Perris Trail Master Plan

Adopted February 26, 2013 by Resolution No. 4562

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CHAPTER ONE. INTRODUCTION

1.1 Introduction to the Trail Master Plan

As an implementing action of the City of Perris' General Plan Circulation Element, the City has developed this Trail Master Plan to address trails and bikeways for both recreational and commuter uses. The Trail Master Plan builds upon prior work efforts included in the City's General Plan Circulation Element, recognizing that walking and bicycling are both means of mobility and recreation. The future trail and bikeway network in Perris will provide residents and the greater region with a network of pedestrian and bicycle facilities that connect to commercial and employment areas, transit hubs, parks, schools and other key destinations in Perris.

Based on stakeholder and public input, research on related planning efforts, and analysis of future opportunities, the Trail Master Plan establishes six broad objectives:

Objective 1. Develop a complete bikeways and trails network that supports commuter and recreational user needs.
Objective 2. Accommodate bicycle use through supportive amenities and facilities.
Objective 3. Improve bicycle and pedestrian safety.
Objective 4. Increase funding for pedestrian and bicycle facilities.
Objective 5. Promote bicycling as a positive alternative for commuting and recreation.
Objective 6. Maintain roadways and bicycle and pedestrian related facilities so they provide safe and comfortable conditions for the user.

The Trail Master Plan covers on- and off-street paved bicycle facilities, along with unpaved multipurpose trails. The Trail Master Plan is also intended to meet the requirements for a Bicycle Transportation Plan (Section 891.2(a) through (k) of the Streets and Highways Code) to establish the City of Perris' eligibility for Caltrans Bicycle Transportation Account funds as outlined in Table 1-1.

1.2 Bicycle Transportation Account Requirements

The Bicycle Transportation Account (BTA) is an annual program providing state funds for city and county projects that improve safety and convenience for bicycle commuters. Local agencies first establish eligibility by preparing and adopting a Bicycle Transportation Plan (BTP) that complies with Streets and Highways Code Section 891.2. The Perris Trail Master Plan incorporates all of the requirements for a BTP. Table 1-1 summaries the location of the required components within the Plan.

Table 1-1: Bicycle Transportation Plan Compliance Matrix	
Requirement	**Location in Trail Master Plan**
Bicycle Commuters - 891.2(a) The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.	Chapter 6 – Existing Conditions and Chapter 8 – Proposed Improvements
Land Use - 891.2(b) A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.	Chapter 5 – Planning Background
Bicycle Plan - 891.2(c) A map and description of existing and proposed bikeways.	Chapter 6 – Existing Conditions and Chapter 8 – Proposed Improvements
Bicycle Parking Facilities – 891.2(d) A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.	Chapter 6 – Existing Conditions and Chapter 8 – Proposed Improvements
Transportation Connections - 891.2(e) A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.	Chapter 6 – Existing Conditions
End-of-Trip Amenities - 891.2(f) A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.	Chapter 6 – Existing Conditions and Chapter 3 – Objectives, Policies and Actions
Safety and Education - 891.2(g) A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists.	Chapter 6 – Existing Conditions
Community Outreach - 891.2(h) A description of the extent of citizen and community	Chapter 4 – Community

Table 1-1: Bicycle Transportation Plan Compliance Matrix	
Requirement	**Location in Trail Master Plan**
involvement in development of the plan, including, but not limited to, letters of support.	Involvement
Regional Consistency - 891.2(i) A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle commuting.	Chapter 5 – Planning Background
Facilities Improvements - 891.2(j) A description of the projects proposed in the plan and a listing of their priorities for implementation.	Chapter 8 – Proposed Improvements Chapter 10 – Prioritization and Implementation
Past Expenditures and Financial Need - 891.2(k) A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.	Chapter 9 – Expenditures and Funding Opportunities

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CHAPTER TWO. DEFINITIONS

2.1 Definitions

This section defines specific terminology used throughout the Trail Master Plan in the description, analysis, and assessment of existing and proposed trails and bikeways in Perris.

2.1.1 Bikeway and Trail Facilities

Amenities: Physical features that enhance safety, aesthetics, and enjoyment of non-motorized transportation. Amenities may include landscaping, lighting, rest amenities, and end-of-trip facilities.

At-grade crossing: When a trail or bikeway intersects with a roadway at the same level as crossing traffic on the roadway. At-grade crossings may or may not be signalized, but are often controlled intersections.

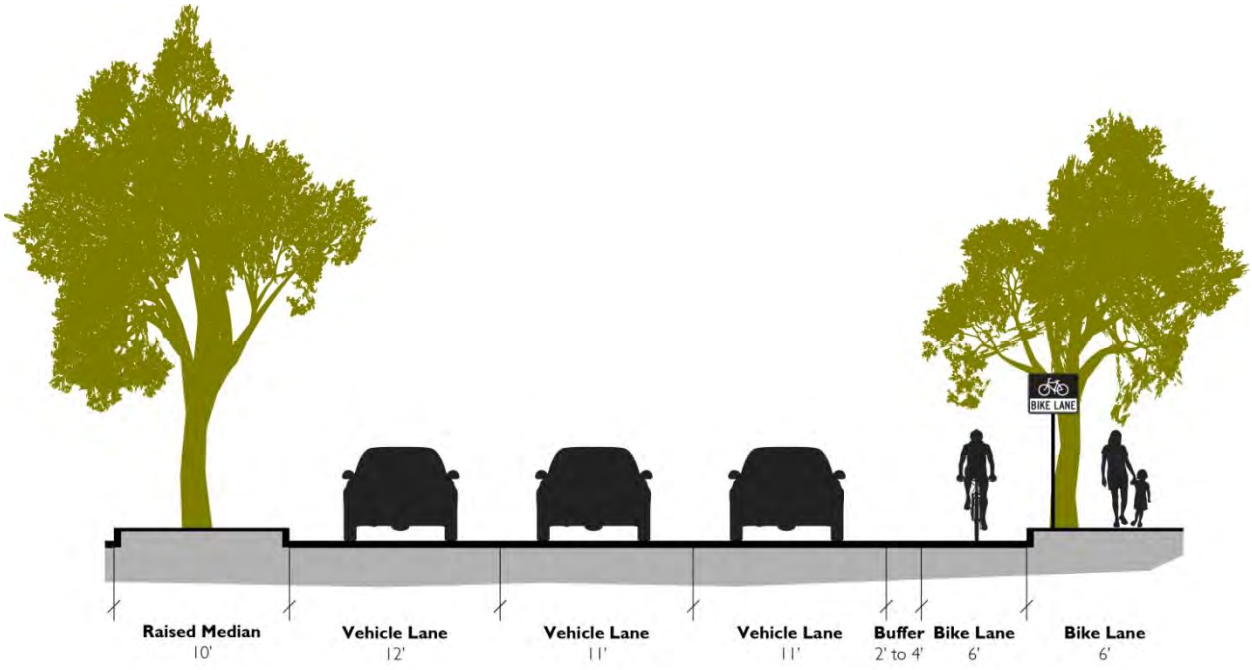
At-grade crossings over and under roadways.

Bicycle: The American Association of State Highway and Transportation Officials' (AASHTO) (1999) definition of a bicycle is "every vehicle propelled solely by human power which any person may ride, having two tandem wheels, except scooters and similar devices. The term 'bicycle' also includes three- and four-wheeled human-powered vehicles, but not tricycles for children."

Bikeway - The Trail Master Plan analyzes and identifies both unpaved and paved facilities for use by bicyclists, pedestrians and equestrians. Paved facilities are referred to as "bikeways." The California Streets and Highway Code Section 890.4 defines a "bikeway" as a facility that is provided primarily for bicycle travel. The Caltrans Highway Design Manual, Chapter 1000, "Bikeway Planning and Design," further defines the bikeways into Class I, Class II, or Class III Bikeways.

Buffered Bike Lane – Bike lane with a painted buffer area usually outside the bike lane providing some space between bicycles and motor vehicles. The buffer may also go between parked cars and the bike lane.

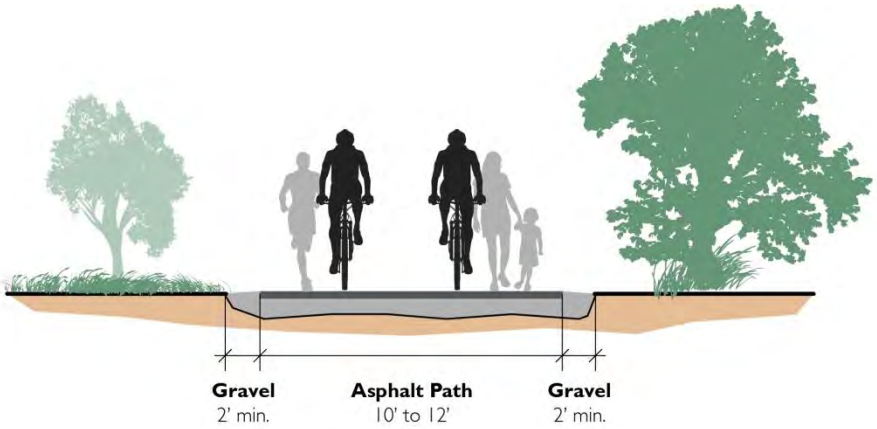
Buffered bike lanes with and without parking.



Class II Buffered Bike Lane (Roadway Half-Section Shown)

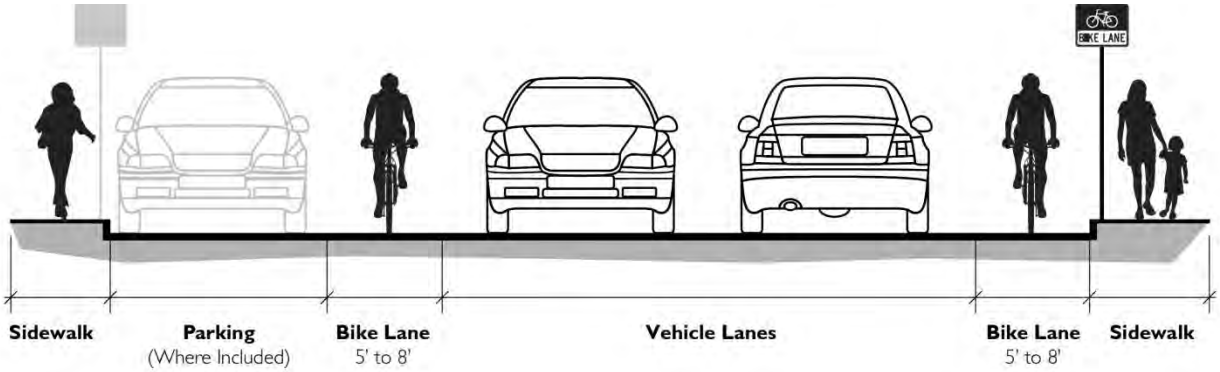
Caltrans Design Standards: Standards for the size and shape of bicycle facilities, as well as the use of signs, markings, and traffic signals established by the Caltrans Highway Design Manual, Chapter 1000.

Class I Bikeway (Bike Path) - Provides for bicycle travel on a paved right-of-way completely separated from a street or highway. Bicycle paths are often planned along uninterrupted linear rights-of-way, such as rivers and rail rights-of-way.



Class I Bikeway (Bike Path)

Class II Bikeway (Bike Lane) - Provides a striped lane for one-way bike travel on a street or highway. A buffer can be provided to enhance separation between vehicular traffic and cyclists.

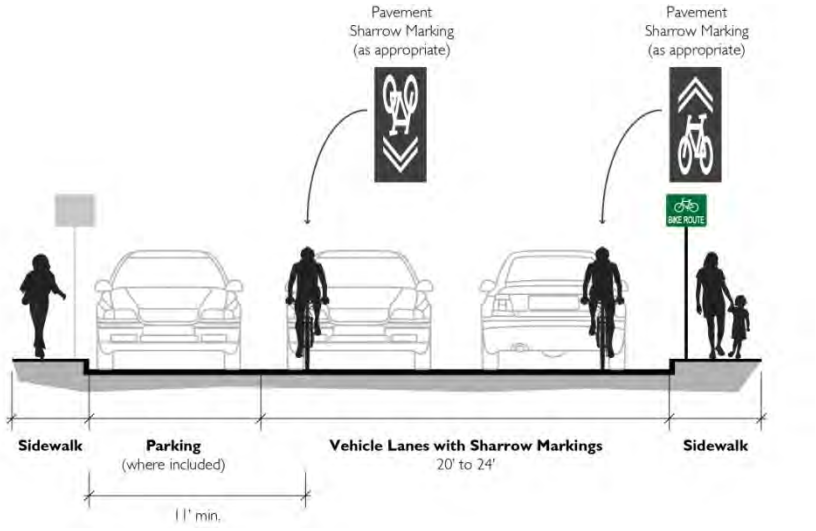


Class II Bikeway (Bike Lane)

Class III Bikeway (Bike Route) - A preferred travel route for bicyclists, on which a separate lane or path is either not feasible or not desirable. The rightmost lane of a bicycle route is shared by bicyclists and cars. The lane is marked with signs and can also be marked with sharrows. Bike routes can become more useful when coupled with such techniques as the following:

- Route, directional, and distance signage
- Wide curb lanes
- Sharrow stencils painted in the traffic lane along the appropriate path of where a bicyclist would ride in the lane
- Accelerated pavement maintenance schedules
- Traffic signals timed and coordinated for cyclists (where appropriate)

- Traffic calming measures



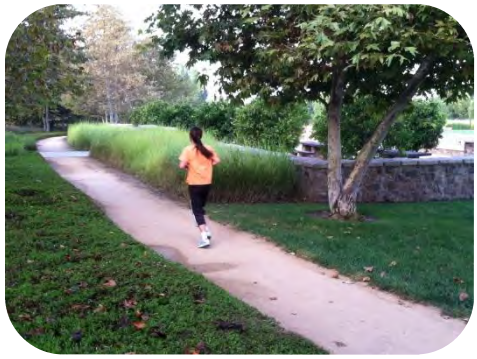
Class III Bikeway (Bike Route)

End-of-trip facilities: Include bicycle racks, bicycle or personal lockers, showers, or any other facility or amenity that provides bicycle commuters with a place to securely store belongings, or a place for bicyclists to change clothes and shower. End-of-trip facilities are especially important to bicycle commuters and are usually provided by employers.

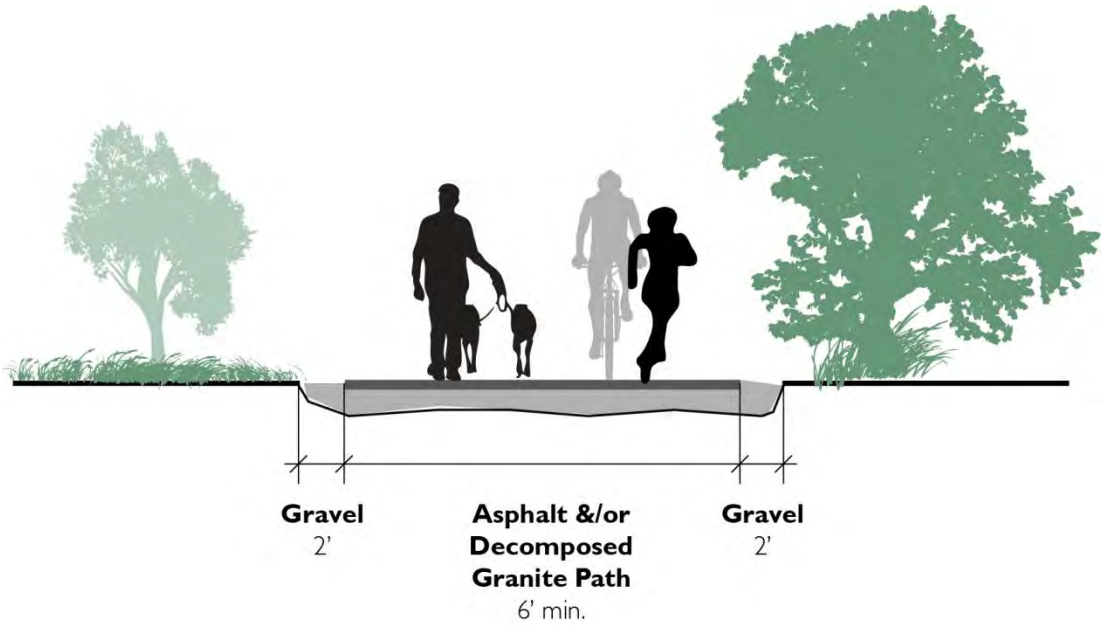
Grade: The slope of a facility. The maximum generally accepted grade for a Class I bikeway is 5%, with 2% for sustained distances.

Grade separation: When a trail or bikeway crosses over or under a roadway, allowing users to cross without interacting with automobile traffic. Grade separations in this Plan are also termed "overcrossings" and "undercrossings."

Greenway: An off-street path or trail located within a larger landscape corridor. This type of facility may have associated amenities such as seating areas or recreational facilities. A greenway may also be designed around a natural feature such as a waterway.



Multipurpose Trail: An off-street path or trail for the use of non-motorized transportation (pedestrians, equestrians, bicyclists), which may or may not be paved. Multipurpose trails are not designed for the primary use of bicyclists and do not meet Caltrans Design Standards.



Multi-Purpose Trail

Sharrow – Standardized as a traffic control device, a sharrow, or shared lane marking is used to indicate a shared lane environment for bicycles and automobiles. The painted sharrow marking shows the recommended proper bicycle positioning within the travel way, and discourages dangerous wrong-way riding by cyclists. Sharrows are recommended for streets designated as part of the Perris bicycle network, specifically on streets with speeds of 35 miles per hour or less, and streets with insufficient width to allow for bicycle lanes.

Sharrow stencil, and supplemental sign utilized in Newport Beach, CA.

Type B sharrows – This is a term that used to describe bold sharrows, such as a 6'-wide green swath painted under their sharrows or large sharrows spaced close together. Type B sharrows are not yet standardized within the State of California, and currently can be utilized through a Federal Highway Administration pilot project.

Green under sharrows.

Large, bold sharrows.

2.1.2 Types of Bicyclists

Several types of bikeway users exist in every community, each with varying needs and values. An effective bikeway network takes all user group needs into consideration. Bicyclists who ride for recreation and/or transportation can be grouped into the following categories:

Advanced or experienced riders: These riders generally ride for convenience and speed and want direct access to destinations with minimum detour or delay. They are typically comfortable riding with motor vehicle traffic, but still require sufficient operating space on the travel way or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position.

Basic or novice riders: These riders use their bicycles on a more casual basis, such as trips to the store or for occasional exercise, but prefer to avoid roads with fast and heavy motor vehicle traffic. Novice riders are comfortable riding on neighborhood streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulder lanes on busier streets.

Children: Riding on their own or with their parents, children may not travel as fast as their adult counterparts, but still require access to key destinations in their community, especially schools, playgrounds, and other recreational facilities. Off-street paths and residential streets with low motor vehicle speeds are ideal for children. Busier streets with well-defined pavement markings between bicycles and motor vehicles can accommodate children without encouraging them to ride in the travel lane of major arterials.

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CHAPTER THREE. OBJECTIVES, POLICIES AND ACTIONS

The City of Perris Trail Master Plan has been developed to implement the City's General Plan goals, in particular, Goal IV in the Circulation Element: *Safe and convenient pedestrian access and non-motorized facilities between residential neighborhoods, parks, open space and schools that service those neighborhoods.* To support this goal, the Trail Master Plan establishes objectives, policies and actions.

Objectives are general statements of intent to achieve a desired condition that supports the City's overall goal.

Policies provide direction for the City of Perris and other agencies and organizations on how to meet the plan objectives.

Actions are specific implementation steps, to be lead by the City, that contribute to the plan objectives and meeting the City's overall goal.

Objective 1. Develop a complete bikeways and trails network that supports commuter and recreational user needs.

Policies

P1.1 Consider every street in Perris and adjacent streets that connect, as a street that cyclists will use, except for excluded facilities such as freeways.
P1.2 Incorporate facilities for pedestrians and bicyclists into the design of new development.
P1.3 Promote regional connectivity for non-motorized transportation.
P1.4 Ensure that bicycle routing is an integral part of street design.

Actions

A1.1 Revise the General Plan Circulation Element roadway cross sections to accommodate bicycle facilities consistent with the Trail Master Plan.
A1.2 Review adopted Specific Plans and other adopted plans for potential changes to be consistent with the Perris Trail Master Plan and proposed bikeway and trail improvements.
A1.3 Adopt a Bikeways and Trails Ordinance that requires roadway projects and new developments to be consistent with the Trail Master Plan.
A1.4 Coordinate regional trail and bicycle planning, acquisition and development efforts with adjacent jurisdictions.
A1.5 Develop Safe Routes to School Plans for each K-12 school in Perris in collaboration with the schools and school districts to identify specific improvements for school-age pedestrian and bicyclists through focused studies.
A1.6 Integrate bikeway and trail improvements into other capital improvements such as roadway construction, resurfacing, or restriping projects.
A1.7 Include paved shoulders, serving Class II bicycle lanes, on partially constructed roadways.

A1.8 Require developers to pay for bikeways system segments within the existing areas of the City to connect with undeveloped areas, or interim bikeways through undeveloped planning areas.

A1.9 Integrate internal pedestrian and bicycle facilities that connect to the bikeway and trail network proposed in the Trail Master Plan into new community plans, specific plans and other land use plans and amendments to adopted plans.

A1.10 Enter into joint use agreements with local and regional agencies (such as the Riverside County Flood District) for sharing of facilities to address both bicycle use and maintenance needs.

A1.11 Design bikeways consistent with Caltrans Chapter 1000 standards, and where feasible, design bikeways beyond the minimum required widths.

A1.12 Coordinate with Riverside County Transportation Commission on design of planned Mid-County Parkway (MCP). MCP is a proposed 16-mile transportation corridor planned for east-west travel in western Riverside County between the San Jacinto and Perris areas. Work to ensure grade-separations where MCP crosses existing and future bicycle and trail facilities.

A1.13 Coordinate with Riverside County Flood Control and Water Conservation District on improvements and modifications to the Perris Valley Storm Channel (PVSC) to ensure accommodation of trails alongside the facility. Ensure continuity of the trail and trail grade separations where arterial roadways cross PVSC.

A1.14 Coordinate with other key property owners such as Metropolitan Water District and Southern California Edison to identify and implement trail facilities alongside or within utility corridors.

Objective 2. Accommodate Bicycle Use Through Supportive Amenities and Facilities.

Policies

P2.1 Encourage and support using bicycles in conjunction with other forms of transportation, including regional transit.

P2.2 Ensure bicycle support facilities are provided at appropriate locations.

Actions

A2.1 Provide convenient and secure bicycle parking at public buildings, facilities and parks and in the Downtown.

A2.2 Revise standards in the City's Municipal Code for bicycle parking related to new development to include the following requirements:

- For non-residential development, bicycle racks shall be provided for a minimum of 5 percent of motorized vehicle parking capacity, consistent with CalGreen requirements. Long-term bicycle parking (lockers or storage rooms) shall be provided for buildings with over 10 tenant-occupants.
- For multi-family residential development without private garages for each unit, one short-term bicycle parking space (bike) rack shall be provided for every 20 units and one long-term bicycle parking space (locker or storage room) for every four units.

A2.3 Develop a Bicycle Parking and Support Facilities Ordinance that requires non-residential development to provide showers, lockers, secure bicycle parking and other means to encourage and facilitate use of active transportation modes by employees.

A2.4 Develop a Bicycle Parking and Support Facilities Ordinance that requires multi-family residential develop to provide secure short-term and long-term bicycle parking.

A2.5 Provide secure, long-term bicycle parking at park-and-ride facilities and transit stations for cyclist to transfer to carpools, vanpools and transit.

A2.6 Coordinate with transit providers to ensure transit serving Perris accommodates bicycles within their systems.

A2.7 Install wayfinding signage, informational kiosks, and other supportive amenities at key locations to help cyclists navigate the bikeway and trail system.

Objective 3. Improve bicycle and pedestrian safety.

Policies

P3.1 Increase education efforts of bicyclists, pedestrians and motorists on safe sharing of the roads.

P3.2 Prioritize projects that would enhance bicycle and/or pedestrian facilities in those areas with a history of bicycle-related or pedestrian-related traffic accidents.

P3.3 Continue the enforcement of rules and regulations in order to reduce violations and bicycle and pedestrian-related crashes.

Actions

A3.1 Support and enhance existing programs that educate pedestrians, bicyclists and drivers on safe behaviors and make the information available through schools, work sites, and general publicity efforts.

A3.2 Include bicycle and pedestrian education programs and activities within City events and other larger programs. Coordinate with local bicycle coalitions or advocacy groups to facilitate bike valet operations at City events.

A3.3 On a regular basis, examine bicycle and pedestrian related traffic accident data for use in the development of recommendations for new bicycle and pedestrian facility projects.

Objective 4. Increase funding for pedestrian and bicycle facilities.

Policies

P4.1 Pursue funding from outside sources whenever feasible.

P4.2 Increase City funding available for pedestrian and bicycle facility construction and maintenance.

Actions

A4.1 Seek funding administered by the Riverside County Transportation Commission for improvements identified in the Trail Master Plan.

A4.2 Apply for State and Federal bikeway funds where available and appropriate.

A4.3 Identify and pursue grant funding to implement improvements identified in the Trail Master Plan.

A4.4 During the budgeting process, recommend priority projects for funding.

A4.5 Establish a development fee requirement to provide for construction and maintenance of bikeways and trails serving the new development.

Objective 5. Promote bicycling as a positive alternative for commuting and recreation.

Policies

P5.1 Identify marketing and public awareness methods to increase awareness of the City bikeway and trail system.

P5.2 Increase public viability of bicycles as a way to get to work, shopping centers, lunch spots, parks, and institutional uses.

Actions

A5.1 Continue to facilitate special bicycling events, such as the Tour de Perris, that promote regional awareness of the bicycle facilities in Perris.

A5.2 Develop a citywide bicycle map for public use.

A5.3 Encourage City officials and employees, as well as other employers, to participate in "Bike to Work" month or week.

A5.4 Establish a bicycle-friendly business program to encourage and facilitate use of active transportation modes by employees and customers.

A5.5 Utilize wayfinding signage and special route designations to promote walking and bicycling to key local attractions such as recreational facilities and historic attractions.

Objective 6. Maintain roadways and bicycle and pedestrian related facilities so they provide safe and comfortable conditions for the user.

Policies

P6.1 Provide a formal means to monitor and address pedestrian and bicycle needs on a regular basis.

P6.2 Preserve funding for maintenance of bicycle and pedestrian facilities.

Actions

A6.1 When an off-street facility (Class I bikeway or trail) is constructed, establish a routine inspection program.

A6.2 Develop a procedure for routine inspection and maintenance of bicycle parking facilities.

A6.3 When roadway repairs are done by the City or other agencies, require the roadway to be restored to a satisfactory quality, with particular attention to smoothness and restriping suitable for cycling.

CHAPTER FOUR. COMMUNITY INVOLVEMENT

This chapter describes the City's approach to community involvement and the opportunities for public participation offered during the planning process. Full summaries of each community input event are provided in Appendix A. The following community involvement activities were conducted during the development of the Trail Master Plan:

- Winter Wonderland Community Bike Ride and Walk – December 3, 2011
- Online Community Survey – November 2011 to May 2012
- Community Design Charrette – January 11, 2012
- Stakeholder Forum – January 25, 2012
- Youth Mobility Workshop – July 17, 2012
- Commission and City Council Meetings:
    - Planning Commission – January 18, 2012
    - Public Safety Commission – February 8, 2012
    - Planning Commission – January 16, 2013 (Anticipated)
    - Public Safety Commission – January 23, 2013 (Anticipated)
    - City Council Adoption – February 19, 2013 (Anticipated)

4.1 Winter Wonderland Community Bike Ride/Walk

To kick off the project, a Community Bicycle Ride and Walk was held on Saturday, December 3, 2011 to introduce the project to the community and receive initial input. The Ride/Walk started and ended at Frank Eaton Memorial Park. Seven community members including a Planning Commissioner, City staff and other interested parties attended the Ride/Walk.

Participants in the Community Bike Ride/Walk

At the start of the Ride/Walk the group gathered at Frank Eaton Park and received an informational brochure. Two groups departed from the park- one walking and one bicycling. The Project Team led the groups on predetermined routes. Along the route, the groups stopped to discuss observations/experiences, concerns or issues, and ideas for future bikeways and trails. At the conclusion of the Ride/Walk, participants filled out a survey about their experiences. A summary of the surveys and discussion can be found in Appendix A.

4.2 Online Community Survey

From November 2011 to May 2012 the City conducted an online survey to obtain community feedback on existing bicycle/trail infrastructure, future needs and existing obstacles and barriers. The survey was linked from the City's website as well a dedicated project website. Some key survey findings include:

- The majority of participants (77 percent) responded that they primarily bicycle for recreation and health.
- Hiking, walking and jogging were identified by 71.2 percent of participants as additional activities they use the Perris bikeways and trails for.
- Most participants (67.6 percent) prefer to use off-street paved routes for their bicycling trips.
- Things most identified that would encourage more bicycling include:
    - Better linkages between routes
    - More off-street bike paths/trails
    - Improved surfaces
    - Motorists being more careful
    - Better lighting along routes
    - Wider bicycle lanes
    - Safer street crossings
- Potential hazards generating the highest level of concern for bicycling included:
    - Poorly maintained route surfaces
    - Narrow roads or lanes
    - High vehicle speeds
    - Not being seen by cars in the dark
    - Motorists not knowledge of or following bike laws
- Safety and educational programs may be most effective when aimed at motorists and youth/children in grade school
- Most bicycle trips originate from home
- The most common current destinations for cyclists include:
    - Public parks
    - Lake Perris
- The most common potential destinations if improvements were made include:
    - Public parks
    - Lake Perris
    - Downtown Perris
    - Friend/family's home
    - Local restaurant or shopping center
    - Future Perris train stations

A full summary of the survey responses can be found in Appendix A.

4.3 Community Design Charrette

On January 11, 2012, the City conducted a Community Design Charrette to introduce the Trail Master Plan project to the community and receive input on the opportunities, issues and concerns related to the project. The Charrette began with a brief presentation covering the project components and schedule. The Project Team conducted a "Who's in the Room" survey where attendees answered basic questions about bicycling and other activity preferences by show of hands. The presentation concluded with an overview of traditional and innovative bikeway and trail facilities and treatments. Next the group discussed two topics:

Charrette Participants

- **Bike Safety, Education and Promotion.** Participants discussed perceptions people have about safety and biking/walking, why people do or don't feel safe biking/walking in Perris, what sorts of education programs people would be most receptive to, and ways to promote bicycling and walking in Perris.
- **Destinations and Connections.** The group identified barriers, biking/walking destinations and possible locations for future routes. Notes were recorded on a map of the City and on flip chart.

Map from Group Discussion

In addition to the group discussions, boards with the traditional and innovative bikeway and trail treatments and facilities presented at the beginning of the meeting were provided in the back of the room. Attendees were asked to indicate with a dot sticker the treatments/facilities they would like to see in Perris. A summary of the discussions and input can be found in Appendix A.

4.4 Stakeholder Forum

Understanding that certain external agencies and organizations will be affected by the Trail Master Plan and/or interested in the Master Plan development process, the City conducted a Stakeholder Forum on January 25, 2012 to introduce the Trail Master Plan project to

stakeholder organizations and to receive input on opportunities, challenges and concerns related to the project. The Stakeholder Forum began with a brief presentation covering the project components and schedule. Then, participants discussed existing plans and projects they are involved in that relate to the Perris Trail Master Plan. Participants also discussed the challenges and opportunities they see for the Master Plan and potential ways to partner or share resources. A summary of the discussions at the Stakeholder Forum can be found in Appendix A.

