

County of San Diego Active Transportation Plan **DRAFT**

June 2018



County of San Diego

Active Transportation Plan

DRAFT

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INTERNATIONAL

In Partnership with:



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Executive Summary

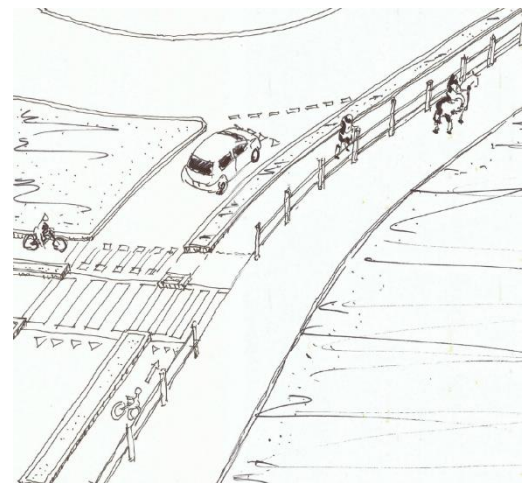
Communities throughout California are developing active transportation plans that address the needs of people walking and on bicycle.

The County of San Diego's Active Transportation Plan (ATP) is a multi-objective plan that balances environmental, economic, and community interests; implements the County's General Plan; and aligns with multiple County initiatives. The ATP identifies goals, objectives, and actions related to: improving safety to reduce auto collisions with cyclists and pedestrians; increasing accessibility and connectivity with an active transportation network; and improving public health by encouraging walking and biking.

County Context

Unincorporated San Diego county encompasses approximately 2.3 million acres or 3,570 square miles with a 2016 population of 492,491. The ATP considers the unincorporated county's unique communities whose character ranges from suburban adjacent to neighboring incorporated cities, to compact historic rural village centers with a mix of uses, to low density rural communities surrounded by hillsides, deserts, and agricultural lands. The most developed county communities are located closer to the coastal cities and have access to water, sewer, roads, schools and other public facilities.

Like many areas outside of cities, the unincorporated county road network has limited walking and biking facilities. Of the roads in the unincorporated county, about a quarter are County-maintained (roughly 2,000 miles of 8,000 total miles). Of these publicly maintained roads, less than half include sidewalks and less than one percent include a bicycle route or lane. The lack of safe and convenient pedestrian and bicycle facilities discourages non-vehicular



trips and results in impacts to roadway operations, the environment, and citizen health.

Background

State Initiatives

The California State Bicycle and Pedestrian Plan has a goal of doubling the amount of walking and tripling the amount of bicycling in the state by 2020. The state has dedicated annual funding through the Active Transportation Program that ranges from \$100-\$400 million per cycle. The State also relies on local jurisdictions to improve conditions for walking and biking and to reduce greenhouse gas emissions.

The County of San Diego's General Plan – Planning for Growth, Conservation, and Sustainability

The County's General Plan, updated in 2011, celebrates the region's natural setting and balances goals for growth, conservation, and sustainability. The General Plan Update shifted growth capacity from the eastern backcountry areas to western communities. The General Plan is based on guiding principles designed to: support a reasonable share of projected regional population growth, protect the county's natural resources, and maintain the character of its communities.

The General Plan has several policies that promote safe, efficient, and attractive active transportation options and recreational opportunities for county residents.

County Initiatives and Programs

The *Live Well San Diego* vision: "Building Better Health, Living Safely, and Thriving" addresses health, the built environment and safety in the unincorporated county. The ATP aligns with this program and includes implementation actions focusing on active transportation. Active transportation enhances public health and reduces impacts to the environment. The planned pedestrian and bicycle facilities increase safety and mobility for all road users, but especially for people walking or biking.

The key components of the ATP are briefly summarized in the following sections.

Chapter 1 Introduction

Chapter 1 introduces the ATP and provides background information including the ATP's goals, objectives, and actions.

These goals include:

- Increasing biking and walking trips;
- Increasing safety and mobility for non-motorized users;
- Advancing the efforts of regional agencies to achieve greenhouse gas reduction goals; and
- Enhancing public health, including the reduction of childhood obesity.

Chapter 2 Existing Policy Framework

This chapter summarizes the existing policy framework used to develop the ATP. The policy framework of the General Plan, Mobility Element and Public Road Standards are documented and discussed for relevance to the ATP.

