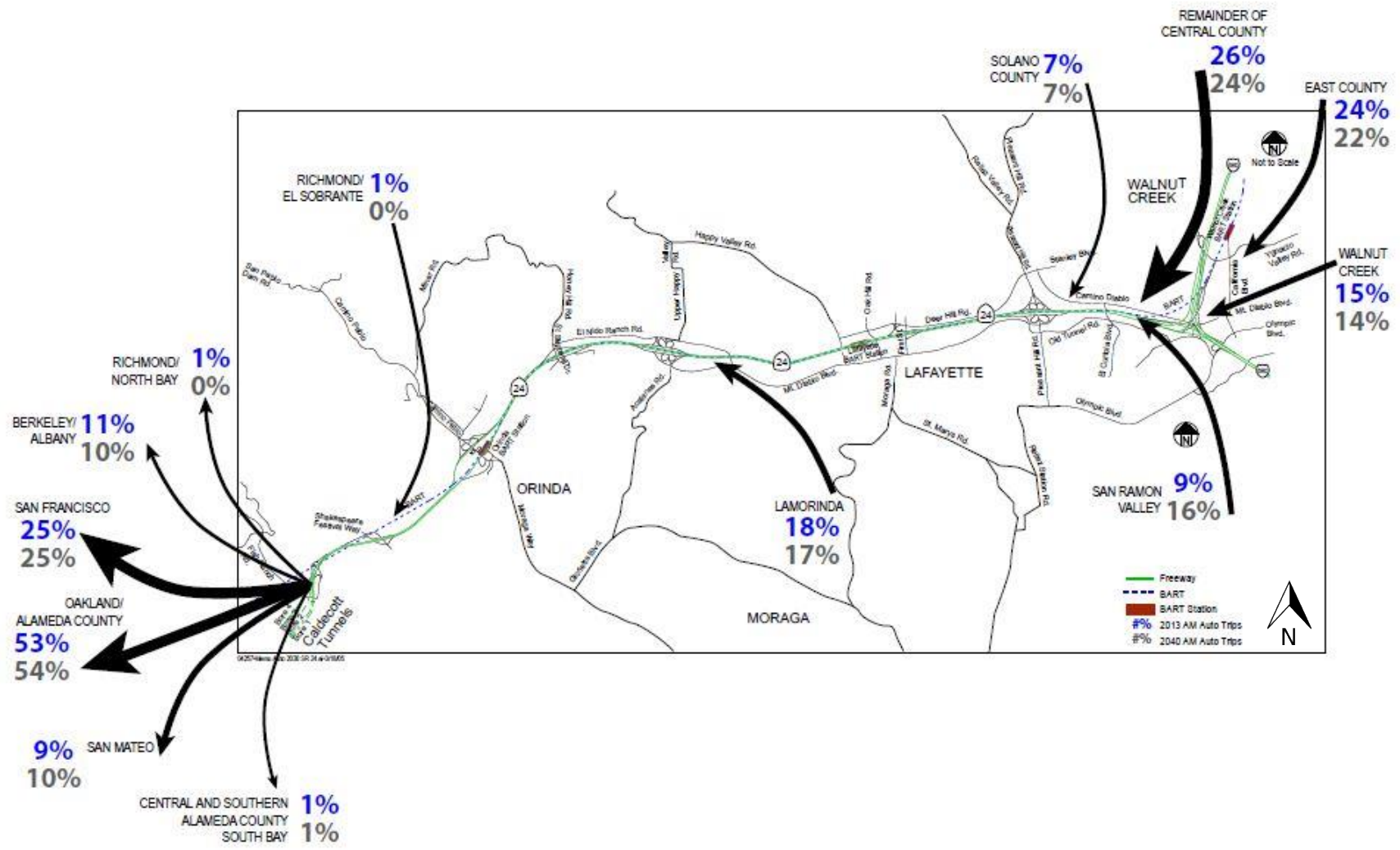
County, the freeway runs from the I-680 interchange in Walnut Creek to the Caldecott Tunnel, and traverses the Lamorinda communities. Within this segment, there are generally four travel lanes in each direction with no high-occupancy vehicle (HOV) lanes. To access Lamorinda, there are seven interchanges between I-680 and the Caldecott tunnel, and they are located at Pleasant Hill Road, Deer Hill Road/Oak Hill Road/First Street, Acalanes Road/El Nido Ranch Road, St. Stephens Drive, Camino Pablo, Gateway Boulevard, and Fish Ranch Road. BART runs within the center median of the SR-24 right-of-way.

In 1990, Lamorinda contributed 30 percent of all westbound AM peak period traffic through the Caldecott Tunnel. Since 1990, travel patterns have changed dramatically on SR-24. As shown in Figure 3, that number had dropped to 18 percent by 2013, as substantial growth has occurred in Central County and East County. This growth to the east of the corridor has led to an increase in congestion intensity and duration along SR-24. The Lamorinda contribution to traffic on SR-24 is expected to remain fairly stable in the next few decades decreasing to only 17 percent by 2040. In the eastbound direction, 41 percent of 2013 trips through the I-680/SR-24 interchange originated in Lamorinda and the percentage of these trips is projected to decrease slightly to 38 percent in 2040.

Figure 4 illustrates the origins and destinations for eastbound AM peak period traffic on SR-24 for 2013 and 2040. The comparison indicates that the contribution of Lamorinda traffic will decrease from 41 percent to 38 percent while though traffic will increase. The biggest increase will come from Oakland and other parts of Central Alameda County. The largest increase in destinations for the eastbound traffic will be Concord and other parts of Central Contra Costa County as a result of the first phase of the Concord Naval Weapons Station reuse and other development in that area.

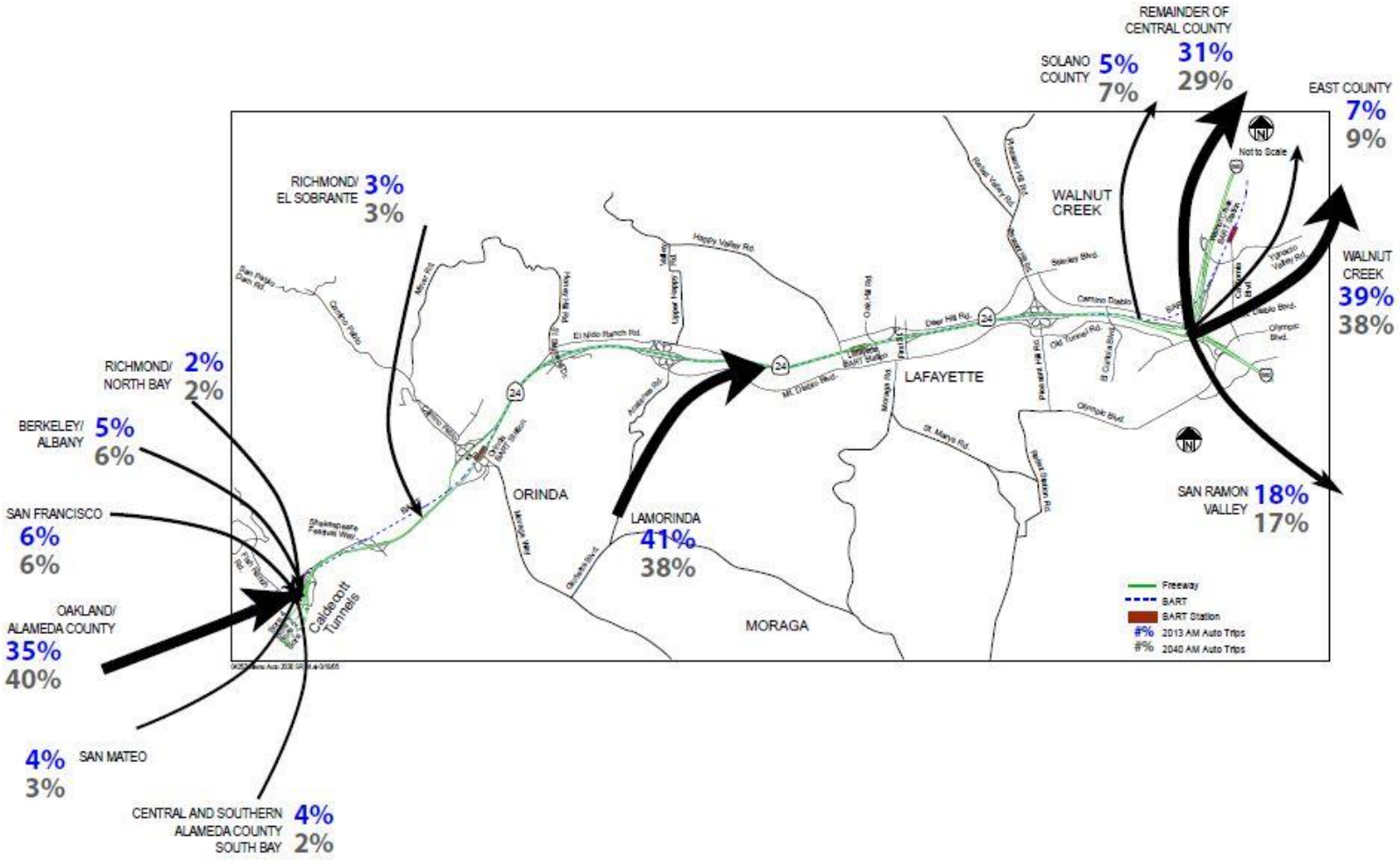
The travel patterns in Figures 3 and 4 are based on results of the CCTA Countywide Transportation Model and reflect vehicle trips during the peak periods in 2013 and 2040. Travel in the corridor also includes person-trips by BART and people getting rides with other people, but they are not included in the travel patterns in Figures 3 and 4. Some work trips are also not made every day because of telecommuting, which is growing in popularity in the Lamorinda Area. These additional trips and travel characteristics are captured reasonably well in the Countywide Transportation Model and the forecasts for traffic on individual roadways, but cannot be incorporated in the origin-destination analysis for traffic on SR-24.

Figure 3: 2013 and 2040 AM Peak Period Westbound Origin-Destination Summary



Source: CCTA Countywide Travel Demand Model, 2013

Figure 4: 2013 and 2040 AM Peak Period Eastbound Origin-Destination Summary



Source: CCTA Countywide Travel Demand Model, 2013

3.1.2 BART

BART provides service to Lamorinda on the C line, which provides service between Pittsburg/Bay Point, Concord, Walnut Creek, Lafayette, Orinda, Oakland, San Francisco, Daly City, Colma, South San Francisco, San Bruno, the San Francisco Airport, and Millbrae. The line has connections to three of BART's other lines in Oakland. Ridership in 2012, as measured by daily exits at the two Lamorinda stations, exceeded 6,000 passengers. A map showing the BART system is presented in Figure 5.

Figure 5: BART System Map

Source: http://www.bart.gov, July 2013.

BART provides service on the C line between 4:00 AM and 1:30 AM on weekdays with service every 5 to 10 minutes in the peak period (6:00 AM to 9:00 AM) and every 15 to 20 minutes in the off-peak period. Service is provided on Saturdays between 6:00 AM and 1:30 AM and on Sunday between 8:00 AM and 1:30 AM.

3.1.3 Pleasant Hill Road

Connecting the cities of Martinez, Pleasant Hill, and Walnut Creek to Lafayette, Pleasant Hill Road is a major four-lane, north-south arterial that intersects with SR-24 roughly 1.5 miles west of I-680. Pleasant Hill Road is designated as a Route of Regional Significance south of Taylor Boulevard terminating at the SR-24 Interchange south of Deer Hill Road/Stanley Boulevard.. Pleasant Hill Road is

also a Route of Regional Significance within the Central County subregion north of Lafayette. The traffic volume on Pleasant Hill Road, based on a traffic count conducted in 2010 just south of Reliez Valley Road, was 1,992 vehicles in the southbound direction and 764 vehicles in the northbound direction during the AM peak hour. In the PM peak hour, the volume was 1,010 vehicles in the southbound direction and 2,222 vehicles in the northbound direction. Using 2012 turning movement counts, the City of Lafayette estimates that the two-way daily traffic volume just south of Reliez Valley Road is 28,700 vehicles.

Two schools, Springhill Elementary and Acalanes High School, are served by the roadway. There is currently no transit service offered on Pleasant Hill Road north of Stanley Boulevard. Prior to the reconstruction of the I-680 / SR-24 interchange in 1999, Pleasant Hill Road carried significant through traffic that bypassed the congested interchange. Once the project was completed, traffic volumes and congestion dropped off but have recently been on the increase once again.

3.1.4 Camino Pablo / San Pablo Dam Road

Camino Pablo is a major arterial that begins just south of SR-24 in downtown Orinda and runs north serving Orinda Village and turning into San Pablo Dam Road at the Bear Creek Road intersection. The traffic volumes on San Pablo Dam Road, based on a traffic count conducted in 2010 north of Orinda, was 1,126 vehicles in the southbound direction and 359 vehicles in the northbound direction during the AM peak hour. In the PM peak hour, the volume was 484 vehicles in the southbound direction and 945 vehicles in the northbound direction.

The roadway serves the SR-24 interchange as well as the Orinda BART station, and ultimately connects to Richmond and I-80 in western Contra Costa County. AC Transit Route 74 operates along this corridor.

3.2 Lamorinda Interjurisdictional Routes

3.2.1 Moraga Way

Moraga Way is a north-south arterial that intersects with SR-24 roughly 2.5 miles east of the Caldecott Tunnel and connects to Camino Pablo. Three schools - Miramonte High School, Orinda Intermediate School, and Del Rey Elementary School - are served by the roadway. The roadway connects residential communities and St. Mary's College to SR-24 and the Orinda BART station as well as the downtown commercial areas of Moraga and Orinda, both of which are designated as Priority Development Areas. County Connection Route 6 operates along this corridor.

3.2.2 Moraga Road

Moraga Road is a north-south arterial that intersects with Mount Diablo Boulevard and extends south into the Town of Moraga. Five schools - Lafayette Elementary School, Stanley Middle School, Campolindo High School, St. Perpetua School, and Donald Rheem Elementary - are served by the roadway. Moraga Road also provides access to Saint Mary's College although the college is not on Moraga Road. The roadway connects residential communities to SR-24 and the Lafayette BART station as well as the downtown commercial areas of Moraga and Lafayette, both of which are designated as Priority Development Areas, and the Rheem commercial area. County Connection Route 6 operates along this corridor.

3.2.3 Mount Diablo Boulevard (Happy Valley Road to Brown Avenue)

Mount Diablo Boulevard is an arterial that runs parallel to SR-24 between Acalanes Road and Pleasant Hill Road, serving the downtown area of Lafayette, the Lafayette BART station, and almost all of the city's commercial districts. Only the portion of Mount Diablo Boulevard between Happy Valley Road and Brown Avenue is designated as a Lamorinda Interjurisdictional Route. The roadway serves as a parallel route for vehicles diverting from SR-24 during periods of congestion. Although the roadway does not connect to another jurisdiction, it is interjurisdictional in terms of use. The section of Mount Diablo Boulevard in Downtown Lafayette is used for SR-24 access from the residential communities to the south. Downtown Lafayette's Y-shaped street network is such that the SR-24 eastbound freeway exit is located at Oak Hill Road and eastbound freeway entrance is located at 1st Street, both of which meet Mount Diablo Boulevard. Vehicles entering or exiting SR-24 westbound coming from or going to the south would exit onto Deer Hill Road and use either 1st Street or Oak Hill Road to do so. The main road south of Mount Diablo Boulevard is Moraga Road, which is between Oak Hill Road and 1st Street. Regarding transit service, County Connection Route 25 operates along this corridor.

3.2.4 Lafayette-Moraga Regional Trail

The Lafayette-Moraga Regional Trail is a north-south, 7.7-mile long, linear park intended for pedestrian, equestrian, and bicycle use. Paralleling St. Mary's Road through Lafayette and Moraga, the trail begins at Canyon Road about 0.7 miles south of Camino Pablo and terminates at Olympic Boulevard to the north in Lafayette.

3.3 Monitoring Multimodal Transportation Service Objectives

Descriptions of the MTSOs and the target values for each were provided in Section 2. The values of the MTSOs established by the 2009 Action Plan for the

Lamorinda Routes of Regional Significance were monitored in 2013. Table 3 summarizes the results of the monitoring. All of these were met during the 2013 monitoring effort, except for the MTSO describing side street maximum waiting times on Pleasant Hill Road.

