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# Purpose

Connecting San Rafael's **59,000 residents**, **33,000 outside workers**, and **30 neighborhoods** through a continuous bicycle and pedestrian network will take work. But just how much and what type of work can be hard to pin down with changing economic conditions, community priorities, and governmental regulations. This plan aims to document the conditions for bicycling and walking in 2018 and outlines steps needed to improve safety, act on community needs, and improve the mobility options for San Rafael residents, workers, and visitors.

The recommendations contained in this plan (and the rationale leading to those recommendations) are intended to provide San Rafael's City Council a **starting point** for assessing how the dedication of resources to improving bicycling and walking can impact overall community needs and priorities, as documented in the City's *General Plan*.

So, flip on through, and as you go, consider what a connected San Rafael might mean for you, your family, your friends, and your neighbors.

Last Updated: May 3, 2018





# CONTEXT

- 2 Background
- 3 Project Timeline
- 4 Goals
- 5 Land Use
- 6 Survey

**Did you know?** 91% of non-commute bicycle trips and 99% of non-commute walk trips in Marin County would be replaced by a motor vehicle trip if bicycling or walking were not an option. (Nonmotorized Transportation Pilot Program Evaluation Study, 2007)

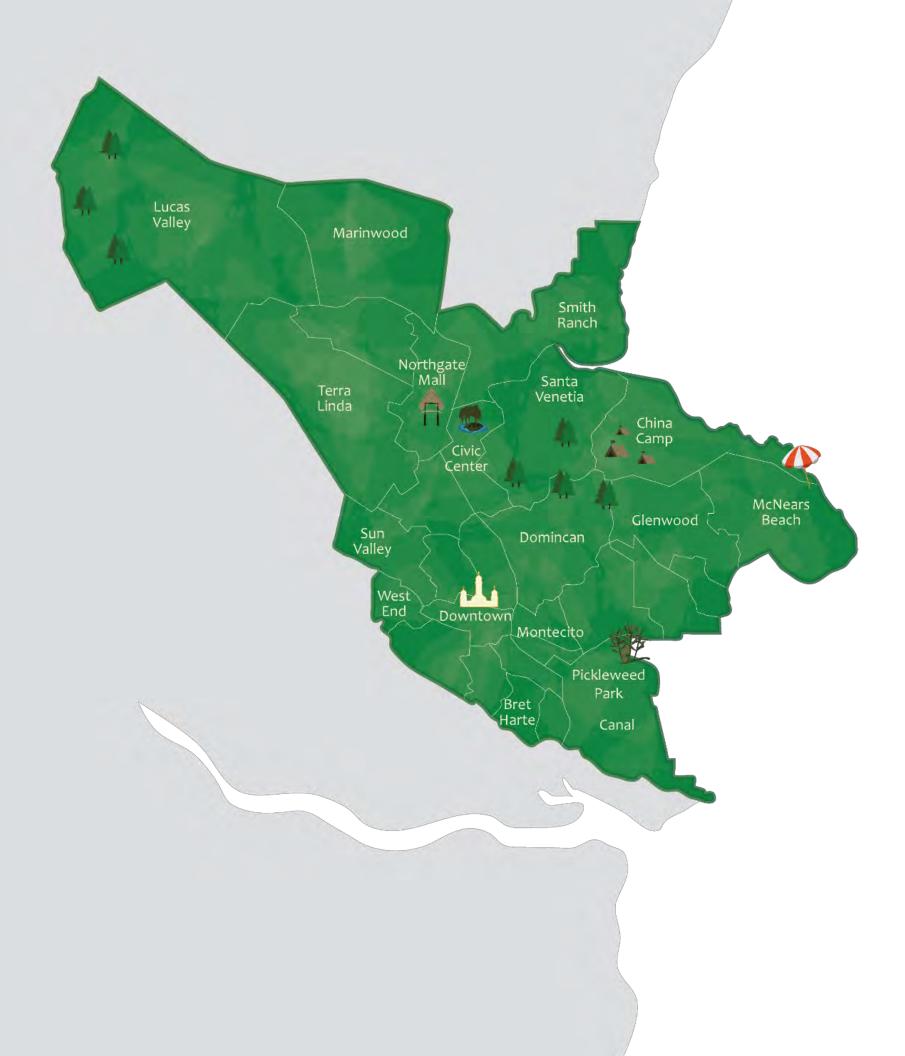
# **Background**

The City last updated its <u>bicycle and pedestrian plan in 2011</u>. One objective of that plan was to continue to use the latest design standards supported by the State of California and the federal government. Since adoption of the previous plan, a wealth of new design guidelines expanded our understanding of creating multimodal streets that work for all users:

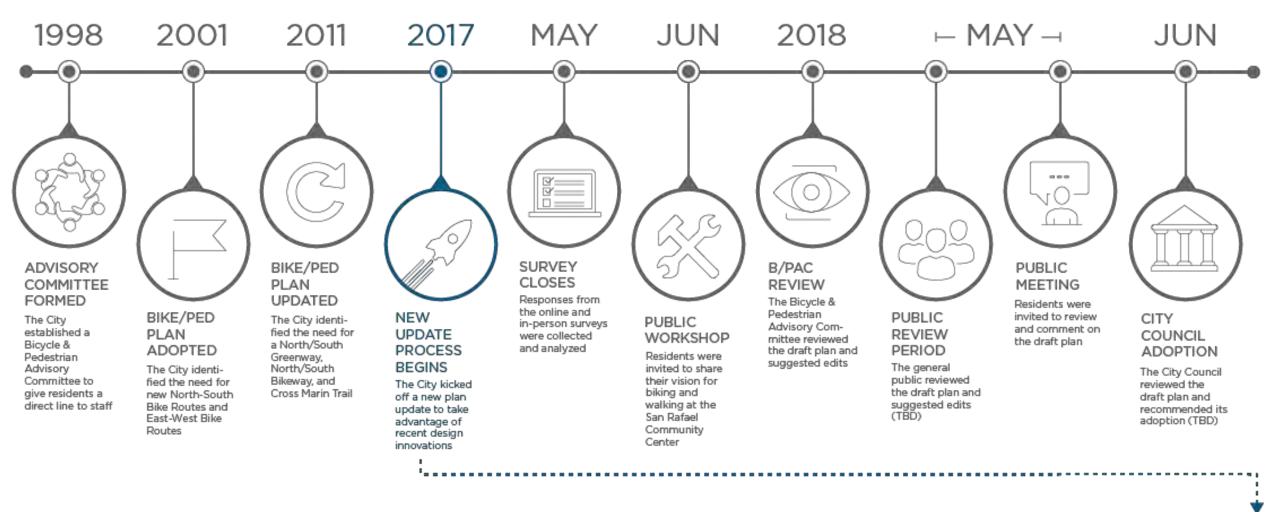
- AASHTO Guide for the Development of Bicycle Facilities (2017)
- Blue Cross/Blue Shield Small Town and Rural Design Guide (2017)
- NACTO Urban Street Stormwater Guide (2017)
- FHWA Pedestrian and Bicycle Performance Measures (2016)
- FHWA Separated Bike Lane Planning and Design Guide (2016)
- ABAG San Francisco Bay Trail Design Guidelines and Toolkit (2016)
- NACTO Transit Street Design Guide (2016)
- APBP Essentials of Bike Parking (2015)
- NACTO Urban Bikeway Design Guide (2014)
- Proposed U.S. Accessibility Guidelines for Public Right-of-Way (2011)

These new guidelines, in combination with a countywide effort to update local and unincorporated area bicycle and pedestrian plans and a series of regional transportation projects that will heavily influence San Rafael, helped prompt this plan update.

This one-year planning process began in 2017 and benefited from the guidance of the City's Bicycle and Pedestrian Advisory Committee (BPAC). Together, with the BPAC, stakeholders, and interested residents, the City has developed a vision for bicycling and walking to help make San Rafael's collection of 30 neighborhoods more bikeable and walkable.



# **Project Timeline**



## TYPES OF BIKEWAYS



CLASS I: MULTI-USE PATHS

bicyclists, pedestrians, and other non-motorized simple painted stripe or with a painted striped driving that are usually low speed and have little travel, such as roller skaters and skateboarders.



CLASS II: BIKE LANES

Off-street facilities exclusively dedicated to use by Dedicated on-street facilities delineated by a buffer between motor vehicles and the bicycle lane. traffic.



CLASS III: BIKE ROUTES

Travel lanes shared between people bicycling and



CLASS III+: BIKE BOULEVARD

A Class III Bicycle Route can become a bicycle boulevard if paired with traffic calming infrastructure such as curb extensions, chicanes, and diverters.



CLASS IV: SEPARATED BIKEWAYS

A new class of bikeway that are typically on-street and physically separated from motor vehicle traffic by a vertical barrier such as a curb, on-street parking, bollards, planters, or stormwater infrastructure. They can provide one-way or two-way travel for bicyclists.

# Goals

1

# Safety

Identify and prioritize bicycle- and pedestrian-related safety improvements.

2

# Connectivity

Develop bicycle and pedestrian networks that connect residents and visitors to major activity and shopping centers, existing and planned transit, and schools. Work to close gaps between existing facilities.

3

# Coordination

Build on existing and ongoing planning efforts to identify changing needs at the local and regional levels, including Complete Street, environmental, and transit projects.

4

# **Universal Design**

Promote design standards and support facilities that encourage bicycling and walking among people of all ages and abilities, including children, seniors, families, and people with limited mobility. Work to match project designs to the residents they are intended to serve.

5

# **Programs**

Support bicycling and walking by providing educational and encouragement programs.



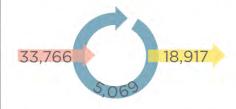
# **BEL MARIN** KEYS SANTA MARGARITA CHILDREN'S CENTER SOCIAL SECURITY ADMINISTRATION BOYS & GIRLS CLUB TERRA LINDA NORTHGATE KAISER PERMANENTE CHINA CAMP MEDICAL CENTER STATE PARK DOMINICAN UNIVERSITY SAN ANSELMO MONTECITO WHOLE FOODS CANAL BEVMO! SMART & FINAL PG&E SERVICES CENTER SAN RAFAEL IS EXPECTED TO LARKSPUR CONTINUE TO GROW **ALONG HIGHWAY 101**

SOURCE: EMPLOYMENT DATA FROM U.S. CENSUS BUREAU'S LEHD DATASET (2015) FOR WORK LOCATION: \*STATE OF CALIFORNIA POPULATION FORECASTS BY COUNTY (2010-2060)

# **Land Use**

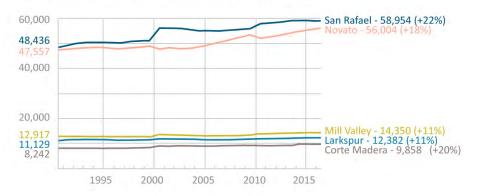
In San Rafael, the most dense housing and commercial areas are concentrated along the Highway 101 corridor and in downtown. Within *Plan Bay Area 2040*, a long-range regional blueprint to guide land use decisions and investments for the whole Bay Area, the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) anticipated growth in these areas, and designated the area around the San Rafael Transit Center as a "Priority Development Area" for the region. While keeping equity in mind, the BPAC also sees value in concentrating pedestrian, bicycle, and other transportation investments around the land uses that receive the most activity. These locations include the Canal neighborhood, downtown and neighboring Montecito, the Terra Linda neighborhood, and the area around Northgate Mall and Civic Center.

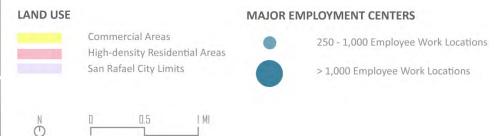
## **EMPLOYMENT INFLOWS/OUTFLOWS**



Every weekday in San Rafael, 33,766 employees travel to the City for work, 5,069 live and work in San Rafael, and 18,917 San Rafael residents leave the City for work.

**POPULATION** - Marin County grew 25% between 1990 and 2015 but is projected to only grow 4% between 2015 AND 2060\*

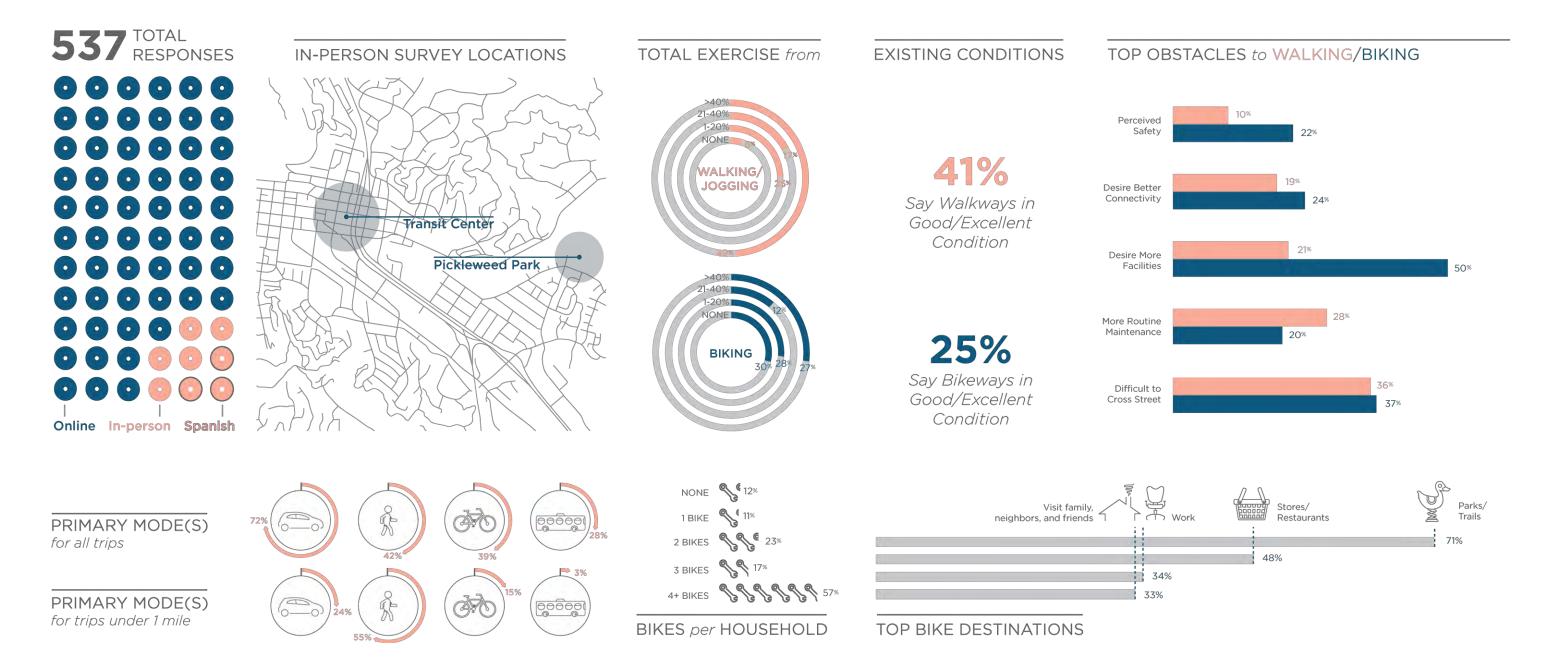




# Survey

A pedestrian and bicyclist preference survey was posted online from February 18th to April 24th, 2017. In addition to the online format, an outreach team administered in-person surveys on March 9th, 2017 at the San Rafael Transit Center and Pickleweed Park. In total, the City collected 537 survey responses, including 44 in-person surveys in English and 22 in Spanish. Currently, respondents see bicycling primarily as a recreational tool, with 71% of respondents indicating that parks/trails were among their top bicycling destinations. To make bicycling more accessible for work and school trips, respondents indicated a desire to create new facilities (50%), improve street crossings (37%), and develop a more connected network (24%).

Respondents indicated that walking and jogging constitute a large portion of their exercise (49% indicated that at least 40% of their exercise comes from walking or jogging) and that walking was the preferred mode of transportation for trips less than 1 mile. However, less than half of respondents thought that walking conditions in San Rafael were good or excellent (41%), and indicated that the greatest desires are to improve street crossings (37%), to maintain existing facilities (28%), and to create new walkways (21%).



See <u>Appendix A</u> for the survey instrument and <u>Appendix B</u> for the survey responses



- 8 Bikeways
- 9 Bike Parking
- Wayfinding
- Walkways
- 15 Programs

**Did you know?** The average bicycle trip distance in Marin County is 2.2 miles. (Nonmotorized Transportation Pilot Program Evaluation Study, 2007)

# DID LUCAS VALTEY RD High-stress intersection TERRA LINDA CHINA CAMP STATE PARK Highway 101 crossing Insufficient as Safe erto Suello Hill Pathwa Routes to School SAN ANSELMO High-stress intersection CANAL transition Cal-Park Hill Pathwa **RESIDENTS** SUBMITTED OVER 100 COMMENTS ABOUT **EXISTING BIKEWAYS**

SDURCE: ESRI, CITY OF SAN RAFAEL, TRANSPORTATION AUTHORITY OF MARIN; LAST UPDATED: MARCH 31, 2017; \*COUNTS CONDUCTED AT 4 LOCATIONS (NONMOTORIZED TRANSPORTATION PILOT PROGRAM, 2013)

See page 3 for a description of facility types, <u>Appendix C</u> for the full list of mapped public comments, and <u>Appendix D</u> for a list of existing facilities San Rafael Bicycle & Pedestrian Master Plan, 2018 Update | Public Review Draft

# **Existing Bikeways**

Online and at a public workshop, residents submitted over 100 comments highlighting existing gaps in the bicycle network, areas of concern, and potential locations for bicycle parking. Gaps in the bicycle network exist in the downtown area and at connections to the Transit Center. Locations that residents identified as areas of concern include crossings of Highway 101 at Bellam Boulevard, Second Street, and North San Pedro Road. In addition, residents indicated that travelling along Francisco Boulevard East feels particularly uncomfortable and expressed a desire to improve the connection between Montecito Plaza and the Canal neighborhood. Lastly, residents noted that there is a desire for short-term bike parking in downtown and secure, long-term parking at the Transit Center.

### WEEKDAY PEAK-HOUR COUNTS\*



2007 2008 2009 2010 2011 2012 2013

At the four San Rafael locations tracked in the "Nonmotorized Transportation Pilot Program," the number of weekday peak-hour bicyclists decreased by 26% between 2007 and 2013.

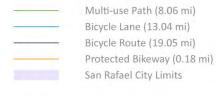
See Appendix E for available count data

### **FEET OF BIKEWAYS PER RESIDENT**



San Rafael has fewer feet of bikeways per resident than Corte Madera or Larkspur but boasts the most miles of multi-use paths of any city in Marin County (8.06 miles). Featured bikeways include the Cal-Park Hill Pathway, Puerto Suello Hill Pathway, and the San Francisco Bay Trail.

## **EXISTING BIKEWAYS**



N 0 0.5 1 M

## **PUBLIC COMMENTS**



Network gap



Areas of concern



Need bike parking

# **Bike Parking**

Bicyclists choose to park as close to their destinations as possible and will often choose to lock their bicycles to nearby objects if a rack is not immediately available.

A desire for short-term bicycle parking was reflected in the resident survey and observation of overflow bicycle parking on parking meters, trees, and sign poles. While standard inverted u-racks are present in downtown, additional racks in strategic locations would be desirable.

In interviews of bicyclists at the Transit Center, it appears that the presence of available keyed lockers on Third Street under Highway 101 (pictured top left and bottom left) was not well-known. The keyed lockers allow a bicyclist to securely store his or her bicycle, helmet, and other equipment without the hassle of carrying them on a bus or storing at an end destination in San Rafael.

