

Existing Conditions

Introduction

The Town of Moraga is in the process of updating its pedestrian and bicycle plan. The original plan, adopted over a decade ago, in 2004, no longer reflects Moraga’s needs, priorities and expectations. The main objective of the updated plan, called the Moraga Walk | Bike Plan, is to develop a ten-year list of the highest priority on-street projects to make walking and biking throughout the town safer and more convenient.

In addition, the plan will designate a town-wide network of bikeways and formulate a wayfinding signage plan for pedestrians, cyclists and drivers.



The first task in the planning process for the Walk | Bike Plan is an inventory of existing conditions. This briefing paper presents the results of, and key findings from, that inventory. It summarizes existing local conditions and issues relevant to non-motorized transportation such as key destinations, the town’s street network, pedestrian and bicycle facilities, and collision statistics (key *physical* conditions, denoted throughout the text in **green**, are shown on the map on page 3). More specifically, this paper discusses a series of topics and includes components that the California Transportation Commission (CTC) suggests be addressed in pedestrian and bicycle plans (see the appendix for more information about the CTC’s suggestions).

The inventory of existing conditions provides initial insights into the walking and bicycling experience in Moraga, and establishes the local context surrounding those forms of travel. Perhaps more importantly, it will inform the next task in the planning process, the needs assessment. Relying heavily on input from key stakeholders and the broader public, that assessment will consider the obstacles and impediments to walking and biking in Moraga; the needs and concerns of Moraga’s pedestrians and cyclists; and ideas, suggestions and opportunities to improve conditions.

Contents

This briefing paper discusses local issues and conditions relevant to walking and biking under the following topics:

• Setting and land use	2	• On-street bicycle facilities	11
• Key destinations	2	• Off-street facilities	11
• Existing conditions map	3	• Bicycle parking	13
• Commuting	5	• Programs and activities	13
• Traffic collisions	6	• Integration with other modes	14
• Street network	8	• Related plans	15
• On-street pedestrian facilities	9	• Appendix: ATP guidelines	23

Setting and land use

The town of Moraga is located in southwest Contra Costa County, in the heart of the San Francisco Bay Area. It is **bordered** by the cities of Lafayette (to the north and northeast) and Orinda (to the northwest) and by unincorporated areas of the county, including the community of Canyon. The town's central areas are relatively flat, but hills rise both to the east and west of Moraga Road, which bisects the town.

Moraga is a suburban and semi-rural community. It is one of the smallest of Contra Costa County's 19 cities, with a population of approximately 17,000 people and a land area of 9.4 square miles. Most of the land is taken up by low-density single-family neighborhoods and by open space. Civic and community facilities such as schools, parks and government buildings are found throughout the town; Saint Mary's College occupies a large area south of St. Mary's Road and Bollinger Canyon Road. There are two commercial areas in the center of town, both of which are designated for future mixed-use development. The town has no industrial areas.

A note about capitalization: In lower case, "town" refers to the geographic area of Moraga and to its community; in upper case, "Town" refers to the government entity that administers the area of Moraga.

Key destinations

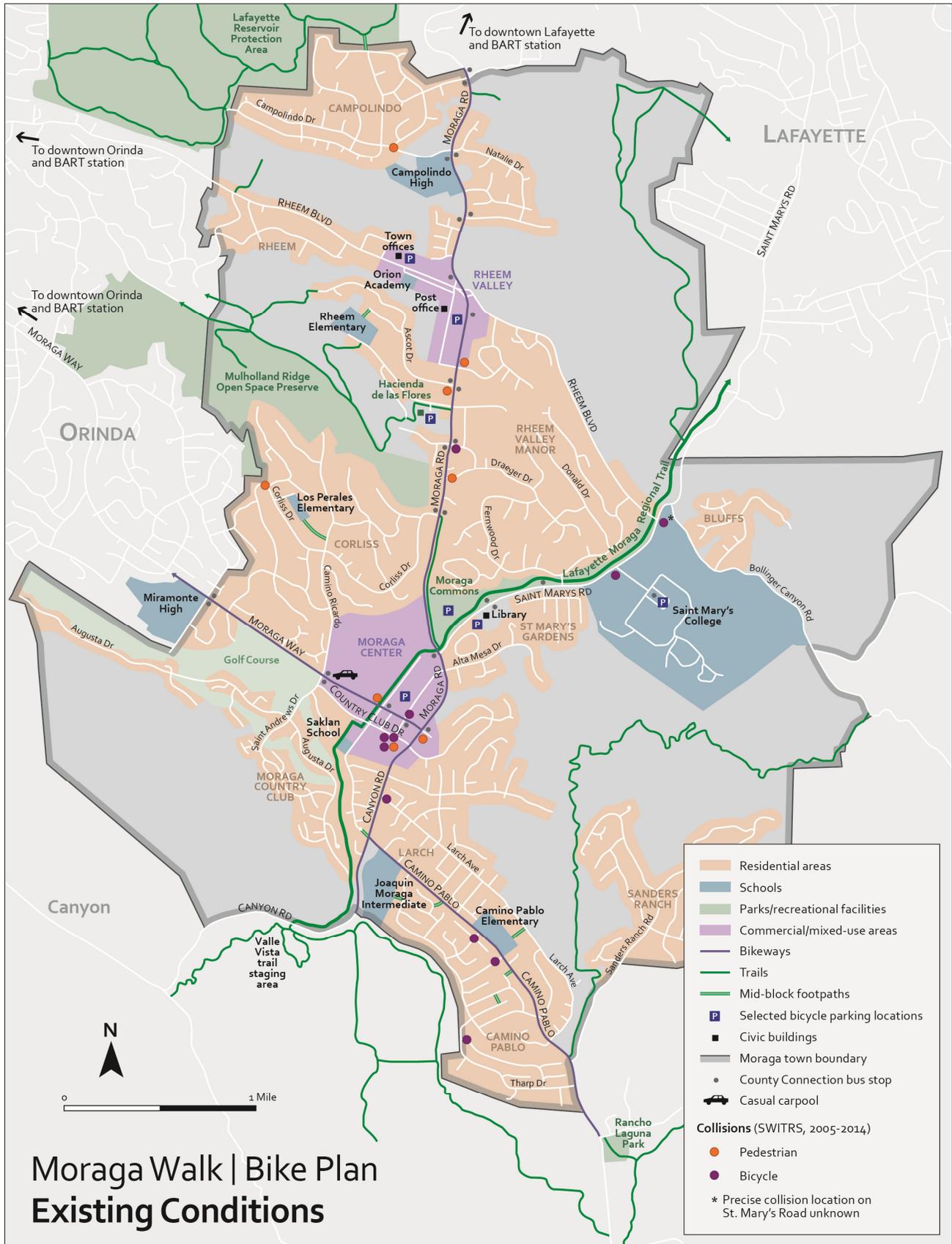
Typically, the most important destinations for pedestrians and cyclists in a city are residential neighborhoods; commercial areas and employment sites; and community facilities and places of assembly such as schools, parks and civic and government buildings.