Table 3: Status of MTSOs of Routes of Regional Significance

Route	MTSO	2013 Monitoring Report
SR-24 *Caldecott Tunnel to I-680*	Maintain a delay index of 2.0 or better during peak period/peak direction (including freeway on-ramps).	AM: 1.5 PM: 1.4
	Maintain a Delay Index (DI) of 1.5 or less for all but the six most congested hours of the day.	EB: 1.0 WB: 1.0
BART	Maintain a loading factor of 1.5 pax/seat or better during peak period/peak direction	AM: 1.26 PM: 1.47
Pleasant Hill Road *Taylor Boulevard to SR-24*	Maintain a delay index of 2.0 or better during peak period/peak direction.	AM: 1.2 PM: 1.4
	Maintain a maximum wait time for drivers on side streets wishing to access Pleasant Hill Road or Taylor Boulevard of one signal cycle or fewer.	AM: 1, except for Quandt Rd intersection (2 cycles) PM: 1, except for intersections at Mt Diablo Blvd, Quandt Rd, and Reliez Valley Rd (2 cycles for the 3 exceptions)
Camino Pablo / San Pablo Dam Road *I-80 to SR-24*	Maintain a delay index of 2.0 or better during peak period/peak direction.	AM: 1.2 PM: 1.2
	The maximum wait time for drivers on side streets wishing to access San Pablo Dam Road or Camino Pablo should be no greater than one signal cycle.	AM: 1 PM: 1

Note: MTSOs added in the 2014 Update were not monitored.

3.4 Transit Service

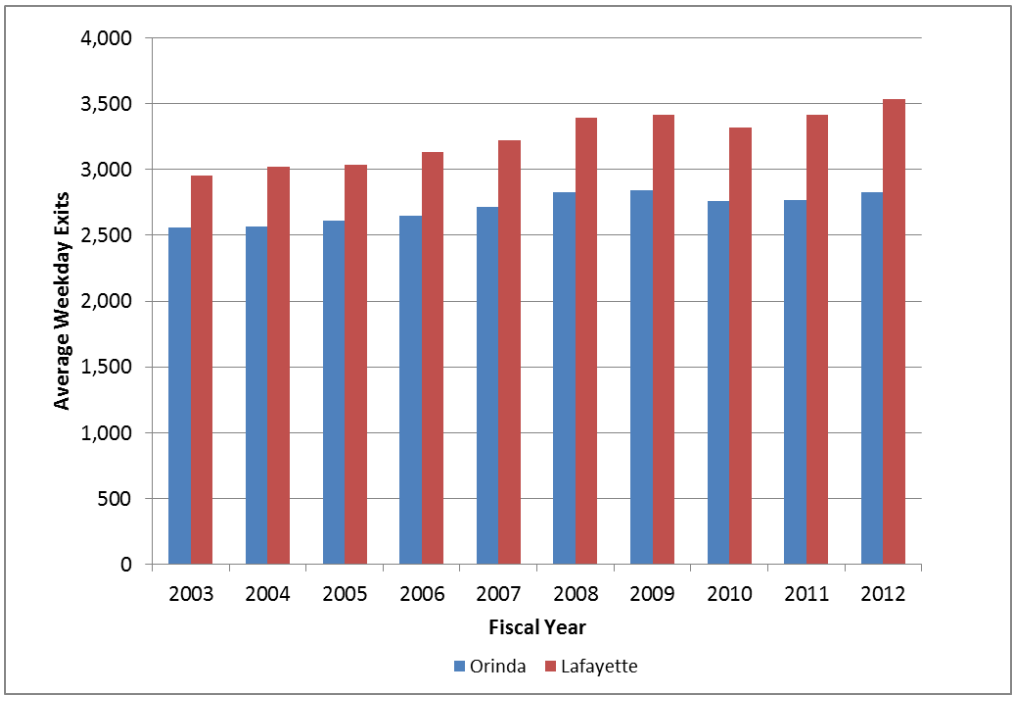
Transit service in Lamorinda is provided by the San Francisco Bay Area Rapid Transit District (BART), and County Connection. In general, transit ridership has been slowly recovering after a decline during the years following the economic downturn of 2000-2001 and the recession of 2008-2011. Both BART and County Connection experienced small ridership increases in 2012.

3.4.1 BART

BART service to Lamorinda is provided at the Orinda and Lafayette BART stations. The stations can be accessed through on-site park-and-ride lots and through several County Connection bus routes. Ridership in 2012, shown as average annual weekday exits at the two local BART stations, is shown in Figure 6.

The MTSO for BART is to maintain an hourly average loading factor (ratio of passengers to seats) of 1.5 or less approaching Lafayette Station westbound and Orinda Station eastbound during each and every hour of service. An hourly averaging loading factor of 1.5 indicates that the number of passengers served during the hour is fifty percent greater than the number of seats available during that hour. Monitoring in 2013 indicated that this MTSO was met, with the highest observed hourly average loading factor being 1.47 at 2:00 PM in the eastbound direction, and 1.26 at 7:00 AM in the westbound direction.

Figure 6: Average Annual Weekday Exits at Orinda and Lafayette BART stations

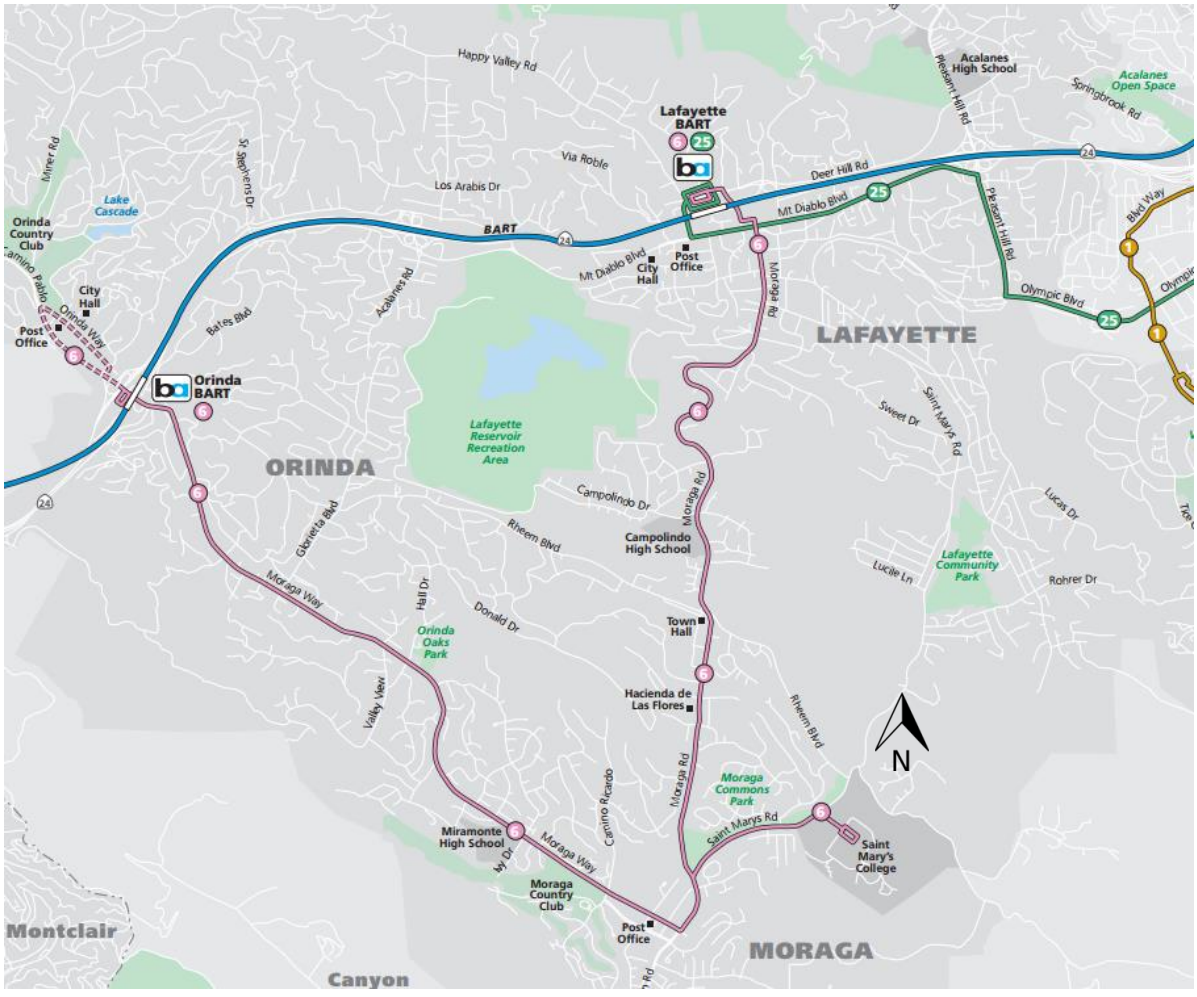


Source: BART 2012 Ridership Report.

3.4.2 County Connection

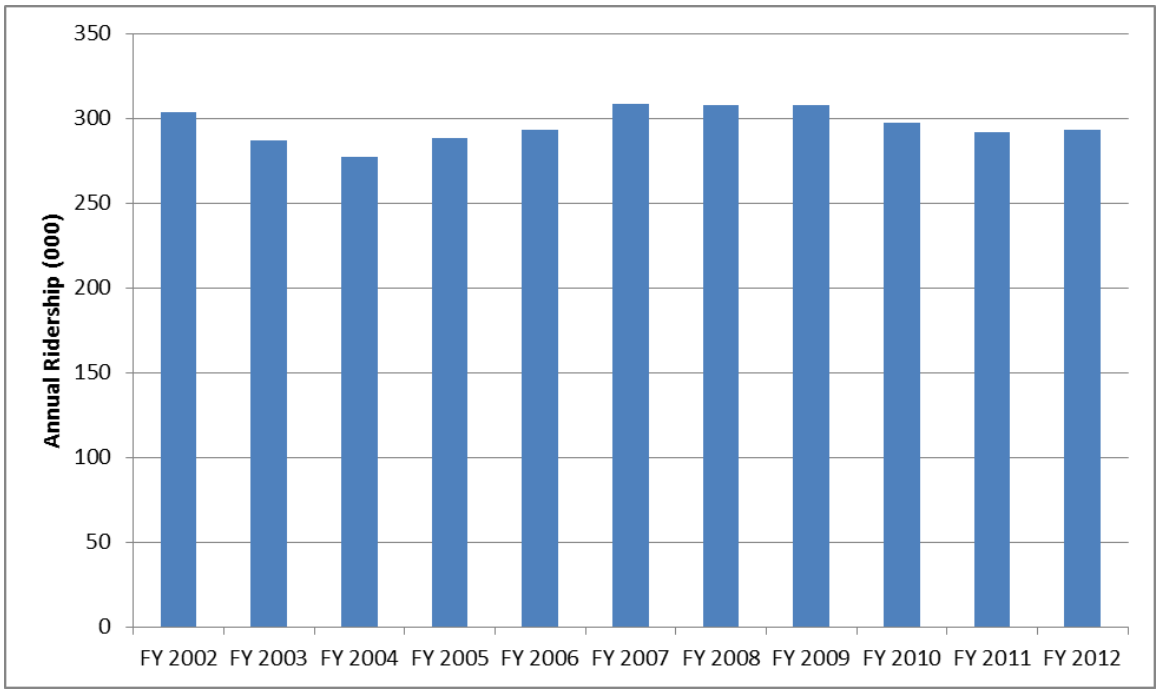
The Central Contra Costa Transit Authority (CCCTA), or County Connection, serves the Lamorinda area including both the Orinda and Lafayette BART stations. The bus routes currently serving this area are 1, 6, and 25, as illustrated in Figure 7. In addition to the regular bus routes, County Connection operates supplemental bus service on school days to accommodate heavy ridership. Such routes serving Lamorinda schools are 603, 606, 625, and 626. In 2009, the County Connection route system went through a major restructuring in which its routes were renumbered and/or changed and some weekend service eliminated, resulting in a decrease in ridership in subsequent years. Ridership on the Lamorinda area routes has fluctuated over the past decade, as shown in Figure 8. Figure 9 illustrates Lamorinda ridership in the 2012 fiscal year by route, and Figure 10 shows the 2012 FY ridership demographic profile by age group.

Figure 7: County Connection System Map (Lamorinda area)



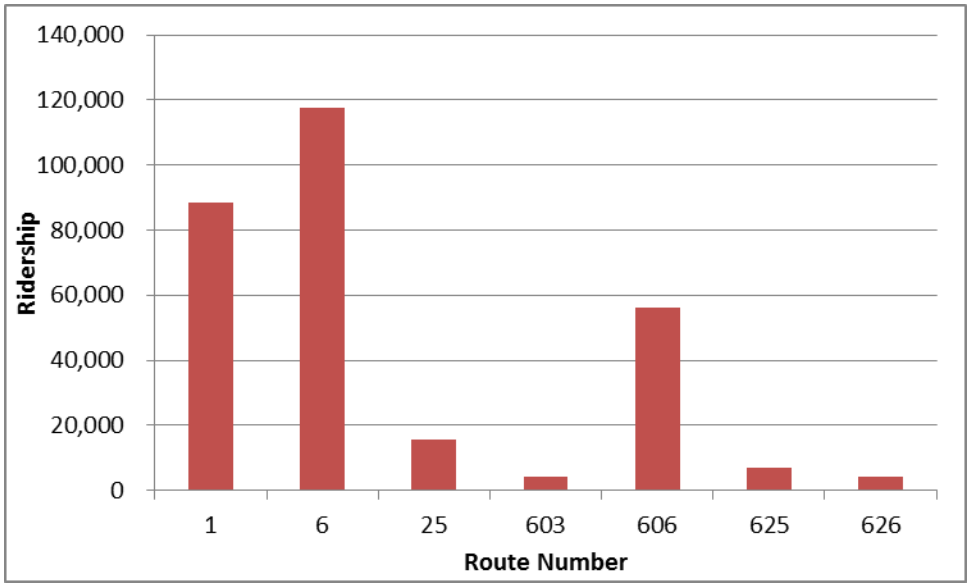
Source: County Connection, July 2013.

Figure 8: Annual Ridership for County Connection Lamorinda Bus Routes



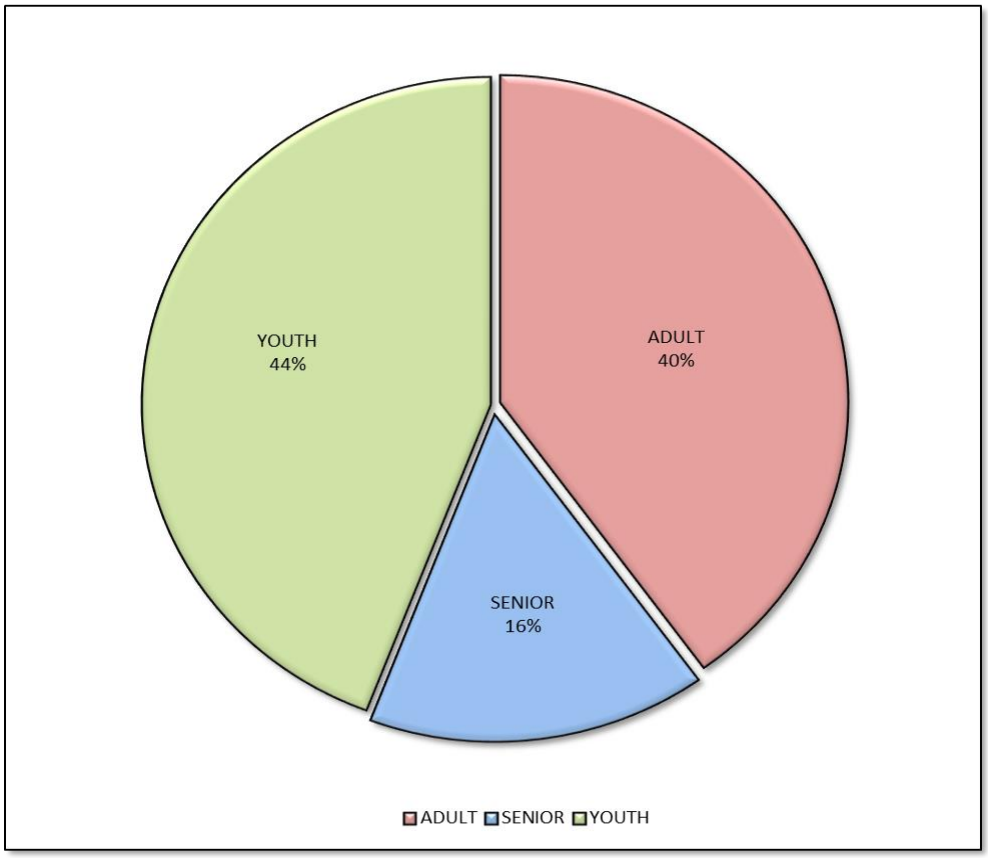
Source: County Connection, November 2013.