See Appendix G for more information.



Bike locker near the Transit Center



Bike lockers near the Transit Center



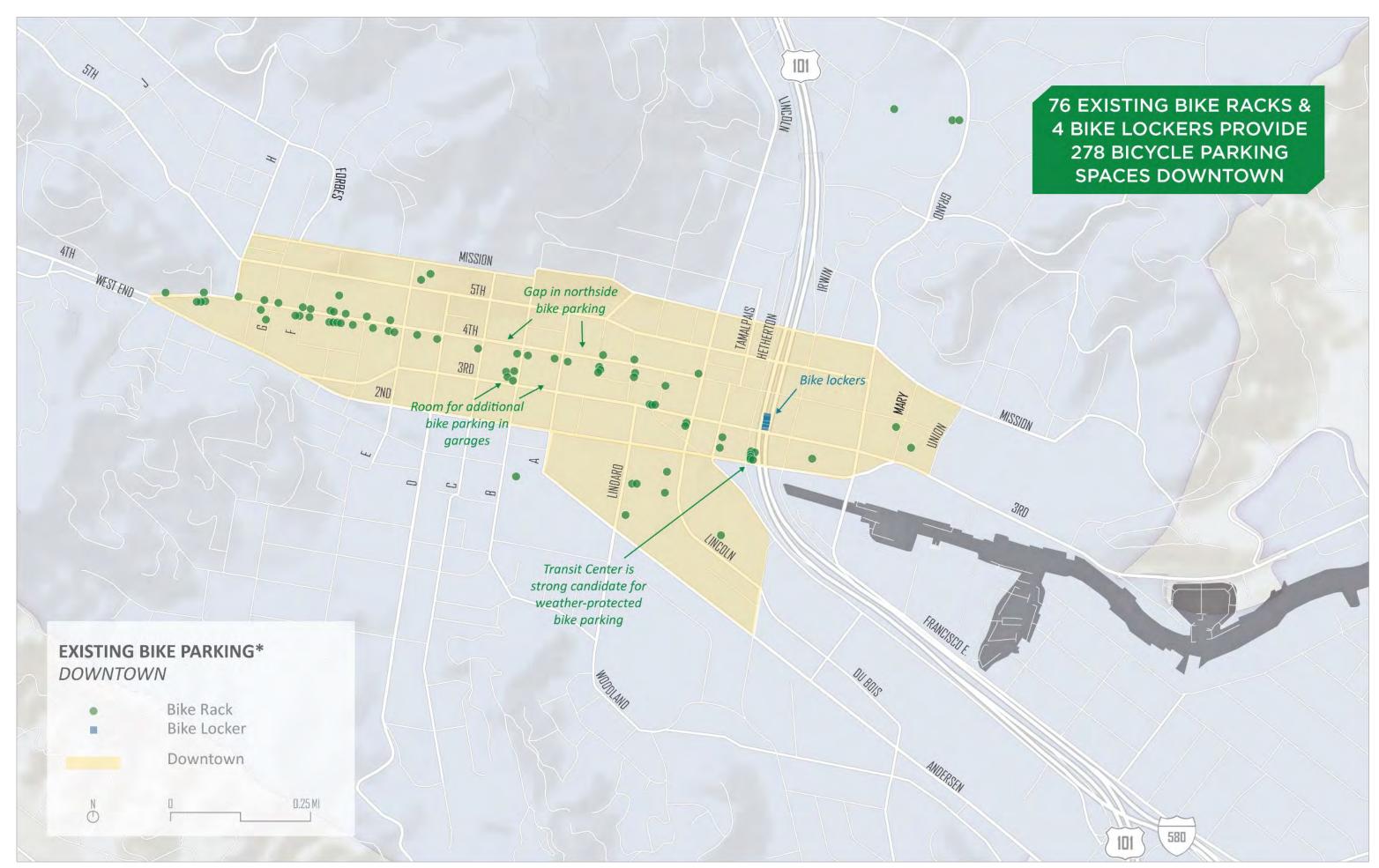
Parked bicycles near Sol Food on Third Street



Parked bicycles at the Transit Center



Parked bicycle near Taj of Marin on Fourth Street





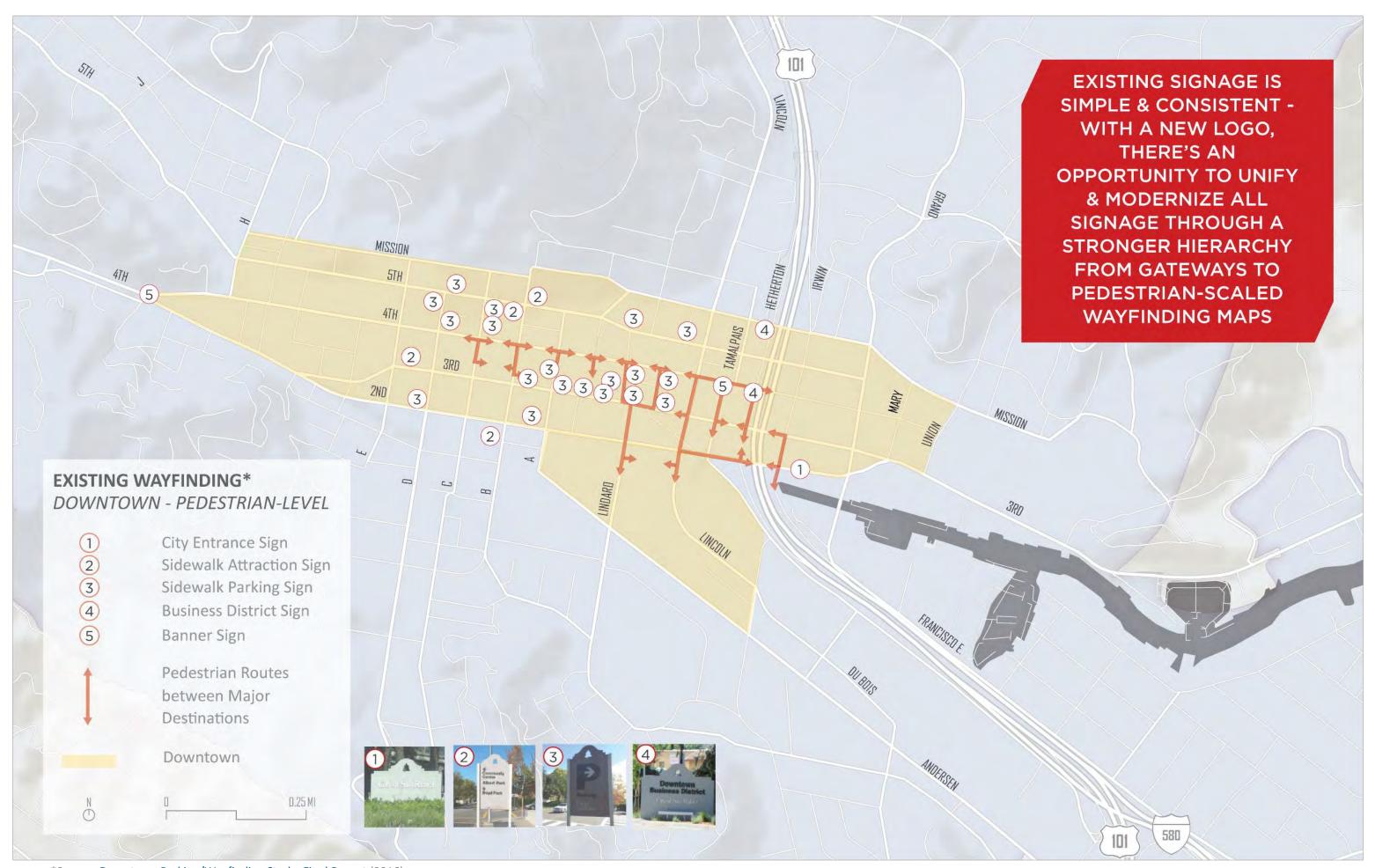






# Wayfinding

Initiated in 2000, the *Countywide Bicycle Route Guide Signage* project provides a comprehensive system of numbered bicycle route signs to guide bicyclists along the safest and most direct routes between Marin County's cities and towns (center top image). In addition, San Rafael has installed informational kiosks (right), location confirmation signs (left), and pedestrian-focused wayfinding (center bottom).



# RESIDENTS PROVIDED OVER 75 COMMENTS ABOUT WALKING SDURGE: COUNTS CONDUCTED AT 4 LOCATIONS (NONMOTORIZED TRANSPORTATION PILOT PROGRAM, 2013); MODE SHARE DATA (AMERIAN COMMUNITY SURVEY, FIVE-YEAR ESTIMATES)

See Appendix C for the full list of mapped public comments

## San Rafael Bicycle & Pedestrian Master Plan, 2018 Update | Public Review Draft

# **Existing** Walkways

The network of sidewalks, multi-use paths, and other walkways in San Rafael is well developed. Most areas in the city have sidewalks on at least one side of the street, and most commercial areas have sidewalks on both sides of the street. Through the online survey and in-person workshop, pedestrian network gaps and difficult street crossings were identified. Difficult street crossings include the area near the Transit Center (Hetherton Street, Irwin Street, Second Street, and Mission Avenue) and along Jewell Street, Lucas Valley Road, Manuel T. Freitas Parkway, and North San Pedro Road.

### **WEEKDAY PEAK-HOUR COUNTS\***

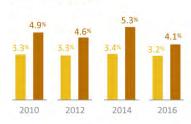


2007 2008 2009 2010 2011 2012 2013

At the four San Rafael locations tracked in the "Nonmotorized Transportation Pilot Program," the number of weekday peak-hour pedestrians decreased by 42% between 2007 and 2013.

See  $\underline{\mathsf{Appendix}\;\mathsf{E}}$  for available count data

## WALK COMMUTE MODE SHARE (COUNTY v. CITY)

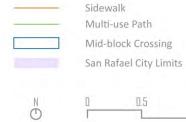


### SAFE ROUTES WALK CONDITIONS

**37%** 

of people with a family member participating in the Safe Routes to School program would rate walking conditions good or excellent

### **EXISTING WALKWAYS**



## **PUBLIC COMMENTS**



Network gap



Area of concern

 Difficult crossing (i.e., crossing length, pedestrian visibility, signal timing, lack of curb ramps, etc.)







2<sup>nd</sup> Friday Art Walk on Fourth Street



City Plaza at Rafael Town Center



McInnis Skatepark off Smith Ranch Road

# **Featured**

In addition to identifying areas of improvement, highlighting exceptional existing places in San Rafael that encourage people to walk, bicycle, and be active can provide a template for future projects.

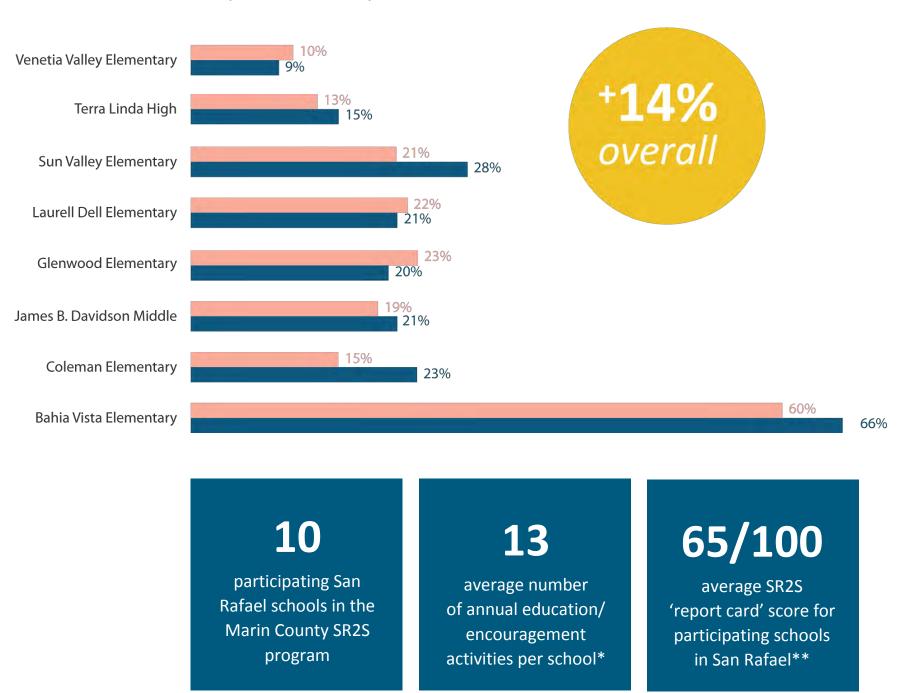
# **Programs**

Established in 2000, Marin County's Safe Routes to Schools (SR2S) is an award-winning program designed to reduce congestion around schools, while instilling healthy habits in children and creating a safer and cleaner environment for all. It does this through classroom education, special events, infrastructure improvements, a crossing guard program, and other strategies that aim to increase the number of non-motorized (walk and bicycle) and higher vehicle occupancy (carpool and transit) trips to and from schools. For the 8 schools in San Rafael with available baseline and Fall 2015 hand tally data, the program has successfully seen a 14 percent increase in the number of students traveling to school by bicycling, skateboarding, scootering, or walking (see the most recent program evaluation and its appendix for more information).

For adults, the <u>Marin County Bicycle Coalition</u> (MCBC) offers several courses designed to educate new riders on proper bicycling techniques and experienced riders on how to navigate city traffic. Additionally, MCBC produces a countywide map to help bicyclists navigate the county's paths and roadways.

'WalkBikeMarin', an initiative by the County of Marin to help make Marin healthier, more livable, and more environmentally sustainable by encouraging walking and bicycling as everyday transportation, received a federal grant to start the Nonmotorized Transportation Pilot Program. Of the \$25 million given to the program, \$1 million was dedicated to bike repair classes, engineering seminars, travel planning, safety campaigns, riding with youths workshops, health promotion, and other activities.

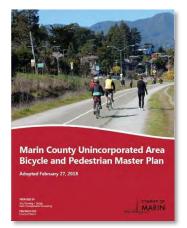
# **ACTIVE MODE SHARE TO SCHOOL (BASELINE v. CURRENT)**

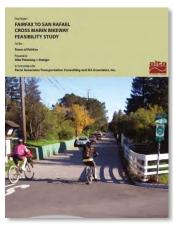


<sup>\*</sup>See Appendix E for full list of activities

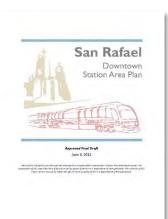
<sup>\*\*</sup>Compared to program-wide average of 60/100

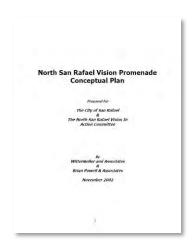
# COORDINATION Related Plans 18 Previous Plan Transit Connections Did you know? 45% of transit riders in Marin County get to their stop by bicycling or walking. (Nonmotorized Transportation Pilot Program Evaluation Study, 2007)

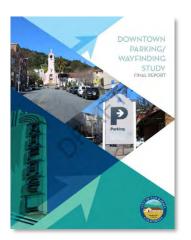


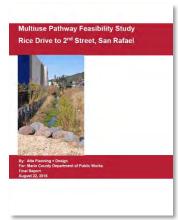












# **Related Plans**

One major impetus for updating San Rafael's Bicycle and Pedestrian Plan was the need to incorporate the large number of studies completed since 2011. This plan update incorporated these recent reports, as well as recommendations from major studies pre-dating 2011:

- Third and Heatherton Traffic Study (ongoing)
- San Rafael Transit Center Relocation Study (ongoing)
- Marin County Unincorporated Area Bicycle and Pedestrian Master Plan (2018)
- Larkspur Bicycle and Pedestrian Master Plan (2017)
- San Francisco Bay Trail Design Guidelines and Toolkit (2016)
- Downtown Parking/Wayfinding Study (2016)
- Multi-use Pathway Feasibility Study: Rice Drive to Second Street (2016)
- San Anselmo Bicycle and Pedestrian Master Plan (2016)
- Marin Transit 2016-2025 Short-range Transit Plan (2015)
- Nonmotorized Transportation Pilot Program Status Report (2014)
- Marin County Bicycle Share Feasibility Study (2013)
- San Rafael Civic Center Station Area Plan (2013)
- San Rafael Downtown Station Area Plan (2012)
- San Rafael Bicycle and Pedestrian Plan Update (2011)
- Miller Creek Road/ Las Gallinas Avenue Bicycle and Pedestrian Study (2011)

- San Quentin Area Bicycle and Pedestrian Access Study (2011)
- Safe Routes to School San Rafael Task Force Issues List (2011)
- Sun Valley Elementary School Travel Plan (2011)
- Davidson Elementary School Travel Plan (2011)
- Glenwood Elementary School Travel Plan (2011)
- Venetia Valley Elementary School Travel Plan (2011)
- Fairfax to San Rafael Cross Marin Bikeway Feasibility Study (2010)
- <u>Canalfront Conceptual Design Plan</u> (2009)
- Climate Change Action Plan (2009)
- Regional Bicycle Plan for the San Francisco Bay Area (2009)
- Canal Neighborhood Community-based Transportation Plan (2006)
- The San Francisco Bay Trail Gap Analysis Study (2005)
- San Rafael General Plan 2020 (2004 and 10-year status report)
- North San Rafael Vision Promenade Conceptual Plan (2002)
- San Rafael Bicycle and Pedestrian Plan (2001)

## SOURCE: SAN RAFAEL BICYCLE & PEDESTRIAN PLAN 2011

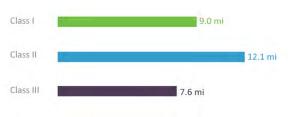
# **Previous Plan**

The 2011 update of San Rafael's Bicycle and Pedestrian Plan called for a series of bicycle and pedestrian projects, including:

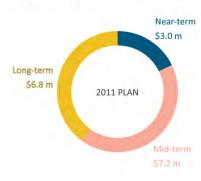
- North/South Greenway Combination of Class I multi-use paths and Class II on-street bicycle lanes from the south City limit to the north City limit.
- North-South Bikeway Branches off the North/South Greenway alignment north of Lincoln Avenue to provide Class II on-street bicycle lane and Class III bicycle route connections to the Northgate Mall area and north City limit.
- Nova Albion School Access A Class I multi-use path on Nova Albion Way to connect Vallecito Elementary School and Terra Linda High School.
- Lucas Valley Road/Smith Ranch Road A combination of Class I, II, and III bikeways from the west City limit to McInnis Park.
- Francisco Boulevard West Class I or II bikeway from the Transit Center to a proposed Highway 101 overcrossing.
- Civic Center Connector Class I and Class II bikeways on North San Pedro Road from Los Ranchitos Road to Civic Center Drive and continuing north on Civic Center Drive to the North San Rafael Promenade.

### PREVIOUSLY PROPOSED BY CLASS

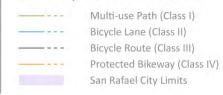
# COSTS OF PREVIOUSLY PROPOSED







## **EXISTING | PREVIOUSLY PROPOSED**

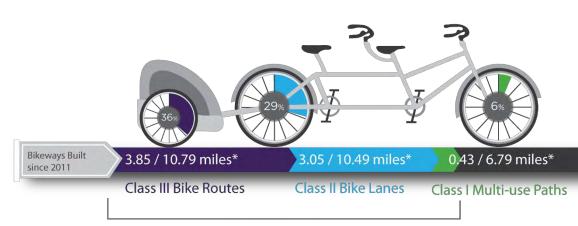




# **Progress**

# 2011-2017

Following the adoption of the 2011 Bicycle and Pedestrian Plan, the City of San Rafael has made progress towards its goals. The City implemented 26 percent of its proposed bicycle projects (by miles), including 0.43 miles of Class I multi-use paths, 3.05 miles of Class II bicycle lanes, and 3.85 miles of Class III bicycle routes. In addition, the City has completed a number of grant applications in pursuit of project funding, maintained a dedicated webpage for bicycle- and pedestrian-related projects, and maintained an online system for reporting roadway hazards.