As mentioned above, Moraga has two **commercial areas**: (i) Rheem Valley Shopping Center (also known as the Park in Rheem Valley), at the southwest corner of Moraga Road and Rheem Boulevard; and (ii) Moraga Shopping Center, west of Moraga Road along Moraga Way.



Residential neighborhoods include:

- **Campolindo** (in the northwest corner of the town).
- **Rheem Valley Manor** (in the center, bounded by Moraga Road, Rheem Boulevard and St. Mary's Road).
- **Corliss** (northwest of Moraga Center).
- **Larch** (southeast of Canyon Road).
- **Moraga Country Club** (southwest of Country Club Drive and Moraga Way).



Moraga has a number of **educational institutions**:

- **Public schools:** Donald Rheem Elementary, Los Perales Elementary, Camino Pablo Elementary, Joaquin Moraga Intermediate and Campolindo High; in addition, some Moraga students attend Miramonte High in Orinda, just across the town border.
- **Private schools:** the Saklan School (pre-K through 8th grade) and Orion Academy (grades 9–12) as well as several pre-schools.
- **Higher education:** Saint Mary's College, which happens to be the largest employer in Moraga.



The town's **parks** and other main **recreational facilities** are:

- **Moraga Commons Park**, featuring picnic areas, band shell and lawn, skate park, disc golf course, tot lot and various sports courts. "The Commons" is the site of many of Moraga's major community events such as the 4th of July festival, Summer concert series and Pear Festival.
- **Rancho Laguna Park**, with tot lots, swings, picnic areas, amphitheater and large lawn.
- **Hacienda de las Flores**, a historic estate featuring event rental facilities, large lawn and landscaped gardens.
- **Mulholland Ridge Open Space Preserve**, 250 acres of open space, much of it open to the public, straddling Moraga and Orinda.
- **Moraga Country Club**, a private facility.

- The area's network of walking, hiking and biking trails (see the "Off-street facilities" section).

The main **government buildings** serving the walk-in public are:

- **Main Town offices**, which house the Police, Planning and Public Works Departments, Town Clerk, Town Manager and Administrative Services (329 Rheem Boulevard). In late 2015 the Town will open a new Council Chambers and community meeting space in a renovated building at 335 Rheem Boulevard.
- **Hacienda de las Flores** (also mentioned above, under recreational facilities), which houses the Moraga Parks and Recreation Department.
- **Moraga public library** (1500 St. Mary's Road).
- The town's **post office** (460 Center Street, in Rheem Park).

Commuting

This section examines the number of pedestrian and bicycle commuters in Moraga. It uses “journey-to-work” data from the 5-year American Community Survey (ACS), an ongoing survey conducted by the U.S. Census Bureau. The data is from 2009–2013, the most recent five-year period for which ACS data is available. According to the ACS, 3.6% of Moraga workers commuted primarily on foot while 0.4% did so primarily by bike (see **Table 1**). Meanwhile, almost two thirds, 64.8%, drove alone; 6.6% carpooled; 15.5% used public transportation; 8.7% worked from home; and 0.4% used other means.

For comparison purposes, Moraga’s pedestrian share (3.6%) was higher than Contra Costa County’s as a whole (1.6%) and than California’s (2.7%). On the other hand, the

bicycling share (0.4%) was lower than both the county’s (0.5%) and the state’s (1.1%).

The ACS is the best source of travel data for Moraga. However, it has two significant limitations. First, it provides information on the number of *commuters* but not on the number of *trips*; more importantly, it also does not provide information on non-work-related travel, which in most communities makes up the large majority of trips. Second, because the numbers of pedestrian and bicycle commuters are small, the margin of error for these estimates is quite large. (Margin of error is a measure of the variability or range of an estimate. The larger the margin, the lower the accuracy of the estimate and the less likely it is to be close to the true value.) Based on the margins of error for the data, the likely true percentage of pedestrian commuters in Moraga is anywhere between 2.1% and 5.1% while for bicycle commuters it is 0.0–0.8%.

Table 1 | Commute mode split

	Moraga			C. C. County	California
	Commuters	%	Likely range	%	%
Drove alone	4,330	64.8%			
Carpooled	439	6.6%			
Public transportation	1,032	15.5%			
Walked	242	3.6%	2.1 – 5.1%	1.6%	2.7%
Bicycled	24	0.4%	0.0 – 0.8%	0.5%	1.1%
Worked from home	583	8.7%			
Other*	29	0.4%			
Total	6,679	100.0%			

* Includes taxicab, motorcycle and other means.

Traffic collisions

This section analyzes traffic collisions in Moraga involving pedestrians or cyclists. The data for the first part of this section comes from the California Highway Patrol’s Statewide Integrated Traffic Records System (SWITRS), a database of traffic collisions as reported to and collected by local police departments and other law enforcement agencies. The analysis covers the period from 2005 through 2014, the most recent ten-calendar-year period for which SWITRS data is available.

According to SWITRS, there were 19 traffic collisions during that period resulting in a pedestrian or cyclist injury or fatality. The collisions resulted in seven pedestrians injured and one killed, and 11 cyclists injured and none killed (**Table 2**). These 19 collisions represent 16% of the 121 collisions in Moraga during 2005–2014 that resulted in traffic victims (the remainder were mostly collisions between two or more cars, resulting in driver injuries or fatalities).

It should be noted that minor collisions, especially those involving property damage only, are less likely to be reported to a police officer and to lead to police response. For this reason, the incidents in SWITRS represent only a portion of all traffic collisions and are more likely to be serious ones, typically involving pedestrians or cyclists being struck by cars.

Of the **19 collisions** involving pedestrians or cyclists, 15 (almost 80%) occurred on or at an intersection with one of the town’s seven major streets (see the “Street network” section below for a list of these arterials). Seven of the 19 collisions were clustered in a very small area around Moraga Shopping Center, indicating a

likely collision hotspot, or area of concern. (This does not necessarily mean that this area is less safe for walking and bicycling; instead, it could mean that more walking and biking occurs there because the shopping center is a key destination for pedestrians and cyclists.)

Table 2 | Summary of collisions involving pedestrians or cyclists

	<i>Ped fatal</i>	<i>Ped injury</i>	<i>Bike fatal</i>	<i>Bike injury</i>	<i>Total</i>
2005	1			1	2
2006					0
2007		2		2	4
2008				1	1
2009		1			1
2010				2	2
2011		1		1	2
2012		1		3	4
2013		1		1	2
2014		1			1
Total	1	7	0	11	19

Annual average of collisions resulting in fatalities or injuries: 1.9.
As percentage of all collisions resulting in injuries: 16%.

The age of the traffic victim is known for 18 of the 19 collisions analyzed. **Table 3**, below, categorizes the victims by age group. Almost one third (five) were children and more than half (ten) were young or middle-aged adults; one was a young teenager and two were seniors.

Table 3 | Collisions by age group

Child (0–12)	5
Young teenager (13–17)	1
Young adult (18–34)	4
Middle-aged (35–64)	6
Senior (65 and older)	2
Total	18

Of the collisions for which the party at fault is known, 12 involved adult pedestrians or cyclists. Of these 12 collisions, drivers were the party at fault in nine, bicyclists in two and the pedestrian in one (Table 4).