Figure 9: FY 2012 Ridership for County Connection Lamorinda Service, by Bus Route



Source: County Connection, November 2013.

Figure 10: FY 2012 Ridership for County Connection Lamorinda Service, by Age Group



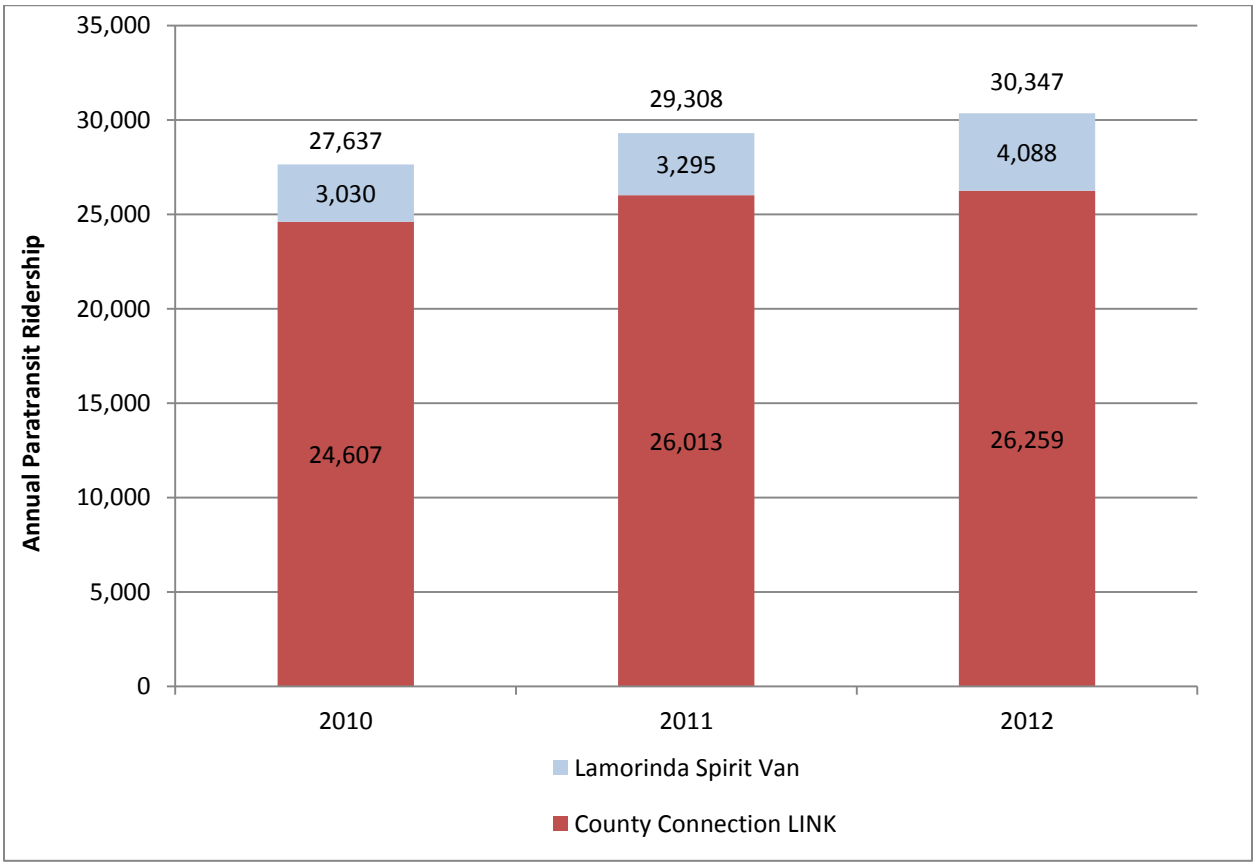
Source: County Connection, January 2014.

3.4.3 Paratransit

Paratransit services are provided by County Connection LINK and Lamorinda Spirit Van. The Lamorinda Spirit Van is an alliance between public and private organizations in Moraga, Orinda, and Lafayette. Ridership on these two services, shown in Figure 11, has been steadily rising, mirroring a trend found throughout the Bay Area. With population forecasts showing a large increase in the senior (age 62 and over) demographic, the rising demand for paratransit is a trend that is expected to continue.

The Lamorinda jurisdictions have also teamed together to undertake a Lamorinda Circulator Study. The purpose of the study, which will be sponsored by CCTA and County Connection, will be to determine whether some type of shuttle service would be viable within the Lamorinda community and what would be involved in operating a shuttle to connect neighborhoods with BART, downtowns/Priority Development Areas (PDAs) and park-and-ride lots.

Figure 11: Annual Paratransit Ridership in Lamorinda



Source: County Connection LINK, Lamorinda Spirit Van, 2014.

4 OVERALL GROWTH RATES AND FUTURE TRAVEL PATTERNS

Forecasts for future population and employment levels in Lamorinda were derived from the Contra Costa Transportation Authority (CCTA) countywide travel model. Model forecasts are based on the Association of Bay Area Governments (ABAG) Current Regional Plan Projections produced in 2011 as part of the regional plan update and the 2013 CCTA Land Use Information System (LUIS '13). Provided in the model are forecasts for the year 2010, 2020, 2030, and 2040. Current year 2013 estimates are derived through straight-line interpolation between 2010 and 2020.

4.1 Population Forecasts

Population forecasts, including demographics, households, and employment are shown in Tables 4 and 5. By 2040, the total Lamorinda population is forecast to grow 11 percent from today. Seniors (age 62 and over) are to make up most of that growth, increasing by 54 percent. The forecasts were developed based upon ABAG's Current Regional Plan Projections produced in 2011, and were subject to extensive review by the local jurisdictions. The forecasts reflect that by 2040, the percentage of people who are over the age of 62 and still in the work force will have dramatically increased. This trend applies not only for Lamorinda, but also for the remainder of Contra Costa.

Table 4: Lamorinda Demographic Forecasts

	Lamorinda 2013	Lamorinda 2040	Net Growth 2013-2040	Percent Growth
Senior (Age 62+)	13,560	20,880	7320	54%
Adult (Non-Senior)	35,880	35,420	-460	-1%
Non-working Young	15,060	15,200	140	1%
Total Population	64,500	71,500	7000	11%

Source: CCTA Travel Demand Model, Projections 2013.

Table 5: Lamorinda Population, Households, Employed Residents and Employment Forecasts

	Lamorinda 2013	Lamorinda 2040	Net Growth 2013-2040	Percent Growth
Total Population	64,500	71,500	7,000	11%
Total Households	24,200	27,200	3,000	13%
Total Employed Residents	28,700	33,000	4,400	15%
Total Employees	19,000	21,900	2,900	15%

Source: CCTA Travel Demand Model, Projections 2013.

The total number of employees, or jobs, in Lamorinda is expected to grow at a slower rate than the number of employed residents. Since there are currently fewer employees than employed residents, the net out-commuting travel pattern that exists today will likely continue. Table 6 illustrates present and forecast work trip distribution within and outside of Lamorinda.

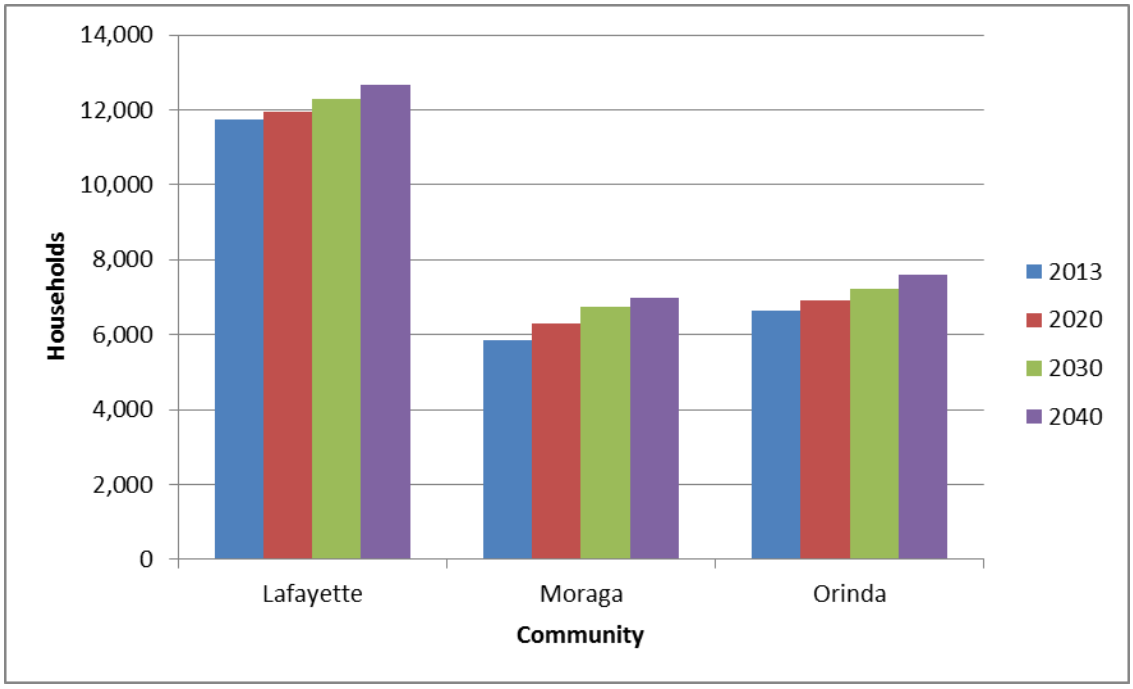
Table 6: Lamorinda Employed Residents Distribution Profile

		Work Location			
		Lamorinda		Other Bay Area	
		2013	2040	2013	2040
Home Location	Lamorinda	3,200	3,400	25,500	29,600
	Other Bay Area	15,800	18,500		

Source: CCTA Travel Demand Model, Projections 2013.

Total household growth among the three cities is roughly evenly distributed, as shown in Figure 12. Moraga is expected to have 1,300 new households, while the cities of Lafayette and Orinda are forecasted to absorb 1,050 new households each.

Figure 12: Households by Area, 2013 to 2040



Source: CCTA Travel Demand Model, Projections 2013.

4.2 Employment Forecasts

Total employment within Lamorinda is forecast to grow 15 percent by 2040 as shown in Table 7. Most of this growth is to occur in the service sector which will account for almost 50 percent of the total employment growth.

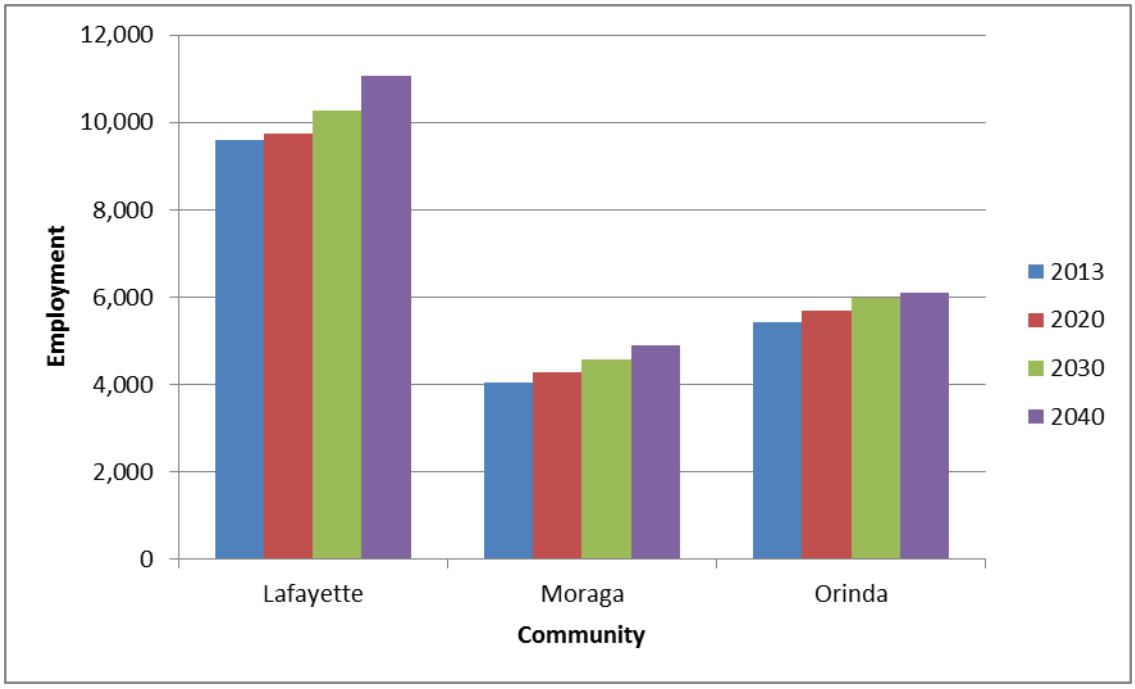
Table 7: Lamorinda Employment Forecast

	Lamorinda 2013	Lamorinda 2040	Net Growth 2013-2040	Percent Growth
Retail	4,900	5,400	500	10%
Service	8,800	10,300	1,500	17%
Manufacturing	900	1,200	300	33%
Agricultural	140	160	20	14%
Wholesale	530	650	120	23%
Other	3,700	4,200	500	13%
Total Employment	18,970	21,910	2,940	16%

Source: CCTA Travel Demand Model, Projections 2013.

Distribution of employment growth is not expected to be even, with most of the growth occurring in Lafayette (about 1,430 jobs). Moraga and Orinda are forecasted to add about 830 and 680 jobs, respectively, as shown in Figure 13.

Figure 13: Employment by Area, 2013 to 2040



Source: CCTA Travel Demand Model, Projections 2013.

4.3 Traffic Forecasts

Travel forecasts were developed using the CCTA model system. The travel behavior represented by the CCTA model, which is consistent with the regional model used by MTC, is used to represent the growth in travel in each subregion. Forecasts are used to pivot off of existing travel patterns as reflected in traffic counts and transit ridership counts. These counts capture any unique travel characteristics of the travelers in any particular subregion. As shown in Table 8,

traffic demand is expected to grow significantly on Lamorinda area freeways and arterials.

Table 8: Traffic Forecasts for Select Routes of Regional Significance and Interjurisdictional Routes

Road Name	AM Peak Direction	2013 AM Peak Hour Volume	2013 - 2040 AM Peak Hour Volume Growth	2013 - 2040 AM Peak Hour Volume % Growth
Routes of Regional Significance				
SR-24	Westbound			
SR-24 west of I-680 interchange (east of Pleasant Hill Road)	Westbound	9,800	1,490	15%
SR-24 east of Oak Hill Road	Westbound	9,800	1,700	18%
SR-24 west of Acalanes Road	Westbound	10,400	1,050	10%
SR-24 west of Moraga Way	Westbound	10,900	1,070	12%
SR-24 at Caldecott Tunnel	Westbound	10,400	1,630	16%
Pleasant Hill Road at Reliez Valley Road	Southbound	1,540	180	11%
Camino Pablo at Miner Road	Southbound	1,250	60	6%
Interjurisdictional Routes				
Moraga Way north of Glorietta Boulevard	Northbound	850	80	9%
Moraga Road north of St Mary's Road (Lafayette)	Northbound	860	120	14%
Mount Diablo Blvd west of Moraga Road	Westbound	1,660	300	18%

Source: CCTA Travel Demand Model, Projections 2011[age 52 .

4.4 Forecasts of MTSO Values for 2040

An assessment of travel forecasts for 2040 indicated that the programmed regional and local projects and the actions of this Action Plan would lead to achievement of all the Multimodal Transportation Service Objectives in the Lamorinda Area except for the side street delay on Pleasant Hill Road. A summary of the results of the analysis is presented in Table 9. The table provides the results from the 2013 MTSO monitoring, values estimated for a "No Project" forecast that excludes all actions contained in the five Action Plans, and values for a 'With Actions" forecast that includes all actions from the five Action Plans. More detail on the MTSO values can be found in Appendix A. The growth in the volume of traffic though the corridor, particularly on SR-24, is kept low in the "With Actions" scenario by a significant increase in the BART service and

capacity assumed in the 2040 forecasts and by the Lamorinda Action Plan Gateway Constraint Policy.