Chapter 2 also includes an analysis of all 18 incorporated cities' active transportation plans and SANDAG's regional plan to identify connections between jurisdictions and develop an active transportation network county-wide. This includes the cities of San Diego, Chula Vista, Escondido, San Marcos and Vista.

Chapter 3 Existing Conditions

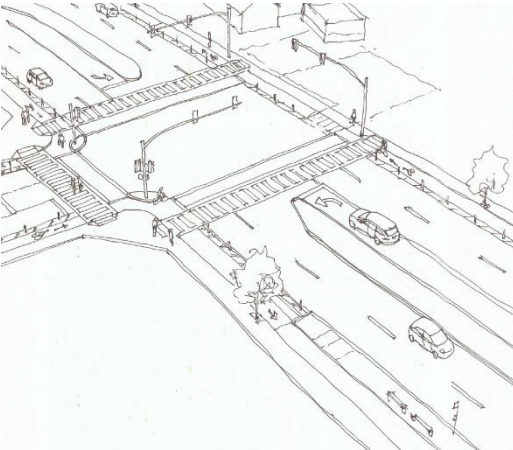
Existing land uses, road types, sidewalks, and bicycle facilities are evaluated and documented in this chapter.

Existing conditions for the pedestrian network were collected and analyzed through a Pedestrian Gap Analysis (PGA), including a comprehensive inventory of over 700 miles of public road segments. The PGA documents the condition of sidewalks/pathways, distance from local generators (schools, parks, libraries and commercial centers) and integrates local socioeconomic, safety and health data into ranked segments within each community. Results of the PGA found that approximately 53% of surveyed public County-maintained roads currently lack a sidewalk or pathway.

Existing conditions for the bicycle network were also collected and analyzed and supplemented with information gathered during the PGA. The County ATP follows the

California Highway Design Manual which describes bicycle facilities as “classes”. A Class I Bike Path is a facility fully separated from roads. Class II Bike Lanes, are striped areas on a road for bicycle travel. Class III Bike Routes are shared road areas with bicycles allowed to use the full lane. Class IV Separated Bikeways (also called “cycle tracks”) are located in the road, but provide a physical barrier to separate bike traffic from vehicle traffic.

Chapter 4 Recommendations and Proposed Active Transportation Improvements



The proposed ATP network was developed through an analytical process that reflected the unique context of each community.

Where gaps were identified in the PGA, the ATP recommends sidewalk or disintegrated granite pathways be constructed, whichever best complements the community character.

The draft bicycle network was informed by a review of best practices to connect people to their destinations along safe and connected bicycle facilities.

The draft ATP bicycle network proposes the following amount of bicycle facilities at full buildout as compared to the 2003 Bicycle Transportation Plan (BTP):

	<u>BTP</u>	<u>ATP</u>
• Class I Bike Path	27 miles	22 miles
• Class II Bike Lanes	200 miles	797 miles
• Class III Bike Route	266 miles	N/A
• Class IV Separated Bikeway:	N/A	195 miles

The ATP bicycle network, as proposed, covers 100% of Mobility Element roads with a minimum Class II Bike Lane, whereas the BTP proposed facilities for roughly half of Mobility Element roads. In villages, Class IV Separated Bikeways with additional cyclist separation are proposed. The plan reclassifies existing Mobility Element Class III Bike Route designations as either Class II or Class IV. For reference, the BTP did not include the Class IV Separated Bikeway designation because that designation was not officially adopted by the state of California until 2014.

The majority of ATP bike facility recommendations are Class II Bike Lanes and connect rural communities and serve long distance or recreation cycling. The Class IV Separated Bikeways are concentrated in designated villages to better connect destinations (schools, parks, libraries and commercial services). The Class I Bike Path network builds on existing facilities, often located within river park corridors.

With the proposed improvements, preliminary estimates indicate that active transportation trips will increase anywhere from 1% to 14% above a future “unimproved” scenario, depending on the community planning area.

Chapter 5 Funding and Implementation

County initiated, active transportation projects can be constructed as stand-alone projects or integrated within larger capital improvements for potential cost savings. Implementation will occur as funding is available. Private development in the county will also implement the facilities identified in the ATP as part of their frontage or off-site improvements as conditions of development.

Funding for the ATP will occur through the County Capital Improvement Program (CIP) that includes re-striping during resurfacing or through complete street projects as a part of road reconstruction efforts. The County also pursues funding for pedestrian and bicycle improvements through the State Active Transportation Program to fund ATP improvements. Adoption of this ATP further enhances the County’s competitiveness in ATP grant applications.