Table 4 | Collisions by party at fault

Driver	9
Bicyclist	2
Pedestrian	1
Total	12

The primary collision factor was reported for 18 of the collisions. The top reason for collisions was failure by a driver to yield the right-of-way to a pedestrian at a crosswalk (“R-O-W ped”), blamed for six collisions, or one third of the total (Table 5). Four collisions were the result of a vehicle (including bikes) failing to yield the right-of-way to another vehicle (“R-O-W auto”). Three collisions were the result of the cyclist riding the wrong way (“Wrong side”). Two were the result of a pedestrian crossing in an unsafe manner. The remaining three collisions resulted from miscellaneous reasons: improper turning by a car, improper passing by a car and speeding by a cyclist.

Table 5 | Collisions by primary collision factor

R-O-W ped	6
R-O-W auto	4
Wrong side	3
Ped violation	2
Other	3
Total	18

Lastly, Table 6, below, categorizes the collisions by time of day. Of the 19 collisions, eight took place in the mid-to-late morning, seven in the afternoon and four in the evening; none occurred late at night or in the early morning.

Table 6 | Collisions by time of day

Mid / late morning (6:00–11:59 am)	8
Afternoon (12:00–5:59 pm)	7
Evening (6:00–11:59 pm)	4
Late night / early morning (12:00–5:59 am)	0
Total	19

Each year, the California Office of Traffic Safety ranks the state’s cities against other cities with similar-sized populations on various types of traffic safety collisions. The rankings give varying weights to such factors as population, daily vehicle-miles traveled, crash records and crash trends, and are based on data from several sources (including SWITRS).

In 2012—the latest year for which OTS has published rankings—Moraga ranked very highly in terms of traffic safety. Its composite ranking was 105 out of 109 cities in its population group (see Table 7, below; number 1 in the rankings is considered the “worst”).

The town also ranked very highly in terms of collisions involving pedestrians in general, pedestrians under 15 years of age and pedestrians 65 or older. The ranking for collisions involving bicyclists was in the middle of the pack, roughly (68 out of 109) and it was in the worst 20% for collisions involving bicyclists under 15 (17 out of 109).

Table 7 | Office of Traffic Safety 2012 rankings

Composite	105
Pedestrians	96
Pedestrians under 15	84
Pedestrians 65 or older	93
Bicyclists	68
Bicyclists under 15	17

Rankings are out of 109, with 1 being the “worst.”

OTS notes that its “rankings are only indicators of potential problems” and that “there are many factors that may either understate or overstate a city/county ranking that must be evaluated based on local circumstances.”

Street network

Rather than conform to a grid, most roads and streets in Moraga curve and wind along natural contours and grades. This contributes to the town’s suburban and semi-rural character. However, the lack of a grid, combined with many dead-end streets and cul-de-sacs, limits the connectivity of the network, especially for pedestrians and cyclists.

A city’s streets may be classified by their function, which typically corresponds with the

amount and speed of traffic on them. This functional classification includes, from busiest to least busy: highways, arterials, collectors and local, or residential, streets.

The highest classification in Moraga is **arterials**, as there are no highways within the town. According to the Moraga General Plan, there are seven streets designated as arterials; they form the backbone of Moraga’s circulation system. Roughly from north to south, they are:

- Moraga Road
- Rheem Boulevard
- St. Mary’s Road
- Moraga Way
- Canyon Road
- Country Club Drive from St. Andrews Drive to Canyon Road
- Camino Pablo



Moraga Road, St. Mary’s Road and Canyon Road have a generally north–south orientation while the other arterials have an east–west orientation. The grades vary greatly along the arterials, from flat stretches to steep hills.

Collectors carry traffic between the arterials and smaller streets. They include such streets as Campolindo Drive, Ascot Drive, Fernwood

Drive, Camino Ricardo, Corliss Drive, Larch Avenue and quite a few others. The rest of the network is made up of local streets. These are low-volume, neighborhood-serving streets whose main purpose is to provide access to fronting properties.

Moraga has few traffic lights; they are limited to the arterials mentioned above and are generally found at the intersection of two arterials. None of the traffic lights are equipped with bicycle-detection technology.

Most streets in the town consist of two travel lanes, one in each direction. Not including short sections with turning and auxiliary lanes, there are only three stretches of four lanes (two in each direction):

- Moraga Road between Rheem Boulevard and Corliss Drive
- Moraga Road/Canyon Road between St. Mary's Road and just south of Camino Pablo Moraga Way
- Country Club Drive from School Street to Canyon Road

The posted speed limit on the arterials is 35 mph, except on Country Club Drive and Camino Pablo and near schools and other low-speed zones, where it is 25 mph. The speed limit on the non-arterials is generally 25 mph.

On-street pedestrian facilities

The main on-street facilities for walking are sidewalks and crosswalks. While many of the arterials and collectors in Moraga have sidewalks, in many cases these are only on one side of the road, are discontinuous, or have sections of substandard width. Marked crosswalks are included at key intersections,

but there is often a long distance between crosswalks, limiting their convenience for users. Many of the residential streets also have sidewalks on at least one side; few have marked crosswalks, except at crossings with arterials and collectors. In addition, in recent years, the Town has been installing curb ramps at key locations to improve access for persons with disabilities.



Moraga, like most cities, does not have a comprehensive inventory of sidewalks and crosswalks. Comprehensive inventories are not essential for long-range planning purposes. For the purposes of this report, only a general survey was conducted of pedestrian facilities around the town's two commercial areas and the public schools. It is expected that most of the public's needs and concerns related to walking will focus on these areas. The main findings of this general survey are summarized below.

The condition and functionality of specific sidewalk segments and street crossings will be examined closely as part of the upcoming needs assessment task. That more focused examination will be guided by the needs and concerns identified by the community and will be conducted with an eye toward

recommending specific high-priority pedestrian improvements.

Rheem Valley Shopping Center

- Moraga Road: Sidewalks on both sides.
- Rheem Boulevard: Sidewalk on one side.
- Other: Traffic lights at Moraga Road/Rheem Boulevard and at Rheem Boulevard/Center Street; many driveways on both streets.

Moraga Shopping Center

- Moraga Road: Sidewalks on both sides.
- Moraga Way: Sidewalks on both sides mostly.
- Country Club Drive: Sidewalks on both sides mostly.
- School Street: Sidewalk on one side.
- Viader Drive: Sidewalks on both sides.
- Other: Traffic lights at Moraga Road/Moraga Way and at Moraga Road/St. Mary's Road; marked crosswalks and driveways throughout.

Campolindo High

- Moraga Road: Sidewalk on one side.
- Campolindo Drive: Sidewalk on one side.
- Other: Traffic light and yellow-ladder crosswalk at Moraga Road/Campolindo Drive.