Table 9: Assessment of MTSO Values for 2013 and 2040

Route	MTSO	2013 Monitoring Report	2040 No Project	2040 With Actions
SR-24 Caldecott Tunnel to I-680	Maintain a Delay Index (DI) of 2.0 (2.5 after 2030) or better during peak hour (including freeway on-ramps)	AM: 1.0 (EB), 1.5 (WB) PM: 1.4 (EB), 1.3 (WB)	AM: 1.5 (EB), 2.4 (WB) PM: 2.0 (EB), 1.7 (WB)	AM: 1.4 (EB), 1.7 (WB) PM: 1.7 (EB), 1.7 (WB)
	Maintain a Delay Index (DI) of 1.5 or better for all but the six most congested hours of the day	Delay Index is below 1.5 for all but the six most congested hours of the day.	Delay Index is below 1.5 for all but the six most congested hours of the day.	Delay Index is below 1.5 for all but the six most congested hours of the day.
BART	Maintain a loading factor of 1.5 pax/seat or better during each hour of service	The MTSO is not exceeded in any hour of service.	The MTSO is not exceeded in any hour of service.	The MTSO is not exceeded in any hour of service.
Pleasant Hill Road Taylor Boulevard to SR-24	Maintain a delay index of 2.0 or better during peak hour	AM: N/A (NB), 1.2 (SB) PM: 1.4 (NB), N/A (SB)	AM: 1.5 (NB), 1.4 (SB) PM: 1.8 (NB), **2.1 (SB)**	AM: 1.3 (NB), 1.3 (SB) PM: 1.6 (NB), 1.9 (SB)
	Maximum wait time for drivers on side streets wishing to access Pleasant Hill Road or Taylor Boulevard of one signal cycle or less	**AM: 1 cycle, except for Spring Hill Rd intersection (2 cycles)** **PM: 1 cycle, except for intersections at Green Valley Dr, and Spring Hill Rd (2 cycles)**	**AM: 1 cycle, except for Spring Hill Rd intersection (2 cycles)** **PM: 1 cycle, except for intersections at Green Valley Dr, and Spring Hill Rd (2 cycles)**	**AM: 1 cycle, except for Spring Hill Rd intersection (2 cycles)** **PM: 1 cycle, except for intersections at Green Valley Dr, and Spring Hill Rd (2 cycles)**
Camino Pablo / San Pablo Dam Road Wildcat Canyon Rd to SR-24	Maintain a delay index of 2.0 or better during peak hour	AM: N/A (NB), 1.2 (SB) PM: 1.2 (NB), N/A (SB)	AM: 1.4 (NB), 1.6 (SB) PM: 1.4 (NB), 1.1 (SB)	AM: 1.3 (NB), 1.5 (SB) PM: 1.3 (NB), 1.0 (SB)
	Maximum wait time for drivers on side streets wishing to access San Pablo Dam Road/Camino Pablo of one signal cycle or less	AM: All intersections have 1 cycle wait for side streets. PM: All intersections have 1 cycle wait for side streets.	**AM: 1 cycle, except for Wildcat Canyon Rd intersection (2 cycles)** PM: All intersections have 1 cycle wait for side streets.	AM: All intersections have 1 cycle wait for side streets. PM: All intersections have 1 cycle wait for side streets.

Note: MTSOs added in 2014 update were not monitored for 2013
Bold – MTSO value is below standard

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

5 ACTIONS FOR ROUTES OF REGIONAL SIGNIFICANCE

To address future traffic, congestion and mobility issues, the LPMC has identified a set of actions that are intended to result in achievement of the Action Plan vision, policies, and goals identified in Section 2.1. The actions represent a combination of specific projects, programs, measures, and mitigations that the Lamorinda jurisdictions have agreed to carry out as part of the Action Plan implementation. Although the actions are designed to achieve the fourteen statements of vision, policies, and goals of the LPMC, there is not a one-to-one correspondence between the actions and the statements. Most of the actions apply to a broad set of the fourteen statements and each of the statements would be addressed through a broad set of the actions.

Supplemental material can be found in Appendix B in the form of a matrix for each of the Secondary Routes of Regional Significance (Pleasant Hill Road between Taylor Boulevard and SR-24 and Camino Pablo/San Pablo Dam Road)

and each of the new Lamorinda Interjurisdictional Routes. Unless noted otherwise, these roadway segments are intended to retain their characteristics. Used to formulate Action Plan elements for each of the routes, each matrix divides the route in question into logical segments and provides an assessment for each of the following parameters:

- Segment Characteristics
- Roadway (or Trail) Characteristics
- Needs
- Possible Performance Measures
- Possible Actions

5.1 Actions

Table 10 lists the actions that the Lamorinda jurisdictions have agreed to carry out with support from CCTA, Caltrans, BART, County Connection, East Bay Regional Parks, and a variety of other transportation providers to implement the Lamorinda Action Plan. The table is divided into five sections:

- Transit
- Travel Demand Management
- Pedestrian and Bicycle Facilities and Safety
- Roadway and Traffic Management
- Regional Coordination and Action Plan Implementation

For each action, Table 10 indicates the routes to which the action is to apply. While some of the actions are oriented to a single route, most apply to more than one. Table 10 also indicates the jurisdiction or other agency with the primary responsibility for implementation of each action. Each action was also evaluated for implementation potential and potential benefit. Those identified as "High" in both categories are indicated with ***bold and italics*** lettering in Table 10. Those identified as "High" in potential benefit only are shown with *italics* but not bold.

The actions in this Lamorinda Action Plan reflect an orientation toward maintaining a safe travel environment, a reasonable level of service for travel within the area and a high quality of life for Lamorinda residents consistent with the stated vision, goals, and policies identified in Section 2.1 of this document. The actions are designed to achieve the MTSOs identified in Section 2.2 through demand management, traffic system management and the support of transit and other alternative modes of transportation. The actions are designed to provide safe opportunities for walking and bicycling particularly for school trips and for access to BART and bus services. There is also no direct one-to-one

correspondence between the actions and the MTSOs. The MTSOs define the overall standard of performance that is desired for the Routes of Regional Significance and the Lamorinda Interjurisdictional Routes, and the composite set of actions is designed to ensure that the standards are met for the routes.

Table 10: 2014 Lamorinda Action Plan – Proposed Actions

	Transit	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
1.01	***Support augmentation and expansion of, and seek funding for, subscription bus service (flex van) to BART stations and high volume ridership locations such as St. Mary's College, to provide additional transit opportunities.***	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions, CCCTA, and BART
1.02	***Support expansion of BART seat capacity through the corridor, parking capacity east of Lamorinda, and headway reduction.***	✓	✓							Lamorinda Jurisdictions and BART
1.03	***Develop a Lamorinda Transit Plan to identify future community transit needs and to address the changing needs of the senior population.***	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions and CCCTA
1.04	*Support bus headway reductions on routes providing service to the Bay Point/Colma BART line and reinstatement of direct service to important employment centers such as Pleasanton and Bishop Ranch.*	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions, CCCTA, and BART
1.05	Support and seek additional funding for expanding transit service, including service between Lamorinda BART stations and adjacent communities in Central County, service on Pleasant Hill Road north of Sr-24, service to Bishop Ranch and the Tri-Valley area, and service through the Caldecott Tunnel.	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions, CCCTA, and BART

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

	Transit	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette - Moraga Trail	
1.06	Support BART and CCCTA strategies that enhance transit ridership and reduce single-occupant vehicle trips and encourage casual carpools for one-way BART ridership.	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions, CCCTA, and BART
1.07	Support and seek funding for augmentation and expansion of school bus service in Lamorinda.			✓	✓	✓	✓	✓		Lamorinda Jurisdictions, CCCTA
1.08	Seek funds to build and operate park and ride lots and associated BART shuttles in Lamorinda to encourage carpooling and transit ridership while reducing single occupant vehicle commute loads.	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions, CCCTA and BART
1.09	Support transit service that links Lamorinda bus service more directly to communities to the north and east of Lafayette and Orinda.	✓	✓	✓	✓					Lamorinda Jurisdictions
1.10	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.	✓	✓	✓						Lafayette and CCCTA
1.11	Maintain Lamorinda school bus program service to Wagner Ranch School.				✓					Orinda

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

	Transit	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette - Moraga Trail	
1.12	Work with AC Transit, BART, County Connection, WestCAT, and MTC to explore feasibility of service re-organization in San Pablo Dam Road and Camino Pablo corridor and develop recommendations to increase frequency and connectivity of bus service for people traveling between City of Richmond, San Pablo, El Sobrante and Orinda.		✓		✓					Orinda and Contra Costa County, CCCTA and BART
1.13	Monitor and and explore ways to improve paratransit productivity when possible.			✓	✓	✓	✓	✓		CCCTA and Lamorinda Jurisdictions

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

	Travel Demand Management	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
2.01	***Support a collaborative effort with the Acalanes Union High School District to reduce auto trips and to promote and increase ridesharing and use of transit for travel to and from the high schools in Lamorinda.***			✓	✓	✓	✓	✓		Lamorinda Jurisdictions
2.02	*Explore actions to improve SR-24 flow in PM and use of BART consistent with the Gateway Constraint Policy.*	✓	✓		✓	✓				Lamorinda Jurisdictions, CCCTA and BART
2.03	*Support school start times on Pleasant Hill Road that reduce peak commute loads on the roadway.*			✓						Lafayette
2.04	Encourage expanded Travel Demand Management (TDM) programs to increase the use of alternative modes of transportation and increase overall vehicle occupancy. Promote TDM activities including ridesharing, casual carpooling and BART pool using resources such as the SWAT TDM program and RIDES for Bay Area Commuters.	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions
2.05	Encourage "green" commuting including ZEV and NEV vehicles, clean fuel infrastructure and car sharing.	✓		✓	✓	✓	✓	✓		Lamorinda Jurisdictions

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

	Travel Demand Management	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette - Moraga Trail	
2.06	Support Transportation Demand Management (TDM) programs at St. Mary's College and the high schools, middle schools and elementary schools that encourage students to take alternative modes of transportation to school to reduce demand on the roadway and increase vehicle occupancy rates.			✓	✓	✓	✓	✓		Lamorinda Jurisdictions
2.07	Seek funding to utilize existing parking for park-and-ride for Lamorinda residents.	✓	✓				✓	✓		Lamorinda Jurisdictions
2.08	Study need for, feasibility, and cost of installing additional park and ride lots and/or HOV bypass lanes at critical congestion points in the corridors leading into Lamorinda Routes of Regional Significance from other subareas.	✓	✓	✓						Lamorinda Jurisdictions
2.09	Promote alternative work opportunities including employer pre-tax benefit programs, compressed work-week schedules, flex schedules and telework.	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions
2.10	In cooperation with Lamorinda jurisdictions, develop TDM plans and provide consultations to improve mobility and decreased parking demand for new development and redevelopment while not reducing parking supply.	✓	✓	✓	✓	✓	✓	✓		Lamorinda Jurisdictions

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

Pedestrian and Bicycle Facilities and Safety		Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette - Moraga Trail	
3.01	***Evaluate and seek opportunities to improve and/or build pedestrian and bicycle facilities between the Lamorinda BART stations and adjacent land uses and communities.***	✓	✓	✓	✓	✓	✓	✓	✓	Lafayette and Orinda
3.02	***Support pedestrian and bicycle safety improvements around schools, trailheads, and at intersections and along the bikeway network.***	✓		✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions
3.03	***Improve and/or add sidewalks and/or pedestrian pathways.***			✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions
3.04	***Support pedestrian and bicycle improvements including BART access, to encourage alternative transportation modes, increase transit ridership, and reduce auto demand.***	✓	✓	✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions
3.05	*Design pedestrian and bicycle facilities to connect with the planned EBMUD pathway identified in Lafayette's Bikeways Master Plan.*					✓				Lafayette
3.06	Support the development of regional bicycle facilities.	✓	✓	✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions
3.07	Seek funding to provide bicycle parking infrastructure at employment sites and activity centers throughout Lamorinda.			✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions
3.08	Install, where appropriate, bicycle lanes as part of any future roadway improvements to the corridor.			✓	✓	✓	✓	✓		Lamorinda Jurisdictions

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

Pedestrian and Bicycle Facilities and Safety		Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette - Moraga Trail	
3.09	Improve pedestrian connectivity to multi-use trails.			✓	✓			✓	✓	Lamorinda Jurisdictions
3.10	Explore the feasibility of widening existing pedestrian/bike facilities where appropriate to accommodate demand and where technically and financially feasible. Improve north-south bicycling by providing a continuous bikeway facility to address the gap created by the Pleasant Hill Rd/Taylor Blvd split.			✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions and Contra Costa County
3.11	Improve Lafayette-Moraga Regional Trail street crossings and striping.								✓	Lafayette and Moraga
3.12	Encourage commute use of the Lafayette-Moraga Regional Trail and other trails systems as they are developed.								✓	Lafayette and Moraga
3.13	Provide a bicycle and pedestrian trail from Wilder Road to Moraga Way to provide a safer path of travel for bicyclist currently riding on the SR-24 shoulder.	✓					✓			Orinda

Pedestrian and Bicycle Facilities and Safety		Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette - Moraga Trail	
3.14	Work with East Bay Municipal Utilities District (EBMUD) and East Bay Regional Parks District (EPRPD) to reopen the Lafayette-Moraga Regional Trail near August Drive between School Street Bridge and Canyon Road Bridge to restore the pedestrian and bicycle link.								✓	Moraga EBMUD EBRPD

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

Roadway and Traffic Management		Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
4.01	***Investigate appropriate mechanisms, including maintaining existing roadway lanes and widths and restrictive signal timing and metering, to discourage use of arterial roads as a substitute for freeway travel.***			✓	✓					Lafayette, Orinda and Contra Costa County
4.02	***Explore opportunities to conduct studies to identify options for connecting regional traffic to SR-24 without negatively affecting Lafayette and Orinda downtowns or residential neighborhoods, including options for bypass corridors. Seek funding to implement options selected by local jurisdictions, such as inclusion of projects in the expenditure plan(s) of future regional funding plans and measures.***			✓	✓	✓	✓	✓		Lamorinda Jurisdictions
4.03	***Seek and secure funding for implementation of the future Lafayette Downtown Congestion Study for getting Lamorinda trips to and from SR-24 as a project of significant regional benefit.***					✓		✓		Lafayette

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

Roadway and Traffic Management		Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
4.04	*Support added person trip capacity on regional freeways that could divert traffic from Pleasant Hill Road.*			✓						Lafayette and Contra Costa County
4.05	*Explore opportunities to work with TRANSPAC to develop a traffic management program to discourage use of westbound/southbound traffic using Pleasant Hill Road north of SR-24 to bypass the I-680 SR-24 interchange.*			✓						Lafayette and Contra Costa County
4.06	*Seek funding for an auxiliary lane on eastbound SR-24 Gateway on-ramp to Brookwood and continue completion of improvements to eastbound Brookwood off-ramp subject to specific design criteria.*	✓								Lamorinda Jurisdictions
4.07	*Support efforts of Caltrans and the California Highway Patrol to implement an incident management program on SR-24.*	✓				✓				Lamorinda Jurisdictions
4.08	*Support HOV and transit improvements in the I-680 and I-80 corridors to reduce single occupant automobile use on SR-24.*	✓		✓		✓				Lamorinda Jurisdictions
4.09	Support WCCTAC's efforts to reduce diversion from I-80 to alternative routes in Lamorinda through operational improvements that increase throughput on I-80.	✓			✓					Lamorinda Jurisdictions

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

	Roadway and Traffic Management	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
4.10	Explore ways to redesign roadway (Mount Diablo Boulevard) to discourage diversion from SR-24 but without reducing capacity.					✓				Lafayette
4.11	Support multi-modal safety actions that encourage safe speeds with particular emphasis on access to schools.			✓	✓	✓	✓	✓		Lamorinda Jurisdictions
4.12	Seek to monitor and evaluate traffic speed and other safety issues on an annual basis.			✓	✓	✓	✓	✓		Lamorinda Jurisdictions
4.13	Seek to reduce the speed limit on southbound Taylor Blvd at approach to Pleasant Hill Road to improve safety at the merge.			✓						Lafayette and Contra Costa County
4.14	Pursue opportunities to install permanent, speed feedback signs to slow vehicle speeds and reduce the severity of collisions.			✓	✓		✓			Lafayette, Orinda and Contra Costa County
4.15	Seek funding to provide increased enforcement of the existing speed limits.			✓	✓	✓	✓	✓		Lamorinda Jurisdictions
4.16	Protect adjacent residential streets from diverted cut-through traffic through the installation of traffic calming measures.			✓						Lafayette and Contra Costa County

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

	Roadway and Traffic Management	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
4.17	Seek Measure J funding of HOV facility needs for San Pablo Dam Road and Camino Pablo.				✓					Orinda and Contra Costa County
4.18	Minimize number of new street and driveway access points to the extent that is feasible.				✓		✓	✓		Lamorinda Jurisdictions and Contra Costa County
4.19	Seek to coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures.			✓	✓	✓	✓	✓		Lamorinda Jurisdictions
4.20	Explore opportunities to coordinate Lamorinda procedures/practices for traffic management during lane or road closure.			✓	✓		✓	✓		Lamorinda Jurisdictions
4.21	Replace or reconstruct piping, drainage or undergrounding of utility infrastructure to reduce incidence of lane or road closure				✓		✓			Lamorinda Jurisdictions
4.22	Maintain vegetation and drainage to reduce incidence of lane or road closure.				✓		✓			Lamorinda Jurisdictions
4.23	Evaluate opportunities for adaptive signal timing.			✓	✓	✓		✓		Lamorinda Jurisdictions
4.24	Review and consider options for improving truck loading regulations and actions.					✓				Lafayette
4.25	Add a right-turn lane to the eastbound SR-24 off-ramp for southbound Mroaga Was			✓	✓		✓			Orinda and Caltrans