# 26% total complete

# **Completed Policy Actions**

 Adopt 2011 Bicycle and Pedestrian Plan Update
 Retain Bicycle and Pedestrian Advisory Committee
 Seek regional, state, and federal funding for projects
 Integrate bicycle/pedestrian design considerations in all transport projects
 Undertake routine maintenance of bicycle/pedestrian facilities
 Support and promote improve bike access to transit facilities

# **Featured**



Puerto Suello Hill Pathway -

Transit Center Connector





Lucas Valley Road Bike Lanes

North San Rafael Promenade -Merrydale Road Connector

additional 20.74 miles previously planned

$\sqrt{}$	Develop youth education, encouragement, and safety programs
V	Provide method for reporting roadway hazards
	Add bicycle-related information to City website
	Use latest design guidelines
	Encourage Golden Gate Transit District to use higher capacity racks on buses

# SAN ANSELMO STATION/ TRANSIT **MAJOR TRANSIT** HUBS ANCHOR THE NORTH-SOUTH & **EAST-WEST ROUTES**

## SDURCE: GIS DATA (MARIN COUNTY); \*2020 GENERAL PLAN; \*\*NONMOTORIZED TRANSPORTATION PILOT PROGRAM 2011 SUMMARY; \*\*\*GGTH6T DISTRICT SURVEY 2015

# **Transit Connections**

Combining bicycle and pedestrian trips with transit helps extend the distance San Rafael residents, employees, and visitors can travel without a personal motor vehicle. Transit within San Rafael primarily consists of local and regional bus service from Marin County Transit District and Golden Gate Bridge, Highway, and Transportation District with connections to surrounding neighborhoods, communities, and counties. All buses are equipped with 2-3 bicycle racks, available on a first-come, first-serve basis. Additional transit services include:

- The Sonoma Marin Area Rail Transit (SMART) commute passenger began rail service in August 2017, connecting the downtown San Rafael Station and Civic Center Station to northeast Marin County and Sonoma County. A second phase will extend the rail line to the Larkspur Ferry Terminal, ultimately providing Marin County residents transit service to/from San Francisco. The SMART Path, a Class I multi-use path running parallel to the rail alignment, will provide San Rafael with a contiguous north-south bicycle and pedestrian route when complete.
- The Marin Airporter provides shuttle service to San Francisco International Airport.
- Whistlestop Wheels runs on-demand transit service for elderly and disabled riders.

The most heavily used bus routes in San Rafael are in the Canal neighborhood (routes 20 and 35)\*, and creating direct bicycle and pedestrian routes to stops on Canal Street, Bellam Boulevard, Francisco Boulevard East, and the Transit Center will help improve access for these high-frequency users.





- 22 Bike Collisions
- 24 Pedestrian Collisions
- 27 Areas of Concern

**Did you know?** The average bicycle trip in Marin County is 51 minutes and the average walk trip is 46 minutes. (Nonmotorized Transportation Pilot Program Evaluation Study, 2007)

# CHINA CAMP STATE PARK SAN ANSELMO APPROXIMATELY 1 IN EVERY 10 COLLISIONS IN SAN RAFAEL **INVOLVES A BICYCLIST**

SDURCE: \*\*SWITRS/TIMS (2DI4-2016 DATA IS PROVISIONAL AND SUBJECT TO CHANGE: 23 UNMAPPED COLLISIONS)

# **Bike Collisions**

High-collision corridors and intersections were determined through a review of the 239 reported bicycle-involved collisions reported between January 2009 and December 2016. The corridors with the greatest occurence of bicycle-involved collisions per mile were: Fourth Street (47 collisions), Francisco Boulevard East/Grand Avenue/US 101/Interstate 580 (37 collisions), and Second Street (31 collisions). The individual intersections with the most collisions all were on Fourth Street (at G Street, B Street, Hetherton Street, Tamalpais Avenue, and Irwin Street), with 3 bicycle-involved collisions each. Police reports show that there was a fairly even distribution of collisions by age, and approximately 68% of bicyclists involved in collisions were wearing a helmet.

### TOP 5 BIKE-INVOLVED COLLISION FACTORS



# ANNUAL COLLISIONS (ALL TYPES) AND BIKE-INVOLVED COLLISIONS



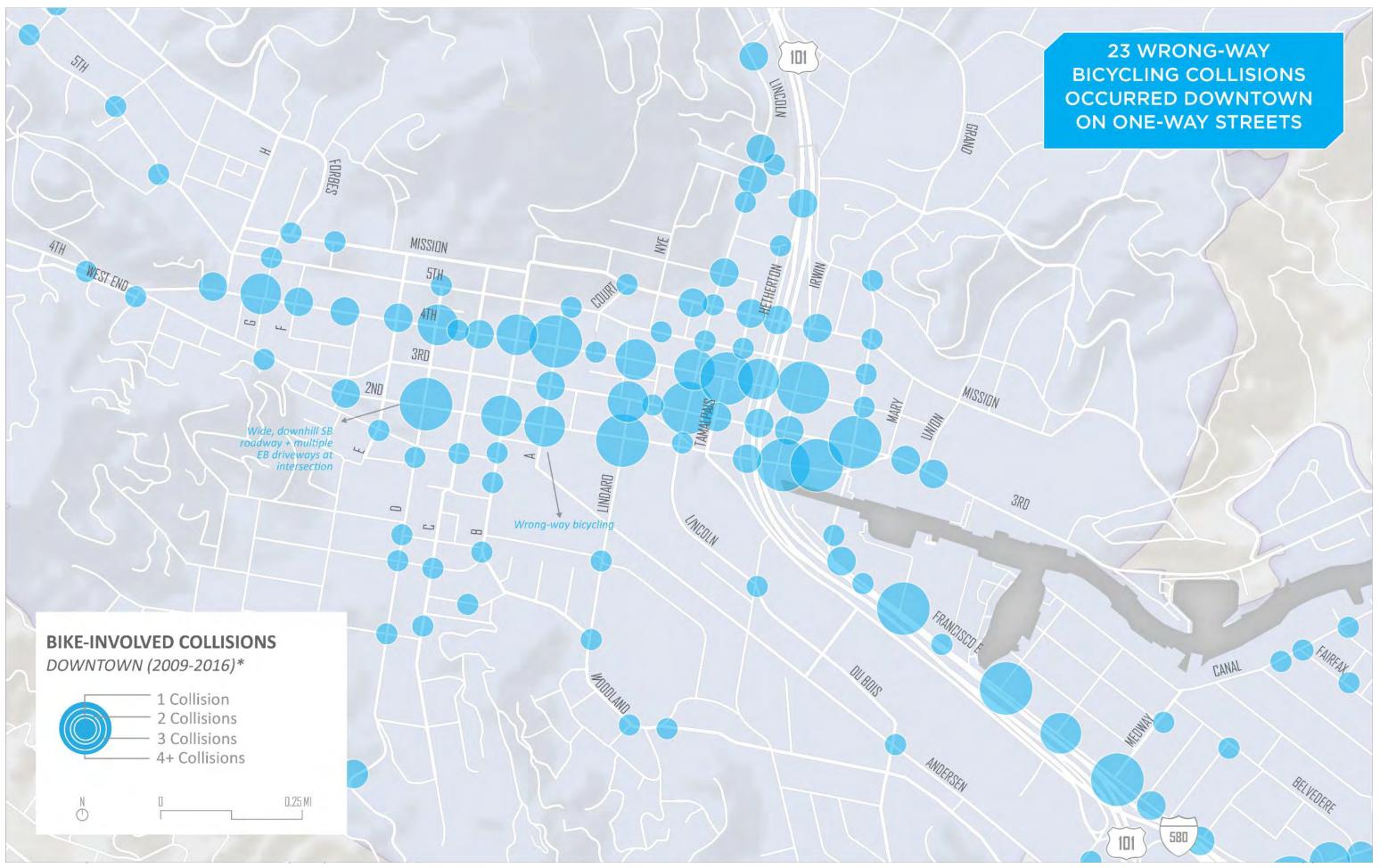
## BIKE-INVOLVED COLLISIONS (2009-2016)\*\* ACTIVITY GENERATORS





<sup>\*</sup>In this context, "Auto Right of Way" is when a bicyclist conducted an action that brought them within a motorist's right of way, leading to a collision.

San Rafael Bicycle & Pedestrian Master Plan, 2018 Update | Public Review Draft



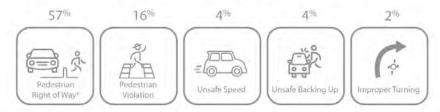
# CHINA CAMP STATE PARK SAN ANSELMO **APPROXIMATELY 1 IN** EVERY 10 COLLISIONS IN SAN RAFAEL INVOLVES A PEDESTRIAN

SDURCE: \*\*SWITRS/TIMS (2014-2016 DATA IS PROVISIONAL AND SUBJECT TO CHANGE; 23 UNMAPPED COLLISIONS)

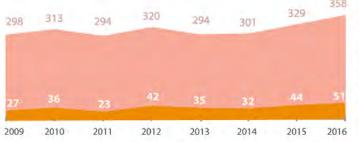
# **Pedestrian Collisions**

A review of the 290 reported pedestrian-involved collisions between January 2009 and December 2016 was conducted, and the collisions were mapped to determine corridors and intersections of concerns. The corridors with the greatest occurence of pedestrian-involved collisions per mile were: Third Street (55 collisions), Fourth Street (43 collisions), Second Street (29 collisions). The individual intersections with the most collisions were on Third Street (17 at Hetherton Street, 10 at Tamalpais Avenue, and 8 at Grand Avenue).

### TOP 5 PEDESTRIAN-INVOLVED COLLISION FACTORS



# ANNUAL COLLISIONS (All TYPES) AND PEDESTRIAN-INVOLVED COLLISIONS



Between 2009 and 2016, there was an average of 313 total collisions per year and an average of 36 pedestrian-involved collisions per year.

## PEDESTRIAN-INVOLVED COLLISIONS (2009-2016)\*\*

# **ACTIVITY GENERATORS**

School

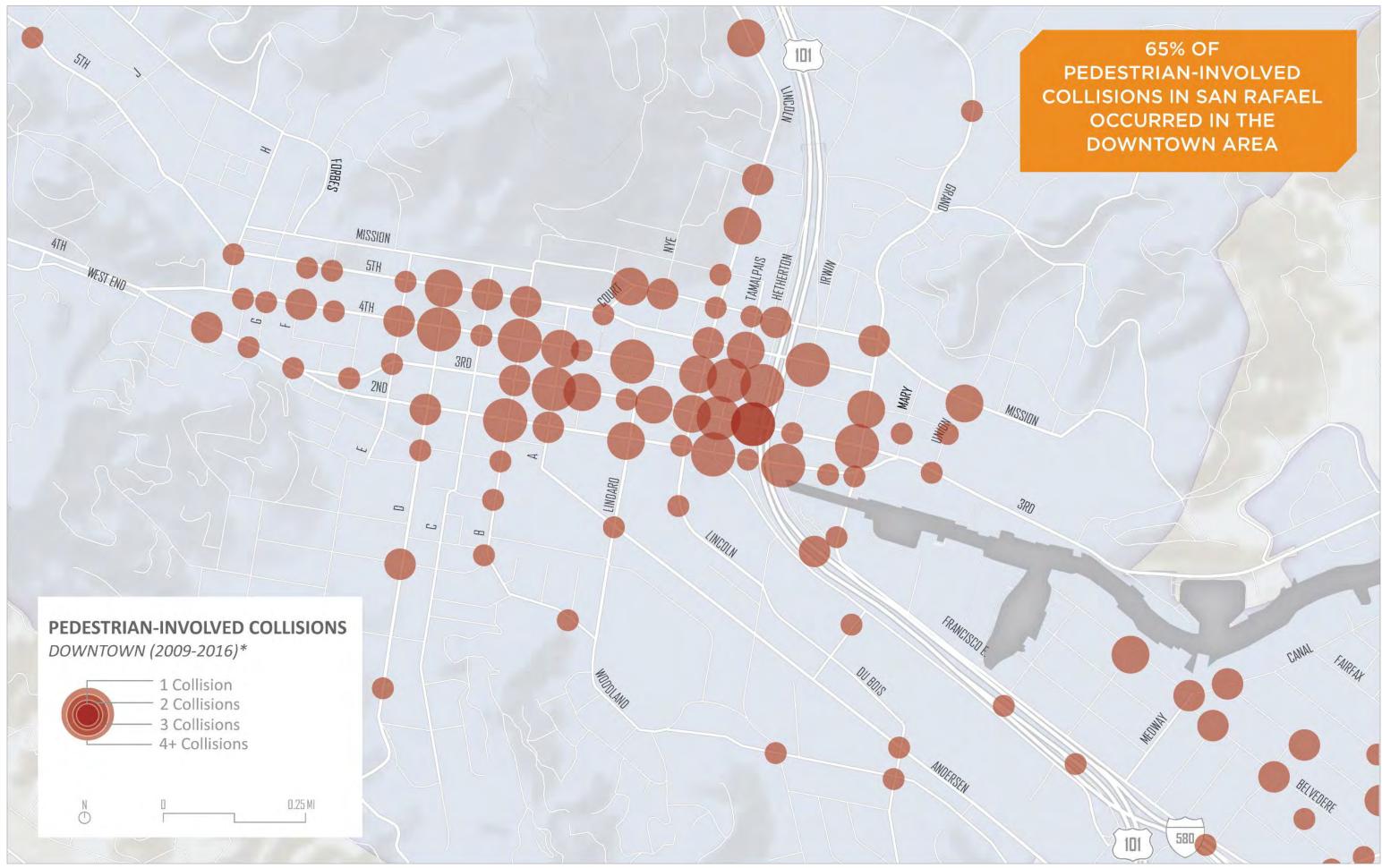




Transit Hub

San Rafael City limits

<sup>\*&</sup>quot;Pedestrian Right of Way" violations are when a motorist conducts an action that brings them within a pedestrian's right of way, leading to a collision.



# Pedestrian Crossing Safety Countermeasures



## **ADA-compliant Curb Ramp**

Allow all users, including people with mobility-assist devices (wheelchairs, canes, and walkers), strollers, and carts, to make the transition from the street to the sidewalk.



### **Curb Extension**

Help minimize pedestrian exposure to motor vehicles by shortening the street crossing distance and making pedestrians more visible before they commit to crossing.



# **Median Refuge Island**

Located at the mid-point of a marked crossing to allow pedestrians to cross one direction of traffic at a time.



## **Active Warning Beacon**

User-activated illuminated devices that are designed to bring attention to pedestrians crossing the street and to increase the probability that motorists yield to pedestrians at marked crosswalks.



### **Green Infrastructure**

Treats and slows stormwater runoff from roadways, sidewalks, and buildings through bioretention swales, rain gardens, tree box filters and pervious pavements. These strategies help reduce the risk of erosion and flooding which can threaten local creeks and other natural habitats.

# **Bicycle Intersection Safety Countermeasures**



# **Skip Striping**

Intervals of green pavement markings to call attention to conflict areas between motorists and bicyclists at mixing zones during right-hand turns, through intersections, and near driveways.



### **Two-stage Turn Box**

Offer bicyclists a safe way to make left turns at signalized intersections by allowing a bicyclist to proceed through the intersection and to wait ahead of perpendicular motor vehicle traffic before proceeding in their intended direction.



### **Bike Box**

Designated areas at signalized intersections that allows bicyclists to wait in front of queuing motor vehicle traffic during a red light, helping to minimize conflicts between motorists and bicyclists.



# **Protected Intersection\***

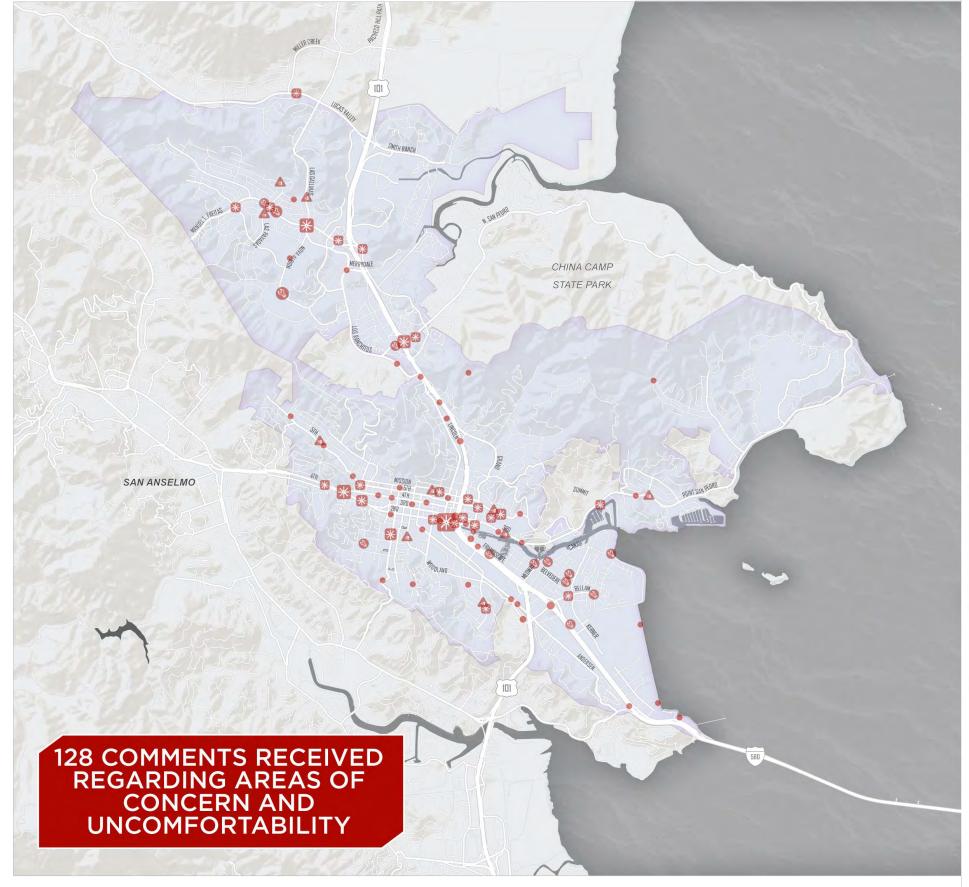
Maximize bicyclist comfort and motorist yield rates at intersections through various design elements, such as corner safety islands, mountable aprons, two-stage turning boxes, and marked bicycle crossings ("crossbikes").



# **Protected Bicycle Signal Phase**

Help reduce conflicts between bicyclists and motorists at intersections by allowing bicyclists to enter the intersection ahead of motorists (similar to a "pedestrian leading interval") or at completely different times.

<sup>\*</sup> Protected intersections are an integral part of a comprehensive bicycle network. While specific intersections are not identified as part of this plan, each intersection will be studied as it is due for upgrades.