Donald Rheem Elementary

- Donald Drive: Sidewalk on one side.
- Laird Drive: Sidewalk on one side mostly.
- Ascot Court: Sidewalk on both sides.
- Ascot Drive: Sidewalk on both sides.
- Other: Mid-block footpath connecting Ascot Court to the school (also mentioned in the section below on off-street facilities).

Los Perales Elementary

- Corliss Drive: Sidewalk on one side
- Warfield Drive: No sidewalks.
- Sullivan Drive: No sidewalks.

- Camino Ricardo: Sidewalk on both sides.
- Other: Mid-block footpath connecting Camino Ricardo to the school

Camino Pablo Elementary

- Camino Pablo: Sidewalk on one side.
- Larch Avenue: No sidewalks.
- Other: Yellow-ladder crosswalks and specially textured and colored crosswalks in the immediate school area.
- Also: Mid-block footpaths connecting Larch Avenue to the school; and Gaywood Place and Kazar Court to Camino Pablo.

Joaquin Moraga Intermediate

- Canyon Road: Sidewalks on both sides.
- Camino Pablo: Sidewalk on one side.
- Rimer Drive: Sidewalks on both sides.
- Other: Yellow-ladder crosswalks and specially textured and colored crosswalks in the immediate school area.
- Also: Mid-block footpaths connecting School Street to Canyon Road and Rimer Drive to the school.

Miramonte High

- Moraga Way: Sidewalk on one side.
- Ivy Drive: Sidewalk on one side.
- Other: Yellow-ladder crosswalks at Moraga Way and Ivy Drive.

The Town does not have dedicated policies and procedures for the construction, installation or maintenance of pedestrian facilities. Instead, it performs maintenance and repairs on an as-needed basis; and constructs sidewalks and installs crosswalks and curb ramps on an as-needed basis or as part of larger public works projects. Some streets and sidewalks in the commercial areas and in certain subdivisions are privately owned and maintained.

The Town has not implemented any major pedestrian projects recently. Also, it does not allocate funding on an annual basis specifically for sidewalk and curb-ramp improvements. Most upgrades and repairs occur as a secondary component of other road repair and maintenance projects, or with small increments of grant funding as it becomes available.

On-street bicycle facilities

Moraga lacks a comprehensive network of on-street designated bikeways, though there are facilities for cyclists on several streets. Namely, all the arterials (listed in an earlier section) have stretches of bike lanes, relatively wide shoulders or bike routes (which have some bike signage and pavement markings but no dedicated lane or area for cyclists, typically because parking is allowed on the shoulders). However, the quality and functionality of these bikeways vary greatly. Deficiencies include, generally, discontinuity of facilities; and more specifically, lack of signage and pavement markings, narrow shoulders, shoulders on which parking is allowed, and segments of poor pavement quality.

Because of these deficiencies, it is unclear from the survey conducted for this report which roadway segments meet Caltrans standards for bike lanes (known as Class I facilities) and bike routes (Class II). However, it appears that the extent of Moraga's **on-street bikeways** can be categorized as follows:

- Bike lanes on Moraga Road from the Lafayette border to Moraga Way (intermittent) and continued on Canyon Road from Moraga Way to Constance Place.
- Bike lanes on Moraga Way from the Orinda border to Moraga Road/Canyon Road.

- Bike route on Camino Pablo from Canyon Road to the County border.

It is important to note that, whether bicycle facilities are present or not, cyclists may use any public street in Moraga like any other vehicle.

More detailed information on the condition and, more importantly, the functionality of bikeways will be gathered as part of the upcoming needs assessment task. That more focused examination will be informed by the needs and concerns identified by the public and will be conducted with an eye toward formulating a proposed town-wide network of bike lanes and bike routes and recommending specific bikeway improvements.

The main bicycle connector to Orinda is Moraga Way. Access to Lafayette is provided mainly on the Lafayette–Moraga Regional Trail.

The Town conducts routine maintenance of roadway surfaces but does not give maintenance priority to roadways with bicycle facilities. It does not have dedicated policies and procedures for the maintenance of on-street bike facilities and instead performs maintenance and repairs on an as-needed basis. The Town has not implemented any major bicycle projects recently, but it spends an undetermined amount of funds in any given year to resurface streets, to fill in potholes, and for other street maintenance projects that benefit cyclists.

Off-street facilities

While the Lafayette–Moraga Regional Trail is the best known, Moraga has a number of other

popular off-street walking, jogging and biking trails. The town's trail system is inventoried in the "Moraga Area Trails Guidebook 2014," published by the Moraga Park Foundation. The guidebook lists the following **trails** in and on the outskirts of Moraga:

- **Cindy Waxman Trail:** At Hacienda de las Flores. Connects to Mulholland Preserve.
- **Mulholland Ridge Trail:** Along Donald Drive on the Orinda/Moraga boundary, starting from the Hacienda parking lot. Bicycles allowed on paved areas only.
- **Lafayette Reservoir trails:** Paved lakeside trail and unpaved rim trail, with connectors between the two. Accessible from a trail at the end of Paseo Grande.
- **Lafayette–Moraga Regional Trail:** From Lafayette to the Valle Vista staging area, off Canyon Road just outside the town. Runs through the center of town parallel to St. Mary's Road, School Street and Canyon Road. Part of the Lamorinda Trail Loop, which connects Moraga, Lafayette and Orinda, mostly along on-street bikeways. There are several trailheads, and the trail itself is well signed but there are no signs pointing to the trail.
- **Old Moraga Ranch Trail:** From Bollinger Canyon Road/Las Trampas Creek, behind Saint Mary's College, to the Rocky Ridge Trail, south of Rancho Laguna Park. There are several trailheads.
- **Connector between Rancho Laguna Park and Rocky Ridge Trail:** Accessible from the back of Rancho Laguna Park. East Bay Municipal Utility District (EBMUD) trail use permit is required.



- **Kings Canyon Trail:** Along the north side of Upper San Leandro Reservoir. Connects to, and forms a loop with, the Rocky Ridge Trail. EBMUD trail use permit required.



- **Redwood Trail:** Runs west from the Valle Vista staging area. EBMUD trail use permit required.
- **Riche Trail:** Short loop south of the Valle Vista staging area. EBMUD trail use permit required.
- **Rimer Creek Trail:** Runs behind Joaquin Moraga School and along Rimer Creek, and connects to the Rocky Ridge Trail. Accessible from the Valle Vista staging area. EBMUD trail use permit required.
- **Rocky Ridge Trail:** Runs southeast of the Valle Vista staging area to the Kings Canyon Trail then northeast behind Rancho Laguna Park to Buckhorn Creek. EBMUD trail use permit required.