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

Regional Coordination and Action Plan Implementation		Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
5.01	***Participate in the Lamorinda Transportation Impact Fee (LTIF).***	✓	✓	✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions
5.02	***Support continuation and expansion of Measures J return-to-source funds for road maintenance.***			✓	✓	✓	✓	✓	✓	Lamorinda Jurisdictions
5.03	*Seek to establish reciprocity agreements with jurisdictions outside of Lamorinda to mitigate the downstream impacts of proposed new development projects or General Plan Amendments that could adversely affect ability to achieve the MTSOs.*	✓	✓	✓	✓					Lamorinda Jurisdictions
5.04	Monitor and evaluate the MTSOs for all Routes of Regional Significance every four years.	✓	✓	✓	✓					CCTA
5.05	If the CCCTA cannot increase service to Acalanes High and Campolindo Schools, evaluate the feasibility of augmenting the existing school bus program to add the high school as funding permits.			✓				✓		Lamorinda Jurisdictions
5.06	Local jurisdictions to work with the transit agencies to resolve transit stop access and amenity needs on San Pablo Dam Road and Camino Pablo as identified by the transit agencies.				✓					Orinda

Table 10: 2014 Lamorinda Action Plan – Proposed Actions (continued)

	Regional Coordination and Action Plan Implementation	Route of Regional Significance				Lamorinda Interjurisdictional Route				Primary Implementation Responsibility
		SR-24	BART	Pleasant Hill Road	Camino Pablo/San Pablo Dam Road	Mount Diablo Boulevard	Moraga Way	Moraga Road	Lafayette-Moraga Trail	
5.07	Prepare letters of support to Caltrans, ACTC, CCTA, and MTC for continued improvement of high occupancy vehicle and transit capacity in the I-80 corridor to reduce traffic pressure on San Pablo Dam Road and Camino Pablo. Request annual reports from transit operators to WCCTAC and SWAT on their activities related to this action. Seek additional funds for public transit.				✓					Orinda and Contra Costa County

5.2 Preliminary Analysis Results of Actions

While actions identified in Table 10 are intended to work toward achievement of the MTSOs by 2040, the modeling results show that this may not be the case. In fact, model runs indicate that some of the MTSOs will be exceeded by 2040, even with full implementation of the Action Plan. However, it should be recognized that, while implementing the actions may not achieve the MTSOs, there are benefits to doing so. The actions would still serve to manage the underlying issues targeted in the MTSOs, thus minimizing the adverse effects felt by the users of the facilities in question. In that regard, it is important to note that the CCTA's GMP does not measure a local jurisdiction's compliance with the GMP on whether or not all of the MTSOs have been achieved. GMP compliance is determined by asking, through the biennial GMP Checklist, whether each jurisdiction has carried out or is actively pursuing implementation of the actions assigned to it in the adopted Action Plan within the time frame of the Action Plan. Compliance with the GMP could become an issue, however, when a local jurisdiction fails to carry out or actively pursue implementation of the actions for which it is responsible.

Every few years, CCTA will monitor the Routes of Regional Significance to assess whether the MTSOs are being met. If that monitoring effort shows that an MTSO exceedance has occurred, then the LPMC may wish to re-visit its adopted Action Plan, and determine whether revisions are necessary. Such revisions could include, for example, adding new actions, or changing the MTSOs. CCTA's Growth Management *Implementation Documents* state that the RTPCs "should avoid watering down MTSOs during the revision process," however, changes to the MTSOs are still an option for the LPMC. A preferred outcome would be to reach consensus for the Lamorinda jurisdictions to increase their local commitments to actions needed to achieve the MTSOs.[7]

To help address the issue of through traffic on Lamorinda's Regional Routes, the following two policies have been adopted for inclusion in the Lamorinda Action Plan: Gateway Constraints, and Traffic Management. The combination of these policies has the potential to limit through traffic during any given hour to a level that could potentially be accommodated within the limits of the MTSOs.

5.3 Gateway Constraint Policy

A key policy of this Action Plan for Lamorinda is to carry forward the adopted "gateway constraint" policy that controls the physical width of regional routes that serve Lamorinda. As stated in Section 2.1, the policy reads as follows:

[7] Contra Costa Transportation Authority, Growth Management Program Implementation Guide, June 16, 2010, p. 36.

"Maintain capacity constraints at selected gateways with the intent of preserving and improving mobility on Routes of Regional Significance within Lamorinda." The policy sets maximum number of through lanes and lane widths for SR-24 inbound gateways and similarly, identifies limits on the number of lanes for arterials such as Pleasant Hill Road and Camino Pablo.

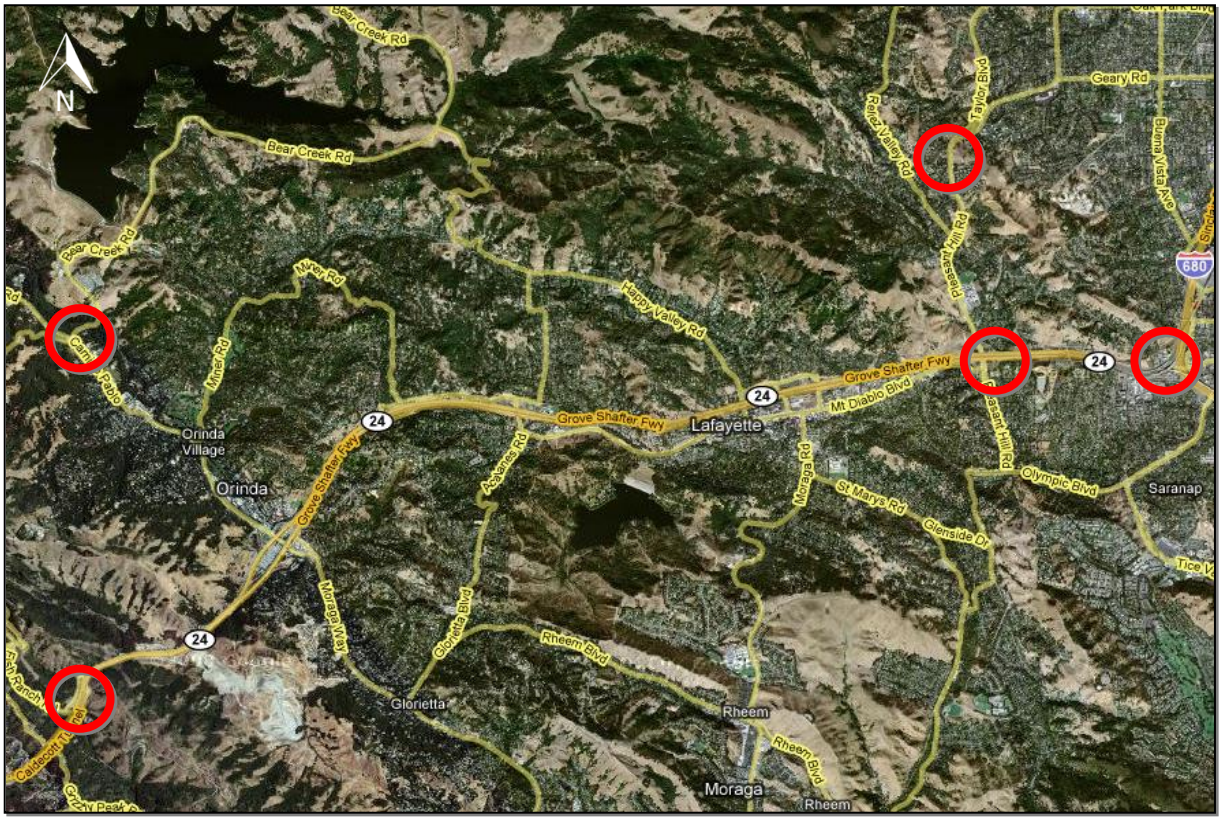
The Gateway Constraint policy is beneficial to Lamorinda residents, because it reserves some room on the regional system for traffic that has an origin and/or destination in Lamorinda. Furthermore, the modeling analysis indicates that a Gateway Constraint policy may be the key to achieving the MTSOs for Lamorinda.

The south county jurisdictions of SWAT (Danville, San Ramon, and Contra Costa County) also 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.

5.4 Gateway Policies for Specific Routes

The location of Lamorinda gateways are identified in Figure 14. Each of the gateways is addressed below.

Figure 14: Locations of Lamorinda Gateways



SR-24: The four-lane Caldecott section of SR-24 in the eastbound direction, and the four-lane cross section of SR-24 in the westbound direction, just west of the Pleasant Hill Road off-ramp, represent gateway constraints. In the eastbound direction, SR-24 gateway capacity is currently limited by the Caldecott Tunnel. At the time the baseline MTSO monitoring data was collected in 2013, the Caldecott Tunnel had three tunnels, each with two lanes. The center tunnel was reversible and was operated in the peak direction: westbound in the morning and eastbound in the evening. This method of operation provided four lanes of capacity in the peak direction. Because of the combination of factors at the entrances to the tunnel, the practical capacity in the peak direction was limited to about 8,000 to 8,400 vehicles per hour. Although a two-lane, fourth bore for the Caldecott Tunnel was opened in late 2013, only the capacity of the off-peak direction was increased for which only one tunnel (two lanes) was previously available.

The capacity constraint for westbound traffic at the east end of SR-24 results from northbound and southbound congestion on I-680 during the morning peak producing stop-and-go conditions before the exit ramps to SR-24. A second constraint exists westbound on SR-24 at the Pleasant Hill Road exit where an auxiliary lane ends. Six lanes of westbound traffic enter SR-24 from the east end: three from southbound I-680, two from northbound I-680 and one from Mt. Diablo Boulevard in Walnut Creek. These six lanes merge to five lanes for a short segment, but only four lanes continue past the Pleasant Hill Road exit. The effective westbound capacity constraint at that point is about 8,400 to 8,800 vehicles per hour.

Pleasant Hill Road: 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 limits line north of the intersection with Taylor Boulevard. The other details of the gateway constraint are to be defined in a traffic management plan developed jointly with TRANSPAC (see Action 4.04 in Table 7). Pleasant Hill Road is two through 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 and how

much is given to the cross streets. While the gateway policy includes physical characteristics at key intersections, gateway constraints may also be affected by varying the timing of signals, both along the corridor and at strategic entry points into the system. This action is further discussed below in the Traffic Management strategy section.

Camino Pablo/San Pablo Dam Road: Camino Pablo/San Pablo Dam Road is one lane in each direction with left turn lanes at most major intersections from the Orinda border south to Miner Road. It is two lanes in each direction with left and right turn lanes from Miner Road to SR-24. The southbound gateway capacity for the road is set primarily by the signals along the two-lane section of the road at Wildcat Canyon/Bear Creek Road, Miner Road and El Toyonal/Orinda Way.

5.5 Traffic Management Strategies

While a Gateway Constraint policy could limit the volume of traffic entering Lamorinda during peak hours, it would not fully address the operational issues of how to manage the flow of traffic through the gateways. For that reason, Traffic Management Strategies are also proposed to further address the issue of peak hour traffic entering Lamorinda during the peak period. Traffic Management Strategies include single point metering (metering traffic through a signalized intersection) and signal timing coordination. For example, to encourage through commuters to use I-680 rather than Pleasant Hill Road, one possible traffic management strategy would be to meter the through-traffic flow on southbound Pleasant Hill Road in the AM peak period, while maintaining accessibility for Lamorinda residents who wish to enter Pleasant Hill Road via cross-streets within Lamorinda. A similar strategy could be appropriate for Camino Pablo/San Pablo Dam Road. [8]

The AM peak period traffic volume southbound on Pleasant Hill Road south of Reliez Valley Road was 2,690 vehicles based on a count taken in 1990 just before the improved I-680/SR-24 interchange was opened. By 2000, the volume had dropped to 1,974 because more traffic was using I-680 and SR-24. However, increasing congestion at the interchange in the past few years has resulted in an increase in the volume on Pleasant Hill Road indicating more diversion.

Before implementing a traffic management strategy to restrict the flow of entering vehicles on either of these two arterials, turning-movement traffic

[8] The traffic management strategy of single point metering and signal timing coordination is not without precedent. In the East County and Central County subareas, the Railroad Avenue/Kirker Pass Road/Ygnacio Valley Road corridor functions as a major travel route for commuters coming from East to Central County in the westbound AM peak period. The Central County Action Plan proposed that a Traffic Management Program (TMP) should be jointly prepared by the TRANSPAC and TRANSPLAN RTPCs to address this heavy commute traffic. In 2001, the TMP was developed and subsequently implemented throughout the corridor, with single point metering at agreed-upon locations in Pittsburg, Concord and Walnut Creek. The TMP serves to meter through traffic along the corridor, while allowing cross-street traffic full access.

counts should be conducted at the intersections along the corridor that might be considered as the constraining point to determine intersection level of service and the amount of traffic that might be diverted by the constraint. In addition turning-movement counts and travel-time runs should be conducted in the corridor after implementation to determine whether the traffic management strategy is having the desired effect and without unnecessarily large negative impacts in terms of queues at the metering signals.

Local success of gateway constraint and traffic management strategies to maintain downstream roadway capacity for Lamorinda is dependent on maintaining local control of decisions and signal operations. 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.

6 FINANCIAL PLAN

6.1 Overview of the Financial Plan

The projects and programs affecting Lamorinda receive funding from a variety of sources. Many of the projects and programs designed to address needs within an individual community are funded by the general revenues of the jurisdiction (City or County) in which the project is being implemented or through development impact fees specific to the jurisdiction. Larger projects of a more regional nature generally receive funding from a variety of funding sources designed to address subarea or regional issues. These include revenue from the county sales tax measures for Contra Costa County (Measure J).

Measure C in Contra Costa County was passed in 1988 and provided a half-cent sales tax for transportation through March 31, 2009. Measure J was passed in 2004 and extends the half-cent sales tax through 2034. Measure J provides roughly $2 billion over the 25-year period. Some of the key Lamorinda projects that will be funded by Measure J are the following:

- BART East County Rail Extension

- I-680 HOV Lane Gap Closure and Transit Corridor Improvements
- BART Parking, Access and Other Improvements
- Local Street Maintenance and Improvements
- Major Street Traffic Flow, Safety and Capacity Improvements
- Transportation for Livable Communities Grants
- Pedestrian, Bicycle and Trail Facilities
- Bus Services
- Transportation for Seniors and People with Disabilities
- Commute Alternatives
- Congestion Management, Transportation Planning Facilities and Services
- Safe Transportation for Children

Many of the actions being added to the Action Plan in this update are oriented to management of traffic and are designed to increase the safety and mobility of travelers by all modes and are not necessarily oriented to increasing the capacity of the routes. While some, like automated speed advisory signs, may represent capital expenditures, others like increased speed-limit enforcement or improved maintenance of trees and other vegetation to prevent unplanned lane closures, are operational in nature. The collection of actions for the Secondary Routes of Regional Significance and the Lamorinda Interjurisdictional Routes could be grouped into interjurisdictional packages or programs for funding from the current Measure J or its potential future extension. Including them in an expenditure plan for a Measure J extension would ensure that the countywide sales tax benefits Lamorinda.

Additional regional funds are provided by the following federal, state and regional sources:

- Federal Surface Transportation Funds – MAP-21
- State Transportation Development Act (TDA)/State Transit Assistance (STA) Revenues
- State Transportation Improvement Program (STIP) Funds
- State Environmental Enhancement and Mitigation
- STDA, Article 3 – Bicycle and Pedestrian Funds
- Bridge Toll Revenues
- Regional Measure 2 Bridge Toll Revenues for Specific Projects and Programs
- AB 1107 half-cent sales tax revenues for transit (BART and AC Transit)

- Transportation Fund for Clean Air - Vehicle Registration Fees for Clean Air Programs
- One Bay Area Grant Program

Because so many of the actions in this Action Plan Update are oriented to implementation of the Complete Streets policies of the local jurisdictions, packages of actions for the Lamorinda area would be eligible for many of the federal, state and regional funds designed to improve transit, pedestrian and bicycle safety and mobility and to develop safe routes to schools. Many of the funds have been combined in the Bay Area into the One Bay Area Grant program for distribution on a competitive basis by MTC/ABAG and by the Congestion Management Agencies in each county, which for Contra Costa is CCTA.