# **Areas of Concern**

Residents identified areas of concern through the online engagement tool and at the public workshop. The feedback was helpful in identifying areas people may regularly avoid or facilities that are underutilized. The locations with a concentration of publicly-identified areas of concern that were inconsistent with collision data include:

- Fourth Street at Second Street
- Second Street at Ida Street/G Street
- Manuel T. Freitas Parkway at Las Pavadas Avenue
- North San Pedro Road at Highway 101 undercrossing

### TOP INTERSECTIONS BY NUMBER OF PUBLIC COMMENTS

- Second Street at Francisco Boulevard West (4 comments)
- North San Pedro Road at Highway 101 (4 comments)
- Manuel T. Freitas Parkway at Las Pavadas Avenue (4 comments)
- Fourth Street at Second Street (3 comments)
- Manuel T. Freitas Parkway at Las Gallinas Avenue (3 comments)

## PUBLICLY-IDENTIFIED CONFLICT AREAS

- 1 Comment

  - 2 Comments 3 Comments
- - 4 Comments
    - San Rafael City Limit

## CATEGORIZED COMMENTS

- Routine maintenance desired
- Areas of concern
- Difficult crossing (i.e., crossing length, pedestrian visibility, signal timing, lack of curb ramps, etc.)

0



- 29 Criteria
- Weighted Score Example
- Priority Areas

**Did you know?** On average, the typical adult in Marin County offsets 0.2 miles of driving per day by bicycling and 0.4 miles by walking. (Nonmotorized Transportation Pilot Program Evaluation Study, 2007)

# **Criteria**

## **TOTAL MAX: 100 POINTS**

Ten criteria under three categories (Safety, Coordination, and Connectivity) were developed to help prioritize this plan's list of proposed projects. The criteria were selected based on their alignment with the plan's goals, availability of data, and conversations with the Bicycle and Pedestrian Advisory Committee (BPAC).

An online weighting exercise was completed by the BPAC, helping to distinguish the level of **relative importance** among the criteria categories. The weights for the criteria categories were adjusted to a maximum score of 100 points and divided among each of the three categories' individual criteria.

The following pages and section show how this prioritization scheme applies to a sample project, the city as a whole, and to the full list of proposed projects by geographic group. The prioritization rankings are meant to **serve as a starting point** for focusing future implementation efforts, but because projects are often dependent on competitive funding sources, buy-in from adjacent land owners, environmental and feasiblity analyses, and other factors, actual implementation may not necessarily follow the rankings.

# **COLLISIONS**



# **MAX: 25 POINTS**

Number of bicycle- and pedestrian-involved collisions within a 250-foot radius of the proposed project.

# PUBLIC COMMENTS



**MAX: 17 POINTS** 

Number of mapped public comments, such as network gaps, received within a 250-foot radius of the proposed project.

# AREAS OF CONCERN



**MAX: 23 POINTS** 

Number of publicly-identified locations that feel uncomfortable or that people might avoid within a 250-foot radius of the proposed project.

# **SCHOOLS**



**MAX: 5 POINTS** 

Number of elementary, middle, high, and postsecondary schools within a 0.25-mile radius of the proposed project.

# EMPLOYMENT CENTERS



**MAX: 5 POINTS** 

Number of part- and full-time employees working within a 0.25-mile radius of the proposed project.

# **TRANSIT**



**MAX: 5 POINTS** 

Number of transit stops within a 0.25-mile radius of the proposed project.

# **CIVIC CENTERS**



**MAX: 5 POINTS** 

Number of government buildings within a 0.25-mile radius of the proposed project.

# **POPULATION**



**MAX: 5 POINTS** 

Number of San Rafael residents living within a 0.25-mile radius of the proposed project.

# MEDICAL FACILITIES



**MAX: 5 POINTS** 

Number of medical facilities within a 0.25-mile radius of the proposed project.

# GAP CLOSURE



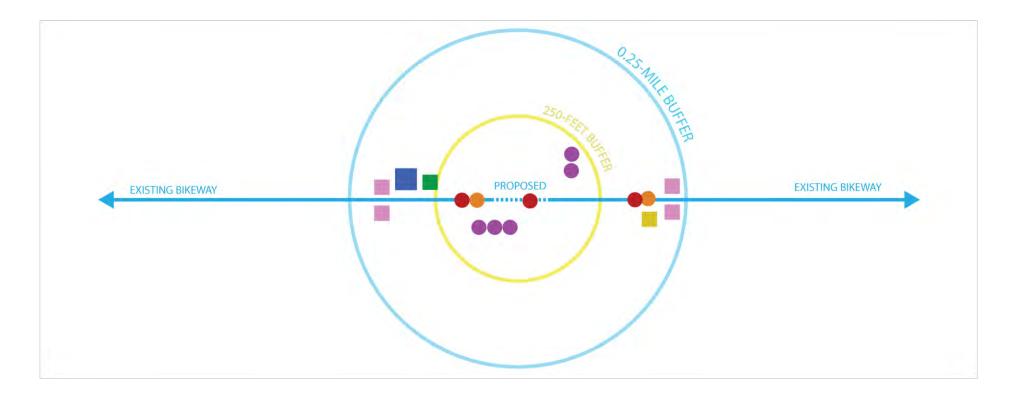
**MAX: 5 POINTS** 

Number of of existing Class I and Class II bikeways that the proposed project would connect to.

# Weighted Score Example

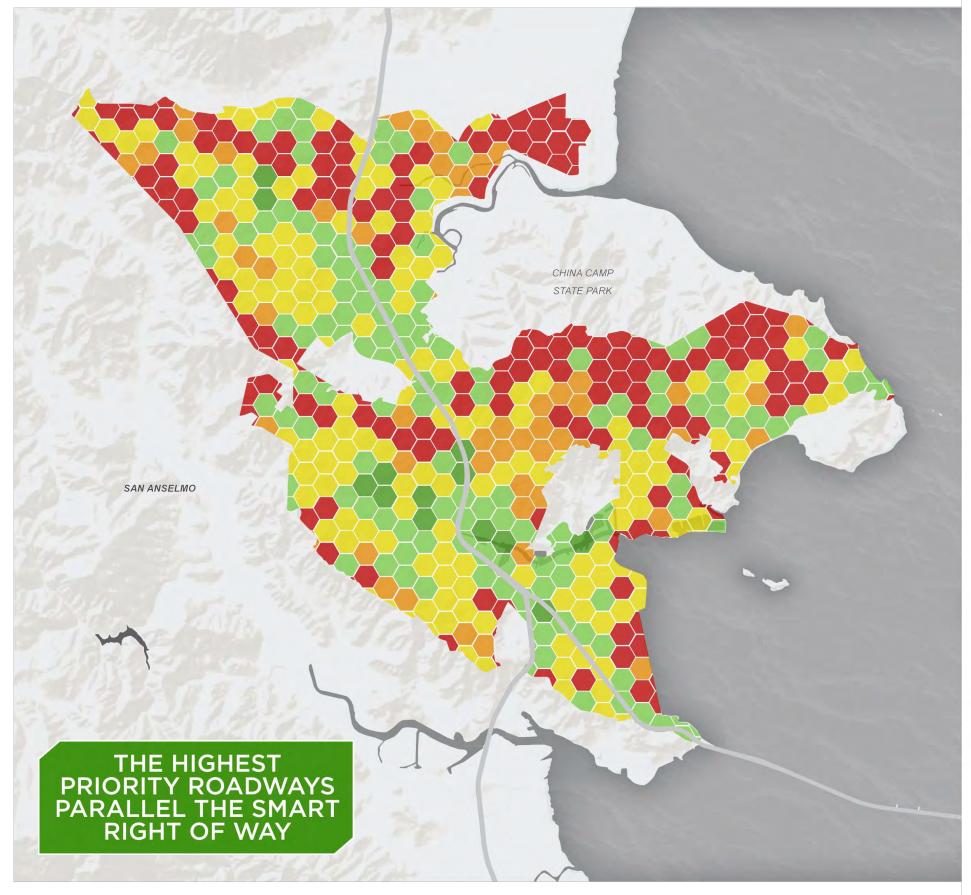
The quickest way to understand how the prioritization process works is to test it on a sample project such as a hypothetical bikeway that could close a gap between 2 existing bikeways. Let's assume within 250 feet of the proposed project there are 2 collisions, 3 areas of concern, and 5 public comments. And let's assume within 0.25 miles of the proposed project there are 300 jobs, 1 civic center, 0 medical facilities, 1 school, 4 transit stops, and 5,000 residents.

Each of the 10 criteria can then be compared to the full list of proposed projects. For example, if there are 2 collisions near the proposed project, that would place it within the 56th percentile among the full project list (that is, 56% of the proposed projects had fewer collisions within 250 feet of their alignments). The percentile rank is then multiplied by the criteria weight. For the hypothetical bikeway, this would be 56% x 25 points, for a score of 14 points. This process is then repeated for each criteria, and the individual criteria scores are summed for a total score out of 100 points. The higher the score, the higher a priority the proposed project would be.



	CRITERIA	VALUE	9	% RANK		WEIGHT		SCORE
	COLLISIONS	2 COLLISIONS	<b>→</b>	56 <sup>th</sup> %	Х	25 POINTS	=	14 POINTS
	AREAS OF CONCERN	3 CONCERNS	 <b>→</b>	85 <sup>th</sup> %	Х	23 POINTS	=	19 POINTS
	PUBLIC COMMENTS	5 COMMENTS	-	88 <sup>th</sup> %	Х	17 POINTS	=	15 POINTS
	EMPLOYMENT CENTERS	300 JOBS	 ->	24 <sup>th</sup> %	X	5 POINTS	=	1 POINT
	CIVIC CENTERS	1 CIVIC CENTER	 <b>→</b>	37 <sup>th</sup> %	X	5 POINTS	=	2 POINTS
	MEDICAL FACILITIES	0 MEDICAL FACILITIES	 ->	Oth %	Х	5 POINTS	=	0 POINTS
	SCHOOLS	1 SCHOOL	 <b>→</b>	65 <sup>th</sup> %	х	5 POINTS	=	3 POINTS
	TRANSIT	4 TRANSIT STOPS	 ->	25 <sup>th</sup> %	X	5 POINTS	=	1 POINT
	POPULATION	5,000 RESIDENTS	 ->	98 <sup>th</sup> %	X	5 POINTS	=	5 POINTS
••••	GAP CLOSURE	2 BIKEWAYS	->	92 <sup>th</sup> %	Х	5 POINTS	=	5 POINTS

65/100



# **Priority Areas**

Applying these criteria (excluding gap closure) to every roadway in San Rafael helps illuminate the areas that would be prime locations for project development. The highest scoring areas (76+ points) are parallel to the SMART right of way through downtown, along Second Street near Grand Avenue, Francisco Boulevard East near the Grand Avenue Bridge, and various segments along Fourth Street, Third Street, and Second Street. The second highest scoring areas (51-75 points) include roadways parallel to the SMART right of way in north San Rafael, Devon Drive, the area near Mark Day School, the west end of Manuel T. Freitas Parkway, various segments along Second Street and Point San Pedro Road, and local roadways in the Canal neighborhood.

### PRIORITIZATION CRITERIA & WEIGHTS

- Bicycle- and Pedestrian-involved Collisions (25 points)
- Publicly-identified Areas of Concern (23 points)
- Other Public Comments Received (17 points)
- Number of Full- and Part-time Jobs (5 points)
- Number of Government Buildings (5 points)
- Number of Medical Facilities (5 points)
- Number of Schools (5 points)
- Number of Transit Stops (5 points)
- Total Population (5 points)
- Gap Closure (excluded from all roadway analysis)

### PRIORITY SCORE (REGARDLESS OF EXISTING FACILITIES)

0-10 Points 26-50 Points 76-100 Points



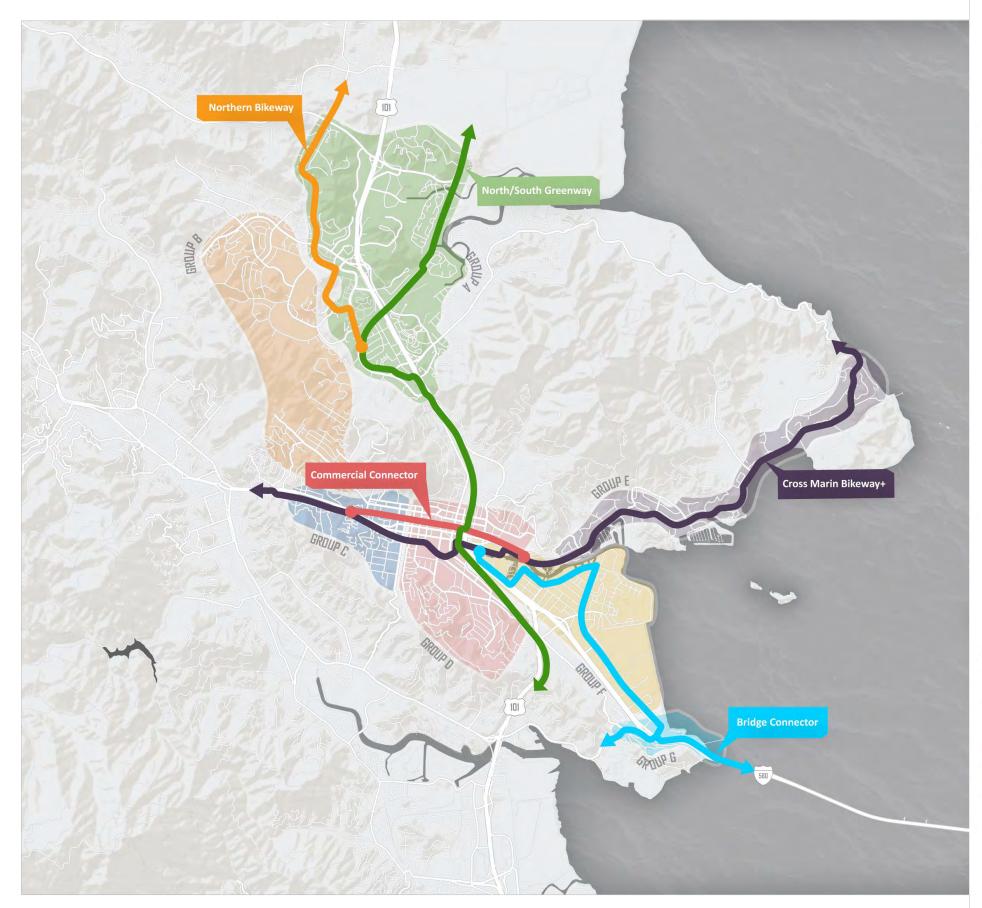


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# **PROPOSED**

- 33 Overview
- 34 All Projects
- Projects by Group
- 52 Bike Parking
- Wayfinding

**Did you know?** The average bicycle commute trip in Marin County is 7.3 miles and the average walk commute trip is 0.8 miles. (Nonmotorized Transportation Pilot Program Evaluation Study, 2007)



# **Overview**

Based on the review of gaps in the existing active transportation network, public comments, related plans, transit connections, collisions, and areas of concern, **109 proposed projects** were identified. Types of proposed projects include walkways/sidewalks, intersections/ undercrossings, and bikeways (Class I multi-use paths, Class II on-street bicycle lanes, Class III bicycle routes, Class III+ bicycle boulevards, and Class IV protected bikeways).

Major routes created by the existing and proposed network include:

- North/South Greenway Starting all the way at the Golden Gate Bridge and extending north along the old Northwest Pacific and Sonoma Marin Area Rail Transit rights-of-way to Cloverdale in Sonoma County, the North/South Greenway would create a single, continuous path through San Rafael helping to connect downtown with Civic Center.
- Northern Bikeway A collection of on-street bikeways providing a spur off the North/South Greenway to connect Lucas Valley, Marinwood, and Terra Linda to North San Rafael's commercial area.
- Cross Marin Bikeway+ An east-west bikeway that would connect west Marin County, Fairfax, and San Anselmo to downtown San Rafael and views of San Rafael Bay on the way to McNears Beach (extension of Fairfax to San Rafael Cross Marin Feasibility Study).
- **Commercial Connector** A spur off the Cross Marin Bikeway+ that would increase bicycle access to downtown's commercial core.
- Bridge Connector A group of bike and walkways that would connect downtown with the Canal neighborhood and the proposed pathway along the Richmond-San Rafael Bridge.

### PROPOSED PROJECT GROUPS

The proposed projects were divided into **7 geographic groups** to help simplify the list for prioritization:

Group A - Civic Center Connections

Group B - North Safe Routes to Schools Connections

Group C - West End Connections

Group D - Central San Rafael Connections

Group E - Point San Pedro Improvements

Group F - Canal Connections

Group G - San Quentin Connections

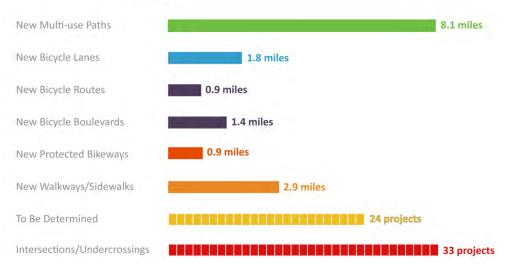
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# **All Projects**

Within each of the 7 geographic groups falls a series of proposed projects, denoted on the map with the group letter identifier (A through G) and the project number. For example, the first project in "Group A - Civic Center Connections" is a short extension of the existing Class II on-street bicycle lane on Las Gallinas Avenue from Cedar Hill Drive/Santiago Way to Lucas Valley Road and is labeled on the map as [4]. Because the list of proposed projects are geographically dispersed around the city, a separate map and table for each group are provided on the pages that follow.

For some projects, a proposed bikeway or walkway type is not identified. These "To Be Determined" projects require additional study about overall project feasibility, desires of neighboring residents, and potential tradeoffs before stating a preference.

### PROPOSED PROJECTS BY TYPE

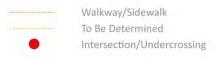


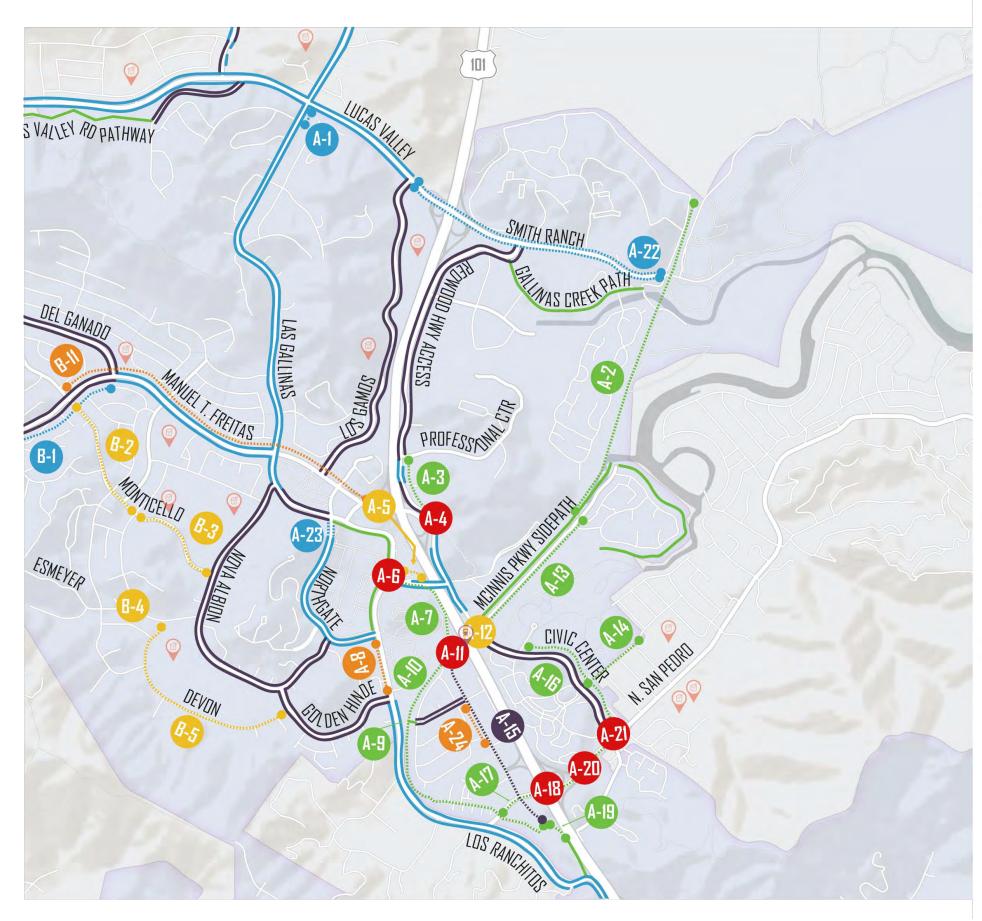
# **EXISTING | PROPOSED BIKEWAYS**

# Multi-use Path (Class I) Bicycle Lane (Class II) Bicycle Route (Class III) Bicycle Boulevard (Class III+) Protected Bikeway (Class IV) Geographic Groups

0

### OTHER PROPOSED PROJECTS





# **Group A**

### **CIVIC CENTER CONNECTIONS**

Group A encompasses most of northeast San Rafael near the Civic Center SMART Station and Northgate Mall. A total of 24 projects are proposed in Group A, including completion of the northern San Rafael segments of the **SMART Pathway**, an improved bicycle and pedestrian **pathway** along North San Pedro Road between the SMART Pathway and Civic Center Drive, and the extension of bicycle lanes on **Lucas Valley Road/Smith Ranch Road**.