In addition to the trails listed above, there are footpaths in Moraga Commons, Rancho Laguna Park and Hacienda de las Flores. Also, Moraga has a number of **footpaths** that run through residential blocks. They serve as valuable shortcuts for pedestrians, with several providing connections to schools. The

footpaths, identified by the streets or destinations they connect, are:

- Calle la Montana and Lafayette Reservoir Recreation Area
- Ascot Court and Donald Rheem Elementary
- Camino Ricardo and Los Perales Elementary
- School Street and Canyon Road
- Rimer Drive and Joaquin Moraga Intermediate
- Gaywood Place and Camino Pablo
- Larch Avenue and Camino Pablo Elementary
- Kazar Court and Camino Pablo
- Tharp Drive and Walford Drive

The trails and footpaths mentioned above are on the property of and maintained by, variously, the Town, East Bay Regional Park District, East Bay Municipal Utility District and private property owners. For its part, the Town does not have dedicated policies and procedures for the maintenance of trails or footpaths and instead performs maintenance and repairs on an as-needed basis. The Town has not implemented any major trail projects recently, but it spends an undetermined amount of funds in any given year on minor trail maintenance and repair.

Bicycle parking

The Town has not installed **bicycle parking** racks on sidewalks or elsewhere in the public right-of-way but has installed them at most of its public facilities. There are racks at the Town offices, the public library, Moraga Commons Park and Hacienda de las Flores; however, the design and placement of some of these racks is not optimal. Also, there are racks at several locations on the Saint Mary's College campus. Some businesses in the two commercial

areas—Rheem Valley and Moraga Shopping Centers—have provided parking racks at their location.

Housing developments in the Moraga Center Specific Plan Area are required to provide bicycle parking “consistent with anticipated need” (Municipal Code 8.34.070). Meanwhile, the Town's Design Guidelines encourages the commercial centers to maintain permanent bicycle racks (guideline CC1.7).

Programs and activities

While facilities such as sidewalks, bikeways and trails are critical to the pedestrian and bicycling experience, also valuable are non-infrastructure programs and activities. These typically can be categorized under the areas of education, safety, encouragement, promotion or enforcement. Such programs and activities are few in Moraga. They have not historically been a high priority for the Town, and have suffered from limited resources and insufficient coordination among agencies and organizations.

Bike to Work Day has been celebrated in Moraga since at least 2012, with the presence of “energizer stations,” where volunteers have given away refreshments, bike commuting information and, of course, encouragement to cyclists on their morning commute. In 2015, there were two energizer stations in Moraga: one sponsored by the Town, at the corner of St. Mary's Road and Rheem Boulevard; and a second one sponsored by Saint Mary's College, at the entrance to the college.

Another example is walking and biking guidebooks and maps. The Moraga Park Foundation (MPF) is an all-volunteer

organization that funds improvements to park facilities in Moraga and supports recreational programs. With assistance from the Moraga Parks and Recreation Department, East Bay Municipal Utility District and East Bay Regional Park District, MPF publishes the “Moraga Area Trails Guidebook.” The second version of the booklet appeared in 2014.

Moraga’s Public Works Department makes “Transportation Action Request” forms available (including online), through which the public can report problems related to traffic and circulation, and suggest changes or improvements. Requests for traffic-calming measures must include the names and signatures of adult property owners representing at least five properties in the neighborhood.

The Town’s Traffic Calming Guide (2008; updated in 2010) outlines the process for identifying and implementing specific calming measures. It provides for traffic-calming tools and methods at three levels of cost and complexity:

- Level 1: Education and enforcement. Typical methods include neighborhood-specific education and increased police presence.
- Level 2: Changes to signage or pavement markings, including stop signs and crosswalks.
- Level 3: Generally physical modifications to a street, such as curb extensions and raised crosswalks.

For its part, the Police Department trains its officers on pedestrian and bicycle safety issues. The department has conducted public outreach campaigns on such issues, most recently to inform drivers about the new state law requiring at least 3 feet of clearance when

passing cyclists. The department uses specially equipped mountain bikes to patrol special events as well as the town’s parks and shopping centers. Also, from time to time, the Lafayette, Moraga, and Orinda police departments collaborate on the “Slow Down Lamorinda” campaign to address speeding and other traffic-safety violations with targeted enforcement efforts.



Lastly, the Moraga School District has a list of links to safety-related resources on its website. The list includes resources on walking to school and biking to school.

Integration with other modes

Walking and bicycling become more practicable the better they are integrated with other modes, or forms, of transportation, especially transit. There are two **BART stations** within approximately five miles of the center of Moraga: the Orinda and Lafayette stations. Both BART stations have ample bicycle parking in the form of racks and lockers. In addition, BART has recently updated its policies to relax restrictions on carrying bikes on trains during commute hours, although some limitations still apply.

According to BART's most recent Station Profile Study (2008), 25% of riders at the Orinda station on an average weekday who are coming from home, or 523 people, live in Moraga. The comparable figures for the Lafayette station are 6% of riders and 159 people. Given the relatively short distances involved from Moraga to the two stations, this is a travel "market," or pattern, that bicycling could tap into if better on-street facilities were available.

There is one regular bus line serving Moraga: County Connection's Route 6. It travels between the Orinda and Lafayette BART stations, including on weekends, with **stops** along Moraga Road, St. Mary's Road and Moraga Way.

In order to accommodate heavier ridership, County Connection provides two supplemental routes that operate on days when schools are in session, and with schedules limited to a few hours before and after school. These are Route 603, serving Saint Mary's College and Campolindo High; and Route 606, serving Saint Mary's College and Miramonte High. Lastly, County Connection also operates Route 250, the Saint Mary's College "Gael Rail" shuttle. The shuttle runs every hour between the college and Lafayette BART station once regular bus service has stopped for the day. All County Connection buses are outfitted with wheelchair lifts or ramps and with front-mounted racks for two bikes.



There is an informal **casual-carpool** pick-up area near the corner of Moraga Way and School Street, in the Moraga Shopping Center, for people looking to share a ride over the Bay Bridge to San Francisco.

Related plans

The Moraga Walk | Bike Plan will be the main document addressing walking and bicycling in the town. However, there are several other planning documents and efforts that have, or could have, a bearing on non-motorized transportation in Moraga. These plans were reviewed for purposes of identifying recommended projects and specific, "actionable" policies that could be carried over into the Walk | Bike Plan or otherwise be reflected in it. The main plans that were reviewed are listed and summarized below. Unless noted otherwise, the plans refer to Moraga documents:

- 2004 Moraga Bicycle and Pedestrian Plan
- General Plan (2002)
- 2014–2019 (Five-year) Capital Improvement Program (2014)
- Climate Action Plan (2014)
- Bicycle Safety Assessment (in progress)
- Livable Moraga Road (in progress)

- Moraga Center Specific Plan (2010) and Implementation Project (in progress)
- Parks & Recreation Master Plan (2007)
- Contra Costa Countywide Bicycle and Pedestrian Plan (2009)
- Lamorinda Action Plan (2014)
- Lamorinda Service Plan (in progress)
- Orinda Bicycle, Trails and Walkways Master Plan (2011)
- Lafayette Bikeways Master Plan (2006)

2004 Moraga Bicycle and Pedestrian Plan

The MBPP is the Town’s original bicycle and pedestrian plan, which the Walk | Bike Plan will supersede. The MBPP includes helpful tools such as planning and design guidelines for pedestrian and bicycle facilities; a description of common funding sources for pedestrian and bicycle improvements; and unit cost estimates for facilities and projects. It does not include specific recommended pedestrian improvements or support programs; instead, it outlines general types of improvements and programs than jurisdictions like Moraga may consider. In terms of bikeways, the MBPP proposes a dozen projects but they lack specificity and consist almost entirely of trail segments. One of the objectives of the current Walk | Bike Plan effort is to address the MBPP’s shortcomings by providing specific recommendations with a focus on on-street facilities, both for pedestrians and cyclists.