4.5 Youth Mobility Workshop

To encourage youth participation in the Trail Master Plan process and receive input from middle school and high school students on barriers and opportunities they see related to walking and bicycling, the City held a Teen Workshop on July 17, 2012. The Workshop was held at the Teen Center and 22 teens participated. Following a brief presentation on the project, the teen participants provided input on Destinations that they currently bike or walk to or would like to bike or walk to.

Mapping Exercise at Teen Workshop

Community youth in attendance also provided input on improvements that would make walking and bicycling in Perris safer, easier and more attractive. The teens then focused on identifying barriers and opportunities for improvement to the areas around the middle and high schools and the Perris Teen Center. A summary of the workshop can be found in Appendix. A.

4.6 Collaboration Meeting with Riverside County Flood Control District

Two major drainage facilities exist within the City of Perris- the Perris Valley Channel running north-south, and the San Jacinto River running diagonally northeast-southwest towards the City of Canyon Lake. The two drainage facilities join together just north of Interstate 215 and south of San Jacinto Avenue. A meeting with Riverside County Flood Control and Water Conservation District staff was held to discuss long-term planning of trail facilities along the Flood Control District facilities and to gain better understanding of joint use agreements. The meeting between agency staff representatives will help facilitate coordination and collaboration as public and private sector opportunities arise to construct Class I trails along the drainage facilities.

4.7 Commissions and City Council Meetings

The City's Planning Commission and Public Safety Commission provided input throughout the Trail Master Plan development, beginning with introductory study sessions in January and February 2012. Meetings with the Public Safety Commission, Planning Commission and City Council are planned for Fall 2012 for consideration and adoption of the Plan.

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CHAPTER FIVE. PLANNING BACKGROUND

The City currently has a number of planning and policy documents that guide and influence bikeway and trails planning in Perris. These include the City's General Plan and adopted Specific Plans. Additionally, planning efforts in neighboring jurisdictions and in the region affect the future of trails and bikeways in the City. This Chapter describes those documents and plans.

5.1 Regional Plans

5.1.1 Western Riverside County of Governments Non-Motorized Transportation Plan

In 2010, the Western Riverside Council of Governments (WRCOG) developed a Non-Motorized Transportation Plan (NMTP) that provides a regional backbone network of bicycle and pedestrian facilities to provide enhanced transportation mobility options.

"Non-motorized transportation" includes alternative travel modes such as walking or using a bicycle for daily interaction between residential and non-residential uses. Equestrian and hiking facilities were not a focus of the WRCOG NMTP. The NMTP identifies 28 distinct regional bicycle and pedestrian-friendly routes throughout Western Riverside County. The proposed system provides multi-jurisdiction connections between WRCOG's member agencies as well as neighboring systems developed by Coachella Valley Association of Governments (CVAG) and the counties of Orange, San Bernardino, and San Diego. The resulting network includes existing and potential on-street (Class II and Class III) and off-road (Class I) routes intended for near-term through long-range implementation.

The NMTP identifies five potential routes that transverse the City of Perris:

- Route 6: El Sobrante – Lake Perris; Class II Bike Lanes with Class III Bike Route crossing 215 freeway.
- Route 10: San Jacinto River – Bautista Creek; Class II Bike Lanes
- Route 17/17A: Nichols – Perris Boulevard; Class I Bike Path and Class II Bike Lanes
- Route 24: Case – Leon; Class II Bike Lanes
- Route 25: Lasselle – Perris Valley Channel; Class I Bike Path and Class II Bike Lanes

Exhibit 5-1, WRCOG Proposed Non-Motorized System shows the locations of these proposed regional routes. These regional routes provided the backbone from which the Trail Master Plan identifies a local network layer.

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Van Buren Blvd
Harley
Knox
Blvd
Patterson Ave
Nevada Ave
Webster Ave
Nance St
Markham St
Perry St
Indian Ave
N Perris Blvd
Johnson Ave
Evans Rd
Lake Perris Dr
Emma Ln
Krameria St
Edwin Rd
Nandina Ave
Globe St
Moreno Beach Dr
Upper Lake Shore Dr
Lake Perris
Bernasconi Rd
Carroll St
Day St
Clark St
Cajalco Expy
Nevada Rd
Ramona Expy
Dawes St
Morgan St
Redlands Ave
May Ranch Rd
Bradley Rd
Avalon Pkwy
Rider St
Walnut Ave
City-Preferred Mid-County Parkway Alignment
Indian Ave
Patterson Ave
Harvill Ave
Old Elsinore Rd
Church St
Placentia Ave
Wilson Ave
El Nido Ave
Barrett Ave
Emerett Ln
Orange Ave
Arnold Ave
Johns St
Perris Blvd
Evans Rd
Lemon Ave
Citrus Ave
Sunset Rd
Foothill Ave
Chase Ave
Nuevo Rd
Redlands Ave
Murrieta Rd
Pico Ave
Webster Ave
Metz Rd
A St
Callaway Rd
Marshall St
Lukens Ln
Hayes St
San Jacinto Ave
Dale St
1St St
4Th St
7th St
11th St
B St
C St
D St
G St
Dunlap Dr
Porter St
Menifee Rd
Old Rd
Forrest Rd
Lopez Rd
Deprad St
Fisher St
Cox Rd
Navajo Rd
Santa Rosa Ave
Dawson Rd
Ellis Ave
Louise St
Mountain Ave
Theda St
Case Rd
Bradley Rd
Vista Rd
River Rd
Teak St
Malbert Rd
Alpine Dr
Mapes Rd
Marie St
Margarth St
Phillips St
Watson Rd
Green Valley Pkwy
Goetz Rd
Hull St
Barnett Rd
Trumble Rd
Ethanac Rd
Monroe Ave
Harrison Ave
Russell Rd
Baroni Rd
Eugene St
Mcpherson Rd
El Freso Rd
Keystone Dr
Goldenrod Ave
Wheat St
Byers Rd
Mclaughlin Rd
Nova Ln
Sherman Rd
Menifee Rd
Mckinley Rd
Mazie Ave
Jarvis St
Theda St
Sundance Ln
Sotelo Rd
Chambers Ave
Robert St
Pebble Beach Dr
Sun City Blvd
Scenic Crest Dr
Las Flores Dr

Legend

- Proposed Class I Bikeway
- Proposed Class II Bikeway
- Proposed Class III Bikeway
- Mid County Parkway City Preferred Alignment
- Train Station
- Civic
- Existing Park
- Future Park
- Existing School
- Future School

8/6/12 JN10-108148 WRCOG_Proposed_NoMotorized_Updated.mxd DJ

Perris Trail Master Plan

0 0.5 1 Miles

Source: City of Perris, Eagle Aerial, BING Imagery

WRCOG Proposed Non-Motorized System

Exhibit 5-1

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5.2 City of Perris General Plan

The City's General Plan is a 30 year guide for local government decision-making on growth, capital investment, and physical development in the Perris. It guides future development plans and gives vision and direction on how to implement change. The two Elements or chapters of the General Plan that most affect or influence bikeways and trails planning are the Land Use Element and the Circulation Element. The General Plan includes the following goals, policies and action items related to pedestrian and bicycle facilities within the City of Perris:

Goal I: *A comprehensive transportation system that will serve projected future travel demand, minimize congestion, achieve the shortest feasible travel times and distances, and address future growth and development in the City.*

Policy & Implementation Measure I.A:

Policy I.A – Design and develop the transportation system to respond to concentrations of population and employment activities, as designated by the Land Use Element and in accordance with the designated transportation system.

Implementation Measure I.A.1 – Revise the downtown Specific Plan to address the planned Metrolink station and other modes of transportation.

Implementation Measure I.A.4 – Plan off-street parking facilities in downtown Perris to support and enhance the concept of walkable and transit-oriented communities.

Policy & Implementation Measure I.B:

Policy I.B – Support development of a variety of transportation options for major employment and activity centers including direct access to commuter facilities, primary arterial highways, bikeways, park-n-ride facilities, and pedestrian facilities.

Implementation Measure I.B.1 – Require on-site improvements that accommodate public transit vehicles (i.e. bus pullouts and transit stops and queuing lanes, bus turnarounds and other improvements) at major trip attractions (i.e. community centers, tourist and employment centers, etc.).

Policy I.C:

Policy I.C – Cooperate with local, regional, State and federal agencies to establish an efficient multi-modal circulation system.

Policy I.D:

Policy I.D – Encourage and support the development of projects that facilitate and enhance the use of alternative modes of transportation.

Goal IV: *Safe and convenient pedestrian access and non-motorized facilities between residential neighborhoods, parks, open space and schools that service those neighborhoods.*

Policy & Implementation Measure I.A:

Policy IV.A – Provide non-motorized alternatives for commuter travel as well as recreational opportunities that maximize safety and minimize potential conflicts with pedestrians and motor vehicles.

Implementation Measure IV.A.1 – Develop a multi-purpose recreational bikeway plan for the City of Perris based on standards in the Caltrans Highway Design Manual and in the Riverside County General Plan.

Implementation Measure IV.A.2 – Consider the use of future abandoned rail lines as multipurpose "rail-trails" for activities such as equestrian use, bicycling, hiking, and walking.

Implementation Measure IV.A.3 – Comply with Americans with Disabilities Act requirements for pedestrian movement along sidewalks, paths, trails, and pedestrian crossings within City rights-of-way.

Implementation Measure IV.A.4 – Maximize access for pedestrians and encourage the removal of barriers in public rights-of-way (walls, easements, and fences) for safe and convenient movement of pedestrians.

Implementation Measure IV.A.5 – Incorporate pedestrian paths or sidewalks in road design standards and provide tree easements between curbs and paths or sidewalks except within the Downtown Specific Plan Area.

Implementation Measure IV.A.6 – Regularly review traffic signal timing plans to allow for safe pedestrian street crossing.

Implementation Measure IV.A.7 – Contact school districts to annually review safe routes to schools.

5.2.1 Land Use Element

The General Plan Land Use Element establishes the development policies and Land Use Plan for the ultimate build-out of the City. The Land Use Element describes ten Planning Areas within Perris. See Exhibit 5-2, Planning Areas.

Planning Area 1: North Industrial

This area is generally made up of "industrial" land use designations and uses. While there are some residential uses in this area, the majority of land uses are nonresidential. There are no schools or parks. This area is near March Inland Port, and future land uses could include air-cargo support and air-cargo dependent businesses. Heavy truck traffic can be expected in this area. The Perris Valley Commerce Center Specific Plan is located within Planning Area 1.

Planning Area 2: North Residential

This area is almost exclusively residential and is adjacent to the Lake Perris Recreation Area. Residential communities in the planning area were built in the late 1990's and early 2000's pursuant to Specific Plans which incorporate complementary retail uses,

schools, and parks and open space. The supporting infrastructure within the project areas was built concurrent with the housing. The Villages of Avalon, May Ranch, and New Horizons Specific Plans are located within Planning Area 2.

Planning Area 3: Agricultural Conversion Area

This Planning Area consists of large tracts of land currently used for agriculture. Proximity to the Interstate 215 corridor suggests conversion of agricultural land, over the long term, to uses that are compatible with surrounding commercial and industrial uses. Nearby residential development may support some level of retail uses in this planning area. Infrastructure demands will depend on the ultimate uses of the land. The Perris Valley Commerce Center Specific Plan is located within Planning Area 3.

Planning Area 4: Freeway Business Park

Agriculture is the primary land use in this area. As in Planning Area 3, the proximity of this property to Interstate 215 makes it a candidate for uses that are dependent upon freeway access and visibility. Planning Area 4 will contribute significantly to the daytime population of the City of Perris between the hours of 7 AM to 6 PM, Monday through Friday. The Perris Valley Commerce Center Specific Plan is located within Planning Area 4.

Planning Area 5: Central Core

This area includes significant residential development and the primary retail/commercial centers in the City. Centers include grocery stores and retail outlets providing both convenience goods and durable goods for residents from both within and outside of the planning area. None of the other planning areas include a similar concentration of retail establishments. This Planning Area also includes the undeveloped ParkWest and New Perris Specific Plans. These Specific Plans anticipate a mix of residential, office, and commercial uses. The New Perris and Park West Specific Plans are located within Planning Area 5.

Planning Area 6: Downtown Specific Plan Area

City Hall, the Community Center and Gymnasium, the Senior Center, and the proposed Metrolink Station are all within this Planning Area, which functions as the City's civic center. Revitalization plans call for the development of new retail opportunities and renovation of historic buildings to create a destination for residents from all parts of the City as well as outside of Perris. Aging infrastructure including water and sanitary sewer lines that comprise the majority of the City's municipal water district are of concern. Increases in vehicle trips and parking demand associated with downtown revitalization and the future development of a Metrolink station is anticipated. The Downtown Specific Plan is located within Planning Area 6.

Planning Area 7: Westside Residential

This Planning Area is located on the western edge of the city and is primarily made up of residential uses. The Rimrock Wilderness Area in the northwest corner of the Planning Area provides passive recreational uses. Minimal retail commercial development exists in this Planning Area.

Planning Area 8: Perris Valley Airport

The Perris Valley Airport is the most prominent use in the area. General and Light Industrial land use designations predominate. Planning Area 8 also includes the Orange Empire Railway Museum. Other uses include a transfer station for refuse and recycling operations, boat sales lots, and auto repair shops. Two portions of the Green Valley Specific Plan extend into the area from across the San Jacinto River and are designated for industrial uses. The Green Valley and New Perris Specific Plans are located within Planning Area 8.

Planning Area 9: South Specific Plans

The Riverglen Specific Plan together with the Green Valley Specific Plan make-up the majority of this planning area. Public and quasi-public land uses include an Eastern Municipal Water District sewage treatment facility, the Perris Big League Dreams Sports Park, and the Perris-Menifee Valley Aquatic Center which began construction in July

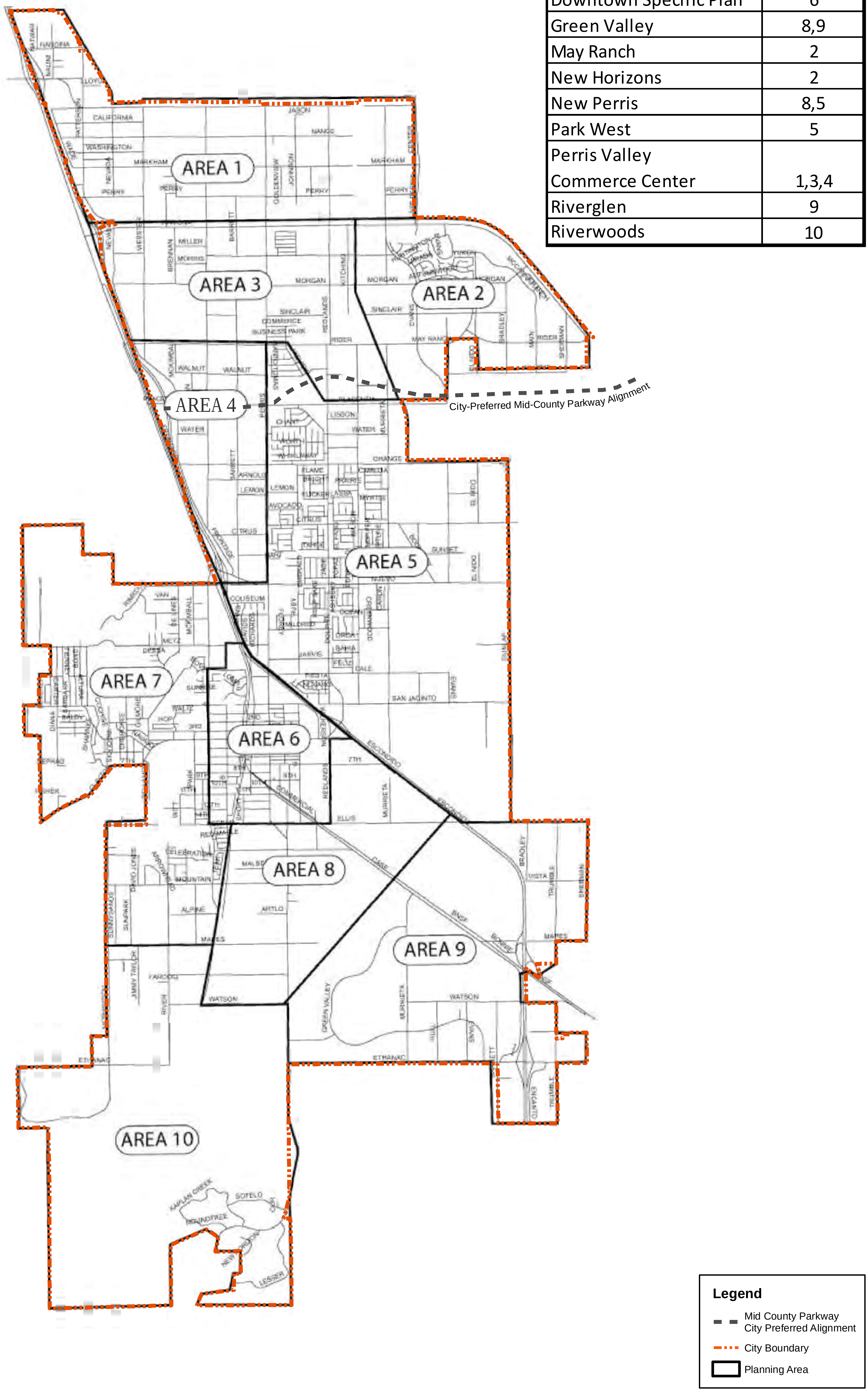
2012. Community Commercial land use designations surround the existing Case Road interchange on Interstate 215. The existing Specific Plans allow for a mixture of business and residential uses that are compatible with surrounding land use designations. The Green Valley and Riverglen Specific Plans are located within Planning Area 9.

Planning Area 10: South Residential

This Planning Area is characterized by low-density residential uses and open space. This Planning Area includes The Four Seasons Preserve and Kabian County Park.

Exhibit 5-3, Land Use Plan illustrates the General Plan's organization of future land uses throughout the City. Both the existing land uses and future land use patterns established in the General Plan were considered in developing the proposed bikeway and trail network. The Riverwoods Specific Plan is located within Planning Area 10.

Specific Plan	Area
Villages of Avalon	2
Downtown Specific Plan	6
Green Valley	8,9
May Ranch	2
New Horizons	2
New Perris	8,5
Park West	5
Perris Valley Commerce Center	1,3,4
Riverglen	9
Riverwoods	10



0 0.5 1 Miles

Source: City of Perris

Planning Areas

Exhibit 5-2

11/21/12 JN10-108148 Planning_Areas_11x17.mxd DJ

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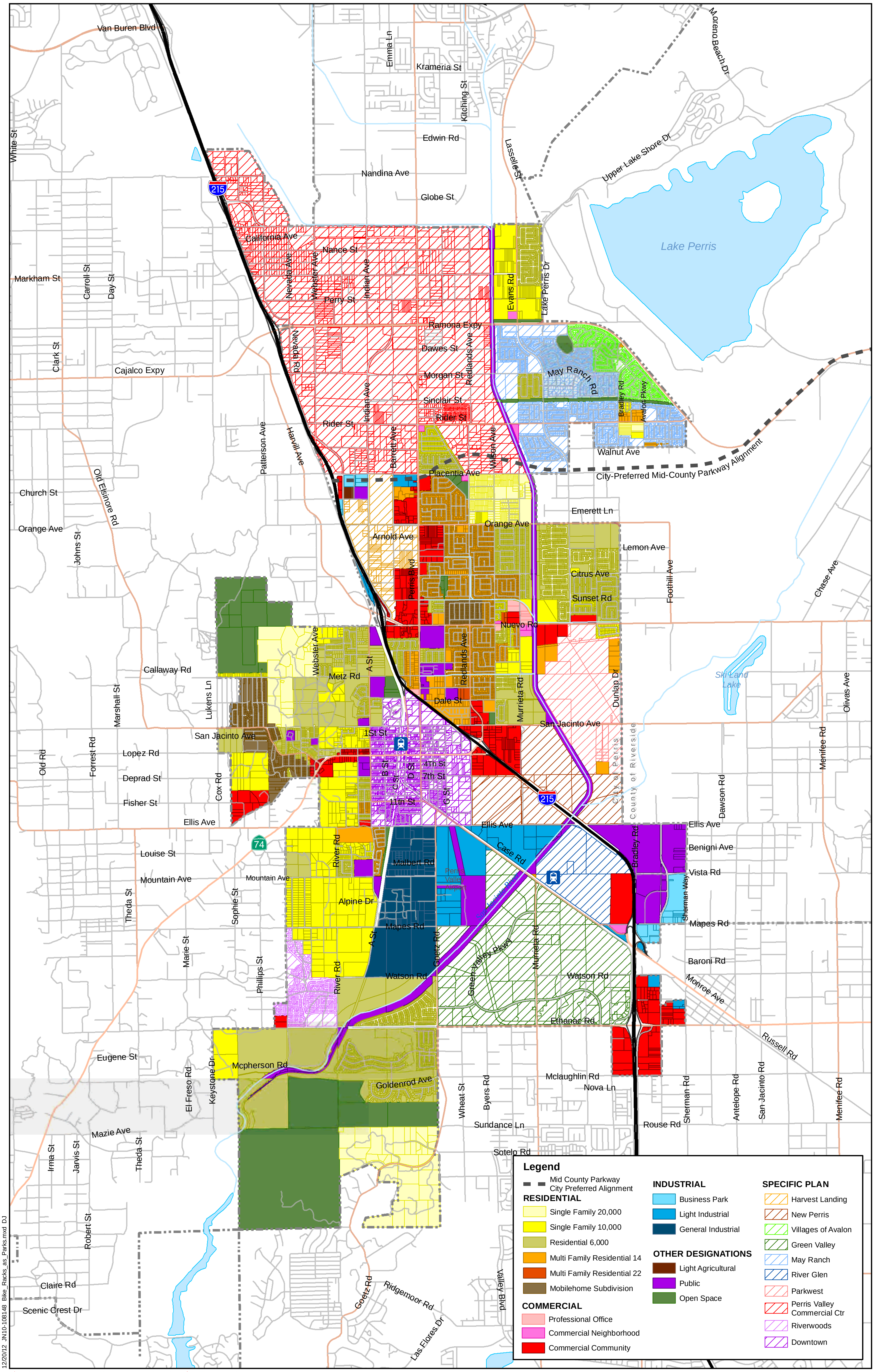

Perris Trail Master Plan

0 0.5 1 Miles

Source: City of Perris

General Plan Land Use

Exhibit 5-3

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5.2.2 Circulation Element

The General Plan Circulation Element sets policies for development of the City's transportation system. The Circulation Element addresses multiple modes of moving in and around Perris, including automobile, transit, pedestrian and bicycle. The Circulation Element defines roadway classifications and future cross sections. Included in the cross sections are standards for pedestrian and bicycle facilities. This Trail Master Plan evaluated the cross sections in the Circulation Element and identified potential changes to further accommodate and encourage use by pedestrians and bicyclists. The current cross sections are provided in Appendix B, along with proposed modifications.

General Plan (2030) Exhibit CE-14: Perris Future Recreational Trail System identifies future routes for two types of trails – 1) Urban Bicycle Trail and Regional Hiking, Bicycling and 2) Equestrian Trail. This exhibit, along with other previous planning efforts, provided a starting point for evaluating future trail and bikeway improvements.

5.3 Specific Plans

Specific Plans are plans pertaining to areas or projects within the City. A specific plan provides both policy guidance and regulations for a specific area.

The following 10 Specific Plans are within the City of Perris:

- Downtown Specific Plan
- Green Valley Specific Plan
- May Ranch Specific Plan
- New Horizons Specific Plan
- New Perris Specific Plan
- Park West Specific Plan
- Perris Valley Commerce Center Specific Plan
- Riverglen Specific Plan
- Riverwoods Specific Plan
- Villages of Avalon Specific Plan

Within each Specific Plan, circulation is addressed, and often trails or bikeways were included as part of the Specific Plan approvals. As the Specific Plan areas are developed, the trails and bikeways will be developed as well. This Trail Master Plan considers the approved Specific Plans and includes major bikeways and trails within the Proposed Improvements.

5.4 Bikeway and Trail Plans of Neighboring Jurisdictions

Existing and planned bikeways and trails in the cities and County adjacent to Perris were considered in the development of this Trail Master Plan. Ideally, future trails and bikeways in Perris will align with routes in surrounding jurisdictions so users can traverse the region.

5.4.1 City of Moreno Valley

The City of Moreno Valley is located to the north of Perris. Similar to Perris, there are some existing bikeways in Moreno Valley, with only one that aligns with the border of the City of Perris. A Class III Bike Lane exists along Lasselle Street, and ends at Harley Knox Boulevard/Oleander Avenue (the City boundary with Perris). The City of Moreno defines Class III Bike Lanes as on-street facility, striped with solid white lines, no signage, and parking may occur. Moreno Valley does not have an adopted plan for future bikeways. The City does have a Master Plan of Trails which identifies future multi-use trails and an aqueduct bikeway/route.

5.4.2 City of Menifee

The City of Menifee is located to the south of Perris. The City is currently developing its first General Plan. Until the Menifee General Plan is adopted, the City is utilizing the County of Riverside General Plan, which previously included Menifee. The Sun City/Menifee Valley and Harvest Valley/Winchester Area Plans, which include Menifee, include plans for bikeways and trails.

5.4.3 City of Canyon Lake

The City of Canyon Lake is located southwest of Perris. Canyon Lake does not have an adopted plan for bikeways or trails.

5.4.4 County of Riverside

To the east and west of Perris are unincorporated areas of Riverside County. The County is currently updating its General Plan and has proposed amendments to the Circulation Element and Trails and Bikeway System. The amendments include a countywide trail and bikeway system map and area plan trail maps. This Trail Master Plan considered the proposed trails in the County of Riverside plan and provides connections to the proposed County trails where appropriate. Direction received in Fall 2012 from Riverside County Regional Park and Open-Space District staff was to include the proposed County trails plan, rather than the older trails plan.

CHAPTER SIX. EXISTING CONDITIONS

The City's existing bikeways and multipurpose trails network totals approximately 3.37 miles, including 0.75 miles of multipurpose paths, 0.76 miles of Class I bike paths and 2.62 miles of Class II on-street bicycle lanes. At present, the large number of system gaps and facility inconsistencies in the existing bikeways network constrain non-motorized mobility throughout the City. This Chapter describes the existing conditions of the bikeways and trails network, bikeway and trails signage and bicycle amenities. An estimate of the number of commuters by mode of travel is also provided.

An inventory of existing conditions was conducted to determine the location, type, and condition of the City's bikeways and trails facilities. The inventory of existing facilities was conducted using aerial imagery and fieldwork in late 2011 and early 2012. Fieldwork was conducted to verify information from the initial analysis of aerial imagery, and to collect more detailed documentation and photographs of the bikeways and trails.

6.1 Existing Bikeways and Trails

While many of the City's adopted Specific Plans include plans for future bikeways and trails, few trails and bikeways have been constructed as of yet. Perris' existing bikeways and trails are short, disconnected segments, less than half a mile in length.

Table 6.1 below shows detailed information on existing bikeways and trails. The locations of the bikeways and trails are shown in Exhibit 6-1, Existing Bikeways and Trails.

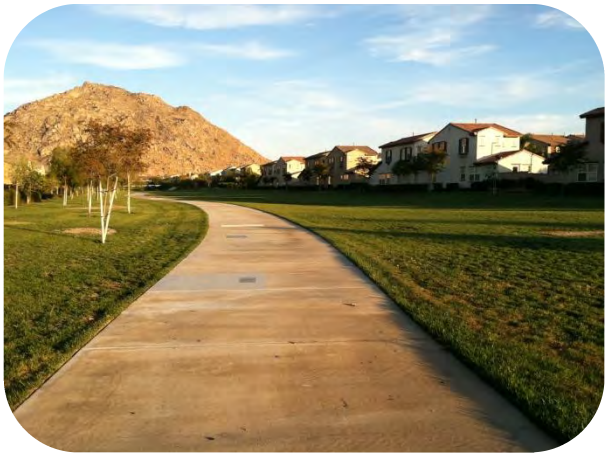
Table 6-1: Existing Bikeways and Trails

Street/Segment	From	To	Facility Type	Length of Segment (miles)
May Ranch Pkwy.	Evans Rd.	Morgan St.	Class II Bike Lane (5' wide)	0.42
Goldenrod Ave.	Goetz Rd.	Alabaster Loop	Class II Bike Lanes	0.48
Redlands Ave.	San Jacinto Ave.	4th St.	Class II Bike Lanes	0.32
Ramona Expy.	Avalon Pkwy.	Bradley Rd.	Class I Bike Path (south side of road)	0.76
Walnut St.	Bearberry Ct.	Sherman Rd.	Class II Bike Lanes (wide)	0.64
Avalon Pkwy.	Aqueduct/ Avalon Greenway	Rider St.	Multipurpose path (decomposed granite)	0.20

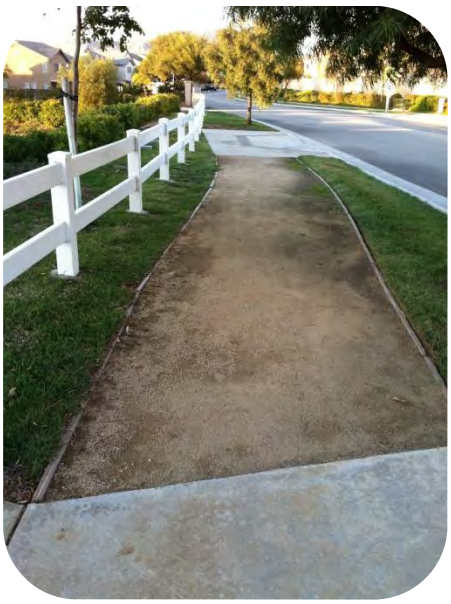
Table 6-1: Existing Bikeways and Trails				
Street/Segment	**From**	**To**	**Facility Type**	**Length of Segment (miles)**
Aqueduct/Avalon Greenway	Bradley Rd.	Ramona Expy.	Greenway/multipurpose path (paved)	0.55

Existing Bike Lane and Signage on Walnut Avenue

Existing Bike Lane and Signage on May Ranch Parkway



Paved multipurpose path over aqueduct



Multipurpose path along Rider Street

6.2 Existing Amenities

End-of-trip facilities in Perris are currently limited to bicycle parking. The City provides bicycle racks at all City-owned parks and the Bob Glass Gymnasium. The schools districts and individual schools in Perris are responsible for providing bicycle racks on school campuses. Availability and quality of bicycle racks vary at each school site. Bicycle racks are also provided at the Perris Station Transit Center. See Exhibit 6-2, End of Trip Facilities for locations of bicycle parking.

The City of Perris does not currently require new development or redevelopment projects to provide end-of-trip facilities. The property owner/applicant may choose to provide bicycle parking as a credit against required vehicle parking. The City Municipal Code provides the following discussion related to bicycle parking and credits for vehicle parking:

- Facilities with 200 or more required parking spaces may provide a bicycle parking area to accommodate no less than 5 locking bicycles.
- Facilities with 500 or more required parking spaces may provide a bicycle parking area to accommodate no less than 15 locking bicycles.
- Bicycle parking areas shall be located near main entrances or buildings.
- For every two bicycle spaces provided, credit for one vehicle parking space shall be given.

Refer to Chapter 7 (Design Guidelines) for discussion of existing signage within the City.