### **GROUP A - HIGHEST PRIORITY PROJECTS**

North San Pedro Road from Los Ranchitos Road to Center Drive/ San Pablo Avenue

Pave Class I multi-use pathon southside of North San Pedro Road (modified from original Class II bicycle lanes and sidewalks proposed in Civic Center Station Area Plan).

Score: 75/100 Group A Rank: 1st Overall Rank: 10th

Merrydale Road from SMART Pathway to Puerto Suello Hill Pathway

Designate Merrydale Road as Class III bicycle route (pavement markings and signage)

Score: 56/100 Group A Rank: 2nd Overall Rank: 24th

North San Pedro Road at Highway 101

Improve undercrossing conditions (public art and lighting).

Score: 51/100 Group A Rank: 3rd Overall Rank: 33rd

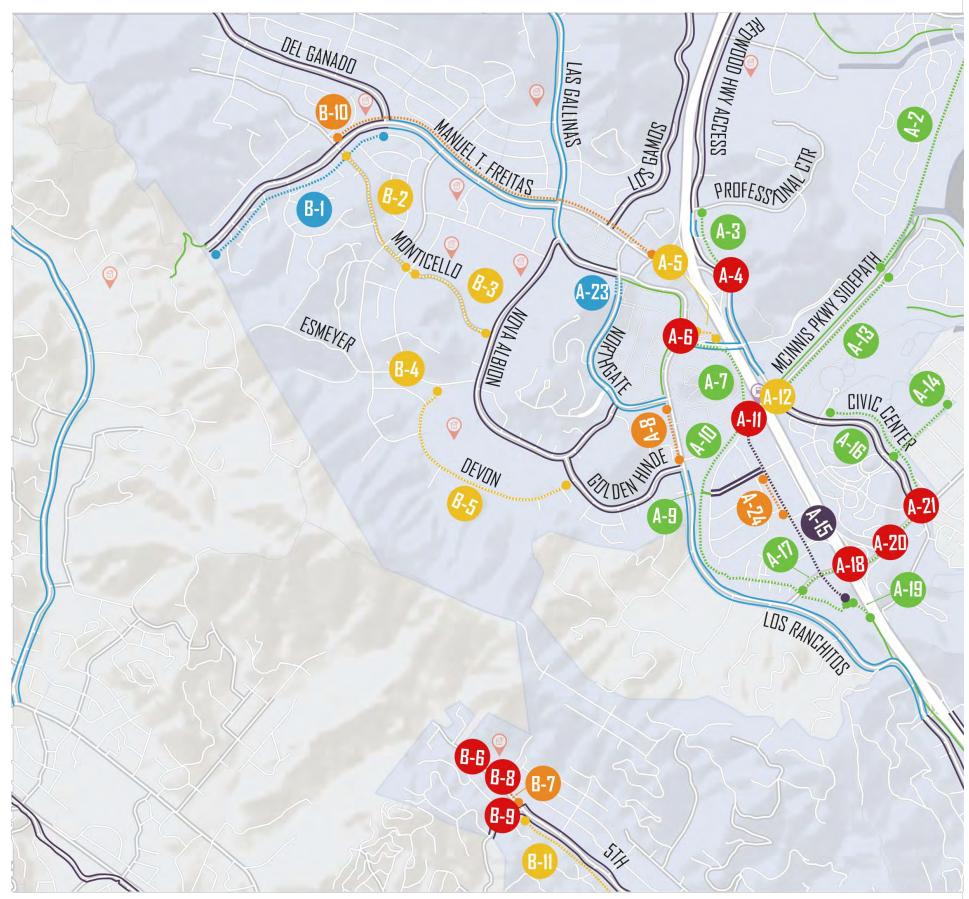
See Appendix H for the full list of prioritized projects.

# EXISTING | PROPOSED BIKEWAYS Multi-use Path (Class I) Bicycle Lane (Class III) Bicycle Route (Class III) Protected Bikeway (Class IV) ACTIVITIY GENERATORS School Transit Hub San Rafael City limits

### Proposed Projects, Group A – Civic Center Connections

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
A-1	Las Gallinas Avenue	Cedar Hill Drive/ Santiago Way	Lucas Valley Road	II	0.05	Conceptual	Miller Creek Road/ Las Gallinas Avenue Bicycle and Pedestrian Study: Extend existing Class II bicycle lanes from existing Class II bicycle lanes on Lucas Valley Road to the intersection of Las Gallinas Avenue and Cedar Hill Drive/ Santiago Way.
A-2	McInnis Parkway Sidepath	McInnis Parkway north terminus	North City Limit	I	0.98	Designed	SMART Draft Environmental Impact Report (2005): Provide crossing of South Fork Gallinas Creek and extend McInnis Parkway Sidepath north to North City Limit via SMART Rail right-ofway.
A-3	Redwood Highway/ Civic Center Drive	Marin Center Drive	Professional Center Parkway	I	0.37	Conceptual	Create Class I multi-use path on eastside of roadway (modified from proposed Class II bicycle lanes in 2013 <i>Civic Center Station Area Plan</i> ).
A-4	Redwood Highway/ Civic Center Drive	Manuel T. Freitas Parkway/ Highway 101 off -ramp	N/A	Intersection	N/A	Conceptual	Improve bicycle and pedestrian intersection crossing conditions.
A-5	Michael's Parking Lot Pathway	Las Gallinas Avenue	Merrydale Road	To be determined	N/A	Funded	North San Rafael Vision Promenade Conceptual Plan (2002): Study feasibility of pathway through Michael's parking lot to connect existing Promenade on Las Gallinas Avenue to existing westbound Class II bicycle lanes on Merrydale Road.
A-6	Las Gallinas Avenue	Merrydale Road	N/A	Intersection	N/A	Conceptual	Improve bicycle and pedestrian crossing conditions at the south leg of the Las Gallinas Avenue and Merrydale Road intersection to accommodate proposed Class I multi-use path.
A-7	Merrydale Road	Las Gallinas Avenue	SMART Pathway	ı	0.35	Conceptual	SMART Draft Environmental Impact Report (2005): Develop Class I multi-use path from SMART Pathway near Civic Center SMART Station to Promenade at Las Gallinas Avenue.
A-8	Los Ranchitos Road	Northgate Drive	Golden Hinde Boulevard	Sidewalk	0.20	Conceptual	Civic Center Station Area Plan (2013): Create continuous sidewalks on Los Ranchitos Road from Northgate Drive to Golden Hinde Boulevard by gaps in the sidewalk network.
A-9	Walter Place Pathway	Los Ranchitos Road	Corillo Drive	1	0.06	Active SMART Project	Civic Center Station Area Plan (2013): Pave pathway to existing SMART rail at-grade crossing.
A-10	Civic Center Station Pathway	Civic Center Drive	Lincoln Avenue/ Puerto Suello Hill Pathway	I	1.31	Active SMART Project (partial)	SMART Draft Environmental Impact Report (2005): Extend SMART Pathway from Civic Center SMART Station to existing Puerto Suello Hill Pathway under Highway 101 and along Los Ranchitos Road/ Lincoln Avenue.
A-11	Civic Center Station Pathway	West of Civic Center SMART Station	N/A	Intersection	N/A	Conceptual	Civic Center Station Area Plan (2013): Study at-grade crossing west Highway 101 near Civic Center SMART Station.
A-12	Civic Center SMART Station	N/A	N/A	To be determined	N/A	Conceptual	Civic Center Station Area Plan (2013): Study potential long-term bicycle parking at the Civic Center SMART Station (6 short-term bicycle racks and 8 long-term bicycle lockers currently planned).

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
A-13	McInnis Parkway Sidepath	Civic Center Drive	Bridgewater Drive	I	0.46	Conceptual	Maintenance: Repave existing McInnis Parkway Sidepath from Civic Center Drive to proposed SMART Pathway extension (at Bridgewater Drive).
A-14	Madison Avenue	Civic Center Drive	Roosevelt Avenue/ existing Madison Avenue pathway	I	0.20	Conceptual	Create Class I multi-use path on northside of roadway connecting Civic Center Drive, Field of Dogs dog park, and Venetia Valley School.
A-15	Merrydale Road	SMART Pathway	Puerto Suello Hill Pathway	III	0.74	Conceptual	Civic Center Station Area Plan (2013): Designate Merrydale Road as Class III bicycle route (pavement markings and signage).
A-16	Civic Center Drive	Peter Behr Drive	North San Pedro Road	I	0.45	Partially completed by County	Pave Class I multi-use path in northbound direction.
A-17	North San Pedro Road	Los Ranchitos Road	Civic Center Drive/ San Pablo Avenue	1	0.49	Conceptual	Pave Class I multi-use path on southside of North San Pedro Road (modified from original Class II bicycle lanes and sidewalks proposed in the 2013 <i>Civic Center Station Area Plan</i> ).
A-18	North San Pedro Road	Highway 101	N/A	Intersection	N/A	Conceptual	San Rafael Safe Routes to School Task Force: Improve undercrossing conditions (public art and lighting).
A-19	Puerto Suello Hill Path extension	Merrydale Road (south terminus)	Puerto Suello Hill Pathway (north terminus)	ı	0.15	Conceptual	Extend existing Puerto Suello Hill Path north of Lincoln Avenue to connect to Merrydale Road and proposed SMART Pathway parallel to Los Ranchitos Road.
A-20	North San Pedro Road	Highway 101 on-ramp	N/A	Intersection	N/A	Conceptual	San Rafael Safe Routes to School Task Force: Improve bicycle and pedestrian crossing conditions.
A-21	North San Pedro Road	Civic Center Drive/ San Pablo Avenue	N/A	Intersection	N/A	Conceptual	San Rafael Safe Routes to School Task Force: Improve bicycle and pedestrian crossing conditions (consider protected intersection).
A-22	Lucas Valley Road/Smith Ranch Road	Los Gamos Drive	Silveira Parkway	II	N/A	Conceptual	Create Class II on-street buffered bicycle lanes connecting existing Lucas Valley Road bicycle lanes and McInnis County Park.
A-23	Northgate Drive	Las Gallinas Avenue (north)	270 feet south of Las Gallinas Avenue (north)	II	0.05	Conceptual	Close gap in Class II on-street bicycle lanes near northern intersection of Northgate Drive and Las Gallinas Avenue.
A-24	Merrydale Road	Las Gallinas Avenue	Willow Avenue	Sidewalk	0.17	Conceptual	Close gaps in sidewalk: Merrydale Road (west side) between El Prado Avenue and Willow Avenue; Merrydale Road (east side) from 170 feet north of El Prado Avenue to 60 feet south of El Prado Avenue; angled parking with sidewalk on Merrydale Road (west side) between Las Gallinas Avenue and El Prado Avenue.



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# **Group B**

## **NORTH SAN RAFAEL SAFE ROUTES** TO SCHOOLS CONNECTIONS

Group B encompasses a series of Safe Routes to Schools projects near Mark Day School, Terra Linda High School, and Sun Valley Elementary School. A total of 11 projects are proposed in Group B, including the connection of a series of sidewalk and intersection improvements around Sun Valley Elementary, traffic calming along Devon Drive, and intersection improvements at Trellis Drive and Esmeyer Drive.

### **GROUP B - HIGHEST PRIORITY PROJECTS**

Manuel T. Freitas Parkway from Montecillo Road to Del Presidio Boulevard

Create continuous bi-directional 6-foot-wide sidewalks Score: 90/100

Group B Rank: 1st Overall Rank: 1st

Montecillo Road from Trellis Drive to Nova Albion Way

Study parking occupancy rates and potential for bikeway connecting Sun Valley Elementary and downtown

Score: 70/100 Group B Rank: 2nd Overall Rank: 13th

Manuel T. Freitas Parkway from Mission Path to Del Ganado Road

Narrow travel lanes and stripe buffered bicycle lanes

Score: 56/100 Group B Rank: 3rd Overall Rank: 24th

See Appendix H for full list of prioritized projects.

### **EXISTING | PROPOSED BIKEWAYS**

Multi-use Path (Class I) Bicycle Lane (Class II) Bicycle Route (Class III) Protected Bikeway (Class IV) San Rafael City limits

### OTHER PROPOSED PROJECTS

Walkway/Sidewalk To Be Determined Intersection/Undercrossing

### **ACTIVITIY GENERATORS**



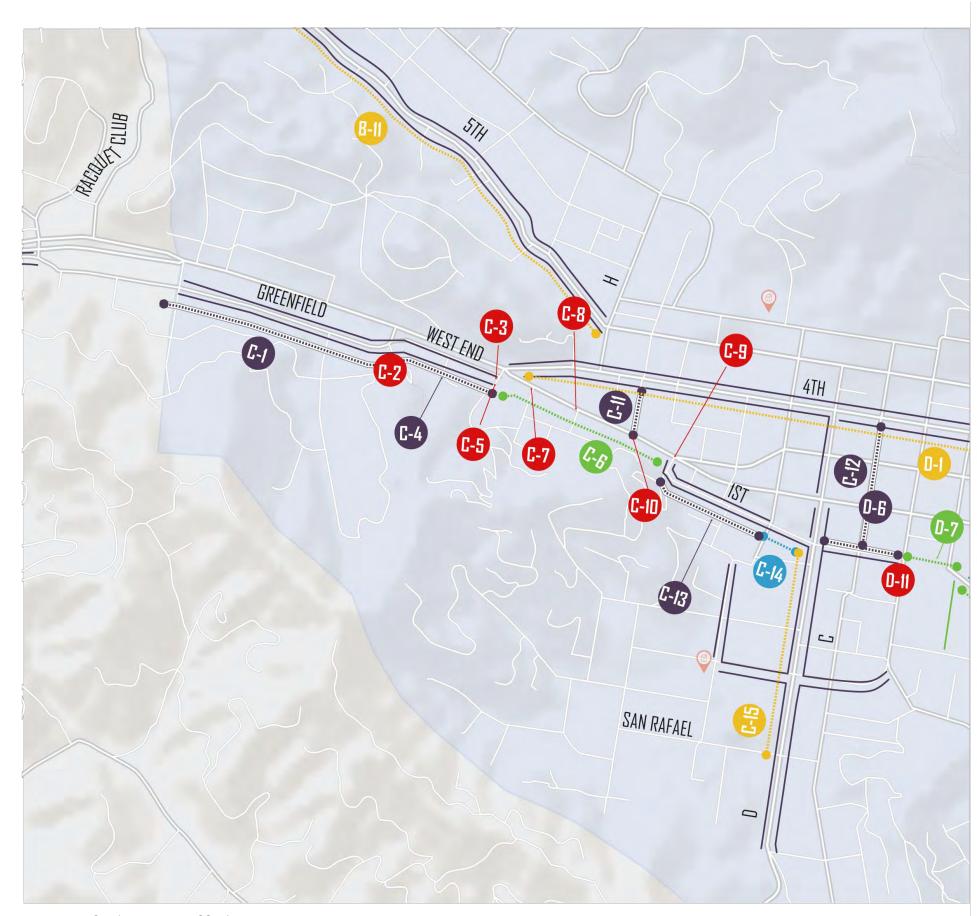
School



Transit Hub

### Proposed Projects, Group B – North Safe Routes to School Connections

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
B-1	Manuel T. Freitas Parkway	Mission Pass Path	Del Ganado Road	II	0.68	Conceptual	Narrow travel lanes and stripe buffered bicycle lanes (modified from Class II on-street bicycle lanes in 2002 North San Rafael Vision Promenade Conceptual Plan).
B-2	Montecillo Road	Freitas Parkway	Trellis Drive	To be determined	0.45	Conceptual	Safe Routes to School Task Force: Study potential Class III bicycle boulevard on Montecillo Road from Freitas Parkway to Trellis Drive.
B-3	Montecillo Road	Trellis Drive	Nova Albion Way	To be determined	0.35	Conceptual	Safe Routes to School Task Force: Study potential Class I multi-use path on Montecillo Road from Trellis Drive to Nova Albion Way.
B-4	Trellis Drive	Esmeyer Drive	N/A	To be determined	N/A	Conceptual	Safe Routes to School Task Force: Study potential safety improvements for pedestrians crossing Trellis Drive at Esmeyer Drive (and other intersections in Terra Linda neighborhood).
B-5	Devon Drive	Esmeyer Drive	Golden Hinde Boulevard	To be determined	0.73	Conceptual	Safe Routes to School Task Force: Study potential traffic calming on Devon Drive from Esmeyer Drive to Golden Hinde Boulevard.
B-6	Fifth Avenue	River Oaks Road	N/A	Intersection	N/A	Conceptual	Sun Valley Elementary Travel Plan: Create traffic circle at T-intersection.
B-7	Fifth Avenue	River Oaks Road	Racquet Club Drive	Sidewalk	0.20	Conceptual	Sun Valley Elementary Travel Plan: Upgrade sidewalk on River Oaks Road between Fifth Avenue and Racquet Club Drive.
B-8	Fifth Avenue	Happy Lane	N/A	Intersection	N/A	Conceptual	Sun Valley Elementary Travel Plan: Add curb extensions to northwest, northeast, and southwest corners; add high-visibility crosswalk across Happy Lane; and upgrade sidewalk on Fifth Avenue from Happy Lane to 150 feet west of Happy Lane.
B-9	River Oaks Road	Racquet Club Drive	N/A	Intersection	N/A	Conceptual	Sun Valley Elementary Travel Plan: Add high-visibility crosswalk at intersection of River Oaks Drive and Racquet Club Drive.
B-10	Manuel T. Freitas Parkway	Montecillo Road	Del Presidio Boulevard	Sidewalk	1.08	Conceptual	Create continuous bi-directional 6-foot-wide sidewalks.
B-11	Fifth Avenue	River Oaks Road	H Street	To be determined	1.04	Conceptual	Study parking occupancy rates and potential for bikeway connecting Sun Valley Elementary and downtown.



### See page 3 for descriptions of facility types San Rafael Bicycle & Pedestrian Master Plan, 2018 Update | Public Review Draft

# **Group C**

### **WEST END CONNECTIONS**

Group C encompasses the West End neighborhood and parts of downtown San Rafael. A total of 15 projects are proposed in Group C, including portions of the **Cross Marin Bikeway+** from the west City limit near San Anselmo to downtown and a **north-south bikeway** connecting the Gerstle Park neighborhood with downtown.