General Plan (2002)

The General Plan is intended to guide the town’s long-term physical development. It does not propose specific projects to improve walking and biking; however, it does contain numerous policies—particularly in the Circulation Element or chapter—that are supportive of these modes. The most relevant

policies are listed below; some have been edited for brevity. (“CD” refers to policies in the Community Design Element; “C” in the Circulation Element; and “FS” in the Community Facilities and Services Element.)

- **CD2.3 Commercial Centers as Community Places.** Encourage design improvements at the Moraga Center and Rheem Park centers to create a stronger pedestrian orientation.
- **CD2.5 Connections.** Designate pedestrian and bicycle routes that connect selected public places with each other and with residential neighborhoods, schools, and commercial centers.
- **CD5.1 Location.** Locate new multi-family developments in close proximity to commercial centers, transit stops, and community facilities such as parks and schools, with site design and landscaping to create buffers between adjacent uses while providing connection to pedestrian and bicycle paths.
- **CD6.3 Pedestrian Orientation.** Create a safe, inviting and functional pedestrian environment in commercial areas, with interconnected walkways and pedestrian amenities. Where pedestrian paths cross parking areas or vehicle lanes, give clear priority to pedestrians through pavement markings, differentiation in the pavement surface, and signage.
- **C1.1 Roadway Engineering and Maintenance.** Apply standard engineering principles in the design, construction and maintenance of all roadways to make them safe for all users. In support of community design and environmental goals, consider allowing narrower street widths, consistent with Town standards, when it can be

demonstrated that public safety concerns are adequately addressed.

- **C1.6 Street Maintenance.** Conduct street maintenance at reasonably high standards to avoid long-term repair and replacement costs and to ensure a safe and comfortable street system.
- **C1.9 Traffic Enforcement.** Provide sufficient resources to maintain a high level of traffic safety through law enforcement.
- **C1.10 Traffic Education.** Disseminate traffic educational materials to transportation users to encourage ridesharing, bus transit, and the safe use of streets and highways.
- **C4.1 Pedestrian Circulation.** Provide a safe, continuous and connected system of pedestrian pathways through the Town, including sidewalks, paths, trails and appropriate crosswalks along all principal streets.
- **C4.2 Bicycle Circulation.** Develop a complete bicycle system with direct, continuous, interconnected pathways between residential and commercial areas, community facilities, commuter corridors and transit hubs.
- **C4.4 Trip-Reduction Strategies.** Encourage young people to bike, walk or take the school bus to school.
- **FS3.6 Access for People of All Abilities.** Design and manage park and recreation facilities, including trail facilities, so that people of all abilities can access and enjoy Moraga's recreational opportunities.
- **FS3.20 Trails Master Plan.** Implement the Moraga Trails Master Plan through ownership and easements to establish and maintain a comprehensive trails network in the Town. Adjust the plan as necessary to

take advantage of any new trail opportunities that may arise.

- **FS3.21 Trail Design and Maintenance.** Consider the following when planning, designing, implementing and maintaining trail facilities: environmental impacts, fiscal impacts, safety and use of fire trails.
- **FS3.22 Regional Trail System.** Encourage and cooperate with other jurisdictions and agencies to develop and maintain a unified regional trail system, including hiking, biking and equestrian trails. Support development of regional trail projects such as the Bay Ridge Trail.

The General Plan includes many implementing programs for putting the plan's goals and policies into action. Several of these are relevant to walking and bicycling:

- **Scenic Corridor Design Guidelines:** Should address, among other issues, pedestrian-oriented lighting and sidewalk design along the frontage of residential and commercial areas.
- **Residential Design Guidelines:** Should address the pedestrian environment.
- **Multi-Family Residential Design Guidelines and Commercial Design Guidelines:** Should address the pedestrian environment and pedestrian and bicycle linkages.
- **Pavement Management Program:** Maintain a pavement management program to identify and prioritize maintenance projects in the Town's Annual Budget. Maintenance should also include regular cleaning of bicycle routes to remove debris and poor pavement conditions that discourage bicycle riding.
- **Transportation Systems Management Plan:** Review and Update the Town's

Transportation Systems Management Plan to identify/define level-of-service standards for traffic operations, reflecting service levels for all street users.

- **Pedestrian, Bicycle and Trails Master Plan:** Review, update and expand upon the Town’s ‘Trails Master Plan’ to provide a comprehensive plan for addressing pedestrian and bicycle circulation issues as well as recreational trail use. The updated and expanded Plan should, among other things, actively involve the public in the process; establish annual priorities for trail construction as well as pedestrian and bicycle improvements, and identify the resources to build them; and review pedestrian circulation issues to identify constraints to walking, develop improvement plans at constrained locations, and incorporate pedestrian enhancement projects into the Town’s Annual Budget.
- **Bollinger Canyon Special Study:** Consider opportunities for pedestrian, bicycle and transit access from the site to the Town center.
- **Lamorinda Transportation Planning:** Coordinate with Lafayette, Orinda, and the County to seek to expand and enhance pedestrian and bike corridor connections.
- **Traffic Safety Education Program:** Conduct a traffic safety and education program to educate elementary school students on traffic safety and adults on courteous driving behavior.

2014–2019 (Five-year) Capital Improvement Program (2014)

The Capital Improvement Program (CIP) outlines the Town’s current and long-term needs in terms of substantial construction projects and equipment purchases. The most

recently adopted five year CIP proposes a number of pedestrian- and bicycle-related projects. These projects, including their budgeted amount(s) and the fiscal year(s) for which they are budgeted, are:

- **Rancho Laguna Park pathway improvements** (\$70,000 in Fiscal Year 2015/16)
- **Various trail development and improvement projects** (\$4.5 million, with funding available at a date to be determined or “unscheduled”)
- **Parks, trails, Hacienda and open space survey** (\$15,000 in FY15/16)
- **Canyon Road bicycle improvements** from Constance Place to the County border (\$570,000, TBD/unscheduled)
- **Bicycle and Pedestrian Master Plan Update**, which is the subject of this existing conditions report (\$73,000 in FY14/15)
- **Moraga Center pedestrian and bicycle improvements** (\$60,000 in FY15/16; \$750,000, TBD/unscheduled)
- **Moraga Road pedestrian improvements** (\$40,000 in FY14/15; \$120,000, TBD/unscheduled)
- **Moraga Way bicycle and pedestrian improvements** (\$87,000, TBD/unscheduled)
- **Rheem Boulevard bicycle and pedestrian improvements**, from Moraga Road to St. Mary’s Road (\$259,000, TBD/unscheduled)
- **Rheem Boulevard bike route improvements**, from the Orinda border to Moraga Road (\$44,000, TBD/unscheduled)
- **ADA compliance streets program** (\$10,000 annually)