6.3 Transit Facilities

Perris is currently served by Riverside Transit Agency (RTA) bus service. RTA's Bikes on Bus program features bike racks on all fixed-route buses. Each bus can accommodate two bicycles on its rack.

Metrolink train service is provided by the Southern California Regional Rail Authority (SCRRA). Metrolink service will soon extend to Perris with two stations within the City boundaries at the Perris Station Transit Center and the South Station located near the Case Road/Bonnie Drive intersection. Metrolink trains allow up to two bicycles on each train car. In addition, the special Bike Car can hold up to 18 bicycles on the lower level.

See Exhibit 6-3, Transit Facilities for bus routes and future train stations.

6.4 Education and Encouragement Programs

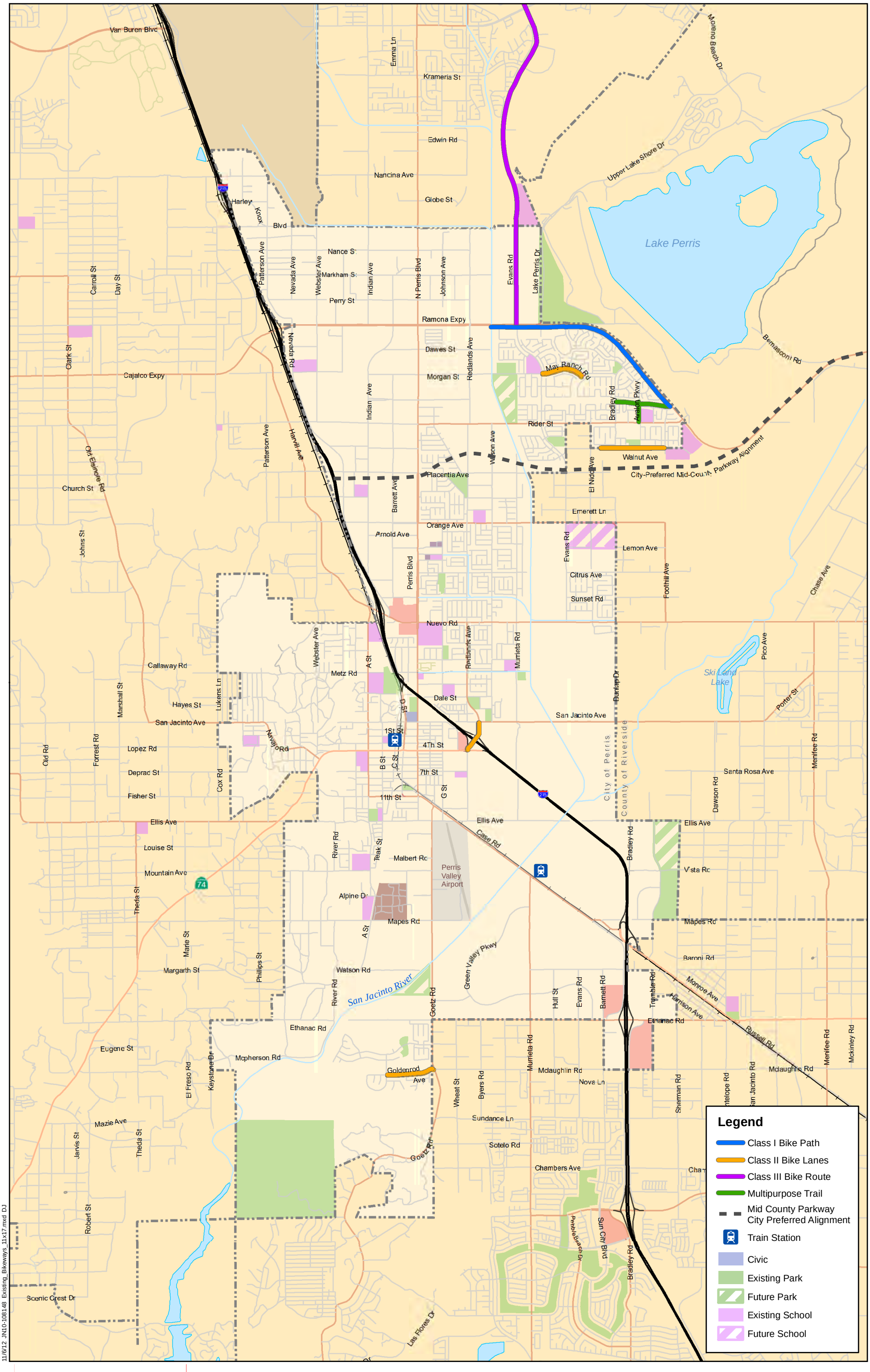
There are currently no formal safety and education programs for pedestrians or cyclists in Perris. The City of Perris contracts with the Riverside County Sheriff to provide police services for the City. The City provides bicycle safety training for children through "Tour de Tots" as part of the Tour de Perris annual bike rides. This includes instruction of how to properly use bicycle safety gear and how to follow the rules of the road.

In 2011, the City held the first annual Tour de Perris in celebration of the City's Centennial. The 2011 Tour de Perris consisted of a number of routes with varying distances, including a short-distance family ride. The first Tour de Perris promoted bicycling both in the City and in the region and drew participants from all over Southern California, registration and participation at the first event exceeded expectations. The City facilitated the 2012 Tour de Perris, with similar events and expanded programs to improve youth participation such as a Tour de Tots training obstacle course.

2011 Tour de Perris

6.5 Existing Bicycle Commuters

The 2006-2010 American Community Survey 5-Year Estimates provide information on means of transportation to work for residents in the City age 16 years and older. The ACS 5-Year Estimates indicate approximately 93.5 percent of total workers drive to work alone or in a carpool. Approximately 1.8 percent use public transit and approximately 1.2 percent use a taxicab, motorcycle or other means. Most relevant to this plan is that approximately 1.5 percent of workers (339 people) walk to/from work and 0 percent bicycle to/from work.



11/6/12 JN10-108148 Existing_Bikeways_11x17.mxd DJ

Perris Trail Master Plan

0 0.5 1 Miles

Source: City of Perris

Existing Bikeways & Trails

Exhibit 6-1

<insert Exhibit 6-1>

Map ID	Park Name	Map ID	Park Name
1	Lake Perris Fairgrounds	12	Skydive Baseball Park
2	Frank Eaton Memorial Park	13	Bob Long Memorial Ballpark
3	May Ranch Park	14	Mercado Park
4	Basin Park	15	Aquatic Center
5	Morgan Park	16	Big League Dreams
6	Paragon Park	17	Rotary Park
7	Copper Creek Park	18	Future Park
8	Panther Park	19	Morgan Park Phase II
9	Patriot Park	20	Kabian County Park
10	Metz Park	21	Lake Perris State Recreational Area
11	Foss Field Park	22	Monument Park

Lake Perris

Perris Valley Airport

San Jacinto River

Ski Land Lake

City of Perris

County of Riverside

City-Preferred Mid-County Parkway Alignment

Legend

- Mid County Parkway City Preferred Alignment
- Bob Glass Gymnasium
- Train Station
- Civic
- Existing Park
- Future Park

1/7/13 JN10-108148 Bike_Racks_as_Parks.mxd DJ

Perris Trail Master Plan

0 0.5 1 Miles

Source: City of Perris

End of Trip Facilities

Exhibit 6-2

11/6/12 JN10-108148 Collisions_Map_11x17.mxd DJ

Perris Trail Master Plan

Transit Facilities

Exhibit 6-3

6.6 Collision Analysis

Safety is a major concern for existing/potential bicyclists and pedestrians. It is important to analyze bicycle and pedestrian collision history to determine if any collision patterns exist. For this analysis, collision data for the City of Perris was obtained from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) database, which provides information based on motor vehicle traffic collision reports received from California Highway Patrol field offices and local police and sheriff jurisdictions. The SWITRS database identifies if injuries or fatalities occur related to each collision.

Table 6-2: Summary of Bicycle-Involved & Pedestrian-Involved Collisions Per Year (2006 through 2010)

Year	Bicycle			Pedestrian			Total		
	Fatalities	Injuries	Collisions	Fatalities	Injuries	Collisions	Fatalities	Injuries	Collisions
2006	0	9	11	3	16	18	3	25	29
2007	0	6	10	2	9	11	2	15	21
2008	1	8	9	1	13	10	2	21	19
2009	0	6	9	3	15	17	3	21	26
2010	0	5	7	2	9	10	2	14	17
Total	**1**	**34**	**46**	**11**	**62**	**66**	**12**	**96**	**112**

Source: *The California Highway Patrol Statewide Integrated Traffic Records System Database.*
Note: Some collisions had no reported injuries.

As shown in Table 6-2, from 2006 through 2010, a total of 112 collisions involving bicyclists or pedestrians have been reported with the City of Perris which include a total of 46 bicycle-involved collisions and a total of 66 pedestrian-involved collisions. The total number of collisions per year ranged from 17 to 29 collisions. See Figures 6-4 and 6-5 for collision locations.

As also shown in Table 6-2, the total of 112 reported bicycle or pedestrian-involved collisions from 2006 to 2010 have resulted in a total of 96 injuries and 12 fatalities. The sporadic nature of the annual collisions totals indicates no clear trend in either bicycle or pedestrian collisions.

Reducing bicycle and pedestrian-involved collisions may require a combination of engineering, education and enforcement improvements. The City's Public Safety Commission reviews traffic collision information in order to identify potential improvements. Engineering improvements such as those outlined in Chapter 8 (Proposed Improvements) help change the physical environment to improve safety for pedestrians and cyclists. Education programs teach appropriate behavior and encourage safe walking and cycling practices. The City currently conducts bicycle education as part of the Tour de Tots event in conjunction with the Tour de Perris. Examples of additional education programs are provided in Chapter 11 (Bicycle Safety and Education Programs). Enforcement of traffic laws by the Sherriff's Department reinforces safe walking and cycling practices and increases driver awareness and adherence to traffic laws.

In Riverside County, educational programs and safety campaigns are provided by the County of Riverside Injury Prevention Services. The Sheriff's Department also provides information of bicycle and pedestrian safety.

Table 6-3 and Table 6-4 summarize the type of violation and the at-fault party for the bicycle-involved and pedestrian-involved collisions reported from 2006 through 2010. As shown in Table 6-3, the most frequent factor for bicycle collisions was bicyclists operating on the wrong side of the road. Safety and education programs for bicyclists can help address these frequent factors in collisions.

Table 6-3: Type of Bicycle Collision (2006 through 2010)

#	Collision Factor	Collisions			
		Party at Fault			Total
		Bicyclist	Motorist	Unknown	
1	Operating on Wrong Side	14	0	2	16
2	Automobile Right-of-Way	7	2	0	9
3	Unsafe Speed	2	3	1	6
4	Stop Sign/Signal Violation	5	0	0	5
5	Improper Turn	1	1	1	3
6	Not Stated	2	1	0	3
7	Pedestrian Right-of-Way	0	1	0	1
8	Unsafe Starting/Backing	1	0	0	1
9	Pedestrian Violation	1	0	0	1
10	Cyclist ALC/DRG	0	0	1	1
11	Lane Change	1	0	0	1
12	Unknown	0	0	1	1
	Total	**34**	**8**	**6**	**48**

Source: *The California Highway Patrol Statewide Integrated Traffic Records System Database.*

Table 6-4: Type of Pedestrian Collision (2006 through 2010)					
#	Collision Factor	Collisions			
		Party at Fault			Total
		Pedestrian	Motorist	Unknown	
1	Pedestrian Violation	37	0	0	37
2	Violation of Pedestrian Right-of-Way	0	6	0	6
3	Unsafe Speed	0	5	0	5
4	Not Stated	1	2	1	4
5	Improper Turn	0	3	0	3
6	Stop Sign/Signal Violation	1	1	0	2
7	Driver ALC/DRUG	1	1	0	2
8	Other Hazardous Violation	0	2	0	2
9	Improper Pass	0	1	0	1
10	Not Driver	0	0	1	1
11	Wrong Side	0	1	0	1
12	Other Improper Driving	0	1	0	1
13	Unknown	0	1	0	1
	Total	**40**	**24**	**2**	**67**

Source: *The California Highway Patrol Statewide Integrated Traffic Records System Database.*

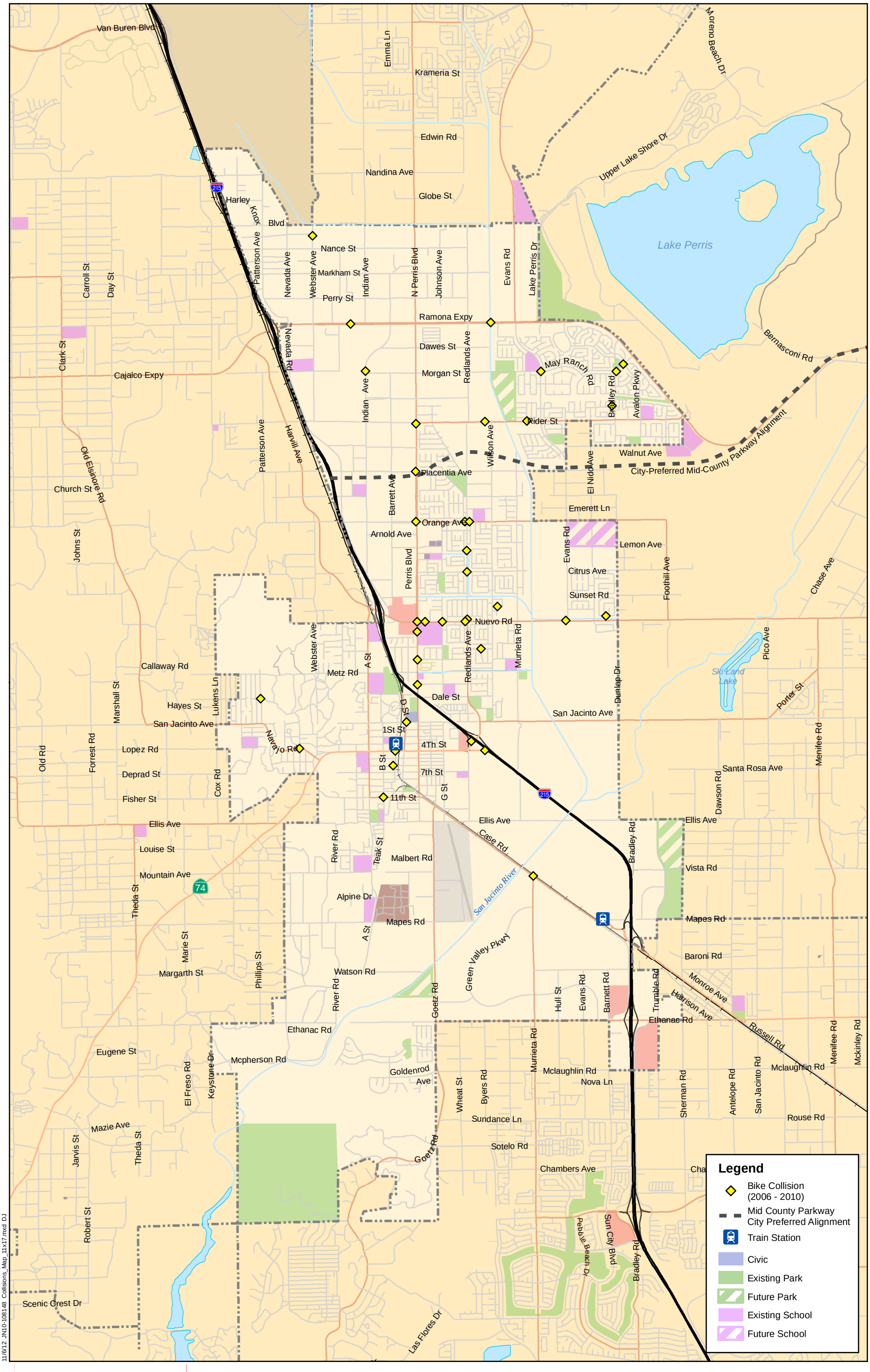
As shown in Table 6-4, the most frequent factor for pedestrian collisions was violation of pedestrian right-of-way with the pedestrian at fault in all incidents. Safety and education programs can help address these issues as well as consideration of engineering improvements to improve pedestrian crossings.

Table 6-5 summarizes three areas within the City where a large number of collision involving pedestrian or bicyclists occurred from 2006 to 2010.

Table 6-5: Locations of High Frequency (2006 through 2010)							
#	Collision Area	Bicycle		Pedestrian		Bicycle & Pedestrian	
		Collisions	Percent of Total Bike Collisions	Collisions	Percent of Total Ped Collisions	Total Collisions	Percent of Total Collisions
1	Adjacent to Schools	3	6.3%	9	13.0%	12	10.3%
2	Perris Blvd Within City	8	16.6%	12	17.4%	20	17.1%
3	4th St West of G St	1	2.1%	6	8.7%	7	6.0%
Total of High Frequency Locations		**12**	**25%**	**27**	**39.1%**	**39**	**33.4%**

Source: *The California Highway Patrol Statewide Integrated Traffic Records System Database (Accessed in July 2012).*

As shown in Table 6-5, three areas account for approximately 33.4% of the total bicycle or pedestrian-involved collisions within the City of Perris.



Perris Trail Master Plan

Bike Collisions

Exhibit 6-4

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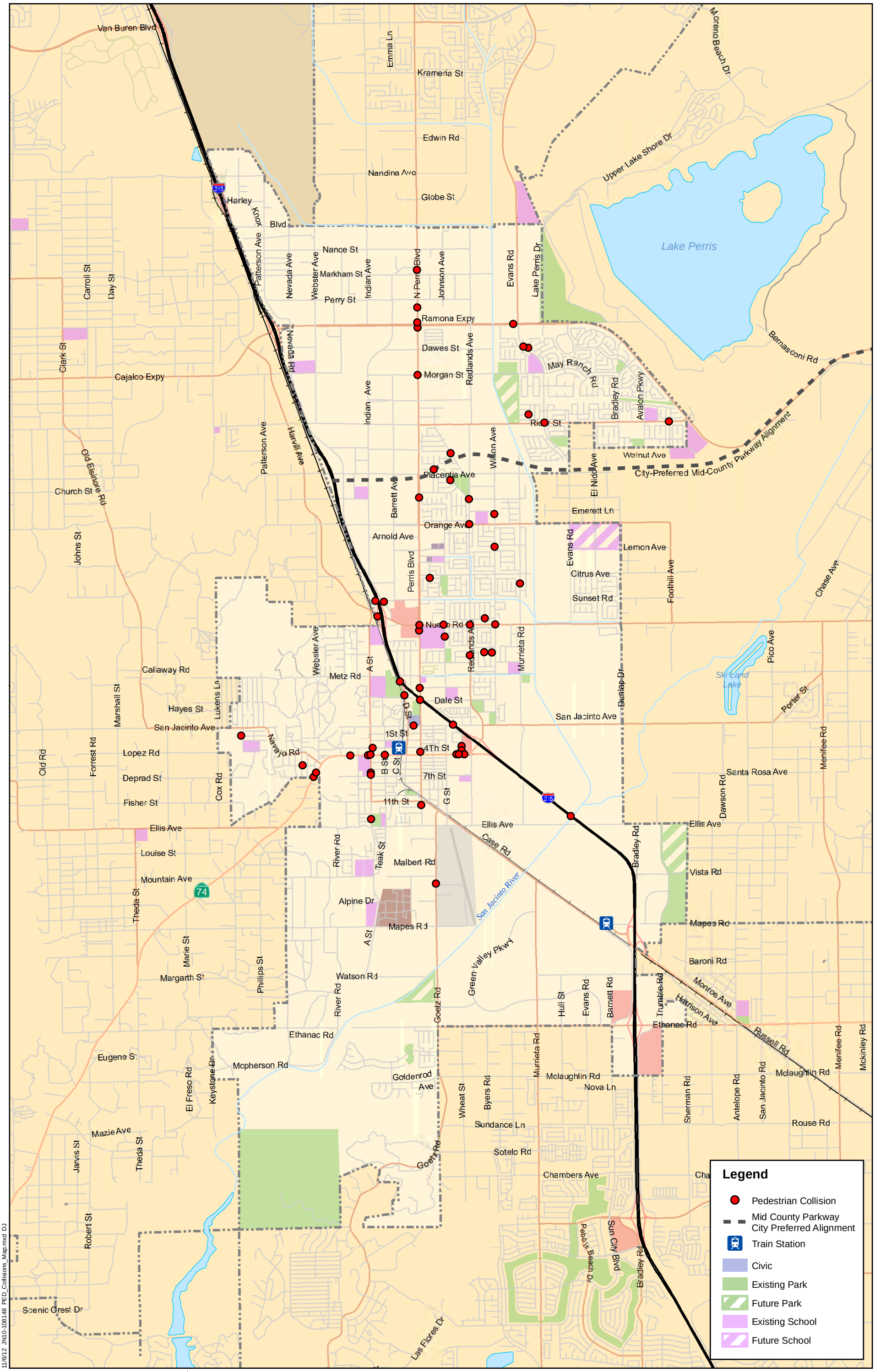

11/6/12 JN10-108148 PED_Collisions_Map.mxd DJ

Perris Trail Master Plan

0 0.5 1 Miles

Source: City of Perris

Pedestrian Related Collisions

Exhibit 6-5

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CHAPTER SEVEN. DESIGN GUIDELINES

This chapter describes design guidelines for each of the facilities proposed in this Plan. The City should follow standard manuals of accepted practice, including but not limited to:

- AASHTO (American Association of State Highway and Transportation Officials) *A Policy on Geometric Design of Highways and Streets*;
- AASHTO *Guide for the Development of Bicycle Facilities*;
- APBP (Association of Pedestrian and Bicycle Professionals) *Bicycle Parking Guidelines*.
- *California Manual on Uniform Traffic Control Devices* (California MUTCD);
- Caltrans Highway Design Manual (specifically, Chapter 1000); and
- NACTO (National Association of City Transportation Officials) *Urban Bikeway Design Guide*.

The City of Perris may choose to amend its own street design guidelines to implement certain facilities. The City should research the newest design guidelines and engineering treatments prior to constructing a facility. The guidelines included in this chapter represent minimum guidelines. Where appropriate, these guidelines may be exceeded or altered to accommodate specific needs, constraints, or other unique circumstances of a particular project.

7.1 Class I Bike Path Facilities Design Guidelines

a. All Class I bike paths should conform to the design guidelines set forth by Caltrans. Multipurpose trails and unpaved facilities that are not funded with federal transportation dollars and that are not designated as Class I bike paths do not need to be designed to Caltrans standards. Refer to Section 7.4 for multipurpose trail design guidelines.

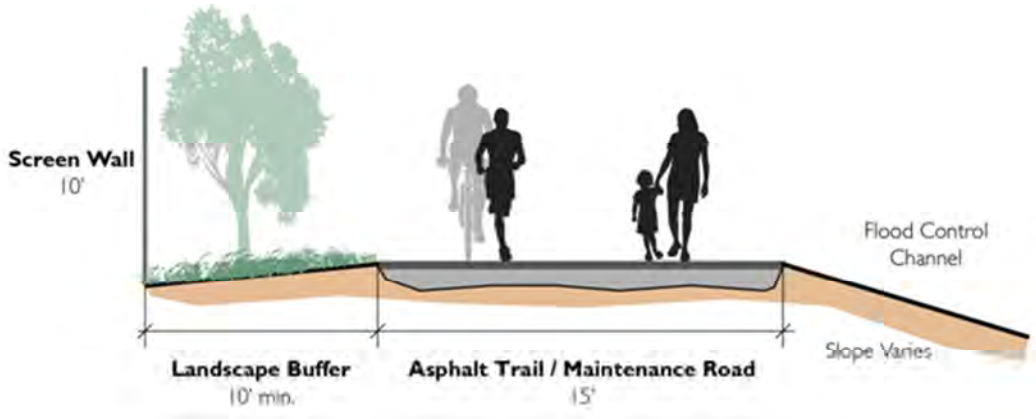
Class I Bike Path

b. Class I bike paths should be designed as separated facilities away from parallel streets. These facilities are commonly constructed along rights-of-way such as waterways, utility corridors, railroads, and other corridors with continuous, separated riding opportunities. Examples would include the PVSC and the San Jacinto River. See figure on page 7-2.

c. Sidewalks should not be used for bike paths due to conflicts with driveways and intersections. Where sidewalks are used as bike paths, they should be placed in locations with few driveways

and intersections, be properly separated from the roadway, and have carefully designed intersection crossings.

d. Bike paths should have a minimum paved width of 10 feet, although a paved width of 12 feet is preferred. Additionally, an unpaved shoulder of at least 2 feet in width should be provided for pedestrians/runners, or a separate tread way where feasible.
e. Class I bike path crossings of roadways should be carefully engineered to accommodate safe and visible crossing for users. The design needs to consider the width of the roadway, whether it has a median, and the roadway's average daily and peak-hour traffic volumes. Crossings of low-volume streets may require simple stop signs. Crossings of streets with Average Daily Traffic (ADT) of approximately 15,000 should be assessed for signalized crossing, flashing LED beacons, crossing islands, or other devices. Roundabouts can be a desirable treatment for a bike path intersecting roadways where the bike path is perpendicular to the street.
f. Landscaping should generally consist of native vegetation that consumes little water and produces little debris.
g. Lighting should be provided where commuters will likely use the bike path in the late evening.
h. Barriers at pathway entrances should be clearly marked with reflectors and be ADA compliant (minimum 5 foot clearance).
i. Bike path construction should take into account vertical requirements and the impacts of maintenance and emergency vehicles on shoulders.



Typical Cross Section of Class I Bike Path adjacent to Perris Valley Storm Channel/San Jacinto River

7.2 Class II Bike Lane Facilities Design Guidelines

a. Class II bike lane facilities should conform to the minimum design standard of 5 feet in width in the direction of vehicle travel adjacent to the curb lane. Where space is available, a width of 6 to 8 feet is preferred, especially on busy arterial streets, on hills, and when adjacent to parallel parking.

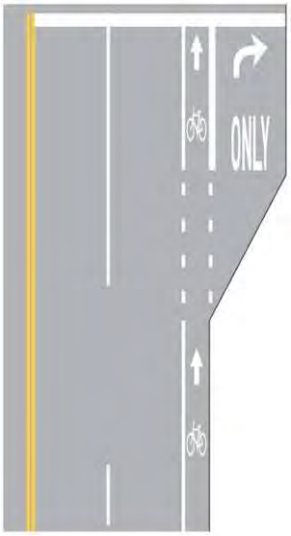
Class II Bike Lane

b. Under certain circumstances, bike lanes may be 4 feet in width. Situations where this may be appropriate include:
    i. Bike lanes located between through traffic lanes and right turn pockets at intersection approaches;
    ii. Where there is no parking, the gutter pan is no more than 12" wide, and the pavement is smooth and flush with the gutter pan; and
    iii. Where there is no curb and the pavement is smooth to the edge.

Bike Lane Sign

c. "Bike Lane" signage should be posted after every significant intersection along the route of the bike lane facility. Directional signage may also accompany this sign to guide bicyclists along the route. If a bike lane exists where parking is prohibited, "no parking" signage may accompany bike lane signage.

d. Bike lanes should be striped with a solid white stripe at least 6 inches in width and may be dashed up to 200 feet before the approach to an intersection. This design of a dashed bike lane allows for its dual use as a right-turn pocket for motor vehicles.



Bike Lane at Intersection Approach

e. Stencils should also be used within the lane on the pavement that read "Bike Lane" and include a stencil of a bicycle with an arrow showing the direction of travel.

f. Bike lanes should include two stripes to increase visibility from those with just one stripe. The second stripe would differentiate the bike lane from the parking lane where appropriate.

g. Coloring (generally green) may be used within the bike lane for increased visibility. Coloring may be applied along the entire length of the bike lane, in conflict areas, and/or in at conflict areas. The colored surface should be skid-resistant and retro-reflective. Adding a color stripe sends a strong signal to cyclists as to where they should ride, and communicates to motorists that bicyclists are legitimate users of the

entire travel lane. This treatment has not yet been approved as part of the California Manual on Uniform Traffic Control Devices (CA MUTCD). Until it is approved, the City may use this treatment under a sanctioned experimental process.

h. Where sufficient right-of-way exists, buffered bike lanes should be installed. As an alternative, separated lanes can be installed which may shift the location of the bike lane and parking as shown in the photograph below. Separated lanes require careful engineering and planning consideration to ensure the location and circumstances suit mobility needs for the roadway.

i. Where space permits, intersection treatments should include bike lane 'pockets' with solid (not dashed) lines.

j. Loop detectors that detect bicycles should be installed near the stop bar in the bike lane at all signalized intersections where bicycles are not reasonably accommodated. Signal timing and phasing should be set to accommodate bicycle acceleration speeds.

Green Bike Lane

Green Bike Lane in Conflict Area

Buffered Bike Lane

Separated Bike Lane

7.3 Class III Bike Route Facilities Design Guidelines

a. "Bike Route" signage should be posted after every intersection along the bike route. This will inform bicyclists that the bikeway facility continues and will alert motorists to the presence of bicyclists along the route. Directional signage may accompany this sign to guide bicyclists along the route.

Class III Bike Route with Sharrow Stencil

b. Shared lane "sharrow" marking stencils are encouraged to enhance the visibility and safety of Class III bike route facilities. The markings assist bicyclists with their positioning in a shared lane and inform motorists of the location of bicyclists in the travel lane. They also encourage vehicles to safely pass bicyclists.

Bike Route Sign

   i. Sharrow markings can be placed on any roadway, but generally should be placed on streets with speeds 35 mph or below.
   ii. If placed on a street with on-street parking, the stencil should be placed at least 11 feet from the curb lane, to encourage cyclists to ride away from parked vehicles' open doors. On many streets, 11 feet may be too close to opening doors, and the stencil should be placed further into the center of the travel lane as appropriate. Sharrow markings should be placed outside of the "door zone."
   iii. On streets with no on-street parking and an outside travel lane less than 14 feet wide, the center of the sharrow should be at least 4 feet from the face of the curb or edge of the street.
   iv. On two lane roadways, this minimum 11-foot distance will allow vehicles to pass bicyclists on the left within the same lane without encroaching in the opposite lane of traffic. On multi-lane roadways, installing the sharrow markings more than 11 feet from the curb will move the bicyclist farther from the "door zone."
   v. Sharrow markings should be placed immediately after an intersection and spaced at intervals not greater than 250 feet after that.
   vi. Sharrow markings should be placed in straight lines to allow the bicyclist to travel in a straight line; however, sharrow markings should curve with the road as appropriate.

c. Additional sharrow marking treatments are encouraged, where appropriate.
   i. Coloring (generally green) may be used to connect the sharrow markings for increased visibility. Coloring may be applied along the entire route, in conflict areas, and/or in a dashed pattern. The colored surface should be skid-resistant and retro-reflective. Adding a color stripe sends a strong signal to cyclists as to where they should ride, and communicates to motorists that bicyclists are legitimate users of the entire travel lane.

Although no standards are established, multi-lane streets with narrow curb lanes are likely the most appropriate to apply this treatment. This treatment has not yet been approved as part of the California Manual on Uniform Traffic Control Devices (CA MUTCD). Until it is approved, the City may use this treatment under a sanctioned experimental process.

ii. Outer markings may be placed on either side of the sharrow marking to further indicate the zone in which bicyclists should ride. Outer markings may be used in conjunction with coloring, especially when applied in a dashed layout. Outer markings give the illusion of a bike lane while providing the flexibility of a shared road.

iii. Greenback sharrows, where green paint is provided under the sharrow marking, may be used as an alternative to sharrows with a green strip along the corridor or outer markings. Greenback sharrows are generally used at intersections where a bike route turns or at conflict areas.