ATP Appendices

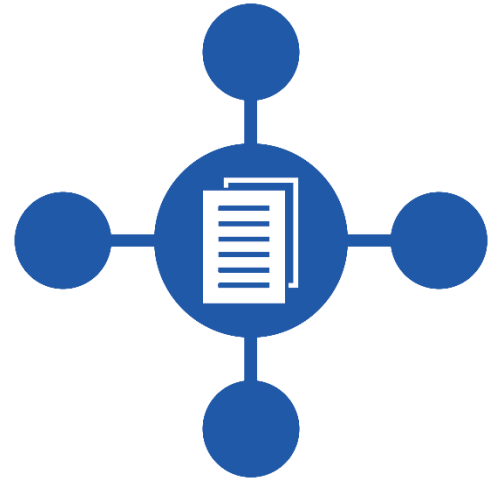
The technical analysis and other supplemental information are included as Appendices to the ATP. The Appendices provides supporting information for analysis, network recommendations, and conclusions for the ATP. The supporting materials include:

- **Appendix A: Bicycle Network Maps and Level of Traffic Stress (LTS) of Mobility Element – Build Out Conditions Maps**
- **Appendix B: Active Transportation Facility Toolbox**
- **Appendix C: Bicycling and Walking Demand Support Materials**
- **Appendix D: Pedestrian Gap Analysis (PGA)**

- **Appendix E: Level of Traffic Stress (LTS) Analysis Metadata**
- **Appendix F: Scored Mobility Element Road Segments for County Community Planning Areas**
- **Appendix G: Safe Routes to School (SRTS) Toolbox**

The ATP was developed with grant funding from the State of California Active Transportation Program and using *TransNet* dollars from the San Diego regional sales tax administered by SANDAG.

1 Active Transportation Plan Process and Overview

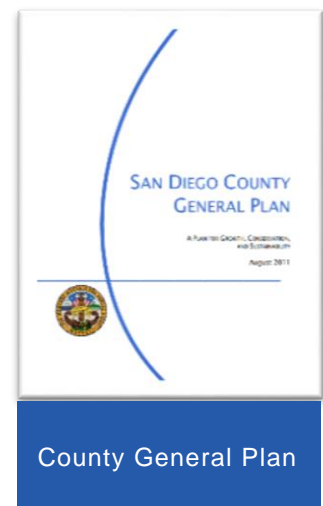


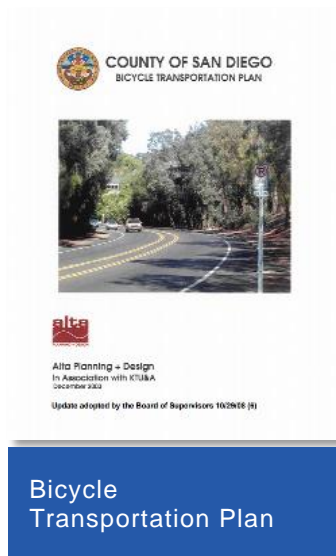
1.1 Introduction

Providing connected facilities that are safe, attractive, and continuous supports and encourages people to walk and bike for every day trips. The County of San Diego recognizes the need to enhance unincorporated communities and improve public health, safety and wellbeing by providing walking and bicycling facilities that makes it easier for people to be active.

The Active Transportation Plan (ATP) serves as a master plan and policy document for the County of San Diego to implement active transportation projects and pursue funding opportunities for new or improved facilities. The ATP, a Mobility Element amendment for the County's General Plan, includes recommendations to promote active transportation.

The term "active transportation" represents any non-motorized mode of travel – typically including biking or walking, but also skateboard, scooter, and horse riding – for leisure, exercise, getting to school, shopping, dining, public transportation or any other destination. Users of all ages, demographics, and backgrounds use active transportation as a means of moving about their community. Active modes of travel are increasingly recognized as an important way of improving public health, incorporating sustainable practices, and increasing quality of life in communities.





The ATP was developed to identify and prioritize facilities that would best promote active modes of transportation throughout the unincorporated county with increased safety for pedestrians and bicyclists, enhanced public health benefits, and reduced impacts to the environment. The ATP will help achieve the vision of a multi-modal transportation network that allows residents to walk and bicycle for everyday trips.