The traffic growth that is expected on the Routes of Regional Significance and the Lamorinda Interjurisdictional Routes will be mitigated in part through a set of projects and programs as identified in this Plan. Funding for these projects and programs through existing sources, however, will not be sufficient to fully fund all of the identified needs. Since the first plan was adopted in 1995, the LPMC has looked to new development to defray the costs of mitigating the impacts it creates. The LPMC's Subregional Transportation Mitigation Program generates additional revenue to mitigate the impacts of new development in Lamorinda. Developer funding of projects to mitigate the impacts of new development that occurs outside of Lamorinda is subject to the establishment of reciprocity agreements between the LPMC and the upstream jurisdiction where that new development occurs. The Central County RTPC (TRANSPAC) considers use of such reciprocity agreements for projects that generate in excess of 100 net peak-hour vehicle trips.

6.2 Subregional Transportation Mitigation Program (STMP)

In August 1994, the Lamorinda Program Management Committee (LPMC) adopted the Lamorinda Transportation Improvement Program (LTIP) as its blueprint for transportation planning through the year 2010. According to the statutory requirements of Measure C, the LPMC must adopt a subregional traffic mitigation program to ensure that new growth is paying its share of the costs associated with that growth. The CCTA established April 15, 1998 as the deadline by which all Contra Costa County jurisdictions must adopt a fee in order to remain in compliance with the Growth Management Program and continue receiving return to source funds from CCTA.

The LTIP is the result of the Lamorinda Traffic Study completed in late 1994. It identified roughly 37 improvements to regional roadways and transit facilities and total approximately $17.7 million (in 1998 dollars). The LPMC then created the Lamorinda Transportation Impact Fee (LTIF) as a mechanism to charge new development to mitigate the traffic impacts it creates. The LTIF identified seven

projects for use of the funds. A fee structure for new development was established based on the expected impact of the new development and the cost to mitigate the impact. Since its adoption, the funds of the LTIF have been used for some of the projects identified. This update to the Lamorinda Action Plan made adjustments to the estimated costs for the remaining projects to reflect rising construction costs. Adopted recommendations from the upcoming Lafayette Downtown Congestion Study, including the exploration of the downtown bypass corridor, should be incorporated as future projects and actions to be funded. No new projects have been added nor has a re-evaluation of the needs for new and past projects occurred, but a reassessment of the project list and fee structure will be considered in 2015.

7 PROCEDURES FOR NOTIFICATION, REVIEW, AND MONITORING

This chapter provides guidance on implementation of the Action Plan, including the procedures for circulation of environmental documents and review of General Plan Amendments (GPAs). The chapter also includes the process for monitoring and review of the Action Plan.

7.1 Notification Regarding Development Applications and Environmental Documents

As part of the Growth Management Program, local cities and towns are required to notify neighboring jurisdictions regarding proposed projects and GPAs. By

agreement among the three cities within Lamorinda, the following notification procedures shall be followed:

- For any GPA, the lead jurisdictions shall notify the Lamorinda jurisdictions staff and the designated staff person for LPMC as soon as the GPA application is deemed complete.
- For any proposed project that generates more than 10 and less than 50 net new peak hour vehicle trips in either the AM or PM peak hour, the lead jurisdictions shall notify the planning directors of the other Lamorinda jurisdictions as soon as the development application is deemed complete. No additional actions are required, unless the proposed development is subject to CEQA, in which case the CEQA-related notification procedures apply as outlined below.
- For proposed projects that would generate 50 or more net new peak hour vehicle trips, the Lamorinda jurisdictions agree to the following procedure:
    1. The Lead Agency shall notify the planning directors of the other Lamorinda jurisdictions and the designated staff liaisons for LPMC;
    2. Following receipt of notification, any Lamorinda jurisdiction may request, and the sponsoring jurisdiction shall agree to, an informational meeting to discuss the application.
- If the project generates more than 100 net peak hour vehicle trips, the Lead Agency shall in turn notify the designated staff person for SWAT, the staff of other jurisdictions within SWAT, and adjacent RTPCs as appropriate so that affected jurisdictions may comment on proposed projects and subsequent environmental documentation[9].

When the above-mentioned development projects and GPAs involve the CEQA process, notification shall occur at the following two junctures:

1. Upon issuance of a Notice of Intent to Issue a Negative Declaration or a Notice of Preparation for EIR/EIS; and
2. Upon completion of a Negative Declaration or draft EIR/EIS (Notice of Completion).

In each case, the neighboring communities are to be provided an opportunity to review and comment on the environmental documents. Copies of the environmental documents are to be made available in hard-copy or electronic form. The Lamorinda subarea has made the policy more stringent than the established CCTA notification policy by setting the threshold for circulation below 100 net new peak hour vehicle trips. The threshold for net new peak hour

[9] Conversely, as required under Authority Resolution 93-02-G, the other RTPCs will notify SWAT of proposed projects and general plan amendments that exceed 100 peak hour vehicle trips.

vehicle trips is the threshold total number of vehicle trips projected to enter and leave the project site, during the AM or the PM peak hour (whichever is greater), not including bypass vehicle trips, and exempting vehicle trips that are currently generated by the site if it is under an existing use. Table 11 contains examples of the types of developments that generate 50 or more new peak hour vehicle trips.[10]

Table 11: Examples of Developments Meeting the 50 Net Peak Hour Trip Threshold

Land Use	Size[1,2]	AM trips	PM trips
Single Family	42 DU	42	50
Condominium (Low Rise)	64 DU	43	50
Apartments	86 DU	40	50
Hotel	82 DU	48	50
Fast Food Restaurant	1.0 KSF	33	54
Shopping Center	3 KSF	18	57
General Office	19 KSF	51	28

[1] DU = Dwelling Units
[2] KSF = 1,000 Square Feet

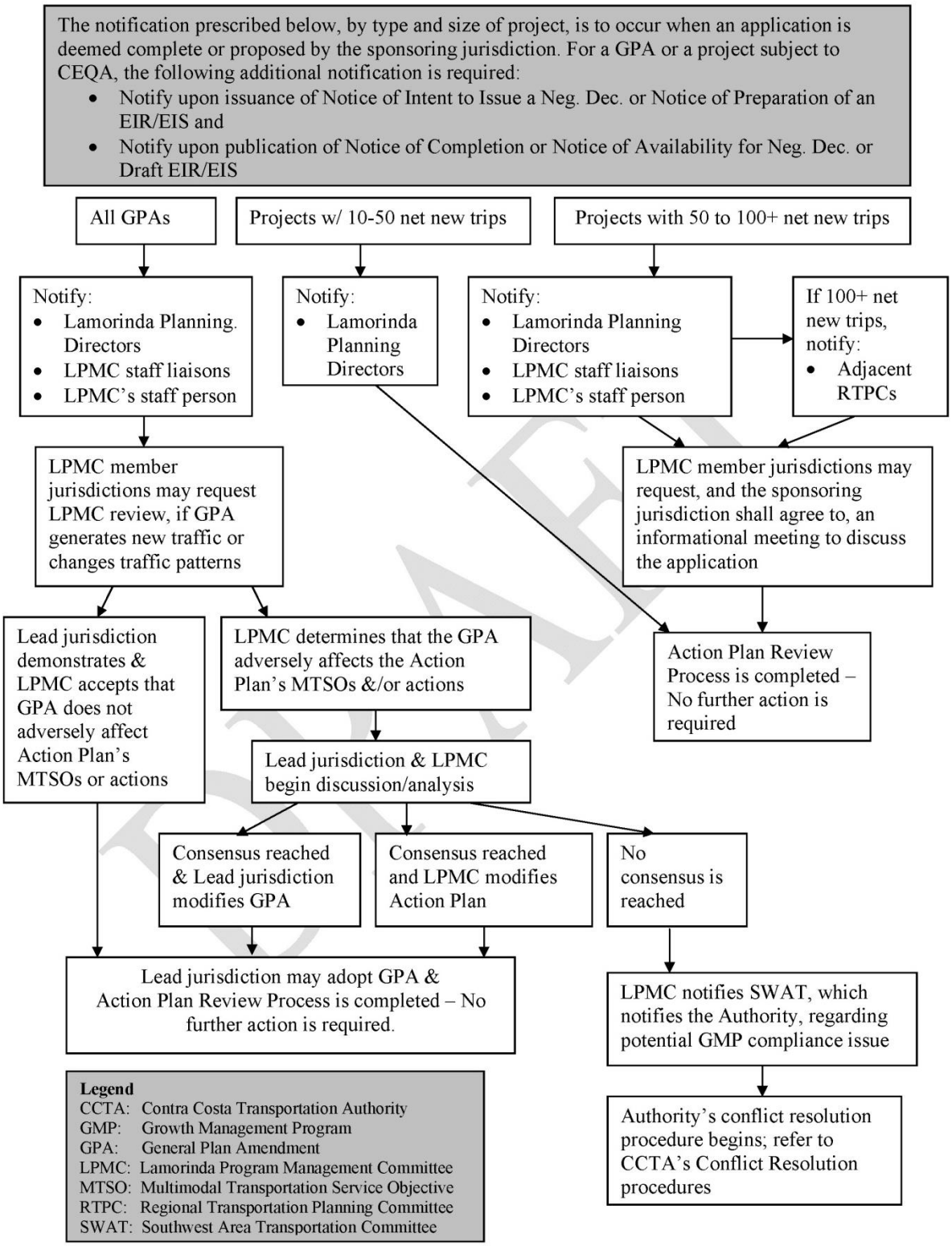
Source: ITE Trip Generation, 9th Edition, 2012.

The process is intended to reflect the spirit of the cooperative multi-jurisdictional planning process as outlined in Measure J (2004). Furthermore, it is the intent of the Lamorinda jurisdictions to diligently notify one another regarding proposed projects and general plan amendments, irrespective of whether such notification is legally required under CEQA.

Figure 15 illustrates the notification procedure outlined above, as well as the procedure for review of General Plan Amendments, as discussed in the following section.

[10] These trip generation rates are only a guide and may need to be adjusted to fit the specific type of project proposed.

Figure 15: Action Plan Review Process for Lamorinda GPAs and Projects



7.2 Review of General Plan Amendments

Existing General Plans were used as the basis for the modeled land use assumptions developed for the Action Plan. General Plan amendments (GPAs) other than those assumed in the land use assumptions could reduce the effectiveness of the Action Plan. A process has been defined to address GPAs and their impact on the Action Plan as illustrated in Figure 15.

The tools and procedures for conducting and analyzing GPAs shall be in accordance with the Measure C/J *Technical Procedures* and *Implementation Documents*. The jurisdiction considering the GPA should submit the GPA to the LPMC (and to other RTPCs if the amendment would generate more than 500 net new peak hour vehicle trips) for evaluation of its impact on the ability to achieve Action Plan objectives. LPMC would then evaluate proposed amendments only in relation to issues affecting Action Plan success and consistency. It will be the responsibility of the jurisdiction considering the amendment to either:

1. Demonstrate that the amendment will not violate Action Plan policies or the ability to meet Action Plan Multimodal Transportation Service Objectives; or
2. Propose modification to the Action Plan that will prevent the GPA from adversely affecting the regional transportation network.

If neither of these can be done, approval of the General Plan amendment by a Contra Costa jurisdiction may lead to a finding of non-compliance with the Growth Management Program.

If an MTSO is not met following implementation of the Action Plan, the GPA would need to be reevaluated through the forum of LPMC and SWAT. Amendments to the Plan could include a relaxation of MTSOs, a strengthening of actions, or a combination of these approaches.

In certain cases, the MTSOs, as forecast, may exceed their prescribed thresholds under growth already included in the adopted general plans. This event alone will not result in a local jurisdiction being found out of compliance with the Measure J Growth Management Plan. However, any GPAs that are proposed must not adversely affect the policies or MTSOs of the Action Plan. In the case of MTSOs that already exceed the thresholds, the GPA must not make it worse.

If there are MTSO exceedances, or projected MTSO exceedances, in a Lamorinda jurisdiction, then that jurisdiction can either (a) implement transportation improvements to correct the MTSO deficiency on that affected network segment, or (b) implement other measures intended to result in measurable improvements to MTSOs on the Routes of Regional Significance network. Failing this, the jurisdiction can refer the problem to the LPMC for joint resolution.

7.3 Action Plan Monitoring and Review

The Action Plans are to be monitored by CCTA to determine whether or not the MTSOs are being met. If it is determined through the monitoring process that the MTSOs are not being met, the Action Plans may require modification and/or an update. The following steps are envisioned for Action Plan review:

- Regularly monitor all Regional Routes of Significance to determine MTSO compliance (by CCTA);
- 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;
- 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 Transportation Plan Update.

7.4 Process for Addressing MTSO Exceedances

As noted above, from time to time, the MTSOs are monitored to determine whether they are being achieved. In addition, the MTSOs are evaluated to determine if they can be achieved in the future. For this update to the Lamorinda Action Plan, the MTSOs were monitored in 2013, and the traffic forecasts were prepared and evaluated for 2040. In both cases, exceedances of the adopted MTSOs were observed.

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. The primary purpose of the MTSOs is to provide a quantitative measure of transportation system performance that can be consistently applied as a metric for gauging the impacts of future growth and mitigating those impacts. The MTSOs adopted for this Plan are by no means the "lowest common denominator." To the contrary, they reflect a broader objective of LPMC to ensure an acceptable level of mobility for its residents and workers in order to sustain the economy and maintain quality of life.

It is not surprising, therefore, given the level of expected growth in Lamorinda, coupled with the constraints on adding new capacity to the system, that the MTSOs would be exceeded either today or in the future.

When an exceedance has been determined, either through monitoring or during the Action Plan update process, the only action required under this Plan is that LPMC document the condition, and continue to monitor and address the MTSOs

in future updates to the Plan under the timeframe established in Section 7.3 above.

In the case where a proposed development project or General Plan Amendment causes an exceedance, or exacerbates a situation where an already exceeded MTSO is still further exceeded, then the procedures in Section 7.2 regarding development applications review and general plan amendments shall apply.

Appendix A:
Detailed MTSO Monitoring Values and Forecasts for the Lamorinda Action Plan

Table A-1: Lamorinda MTSOs based on Projections 2011				
Route	**MTSO**	**2013 Monitoring Report**	**P2011 – 2040 No Project**	**P2011 – 2040 With Actions**
SR-24 Caldecott Tunnel to I-680	Maintain a Delay Index (DI) of 2.0 (2.5 after 2030) or better during peak hour (including freeway on-ramps)	AM: 1.0 (EB), 1.5 (WB) PM: 1.4 (EB), 1.3 (WB)	AM: 1.5 (EB), 2.4 (WB) PM: 2.0 (EB), 1.7 (WB)	AM: 1.4 (EB), 1.7 (WB) PM: 1.7 (EB), 1.7 (WB)
	Maintain a Delay Index (DI) of 1.5 or better for all but the six most congested hours of the day.	Delay Index is below 1.5 for all but the six most congested hours of the day.	Delay Index is below 1.5 for all but the six most congested hours of the day.	Delay Index is below 1.5 for all but the six most congested hours of the day.
BART	Maintain a loading factor of 1.5 pax/seat or better during each hour of service	The MTSO is not exceeded in any hour of service.	The MTSO is not exceeded in any hour of service.	The MTSO is not exceeded in any hour of service.
Pleasant Hill Road Taylor Boulevard SR-24	Maintain a delay index of 2.0 or better during peak hour	AM: N/A (NB), 1.2 (SB) PM: 1.4 (NB), N/A (SB)	AM: 1.5 (NB), 1.4 (SB) PM: 1.8 (NB), **2.1 (SB)**	AM: 1.3 (NB), 1.3 (SB) PM: 1.6 (NB), 1.9 (SB)
	Maintain a maximum wait time for drivers on side streets wishing to access Pleasant Hill Road or Taylor Boulevard of one signal cycle or fewer.	**AM: 1 cycle, except for Spring Hill Rd intersection (2 cycles) PM: 1 cycle, except for intersections at Green Valley Dr, and Spring Hill Rd (2 cycles)**	**AM: 1 cycle, except for Spring Hill Rd intersection (2 cycles) PM: 1 cycle, except for intersections at Green Valley Dr, and Spring Hill Rd (2 cycles)**	**AM: 1 cycle, except for Spring Hill Rd intersection (2 cycles) PM: 1 cycle, except for intersections at Green Valley Dr, and Spring Hill Rd (2 cycles)**
Camino Pablo / San Pablo Dam Road Wildcat Canyon Rd to SR-24	Maintain a delay index of 2.0 or better during peak hour	AM: N/A (NB), 1.2 (SB) PM: 1.2 (NB), N/A (SB)	AM: 1.4 (NB), 1.6 (SB) PM: 1.4 (NB), 1.1 (SB)	AM: 1.3 (NB), 1.5 (SB) PM: 1.3 (NB), 1.0 (SB)
	The maximum wait time for drivers on side streets wishing to access San Pablo Dam Road or Camino Pablo should be no greater than one signal cycle.	AM: All intersections have 1 cycle wait for side streets. PM: All intersections have 1 cycle wait for side streets.	**AM: 1 cycle, except for Wildcat Canyon Rd intersection (2 cycles)** PM: All intersections have 1 cycle wait for side streets.	AM: All intersections have 1 cycle wait for side streets. PM: All intersections have 1 cycle wait for side streets.
Note: MTSOs added in 2014 update were not monitored for 2013 **Bold** – MTSO value is below standard				