Sharrow with Green Stripe

Sharrow with Outer Markings

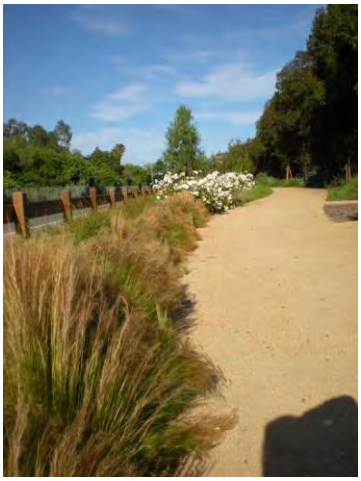
Greenback Sharrows at Intersection

7.4 Multipurpose Trail Design Guidelines

a. Trails should be designed with different types of users in mind. Trails serve a variety of different users: bicyclists, runners, joggers, walkers, and equestrians. Certain trails may have exclusive users and should have appropriate amenities.
b. Some of the rights-of-way in Perris lend themselves to three trail types. It is encouraged that many of the rights-of-way in the city would be developed with both paved trails and parallel unpaved trails.
    i. A developed (paved) trail will serve bicyclists and other wheeled users best.
    ii. A decomposed granite natural (unpaved) trail is best for joggers and walkers.
c. Trails should be well drained. Standing water on the trail will have an adverse effect on the trail surface and will result in higher maintenance and a decrease in the life and quality of the trail.
    i. Compacted stone dust may be used to assist areas with poor drainage, low areas that collect surface water should be drained by grading or culverts.
    ii. The trail can deteriorate quickly if used in a wet condition. A minimum 2 percent cross slope is recommended for drainage. Crowding of the trail at 2 or 3 percent is acceptable, but may be more difficult and costly to construct.
    iii. When a trail is constructed on the side of a hill, it may be necessary to build a swale on the uphill side of the trail. The swale will intercept the surface drainage of water from the hill and prevent erosion of the trail. When necessary, a catch basin and culvert would be required to direct the water under the trail.

Multipurpose Natural (Unpaved) Trails

d. Trails should have a minimum clear width of 6 feet for passing and two-way use.
    i. A minimum width of 4 feet should only be used when site-specific conditions do not allow the preferred width.
e. A minimum 2 feet of horizontal clearance beyond each side of the trail should be provided for vegetation and obstructions.
f. A minimum vertical clearance of 10 feet should be provided.
g. Trails should be free of any debris or obstructions, including but not limited to: brush, stumps, logs, and large rocks. The trail surface should be kept free of rocks and debris greater than 1.5 inches in diameter.
h. Trails should be designed with decomposed granite.
i. Highly developed trails should have a surface of decomposed granite minimum 4 inches deep.



Natural Trail

j. Trails should generally follow the alignment of the existing topography. Steep sections of trail should use switchbacks to alleviate the grade.
k. Protection from steep slopes or hazardous areas may be accommodated by dense landscaping and/or sturdy railing.

Multipurpose Developed (Paved) Trails

l. Developed trails should have a clear width of 12 feet for passing and two-way use.
    i. A minimum width of 8 feet should only be used when site-specific conditions do not allow the preferred width.

m. A minimum 2 feet of horizontal clearance beyond each side of the trail should be provided for vegetation and obstructions.

n. A minimum vertical clearance of 10 feet should be provided.

o. Trails should be free of any debris or obstructions, including but not limited to: brush, stumps, logs, and large rocks. The trail surface should be kept free of rocks and debris greater than 1.5 inches in diameter.

p. Protection from steep slopes or hazardous areas may be accommodated by dense landscaping and/or sturdy railing.

Paved Trails

Trailheads and Trail Amenities

q. Typical features and facilities provided at trailheads and within trail amenity zones include:
    i. Parking for bicycles and vehicles;
    ii. Directional/wayfinding signage;
    iii. Maps of the trail and areas around the trailheads;
    iv. Interpretive signage;
    v. Seating areas;
    vi. Exercise stations;
    vii. Shade trees;
    viii. Enhanced landscaping (such as accent trees, flowering shrubs/groundcover, and decorative boulders);
    ix. Weather refuges and shade structures, such as aluma-wood trellises painted to match surrounding structures and plexiglass windscreens;
    x. Restrooms;
    xi. Refuse receptacles; and
    xii. Drinking fountains.

Trailhead

r. Trailheads provide a place for trail users to begin their ride or hike. The features and facilities provided at the trailhead should depend on the use and location of the trail. Proposed trailheads are shown on Figure 8-1.

Trail Sign

Mile Marker

Trail Sign

Restroom and Seating Area near Trail

Seating Area, Refuse Receptacle, and Restrooms near Trail

Interpretive Signs

Trail Map

Exercise Station

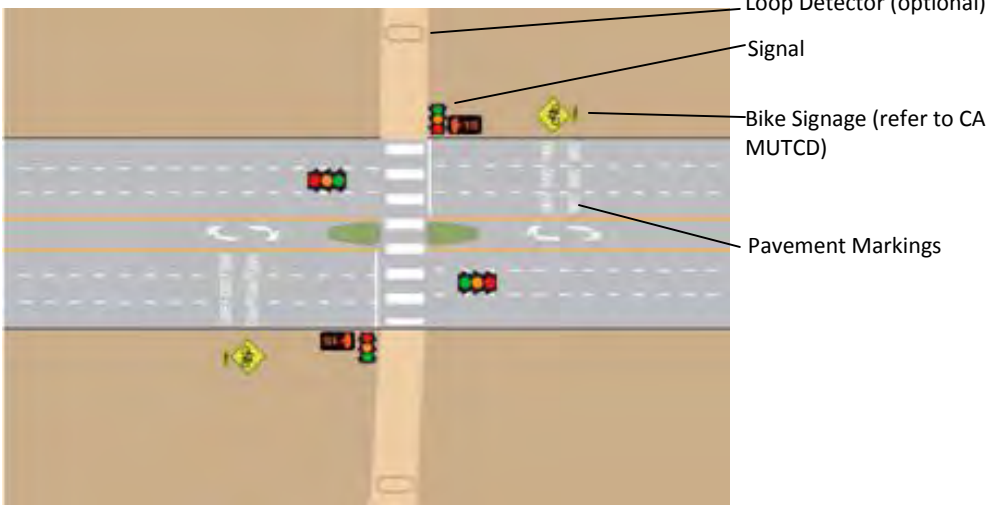
s. Trail amenities enhance the user experience and provide conveniences to trail users. Amenities provided should be appropriate for the use and location of the trail. Trail amenity zones are small support facilities located along a trail system that can provide access to surrounding amenities
    i. Amenity zones should be incorporated into landscape setbacks wherever possible.
    ii. Amenity zones should provide an area to stop and rest away from the main trail traffic.
    iii. Amenity zones may act as pedestrian gateways and access points from the trail system to nearby commercial areas, residential neighborhoods, and other destinations.
    iv. Amenity zones should include a combination of appropriate features and facilities depending on the type of trail and physical constraints.
    v. Amenity zones should use the same or similar materials as surrounding development to better integrate them into the community.
    vi. Restrooms should be located every 5 miles along the trail system.
    vii. Seat walls are encouraged within amenity zones. Seat walls should be constructed of stone (or stone veneer) and have a concrete cap for sitting. Seat walls should be 18 inches in height and 6 to 10 feet in length.

7.5 Intersections and Crossings Design Guidelines

Designing good street crossings will be key to making rights-of-way work. The following provides prototype guidance for these crossings over the various streets in Perris. All of these must follow all Caltrans standards and the California MUTCD. Each location will need to be designed in detail separately. The guidelines below assume the possibility of parallel paved bike paths and earthen trails.

Signalized Crossing

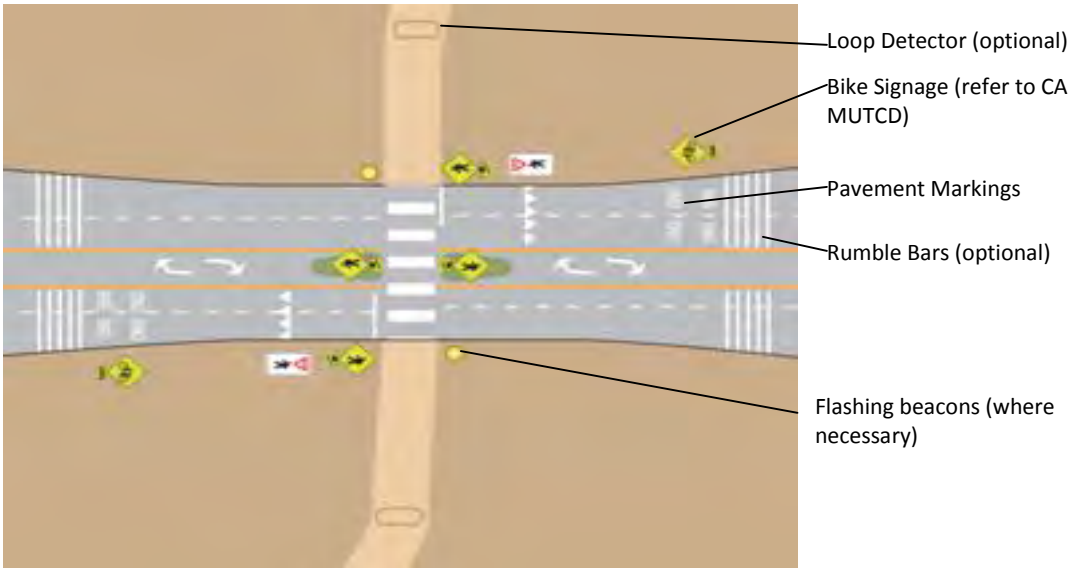
a. Signalized trail crossings should be used on four- or six-lane roads with medians or center turn lanes and average daily traffic (ADT) greater than 15,000. The following should apply to signalized crossings:
    i. Use of the signalized crossing should have a joint "waiting area" where users of both trails can consolidate while waiting for the traffic signal to change for crossing the roadway.
    ii. Trails should be aligned to cross at a right angle.
    iii. User-activated signals should be installed at the crossings. Loop detectors may be used to trip signals in advance of the crossing.
    iv. Bike signals may be installed to direct bicycle traffic.
    v. Zebra stripe crosswalks are preferred to double stripe crosswalks for increased visibility. Crosswalks should be 12 feet wide.
    vi. Crossing islands are recommended to provide safe refuge for those unable to cross the street in one cycle. These are also effective when two-phased crossings are used.
    vii. MUTCD W11-1 bike signs should be located prior to the crossing. MUTCD W11-15 and W11-15P signs may also be used.
    viii. "Bike Xing" pavement markings should be installed on the street prior to the crossing.
    ix. The crossing may be offset to break up the crossing signal cycles and encourage trail users to look for on-coming traffic. The offset should guide trail users in the refuge space to a crosswalk to the right. Crosswalks to the right orient trail users toward oncoming vehicular traffic for safety.



Signalized Crossing

Uncontrolled Crossing of Four-Lane Roads

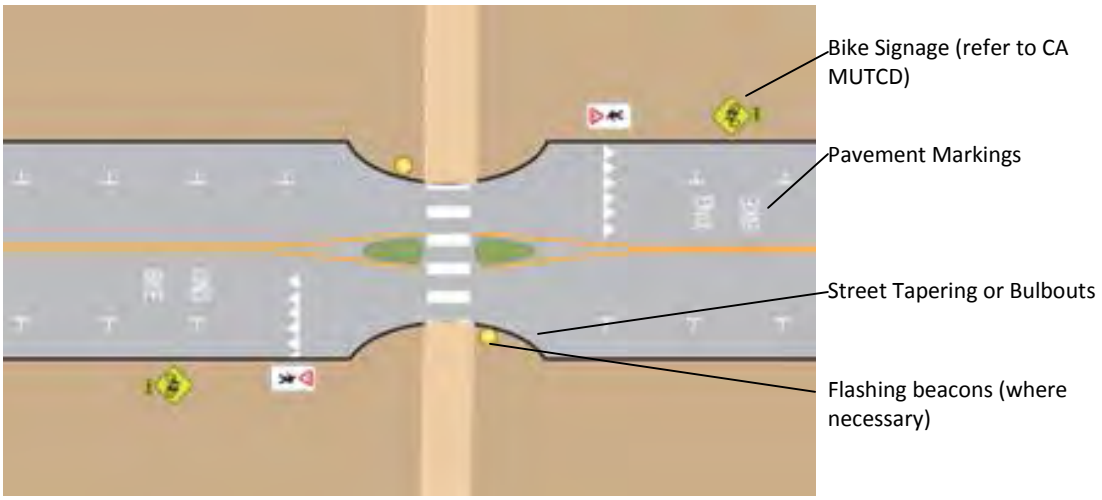
b. Uncontrolled crossings on four-lane roads are acceptable when ADT is less than 15,000. The following should apply to uncontrolled crossings on four-lane roads:
    i. Use of the crossing should have a joint "waiting area" with visibility to indicate to motorists that crossing by trail users is desired..
    ii. Trails should be aligned to cross at a right angle.
    iii. The cross street may be tapered to reduce the crossing distance for trail users.
    iv. User-activated LED rapid-flash beacons should be installed when ADT is between 10,000 and 15,000, and is subject to an engineering study evaluating the site conditions.
    v. Zebra stripe crosswalks are preferred to double stripe crosswalks for increased visibility. Crosswalks should be 12 feet wide.
    vi. Crossing islands are recommended where medians or center left turn lanes exist to provide safe refuge for those unable to cross the street in one cycle. These are also effective when two-phased crossings are used.
    vii. MUTCD W11-1 bike signs should be located prior to the crossing. MUTCD W11-15 and W11-15P signs may also be used.
    viii. "Bike Xing" pavement markings should be installed on the street prior to the crossing.
    ix. Adequate sight distance should be maintained for all users.
    x. Advanced yield bars and advanced yield signs may be added for increased visibility.
    xi. Rumble bars may be added on the approach for increased notification for motorists.
    xii. The crossing may be offset to break up the crossing into two phases and encourage trail users to look for on-coming traffic. The offset should guide trail users in the refuge space to a crosswalk to the right. Crosswalks to the right orient trail users toward oncoming vehicular traffic for safety.



Uncontrolled Crossing of Four-Lane Road

Uncontrolled Crossing of Two-Lane Roads

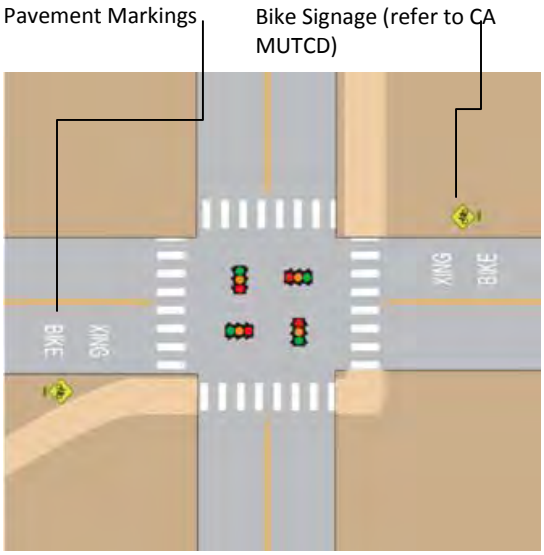
c. The use of a tapered street may be used for uncontrolled crossings of two-lane roads.
   i. The unpaved trail segments should merge onto the paved trail at least 50 feet before the crossing.
   ii. Trails should be aligned to cross at a right angle.
   iii. The cross street should be taper to reduce the crossing distance for trail users. Bulbouts should be used along streets with on-street parking.
   iv. User-activated LED rapid-flash beacons should be installed when ADT is between 12,000 and 18,000, and is subject to an engineering study evaluating the site conditions.
   v. Zebra stripe crosswalks are preferred to double stripe crosswalks for increased visibility. Crosswalks should be 12 feet wide.
   vi. Crossing islands should be used where medians or center turn lanes exist. If no medians or center turn lanes exist, crossing islands may be added by removing on-street parking.
   vii. MUTCD W11-1 bike signs should be located prior to the crossing. MUTCD W11-15 and W11-15P signs may also be used.
   viii. "Bike Xing" pavement markings should be installed on the street prior to the crossing.
   ix. Adequate sight distance should be maintained for all users.
   x. Advanced yield bars and advanced yield signs may be added for increased visibility.
   xi. Rumble bars may be added on the approach for increased notification for motorists.
   xii. Where sufficient right-of-way exists, the crossing may be offset to break up the crossing into two phases and encourage trail users to look for on-coming traffic. The offset should guide trail users in the refuge space to a crosswalk to the right. Crosswalks to the right orient trail users toward oncoming vehicular traffic for safety.



Uncontrolled Crossing of Two-Lane Road

Crossing at Nearby Intersection

d. This type of crossing should be used where trail crossings are within approximately 300 feet of an intersection.
    i. The unpaved trail segments should merge onto the paved trail at least 50 feet before the crossing.
    ii. Trails should be designed along the side of the street toward the intersection and along the side of the street toward the other trail connection.
    iii. Signage and other measures as appropriate should direct users to use existing crosswalks.
    iv. Crosswalk improvements and other appropriate crossing improvements should be implemented to enhance the crossing for trail users.



Crossing at Nearby Intersection

Overpasses and Underpasses

e. Overpasses eliminate the need to cross streets, and allow trail users to cross freeways, railroads, waterways, and other similar obstacles. Overpasses are high-cost projects and should be located where other options would not make street crossings comfortable for users, and where crossings overs obstacles cannot be achieve with at-grade crossings.
    i. Fencing or other barriers should be used along the edges of the overpasses.
    ii. Lighting may be provided for increased safety.

f. Underpasses eliminate the need to cross streets, and allow trail users to cross freeways, railroads, and other similar obstacles. Underpasses are generally not feasible for crossing waterways.
    i. A minimum vertical clearance of 10 feet should be maintained.
    ii. Retaining walls may be added alongside trail alignments for support and where rights-of-way have constrained widths.
    iii. Lighting should be provided within narrow and long underpasses for increased safety.
    iv. Straight alignments are preferred and sharp curves should be avoided.


Underpass


Overpass

7.6 Bicycle Parking

Bicycle parking is a critical component of the network and facilitates bicycle travel, especially for commuting and utilitarian purposes. The provision of on-street and/or off-street bicycle parking at every destination ensures that bicyclists have a place to safely secure their mode of travel. Elements of proper bicycle parking accommodation are outlined below.

Short-Term Bicycle Parking Guidelines

a. Bicycle racks are intended for short-term bicycle parking both on- and off-street. Bicycle racks should offer adequate support for the bicycles, be easy to lock to, and be spaced to provide sufficient room for bicyclists and their bicycles.
   i. **Inverted-U** bicycle racks and **post and ring** bicycle racks are encouraged because they provide support, are low-maintenance, and are durable. These racks may be provided individually or in series. When placed next to each other, racks should be spaced a minimum of 36 inches apart (48 inches is preferred) so bicycles can be secured and accessed on both sides of the rack.
   ii. Multi-rack bicycle racks may be used for bicycle parking. Acceptable examples of such racks include **secured wheelwell** racks and **modified coathanger** racks.
   iii. **Decorative** and **dual-use** bicycle racks may be used for bicycle parking. Decorative racks, such as bicycle-shaped racks provide visual interest and still meet the requirements of bicycle racks. Dual-use bicycle racks serve as bicycle racks but also serve a second purpose, such as a tree guard bicycle rack.

Inverted-U Bicycle Racks

Secured Wheelwell Bicycle Racks

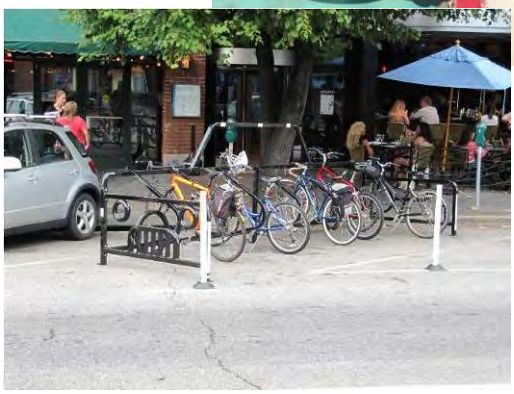
Decorative Bicycle Rack

Post and Ring Bicycle Racks

Modified Coathanger Bicycle Racks

Dual Use Bicycle Racks

b. In-street **bicycle corrals** are created when a local jurisdiction replaces on-street vehicle parking spaces with rows of bicycle racks. Bicycle corrals should be used where bicycle parking is in high demand and are encouraged where there is insufficient room on sidewalks for additional bicycle parking or in areas where bicycle parking should be emphasized. Bicycle corrals typically accommodate 8 bicycles within a standard parallel parking space for a vehicle. Bicycle racks within bicycle corrals should be spaced at a minimum of 36 inches on center. The parking areas may be demarcated by striping or with vertical elements such as bollards, curbs, landscaping, or other similar elements. Typically, bicycle corrals are used in business districts (such as downtowns) and on streets with slower vehicular speeds and on-street vehicular parking.



Bicycle Corrals

c. On- and off-street **bicycle shelters** including **bicycle oases** are encouraged where sufficient room exists on sidewalks and in high traffic areas such as transit centers, parks, and employment and shopping centers. Bicycle shelters should provide 8 feet of vertical clearance, 2 feet of horizontal clearance from curbs, and should be at least 9 feet in depth. Bicycle shelters should not be located within 15 feet of intersections to maintain sight distances for motorists.

d. Special event bicycle parking is encouraged for all major events. Event parking may be provided in the form of **valet** or **attended self-park** bicycle parking. Valet parking is preferred for the added security it provides; however, attended self-park parking is an acceptable alternative.

Special Event Bicycle Parking

Long-Term Bicycle Parking Guidelines

e. Long-term parking should be provided for those needing all-day or overnight storage, or enhanced safety.

i. **Bicycle lockers** offer good long-term storage and are encouraged at transit stations, employment or shopping centers, and other locations that might support longer-term bicycle parking. Bicycle lockers should be approximately 6 feet in length, 2 feet in width, and 4 feet in height. Bicycle lockers should consider the needs of folding and recumbent bicycles. Bicycle lockers may include perforated metal screens for visibility and may be stacked to double capacity with the same footprint. Bicycle lockers should have informational signage, placards, or stickers identifying the procedure for how to use a locker, contact information to obtain a locker, cost (if any) for locker use, terms of use, and emergency contact information.

Bicycle Lockers

ii. **Attended** bicycle parking may be provided in high traffic locations such as transit centers and employment and shopping centers. These facilities (or some variation thereof) may be provided in in apartments and condominium developments. These facilities typically provide bicycle parking in the form of two-tier/double decker or hanging bicycle racks which are often spaced 16 inches apart to maximize capacity. Two-tier/double decker racks allow bicycles to be loaded on the top or bottom with a lever that swings to the ground to allow for top rack loading. Access to parking areas is generally managed by an attendant and/or electronic coding, card, or key fob system. In addition to secured bicycle parking, attended bicycle parking facilities may also include services such as rentals, service and repairs, sales of accessories, showers and restrooms/changing rooms. These facilities are usually membership-based with day-use and monthly/yearly members.

Attended Bicycle Parking

iii. **Automated** bicycle parking may be provided in high traffic locations such as transit centers and employment and shopping centers. Automated bicycle parking facilities save space and do not require an attendant on-site. These facilities are usually membership-based with day-use and monthly/yearly members.

Automated Bicycle Parking

General Bicycle Parking Guidelines

f. Bicycle parking should be located close to (preferably within 50 feet of) the front door of buildings or major points of entry to provide for the convenience, visibility, and safety of bicyclists. The City should consider the "wheels to heels" transition as a bicyclist becomes a pedestrian when entering a building or other destination. Bicycle parking should be in locations that facilitate this process and discourage sidewalk riding.

g. Bicycle racks and lockers should be bolted tightly to the ground in a manner that prevents tampering.

h. Materials selected should be durable, tamper-resistant, low-maintenance, and aesthetically appropriate for their location.

i. Lighting should be provided in and around parking areas to enhance security. On-street bicycle parking is typically served by street lights and lighting on adjacent buildings.

j. Bicycle parking should be clearly identified as such with signage, such as the MUTCD D4-3 bicycle parking sign or similar signage.

k. Informational and/or directional signage is encouraged to provide bicyclists relevant information, such as nearby destinations, directions to/from parking areas, and terms of use.

l. Bicycle parking should be provided in highly visible areas to provide additional security.

m. The City should explore opportunities to establish a citywide bike sharing program. Bike sharing is a system similar to car sharing, where users pay for use of bicycles between stations or for a designated amount of time. Stations are located throughout the city, especially near major destinations such as transit centers, parks trailheads, and shopping and employment centers.

n. The City should establish bicycle parking standards for new development and encourage additional bicycle parking in existing development, especially in high traffic areas. The ABPB *Bicycle Parking Guidelines* includes suggested bicycle parking requirements.

Bicycle Parking Signs

Bike Sharing

7.7 Existing Signage

Bicycle, pedestrian and equestrian-related signage is typically provided along roadways and trails to serve three basic purposes: to regulate usage, to direct users along or to pre-established routes ("way-finding signage"), and to warn users of unexpected conditions.

Existing signage in Perris is sporadic. On-street signage is located along the only some of the existing Class II bike lanes. There are also signs indicating horse crossings adjacent to the Aqueduct/Avalon Greenway. Currently, there is limited or nominal pedestrian, equestrian or bicycle-related way-finding signage within Perris.

Existing horse crossing signage

7.8 On-Street Signage and Markings

Bikeway signage should conform to the signage standards identified in the current adopted editions of the California Manual on Uniform Traffic Control Devices (CA MUTCD). These documents give specific information on the type and location of signage for the primary bikeway system. In addition to standard bikeway signage, a coordinated system of wayfinding and informational signage should be provided throughout Perris to increase visibility of the bikeway system and provide information to cyclists.

On-street signage and markings are intended to alert and guide motorists as well as cyclists. Signs and markings guide behavior and expectations when cyclists, pedestrians and motorists interact. Table 7-1 describes the recommended on-street signage related to bikeways. The City should refer to the current adopted editions of the CA MUTCD for specific information.

Table 7-1: Recommended On-Street Signage

Signage	Location	Color	CA MUTCD Designation	MUTCD Designation
Bicycle Crossing	For motorists at a bikeway crossing	B on Y	N/A	W11-15 with W11-15P (optional)
Bike Lane	At the far side of significant arterial intersections	B on W	R81	R3-17

Table 7-1: Recommended On-Street Signage				
Signage	**Location**	**Color**	**CA MUTCD Designation**	**MUTCD Designation**
STOP Ahead	Where a STOP sign is obscured	B,R on Y	W3-1	W3-1
Signal Ahead	Where signal is obscured	B,R,G	W3-3	W3-3
Pedestrian Crossing	Where a pedestrian walkway crosses a bikeway	B on Y	W11-2	W11-2
Directional Signs	At intersections where access to major destinations is available	W on G	G7 G8	D1-1b, D1-2b, D1-3b, D1-1c, D1-2c, D1-3c
Right Lane Must Turn Right; Begin Right Turn Here, Yield to Bikes	Where a bike lane ends before an intersection	B on W	N/A R4-4	R3-7 R4-4
Share the Road	Where there is need to warn motorists to watch for bicyclists along the highway	B on Y	W16-1 with W11-1	W16-1P with W11-1
Bicycles May Use Full Lane	Where travel lanes are too narrow for bicyclists and motorists to travel safely side by side within the same lane	B on W	R4-11	R4-11
Notes: B=Black, G=Green, R= Red, W=White, Y=Yellow				

7.9 Wayfinding and Informational Signage

Wayfinding helps cyclists and pedestrians orient and navigate. A consistent, logical and comprehensive wayfinding system encourages use of the bikeway and trail system by making the users feel comfortable and safe. Wayfinding guides users to and along the best routes to a desired destination or in a particular direction. A coordinated wayfinding system includes a number of elements including bikeway and trail identification signs, destination signs, and

directional signs. The wayfinding system for trails should be given similar attention as is given to roadways and streets throughout the City, with destinations identified, and naming of off-street trails provided for users.

In addition, information kiosks and bikeway/trail system maps can be placed at key locations to provide users with additional information. Wayfinding and informational signage can help increase visibility and community awareness of the bicycle and trail facilities through consistent graphics and placement.

7.9.1 Bikeway and Trail Identification Signage

Identifying bikeways and trails by route number or names, and clearly signing these facilities, provides a convenient way for bicyclists to navigate through the City, analogous to the way in which the numbered highway system guides motorists efficiently through the roadway network. Identifying the major bikeway and trails with names has the potential to increase the comfort of bicyclists and improve their experience of the overall bikeway network. Regional bikeways and trails, such as the proposed trail along the Perris Valley Channel, would be logical candidates for inclusion in a route-based wayfinding system. The CA MUTCD provides guidance on standard numbered bikeway signs. For bikeways on local streets and off-street facilities, cities may choose to "brand" their bikeway and trail system by using customized signs that reflect the local setting.

Numbered Bikeway Sign (CA MUTCD)

7.9.2 Destination and Directional Signage

Destination and directional signage as part of a wayfinding system guides bicyclists to key destinations such as parks, schools, the Civic Center, and transit stations. Signs should be typically placed at decision points along routes within the City's bicycle network, which may include the intersection of two or more bikeways and at key locations leading to and along bikeways.

It is important to provide information to cyclists where bike routes turn, or where bikeways intersect. This can be done with both signs and pavement markings. These markings allow the cyclist to understand how the route continues, especially if it is one that may be less direct.

Tourist-oriented wayfinding for pedestrians and cyclists can

be provided in areas like Downtown Perris with historic information or even pavement markings. Signage, markings and maps orient visitors to key destinations work together to encourage use.

7.9.3 Informational Kiosks

Informational kiosks with maps of existing bikeways and key destinations, safety information, and other announcements for bikeway and trail users should be placed at key locations where cyclists gather or start their rides. Exhibit 7-1 shows recommended locations for informational kiosks in Perris, including City Hall, the Perris Station Transit Center, the future South Perris Metrolink Station, and the future park/trailhead adjacent to the Perris Valley Channel between Morgan Street and Rider Street. Kiosks can also be placed at neighborhood and commercial centers.