Climate Action Plan (2014)

This is the Town's roadmap for reducing greenhouse gas emissions. Under the Land Use & Transportation (LU&T) category, the plan contains a number of strategies to promote or facilitate walking and biking:

- Identify commercial and public areas that lack appropriate levels of bicycle parking and install the needed facilities, as funding is available (under policy LU&T.1).
- Amend the zoning ordinance to require adequate bicycle parking for tenants, employees, and customers in new residential and non-residential development (LU&T.1).
- Require new bike paths through all new developments as Conditions of Approval (LU&T.1).
- Implement road improvements such as landscape medians and street corner bulb outs to improve pedestrian safety, lower traffic speeds and improve the pedestrian and bicycle environment (LU&T.2).
- Ensure that sidewalks or other bicycle and pedestrian facilities on major roadways are continuous and complete, and implement the Americans with Disabilities Act improvements, such as installation of curb ramps at intersections (LU&T.2).
- Require new and redeveloped street designs to be "complete streets" that address the needs of all users where appropriate (LU&T.2).
- Work with schools to create trip reduction programs that encourage walking, bicycling, carpooling, and public transit use. Specific attention will be placed on expanding the walking school bus programs throughout the community, where children walk to school in adult supervised and school coordinated groups (LU&T.2).

- Expand the Safe Routes to School program to encourage students to use alternative modes of transportation to get to and from school. Focus on infrastructure improvements surrounding schools on Town-maintained streets (LU&T.2).
- Require new residential and non-residential development to develop a transportation demand management plan and ongoing program that provides incentives to individuals to utilize alternative means of transportation (LU&T.7).
- Through education and outreach, encourage existing employers to provide bicycle facilities and other incentives to reduce vehicle miles traveled (LU&T.7).

Bicycle Safety Assessment (in progress)

With the help of consultants, the Technology Transfer Program at the University of California, Berkeley, is conducting a Bicycle Safety Assessment (BSA) for the Town. Based on a one-day field visit and a thorough phone interview of Moraga staff, the BSA will suggest physical improvements and policy changes to improve bicycle safety and accessibility in the town.

The BSA is expected to recommend, among other items, specific improvements on four street segments, chosen as representative of a variety of street conditions of interest:

- Moraga Road/Canyon Road, between St. Mary's Road and Camino Pablo
- Camino Pablo between Canyon Road and Shuey Drive
- Rimer Drive between Shuey Drive and Camino Pablo

- The (private) main access driveway through the Moraga Shopping Center

The BSA's recommendations will be considered carefully in the formulation of recommended projects, programs and policies as part of the Walk | Bike Plan.

Livable Moraga Road (in progress)

This planning effort seeks to improve the function, character and livability of Moraga Road between Campolindo High School and St. Mary's Road. The project seeks to address traffic flow, safety and connectivity for all users; connections to neighborhoods, schools and shopping areas; and the design and character of the roadway as a gateway to the town and to key destinations within it.



While the Town Council has not yet endorsed a preferred project alternative, the study—which

included broad community input—has recommended a continuous multi-use path from the high school to Moraga Commons; bike lanes and sidewalks; new pedestrian crossings; various intersection improvements at Rheem Boulevard, Corliss Drive and St. Mary's Road; and working with the school district to improve congestion around Campolindo High School. The recommendations of the Livable Moraga Road project, if and as endorsed by the Town Council, will be integrated into the Moraga Walk | Bike Plan.

Moraga Center Specific Plan (2010) and Implementation Project (in progress)

The MCSP proposes to establish a pedestrian-oriented commercial and residential district in the center of Moraga, at the intersection of Moraga Road and Moraga Way. The plan envisions a network of sidewalks and trails to facilitate walking and biking in the area, and acknowledges the opportunity to improve the Lafayette–Moraga Regional Trail between St. Mary's Road and Country Club Drive. For its part, the Implementation Project is in the process of developing new zoning and design policies and standards to resolve inconsistencies with existing ones, so as to enable implementation of the MCSP.

Parks & Recreation Master Plan (2007)

This is a comprehensive plan for the development of parks and other recreational opportunities in the town. One of the plan's key recommendations is the creation of an internal network of soft- and hard-surfaced trails to give residents access to EBRPD and EBMUD trails. Related and other recommendations include:

- Implement ADA accessibility improvements, expand bike amenities and improve existing trails at Hacienda de las Flores.
- Expand bike amenities at Moraga Commons.
- Develop trails and amenities at Mulholland Preserve.
- Expand bike amenities at Rancho Laguna Park and renovate the creekside with ADA-accessible pathways.
- Develop an ADA Transition Plan.
- Maximize donations, grants, and partnerships to increase the resources available for parks and recreation.

Contra Costa Countywide Bicycle and Pedestrian Plan (2009)

This plan designates a countywide network of existing and proposed bikeways, both on- and off-street, to connect residential neighborhoods throughout the county with employment and shopping centers, schools, parks, transit hubs, downtowns and other key activity centers. The network includes the following segments within Moraga (listed roughly from north to south):

- Moraga Road south of the Lafayette border
- Rheem Boulevard west of Moraga Road
- Lafayette–Moraga Regional Trail
- Moraga Way

Lamorinda Action Plan (2014)

This plan assesses regional transportation issues in Orinda, Lafayette, Moraga and unincorporated Contra Costa County, serving as a guide for transportation planning in the area through the year 2040. It also provides a framework for regional transportation goals, policies and objectives.

Importantly, the plan identifies Moraga Way, Moraga Road and the Lafayette–Moraga Regional Trail as “Interjurisdictional Routes” in recognition of the important role they play in connecting the three Lamorinda cities. The plan specifies projects and programs—including improved pedestrian and bicycle amenities—intended to promote the safety and reliability of these routes while increasing multimodal mobility within the region.

The plan proposes the following actions related to pedestrian and bicycle facilities and safety within Moraga for all three of the interjurisdictional routes mentioned above

(Moraga Way, Moraga Road and the Lafayette–Moraga Regional Trail):

- Support pedestrian and bicycle safety improvements around schools, trailheads, and at intersections and along the bikeway network (proposed action 3.02).
- Improve and/or add sidewalks and/or pedestrian pathways (3.03).
- Support pedestrian and bicycle improvements including BART access, to encourage alternative transportation modes, increase transit ridership, and reduce auto demand (3.04).
- Support the development of regional bicycle facilities (3.06).
- Seek funding to provide bicycle parking infrastructure at employment sites and activity centers throughout Lamorinda (3.07).
- 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 (3.10).

In addition, the plan proposes the following actions for one or two of the interjurisdictional routes:

- Install, where appropriate, bicycle lanes as part of any future roadway improvements to the corridor (for Moraga Way and Moraga Road; 3.08).
- Improve pedestrian connectivity to multi-use trails (for Moraga Road and the Lafayette–Moraga Regional Trail; 3.09).