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-2: SR 24 Eastbound Freeway Segment Analysis –Delay Index (MTSO = 2 prior to 2030, = 2.5 after 2030)						
Freeway Segment	2013 Observations		P2011 - 2040 No Project		P2011 - 2040 with Actions	
	AM	PM	AM	PM	AM	PM
EB off to Gateway Blvd-EB on from Gateway Blvd	0.9	1.5	1.4	1.8	1.4	1.7
EB on from Gateway Blvd-EB off to Camino Pablo	0.9	1.5	1.6	3.7	1.5	2.5
EB off to Camino Pablo-EB on from Bryant Way	1.0	1.4	1.5	2.5	1.4	2.0
EB on from Bryant Way-EB off to St Stephens	0.9	1.5	1.1	2.1	1.1	1.8
EB off to St Stephens-EB on from St Stephens Dr	1.0	1.3	1.4	1.6	1.4	1.4
EB on from St Stephens Dr-EB off to Acalanes Rd	1.0	1.7	2.1	3.2	1.9	2.4
EB off to Acalanes Rd-Seg EB on fromom Acalanes Rd	0.9	1.5	1.4	1.9	1.3	1.6
EB on from Acalanes Rd-EB Off to Oak Hill Rd	1.1	1.4	1.8	2.0	1.7	1.8
EB off to Oak Hill Rd-EB on from First St	1.0	1.2	1.7	1.6	1.6	1.5
EB on from First St-EB off to Pleasant Hill	0.9	1.2	1.4	1.6	1.4	1.4
EB off to Pleasant Hill-EB on from Pleasant Hill	1.0	1.5	1.6	2.3	1.5	2.0
EB on from Pleasant Hill-Seg EB off to Mt Diablo	1.0	1.3	1.1	1.6	1.1	1.5
Seg EB off to Mt Diablo-EB off to Ignacio Way	1.0	1.4	1.7	2.6	1.6	1.9
Corridor Average	1.0	1.4	1.5	2.0	1.4	1.7

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-3: SR 24 Westbound Freeway Segment Analysis –Delay Index (MTSO = 2 prior to 2030, = 2.5 after 2030)						
Freeway Segment	2013 Observations		P2011 - 2040 No Project		P2011 - 2040 with Actions	
	AM	PM	AM	PM	AM	PM
WB on from Gateway Blvd-WB off to Gateway Blvd	1.9	1.6	3.3	2.0	2.0	2.0
WB off to Gateway Blvd-WB on from Camino Pablo	2.3	1.8	3.9	1.5	2.4	1.5
WB on from Camino Pablo-WB on from Camino Pablo	2.4	1.8	3.9	1.8	2.5	1.7
WB off to Camino Pablo-WB on from St Stephens Dr	3.0	2.3	4.6	1.6	3.2	1.6
WB on from St Stephens Dr-WB off to St Stephens Dr	1.7	1.3	2.1	1.6	1.7	1.5
WB off to St Stephens-WB on from Acalanes/Nido	1.4	1.3	2.3	2.1	1.6	2.0
WB on from Acalanes/Nido-WB off to Acalanes/Nido	1.2	1.1	1.9	1.6	1.4	1.6
WB off to Acalanes/Nido-WB on from Deer Hill Rd	1.2	1.0	1.9	1.8	1.4	1.8
WB on from Deer Hill Rd-WB off to Deer Hill Rd	1.4	1.2	1.7	2.2	1.4	2.2
WB off to Deer Hill Rd-WB on from Pleasant Hill	1.5	1.2	2.6	1.8	1.8	1.8
WB on from Pleasant Hill-WB off to Pleasant Hill	1.5	1.2	2.7	1.8	1.9	1.8
WB off to Pleasant Hill-I-680	1.3	1.0	1.8	1.2	1.6	1.2
Corridor Average	1.5	1.3	2.4	1.7	1.7	1.7

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-4: San Pablo Dam Road Northbound Arterial Segment Analysis – Delay Index							
Arterial Segment	MTSO Delay Index	2013 Observations		P2011 - 2040 No Project		P2011 - 2040 with Actions	
		AM	PM	AM	PM	AM	PM
SR24 WB ramps-Camino Sobrante	2.0	N/A	N/A	1.2	1.4	1.2	1.4
Camino Sobrate-Orinda Wy	2.0	N/A	N/A	3.0	1.6	3.0	1.6
Orinda Wy-Miner Rd	2.0	N/A	N/A	1.3	1.2	1.3	1.2
Miner Rd-Ardilla Rd	2.0	N/A	N/A	2.6	2.0	2.3	2.0
Ardilla Rd-North Ln	2.0	N/A	N/A	2.1	1.9	1.9	1.9
North Ln-Claremont Ave	2.0	N/A	N/A	2.0	2.0	1.8	2.0
Claremont Ave-Manzanita Rd	2.0	N/A	N/A	2.0	4.6	1.7	4.6
Manzanita Rd-Los Amigos/Sports Field	2.0	N/A	N/A	2.2	1.4	1.8	1.4
Los Amigos/Sports Field/Monte Vista Rd	2.0	N/A	N/A	2.1	1.4	1.7	1.5
Monte Vista Rd-Wildcat Canyon Rd	2.0	N/A	N/A	1.9	1.2	1.6	1.2
Wildcat Canyon Rd-Castro Ranch Rd	2.0	N/A	N/A	1.0	1.2	1.0	1.0
Corridor Average	2.0	N/A	1.2	1.4	1.4	1.3	1.3

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-5: San Pablo Dam Road Southbound Arterial Segment Analysis – Delay Index							
Arterial Segment	MTSO Speed (mph)	2013 Observations		P2011 - 2040 No Project		P2011 - 2040 with Actions	
		AM	PM	AM	PM	AM	PM
SR24 WB ramps-Camino Sobrante	2.0	N/A	N/A	1.1	1.3	1.1	1.3
Camino Sobrate-Orinda Wy	2.0	N/A	N/A	1.1	1.3	1.1	1.3
Orinda Wy-Miner Rd	2.0	N/A	N/A	1.5	1.3	1.5	1.3
Miner Rd-Ardilla Rd	2.0	N/A	N/A	2.7	1.8	2.1	1.1
Ardilla Rd-North Ln	2.0	N/A	N/A	2.0	1.9	1.6	1.1
North Ln-Claremont Ave	2.0	N/A	N/A	2.5	2.1	2.0	1.3
Claremont Ave-Manzanita Rd	2.0	N/A	N/A	1.7	1.8	1.7	1.6
Manzanita Rd-Los Amigos/Sports Field	2.0	N/A	N/A	1.5	1.4	1.5	1.2
Los Amigos/Sports Field/Monte Vista Rd	2.0	N/A	N/A	2.1	1.3	2.0	1.2
Monte Vista Rd-Wildcat Canyon Rd	2.0	N/A	N/A	3.1	1.6	3.0	1.4
Wildcat Canyon Rd-Castro Ranch Rd	2.0	N/A	N/A	1.3	0.9	1.2	0.9
Corridor Average	2.0	1.2	N/A	1.6	1.1	1.5	1.0

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-6: Pleasant Hill Road Northbound Arterial Segment Analysis – Delay Index							
Arterial Segment	MTSO Delay Index	2013 Observations		P2011 - 2040 No Project		P2011 - 2040 with Actions	
		AM	PM	AM	PM	AM	PM
SR-24-Deer Hill Rd/Stanley Rd	2.0	N/A	N/A	1.8	2.1	1.7	2.1
Deer Hill Rd/Stanley Blvd-Spring Hill Rd	2.0	N/A	N/A	2.2	2.6	1.4	1.5
Spring Hill Rd-Reliez Valley Rd	2.0	N/A	N/A	2.1	2.6	1.3	1.6
Reliez Valley Rd-Green Valley Dr	2.0	N/A	N/A	1.0	1.2	1.0	1.0
Green Valley Dr-Rancho View Dr	2.0	N/A	N/A	1.0	1.0	1.0	1.0
Rancho View Dr-Geary Rd	2.0	N/A	N/A	1.1	1.2	1.1	1.2
Geary Rd-Grayson Rd	2.0	N/A	N/A	1.5	1.8	1.5	1.7
Grayson Rd-Westover Dr	2.0	N/A	N/A	2.0	2.4	1.9	2.3
Westover Dr-Taylor Blvd	2.0	N/A	N/A	1.3	2.7	1.2	2.6
Corridor Average	2.0	N/A	1.4	1.5	1.8	1.3	1.6

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-7: Pleasant Hill Road Southbound Arterial Segment Analysis – Delay Index							
Arterial Segment	MTSO Delay Index	2013 Observations		P2011 - 2040 No Project		P2011 - 2040 with Actions	
		AM	PM	AM	PM	AM	PM
SR-24-Deer Hill Rd/Stanley Rd	2.0	N/A	N/A	1.4	1.8	1.3	1.7
Deer Hill Rd/Stanley Blvd-Spring Hill Rd	2.0	N/A	N/A	2.1	4.5	1.3	4.0
Spring Hill Rd-Reliez Valley Rd	2.0	N/A	N/A	2.5	5.0	1.6	4.6
Reliez Valley Rd-Green Valley Dr	2.0	N/A	N/A	1.6	1.6	1.0	1.5
Green Valley Dr-Rancho View Dr	2.0	N/A	N/A	1.0	1.1	1.0	1.1
Rancho View Dr-Geary Rd	2.0	N/A	N/A	1.0	1.2	1.0	1.1
Geary Rd-Grayson Rd	2.0	N/A	N/A	1.5	2.0	1.5	1.9
Grayson Rd-Westover Dr	2.0	N/A	N/A	1.5	3.4	1.5	2.8
Westover Dr-Taylor Blvd	2.0	N/A	N/A	1.2	1.4	1.2	1.3
Corridor Average	2.0	1.2	N/A	1.4	2.1	1.3	1.9

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-8: BART Loading Factor							
Service Hour	MTSO Loading Factor	2013 Observations		P2011 - 2040 No Project		P2011 - 2040 With Actions	
		Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
4	1.5	0.06	0.66	0.07	0.84	0.05	0.45
5	1.5	0.28	0.95	0.35	0.90	0.19	0.48
6	1.5	0.27	1.14	0.35	1.19	0.23	1.15
7	1.5	0.21	1.23	0.27	1.29	0.25	1.25
8	1.5	0.19	1.21	0.24	0.84	0.13	0.81
9	1.5	0.15	0.70	0.18	0.88	0.10	0.47
10	1.5	0.16	0.58	0.20	0.74	0.11	0.39
11	1.5	0.25	0.53	0.32	0.67	0.17	0.36
12	1.5	0.56	0.31	0.71	0.39	0.38	0.21
13	1.5	0.72	0.25	0.91	0.32	0.49	0.17
14	1.5	0.88	0.25	1.12	0.32	0.59	0.17
15	1.5	1.39	0.32	1.76	0.40	0.94	0.21
16	1.5	1.16	0.44	1.35	0.56	1.31	0.30
17	1.5	1.11	0.33	1.04	0.42	1.00	0.33
18	1.5	0.97	0.24	0.58	0.30	0.56	0.16
19	1.5	0.64	0.15	0.61	0.19	0.32	0.10
20	1.5	0.56	0.12	0.71	0.15	0.57	0.12
21	1.5	0.49	0.22	0.62	0.28	0.49	0.22
22	1.5	0.37	0.09	0.47	0.12	0.38	0.09
23	1.5	0.44	0.03	0.56	0.04	0.44	0.03

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-9: Side-Street Intersection Delay									
#	Primary Street	Secondary (Cross) Street	MTSO (Max Wait Time in Cycles)	2013 Field Observations		P2011 - 2040 No Project		P2011 - 2040 With Actions	
				AM	PM	AM	PM	AM	PM
1	Pleasant Hill Road	Rancho View Dr	1	1	1	1	1	1	1
2	Pleasant Hill Road	Green Valley Dr	1	1	2	1	2	1	2
3	Pleasant Hill Road	Reliez Valley Rd	1	1	1	1	1	1	1
4	Pleasant Hill Road	Spring Hill Rd	1	2	2	2	2	2	2
5	Pleasant Hill Road	Deer Hill Rd/ Stanley Blvd	1	1	1	1	1	1	1
6	Camino Pablo	Willdcat Canyon Rd	1	1	1	2	1	1	1
7	Camino Pablo	Monte Vista Rd	1	1	1	1	1	1	1
8	Camino Pablo	Los Amigos/ Sports Field	1	1	1	1	1	1	1
9	Camino Pablo	Manzanita Rd/ Claremont Ave	1	1	1	1	1	1	1
10	Camino Pablo	North Ln/ Ardilla Rd	1	1	1	1	1	1	1
11	Camino Pablo	Minor Rd	1	1	1	1	1	1	1
12	Camino Pablo	Orinda Wy	1	1	1	1	1	1	1
13	Camino Pablo	Camino Sobrante	1	1	1	1	1	1	1

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Appendix B: Detailed Segment-Level Analysis of Route Characteristics and Needs

Lamorinda Secondary Routes of Regional Significance

Pleasant Hill Road

Segment	Segment Characteristics	Roadway Characteristics	Needs	Possible MTSOs and Performance Measures	Possible Actions
SR-24 to Rancho View Drive	○ Semi-rural character ○ Acalanes High School & Springhill Elementary School ○ Acalanes Park ○ Access to community swimming pool ○ AM peak congestion from school access, ○ Commute route, ○ AM and PM commute congestion ○ Access to SR 24, residential access	○ 4 lanes ○ Left and right turn lanes ○ Class II bicycle lanes on both sides (on east side running up to Reliez Valley Rd) ○ Sidewalks on west side of street mostly absent ○ Pedestrian path between Springhill Rd and Reliez Valley Rd on west side	○ Preserve segment characteristics ○ Maintain the number of roadway lanes ○ Pedestrian and bicycle access to schools, ○ More frequent bus or other alternative mode service, ○ Improve travel time reliability	**MTSOs** ○ Delay Index ○ Cross Street Delay ○ Intersection Level of Service **Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Frequency of lane closures	○ Complete the sidewalk to fill the gaps ○ Increase availability and frequency of alternative-mode services ○ Coordinate Lafayette, Walnut Creek, Pleasant Hill and Contra Costa procedures/practices for traffic management during lane or road closure ○ Examine adaptive signal timing ○ Extend pedestrian and bicycle facilities from south part of Pleasant Hill north to Spring Hill Road ○ Install speed warning signs ○ Increase pedestrian safety devices
Rancho View Drive to Taylor Blvd	○ Semi-rural character ○ Commute route ○ Limited to no sidewalk	○ 4 lanes ○ Class II bicycle facility on west side of street; Class III bicycle facility on east side of street ○ No pedestrian facilities	○ Preserve segment characteristics ○ Maintain the number of roadway lanes ○ More frequent bus or other alternative mode service ○ Reduce collisions ○ Improve pedestrian and bicycle facilities	**MTSOs** ○ Delay Index ○ Cross Street Delay ○ Intersection Level of Service **Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services ○ Coordinate procedures/practices for traffic management during lane or road closure ○ Install speed warning signs ○ Reduce the speed limit on Taylor Boulevard at approach to Pleasant Hill Road ○ Create bike lane cross-over from Pleasant Hill Road to Taylor Boulevard ○ Improve pedestrian and bicycle access