Example of Trail Maps and Informational Displays

Informational Kiosk Locations

Exhibit 7-1

Perris Trail Master Plan

0 0.5 1 Miles

Source: City of Perris

12/20/12 JN10-108148 Bikeways_Segents.mxd DJ

Legend

- Bikeways
- Mid County Parkway City Preferred Alignment
- Kiosk
- Train Station
- Civic
- Existing Park
- Future Park
- Existing School
- Future School

Van Buren Blvd
Harley Knox Blvd
Emma Ln
Krameria St
Edwin Rd
Nandina Ave
Globe St
Moreno Beach Dr
Upper Lake Shore Dr
Lake Perris
Bernasconi Rd
Nance St
Markham St
Perry St
Ramona Expy
Dawes St
Morgan St
Rider St
Walnut Ave
Placentia Ave
Orange Ave
Arnold Ave
Emerett Ln
Lemon Ave
Citrus Ave
Sunset Rd
Nuevo Rd
Metz Rd
Dale St
1St St
4Th St
7th St
11th St
Ellis Ave
Malbert Rd
Alpine Dr
Mapes Rd
Watson Rd
Ethanac Rd
Goldenrod Ave
Mclaughlin Rd
Nova Ln
Sundance Ln
Sotelo Rd
Chambers Ave
Baroni Rd
Vista Rd
Santa Rosa Ave
Rouse Rd
Mazie Ave
Mountain Ave
Louise St
Fisher St
Deprad St
Lopez Rd
Hayes St
San Jacinto Ave
Callaway Rd
Eugene St
Mcpherson Rd
Margarth St
Scenic Crest Dr
Church St
Old Elsinore Rd
Cajalco Expy
Clark St
Carroll St
Day St
Johns St
Old Rd
Forrest Rd
Marshall St
Theda St
Jarvis St
Robert St
Lukens Ln
Cox Rd
Keystone Dr
El Freso Rd
Marie St
Phillips St
Patterson Ave
Nevada Ave
Webster Ave
Indian Ave
N Perris Blvd
Johnson Ave
Evans Rd
Lake Perris Dr
Redlands Ave
Wilson Ave
Barrett Ave
Harvill Ave
Nevada Rd
Navajo Rd
A St
B St
C St
D St
G St
River Rd
Teak St
Perris Blvd
Murrieta Rd
Wheat St
Byers Rd
Goetz Rd
Green Valley Pkwy
San Jacinto River
Hull St
Evans Rd
Barnett Rd
Trumble Rd
Sun City Blvd
Pebble Beach Dr
Bradley Rd
Dunlap Dr
Street "B"
Street "A"
San Jacinto Ave
Foothill Ave
Chase Ave
Pico Ave
Porter St
Menifee Rd
Mckinley Rd
Sherman Rd
Antelope Rd
San Jacinto Rd
Monroe Ave
Harrison Ave
Russell Rd
Dawson Rd
Town Cnte Loop Rd
Case Rd
Private Dr
Bonnie Dr
Las Flores Dr
Ski Land Lake
May Ranch Rd
Avalon Pkwy
Bradley Rd
El Nido Ave
City-Preferred Mid-County Parkway Alignment
Ellis Ave
Mapes Rd
Ethanac Rd
Menifee Rd
Lake Perris
Ski Land Lake
San Jacinto River
215
74

Back of figure 7-1

7.9.4 Wayfinding Signage Concepts

The following wayfinding concepts have been prepared for the City of Perris. The concepts provided below are illustrative to provide ideas for a consistent program of signs for use on trails within the City. A single concept should be chosen for consistency in signage throughout the City. The concepts should be customized for use as part of a comprehensive signage program. A citywide system may not be required immediately, and can likely be deferred until connections and destinations are linked through multiple trails. In the meantime, standard bike trail signs consistent with the CA MUTCD would be adequate for direction and wayfinding. A comprehensive system would include route naming/numbering, mileage tracking, distance to key destinations/places,

Minimum sign dimensions: 12" x 18" along shared use path and 18" x 24" along roadway

Examples of potential wayfinding signage concepts

7.10 Additional Design Guidelines

a. Road diets are encouraged to transition streets with four lanes (two lanes of travel in each direction) to two lanes with a center two-way-left-turn lane and bicycle lanes. The City should determine appropriate locations for road diets and conduct the appropriate outreach and notification for any suggested road diets.

b. Where there is not sufficient room to install bike lanes, the street should be re-striped to add as much room to the curb lane as feasible. This will allow cyclists to more comfortably share the road with cars. This is not a designated bikeway, but rather a street enhancement that will benefit cyclists. However, if sharrow stencils are provided and proper signage installed, this would be considered a Class III bike route.

Road Diet Before (Top) and After (Bottom)

c. Drainage grates provided should be designed to increase bicycle safety and prevent bicycle wheels from falling into the slots of the grate. Existing grates that are not bicycle-safe should be replaced with ones that are, or should be welded with thin metal straps across the grate perpendicular to the direction of travel. Such grates should be checked periodically to ensure that the straps remain in place. Grates with bars perpendicular to the roadway should not be placed at curb cuts, because wheelchairs could get caught in the slot.

d. Loop detectors at signalized intersections should be designed to detect when a bicycle rides or stops over them. Loop detectors at the signalized intersections of minor arterial or collector streets should have priority when retrofitting existing detectors where the minor approaches do not call a green phase during every signal cycle. In the long run, all signalized intersections should provide loops or other detection device to detect cyclists to provide for enhanced seamless travel. The State of California passed a new law that became effective in 2009 requiring local jurisdictions to add bicycle-sensitive loop detectors to all new signals and those that are replaced. The general specifications are that a detection area of 6 foot by 6 foot be created behind the limit line, and that bicyclists be given enough time to travel through the intersection with the clearance time calculated using a speed of 14.7 feet per second plus 6 seconds for start-up. Painting the loop detectors and adding a bicycle stencil can help to notify cyclists as to where they need to be to trip the detectors.

Loop Detector

e. Bike signals may be installed to direct bicycle traffic. These signals may be used at trail crossings or at signalized intersections.

Bike Signal

Guidelines for New Development

New development presents significant opportunities to incorporate walkability, bikeways and trails into new communities. Challenges abound trying to retrofit existing streets that have poor network connectivity, or trying to add bike paths and trails without through rights-of-way. New development can be built with walkways, bikeways and trails as part of the circulation system and community form.

f. New development is encouraged to follow smart growth principles and provide opportunities for people to travel on bicycle, on foot, or on trails. Mixing land uses brings origins and destinations closer to one another so people can travel between them by non-motorized means. Compact land use that builds up more than out does the same. Comprehensive land use planning integrates parks and greenways so that bikeways and trails can be built in.

g. Bikeable and walkable neighborhoods need both the streets that lend themselves, and street networks that lend to cycling and walking. Bicyclists and pedestrians fare best in neighborhoods with well-connected streets that have small blocks. Such street networks bring many origins and destinations within walking and bicycling distance. They also spread traffic among more streets so that fewer wide, high-speed streets that discourage bicycling and walking are needed. Many destinations can be accessed along quiet, direct streets. The graphics below contrast these two neighborhood types.

    i. Streets should consist of interconnected grid patterns.

    ii. Where cul-de-sacs are provided, they should be designed with pedestrian and bicycle connectivity between cul-de-sacs and to a trail network. The ends of the culs-de-sacs should be connected to the bike paths and trails that run in between, which can actually give bicyclists and trail users an advantage over motorists for short trips.

    iii. Blocks should be short, preferably around 200 feet. Short blocks allow for more route options that keep a greater number of destinations closer than long blocks. Blocks longer than 400 feet discourage walking and should be avoided.

    iv. In the City's core, the streets should be designed for travel at or below 25 miles per hour. Streets within this area should not be designed for travel at over 35 miles per hour.

    v. Freeway on- and off-ramps should be designed as close to 90 degrees with the cross street as possible.

    vi. The number of lanes and lane widths should be kept to the minimum necessary.

h. The best way to integrate trails into new neighborhoods is to integrate them into the street network. The trail rights-of-way should receive the same treatment as other streets with appropriate street crossings. Every section of street blocks should have one of its streets in the north-south and one in the east-west direction designed as a bikeway and trail. The ideal cross-section would include a paved path with a parallel earthen trail. The ideal crossing of two-lane streets would be an appropriately sized roundabout, which would allow users to yield and continue without stopping. Crossings of multi-lane streets should include the suitable treatments with crossing islands, flashing LED beacons, zebra-stripe crosswalks and/or signals where warranted.

Paved Trail Adjacent to Sidewalk and Unpaved Path

Paved and Parallel Unpaved Trails Incorporated into Neighborhood Design

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CHAPTER EIGHT. PROPOSED IMPROVEMENTS

Proposed improvements to the bikeways and trails network include recommendations for improvements to the existing off-street and on-street bikeways and trails, as well as recommendations for additional facilities, amenities, and crossings. Proposed improvements are consistent with the needs and concerns identified by the public through the community outreach program; refer to Chapter 4 (Community Involvement).

8.1 Methodology and Key Considerations

Recommendations for new or improved bikeways and trails included in this Trail Master Plan were developed based on key considerations identified through the community outreach program and City staff input on issues and opportunities. The recommended improvements, when implemented, will provide for a robust bikeway and trail network throughout Perris to meet a variety of user needs. Key considerations in identifying the proposed improvements include:

- Increasing linkages between key generators (primarily residential neighborhoods) and destinations including existing and planned parks, schools, community facilities and transit centers.
- Developing connections to large retail centers and Downtown Perris.
- Providing for recreational amenities such as walking paths in residential areas.
- Promoting regional connectivity through bikeways along major corridors such as Perris Boulevard and the Perris Valley Storm Channel.
- Providing facilities separate from the roadway whenever feasible.
- Provide Class II bike lanes when separation from the roadway is not feasible.
- Provide Class III bike routes where roadway width does not accommodate dedicated bike lanes, but continuity of the route is desired. Additionally, consider providing Class III bike routes where the land use context does not support dedicated bike lanes such as on streets with residential properties fronting the roadway.

8.2 Proposed Bikeway and Trail Improvements

The City of Perris, through this Trail Master Plan, aims to develop a network of bikeways and trails that enables cyclists and pedestrians to travel throughout Perris either on a designated bikeway or trail. The proposed bikeway type or trail reflects what is possible and appropriate for each street or corridor. Class I bike paths are planned where an exclusive right-of-way exists of reasonable length, with few interruptions, and where crossings of streets and barriers can be made safely and with reasonable cost. Class II bike lanes are planned on streets where sufficient width exists to stripe them. Class III bike routes are recommended on streets where insufficient width exists for bike lanes, but are needed to complete the bikeway network. Off-street

multipurpose paths or trails are proposed where it is anticipated that multiple users-pedestrians, cyclists and equestrians would be traveling. Walking paths are proposed where informal walking occurs today, but the continuity of the path is limited, or where the length of the path is short.

Tables 8-1 through 8-2 show the proposed bikeway and trail improvements in this plan. They consist of the basic bikeway types: Class I (bike paths), Class II (bike lanes) and Class III (bike routes). The proposed bikeways improvements are shown on Exhibit 8-1: Proposed Bikeways and Trail Improvements.

The improvements listed in the tables and shown on Exhibit 8-1 reflect the bikeway that would be accommodated in the final buildout conditions of the circulation system. Some roadways in the City have not been constructed or paved or are currently narrower than the final condition anticipated within the City's Circulation Element or approved Specific Plans. When the ultimate bikeway may not accommodated under current conditions (for example, a roadway is currently narrower than what is anticipated at final buildout), interim improvements can be made to accommodate bicycles. In general, if the recommended improvement is a Class II bike lane, but current roadway width cannot accommodate a bike lane, a Class III bike route may be provided on an interim basis until the necessary roadway width is available. If a roadway recommended to include Class II bike lanes is not yet constructed or paved, then a Class I bike path may be constructed as an interim improvement until the roadway is constructed.

Enhanced bikeways should be provided whenever possible to further provide comfortable facilities for cyclists. Class III bike routes can utilize Sharrows or Type B Sharrows where appropriate (narrow roadways where sharing bike and motorist space is difficult, refer to definitions and California Manual on Uniform Traffic Control Devices). Class II bike lanes should be buffered from parking and/or vehicular traffic through striping whenever roadway width allows. Class II bike lanes should also be wider than the minimum standards when roadway width allows, and use of buffers considered when roadway widths allow.

Table 8-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)

ID #	Street/Area	From	To	Recommended Improvements
A1	Harley Knox Blvd. Flood Control Channel & West Side of Perris Valley Channel	Webster St.	Ramona Expy.	Add Class I bike path adjacent to the flood control channel Will require further study to determine facilities at roadway crossings
A2	Harley Knox Blvd. alignment	Perris Valley Channel	Lake Perris Dr.	Add Class I bike path

Table 8-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
A3	Ramona Expy. (south side of street)	Perris Valley Channel	Existing bike path starting at Avalon Pkwy.	Add Class I bike path
A4	Morgan St. alignment	Redlands Ave.	Morgan Park	Add Class I bike path Connect to Perris Valley Channel bike path
A5	MWD Greenway	I-215 Frontage Rd.	Perris Blvd.	Add greenway with unpaved (DG) walking path/multipurpose trail
A6	MWD Greenway	Perris Blvd.	Bradley Rd.	Add greenway with unpaved (DG) walking path/multipurpose trail
A7	Placentia Ave. Bridge	Harvill Ave.	I-215 Frontage Rd.	Add Class I bike path crossing I-215
A8	Sparrow Way (south side of street)	Perris Valley Channel	Barn Owl Dr.	Add Class I bike path
A9	Walnut St. (south side of street)	Old Evans Rd.	Sierra Vista Elementary School	Add Class I bike path
A10	Lakeside Middle School western perimeter	Rider St.	Walnut St.	Add Class I bike path Will require further study to develop a well-designed crossing of Walnut St. to Sierra Vista Elementary School
A11	Woodhaven Park	Citrus Ave.	flood control channel between Citrus Ave. and Nuevo Rd. (north of Turquoise Dr.)	Add Class I bike path through Woodhaven Park to connect to flood channel path Add bridge crossing to Ruby Dr.

Table 8-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
A12	Flood control channel near Perris Valley Community Hospital	Medical Center Dr.	Redlands Ave.	Add walking path adjacent to flood control channel
A13	Redlands Ave. (east side of street)	Waller Way	Flood channel north of Turquoise Dr.	Add Class I bike path to east side of street, adjacent to flood control channel
A14	Turquoise Dr./Nuevo Rd. flood control channel	Perris Blvd.	Dunlap Dr.	Add Class I bike path adjacent to flood control channel
A15	Metz Rd. flood control channel	Perris Blvd.	Ruby Dr.	Add Class I bike path adjacent to flood control channel
A16	Metz Rd. flood control channel	Ruby Dr.	Murrieta Rd.	Add walking path adjacent to flood control channel
A17	Metz Rd. flood control channel	Murrieta Rd.	Perris Valley Channel	Add Class I bike path adjacent to flood control channel
A18	Ruby Dr. alignment	Mildred St.	Metz Rd. flood control channel	Add Class I bike path
A19	Perris Valley Channel	North City limits	Ramona Expressway	Add Class I bike path on west side of Channel. Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A20	Perris Valley Channel/San Jacinto River	Ramona Expy.	Rider Street	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail

Table 8-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
				adjacent to bike path where feasible
A21	Perris Valley Channel	Rider Street	Placentia Avenue	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A22	Perris Valley Channel	Placentia Avenue	Orange Avenue	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A23	Perris Valley Channel	Orange Avenue	Nuevo Road	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A24	Perris Valley Channel	Nuevo Road	Evans Road	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A25	Perris Valley Channel	Evans Road	San Jacinto Avenue	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A26	Perris Valley	San Jacinto	Ellis Avenue	Add Class I bike path on

Table 8-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
	Channel	Avenue		east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A27	San Jacinto River	Ellis Avenue	I-215	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A28	San Jacinto River	I-215	Case Road	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A29	San Jacinto River	Case Road	Goetz Road	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A30	San Jacinto River	Goetz Road	Ethanac Road	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A31	San Jacinto River	Ethanac Road	Southwest City limits	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail

Table 8-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
				adjacent to bike path where feasible
A32	San Jacinto River	Perris Valley Channel	Dunlap Drive	Add Class I bike path on south side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A33	Morgan Park to Rider St.	Morgan St.	Rider St.	Add Class I bike path
A34	Lake Perris Dr. (west side)	North city limits	Ramona Expy.	Add Class I bike path adjacent to west side of street
A35	Adjacent to Railroad	Nuevo Rd.	Southerly border of Metz Park	Add Class I bike path
A36	Mountain Ave. Wash	West City limits	San Jacinto River	Add Class I bike path
A37	A St. Alignment	Watson Rd.	Ethanac Rd.	Add Class I bike path
A38	Monument Ranch Greenway	San Jacinto River	Goetz Rd.	Add Class I bike path Need to coordinate with utility company Develop connections to Kabian Park
A39	Perris South Metrolink Station	San Jacinto River	Private Dr. at Metrolink Station	Add Class I bike path to connect station to River bike path
A40	Kabian Park			Add multipurpose trails; refer to County of Riverside plans for park

Table 8-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
East-West Streets				
B1	Harvey Knox Blvd.	I-215	Redlands.	Add Class II bike lanes
B2	Markham St.	Patterson Ave.	Redlands Ave.	Add Class II bike lanes
B3	Ramona Expy.	I-215	East City limits	Add Class II bike lanes Add Class II bike lanes crossing I-215
B4	Morgan St.	Nevada Rd.	Redlands Ave.	Add Class II bike lanes Reduce to one vehicular travel lane in each direction from Perris Blvd. to Redlands Ave.
B5	Morgan St.	Morgan Park	May Ranch Elementary School	Add Class II bike lanes
B6	May Ranch Pkwy.	May Ranch Elementary School	Evans Rd.	Add Class III bike route in front of school
B7	May Ranch Pkwy./Morgan St.	Evans Rd.	Bradley Rd.	Add Class II bike lanes Reduce to one vehicular travel lane in each direction
B8	Rider St.	I-215 Frontage Rd.	Ramona Expy.	Add Class II bike lanes
B9	Sparrow Way	Clapper St.	Evans Rd.	Add Class II bike lanes
B10	Old Evans Rd.	Evans Rd.	Walnut Ave.	Add Class III bike route
B11	Placentia Ave.	I-215	Perris Valley Channel	Add Class II bike lanes crossing I-215 Add Class II bike lanes
B12	Orange Ave.	I-215	Dunlap Dr.	Add Class II bike lanes

Table 8-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
B13	Citrus Ave.	Indian Ave.	Perris Valley Channel	Add Class II bike lanes
B14	Citrus Ave.	Perris Valley Channel	Dunlap Dr.	Add Class II bike lanes
B15	Nuevo Rd.	Rimrock Dr.	A St.	Add Class II bike lanes
B16	Nuevo Rd.	A St.	Dunlap Dr.	Add Class II bike lanes
B17	Metz Rd.	Webster Ave.	A St.	Add Class III bike route
B18	San Jacinto Ave.	West City limits	Dunlap Dr./ East City limits	Add Class II bike lanes
B19	Park West Specific Plan - Street B	Evans Rd.	Street A	Add Class II bike lanes
B20	Park West Specific Plan - Street A	Street B	Evans Rd.	Add Class II bike lanes
B21	Park West Specific Plan - Street C	Street A	Dunlap Dr.	Add Class II bike lanes
B22	Navajo Rd.	San Jacinto Ave.	4th St.	Add Class III bike route
B23	1st St.	A St.	Perris Blvd.	Add Class III bike route
B24	4th St.	West city limits	Redlands Ave.	Add Class II bike lanes
B25	7th St.	Park Ave.	Redlands Ave.	Add Class III bike route
B26	11th St.	A St.	Perris Blvd.	Add Class III bike route
B27	Ellis Ave.	West City limits	Evans Rd.	Add Class II bike lanes
B28	New Perris Specific Plan – 11th St.	Redlands Ave.	Town Center Loop Rd.	Add Class II bike lanes
B29	New Perris Specific Plan –	Murrieta Rd.	Murrieta Rd.	Add Class II bike lanes

Table 8-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
	Town Center Loop Rd.			
B30	New Perris Specific Plan – Wilson Ave.	Town Center Loop Rd.	Ellis Avenue	Add Class II bike lanes
B31	New Perris Specific Plan – Murrieta Rd.	Town Center Loop Rd.	Ellis Avenue	Add Class II bike lanes
B32	Ellis Ave.	Evans Rd.	East City limits	Add Class II bike lanes
B33	Case Rd.	Perris Blvd.	East City limits	Add Class II bike lanes
B34	Metrolink Station – Private Dr.	San Jacinto River	Private Dr.	Add Class II bike lanes
B35	Mapes Rd./Bonnie Dr.	Case Rd.	I-215	Add Class II bike lanes
B36	Mapes Rd.	Trumble Dr.	Sherman Rd.	Add Class II bike lanes Remove one vehicular travel lane and turn lane
B37	Mountain Ave.	West City limits	A St.	Add Class II bike lanes
B38	Mapes Rd.	West City limits	Goetz Rd.	Add Class II bike lanes
B39	Watson Rd.	McPherson Rd.	A St.	Add Class II bike lanes
B40	Ethanac Rd.	West City limits	East City limits	Add Class II bike lanes
B41	McLaughlin Rd.	Barnett Rd	Trumble Rd.	Add Class II bike lanes
North-South Streets				
C1	Lukens Ln.	North City limits	Lopez Rd.	Add Class II bike lanes
C2	Patterson Ave./ Nevada Rd.	Harvey Knox Blvd.	Morgan St.	Add Class II bike lanes
C3	I-215 Frontage Rd.	Morgan St.	Placentia Ave.	Add Class II bike lanes

Table 8-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
C4	I—215 Frontage Rd.	Orange Ave.	Nuevo Rd.	Add Class II bike lanes
C5	Webster Ave.	Harley Knox Blvd.	Rider St.	Add Class II bike lanes
C6	McPherson	Ellis Ave.	Mountain Ave.	Add Class II bike lanes
C7	McPherson	Mapes Rd.	Ethanac Rd.	Add Class II bike lanes
C8	River Rd.	Mapes Rd.	McPherson Rd.	Add Class II bike lanes
C9	Park Ave.	4th St.	Ellis Ave.	Add Class III bike route
C10	A St.	Nuevo Rd.	San Jacinto Ave.	Add Class II bike lanes
C11	A St.	San Jacinto Ave.	Redding St.	Add Class III bike route
C12	A St.	Redding St.	Watson Rd.	Add Class II bike lanes
C13	D St.	I-215	11th St.	Add Class III bike route
C14	Indian St.	Harley Knox Blvd. flood control channel	Citrus Ave.	Add Class II bike lanes
C15	Perris Blvd.	North city limits	4th St.	Add Class II bike lanes
C16	Perris Blvd.	4th St.	11th St.	Add Class III bike route
C17	Perris Blvd.	11th St.	Ellis Ave.	Add Class II bike lanes
C18	Medical Center Dr.	Orange Ave.	Citrus Ave.	Add Class III bike route
C19	Ruby Dr.	Woodhaven Park	Mildred St.	Add Class III bike route
C20	Ruby Dr.	Flood control channel	Jarvis St.	Add Class III bike route
C21	Goetz Rd.	Case Rd.	South city limits	Add Class II bike lanes
C22	G St.	San Jacinto Ave.	7th St.	Add Class III bike route

Table 8-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
C23	G St.	7th St.	Ellis Ave.	Add Class II bike lanes
C24	Redlands Ave.	Harley Knox Blvd. flood control channel	Turquoise Dr.	Add Class II bike lanes
C25	Redlands Ave.	Turquoise Dr.	Nuevo Rd.	Add Class III bike route
C26	Redlands Ave.	Nuevo Rd.	Ellis Ave.	Add Class II bike lanes Remove right turn lane between 4th Str. And Ellis Ave. (southbound(
C27	Wilson Ave.	Rider St.	Orange Ave.	Add Class III bike route; provide connection to Murrieta Rd.
C28	Wilson Ave.	Orange	San Jacinto Ave.	Add Class III bike route
C29	Murrieta Rd.	Perris Valley Channel	Orange Ave.	Add Class III bike route; provide connection to Wilson Ave.
C30	Murrieta Rd.	Nuevo Rd.	Evans Rd.	Add Class II bike lanes
C31	Murrieta Rd.	Case Rd.	Ethanac Rd.	Add Class II bike lanes
C32	Evans Rd.	North city limits	Sparrow Way	Add Class II bike lanes
C33	Evans Rd.	Sparrow Way	Orange Ave.	Add Class III bike route
C34	Evans Rd.	Orange Ave.	Ellis Ave.	Add Class II bike lanes Remove one northbound lane between Orange Ave. and Citrus Ave.
C35	Lake Perris Dr.	North City limits	Ramona Expy.	Add Class II bike lanes
C36	Avalon Pkwy.	Ramona Expy.	Mt. Verdugo Ln.	Add Class II bike lanes
C37	Avalon Pkwy.	Mt. Verdugo Ln.	Rider St.	Add Class III bike route
C38	Avalon Pkwy.	Rider St.	Walnut Ave.	Add Class II bike lanes

Table 8-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
C39	Dunlap Dr.	Orange Ave.	Ellis Ave.	Add Class II bike lanes
C40	Bradley Rd.	Ramona Expy.	Rider St.	Add Class II bike lanes
C41	Bradley Rd.	Rider St.	Sorrel Ln.	Add Class III bike route Add Class III bike route on Sorrel Ln. and Poppy Ct. to May Ranch Park
C42	Bradley Rd.	Case Rd.	Ethanac Rd.	Add Class II bike lanes
C43	Barnett Rd.	Ethanac Rd.	McLaughlin Rd.	Add Class II bike lanes
C44	Trumble Rd.	Ellis Ave.	Monroe Ave./CA-74	Add Class II bike lanes Remove one lane between Vista Rd. and Mapes Rd.
C45	Trumble Rd.	Watson Rd.	McLaughlin Rd.	Add Class II bike lanes
C46	Sherman Rd.	Ellis Ave.	Mapes Rd.	Add Class II bike lanes
C47	C Street	Southerly border of Metz Park	11th St.	Add Class III bike route

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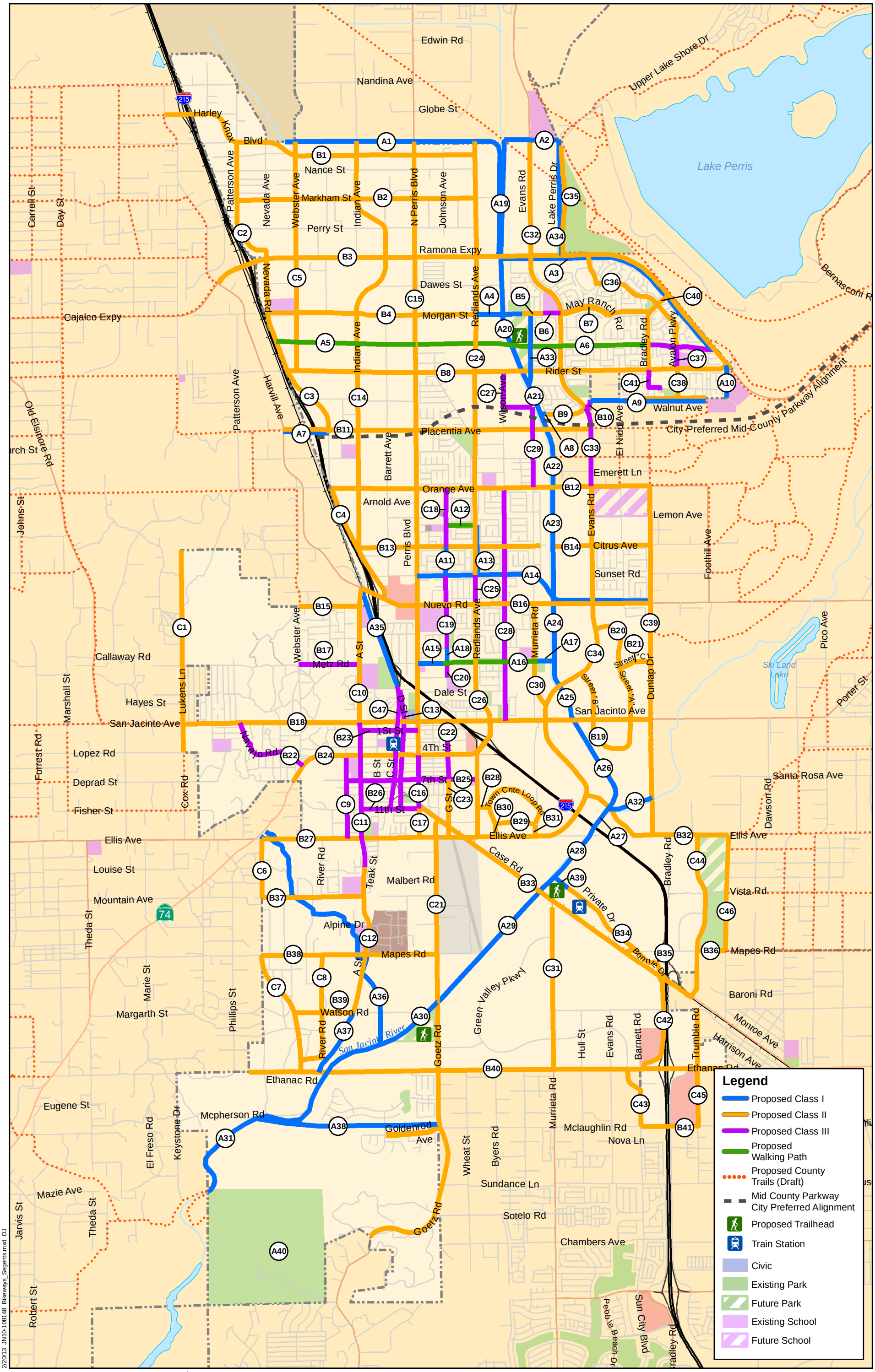

Perris Trail Master Plan

Proposed Bikeways and Trail Improvements

Exhibit 8-1

<insert 8-1>

8.3 Proposed Grade Separated Crossings

Grade separated crossings are desirable where an off-street bike path or multipurpose trail crosses a high speed or high volume roadway. Grade separated crossings may be designed so that the bike path or trail crosses underneath the roadway or over the roadway. Grade separations are recommended along the Perris Valley Storm Channel Greenway since this facility is planned to serve recreational, commuter, and regional travel needs for the community and adjacent areas. Additionally, the Perris Valley Storm Channel Greenway is identified as a backbone facility within the WRCOG Non-Motorized Plan.

Implementation of grade separations is expected to occur over the long-term and should be incorporated into major CIP projects. The continuity provided by grade separations increases the attractiveness of the facility for both cyclists and pedestrian use. Alignment on the Mid-County Parkway is under review, however, the design of the facility should accommodate bicycle and trail facilities where Mid-County Parkway crosses existing or future facilities. A grade separated crossing should occur where Mid-County Parkway crosses the Perris Valley Storm Channel. On-street Class II or III bikeways should be continuous crossing Mid-County Parkway along their associated streets. Exhibit 8-2 shows the recommended locations for grade separated crossings, and Table 8-3 summarizes the recommended grade separated crossings.

Table 8-3: Proposed Grade Separated Crossings

Bike Path/Trail	Roadway
Perris Valley Storm Channel Greenway	Ramona Expressway
Perris Valley Storm Channel Greenway	Rider Street
Perris Valley Storm Channel Greenway	Placentia Avenue
Perris Valley Storm Channel Greenway	Orange Avenue
Perris Valley Storm Channel Greenway	Nuevo Road
Perris Valley Storm Channel Greenway	Evans Road
Perris Valley Storm Channel Greenway	San Jacinto Avenue
Perris Valley Storm Channel Greenway	Ellis Avenue
Perris Valley Storm Channel Greenway	215 Freeway
Perris Valley Storm Channel Greenway	Case Road
Perris Valley Storm Channel Greenway	Goetz Road
Perris Valley Storm Channel Greenway	Ethanac Road

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Mid-County Parkway design to accomodate bicycle and trail facilities where crossings occur.

Mid-County Parkway design to accomodate bicycle and trail facilities where crossings occur.