### **GROUP C - HIGHEST PRIORITY PROJECTS**

Second Street from Fourth Street/Marquard Avenue to Miramar Avenue

Build a retaining wall on south side of Second Street between Ida Street or G Street to Miramar Avenue to expand existing sidewalk width to accommodate a Class I multi-use path; alternatively, remove westbound on-street motor vehicle parking on Second Street between Ida Street or G Street to Miramar Avenue, move and re-stripe median, and create a Class IV separated bicycle lane

Score: 71/100 Group C Rank: 1st Overall Rank: 12th

D Street from Second Street to San Rafael Avenue

Study feasibility of bikeway on D Street or C Street between Gerstle Park and downtown Score: 62/100

Group C Rank: 2nd Overall Rank: 17th

Miramar Avenue/First Street from Second Street to E Street

Change existing Class III bicycle route to Class III bicycle boulevard *Score:* 61/100

Group C Rank: 3rd Overall Rank: 18th

See Appendix H for full list of prioritized projects.

### EXISTING | PROPOSED BIKEWAYS

Multi-use Path (Class I)
Bicycle Lane (Class II)
Bicycle Route (Class III)
Bicycle Boulevard (Class III+)
Protected Bikeway (Class IV)
San Rafael City limits

### OTHER PROPOSED PROJECTS

Walkway/Sidewalk
To Be Determined
Intersection/Undercrossing

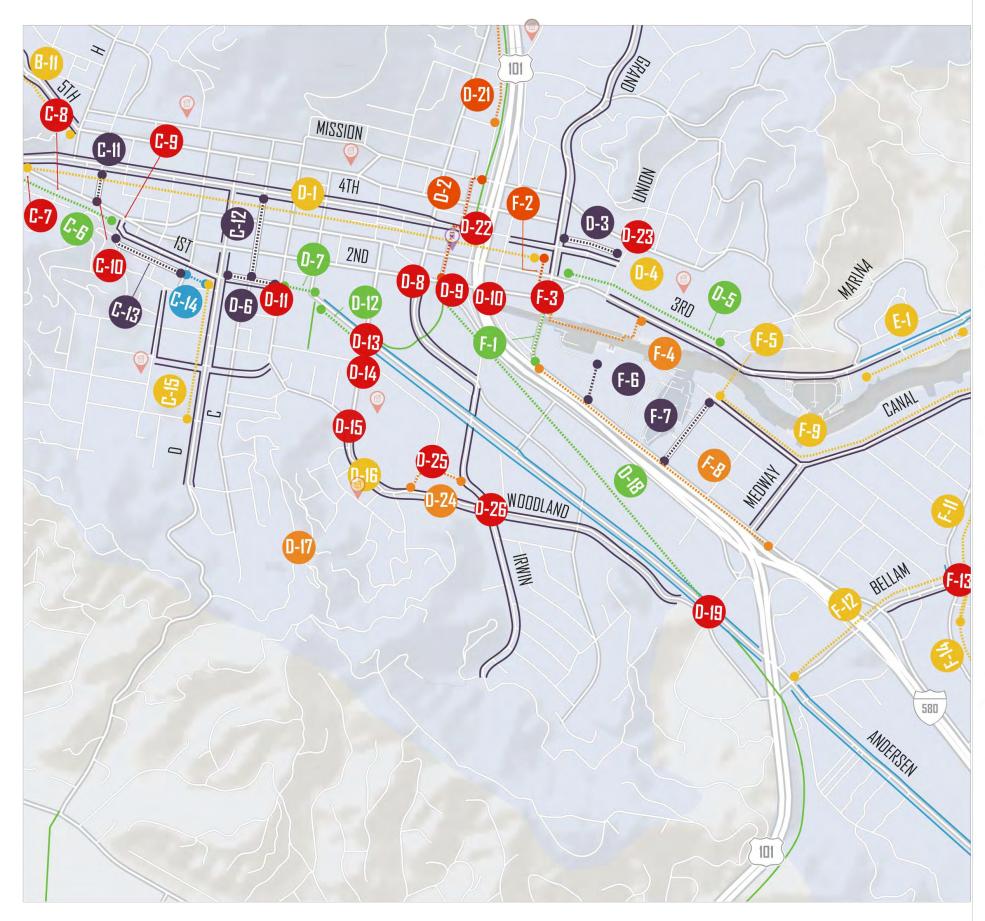
### **ACTIVITIY GENERATORS**



School

### **Proposed Projects, Group C – West End Connections**

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
C-1	Greenfield Avenue	West City Limit (near Ross Valley Drive)	West End Avenue	III+	0.34	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Change existing Class III bicycle route to Class III bicycle boulevard.
C-2	Greenfield Avenue	West End Avenue	N/A	Intersection	N/A	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Add median to channelize traffic.
C-3	Fourth Street	Second Street/ Marquard Avenue	N/A	Intersection	N/A	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Study the feasibility of realigning the Fourth Street/ Second Street/ Marquard Avenue intersection to improve pedestrian, bicycle, and motor vehicle access.
C-4	West End Avenue	Greenfield Avenue	Marquard Avenue	III+	0.15	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Change existing Class III bicycle route to Class III bicycle boulevard. In interim, move eastbound bicycle pavement markings outside of door zone.
C-5	West End Avenue	Marquard Avenue	N/A	Intersection	N/A	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Add raised crosswalk and potential curb extension to southwest corner.
C-6	Second Street	Fourth Street/ Marquard Avenue	Miramar Avenue	I	0.29	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Build retaining wall on south side of Second Street between Ida Street or G Street to Miramar Avenue to expand existing sidewalk width to accommodate a Class I multi-use path. Alternatively, remove westbound onstreet motor vehicle parking on Second Street between Ida Street or G Street to Miramar Avenue, move and re-stripe median, and create a Class IV separated bicycle lane.
C-7	Second Street	West Street	N/A	Intersection	N/A	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Add raised crosswalk.
C-8	Second Street	East Street	N/A	Intersection	N/A	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Add raised crosswalk.
<b>C</b> -9	Second Street	Miramar Avenue	N/A	Intersection	N/A	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Add raised crosswalk.
C-10	Second Street	G Street	N/A	Intersection	N/A	Conceptual	Study intersection alterations to facilitate transition from proposed Class III bicycle boulevard on G Street (or Ida Street) to proposed "Cross Marin Bikeway+" on Second Street.
C-11	G Street	Fourth Street/ Marquard Avenue	Second Street	III+	0.08	Conceptual	Create Class III bicycle boulevard connection on G Street (or Ida Street) to proposed "Cross Marin Bikeway+" on Second Street.
C-12	C Street	Fourth Street	First Street	111+	0.21	Conceptual	Create Class III Bicycle Boulevard on C Street, incorporating bicycle pavement markings, wayfinding signage, and traffic calming elements (modified from route on D Street within Fairfax to San Rafael Cross Marin Bikeway Feasibility Study).
C-13	Miramar Avenue/ First Street	Second Street	E Street	III+	0.20	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Change existing Class III bicycle route to Class III bicycle boulevard.
C-14	First Street	E Street	D Street	II	0.07	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Reverse street from westbound one-way to eastbound one-way and add contraflow bicycle lane. Alternatively, study feasibility of maintaining the current westbound one-way and adding advisory bicycle lanes.
C-15	D Street	Second Street	San Rafael Avenue	To be determined	0.39	Conceptual	Study feasibility of bikeway on D Street or C Street between Gerstle Park and Downtown.



### San Rafael Bicycle & Pedestrian Master Plan, 2018 Update | Public Review Draft

# **Group D**

### **CENTRAL SAN RAFAEL CONNECTIONS**

Group D encompasses most of downtown San Rafael. A total of 26 projects are proposed in Group D, including the continuation of the **Cross Marin Bikeway+** from Group C and bikeway connections to the Transit Center.

### **GROUP D - HIGHEST PRIORITY PROJECTS**

Dowr

### **Downtown East-West Connection**

Study the feasibility of an east-west bikeway through downtown San Rafael that can comfortably accommodate people of all ages and bicycling ability; if compatible with the preferred alternative resulting from the feasibility study, consider incorporating a public art component to reinforce the area's recent Cultural District designation *Score:* 89/100

Group D Rank: 1st Overall Rank: 2nd

West Tamalpais Avenue from Second Street to Mission Avenue

Convert West Tamalpais Avenue into a one-way street in the southbound direction; create a Class IV separated bikeway between West Tamalpais and SMART right-of-way; create improved bicycle and pedestrian crossings at intersections and connection to existing Class I multi-use path parallel to Hetherton Street

Score: 88/100 Group D Rank: 2nd Overall Rank: 3rd

Francisco Boulevard West from Second Street to Andersen Drive

Extend SMART Pathway from Downtown San Rafael SMART Station to existing Cal Park Hill Pathway

Score: 85/100 Group D Rank: 3rd Overall Rank: 5th

See Appendix H for full list of prioritized projects.

# EXISTING | PROPOSED BIKEWAYS OTH Multi-use Path (Class I)

Bicycle Lane (Class II)
Bicycle Route (Class III)
Bicycle Boulevard (Class III+)
Protected Bikeway (Class IV)
San Rafael City limits

### OTHER PROPOSED PROJECTS

Walkway/Sidewalk

To Be Determined

Intersection/Undercrossing

### **ACTIVITIY GENERATORS**



School



Transit Hub

### **Proposed Projects, Group D – Central San Rafael Connections**

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
D-1	Downtown East-West Connection	Fourth Street/ Second Street	Grand Avenue	To be determined	1.22	Conceptual	Study the feasibility of an east-west bikeway through downtown San Rafael that can comfortably accommodate people of all ages and bicycling ability. If compatible with the preferred alternative resulting from the feasibility study, consider incorporating a public art component to reinforce the area's recent Cultural District designation.
D-2	West Tamalpais Avenue	Second Street	Mission Avenue	IV	0.25	Conceptual	Tamalpais Avenue Feasibility Study (ongoing): Convert West Tamalpais Avenue into a one-way street in the southbound direction; create a Class IV separated bikeway between West Tamalpais and SMART right-of-way; create improved bicycle and pedestrian crossings at intersections and connection to existing Class I multi-use path parallel to Hetherton Street.
D-3	Fourth Street	Grand Avenue	Union Street	III+	0.14	Conceptual	Create Class III bicycle boulevard connection to San Rafael High School playing fields.
D-4	Fourth Street	Union Street	San Rafael High School playing field	To be determined	N/A	Conceptual	Canalfront Conceptual Design Plan (2009): Study feasibility of east-west and north-south Class I multi-use paths running through San Rafael High School playing fields and connecting Mission Avenue, Union Street, and Third Street. (Note: Ongoing discussions with San Rafael School District, Safe Routes to Schools, City, and interested members of the public; see San Rafael High School Facilities Master Plan Draft Environmental Impact Report for more information).
D-5	Third Street	Grand Avenue	East City Limit (near Embarcadero Way)	I	0.44	Conceptual	Create Class I multi-use path along Third Street.
D-6	First Street	D Street	B Street	III+	0.14	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Upgrade existing Class III bicycle route to Class III bicycle boulevard.
D-7	Safeway Path	First Street	Albert Park Path	1	0.07	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Create Class I multi-use path along the south side of the Safeway parking lot connecting to the existing Albert Park Path.
D-8	Second Street	Highway 101 undercrossing	N/A	Undercrossing	N/A	Conceptual	Study potential pedestrian improvements for Highway 101 undercrossing on Second Street, including walkway, lighting, and public art.
D-9	Second Street	Highway 101 on-ramp	N/A	Intersection	N/A	Conceptual	Study pedestrian crossing improvements on Second Street at the Highway 101 on-ramp.
D-10	Second Street	Highway 101 off-ramp	N/A	Intersection	N/A	Conceptual	Study pedestrian crossing improvements on Second Street at the Highway 101 off-ramp.
D-11	First Street	B Street	N/A	Intersection	N/A	Conceptual	Study bicycle and pedestrian intersection treatments to improve transition from proposed Class III bicycle boulevard on First Street to proposed Class I multi-use path through Safeway parking lot (Safeway Path).
D-12	Andersen Drive	Albert Park Path	Mahon Creek Connector	I	0.15	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Extend Class I multi-use path along Andersen Drive from Albert Park Path to Mahon Creek Connector. May require the removal of on-street motor vehicle parking on the south side of Andersen Drive, the relocation of trees and/or utility poles, and the relocation of existing center median and turn lanes.

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
D-13	Andersen Drive	Lindaro Street	N/A	Intersection	N/A	Conceptual	Fairfax to San Rafael Cross Marin Bikeway Feasibility Study: Create diagonal path through intersection to connect the Mahon Creek Connector to the Albert Park Path; create bicycleand pedestrian-specific traffic signal phasing; improve transition between path and roadway.
D-14	Lindaro Street	Jordan Street	N/A	Intersection	N/A	Conceptual	Davidson Middle School Travel Plan: Add high-visibility crosswalks.
D-15	Lindaro Street	Woodland Avenue	N/A	Intersection	N/A	Conceptual	Davidson Middle School Travel Plan: Add curb extensions and consider removing crosswalk across north leg of intersection.
D-16	Woodland Avenue	Seibel Street	N/A	To be determined	N/A	Conceptual	Safe Routes to School Task Force: Study potential advanced warning/ flashing beacons on Woodland Avenue at Seibel Street.
D-17	Southern Heights Boulevard	150 feet north of Meyers Road	N/A	Walkway	0.03	Funded	Replace existing Southern Heights Bridge and add 4-foot sidewalk.
D-18	Francisco Boulevard West	Second Street	Andersen Drive	I	1.03	Partially funded	SMART Draft Environmental Impact Report (2005): Extend SMART Pathway from Downtown San Rafael SMART Station to existing Cal Park Hill Pathway.
D-19	Andersen Drive	Francisco Boulevard West	N/A	Intersection	N/A	Active SMART Project	SMART Final Environmental Impact Report (2006): Realign Andersen Drive for at-grade rail crossing.
D-20	Highway 101 undercrossings	Various Locations (not shown on map)	N/A	To be determined	N/A	Conceptual	Canalfront Conceptual Design Plan (2009): Study potential lighting and public art at Highway 101 undercrossings in Downtown (Third Street, Fourth Street, Fifth Avenue, Mission Avenue).
D-21	Puerto Suello Hill Pathway	Pacheco Street	Merrydale	Walkway	N/A	Conceptual	Implement lighting improvements along the Puerto Suello Hill Pathway.
D-22	Fourth Street	Hetherton Street	N/A	Intersection	N/A	Conceptual	Study bicycle and pedestrian intersection treatments to improve crossing.
D-23	Mission Avenue	Union Street	N/A	Intersection	N/A	Conceptual	Stripe high-visibility crosswalks at intersection of Mission Avenue and Union Street.
D-24	Lovell Avenue	Woodland Avenue (west)	Irwin Street	Walkway	0.15	Conceptual	Construct sidewalk and curb ramps on north side of Lovell Avenue between Woodland Avenue and Anova Center for Education; refresh double yellow center line on Lovell Avenue between Woodland Avenue (west) and Jordan Street; update school warning "Assembly D" signage; extend red curb on Jordan Street in northbound and southbound directions to 22 feet north of Lovell Avenue.
D-25	Lovell Avenue	Jordan Street	N/A	Intersection	N/A	Conceptual	Reconfigure intersection to shorten crossing distance and improve sight lines.
D-26	Lovell Avenue	Irwin Street	N/A	Intersection	N/A	Conceptual	Install crosswalk, curb ramps, and school warning "Assembly D" signage.



# **Group E**

### **POINT SAN PEDRO IMPROVEMENTS**

Group E follows Point San Pedro Road from San Rafael High School to the east City limit. A total of 9 projects are proposed in Group E, filling in gaps and **creating greater separation** between people bicycling and people driving along Point San Pedro Road.

### **GROUP E - HIGHEST PRIORITY PROJECTS**

### Point San Pedro Road from Balboa Avenue/ Bay Way to San Pedro Cove

Study feasibility of eastbound Class IV grade-separated bikeway and northbound Class I multi-use path.

Score: 44/100 Group E Rank: 1st Overall Rank: 43rd

### Point San Pedro Road from Main Drive to Riviera Drive

Study feasibility of Class IV grade-separated bikeway in eastbound and westbound directions.

Score: 33/100 Group E Rank: 2nd Overall Rank: 61st

### Point San Pedro Road at Manderly Road

Improve bicycle and pedestrian crossing conditions

Score: 23/100 Group E Rank: 3rd Overall Rank: 73rd

See Appendix H for full list of prioritized projects.

### EXISTING PROPOSED BIKEWAYS

Multi-use Path (Class I)
 Bicycle Lane (Class II)
 Bicycle Route (Class III)
 Protected Bikeway (Class IV)
 San Rafael City limits

### OTHER PROPOSED PROJECTS

Walkway/Sidewalk
To Be Determined
Intersection/Undercrossing

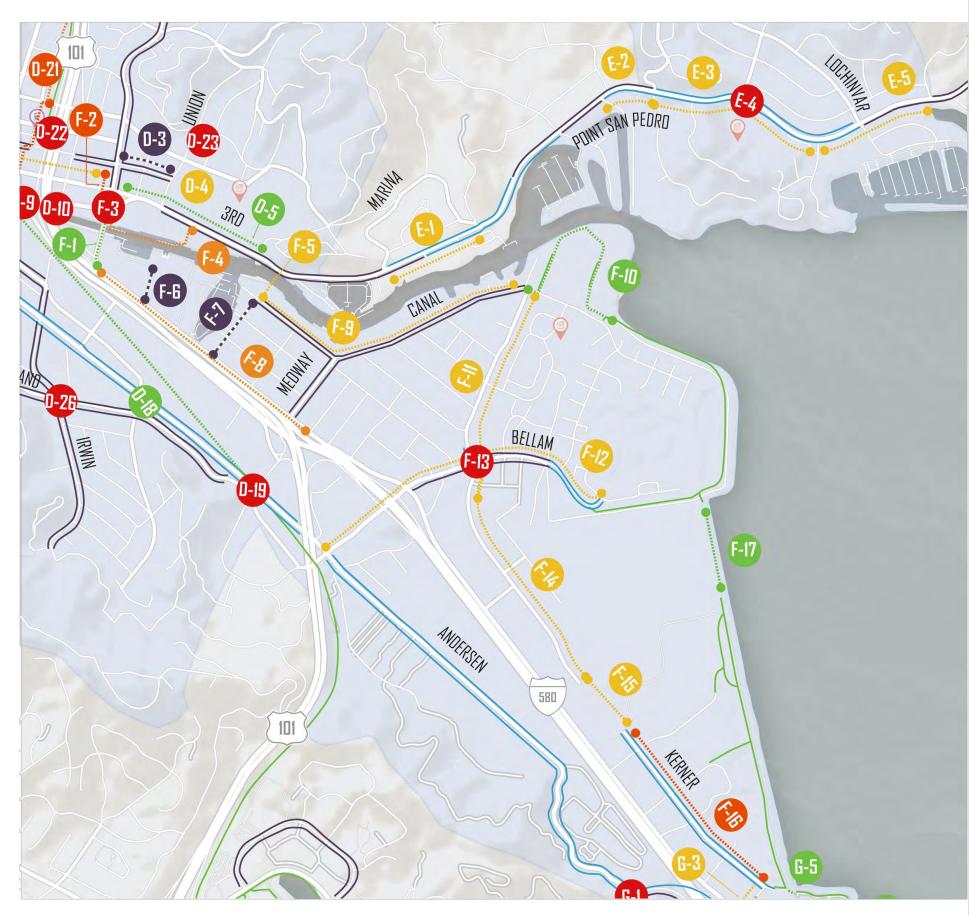
### **ACTIVITIY GENERATORS**



School

### **Proposed Projects, Group E – Point San Pedro Improvements**

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
E-1	Point San Pedro Road	Marina Boulevard	Montecito Road	To be determined	0.25	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Study feasibility of Class IV grade-separated bikeway in eastbound and westbound directions.
E-2	Point San Pedro Road	Sea Way	Balboa Avenue/ Bay Way	To be determined	0.14	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Study feasibility of Class IV grade-separated bikeway in eastbound and westbound directions.
E-3	Point San Pedro Road	Balboa Avenue/ Bay Way	San Pedro Cove	To be determined	0.45	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Study feasibility of eastbound Class IV grade-separated bikeway and northbound Class I multi-use path.
E-4	Point San Pedro Road	Manderly Road	N/A	Intersection	N/A	Conceptual	San Rafael Safe Routes to School Task Force: Improve bicycle and pedestrian crossing conditions
E-5	Point San Pedro Road	San Pedro Cove	Bayview Drive	To be determined	0.30	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Study feasibility of Class I multi-use path in eastbound and westbound directions.
E-6	Point San Pedro Road	Knight Drive	N/A	Intersection	N/A	Conceptual	Glenwood Elementary School Travel Plan: Improve bicycle and pedestrian crossing conditions with pedestrian-activated flashing beacon; potential turning radii reduction and/or bulbouts to reduce pedestrian crossing distance; and potential median refuge island.
E-7	Point San Pedro Road	Main Drive	Riviera Drive	To be determined	0.65	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Study feasibility of Class IV grade-separated bikeway in eastbound and westbound directions.
E-8	Point San Pedro Road	Riviera Drive	Cantera Way	To be determined	0.65	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Study feasibility of eastbound Class I multi-use path and westbound Class IV grade-separated bikeway.
E-9	Cantera Way	Point San Pedro Road	North San Pedro Road	To be determined	0.61	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Study feasibility of Class I multi-use path along Cantera Way and through McNears Beach County Park.