Camino Pablo/San Pablo Dam Road

Segment	Segment Characteristics	Roadway Characteristics	Needs	Possible MTSOs and Performance Measures	Possible Actions
Moraga Way to SR 24	○ Access to Downtown commercial ○ Priority Development Area ○ Access to SR 24 ○ Access to Orinda BART station ○ Commute route	o 5 lanes (3 northbound, 2 southbound) o Left turn lanes o Intermittent stretches of medians o Class II bicycle lanes on both sides (south side lanes begin past the SR 24 ramps) o Sidewalks on both sides of the road (south side begins past the SR 24 eastbound off-ramps)	○ Preserve segment characteristics ○ Maintain the number of roadway lanes ○ Encourage safer traffic speeds ○ Initiate alternative-mode service to BART and Downtown ○ Improve pedestrian crossings ○ Improve pedestrian and bicycle safety	**MTSOs** ○ Delay Index ○ Cross Street Delay ○ Average Vehicle Occupancy **Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Frequency of lane closures	○ Improve multi-modal access to BART for Lamorinda residents ○ Complete the pedestrian and bicycle network ○ Enhance speed warnings and enforcement ○ Improve access to EB SR-24 ○ Improve pedestrian and bicycle safety
SR 24 to Orinda Way	○ Access to Downtown commercial ○ Priority Development Area ○ Access to SR 24 ○ Access to Orinda BART station ○ Residential access ○ Commute route	o 4 lanes o Left and right turn lanes o Intermittent stretches of landscaped medians o Class II bicycle lanes on both sides o No pedestrian facilities; pedestrian bridge over SR 24 ramps connects to Orinda Way, which runs parallel to Camino Pablo	○ Preserve segment characteristics ○ Improve bicycle safety, Preserve segment characteristics ○ Maintain the number of roadway lanes ○ Initiate alternative-mode service to BART and Downtown ○ Improve pedestrian crossings	**MTSOs** ○ Delay Index ○ Cross Street Delay ○ Average Vehicle Occupancy **Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services ○ Complete the pedestrian and bicycle network ○ Improve pedestrian and bicycle safety
Orinda Way to Miner Rd	○ Suburban character ○ Residential access ○ Commute route	o 4 lanes o Right turn lanes o Landscaped median present at Orinda Way approach o Class II bicycle lanes on west side o Narrow sidewalk on east side	○ Preserve segment characteristics ○ Maintain the number of roadway lanes ○ Improve multi-modal access to BART for Lamorinda residents ○ Increase pedestrian and bicycle safety ○ Improve pedestrian crossings	**MTSOs** ○ Delay Index ○ Cross Street Delay ○ Average Vehicle Occupancy **Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services ○ Complete the pedestrian and bicycle network
Miner Rd to Bear Creek Rd/Wildcat Canyon Rd	○ Semi-rural character ○ Residential access ○ Commute route ○ Narrow and winding road ○ Access to Wagner Ranch Elementary ○ Residential access	o 2 lanes o Class II bicycle lanes on both sides o Pedestrian path on east side to Monte Vista Rd	○ Preserve segment characteristics ○ Maintain the number of roadway lanes ○ Improve pedestrian crossings in vicinity of Wagner Ranch Elementary School ○ Improve reliability	**MTSOs** ○ Delay Index ○ Cross Street Delay ○ Average Vehicle Occupancy **Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services ○ Complete the pedestrian and bicycle network ○ Reconstruct utility infrastructure to reduce incidence of lane or road closure ○ Maintain vegetation and drainage to reduce incidence of lane or road closure.

Lamorinda Interjurisdictional Routes

Moraga Way

Segment	Segment Characteristics	Roadway Characteristics	Needs	Possible Performance Measures	Possible Actions
Moraga Road to Camino Ricardo	○ Moraga Downtown Commercial, Cultural, Retail and Office District ○ Priority Development Area ○ Commute route	○ 4 lanes Moraga Road to School Street ○ 2 lanes School Street to Camino Ricardo ○ Left turn lanes ○ Class III bicycle lanes on both sides with gaps ○ Sidewalks on both sides from Moraga Road to School Street	○ Preserve segment characteristics ○ Pedestrian and bicycle access ○ Auto access to stores ○ More frequent bus or other alternative mode service	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Complete the pedestrian pathways and bike lanes/routes ○ Increase availability and frequency of alternative-mode services ○ Coordinate and Improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
Camino Ricardo to Eastwood Drive	○ Miramonte High School ○ AM peak congestion from school access ○ Commute route ○ AM and PM commute congestion	○ 2 lanes ○ Left turn and right turn lanes ○ Class III bicycle lanes on both sides with Moraga city limits ○ Sidewalks on both sides with some gaps	○ Preserve segment characteristics ○ Pedestrian and bicycle access to schools ○ More frequent bus or other alternative mode service	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Complete the pedestrian pathways and bike lanes/routes ○ Increase availability and frequency of alternative-mode services ○ Coordinate and Improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
Eastwood Drive to Overhill Drive	○ Semi-rural character, Orinda Intermediate and Del Rey Elementary off of Moraga Way ○ AM peak congestion from school drop off ○ Commute route ○ AM and PM commute congestion ○ Limited to no sidewalk	○ 2 lanes ○ Left turn and right turn lanes ○ Class II bicycle lanes on both sides ○ No pedestrian facilities	○ Preserve segment characteristics ○ Pedestrian and bicycle access to schools ○ More frequent bus or other alternative mode service ○ Increased reliability of roadway (frequent lane or road closure)	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services ○ Reconstruct utility infrastructure to reduce incidence of lane or road closure and possibly extend bicycle lane width ○ Maintain vegetation and drainage to reduce incidence of lane or road closure and possibly extend bicycle lane width ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
Overhill Drive to Bryant Way	○ Orinda Theatre Square Commercial and Retail Area ○ Priority Development Area ○ Access to BART station ○ Access to SR 24	○ 2 lanes ○ Left turn and right turn lanes ○ Class II bicycle lanes on both sides of the road between Overhill Road and Camino Pablo ○ Sidewalks on both sides	○ Preserve segment characteristics ○ Pedestrian and bicycle access ○ Auto access to stores ○ Improved multi-modal access to BART for Lamorinda residents ○ More frequent bus or other alternative mode service ○ Improve access to EB SR-24	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services ○ Improve multi-modal access to BART for Lamorinda residents ○ Coordinate and Improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure ○ Improve access to EB SR-24

Mount Diablo Boulevard

Segment	Segment Characteristics	Roadway Characteristics	Needs	Possible Performance Measures	Possible Actions
Happy Valley Road to Brown Avenue	○ Downtown Lafayette Commercial, Cultural, Retail and Office District ○ Multifamily housing ○ Priority Development Area ○ Access to BART station ○ Access to SR 24 ○ On-street parking	○ 4 lanes ○ Raised median with left turn lanes ○ No right-turn only lanes except at eastbound Moraga Road ○ Class III bicycle lanes on both sides between Mountain View Drive and First Street ○ Sidewalks on both sides	○ Preserve segment characteristics ○ Improve multi-modal access to BART for Lamorinda residents ○ Provide incentives to employees to encourage alternative modes and decrease parking demand while improving supply where needed ○ Increase pedestrian and bicycle safety ○ Improve pedestrian crossings ○ Discourage diversion from freeway ○ Reduce congestion	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures **Plus** ○ Intersection level of service	○ Increase availability and frequency of alternative-mode services ○ Initiate school bus service to Acalanes High School and Stanley Middle School ○ Increase capacity of BART service ○ Improve multi-modal access to BART for Lamorinda residents ○ Design pedestrian and bicycle facilities to connect with the new EBMUD Trail ○ Complete the pedestrian network ○ Add more bike parking ○ Improve signal timing

Moraga Road

Segment	Segment Characteristics	Roadway Characteristics	Needs	Possible Performance Measures	Possible Actions
Moraga Way to St. Mary's Road	○ Moraga Downtown Commercial Area ○ Priority Development Area ○ Multi-family housing ○ Commute route	○ 4 lanes ○ Raised median with left turn lanes and right turn lanes ○ Class II bicycle lanes on both sides ○ Sidewalks on parts of both sides	○ Preserve segment characteristics ○ Improve pedestrian and bicycle access to businesses ○ Improve auto access to stores and apartments	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services to BART station ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
St. Mary's Road to Corliss Drive	○ Semi-rural ○ Bordered by park and creek Multi-use trail ○ No housing frontage ○ Commute route	○ 2 lanes ○ Left turn and right turn lanes ○ Narrow Class II bicycle lanes on both sides ○ Multi use path on east side	○ Preserve segment characteristics ○ Improve pedestrian and bicycle access to park and trail facilities	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Complete the pedestrian pathways and bike lanes/routes as identified in the adopted Livable Moraga Road project. ○ Increase availability and frequency of alternative-mode services to BART station ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
Corliss Drive to Donald Drive	○ Residential frontage ○ Access to Rheem Elementary School ○ Commute route	○ 2 lanes ○ Left turn and right turn lanes ○ Class II bicycle lanes on both sides ○ No pedestrian facilities	○ Preserve segment characteristics ○ Improve pedestrian and bicycle access to schools Lafayette-Moraga Trail and commercial districts	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Complete the pedestrian pathways and bike lanes/routes as identified in the adopted Livable Moraga Road project. ○ s ○ Increase availability and frequency of alternative-mode services ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
Donald Drive to Dolores Court	○ Rheem commercial area ○ Medium density housing ○ Commute route	○ 4 lanes ○ Mix of left turn lanes and center two-way left turn lane ○ Class II bicycle lanes on both sides ○ Sidewalks on both sides form Donald Drive to Rheem Boulevard ○ Sidewalks on the west side of the road north of Rheem Boulevard	○ Preserve segment characteristics ○ Improve pedestrian and bicycle access to businesses ○ Improve auto access to stores	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Complete the pedestrian pathways and bike lanes/routes as identified in the adopted Livable Moraga Road project. ○ Increase availability and frequency of alternative-mode services ○ Improve existing communications between Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
Dolores Court to Via Granada/Sky Hy Drive	○ Residential ○ Campolindo High School Commute route	○ 2 lanes ○ Mix of left turn, right turn and center two-way left-turn lanes ○ Class II bicycle lanes on both sides ○ Sidewalks on the west side	○ Preserve segment characteristics ○ Improve auto, pedestrian and bicycle access to school ○ Reduce commute and school trip congestion	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Complete the pedestrian pathways and bike lanes/routes as identified in the adopted Livable Moraga Road project. ○ Increase availability and frequency of alternative-mode services ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures

					○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure

Moraga Road (Continued)

Segment	Segment Characteristics	Roadway Characteristics	Needs	Possible Performance Measures	Possible Actions
Via Granada/Sky Hy Drive to Old Mountain View Drive/Silver Springs Road	○ Residential access via driveways on a very narrow and winding road ○ Semi-rural character ○ Steep gradients and high embankments ○ Commute route ○ Access to schools ○ SR-24 and downtown Lafayette ○ AM, mid-afternoon and PM commute congestion	○ 2 lanes, minimal shoulder, open drainage ○ Left turn lanes ○ No bicycle or pedestrian facilities	○ Preserve segment characteristics ○ Improve pedestrian and bicycle facilities ○ Slow driving speeds ○ Reduce vehicle collisions ○ Side street ingress and egress	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures	○ Increase availability and frequency of alternative-mode services ○ Improve pedestrian and bicycle safety ○ Reconstruct utility infrastructure to reduce incidence of lane or road closure and possibly extend bicycle lane width ○ Maintain vegetation and improve drainage to reduce incidence of lane or road closure and possibly extend bicycle lane width ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
Old Mountain View Drive/Silver Springs Road to St Mary's Road	○ Residential frontage ○ Commute route ○ AM, mid-afternoon and PM commute congestion ○ Access to schools ○ SR-24 and downtown Lafayette	○ 2 lanes ○ Left turn lanes ○ No bicycle lanes ○ Wide multi-purpose pathways with split rail fence on both sides of the road north of Hamlin Road/Tanglewood Drive	○ Preserve segment characteristics ○ Reduce commute and school trip congestion ○ Improvement of pedestrian facilities	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures **Plus** ○ **Cross-street delay**	○ Increase availability and frequency of alternative-mode services ○ Improve pedestrian and bicycle safety ○ Reconstruct utility infrastructure to reduce incidence of lane or road closure and possibly extend bicycle lane width ○ Maintain vegetation and improve drainage to reduce incidence of lane or road closure and possibly extend bicycle lane width ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure
St Mary's Road to Mount Diablo Boulevard	○ Lafayette Elementary School, Stanley Middle School, and St. Perpetua School ○ Day cares centers ○ Church and theater ○ Downtown Lafayette Commercial ○ Priority Development Area Access to BART station ○ Commute route	○ 4 lanes ○ Left turn lanes, right turn lane at Mt. Diablo Blvd ○ No bicycle lanes, bike route between Moraga Blvd and Brook Street ○ Narrow sidewalks both sides of the road	○ Preserve segment characteristics ○ Improve pedestrian and bicycle access to school Lafayette-Moraga trail and commercial districts ○ Reduce commute and school trip congestion	**Core Performance Measures** ○ Availability of pedestrian and bicycle facilities ○ Vehicle crash frequency ○ Pedestrian or bicycle injury crash frequency ○ Delay index ○ Frequency of lane closures **Plus** ○ **Intersection level of service** ○ **Cross-street delay**	○ Increase availability and frequency of alternative-mode services ○ Evaluate opportunities for adaptive signal timing ○ Implement recommendations of the future Downtown Congestion Study ○ Identify and implement better connection of Downtown bike lanes to the Lafayette-Moraga Trail ○ Coordinate and improve procedures of Lamorinda agencies for detecting, reporting, announcing and documenting lane or road closures ○ Coordinate Lamorinda procedures/practices for traffic management during lane or road closure ○ Widening of existing pedestrian/bike facilities

Lafayette-Moraga Regional Trail

Segment	Segment Characteristics	Trail Characteristics	Needs	Possible Performance Measures	Possible Actions
Canyon Rd to Country Club Dr	○ Semi-rural	○ Mixed use, paved path ○ Approximately 9-10 ft wide	○ Enhance safety at trail crossings ○ Reduce conflicts between users ○ Improve directional signage to trail ○ Increase trail crossing visibility and lighting ○ Pavement upkeep	**Core Performance Measures** ○ Pedestrian and bicycle volumes ○ Auto volumes at crossings ○ Average trail user delay at major road crossings ○ Frequency of pedestrian or bicyclist injury at crossings ○ Pavement condition	○ Improvement of pedestrian and bike facility on the roads that cross the trails ○ Provide connections from trail to school and park ○ Street crossing improvement and striping ○ Widen with continuous unpaved shoulder ○ Speed and rule enforcement ○ Enhanced directional signage ○ Improve way –finding to the Valle Vista trailhead
Country Club Dr to Moraga Rd	○ Semi-rural character ○ Low-density commercial area ○ Residential frontage	○ Sidewalk running along Country Club Dr and School St ○ No bicycle facilities present-ride on the street	○ Enhance safety at trail crossings ○ Reduce conflicts between users ○ Improve directional signage to trail ○ Increase trail crossing visibility and lighting ○ Provide off-road trail ○ Pavement upkeep	○ **Core Performance Measures** ○ Pedestrian and bicycle volumes ○ Auto volumes at crossings ○ Average trail user delay at major road crossings ○ Frequency of pedestrian or bicyclist injury at crossings ○ Pavement condition	○ Complete the off-road trail at gaps ○ Widen with continuous unpaved shoulder ○ Improve the marking and signage (until off-road portion is completed) ○ Improve lighting on road segments ○ Enhanced directional signage
Moraga Rd to So Lucille Ln	○ Semi-rural character	○ Mixed use, paved path ○ Approximately 9 ft wide ○ Bordered by trees and creek ○ Partially shaded	○ Enhance safety at trail crossings ○ Reduce conflicts between users ○ Improve directional signage to trail ○ Increase trail crossing visibility and lighting ○ Pavement upkeep	**Core Performance Measures** ○ Pedestrian and bicycle volumes ○ Auto volumes at crossings ○ Average trail user delay at major road crossings ○ Frequency of pedestrian or bicyclist injury at crossings ○ Pavement condition	○ Enhanced directional signage ○ Enhance delineation of the trail within the Moraga Common ○ Widen with continuous unpaved shoulder ○ Enhance safety at the trail crossing with Rheem Boulevard
So Lucille Ln to Pleasant Hill Rd	○ Semi-rural character ○ Trail behind residences and other buildings	○ Mixed-use, paved path ○ Approximately 9 ft wide ○ Partially shaded ○ Bordered by flat, grassy area ○ Narrow trail bridge near Glenside Drive that does not allow two-way bicycle flow	○ Enhance safety at trail-crossings ○ Reduce conflicts between users ○ Improve directional signage to trail ○ Increase trail crossing visibility and lighting ○ Pavement upkeep	**Core Performance Measures** ○ Pedestrian and bicycle volumes ○ Auto volumes at crossings ○ Average trail user delay at major road crossings ○ Frequency of pedestrian or bicyclist injury at crossings ○ Pavement condition	○ Link Buckeye Field with trail ○ Implement School St. at Topper improvements ○ Implement School St. connection for school access ○ Widen with continuous unpaved shoulder ○ Provide connection to Iron Horse Trail ○ Enhanced directional signage ○ Replace narrow bridge near Glenside Drive