Perris Station Transit Center

Legend

- Class I Bike Path
- Class II Bike Lanes
- Class III Bike Route
- Multipurpose Trail
- Mid County Parkway City Preferred Alignment
- Grade Separated Crossing
- Train Station
- Civic
- Existing Park
- Future Park
- Existing School
- Future School

2/20/13 JN10-108148 Grade_Separated_Crossings.mxd DJ

Perris Trail Master Plan

0 0.5 1 Miles

Source: City of Perris

Recommended Grade Separated Crossings

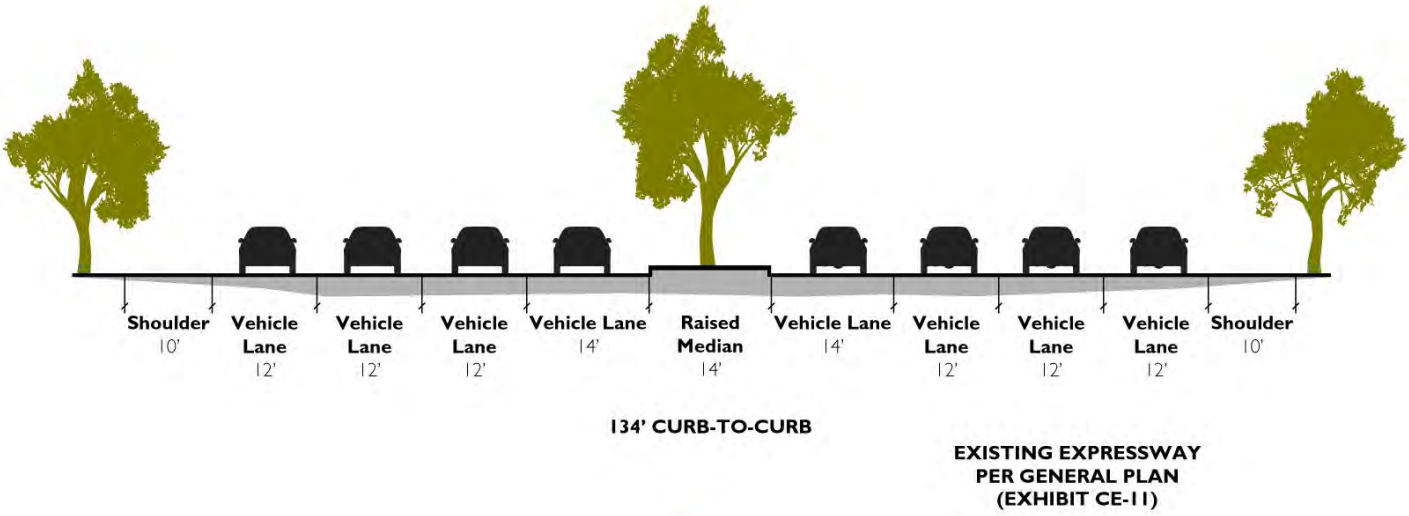
Exhibit 8-2

Back of Exhibit 8-2

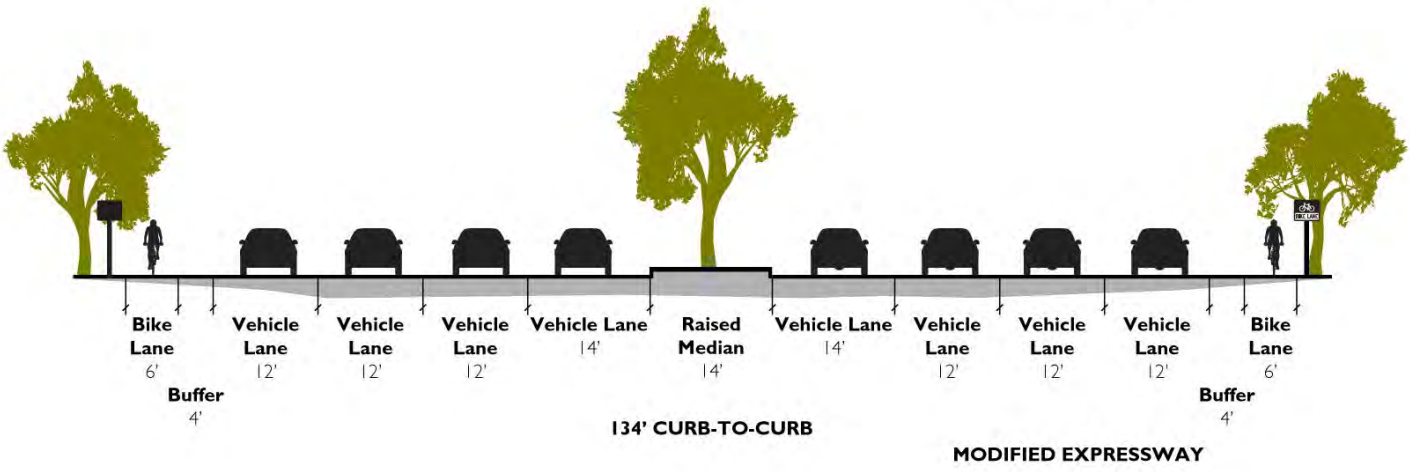
8.4 Modifications to General Plan Circulation Element Cross Sections

This Trail Master Plan recommends modifications to the Perris General Plan Circulation Element Cross Sections to accommodate on-street bike lanes. Each classification is discussed and cross section graphics are provided showing the existing layout per the General Plan, with a modified concept provided below.

- **Expressway Roadway:** Maintain 184-feet wide right-of-way and 134-feet wide curb-to-curb width. However, modify shoulder width to provide a 6-feet wide Class II bike lane with a 4-feet wide buffer between cyclists and the vehicle travel lanes.

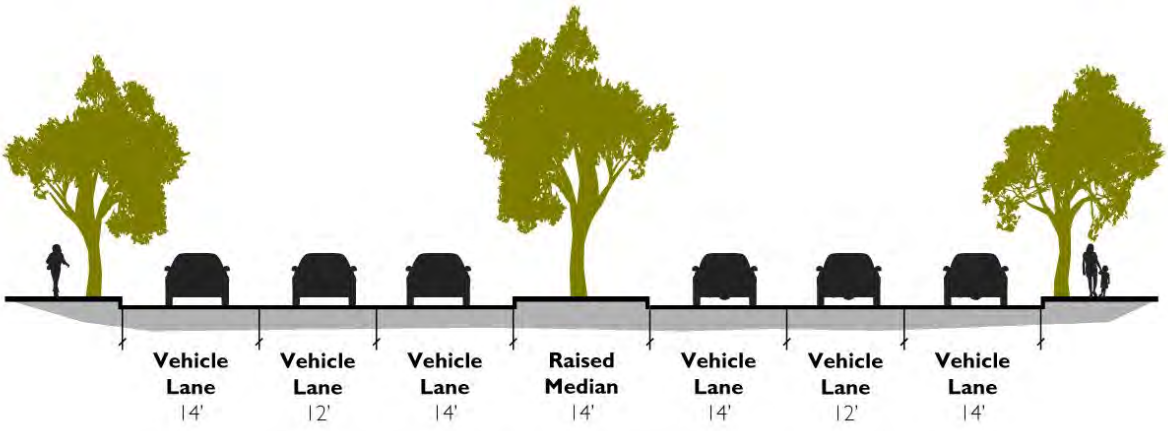


EXISTING EXPRESSWAY PER GENERAL PLAN (EXHIBIT CE-11)



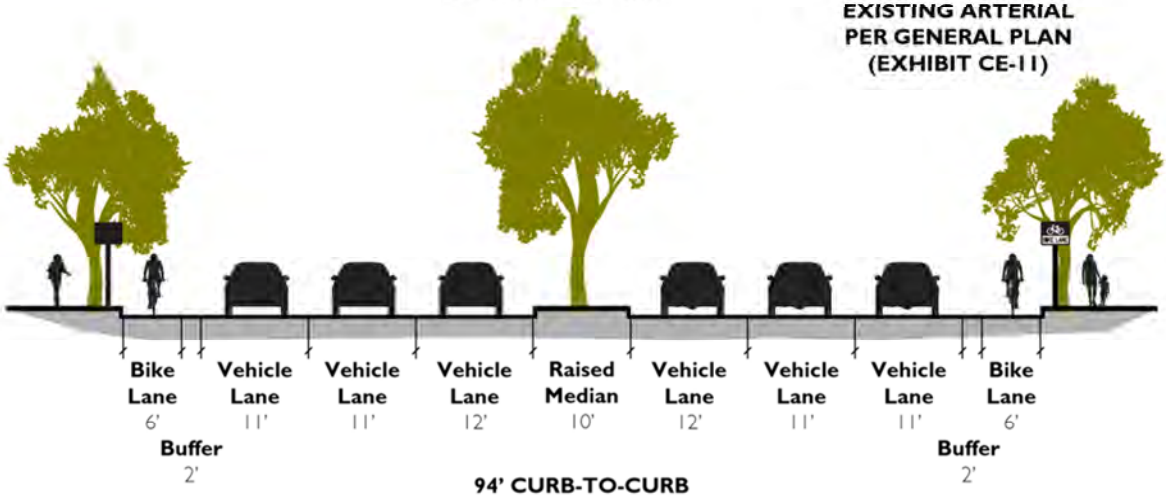
MODIFIED EXPRESSWAY

- **Arterial Roadway:** Maintain 128-feet wide right-of-way and 94-feet wide curb-to-curb width. However, modify median width and lane widths to provide a 6-feet wide Class II bike lane with a 2-feet wide buffer between cyclists and the vehicle travel lanes.



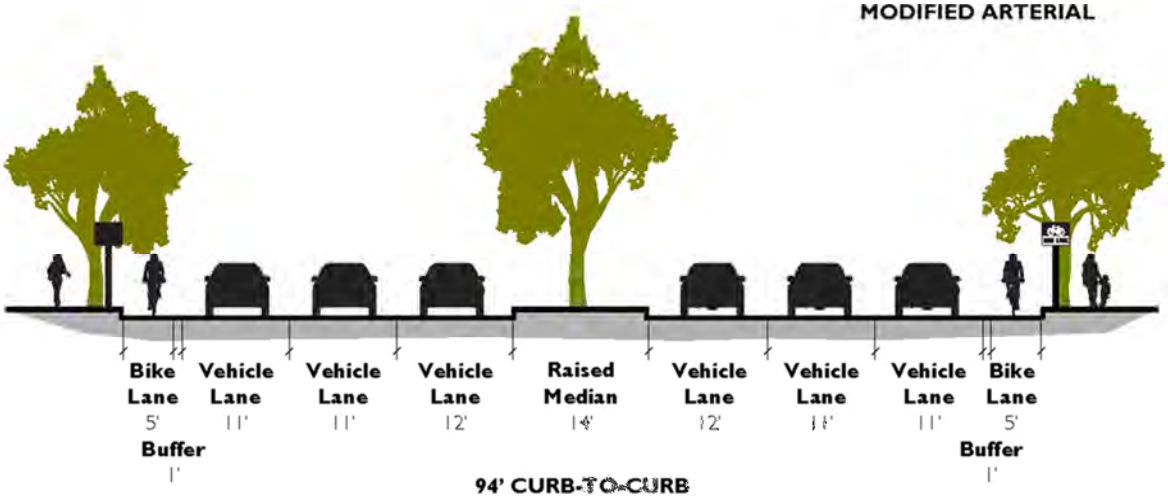
94' CURB-TO-CURB

EXISTING ARTERIAL
PER GENERAL PLAN
(EXHIBIT CE-11)



94' CURB-TO-CURB

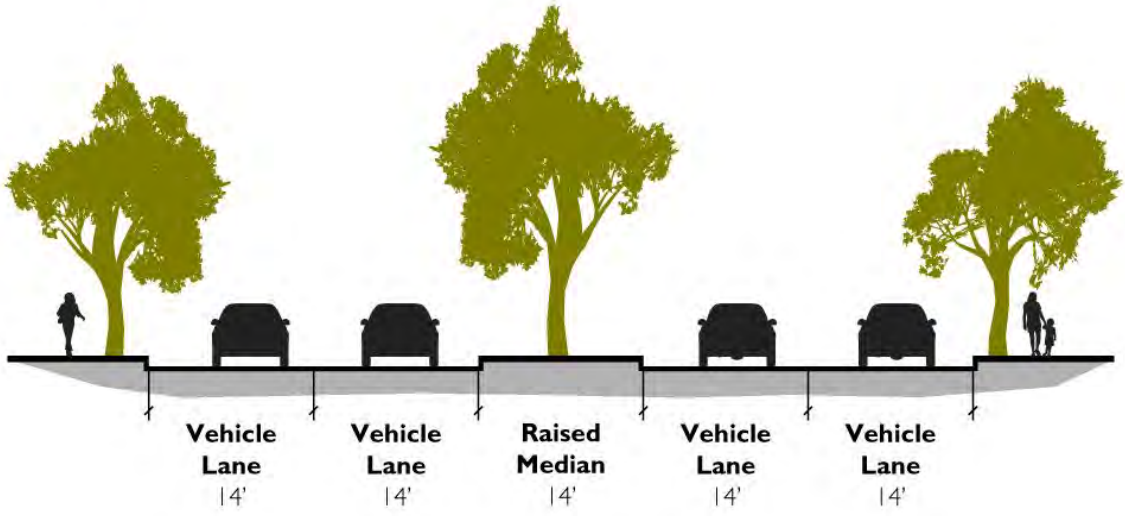
MODIFIED ARTERIAL



94' CURB-TO-CURB

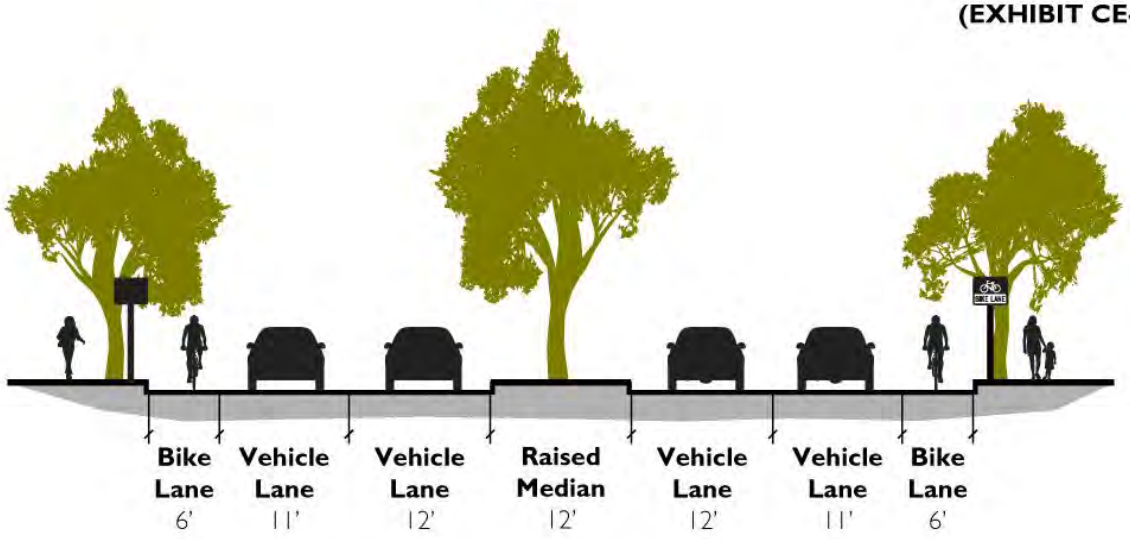
MODIFIED ARTERIAL
(HARLEY KNOX BLVD.)

- **Secondary Arterial (Raised Median) Roadway:** Maintain 94-feet wide right-of-way and 70-feet wide curb-to-curb width. However, modify median width and lane widths to provide a 6-feet wide Class II bike lane.



70' CURB-TO-CURB

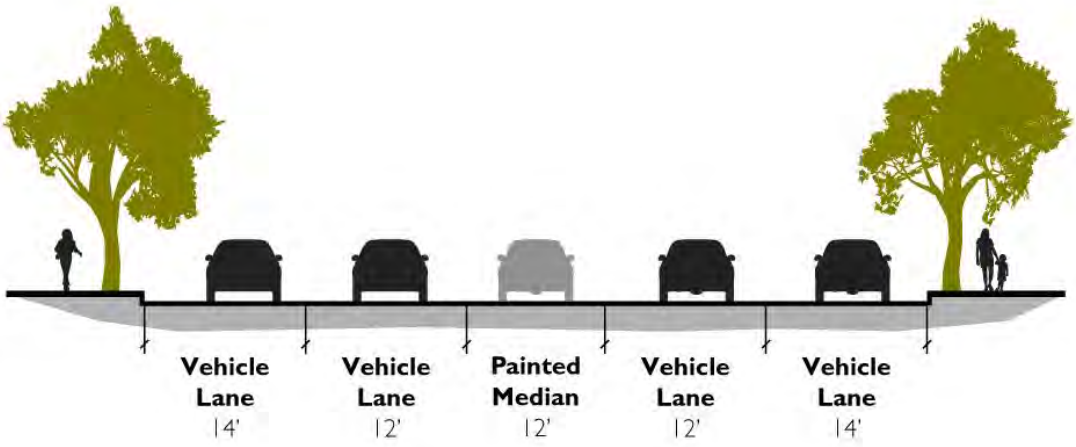
EXISTING SECONDARY ARTERIAL PER GENERAL PLAN (EXHIBIT CE-11)



70' CURB-TO-CURB

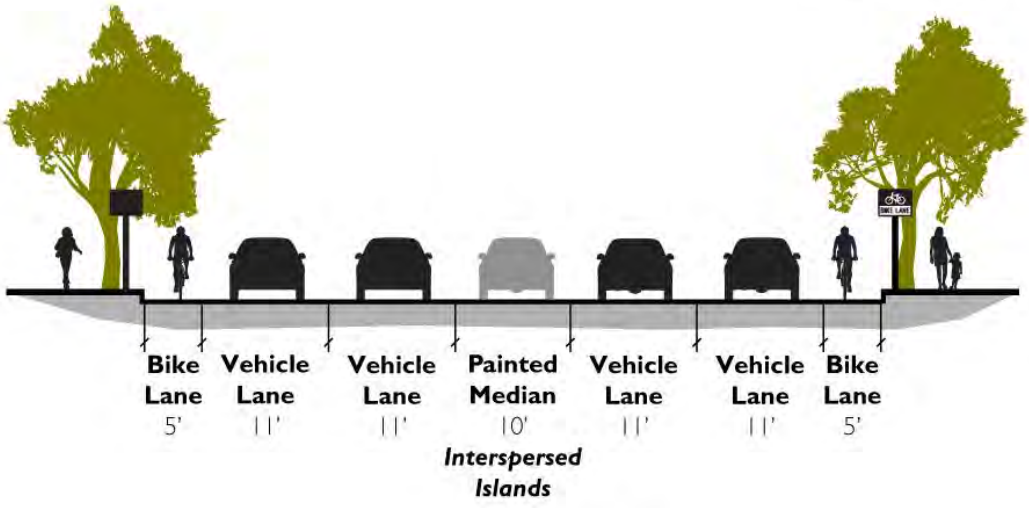
MODIFIED SECONDARY ARTERIAL

- **Secondary Arterial (Painted Median) Roadway:** Maintain 94-feet wide right-of-way and 64-feet wide curb-to-curb width. However, modify median width and lane widths to provide a 5-feet wide Class II bike lane.



64' CURB-TO-CURB

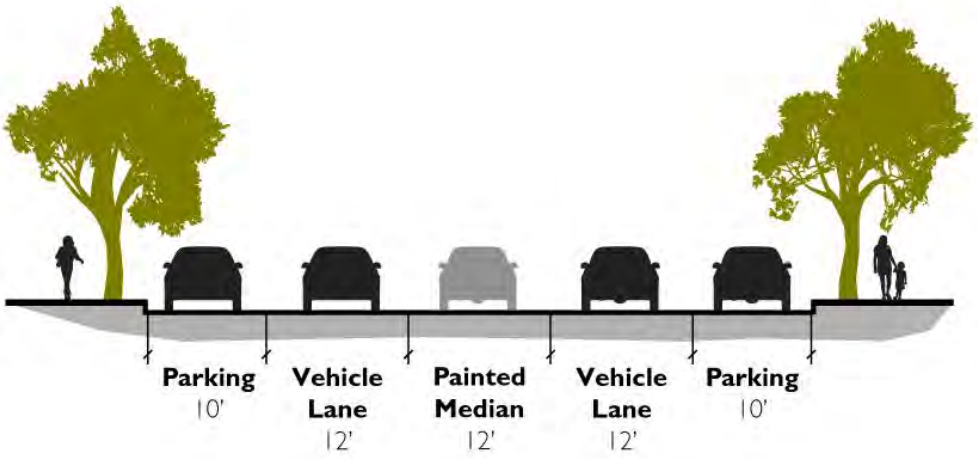
EXISTING SECONDARY ARTERIAL (PAINTED MEDIAN) PER GENERAL PLAN (EXHIBIT CE-11)



64' CURB-TO-CURB

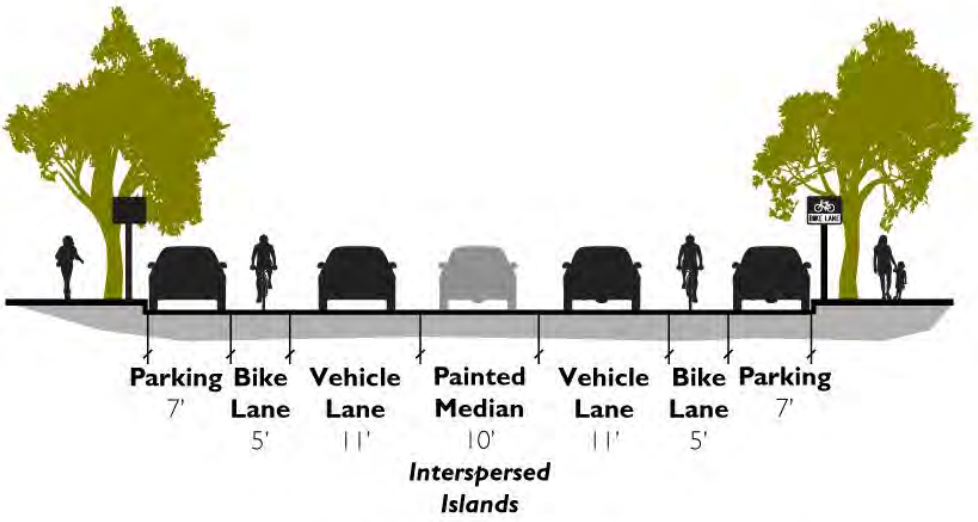
MODIFIED SECONDARY ARTERIAL (PAINTED MEDIAN)

- **Major Collector Roadway:** Maintain 78-feet wide right-of-way and 56-feet wide curb-to-curb width. However, modify median width, lane widths, and on-street parking widths to provide a 5-feet wide Class II bike lane. While designating a bicycle lane adjacent on-street parking is typically not desired, the provision of a bike lane is preferred over no designation. The provision of a designated and striped bike lane improves the comfort level for cyclists between parked cars and travel lanes, and serves cyclists well when on-



56' CURB-TO-CURB

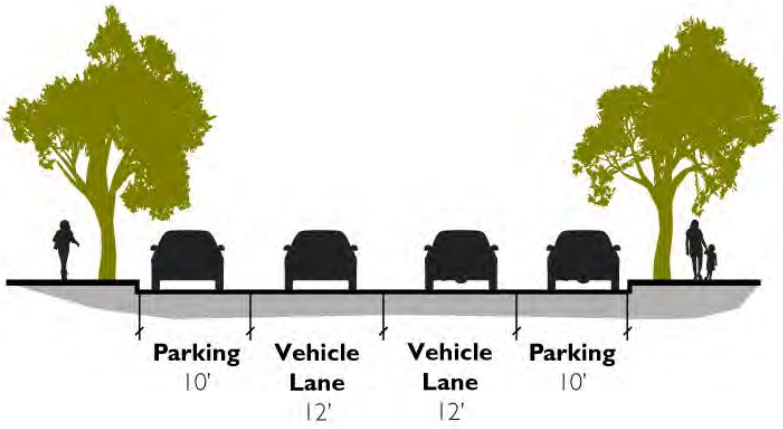
EXISTING MAJOR COLLECTOR
PER GENERAL PLAN (EXHIBIT CE-11)



56' CURB-TO-CURB

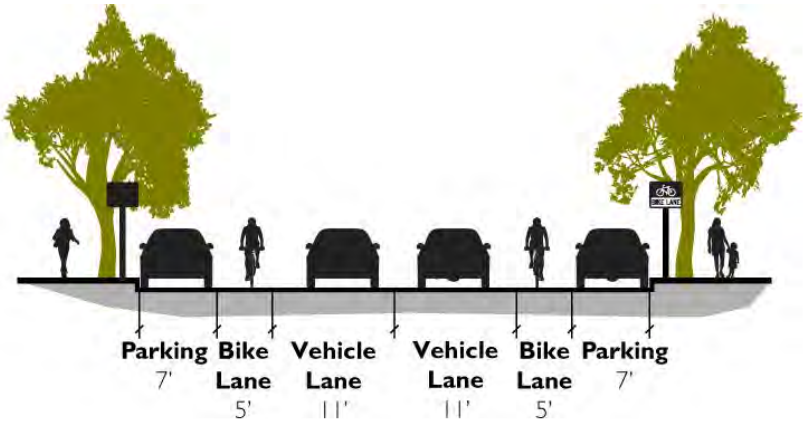
MODIFIED MAJOR COLLECTOR

- **Collector Roadway:** Maintain 66-feet wide right-of-way and modify the 44-feet wide curb-to-curb width to 46-feet in width. Additionally, modify lane widths and on-street parking widths to provide a 5-feet wide Class II bike lane. While designating a bicycle lane adjacent on-street parking is typically not desired, the provision of a bike lane is preferred over no designation. The provision of a designated and striped bike lane improves the comfort level for cyclists between parked cars and travel lanes, and serves cyclists well when on-street parking is minimal.



44' CURB-TO-CURB

EXISTING COLLECTOR
PER GENERAL PLAN
(EXHIBIT CE-11)



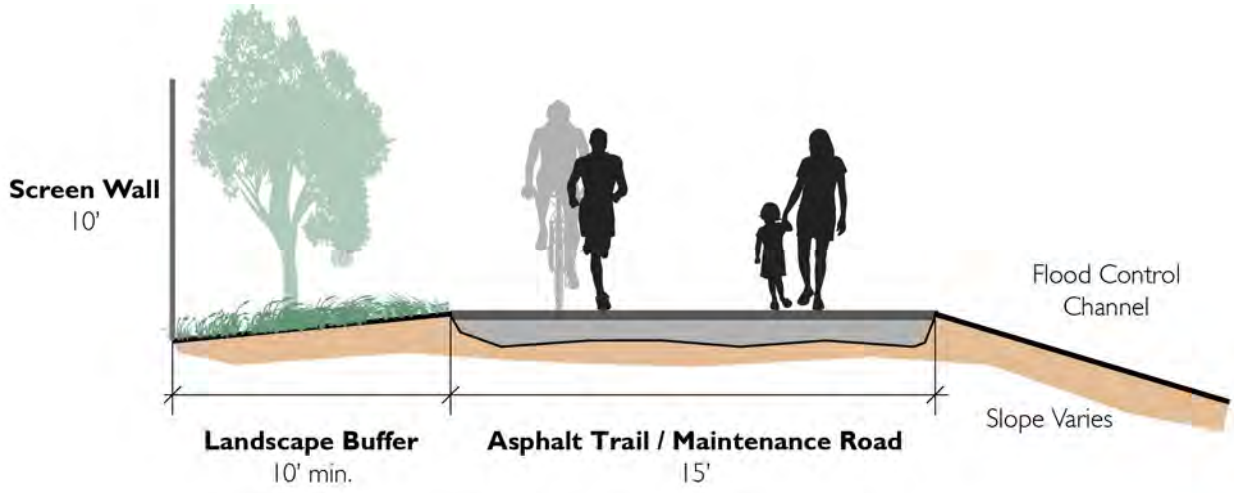
46' CURB-TO-CURB

MODIFIED COLLECTOR

NOTE: Provide bike lanes per approval of Planning Commission and City Engineer on a case by case basis

- **Local Roadway:** Maintain 60-feet wide right-of-way and 40-feet wide curb-to-curb width. Generally, a local street is not designated with a Class II bike lane due to the low speed and low motorist volumes, as well as frequent curb cuts from driveways at residences. While not recommended for modification as part of the Bicycle Master Plan, we recommend the City consider revising the local street standard to provide a narrower curb-to-curb width such as 36-feet.

- **Class I Bike Path: A**long the Perris Valley Storm Channel, the San Jacinto River, and other off-street corridors, the trail design should be consistent with the cross section below. For other off-street trails such as trail easements along utility corridors, the cross section should be consistent with the Class I cross section identified in Chapter 2 (Definitions).



8.5 Bicycle Amenities

8.5.1 Parking

This Trail Master Plan recommends that the City embark on a coordinated bicycle parking program to equip public facilities and large retail centers/employment centers with adequate bicycle parking.

CalGreen Requirements

The 2010 California Building Standards Code (CalGreen) requires non-residential buildings of a certain size to provide short-term and long-term bicycle parking as follows:

> ***5.106.4.1 Short-Term bicycle parking.*** *If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the*

visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.

5.106.4.2 Long-Term bicycle parking. *For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:*

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; and
3. Lockable, permanently anchored bicycle lockers.

The CalGreen requirements are only for new, non-residential construction. Therefore, this Trail Master Plan recommends additional locations where the City should evaluate and provide or require the property owner to provide bicycle parking.

The following describes the locations and types of bicycle parking recommended:

Transit Centers

The City should work with the Riverside Transit Agency to ensure secure long-term bicycle parking is provided at the Perris Station Transit Center. In addition, as the South Perris Metrolink station is developed, the City should work with the appropriate agencies to ensure bicycle parking is provided.

City Facilities

The City should survey all public parks and City-owned buildings to determine where additional or enhanced bicycle parking is needed. The City can monitor bicycle parking against light poles, fences, and other fixed objects to determine the adequacy of existing bicycle parking, and will add or improve bicycle parking where needed. Example City facilities include the senior/teen center and the Field of Dreams/Aquatic Center.

Schools

Each of the public and private school campuses should provide secure bicycle racks for its students. If adequate bicycle parking is not currently provided, the City may partner with the school and/or school districts to obtain grant funding for this purpose.

Retail Centers

Pedestrian-oriented areas like the Downtown and large retails centers should provide bicycle racks conveniently located near the entrances of businesses.

Private Property

This Trail Master Plan recommends that the City encourage private property owners to add adequate and appropriate bicycle parking at all existing shopping centers, office developments, multi-family housing complexes, and other locations where bicycle parking is needed.

For new development within the City, the City should develop a bicycle parking ordinance that includes the following requirements:

- For non-residential development, bicycle racks shall be provided for a minimum of 5 percent of motorized vehicle parking capacity, consistent with CalGreen requirements. Long-term bicycle parking (lockers or storage rooms) shall be provided for buildings with over 10 tenant-occupants.
- For multi-family residential development without private garages for each unit, one short-term bicycle parking space (bike) rack shall be provided for every 20 units and one long-term bicycle parking space (locker or storage room) for every four units.

8.5.2 Showers & Lockers

End-of-trip facilities such as showers and lockers increase the ability of people to commute to work by bicycling. This Trail Master Plan recommends that the City encourage private property owners to add shower and locker facilities to existing places of employment such as office and industrial buildings.

For new non-residential development in the City, the City should develop a Bicycle Parking and Support Facilities Ordinance that requires, at a minimum, one shower and locker room facility for each sex in:

- Buildings of 50,000 or more square feet; or
- Development that is estimated to employ 100 or more persons.

8.5.3 Signage

Based on current field conditions, the following bikeways and trail signage improvements are recommended for implementation:

- Provide signage along bike routes or lanes where there is currently no signage. See Chapter 6 (Existing Conditions) for location.
- Provide signage along bike routes or lanes as these facilities are developed.
- Adoption of a distinctive directional and network signage design, directing trail and bikeway users to destinations and access points. See Chapter 7 (Design Guidelines) for the Signage Plan.
- Mileage signage and/or pavement markers along major bikeways and trails.
- Signage which supplements bicycle parking and other amenities.