# **Group F CANAL CONNECTIONS**

Group F encompasses the Canal neighborhood. A total of 17 projects are proposed in Group F, including gap closures of the San Francisco Bay Trail, an improved connection under I-580, and connections to downtown San Rafael.

### **GROUP F - HIGHEST PRIORITY PROJECTS**

Bellam Boulevard from Andersen Drive to Baypoint Drive

Study feasibility of Class IV protected bicycle facilities on Bellam Boulevard and Baypoint Village Drive corridor connecting to the San Francisco Bay Trail; between Andersen Drive and Francisco Boulevard East, study potential for northside bikeway in conjunction with potential redevelopment project Score: 87/100

Group F Rank: 1st Overall Rank: 4th

Grand Avenue from Francisco Boulevard East to Second Street

Bicycle and pedestrian bridge crossing San Rafael Canal (150 feet by 12 feet) and Class I path connecting Second Street to Francisco Boulevard East

Score: 78/100 Group F Rank: 2nd Overall Rank: 7th

Francisco Boulevard East from Grand Avenue to Vivian Street

8-foot-wide sidewalk, lighting, landscaping, and drainage improvements

Score: 72/100 Group F Rank: 3rd Overall Rank: 11th

See Appendix H for full list of prioritized projects.

### EXISTING | PROPOSED BIKEWAYS

Multi-use Path (Class I) Bicycle Lane (Class II) Bicycle Route (Class III) Bicycle Boulevard (Class III+) Protected Bikeway (Class IV) San Rafael City limits

### OTHER PROPOSED PROJECTS

Walkway/Sidewalk To Be Determined Intersection/Undercrossing

### **ACTIVITIY GENERATORS**



School



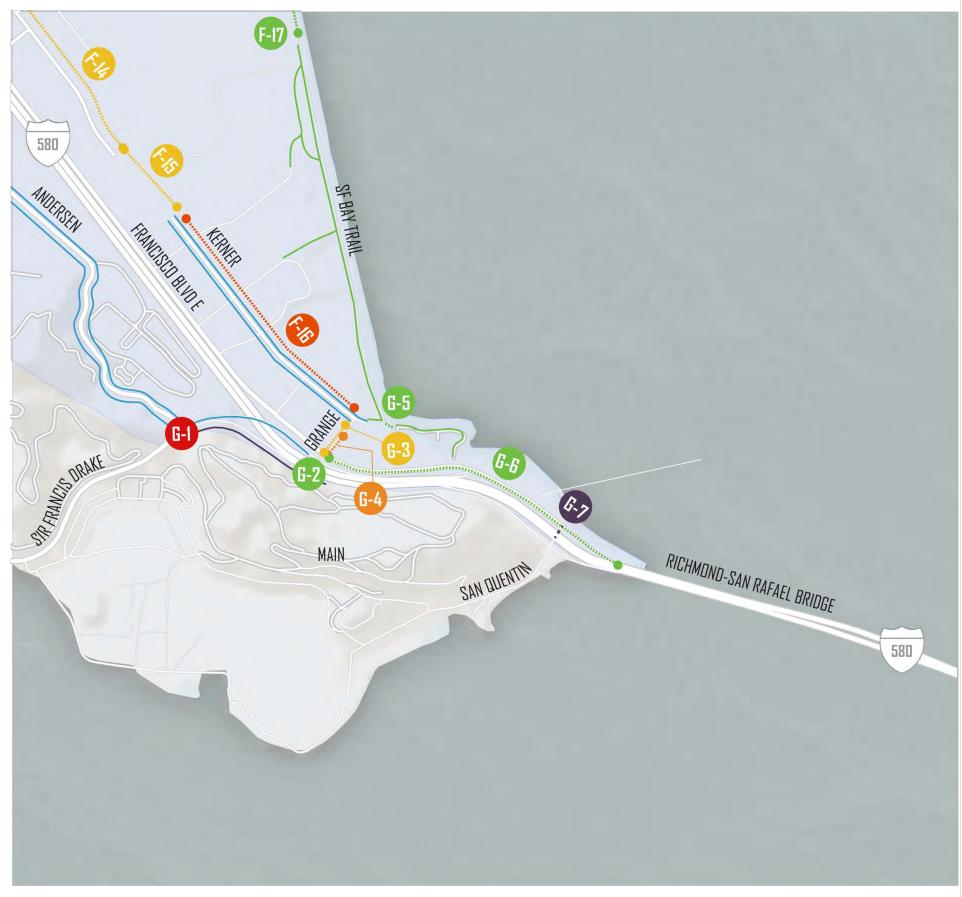
Transit Hub

D.25 MI

### **Proposed Project, Group F – Canal Connections**

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
	Grand Avenue	Francisco Boulevard East	Second Street	I	0.13	Funded	Grand Avenue Improvement Project: Bicycle and pedestrian bridge crossing San Rafael Canal (150 feet by 12 feet) and Class I path connecting Second Street to Francisco Boulevard East.
F-2	Grand Avenue	Fourth Street	Second Street	IV	0.11	Conceptual	Study feasibility of Class IV two-way protection northbound bikeway connecting proposed Grand Avenue Bridge and proposed East-West downtown bikeway, plus bicycle intersection treatments (i.e. bike boxes).
F-3	Second Street	Grand Avenue	N/A	Intersection	N/A	Funded	Grand Avenue Improvement Project: Land acquisition, intersection and driveway reconfiguration, and sidewalk improvements, including curbs.
F-4	Montecito Plaza Waterfront Trail	Grand Avenue	Third Street	Walkway	0.28	Funded	Montecito Plaza Waterfront Trail Improvements: Pedestrian pathway and landscaping improvements to Montecito Plaza Waterfront Trail south of Montecito Plaza Shopping Center (also called Canal Paseo in Downtown San Rafael Station Area Plan).
F-5	Canal Crossing	Mouth of Yacht Club harbor	Third Street	To be determined	0.06	Conceptual	Canalfront Conceptual Design Plan (2009): Study potential bicycle and pedestrian bridge over San Rafael Canal.
F-6	Yacht Club Drive	Francisco Boulevard East	Yacht Club Drive north terminus/ Beach Park	III	0.10	Conceptual	Canalfront Conceptual Design Plan (2009): Study improved bicycle access from Canal neighborhood to Beach Park via Class III bicycle route and addition of short-term bicycle parking at Beach Park; alternative route: Class I multi-use path from Grand Avenue to north terminus of Yacht Club Drive.
F-7	Harbor Street	Francisco Boulevard East	Canal Street	III+	0.18	Conceptual	San Rafael Bicycle and Pedestrian Plan (2011): Create Class III bicycle boulevard on Harbor Street, incorporating bicycle pavement markings, wayfinding signage, and traffic calming elements.
F-8	Francisco Boulevard East	Grand Avenue	Vivian Street	Walkway	0.69	Designed	Francisco Boulevard East Sidewalk Widening Project: 8-foot-wide sidewalk, lighting, landscaping, and drainage improvements.
F-9	Canal Street	Harbor Street	Pickleweed Community Center entrance	To be determined	0.80	Conceptual	Study upgrade of existing Class III bicycle route to Class III bicycle boulevard, Class II bicycle lanes (as noted in the <i>Canalfront Conceptual Design Plan</i> ), or advisory bicycle lanes.

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
F-10	Canal Street	Sorrento Way	Schoen Park (east end)	I	0.37	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Part 1 - Close gap between Class III bicycle route on Canal Street at Sorrento Way and existing Class I multi-use path at entrance to Pickleweed Park (Note: Project has environmental considerations). Part 2 - Pave existing unpaved segments of Class I multi-use Path in Pickleweed Park from northwest corner of playing field to northeast corner of playing field. Part 3 - Close gap between existing Class I multi-use path in SE corner of playing field of Pickleweed Park and the existing Class I multi-use path terminus on east end of Schoen Park.
F-11	Bahia Place Creek Pathway	Canal Street	3230 Kerner Boulevard (Marin County Mental Health Services)	To be determined	0.56	Conceptual	Study feasibility of paving creek pathway parallel to Bahia Place as alternative to Kerner Boulevard bicycle and pedestrian improvements proposed in the <i>Nonmotorized Transportation Pilot Program Recommendations and Process Report</i> (2007).
F-12	Bellam Boulevard/Baypoint Village Drive	Andersen Drive	Baypoint Drive	To be determined	0.78	Conceptual	Canalfront Conceptual Design Plan (2009): Study feasibility of Class IV protected bicycle facilities on Bellam Boulevard and Baypoint Village Drive corridor connecting to the San Francisco Bay Trail. Between Andersen Drive and Francisco Boulevard East, study potential for northside bikeway in conjunction with potential redevelopment project.
F-13	Bellam Boulevard	Kerner Boulevard	N/A	Intersection	N/A	Conceptual	Canalfront Conceptual Design Plan (2009): Improve pedestrian conditions.
F-14	Kerner Boulevard	Bellam Boulevard	Kerner Boulevard south terminus (south of Irene Street)	To be determined	0.60	Conceptual	Study feasibility of Class IV parking-protected bikeway, Class II bicycle lanes (as proposed in the 2011 San Rafael Bicycle and Pedestrian Plan) or Class III bicycle route on southern segment of Kerner Boulevard as alternative to Francisco Boulevard East Class II bicycle lanes.
F-15	Kerner Boulevard Pathway	Kerner Boulevard southern terminus (south of Irene Street)	Kerner Boulevard north terminus (north of Shoreline Parkway)	To be determined	0.20	Conceptual	Study feasibility of Class I multi-use path closing gap between segments of Kerner Boulevard as alternative to Francisco Boulevard East Class II bicycle lanes.
F-16	Kerner Boulevard	270 feet north of Shoreline Parkway	Grange Avenue	IV	0.52	Conceptual	Study feasibility of Class IV protected bikeway on Kerner Boulevard from terminus of roadway in north (270 feet north of Shoreline Parkway) to Grange Avenue as alternative route to Francisco Boulevard East; alternative: study feasibility of Class II buffered bicycle lanes.
F-17	San Francisco Bay Trail	San Francisco Bay Trail south terminus (south of Baypoint Drive)	San Francisco Bay Trail north terminus (north of Target)	I	0.30	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Close gap in existing Class I multi-use pathway.



# **Group G**

### **SAN QUENTIN CONNECTIONS**

Group G encompasses the San Quentin area near the Richmond-San Rafael Bridge. A total of 7 projects are proposed in Group G, helping to connect the bridge to **existing bikeways** on Kerner Boulevard and segments of the **San Francisco Bay Trail** along the waterfront.

### **GROUP G - HIGHEST PRIORITY PROJECTS**

Francisco Boulevard East from the Richmond-San Rafael Bridge to Grange Avenue
Connect funded bi-directional bicycle and pedestrian path on upper deck of
Richmond-San Rafael Bridge to San Francisco Bay Trail segments in San Rafael

Score: 25/100 Group G Rank: 1st Overall Rank: 70th

[-580 Connector from the I-580 on-ramp to Francisco Boulevard East

Pave informal pathway and create transition between existing Class II bicycle lanes on the I-580 on-ramp and Francisco Boulevard East

Score: 11/100 Group G Rank: 2nd Overall Rank: 93rd

Sir Francis Drake Boulevard at Andersen Drive

Bicycle and pedestrian intersection improvements Score: 11/100

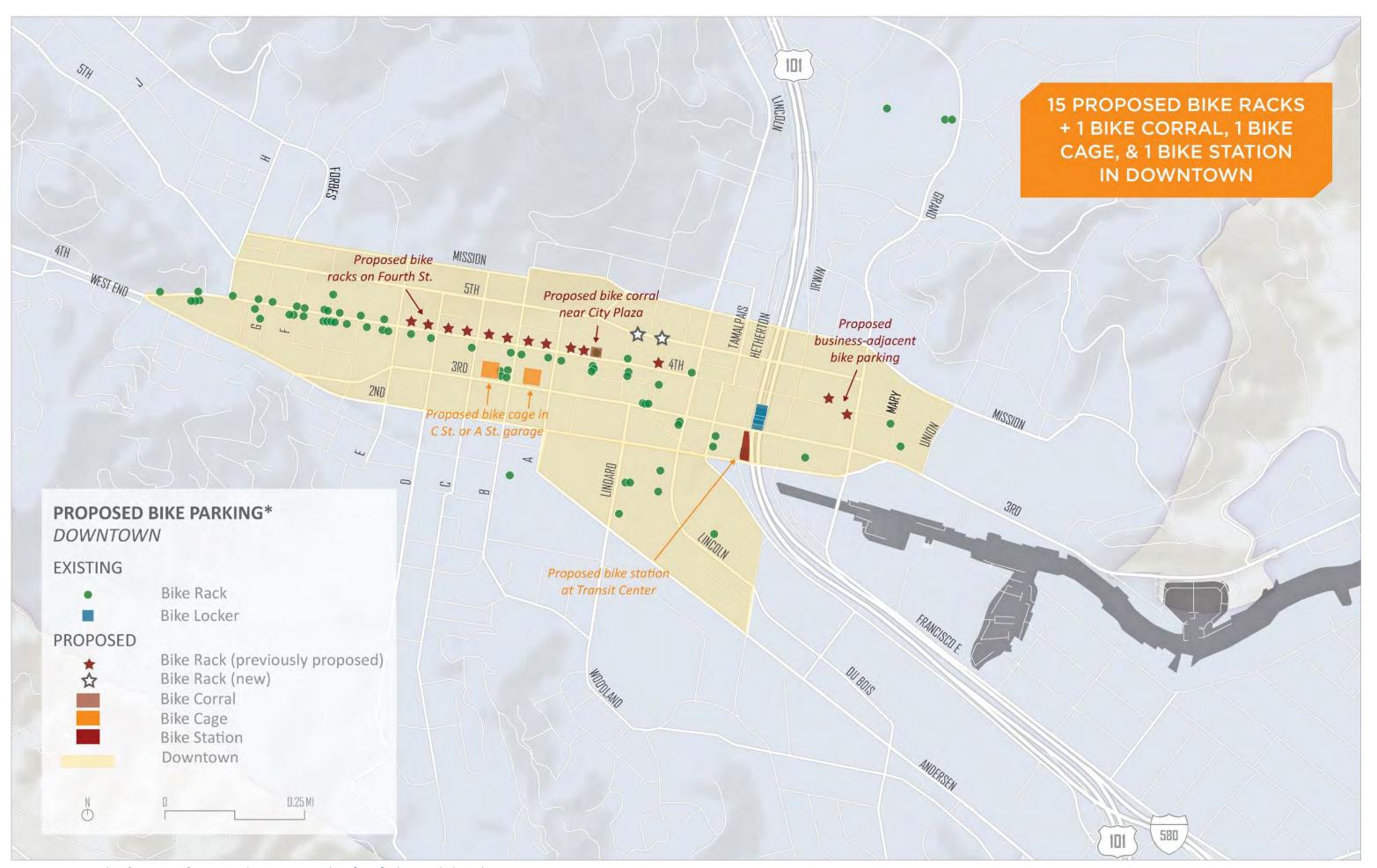
Group G Rank: 2nd (tied) Overall Rank: 93rd (tied)

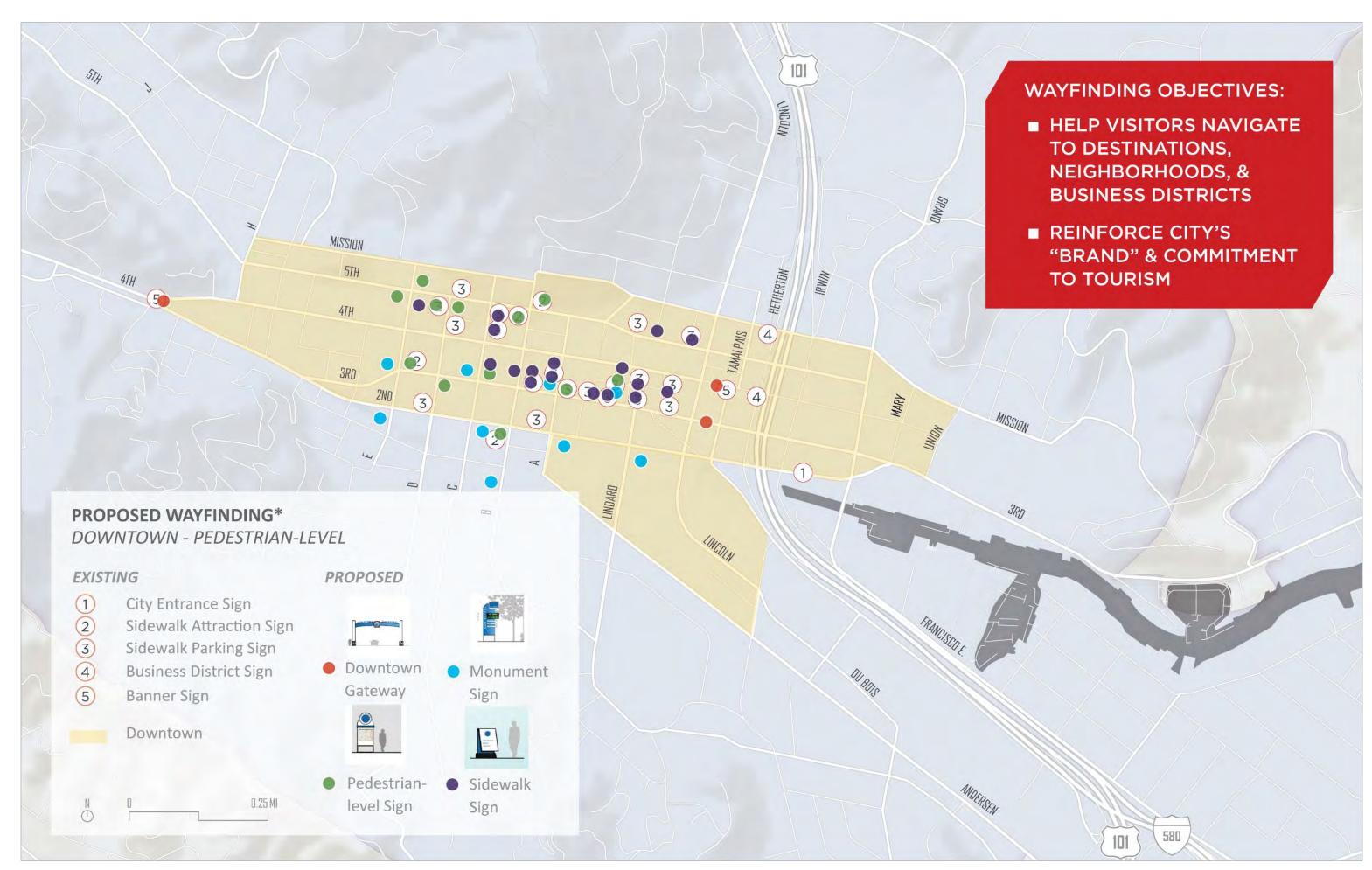
See Appendix H for full list of prioritized projects.