- Improve Lafayette–Moraga Regional Trail street crossings and striping (3.11).
- Encourage commute use of the Lafayette–Moraga Regional Trail and other trail systems as they are developed (3.12).

Lamorinda Service Plan (in progress)

The plan is a joint effort by Orinda, Lafayette and Moraga, initiated in 2014, to identify and investigate different transportation alternatives in the Lamorinda area. To date, community outreach in the form of a survey receiving over 1,600 responses revealed strong support for increased County Connection transit frequency and BART station accessibility. Residents also expressed a strong desire to improve the bicycle and pedestrian facilities adjacent to schools to provide safe routes for students.

Orinda Bicycle, Trails and Walkways Master Plan (2011)

Orinda’s plan proposes several projects near the border with Moraga, in the vicinity of Miramonte High School:

- Consider replacing on-street parking on one side of Ivy Drive with a sidewalk.
- Install a signed bike route with sharrows (shared-use pavement stencils) on Ivy Drive.
- Construct a sidewalk on Moraga Way from the Miramonte High School entrance to El Camino Moraga and work with the Town of Moraga to construct a sidewalk from Ivy Drive to the bus stop on the northeast side.
- Construct a pedestrian bridge across Moraga Creek from Moraga Way to Miramonte High School, near the tennis courts.
- Intersection improvements at Moraga Way / Ivy Drive (install truncated domes on all corners, construct a pedestrian landing pad on the southwest corner, provide for bicycle detection at the signal and re-time the traffic signal to 2.8 feet per second).

In addition, the plan suggests a pedestrian walkway along Moraga Way between downtown Orinda and the Moraga border. The proposal is qualified as a more ambitious “vision” project, for having significant environmental impacts or being too costly, complex or controversial. Lastly, the plan suggests coordinating with Moraga and Lafayette in the creation of a regional webpage with resources for pedestrians, cyclists and hikers.

Lafayette Bikeways Master Plan (2006)

The plan designates a bikeway network for the city that incorporates the Lafayette–Moraga Regional Trail and proposes a signed bike route on St. Mary’s Road to the Moraga border. These are the only bikeways in the city’s network that reach Moraga.

Appendix | ATP Guidelines

The California Transportation Commission's "2015 Active Transportation Program Guidelines" suggests, but does not require, that certain topics, issues and components be included or covered in pedestrian and bicycle plans. A number of these topics, as outlined on the next page, have been addressed in this briefing paper to the appropriate and practicable extent. Other topics will be addressed later in the development of the Walk | Bike Plan, as part of future tasks.

Topics addressed in this briefing paper

<i>Topic</i>	<i>Addressed in section(s)...</i>
<ul style="list-style-type: none"> Estimated number of existing bicycle trips and pedestrian trips in the plan area, in absolute numbers and as a percentage of all trips. 	<ul style="list-style-type: none"> Commuting (p. 5)
<ul style="list-style-type: none"> Number and location of collisions, serious injuries and fatalities suffered by bicyclists and pedestrians in the plan area, in absolute numbers and as a percentage of all collisions and injuries. 	<ul style="list-style-type: none"> Traffic collisions (p. 6)
<ul style="list-style-type: none"> Map and description of existing and proposed land use and settlement patterns, including locations of key destinations. 	<ul style="list-style-type: none"> Setting and land use (p. 2) Key destinations (p. 2) Map (p. 3)
<ul style="list-style-type: none"> Map and description of existing bicycle transportation facilities, including those that serve schools. 	<ul style="list-style-type: none"> Map (p. 3) On-street bicycle facilities (p. 11) Off-street facilities (p. 11)
<ul style="list-style-type: none"> Map and description of existing end-of-trip bicycle parking facilities. 	<ul style="list-style-type: none"> Map (p. 3) Bicycle parking (p. 13)
<ul style="list-style-type: none"> Description of existing policies related to bicycle parking in public locations, private parking garages and parking lots and in new commercial and residential developments. 	<ul style="list-style-type: none"> Bicycle parking (p. 13)
<ul style="list-style-type: none"> Map and description of existing bicycle transport and parking facilities for connections with and use of other transportation modes. 	<ul style="list-style-type: none"> Map (p. 3) Bicycle parking (p. 13) Integration with other modes (p. 14)
<ul style="list-style-type: none"> Map and description of existing pedestrian facilities, including those at major transit hubs and those that serve schools. 	<ul style="list-style-type: none"> Map (p. 3) On-street pedestrian facilities (p. 9) Off-street facilities (p. 11)
<ul style="list-style-type: none"> Description of the policies and procedures for maintaining existing bicycle and pedestrian facilities. 	<ul style="list-style-type: none"> On-street pedestrian facilities (p. 9) On-street bicycle facilities (p. 11) Off-street facilities (p. 11)
<ul style="list-style-type: none"> Description of bicycle and pedestrian safety, education, and encouragement programs, enforcement efforts by the primary law enforcement agency in the area, and the resulting effect on collisions involving bicyclists and pedestrians. 	<ul style="list-style-type: none"> Programs and activities (p. 13)
<ul style="list-style-type: none"> Description of past expenditures for bicycle and pedestrian facilities and programs. 	<ul style="list-style-type: none"> On-street pedestrian facilities (p. 9) On-street bicycle facilities (p. 11) Off-street facilities (p. 11)

Topics to be addressed as part of future tasks

- Estimated increase in the number of bicycle trips and pedestrian trips resulting from implementation of the plan.

- Goal for collision, serious injury, and fatality reduction after implementation of the plan.

- Map and description of proposed bicycle transportation facilities and, if appropriate, a description of how the five Es (Education, Encouragement, Enforcement, Engineering, and Evaluation) will be used to increase rates of bicycling to school.

- Map and description of proposed end-of-trip bicycle parking facilities.

- Description of proposed policies related to bicycle parking in public locations, private parking garages and parking lots and in new commercial and residential developments.

- Map and description of proposed bicycle transport and parking facilities for connections with and use of other transportation modes.

- Map and description of proposed pedestrian facilities, and, if appropriate, a description of how the five Es (Education, Encouragement, Enforcement, Engineering, and Evaluation) will be used to increase rates of walking to school.

- Description of proposed signage providing wayfinding along bicycle and pedestrian networks to designated destinations.

- Description of the policies and procedures for maintaining proposed bicycle and pedestrian facilities.

- Description of the extent of community involvement in development of the plan, including disadvantaged and underserved communities.

- Description of how the active transportation plan has been coordinated with neighboring jurisdictions, including school districts within the plan area, and is consistent with other local or regional transportation, air quality, or energy conservation plans.

- Description of the projects and programs proposed in the plan and a listing of their priorities for implementation, including the methodology for project prioritization and a proposed timeline for implementation.

- Description of future financial needs for projects and programs that improve safety and convenience for bicyclists and pedestrians in the plan area, including anticipated revenue sources and potential grant funding for bicycle and pedestrian uses.

- Description of steps necessary to implement the plan and the reporting process that will be used to keep the adopting agency and community informed of the progress being made in implementing the plan.

- Resolution showing adoption of the plan by the city, county or district in which the proposed facilities would be located.