Treatment of wayfinding associated with signage along trails and bikeways should be given attention similar to that of roadways, with naming of facilities and clarity regarding connections to activity centers, shopping centers, residential areas, parks, etc.

8.5.4 Rest Amenities

Rest amenities should be proved along new off-street bikeways and trails. Amenities may include, but are not limited to shelters, informational kiosks, bicycle repair & air pumps, benches, drinking fountains, picnic tables, and trash receptacles. The level of rest amenities should be in context with the bicycle facility, with placement of shelters and bicycle repair facilities at select locations, however, benches and drinking fountains may be included more frequently throughout the community.

All rest amenities shall be designed to meet current ADA requirements. Guidelines for rest amenities are provided in Chapter 7 (Design Guidelines).

8.5.5 Lighting

Lighting should be provided along all paved off-street bike paths and trails. Guidelines for lighting are shown in Chapter 7 (Design Guidelines).

8.5.6 Trailheads

Trailheads provide a place for trail users to begin their ride or hike and are typically located along a Class I bike path or multipurpose trail. The features and facilities provided can be shared with a park or other recreational use. Recommended trailheads along the PVSC and San Jacinto River are shown on Exhibit 8.1.

8.6 Estimated Future Bicycle Commuters

Implementation of the Perris Trail Master Plan will provide opportunities to greatly increase the bicycling in the city. The American Community Survey estimates that 0-percent of Perris residents bicycle to/from work (see Chapter 6 (Existing Conditions)). While the ACS estimates there are no bicycle commuters in Perris, responses to the online community survey and fieldwork show that there are some residents who do bicycle to their place of employment or to a transit station.

Research conducted throughout the U.S. by the U.S. Department of Transportation shows a definitive link between bicycle use and the age of the user, and the miles of bicycle facilities provided. Because Perris does not currently have a comprehensive network of bikeways in place, construction of new facilities to complete the bikeway network should increase ridership significantly. Additionally, improvements such as crossing improvements, intersection and traffic signal improvements, or additional bicycle parking and amenities at major destinations provide incentives through enhanced safety and increased convenience. Educational and encouragement programs will also be very important to increasing ridership, by raising awareness of Perris' network of bicycle facilities, and to make residents feel safe and comfortable using the bicycle as an alternative to a motor vehicle.

The implementation of this Trail Master Plan should capture some of Perris' short-distance motor vehicle commute trips. According to the 2006-2010 American Community Survey, approximately 8 percent (1,724) of Perris commuters took only nine minutes or less to get to work. These commuters who with travel times less than ten-minutes via car live within bicycle commuting distance. Significant numbers of employees with commutes greater than nine minutes could also bicycle commute if bicycles are well accommodated.

Previous planning efforts, such as the WRCOG Non-Motorized Transportation Plan, have sought to increase bicycling mode share for all daily trips, including home-to-work trips. The WRCOG NMTP developed future non-motorized travel demand estimates using the subregional Riverside Transportation Analysis Model (RivTAM) tool. The WRCOG NMTP estimated that the improvements identified within that plan would increase the number of intrajurisdictional (within the city boundaries) daily bicycle trips in Perris to 1,258 (0.98%) of 128,617 total daily trips by 2035. In addition, the WRCOG NMTP estimated that 1,120 interjurisdictional daily bicycle trips would originate in Perris.

Given the extensive growth of bicycle facilities in Perris planned through the Trail Master Plan, implementation of the Plan is forecast to result in bicycling comprising 2- to 3-percent of the total commute trips.

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CHAPTER NINE. EXPENDITURES AND FUNDING OPPORTUNITIES

The City's existing bikeways and multipurpose trails were mostly developed as conditions of project entitlements in master planned areas of the City and did not typically result from expenditure of City funds. Future roadways and infrastructure improvements are subject to funding.

This chapter summarizes the funding opportunities available for future bikeway and trail development in Perris, followed by planning-level cost estimates for recommended bikeways and trails (refer to Chapter 8: Proposed Improvements).

9.1 Funding Opportunities

9.1.1 Local Funding/Financing Sources

General Fund

A city's General Fund is used to support ongoing City operations and services, including general government operations, development services, public safety and community services. Primary revenue sources for the General Fund include property taxes, sales taxes and intergovernmental revenues. Improvements and ongoing projects or programs should have general community-wide benefits.

General Obligation Bonds (G.O. Bonds)

General Obligation bonds may be used to acquire, construct and improve public capital facilities and real property. However, they may not be used to finance equipment purchases, or pay for operations and maintenance. G.O. Bonds must be approved by two-thirds of the voters throughout the Issuer's jurisdiction in advance of their issuance and typically require the issuing jurisdiction to levy a uniform ad valorem (property value) property tax on all taxable properties to repay the annual debt service.

Resurfacing and Repaving

A city is able to add bicycle lanes, improve bicycle lane and add sharrows upon resurfacing and repaving of streets. While other lanes are restriped, the bike facilities can be painted as well.

New Construction

Future road widening and construction projects are one means of providing bike lanes. Developers may also be required to dedicate land and constructed roadway widening to provide for enhanced bicycle mobility.

Impact Fees and Developer Mitigation

Impact fees may be assessed on new development to pay for transportation projects, typically tied to vehicle trip generation rates and traffic impacts generated by a

proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- or off-site bikeway improvements that will encourage residents to bicycle rather than drive. Additional developer contributions to active transportation may be provision of amenities to facilitate cycling such as bicycle parking, shaded rest areas along trails, and showers/lockers in business developments.

Business Improvement Districts (BIDs)

Business Improvement Districts (BIDs) are self-taxing business districts. Business and property owners pay for capital improvements, maintenance, marketing, parking, and other items as jointly agreed to through systematic, periodic self-assessment. These districts may include provisions for bicycle improvements such as bicycle parking or shower and clothing locker amenities.

Landscape and Lighting Maintenance District (LMDs)

The Landscaping and Lighting Act of 1972 enables assessments to be imposed in order to finance the maintenance and servicing of landscaping, street lighting facilities, ornamental structures and park and recreational improvements. This could be used for bike paths as well as lighting and amenities along bike paths.

Special Benefit Assessment Districts

Special Benefit Assessment Districts (AD) are formed for the purpose of financing specific improvements for the benefit of a specific area by levying an annual assessment on all property owners in the district. Each parcel of property within an AD is assessed a portion of the costs of the public improvements to be financed by the AD, based on the proportion of benefit received by that parcel. The amount of the assessment is strictly limited to an amount that recovers the cost of the "special benefit" provided to the property. Traditionally, improvements to be financed using an AD include, but are not limited to, streets and roads, water, sewer, flood control facilities, utility lines and landscaping. A detailed report prepared by a qualified engineer is required and must demonstrate that the assessment amount is of special benefit to the parcel upon which the assessment is levied. Prior to creating an assessment district, the City, county or special district must hold a public hearing and receive approval from a majority of the affected property owners casting a ballot. Ballots are weighted according to the proportional financial obligation of the affected property. There are many assessment acts that govern the formation of assessment districts, such as the Improvement Act of 1911, Municipal Improvement Act of 1913, Improvement Bond Act of 1915 and the Benefit Assessment Act of 1982, as well as other specific facility improvement acts. Benefit assessment districts could be used to finance any of the capital improvements in this plan.

In-Lieu Parking Fee

The use of a parking in-lieu fee to construct and fund common parking facilities serving the commercial businesses has been used successfully in other downtown

revitalizations. Potential funding sources range from in-lieu fees for spaces to parking revenues from monthly parking and short-term parking fees. In-lieu parking fees may be used to contribute to the construction of new or improved bicycle parking facilities.

Parking Meter Revenues

Cities can fund various improvements through parking meter revenues. The ordinance that governs the use of the revenues would specify eligible uses. Cities have the option to pass ordinances that specify bicycle facilities as eligible expenditures. Parking meters do not currently exist within the City of Perris, so this funding source may only be utilized with if changes to parking management occurs in the City.

9.1.2 Private/Non-Profit Sources

Private Donations

Private donations for a variety of different types of projects are generally available from foundations, institutions, and corporations that have major interests in these areas.

Donor Programs

Some of the proposed improvements may lend themselves to a public campaign for donor gifts. Donor programs have been used very successfully in many cities in the United States for providing funds for streetscape and community design elements. Such programs can be tailored to solicit contributions from individuals, corporations, local businesses and community and business associations. Many improvements could be funded by donor gifts for items such as: benches, trash receptacles, street trees, street tree grates, public art elements and information kiosks. Donors could be acknowledged with a plaque on the element itself or other prominent display, such as a “wall of fame” with donor names.

9.1.3 Grant Funding Opportunities

Table 9-1 summarizes the grant funding opportunities available to the City of Perris to expand and enhance the City’s trails and bikeways network. The table includes next program deadlines, a description of types of projects funded by the program, examples of previously funded projects, and additional notes. The City of Perris should pursue funding as appropriate and continue to monitor grant opportunities and new programs may arise over the lifetime of the Trail Master Plan.

Table 9-1: Grant Funding Opportunities			
No.	**Program and Estimated Deadlines**	**What the Grant Program Funds**	**Special Notes**
1	**CALIFORNIA STATE PARKS LAND AND WATER CONSERVATION FUND** Annual program	***PROJECTS THAT ALLOW FOR BIKING ON PAVED SURFACES ARE A PRIORITY FOR THIS GRANT PROGRAM. APPLICATIONS FROM RIVERSIDE COUNTY THAT PROPOSE THIS ACTIVITY RECEIVE THE MAXIMUM 15 POINTS.*** **ACQUISITION PROJECTS** • Must provide for public outdoor recreation. • Can be by fee title or other lesser rights (e. g., permanent recreation use easements or similar devices) that will ensure public use in perpetuity. • Must be for whole parcels. • There must be public access to the property prior to completion of the project. **DEVELOPMENT PROJECTS** • Construction of new and/or renovation of existing facilities. • Support facilities needed by the public for the outdoor recreation use of an area such as lighting, parking, and restrooms. • Indoor facilities that support outdoor recreation. • Activities in the immediate project area, (e.g. visitor information centers, buildings that interpret resources of the project area). **ELIGIBLE COSTS:** Up to 25% of grant amount can be used for project planning; personnel; consultant services; equipment; supplies and materials; travel; directional signs; construction costs; acquisition costs; relocation costs; hazard and liability insurance lease; rental charges. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND**	• CEQA must be complete at time of application • Performance period is three years • No minimum or maximum funding limits • Past awards: High: $578,000; Average: $220,000; Low $65,000 • Local Match: 1:1 • Generally, 60% of available funds will be allocated to Southern California • Property acquired or developed under this program is federally protected in perpetuity for public outdoor recreation use • These are Federal funds from the National Park Service that flow through California State Parks

Table 9-1: Grant Funding Opportunities			
No.	**Program and Estimated Deadlines**	**What the Grant Program Funds**	**Special Notes**
		PEDESTRIAN NEEDS: 1. City of Diamond Bar, $95,881 for Grand View Trail Link 2. San Mateo County Division of Parks, $578,777 for Crystal Springs Regional Trail 3. City of Wasco, $65,359 for Barker Park Walking Path	
2	**CALIFORNIA STATE PARKS RECREATIONAL TRAILS GRANT PROGRAM** Annual program Next call for projects is expected in January 2013	**PURPOSE OF PROGRAM:** Recreational trails and trails-related projects (both motorized and non-motorized). **ELIGIBLE COSTS:** Acquisition of easements and fee simple title to property for recreational trails or recreational trail corridors; development or rehabilitation of trails, trailside and trailhead facilities, construction of new trails. For motorized trail projects eligible costs also include maintenance of existing trails; assessment of trail conditions and development dissemination of publications and educational programs. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:** 1. City of Santa Ana, $550,000 to construct ½ mile bike trail to close a bike trail gap 2. Marin County, $404,100 to rehabilitate 1,300 feet of paved trail including irrigation system, landscaping, drainage improvements, signage and striping 3. Fulton-El Camino Recreation and Park District, $62,640 to rehabilitate a pedestrian/bike path including a bridge, disabled-access drinking fountain, and bike racks 4. Madera County, $410,246 to construct two miles of multi-use trail for pedestrians, bicyclists and a parallel equestrian trail	• This program now falls under the new MAP-21 Transportation Alternatives program. Per discussions with State Parks, RTP guidelines, which will be released in November 2012, will be similar to past guidelines. • No minimum or maximum funding limits • Awards in 2009/10 (the last open solicitation): High: $550,000; Average: $330,000; Low: $100,000 • Local Match: 12% • These are Federal funds that originate from the Department of Transportation and flow through California State Parks

3	**CALTRANS AND THE CALIFORNIA NATURAL RESOURCES AGENCY ENVIRONMENTAL ENHANCEMENT AND MITIGATION GRANT PROGRAM** Annual program Next call for projects will be released October 1, 2012 Next deadline is January 4, 2013	**THIS PROGRAM FUNDS Roadside Recreation** projects which provide for the acquisition and/or development of roadside recreational opportunities, which **includes bike paths, trails, trailheads, and outdoor amenities including restrooms, etc.)**. **ELIGIBLE COSTS:** Preliminary project costs including construction plans, appraisals, acquisition negotiations, personnel and employee services/wages, consultant services, construction equipment, construction costs, trees, supplies, materials, acquisition costs, hazard and liability insurance, etc. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:** 1. Town of Mammoth Lakes, $149,221 for Waterford Gap Multi-Use Bike Path Project 2. City of San Jose, $350,000 for Coyote Creek Trail (Highway 237 Bikeway to Tasman Drive Light Rail) 3. City of Culver, $349,911 for Ballona Creek Bikeway	• Maximum funding request is $350,000 • Local match: Not required but up to five points given for local match • The project must be directly or indirectly related to the environmental impact of the modification of an existing Transportation Facility or the construction of a new Transportation Facility (i.e. Related Transportation Facility or RTF) • An RTF is defined as a public street, highway, mass transit guideway or their appurtenant features • These are Federal funds that originate with the Department of Transportation and flow through Caltrans and the California Natural Resources Agency • 10 points are allocated for projects that contribute to reduction of greenhouse gas emissions. Non-motorized trails that provide safe travel between activity centers are listed as an example of such a project.
4	**CALTRANS BICYCLE TRANSPORTATION ACCOUNT** Annual program Next deadline approximately April 2013.	**PURPOSE:** For projects that improve safety and convenience for bicycle commuters. **THIS PROGRAM FUNDS:** • New bikeways serving major transportation corridors. • New bikeways removing travel barriers to bicycle commuters. • Secure bicycle parking at employment centers, park-and-ride lots, rail and transit terminals, etc. • Bicycle-carrying facilities on public transit	• Maximum funding - No applicant can receive more than 25% of the total amount transferred to the BTA in a single fiscal year • Local Match: 10% • Must have an adopted Bicycle Transportation Plan (BTP) that complies with Caltrans Streets and Highways Code and approved by Riverside County Transportation Commission

		vehicles. • Installation of traffic control devices to improve the safety and efficiency of bicycle travel. • Elimination of hazardous conditions on existing bikeways. • Planning. • Improvement and maintenance of bikeways. **ELIGIBLE COSTS:** Project planning, preliminary engineering, final design, ROW acquisition, and construction/rehabilitation. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:** 1. City of Chico, $512,504 to construct Class I bikeway 2. City of Santa Rosa, $200,000 to construct 1.11 miles of Class II bike lanes, bicycle sensitive signal detectors, signal modifications 3. City of Glendale, $523,800 to construct 7 miles of Class III bike routes to include sharrows, signal detection, 11 traffic circles at intersections, way finding signage 4. City of Riverside, $420,030 to reconfigure roadway to include 2 travel lanes, 2 way left turn lane, 5-7 foot class II bicycle lanes and parking lanes.	• Project for grant funds must be in the local BTP
5	**BIKES BELONG** 2013 deadlines will be posted in late fall 2012	**THIS PROGRAM FUNDS:** • Bike paths, trails, and bridges • Mountain bike facilities • Bike parks • BMX facilities **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:** 1. Friends of the Katy Trail, TX - Three miles of rail-trail in Dallas, Texas. This stretch of path is a crucial link between more than 10,000 children and their schools and a key step	• Maximum funding is $10,000 • Local match is required but a specific percentage is not stated • Municipalities are encouraged to partner with a local bicycle advocacy group that will help develop and advance the project or program

		toward securing public and political support for the expanded regional trail system in Dallas 2. Cuyuna Range Trails Committee, MN - Construct a five-mile section of multi-use trail linking Cuyuna Lakes State Recreation Area with the town of Crosby, Minnesota 3. Brooklyn Waterfront Greenway, NY – Helped launch the first phase of a 14-mile greenway, which will serve as a key commuter route and recreation corridor in Brooklyn	
6	**CALTRANS HIGHWAY SAFETY IMPROVEMENT PROGRAM** Annual - Summer	**PURPOSE:** To correct or improve the safety on any publicly owned roadway or bicycle/pedestrian pathway or trail. **SAMPLE LIST OF WHAT THIS PROGRAM FUNDS RELEVANT TO PERRIS NEEDS:** • Improvements for pedestrian or bicyclist safety or for the safety of persons with disabilities • Pavement and shoulder widening • Intersection safety improvement • Installation of skid-resistant surface at intersections • Improvement of highway signage **ELIGIBLE COSTS:** Preliminary engineering, NEPA clearance, plans/specifications/estimates, ROW, construction engineering and construction. **<u>EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:</u>** 1. City of Citrus Heights, $644,000 to widen shoulders; construct Class I multi-use trail; install Class II bike lanes 2. City of Rancho Cordova, $358,100 to install sidewalks, bike lanes, and crosswalks 3. City of Alameda, $416,400 to reduce travel lanes from four to two; install bike lanes, bike racks, and crosswalks; construct bus pad, shelter, and drainage improvements 4. City of Los Altos, $609,000 to install traffic signals, crosswalks, turning islands, and	• Maximum funding for a single project is $900,000 • Minimum funding for a single project is $100,000 • Maximum funding for an applicant is $2 million • Local Match: 10% • Program is heavily scored based upon cost effectiveness of project which is based on the number and severity of collisions and injuries and cost of the project • These are Federal funds that originate from the Department of Transportation and flow through Caltrans

		pedestrian/bike pathway; construct drainage improvements 5. Cathedral City, $900,000 to widen roadway and add bike lanes; construct curb, gutter, and sidewalks; upgrade traffic signals; install signs and striping	
7	**CALTRANS SAFE ROUTES TO SCHOOLS (SRTS) <u>FEDERAL</u> COMPONENT** **ANNUAL – HOWEVER UNDER MAP- 21 ANTICIPATED DEADLINES ARE UNKNOWN** In the past applications were due in the spring	***THIS PROGRAM WAS RENEWED UNDER MAP-21. THE GUIDELINES FOR FUTURE SOLICITATIONS MAY CHANGE SIGNIFICANTLY. INFORMATION BELOW IS FROM THE SAFETEA-LU ERA.*** **PURPOSE:** To fund construction projects that improve the safety of students who walk or bike to school. Improvements must be made on public property. Projects must incorporate elements of the 5 E's – education, encouragement, engineering, enforcement, and evaluation. **ELIGIBLE COSTS:** New bicycle trails and paths, bicycle racks, bicycle lane striping and widening, new sidewalks, gap closures, curbs, gutters, and curb ramps, signs, traffic control devices. **<u>EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:</u>** 1. City of Burbank, $689,100 to install bike lanes, bike detection, bike boxes and crosswalks, traffic circles, bulb-outs, curb ramps and pedestrian refuge islands. 2. City of Los Angeles, $686,000 to construct bike loop detectors, sharrows, signs, speed humps, pedestrian refuge and median islands 3. City of Hesperia, $834,900 to construct multi-use path, curb and gutter, ramps, crosswalks, signs, and pavement markings	• SRTS may be funded under Transportation Alternative, Highway Safety Improvement or Surface Transportation Program under the new MAP-21 legislation • Maximum funding allowed: $450,000 historically • Local Match: None • Project can benefit any school that serves K-8 students • Project must be within 2 miles of school • These are Federal funds that originate from the Department of Transportation and flow through Caltrans
8	**CALTRANS SAFE ROUTES TO SCHOOLS (SR2S) <u>STATE</u> COMPONENT** Annual program Last deadline for proposals was June 29, 2012	**PURPOSE:** To reduce injuries and fatalities to school children and to encourage increased walking and bicycling among students. **ELIGIBLE COSTS:** Construction, up to 10% of the total construction cost may be used for education, enforcement, and encouragement activities, preliminary engineering, CEQA	• Maximum funding is $450,000 • Local Match: 10% • Cycle 10 awarded $48.5 million to 130 projects • Project can benefit any school that serves K-12 students

		compliance, PS&E, ROW. New sidewalks, gap closures, pedestrian trails, paths, traffic calming, traffic control devices, upgraded bikeways, trails, paths, geometric improvements, shoulder widening, bicycle parking facilities, racks and lockers. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:** 1. City of Burbank, $438,700 to construct bicycle boulevard. 2. City of Citrus Heights, $450,000 to construct sidewalks, curb and gutter and upgrade bike lanes. 3. City of Claremont, $450,000 to install speed feedback signs, countdown heads, sharrows, pedestrian/bike video detection, bike racks, sings, traffic signal	• These are State of California funds
9	**RIVERSIDE COUNTY TRANSPORTATION COMMISSION TDA ARTICLE 3 ANNUAL CALL FOR PROJECTS FOR PEDESTRIAN AND BICYCLE FACILITIES (SB 821 FUNDS)** Annual program Next call for projects is expected in April 2013	**PURPOSE:** For pedestrian and bicycle projects. **ELIGIBLE COSTS:** Preliminary engineering leading to construction of pedestrian or bicycle facility, ROW acquisition, construction or reconstruction of Class I, II, and III bicycle facilities and sidewalks, purchase or installation of bicycle lockers and/or racks at major employment centers, park and ride lots, and transit terminals. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:** 1. City of Corona, $106,500 to construct 1,750 feet of sidewalk. 2. City of Fontana, $750,000 for pedestrian improvements including CPUC mandated swing gates and pedestrian arms at railroad crossing.	• Local Match: None • Performance period is two full fiscal years • Projects must be included in an adopted regional and/or local bikeway plan • These are State funds that originate from the Local Transportation Fund through the SB 821 Program
10	**CALTRANS TRANSPORTATION, COMMUNITY AND SYSTEM PRESERVATION GRANT PROGRAM**	**PURPOSE:** To plan and implement strategies which improve the efficiency of the transportation system, reduce environmental impacts of transportation, reduce the need for costly future public infrastructure investments, ensure efficient access to jobs, services and	• There is no minimum or maximum funding limits • Past awards: High: $3,261,000; Average: $872,577; Low: $54,457 • Local Match: 11.47%. A match of 20%-50% is

	Annual program Under MAP- 21 anticipated deadlines are unknown. Historically applications have been due in December	centers of trade, and examine development patterns and identify strategies to encourage private sector development patterns which achieve these goals. This program has very broadly defined goals and projects are selected based on livability which includes safety, complete streets strategies, state of good repair, project readiness, etc. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND PEDESTRIAN NEEDS:** 3. $500,000 to community in Arkansas for the Pine Bluff Pedestrian and Bicycle Infrastructure. 4. $782,967 to a community in Kansas for the Hiawatha Fitness and School Trail. 5. $200,000 to a community in Pennsylvania for the Ohio River Bike and Pedestrian Trail 6. 652,000 to the City of Anaheim for the Santa Ana River Trail Project	recommended for the project to be competitive • In FY 2012, TCSP funded $52.1 million to 83 projects in 48 states • These are federal funds that originate from the Department of Transportation. Caltrans requires applications to be submitted through them and Caltrans forwards to FHWA. FHWA conducts all evaluations and makes awards from the national office. • TCSP is included in the new MAP-21 Transportation Alternative program. Its activities are still eligible for funding, but it is competing for scarcer funding.
11	**U.S. HOUSING AND URBAN DEVELOPMENT COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)** Allocations are announced in December	**CITY OF PERRIS IS AN ENTITLEMENT COMMUNITY AND RECEIVES AN ANNUAL DIRECT ALLOCATION OF CDBG FUNDS FROM HUD. THESE FUNDS MAY BE USED FOR BIKE AND PEDESTRIAN FACILITIES.** Entitlement communities develop their own programs and funding priorities. CDBG objectives: 1. Benefit low- and moderate-income persons; 2. Prevent or eliminate slums or blight, and 3. Address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available. **EXAMPLES OF PREVIOUSLY FUNDED PROJECTS RELEVANT TO CITY OF PERRIS BICYCLE AND**	• Allocation to Perris in FY 12-13 was $582,000

		PEDESTRIAN NEEDS: 1. City of Xenia – construction of a walking/biking path along Sheelin Road and Towler Road 2. City of Costa Mesa – enhance the appearance and safety of the Joann Street Bicycle Trail 3. Macomb County Michigan – hike/bike path	
12	**CALIFORNIA OFFICE OF TRAFFIC SAFETY (OTS)** Annual Program Deadlines announced annually, typically in January for following fiscal year.	The Office of Traffic Safety (OTS) seeks to reduce motor vehicle fatalities and injuries through a national highway safety program. Priority areas include police traffic services, alcohol and other drugs, occupant protection, pedestrian and bicycle safety, emergency medical services, traffic records, roadway safety and community-based organizations. The OTS provides grants for one to two years. The California Vehicle Code (Sections 2908 and 2909) authorizes the apportionment of federal highway safety funds to the OTS program. Bicycle safety programs are eligible programs for OTS start-up funds. City agencies are eligible to apply.	• No local agency match required. • No maximum.

9.2 Cost Estimates

Preliminary cost estimates were calculated for recommended bikeways and trails (refer to Chapter 8: Proposed Improvements). These cost estimates, contained in Table 9-2, represent a planning level estimate of the cost of constructing these facilities, however fluctuations in construction and materials prices can have significant effects on preliminary cost estimates. Additionally, many of the bikeways projects proposed as part of this Trail Master Plan are conceptual in nature. Details and accurate cost estimates must be undertaken as part of the design phase of any of these future projects.

The cost estimates provided in Table 9-2 are based on the following assumptions:

Class I (Bike Path)

- Cost per linear foot: $95.00. Includes pavement, earthwork, striping, and drainage.
- Cost per sign: $250. Assumes signs are posted at access points in each direction and at intersections/street crossings.

Class II (Bike Lane)

- Road work cost per linear foot: $5. Assumes restriping of roadway to accommodate bicycle lane.
- Cost per sign: $250. Assumes signs are installed at the far end of intersections or access points in each direction.

Class III (Bike Route)

- Road work cost per linear foot: $5. Assumes restriping of roadway to obtain outside lane width to accommodate bike route. If restriping is not necessary, there is no road work cost.
- Cost per sign: $250. Assumes signs are installed at the far end of intersections or access points in each direction.

Walking Path

- Cost per linear foot: $50.00. Includes earthwork and decomposed granite surface.
- Cost per sign: $250. Assumes signs are posted at access points in each direction and at intersections/street crossings.

Table 9-2: Cost Estimates						
ID #	Facility Type	Length (Feet)	Total No. Signs	Total Cost of Signage	Total Cost of Road Work	Facility Total Cost
A1	Class I	14,771.77	12	$3,000	$1,403,318	$1,406,318
A2	Class I	2,471.19	6	$1,500	$234,763	$236,263
A3	Class I	3,908.04	16	$4,000	$371,264	$375,264
A4	Class I	2,065.24	10	$2,500	$196,198	$198,698
A5	Walking Trail	6,344.84	10	$2,500	$317,242	$319,742
A6	Walking Trail	10,718.49	14	$3,500	$535,925	$539,425
A7	Class I	2,060.78	10	$2,500	$195,774	$198,274
A8	Class I	270.19	4	$1,000	$25,668	$26,668
A9	Class I	5,254.56	8	$2,000	$499,184	$501,184
A10	Class I	1,455.05	4	$1,000	$138,230	$139,230
A11	Class I	1,307.38	4	$1,000	$124,201	$125,201
A12	Walking Trail	1,415.14	8	$2,000	$70,757	$72,757
A13	Class I	2,245.13	10	$2,500	$213,288	$215,788
A14	Class I	11,135.16	14	$3,500	$1,057,840	$1,061,340
A15	Class I	1,121.51	4	$1,000	$106,543	$107,543
A16	Walking Trail	4,324.12	8	$2,000	$216,206	$218,206
A17	Class I	753.29	4	$1,000	$71,563	$72,563
A18	Class I	672.74	4	$1,000	$63,911	$64,911
A19	Class I	5,287.82	8	$2,000	$502,343	$504,343
A20	Class I	5,405.29	6	$1,500	$513,503	$515,003
A21	Class I	2,855.07	6	$1,500	$271,232	$272,732
A22	Class I	2,686.52	8	$2,000	$255,219	$257,219
A23	Class I	5,012.01	6	$1,500	$476,141	$477,641
A24	Class I	4,074.26	8	$2,000	$387,055	$389,055
A25	Class I	1,685.94	8	$2,000	$160,164	$162,164
A26	Class I	4,596.45	8	$2,000	$436,663	$438,663
A27	Class I	1,152.81	10	$2,500	$109,517	$112,017
A28	Class I	3,833.66	10	$2,500	$364,198	$366,698
A29	Class I	6,849.01	6	$1,500	$650,656	$652,156
A30	Class I	6,052.43	10	$2,500	$574,980	$577,480
A31	Class I	9,348.61	6	$1,500	$888,118	$889,618

Table 9-2: Cost Estimates						
ID #	Facility Type	Length (Feet)	Total No. Signs	Total Cost of Signage	Total Cost of Road Work	Facility Total Cost
A32	Class I	2,059.36	4	$1,000	$195,639	$196,639
A33	Class I	3,265.57	8	$2,000	$310,229	$312,229
A34	Class I	5,252.31	4	$1,000	$498,969	$499,969
A35	Class I	3,914.10	6	$1,500	$371,840	$373,340
A36	Class I	13,858.50	16	$4,000	$1,316,558	$1,320,558
A37	Class I	3,165.50	4	$1,000	$300,723	$301,723
A38	Class I	8,330.67	6	$1,500	$791,414	$792,914
A39	Class I	792.56	4	$1,000	$75,294	$76,294
A40	Refer to County of Riverside plans for Kabian Park					
B1	Class II	14,926.53	32	$8,000	$74,633	$82,633
B2	Class II	10,851.82	16	$4,000	$54,259	$58,259
B3	Class II	25,861.59	30	$7,500	$129,308	$136,808
B4	Class II	9,474.20	14	$3,500	$47,371	$50,871
B5	Class II	969.01	6	$1,500	$4,845	$6,345
B6	Class III	783.39	6	$1,500	$3,917	$5,417
B7	Class II	1,916.42	18	$4,500	$9,582	$14,082
B8	Class II	20,045.82	42	$10,500	$100,229	$110,729
B9	Class II	1,850.21	12	$3,000	$9,251	$12,251
B10	Class III	450.53	6	$1,500	$2,253	$3,753
B11	Class II	13,983.51	28	$7,000	$69,918	$76,918
B12	Class II	14,461.85	40	$10,000	$72,309	$82,309
B13	Class II	8,315.12	28	$7,000	$41,576	$48,576
B14	Class II	4,421.00	18	$4,500	$22,105	$26,605
B15	Class II	2,631.69	0	$0	$13,158	$13,158
B16	Class II	13,446.57	0	$0	$67,233	$67,233
B17	Class III	2,770.91	14	$3,500	$13,855	$17,355
B18	Class II	2,743.69	12	$3,000	$13,718	$16,718
B18	Class II	21,227.72	58	$14,500	$106,139	$120,639
B18	Class II	13,343.27	38	$9,500	$66,716	$76,216
B18	Class III	3,616.12	10	$2,500	$18,081	$20,581
B19	Class II	5,987.90	8	$2,000	$29,940	$31,940
B20	Class II	5,309.44	4	$1,000	$26,547	$27,547
B21	Class II	1,454.09	4	$1,000	$7,270	$8,270
B22	Class III	4,004.24	26	$6,500	$20,021	$26,521
B23	Class III	2,640.56	14	$3,500	$13,203	$16,703
B24	Class II	8,942.14	26	$6,500	$44,711	$51,211