# EXISTING | PROPOSED BIKEWAYS Multi-use Path (Class I) Bicycle Lane (Class II) Bicycle Route (Class III) Protected Bikeway (Class IV) San Rafael City limits OTHER PROPOSED PROJECTS Walkway/Sidewalk To Be Determined Intersection/Undercrossing

### **Proposed Project, Group G – San Quentin Connections**

ID	CORRIDOR/PRIMARY	BEGIN/AT	END	CLASS/TYPE	MILES	STATUS	NOTES
G-1	Sir Francis Drake Boulevard	Andersen Drive	N/A	Intersection	N/A	Preliminary Design	San Quentin Area Bicycle and Pedestrian Study (2011): Bicycle and pedestrian intersection improvements.
G-2	I-580 Connector	I-580 on-ramp	Francisco Boulevard East	I	0.01	Active Caltrans Project	San Quentin Area Bicycle and Pedestrian Study (2011): Pave informal pathway and create transition between existing Class II bicycle lanes on the I-580 on-ramp and Francisco Boulevard East.
G-3	Grange Avenue	Francisco Boulevard East	Kerner Boulevard	To be determined	0.09	Conceptual	Study feasibility of Class IV protected bikeway or Class II buffered bicycle lanes between proposed Bay Trail connection and proposed Kerner Boulevard bikeway; previous proposed project from San Quentin Area Bicycle and Pedestrian Study (2011) included designating Grange Avenue as Class III bicycle route (pavement markings and signage).
G-4	Grange Avenue	Francisco Boulevard East	230 feet from Piombo Place	Walkway	0.04	Conceptual	San Quentin Area Bicycle and Pedestrian Study (2011): Close westbound sidewalk gap.
G-5	San Francisco Bay Trail	San Francisco Bay Trail south terminus (east of Piombo Place)	San Francisco Bay Trail north terminus (north of EAH Housing parking lot)	I	0.02	Conceptual	The San Francisco Bay Trail Project: Gap Analysis Study (2005): Close gap in existing Class I multi-use pathway.
G-6	Francisco Boulevard East	South City Limit/ Richmond-San Rafael Bridge	Grange Avenue	I	0.50	Active Caltrans Project	Richmond-San Rafael Bridge Access Improvements: Connect funded bi-directional bicycle and pedestrian path on upper deck of Richmond-San Rafael Bridge to San Francisco Bay Trail segments in San Rafael.
G-7	San Quentin Terrace	West City Limit/ Main Street	Francisco Boulevard East	III	0.01	Active Caltrans Project	San Quentin Area Bicycle and Pedestrian Study (2011): Designate Main Street as Class III bicycle route.





# NEXT STEPS

- 55 Funding Sources
- 56 Pilot Projects
- Tracking Progress

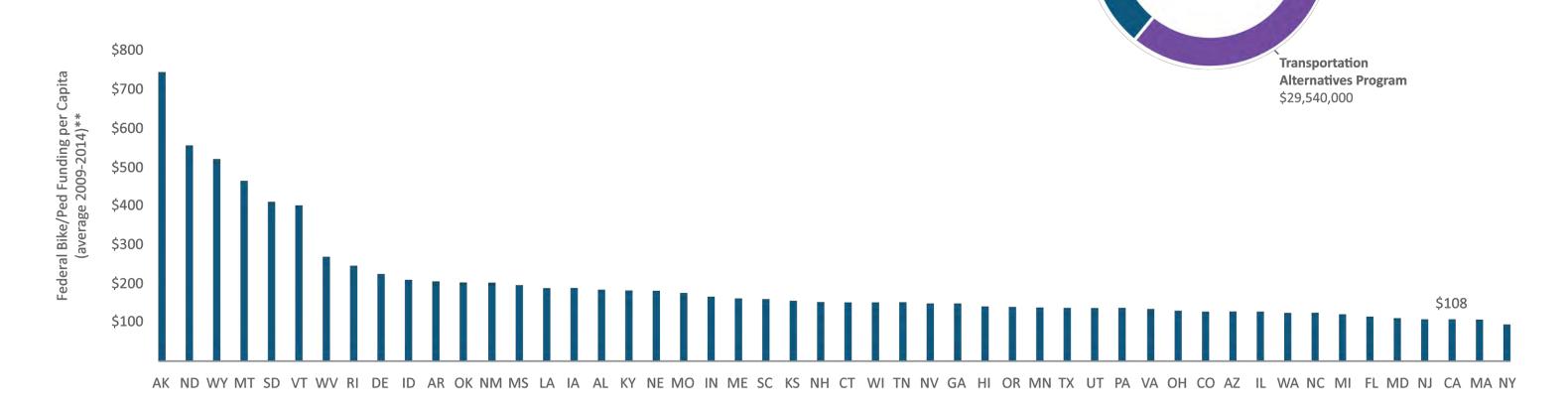
**Did you know?** 13% of Marin County residents said they were somewhat satisfied or very satisfied with the opportunities for bicycling in their community. (Nonmotorized Transportation Pilot Program Evaluation Study, 2007)

# **Funding Sources**

Funding for bicycle and pedestrian projects in California is competitive. The state receives the most federal funding out of any state in the country (approximately \$4 billion per year between 2009 and 2014) but ranks 48th out of all 50 states in per capita bicycle and pedestrian federal funding. The majority of federal funding for bicycle and pedestrian projects and programs in California comes from the Congestion Mitigation & Air Quality Improvement Program (38 percent) and the Transportation Alternatives Program (36 percent).

A sizable portion of state and regional funding for bicycle and pedestrian projects and programs come from the Active Transportation Program (ATP). To date, ATP has completed three funding cycles (2014, 2015, 2017) and a fourth cycle is anticipated in 2018. The City of San Rafael's Grand Avenue Bicycle and Pedestrian Bridge Project is funded partially through ATP.

For a list of available federal, state, regional, and local funding sources for bicycle and pedestrian projects, see <u>Appendix I.</u>



Surface

**Program** 

Source of

California's Annual

Bike/Ped Federal

Funding\*

**Congestion Mitigation &** 

\$30,874,000

**Air Quality Improvement Program** 

**Transportation** 

\$10,950,000

Safe Routes to

\$2,706,000

**Highway Safety** 

\$2,060,000

\$1,717,000

\$3,642,000

Other

**Improvement Program** 

Highway Priority Projects

# **Pilot Projects**

To test the feasibility of new bicycle and pedestrian infrastructure, cities around the country have implemented pilot projects. These short-term projects allow for a city to introduce new concepts to the public, test multiple design alternatives at a single location to see which would works best, and to adjust the design on the fly to respond to feedback from the public and emergency services. Pilot projects can come in many forms, but the underlying similarities are a focus on low-cost, reversible design and materials, volunteer help and wide public engagement, and data collection on the project's effectiveness.

### Stages of a Pilot Project\*









PERMANENT INSTALLATION

### **DEMONSTRATION**

- 1 day 1 month
- Can be led by anyone
- Low-cost and borrowed materials
- High flexibility and easily removable
- 1 month 1 year
- City leadership needed
- Low-cost but semidurable materials
- Adjustable and
- Data collection needed

PILOT PROJECT

- ultimately removable

### INTERIM DESIGN

- 1 year 5 years
- City leadership needed
- Moderate cost, durable materials
- Adjustable but feels permanent
- Data collection needed

- 5+ years
- City leadership needed
- Higher cost, permanent materials
- Permanent and not easily adjustable
- Long-term performance tracking preferred

### **Project Examples**

**Pilot Mid-block Crossing** Coalinga, CA















**Greenway for a Day** 









Morgan Hill, CA















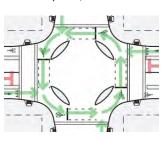








**Temporary Protected Intersection** Minneapolis, MN







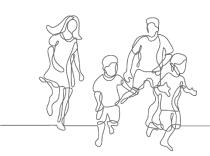




<sup>\*</sup>Based on PeopleForBikes' "Quick Builds for Better Streets" and The Street Plans Collaborative "Iterative Project Delivery"

# **Tracking Progress**

Tracking progress towards the plan's goals is crucial to the overall plan's success. While goals define broad desired outcomes, strategies and objectives help define a preferred approach and the measurable steps needed to achieve them. The bi-annual format listed below is intended to coincide with bi-annual progress reports detailing the status of each strategy over the next ten years. See <u>Appendix J</u> for a list of the objectives in the previous plan update.







Goal	Strategies			Objectives							
		2020	2022	2024	2026	2028					
Coordination – Build on existing and ongoing planning efforts to identify	1) Conduct regular progress reports and updates of plan	Develop progress report format; complete 2-year progress report documenting status of all plan objectives; present report to City Council	Complete 4-year progress report documenting status of all plan objectives; present report to City Council	Complete 6-year progress report documenting status of all plan objectives; present report to City Council	Complete 8-year progress report documenting status of all plan objectives; present report to City Council	Complete full update of plan; update plan goals, strategies, and objectives					
changing needs at the local and regional levels,	2) Support the Bicycle and Pedestrian Advisory Committee (BPAC)	Dedicate staff time to attending all BPAC meetings; provide meeting space for the BPAC; solicit feedback from the BPAC on planned and proposed bicycle and pedestrian projects, programs, and policies in a timely manner ahead of implementation; and maintain database of BPAC meeting agendas and notes on the City's website									
including Complete Street, environmental, and transit	3) Maintain bicycle- and pedestrian- related webpages on the City's website	Continue to document all ongoing bicycle- and pedestrian-related projects on the City website, including the posting bi-annual progress reports and collecting a database of reported bicycle- and pedestrian-related issues through the online "Report an Issue" feature for inclusion within the bi-annual progress reports									
projects	4) Support the Transportation Authority of Marin (TAM) in implementation of a bikeshare program	Adopt policy to require data sharing from all bikeshare providers; support implementation of bikeshare program's Phase 1 (Bellam, Downtown, and Transit Center)	Evaluate bikeshare program effectiveness; support implementation of bikeshare program's Phase 2 (Pickleweed Park, Fourth Street, Dominican University, Civic Center, Civic Center SMART Station, Northgate Shopping Center)	Complete bi-annual evaluations of bikeshare program's Phase 3 (Kaiser Community)							

Goal	Strategies			Objectives		
		2020	2022	2024	2026	2028
Connectivity – Develop bicycle and pedestrian networks that connect	1) Implement the proposed bicycle and pathway network	Complete 5% of proposed "major routes", including interim connections to Richmond-San Rafael Bridge	Complete 15% of proposed "major routes"; complete 5% of proposed secondary projects	Complete 25% of proposed "major routes"; complete 10% of proposed secondary projects	Complete 35% of proposed "major routes"; complete 15% of proposed secondary projects	Complete 45% of proposed "major routes"; complete 20% of proposed secondary projects
residents and visitors to major activity and shopping centers, existing	2) Implement proposed crossing, lighting, traffic calming, and pedestrian projects	Review and adjust downtown pedestrian signal timing; implement 2 pedestrian safety projects	Implement 2 additional pedestrian safety projects; implement interim Highway 101 undercrossing measures	Implement 2 additional pedestrian safety projects	Implement 2 additional pedestrian safety projects	Implement 2 additional pedestrian safety projects
and planned transit, and schools. Work to close gaps between existing	3) Conduct project feasibility studies	Begin feasibility study of downtown "Commercial Connector"; complete study of uncontrolled crosswalks (ongoing)	Complete feasibility study of downtown "Commercial Connector"; Begin feasibility study of Bellam Boulevard	Complete feasibility study of Bellam Boulevard; begin feasibility study of Kerner Boulevard/Bahia Place Creek Pathway	Complete feasibility study of Kerner Boulevard/Bahia Place Creek Pathway; begin feasibility study of Montecillo Road	Complete feasibility study of Montecillo Road; begin feasibility study of Pt. San Pedro Road
facilities.	4) Conduct demonstration and pilot projects	Complete demonstration project of Class IV protected bikeway; begin pilot project of Richmond-San Rafael bridge connection, including kick-off event	Begin pilot project of Class IV protected bikeway; complete pilot project of Richmond-San Rafael bridge; complete demonstration project of protected intersection	Complete pilot project of Class IV protected bikeway; begin pilot project of protected intersection	Complete pilot project of protected intersection; complete demonstration project of protected bicycle signal phasing	Begin pilot project of protected bicycle signal phasing
	5) Implement proposed bicycle parking	Complete feasibility study of bicycle parking at SMART stations, including review of utilization at Transit Center; create citywide inventory of bicycle parking facilities; implement 25% of proposed short-term bicycle parking in downtown; establish online bicycle parking request system	Implement interim long-term bicycle parking strategies at SMART stations; implement 50% of proposed short-term bicycle parking in downtown; update citywide inventory of bicycle parking facilities	Evaluate effectiveness of interim long-term bicycle parking at SMART stations; implement 75% of proposed short-term bicycle parking in downtown; update citywide inventory of bicycle parking facilities	Implement permanent long- term bicycle parking strategy at SMART stations; implement 100% of proposed short-term bicycle parking in downtown; update citywide inventory of bicycle parking facilities	Conduct downtown bicycle parking utilization study; review online bicycle parking requests and integrate into plan update
	6) Update citywide parking policy	Review existing citywide motor vehicl recommend changes to citywide park		national best practices;	N/A	N/A
	7) Implement and maintain bicycle and pedestrian wayfinding	Implement proposed pedestrian- level signage (12 signs)	Implement proposed monument signage (9 signs); inventory bicycle wayfinding signage	Implement proposed sidewalk signage (17 signs)	Implement downtown gateway signage (3 signs)	Update inventory of bicycle wayfinding signage

Goal	Strategies	Objectives					
		2020	2022	2024	2026	2028	
Safety – Identify and prioritize bicycle- and pedestrian- related safety improvements	1) Reduce bicycle- and pedestrian-involved collisions and eliminate all bicycle- and pedestrian-involved severe injuries and fatalities	Adopt "Vision Zero" policy of eliminating all bicycle- and pedestrian-involved severe injuries and fatalities; establish historic baseline for comparison	Reduce overall bicycle- and pedestrian-involved collisions by 10% from baseline; reduce bicycle- and pedestrian-involved severe injuries and fatalities by 20% from baseline	Reduce overall bicycle- and pedestrian-involved collisions by 20% from baseline; reduce bicycle- and pedestrian-involved severe injuries and fatalities by 40% from baseline	Reduce overall bicycle- and pedestrian-involved collisions by 30% baseline; reduce bicycle- and pedestrian-involved severe injuries and fatalities by 60% from baseline	Reduce overall bicycle- and pedestrian-involved collisions by 40% from baseline; reduce bicycle-and pedestrian-involved severe injuries and fatalities by 80% from baseline	
	2) Actively identify locations with potential safety concerns based on roadway geometry and identify proven safety countermeasures to address concerns	Review and integrate findings from N					
	3) Update citywide e-bike/electronic-assist bicycle policy	Review existing citywide e-bike/electronscript changes to citywide parking policy	N/A				
	4) Develop citywide curbside management policy	N/A	Review existing curbside management policy; review national best practices; recommend changes to citywide curbside management policy			N/A	
	5) Update citywide bicycle and pedestrian safety policies	Review citywide distracted driving policy; review national best practices; recommend changes to citywide policy	Review citywide sidewalk bicycling policy; review national best practices; recommend changes to citywide policy	Review citywide 'Idaho stop/dead red' policy; review national best practices; recommend changes to citywide policy	N/A	N/A	

Goal	Strategies	<b>Objectives</b>					
		2020	2022	2024	2026	2028	
Universal Design – Promote design standards and support facilities that encourage bicycling and walking among people of all ages and abilities, including children, seniors, families, and people with limited mobility. Work to match project designs to the residents they are intended to serve	1) Maintain bicycle and pedestrian facilities	Undertake routine maintenance of sidewalks	of bicycle and pedestrian facilities,	such as sweeping and restriping bil	keways, trimming vegetation, and I	resurfacing pathways and	
	2) Track residents' and visitors' perceptions of the existing bicycle network	N/A	Develop bicycle user satisfaction survey instrument; collect baseline survey responses	N/A	Collect second round of bicycle user satisfaction survey responses	N/A	
	3) Use the latest best practices and design guidelines	Continue to construct bicycle and	I pedestrian facilities according to	the most up-to-date local, state, an	d national best practices and desig	n guidelines	

Goal	Strategies	<b>Objectives</b>					
		2020	2022	2024	2026	2028	
Programs – Support bicycling and walking by providing educational and encouragement programs	1) Create and maintain database of bicycle and pedestrian counts	Develop citywide bicycle and pedestrian data collection plan (including temporary and permanent counters); coordinate with regional data collection efforts by TAM and MTC; establish baseline counts; make count data publicly accessible	Continue to conduct bicycle and pedestrian counts; increase usage 5% over baseline counts; increase commute bicycle and pedestrian mode share by 0.25% over baseline	Continue to conduct bicycle and pedestrian counts; increase usage 10% over baseline counts; increase commute bicycle and pedestrian mode share by 0.50% over baseline	Continue to conduct bicycle and pedestrian counts; increase usage 15% over baseline counts; increase commute bicycle and pedestrian mode share by 0.75% over baseline	Continue to conduct bicycle and pedestrian counts; increase usage 20% over baseline counts; increase commute bicycle and pedestrian mode share by 1.00% over baseline	
	2) Support Safe Routes to Schools (SR2S) programming and task forces	Maintain or increase school participation; increase average SR2S "report card" score of participating schools to 70 out of 100	Maintain or increase school participation; increase average SR2S "report card" score of participating schools to 75 out of 100	Maintain or increase school participation; increase average SR2S "report card" score of participating schools to 80 out of 100	Maintain or increase school participation; increase average SR2S "report card" score of participating schools to 82 out of 100	Maintain or increase school participation; increase average SR2S "report card" score of participating schools to 84 out of 100	
	3) Pursue regional, state, and federal funding for bicycle and pedestrian projects, programs, and policy support	Track funding dedicated to bicycle and pedestrian projects, bicycle and pedestrian-related project components, and staff dedicated to bicycle and pedestrian projects and related coordination					
	4) Conduct targeted enforcement to encourage compliance with traffic safety laws	Complete quarterly multimodal enforcement and encouragement at collision hot spots		Complete monthly multimodal enforcement and encouragement at collision hot spots		Complete bi-weekly multimodal enforcement and encouragement at collision hot spots	