Table 9-2: Cost Estimates						
ID #	Facility Type	Length (Feet)	Total No. Signs	Total Cost of Signage	Total Cost of Road Work	Facility Total Cost
B25	Class III	5,944.47	26	$6,500	$29,722	$36,222
B26	Class III	2,631.63	18	$4,500	$13,158	$17,658
B27	Class II	12,255.03	32	$8,000	$61,275	$69,275
B28	Class II	526.34	4	$1,000	$2,632	$3,632
B29	Class II	6,528.84	6	$1,500	$32,644	$34,144
B30	Class II	558.68	4	$1,000	$2,793	$3,793
B31	Class II	529.92	4	$1,000	$2,650	$3,650
B32	Class II	11,898.05	10	$2,500	$59,490	$61,990
B33	Class II	15,134.01	20	$5,000	$75,670	$80,670
B34	Class II	4,062.44	4	$1,000	$20,312	$21,312
B35	Class II	2,681.49	6	$1,500	$13,407	$14,907
B36	Class II	1,290.68	4	$1,000	$6,453	$7,453
B37	Class II	4,613.00	16	$4,000	$23,065	$27,065
B38	Class II	7,939.25	18	$4,500	$39,696	$44,196
B39	Class II	2,681.86	6	$1,500	$13,409	$14,909
B40	Class II	21,671.83	42	$10,500	$108,359	$118,859
B41	Class II	2,625.41	10	$2,500	$13,127	$15,627
C1	Class II	9,210.93	10	$2,500	$46,055	$48,555
C2	Class II	6,033.60	16	$4,000	$30,168	$34,168
C3	Class II	9,197.26	14	$3,500	$45,986	$49,486
C4	Class II	5,605.05	8	$2,000	$28,025	$30,025
C5	Class II	10,411.52	18	$4,500	$52,058	$56,558
C6	Class II	2,663.73	12	$3,000	$13,319	$16,319
C7	Class II	5,350.08	6	$1,500	$26,750	$28,250
C8	Class II	5,639.52	6	$1,500	$28,198	$29,698
C9	Class III	3,770.62	22	$5,500	$18,853	$24,353
C10	Class II	6,143.53	14	$3,500	$30,718	$34,218
C11	Class III	6,588.91	38	$9,500	$32,945	$42,445
C12	Class II	6,741.06	16	$4,000	$33,705	$37,705
C13	Class III	5,391.96	22	$5,500	$26,960	$32,460
C14	Class II	19,682.97	26	$6,500	$98,415	$104,915
C15	Class II	27,895.73	68	$17,000	$139,479	$156,479
C16	Class III	2,418.19	18	$4,500	$12,091	$16,591
C17	Class II	1,298.83	8	$2,000	$6,494	$8,494
C18	Class III	2,648.54	12	$3,000	$13,243	$16,243
C19	Class III	3,322.60	14	$3,500	$16,613	$20,113

Table 9-2: Cost Estimates						
ID #	Facility Type	Length (Feet)	Total No. Signs	Total Cost of Signage	Total Cost of Road Work	Facility Total Cost
C20	Class III	640.19	4	$1,000	$3,201	$4,201
C21	Class II	21,543.96	46	$11,500	$107,720	$119,220
C22	Class III	2,642.82	14	$3,500	$13,214	$16,714
C23	Class II	2,633.95	8	$2,000	$13,170	$15,170
C24	Class II	19,695.09	40	$10,000	$98,475	$108,475
C25	Class III	1,327.61	8	$2,000	$6,638	$8,638
C26	Class II	9,379.98	24	$6,000	$46,900	$52,900
C27	Class III	2,939.03	6	$1,500	$14,695	$16,195
C28	Class III	10,560.20	52	$13,000	$52,801	$65,801
C29	Class III	3,660.90	10	$2,500	$18,305	$20,805
C30	Class II	4,718.40	8	$2,000	$23,592	$25,592
C31	Class II	7,351.82	10	$2,500	$36,759	$39,259
C32	Class II	13,175.96	32	$8,000	$65,880	$73,880
C32	Class II	7,777.27	10	$2,500	$38,886	$41,386
C34	Class II	19,093.92	30	$7,500	$95,470	$102,970
C35	Class II	5,017.04	4	$1,000	$25,085	$26,085
C36	Class II	6,661.69	30	$7,500	$33,308	$40,808
C37	Class III	5,789.33	12	$3,000	$28,947	$31,947
C38	Class II	1,350.58	8	$2,000	$6,753	$8,753
C39	Class II	15,859.34	18	$4,500	$79,297	$83,797
C40	Class II	3,799.13	14	$3,500	$18,996	$22,496
C41	Class III	1,452.73	6	$1,500	$7,264	$8,764
C42	Class II	4,730.32	10	$2,500	$23,652	$26,152
C43	Class II	2,894.30	6	$1,500	$14,471	$15,971
C44	Class II	7,533.43	8	$2,000	$37,667	$39,667
C45	Class II	5,299.02	8	$2,000	$26,495	$28,495
C46	Class II	5,246.60	16	$4,000	$26,233	$30,233
C47	Class III	6,987.70	20	$5,000	$34,939	$39,939

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CHAPTER TEN. PRIORITIZATION AND IMPLEMENTATION

This Chapter provides the foundation for implementation of the Trail Master Plan. Through the identification of City implementation policies and the prioritization of recommended bikeways and trails (refer to Chapter 8, Proposed Improvements), this Chapter guides the development and construction of the City of Perris bikeways network, including on-street, off-street, and grade separation projects.

10.1 Project Prioritization

A key component of the implementation of this Bicycle Master Plan is the prioritization of bikeway projects. Prioritizing projects aids the City in focusing funding, as it becomes available, on those projects with the most impact and largest contribution to the completion of the City bikeways network.

A series of metrics were developed to help with ranking, and tiers of improvements were determined. There are three project tiers included within this Trail Master Plan. Tier 1 projects are those projects that satisfied the most criteria in the metrics, and therefore, are the City's highest priority for bikeway funding where available. Within each tier, projects are considered equally important, and an equal priority for City funding. For example, Tier 1 projects are considered higher priority than Tier 2 projects, but within Tier 1, projects are equally weighted. If a restrictive funding program becomes available in which no Tier 1 projects are eligible, the City may look for projects in other tiers that meet program eligibility requirements.

Private sector development plays a major role within the City of Perris to construct the transportation system and is expected to help implement much of the bikeways network. Opportunities may arise for developers to help construct remaining gaps in the bicycle network, and to contribute financially towards future construction of bikeways where appropriate. Developers are obligated to construct bikeways and trails within Specific Plans, as well as subdivision projects. Since the schedule for buildout within the community is subject to market conditions, the City may seek funds to construct bikeways to complete the network and achieve continuity in specific routes.

The following metrics were established to help with prioritization of the improvements recommended in Chapter 8 (Proposed Improvements):

- Connectivity of land uses such as parks, schools, and transit
- Safety enhancement for bicyclists and pedestrians
- Potential to reduce motorist trips and increase bicycle commute trips, active recreational trips, and other non-commuter trips (such as shopping and errand trips, socializing trips, etc.)
- Accessibility to transit
- Community input

- Environmental and community sensitivity
- Technical and engineering feasibility

Tables 10-1 (Off-Street) and 10-2 (On-Street) show prioritization of the proposed bikeway and trail improvements in this plan.

Table 10-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)

ID #	Street/Area	From	To	Recommended Improvements
Tier 1 Projects – Highest Priority				
A6	MWD Greenway	Perris Blvd.	Bradley Rd.	Add greenway with unpaved (DG) walking path/multipurpose trail
A8	Sparrow Way (south side of street)	Perris Valley Channel	Barn Owl Dr.	Add Class I bike path
A14	Turquoise Dr./Nuevo Rd. flood control channel	Perris Blvd.	Dunlap Dr.	Add Class I bike path adjacent to flood control channel
A15	Metz Rd. flood control channel	Perris Blvd.	Ruby Dr.	Add Class I bike path adjacent to flood control channel
A16	Metz Rd. flood control channel	Ruby Dr.	Murrieta Rd.	Add walking path adjacent to flood control channel
A17	Metz Rd. flood control channel	Murrieta Rd.	Perris Valley Channel	Add Class I bike path adjacent to flood control channel
A19	Perris Valley Channel	North City limits	Ramona Expressway	Add Class I bike path on west side of Channel. Add unpaved (DG) multipurpose trail adjacent to bike path where feasible

Table 10-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
A20	Perris Valley Channel/San Jacinto River	Ramona Expressway	Rider Street	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A21	Perris Valley Channel	Rider Street	Placentia Avenue	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A22	Perris Valley Channel	Placentia Avenue	Orange Avenue	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A23	Perris Valley Channel	Orange Avenue	Nuevo Road	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A24	Perris Valley Channel	Nuevo Road	Evans Road	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible

Table 10-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
A25	Perris Valley Channel	Evans Road	San Jacinto Avenue	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A26	Perris Valley Channel	San Jacinto Avenue	Ellis Avenue	Add Class I bike path on east side of Channel Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A27	San Jacinto River	Ellis Avenue	I-215	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A28	San Jacinto River	I-215	Case Road	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A29	San Jacinto River	Case Road	Goetz Road	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible

Table 10-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
A30	San Jacinto River	Goetz Road	Ethanac Road	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A31	San Jacinto River	Ethanac Road	Southwest City limits	Add Class I bike path on east side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A32	San Jacinto River	Perris Valley Channel	Dunlap Drive	Add Class I bike path on south side of River Add unpaved (DG) multipurpose trail adjacent to bike path where feasible
A35	Adjacent to Railroad	Nuevo Rd.	Southerly border of Metz Park	Add Class I bike path
Tier 2 Projects – Second Highest Priority				
A3	Ramona Expy. (south side of street)	Perris Valley Channel	Existing bike path starting at Avalon Pkwy.	Add Class I bike path
A5	MWD Greenway	I-215 Frontage Rd.	Perris Blvd.	Add greenway with unpaved (DG) walking path/multipurpose trail
A7	Placentia Ave. Bridge	Harvill Ave.	I-215 Frontage Rd.	Add Class I bike path crossing I-215
A9	Walnut St. (south side of street)	Old Evans Rd.	Sierra Vista Elementary	Add Class I bike path

Table 10-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
			School	
A10	Lakeside Middle School western perimeter	Rider St.	Walnut St.	Add Class I bike path Will require further study to develop a well-designed crossing of Walnut St. to Sierra Vista Elementary School
A11	Woodhaven Park	Citrus Ave.	flood control channel between Citrus Ave. and Nuevo Rd. (north of Turquoise Dr.)	Add Class I bike path through Woodhaven Park to connect to flood channel path Add bridge crossing to Ruby Dr.
A13	Redlands Ave. (east side of street)	Waller Way	Flood channel north of Turquoise Dr.	Add Class I bike path to east side of street, adjacent to flood control channel
A18	Ruby Dr. alignment	Mildred St.	Metz Rd. flood control channel	Add Class I bike path
A33	Morgan Park to Rider St.	Morgan St.	Rider St.	Add Class I bike path
A38	Monument Ranch Greenway	San Jacinto River	Goetz Rd.	Add Class I bike path Need to coordinate with utility company Develop connections to Kabian Park

Table 10-1: Proposed Bike Paths and Multipurpose Trails (Off-Street)				
ID #	**Street/Area**	**From**	**To**	**Recommended Improvements**
Tier 3 Projects – Third Highest Priority				
A1	Harley Knox Blvd. Flood Control Channel & West Side of Perris Valley Channel	Webster St.	Ramona Expy.	Add Class I bike path adjacent to the flood control channel Will require further study to determine facilities at roadway crossings
A2	Harley Knox Blvd. alignment	Perris Valley Channel	Lake Perris Dr.	Add Class I bike path
A4	Morgan St. alignment	Redlands Ave.	Morgan Park	Add Class I bike path Connect to Perris Valley Channel bike path
A12	Flood control channel near Perris Valley Community Hospital	Medical Center Dr.	Redlands Ave.	Add walking path adjacent to flood control channel
A34	Lake Perris Dr. (west side)	North city limits	Ramona Expy.	Add Class I bike path adjacent to west side of street
A36	Mountain Ave. Wash	West City limits	San Jacinto River	Add Class I bike path
A37	A St. Alignment	Watson Rd.	Ethanac Rd.	Add Class I bike path
A39	Perris South Metrolink Station	San Jacinto River	Private Dr. at Metrolink Station	Add Class I bike path to connect station to River bike path
A40	Kabian Park			Add multipurpose trails; refer to County of Riverside plans for park

Table 10-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
Tier 1 Projects – Highest Priority				
B5	Morgan St.	Morgan Park	May Ranch Elementary School	Add Class II bike lanes
B6	May Ranch Pkwy.	May Ranch Elementary School	Evans Rd.	Add Class III bike route in front of school
B7	May Ranch Pkwy./Morgan St.	Evans Rd.	Bradley Rd.	Add Class II bike lanes Reduce to one vehicular travel lane in each direction
B8	Rider St.	I-215 Frontage Rd.	Ramona Expy.	Add Class II bike lanes
B9	Sparrow Way	Clapper St.	Evans Rd.	Add Class II bike lanes
B10	Old Evans Rd.	Evans Rd.	Walnut Ave.	Add Class III bike route
B12	Orange Ave.	I-215	Dunlap Dr.	Add Class II bike lanes
B16	Nuevo Rd.	A St.	Dunlap Dr.	Add Class II bike lanes
B18	San Jacinto Ave.	West City limits	Dunlap Dr./East City limits	Add Class II bike lanes
B27	Ellis Ave.	West City limits	Evans Rd.	Add Class II bike lanes
B32	Ellis Ave.	Evans Rd.	East City limits	Add Class II bike lanes
B33	Case Rd.	Perris Blvd.	East City limits	Add Class II bike lanes
B34	Metrolink Station – Private Dr.	San Jacinto River	Private Dr.	Add Class II bike lanes
B35	Mapes Rd./ Bonnie Dr.	Case Rd.	I-215	Add Class II bike lanes
B40	Ethanac Rd.	West City limits	East City limits	Add Class II bike lanes

Table 10-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
C10	A St.	Nuevo Rd.	San Jacinto Ave.	Add Class II bike lanes
C11	A St.	San Jacinto Ave.	Redding St.	Add Class III bike route
C13	D St.	I-215	11th St.	Add Class III bike route
C15	Perris Blvd.	North city limits	4th St.	Add Class II bike lanes
C16	Perris Blvd.	4th St.	11th St.	Add Class III bike route
C17	Perris Blvd.	11th St.	Ellis Ave.	Add Class II bike lanes
C21	Goetz Rd.	Case Rd.	South city limits	Add Class II bike lanes
C30	Murrieta Rd.	Nuevo Rd.	Evans Rd.	Add Class II bike lanes
C32	Evans Rd.	North city limits	Sparrow Way	Add Class II bike lanes
C33	Evans Rd.	Sparrow Way	Orange Ave.	Add Class III bike route
C34	Evans Rd.	Orange Ave.	Ellis Ave.	Add Class II bike lanes Remove one northbound lane between Orange Ave. and Citrus Ave.
C44	Trumble Rd.	Ellis Ave.	Monroe Ave./ CA-74	Add Class II bike lanes Remove one lane between Vista Rd. and Mapes Rd.
C7	McPherson	Mapes Rd.	Ethanac Rd.	Add Class II bike lanes
C8	River Rd.	Mapes Rd.	McPherson Rd.	Add Class II bike lanes
Tier 2 Projects – Second Highest Priority				
B3	Ramona Expy.	I-215	East City limits	Add Class II bike lanes Add Class II bike lanes crossing I-215
B11	Placentia Ave.	I-215	Perris Valley Channel	Add Class II bike lanes crossing I-215

Table 10-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
				Add Class II bike lanes
B13	Citrus Ave.	Indian Ave.	Perris Valley Channel	Add Class II bike lanes
B14	Citrus Ave.	Perris Valley Channel	Dunlap Dr.	Add Class II bike lanes
B17	Metz Rd.	Webster Ave.	A St.	Add Class III bike route
B22	Navajo Rd.	San Jacinto Ave.	4th St.	Add Class III bike route
B23	1st St.	A St.	Perris Blvd.	Add Class III bike route
B24	4th St.	West city limits	Redlands Ave.	Add Class II bike lanes
B25	7th St.	Park Ave.	Redlands Ave.	Add Class III bike route
B26	11th St.	A St.	Perris Blvd.	Add Class III bike route
B36	Mapes Rd.	Trumble Dr.	Sherman Rd.	Add Class II bike lanes Remove one vehicular travel lane and turn lane
B38	Mapes Rd.	West City limits	Goetz Rd.	Add Class II bike lanes
C9	Park Ave.	4th St.	Ellis Ave.	Add Class III bike route
C12	A St.	Redding St.	Watson Rd.	Add Class II bike lanes
C14	Indian St.	Harley Knox Blvd. flood control channel	Citrus Ave.	Add Class II bike lanes
C18	Medical Center Dr.	Orange Ave.	Citrus Ave.	Add Class III bike route
C19	Ruby Dr.	Woodhaven Park	Mildred St.	Add Class III bike route
C20	Ruby Dr.	Flood control channel	Jarvis St.	Add Class III bike route
C24	Redlands Ave.	Harley Knox Blvd. flood control channel	Turquoise Dr.	Add Class II bike lanes

Table 10-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
C25	Redlands Ave.	Turquoise Dr.	Nuevo Rd.	Add Class III bike route
C26	Redlands Ave.	Nuevo Rd.	Ellis Ave.	Add Class II bike lanes Remove right turn lane between 4th Str. And Ellis Ave. (southbound(
C28	Wilson Ave.	Orange	San Jacinto Ave.	Add Class III bike route
C31	Murrieta Rd.	Case Rd.	Ethanac Rd.	Add Class II bike lanes
C40	Bradley Rd.	Ramona Expy.	Rider St.	Add Class II bike lanes
C41	Bradley Rd.	Rider St.	Sorrel Ln.	Add Class III bike route Add Class III bike route on Sorrel Ln. and Poppy Ct. to May Ranch Park
C42	Bradley Rd.	Case Rd.	Ethanac Rd.	Add Class II bike lanes
C43	Barnett Rd.	Ethanac Rd.	McLaughlin Rd.	Add Class II bike lanes
C45	Trumble Rd.	Watson Rd.	McLaughlin Rd.	Add Class II bike lanes
C46	Sherman Rd.	Ellis Ave.	Mapes Rd.	Add Class II bike lanes
Tier 3 Projects – Third Highest Priority				
B1	Harvey Knox Blvd.	I-215	Redlands Ave.	Add Class II bike lanes
B2	Markham St.	Patterson Ave.	Redlands Ave.	Add Class II bike lanes
B4	Morgan St.	Nevada Rd.	Redlands Ave.	Add Class II bike lanes Reduce to one vehicular travel lane in each direction from Perris Blvd. to Redlands Ave.
B15	Nuevo Rd.	Rimrock Dr.	A St.	Add Class II bike lanes
B19	Park West Specific Plan -	Evans Road	Street A	Add Class II bike lanes

Table 10-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
	Street B			
B20	Park West Specific Plan - Street A	Street B	Evans Road	Add Class II bike lanes
B21	Park West Specific Plan - Street C	Street A	Dunlap Drive	Add Class II bike lanes
B28	New Perris Specific Plan – 11th St.	Redlands Ave.	Town Center Loop Rd.	Add Class II bike lanes
B29	New Perris Specific Plan – Town Center Loop Rd.	Murrieta Rd.	Murrieta Rd.	Add Class II bike lanes
B30	New Perris Specific Plan – Wilson Ave.	Town Center Loop Rd.	Ellis Avenue	Add Class II bike lanes
B31	New Perris Specific Plan – Murrieta Rd.	Town Center Loop Rd.	Ellis Avenue	Add Class II bike lanes
B37	Mountain Ave.	West City limits	A St.	Add Class II bike lanes
B39	Watson Rd.	McPherson Rd.	A St.	Add Class II bike lanes
B41	McLaughlin Rd.	Barnett Rd	Trumble Rd.	Add Class II bike lanes
C1	Lukens Ln.	North City limits	Lopez Rd.	Add Class II bike lanes
C2	Patterson Ave./ Nevada Rd.	Harvey Knox Blvd.	Morgan St.	Add Class II bike lanes
C3	I-215 Frontage Rd.	Morgan St.	Placentia Ave.	Add Class II bike lanes
C4	I—215 Frontage Rd.	Orange Ave.	Nuevo Rd.	Add Class II bike lanes
C5	Webster Ave.	Harley Knox	Rider St.	Add Class II bike lanes

Table 10-2: Proposed Bike Lanes and Bike Routes (On-Street)				
ID #	**Street**	**From**	**To**	**Recommended Improvements**
		Blvd.		
C6	McPherson	Ellis Ave.	Mountain Ave.	Add Class II bike lanes
C22	G St.	San Jacinto Ave.	7th St.	Add Class III bike route
C23	G St.	7th St.	Ellis Ave.	Add Class II bike lanes
C27	Wilson Ave.	Rider St.	Orange Ave.	Add Class III bike route; provide connection to Murrieta Rd.
C29	Murrieta Rd.	Perris Valley Channel	Orange Ave.	Add Class III bike route; provide connection to Wilson Ave.
C35	Lake Perris Dr.	North City limits	Ramona Expy.	Add Class II bike lanes
C36	Avalon Pkwy.	Ramona Expy.	Mt. Verdugo Ln.	Add Class II bike lanes
C37	Avalon Pkwy.	Mt. Verdugo Ln.	Rider St.	Add Class III bike route
C38	Avalon Pkwy.	Rider St.	Walnut Ave.	Add Class II bike lanes
C39	Dunlap Dr.	Orange Ave.	Ellis Ave.	Add Class II bike lanes
C47	C St.	Southerly border of Metz Park	11th St.	Add Class III bike route

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CHAPTER ELEVEN. BICYCLE SAFETY & EDUCATION PROGRAMS

Bicycle awareness and education are critical components in the promotion of bicycling and the safety of Perris' bikeway network users. According to the National Highway Traffic Safety Administration's latest annual statistics analysis release, bicyclists account for 12 percent of all non-motorist traffic fatalities and 1.8 percent of all traffic fatalities. In 2010, one-tenth of all bicyclists killed in traffic crashes were between the ages of five and fifteen, while nearly one-fourth of all bicyclists killed in traffic crashes were between the ages of 45 and 54. Also, in 2010, the top reason for bicyclist fatalities in motor vehicle accidents was due to failure to yield to the right-of-way.

Accident reduction efforts need to include educational programs to increase awareness of improper driver actions as well as to educate the bicycling community on proper bicycle operations. Recognizing the important of these issues, the City of Perris can collaborate with the Riverside County Sherriff's Department and other stakeholder groups to educate its community members on bicycle safety.

There are three target groups to focus safety and educational programs:

- **Children**
- **Adult cyclists and pedestrians**
- **Motorists**

11.1 Bicycle Education Programs

Community members that participated in the Community Design Charrette (January 11, 2012) discussed bicycle safety, education, and promotion. The group discussion identified a lack of education and noncompliance with rules of the road by cyclists, pedestrians, and drivers. Unsafe behaviors noted included bicyclists riding the wrong direction, at night without lights, on the sidewalks, and running through stop signs without stopping appropriately. In addition, concerns about drivers not looking for cyclists before turning right were identified. The group discussed several programs to improve education and compliance with the rules of the road. Educational programs can teach safe practices to pedestrians, bicyclists, and drivers. Programs may be held in schools and elsewhere in the community, as well as showcased on public access television. The following are examples of educational programs that could benefit the City of Perris.

11.1.1 Special Events

Assemblies and other special events at school can get the attention of students and create a fun atmosphere for learning about traffic safety. A number of nonprofit organizations and consultants specialize in creating these special events. Walk to School Days (see "Encouragement" section) provide another opportunity for instruction on safe walking behavior. The City of Perris currently holds the annual "Tour de Perris" in the beginning of October. The event is the perfect venue for promoting bicycle safety. Another suggestion was to hold a bike safety event on the national "Night Out" event.

Example: National Night Out

The National Night Out is a series of nationwide celebrations held on the first Tuesday of August each year by local law enforcement agencies to provide an opportunity for the community members to gather and talk about safety, concerns, and crime prevention. This is a perfect venue for talking about local issues between cyclist and driver regarding safety and rules of the road.

Resources:

Jefferson County, Colorado, National Night Out
https://www.co.jefferson.co.us/sheriff/sheriff_T62_R113.htm

Example: Bicycle Rodeo

A bicycle rodeo is a fun educational event where children can practice what they learn. It involves instruction on traffic rules and safety skills, and can also include bicycle maintenance and helmet fitting.

Photo courtesy of www.pedbikeimages.org / Mike Cynecki

Students ride through an obstacle course where they apply the rules, practice safety skills, and negotiate hazards. Holding this event on a summer evening or a weekend can allow for parent involvement. Local bike shops may be interested in sponsorship opportunities at these events. This even can also be combined with a school event or a Family Fun Ride.

Resources:

An Organizer's Guide to Bicycle Rodeos (Cornell University):
http://www.bike.cornell.edu/pdfs/Bike_Rodeo_404.2.pdf

Bicycle Rodeos (Bicycling Life):
http://www.bicyclinglife.com/SafetySkills/BicycleRodeo.htm

Example: Bicycle Parade

A Bicycle Parade is an event that can be held by a neighborhood, city, county, or organization for any reason –health, bicycle promotion, or holiday. The bike parades get the community together to ride bikes, sometimes in costume.

In 2012, the City held a Tour de Tots training obstacle course in conjunction with the Tour de Perris. The Tour de Tots focused on educating children and their parents on safe bicycling practices and included a raffle for 8 bicycles to youth under the age of 6.

Resources:

The Great American Kids' Bike Parade
http://www.greatatlantabicycleparade.com/

11.1.2 Bicycle Self-Help Programs

Both adult and youth cyclists can benefit from bicycle self-help programs which teach cyclists how to properly maintain and repair their bicycles. These programs also seek to build a social network for cyclists and encourage more people to bicycle.

Example: Bicycle Self-Help Program

An example of a bicycle self-help program is the Bicycle Kitchen, a non-profit bicycle repair educational organization made up of volunteers in Los Angeles. The organization has numerous workshops and programs for adults and children. A separate program is held weekly for women so they feel comfortable learning how to fix or "soup-up" their bikes. The *Earn a Bike* program is for kids age 12-18 to learn how to fix and build bikes and ride safely. *La Bici Digna* is a program run by and for day laborers to learn to repair bikes. *Mobile Bici* is a program to bring bicycle repair education to various areas. Basic repair workshops are also held at various times and locations. A parallel effort is run in Orange County by Bicycle Tree, which is a volunteer led group that provides low-cost bicycle repair at local events such as farmers markets.

Resources:

Bicycle Kitchen
http://www.bicyclekitchen.com
Bicycle Tree
http://www.thebicycletree.org

11.1.3 Classroom Instruction

Physical education classes are appropriate for direct instruction on "street smart" walking and bicycling. In Rockville, Maryland, bicycle and pedestrian safety has become a standard part of the school system's teaching curriculum, coordinated by physical education teachers. Walking and bicycling as forms of transportation also relate to a range of educational topics, including health and the environment.

The City of Perris and the Sherriff's Department can coordinate with the local schools to assist with classroom presentations and provide educational materials. In addition to physical education classes, education about bicycle and pedestrian safety may be included in other classes.

Adults may benefit from bicycle safety group instruction as well. The League of American Bicyclists League Cycling Instructors (LCIs) offer a variety of courses ranging from basic skills training to college level courses.

Resources:

- Maryland Pedestrian and Bicycle Safety Education Curriculum: *www.saferoutesinfo.org/program-tools/maryland-pedestrian-and-bicycle-safety-education-curriculum-k-5*
- WalkBoston Walking for Health & the Environment Curriculum: *http://www.walkboston.org/documents/srtsCurricAll.pdf*
- Environmental Education Resources: *http://www.walktoschool.org/resources/safety-environment.cfm*
- League of American Bicyclists: *http://www.bikeleague.org/programs/education/courses.php*

11.1.4 Safety Campaigns

Educational campaigns to improve driving and bicycling behavior should send messages through multiple channels throughout the year. They will be most effective if they reinforce a few key points that are easy to remember. Materials should be provided in both Spanish and English.

Numerous cities around the country are distributing flyers and mailers to residents to inform them about new traffic safety features, statistics, and safety tips. Many of these programs are implemented through joint efforts by cities and organizations.

City of Tuscon, Pima County, Arizona

City of Long Beach

Eugene, Oregon

Example: Flyers

The City of Mission Viejo has a "Suggested Routes to School" flyers illustrating routes for walking and bicycling to schools and also providing tips on walking and bicycling safely.

School principals also include messages about traffic safety in newsletters and emails to parents. Publications by the City and homeowners associations are other avenues for reaching parents and community members. Banners, signs, or other creative temporary displays near the school can be used to grab drivers' attention.

11.2 Encouragement

Encouragement consists of activities and events used to promote walking and bicycling as an alternative form of transportation. These activities and events may simply promote the benefits of walking and bicycling, or directly provide opportunities to walk and bike.

11.2.1 Walk/Bike to School/Work Days

Schools and Employers can promote walking and biking to school/work with regular events such as "Walk to School Wednesdays" or "Bike to Work Day", or week or month.

For Walk to School Days, school staff and parent volunteers walk with students from designated areas close to the school. The annual International Walk to School Day, in the first week of October, is timed to promote walking to school near the beginning of the year.

New in 2012, a national Bike to School Day is being introduced on the Wednesday before Bike to Work Week in May.

Walk to School Resources:

- *www.cawalktoschool.com*
- *www.walkbiketoschool.org*

A number of organizations and agencies promote National Bike to Work Day in May of each year. The City could partner with local businesses to support employees within the City biking to work. The City of Perris could also partner with Metrolink to promote

"Bike to Work Day" once the Metrolink expansion has occurred and trains stop at the Perris stations.

Bike to Work Resources:

- http://www.metrolinktrains.com/news/promotions_detail/title/Bike_to_Work
- http://www.bikeleague.org/programs/bikemonth/

11.2.2 In-School Competitions

Class competitions can provide extra motivation as well as teaching opportunities. For instance, children can use pedometers or maps to track how far they walk each day, with their results tallied as a class or school. This kind of competition can incorporate exercises with graphs, maps, and measurements, and will be more fun if the students' progress is compared to, for instance, the distance from Perris to Disneyland or San Francisco. Other competitions could reward classes with the highest numbers of carpooling parents or participants in Walk to School Days. Simple rewards such as extra recess time may incentivize student participation.

Employers can follow the same model of competition for Bike to Work Day, Week, or Month. Competitions between office departments can motivate employees to work together to accumulate the most bike to work miles.

Resources:

- *Safe Routes to School Competition*
  http://guide.saferoutesinfo.org/encouragement/mileage_clubs_and_contests.cfm
- *Bike to Work Competition*
  http://www.youcanbikethere.com/

11.2.3 Walking School Buses and Bike Trains

In a walking school bus, parent/guardian volunteers "drive" a group of children to or from school. The bus can have regular stops like a school bus for picking up additional children. Similarly, a bike train is a group of student riders accompanied by adults on bicycle.

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