The County of San Diego ATP updates and integrates several existing plans and documents into one comprehensive package. This includes the Bicycle Transportation Plan (2003), Community Trails Master Plan (2005), Pedestrian Master Plan (2010), and the bicycle facility portion of the General Plan Mobility Element (2011). The ATP serves as an update to the active transportation facilities in the General Plan Mobility Element, the Bike Transportation Plan, and the Pedestrian Master Plan. Although the ATP will not update the Community Trails Master Plan (CTMP), the network of on-street pathways designated by the CTMP informed the recommendations made throughout. The ATP also serves as a policy document for the County's Safe Routes to School Program.

County Context



Rural Lands

The county of San Diego is one of the largest counties in the country with an area of 4,526 square miles. The county has a diverse set of natural and built environments, from mountains and rolling foothills to bays and lagoons. These varied environments provide a setting for a range of housing and a transportation network that includes dense suburbs to rural agricultural lands. The unincorporated county consists of 33 community planning and sponsor groups and has a current population of 492,491 people¹. The population is expected to grow to approximately 647,233 people and 47,665 new jobs are estimated by 2050².

The expected population growth, paired with resulting increases in automobile use, will increase greenhouse gas emissions and impact public health. Improved and additional active transportation facilities can help reduce automobile trips by encouraging people to walk and bicycle.

¹ <http://www.sandiegocounty.gov/economicroundtable/docs/ertfact2014.pdf>

² SANDAG 2050 Series 13 Regional Growth Forecast (data extracted November 2016)

Improved active transportation facilities will help improve the number of people that walk and bicycle in the county. Based on SANDAG commuter data taken from the American Community Survey Estimates (ACS), approximately 0.1 percent of the residents in the unincorporated county classify themselves as bike users, 2.4 percent as walking commuters, and 0.6 percent as public transportation commuters. The majority, 96.9 percent, of residents in the unincorporated county are vehicle or “Other Means”³ commuters.

Studies have shown that an increase of just 1% of bike and walk trips can produce significant benefits for communities with chronic health conditions by integrating active transportation into daily routines.⁴ The ATP supports existing County programs and policies that encourage active transportation as a means to combat chronic disease by the Health and Human Services Agency (HHSA) and the *Live Well San Diego* Program. Active transportation in the county will help improve public health and reduce greenhouse gas (GHG) to meet the County’s targets in the Climate Action Plan.

Benefits to Active Transportation

Whether traveling by bike or walking, active transportation provides several benefits including:

- **Health Benefits** – active transportation increases opportunities to be physically active on a regular basis that may lead to reduced cardiovascular, respiratory, and obesity-related diseases.
- **Environmental Benefits** – active transportation reduces reliance on automobiles, thereby reducing GHG emissions and improving air quality.
- **Transportation Benefits** – active transportation reduces road congestion, repair, and maintenance costs.
- **Economic Benefits** – active transportation benefits the individual through savings associated with automobile maintenance, fuel, and parking. Active



Community Pathway

³ Commute data for the unincorporated county based on SANDAG-recoded ACS data. More information about the methodology used to determine these figures is available in Chapter 3 Existing Conditions for Active Transportation Facilities. “Other means” commuters are those who self-identified as not using the provided commute methods in the ACS.

⁴ Kruk, J. (2009). “Physical activity and health.” *Asian Pacific Journal of Cancer Prevention*. 10(5): 721-728

transportation can also increase patronage at local businesses accessible by foot or bike.

- **Social Benefits** – active transportation increases opportunities for social interactions.
- **Recreational Benefits** – active transportation provides opportunities to spend time outdoors and in nature.



Village Pedestrian Activity

Barriers to active transportation include both physical and socially perceived constraints. Physical barriers for those engaging in active transportation include: lack of continuous sidewalks, trails, or bike facilities, the inability to cross a road safely, and the lack of end-of-trip infrastructure like bicycle parking. Within the unincorporated county, the practicality of biking and walking may also limit users. Distances between destinations, the need to carry baggage, and/or the desire to transport children may make active transportation impractical. The socially perceived constraints include the perception that biking and walking is not safe and/or represents lower socioeconomic status.

Combating the physical constraints to incorporate active transportation programs and infrastructure is the first step in promoting more active trip choices and decreasing the misconceptions associated with non-motorized travel.

1.2 Goals, Objectives, and Actions

In addition to the objectives and requirements of the State Active Transportation Program, the County developed the ATP to create a comprehensive active transportation plan that:

- Provides a comprehensive inventory of all the county's bicycle and pedestrian facilities;
- Evaluates how well the County is serving bike and pedestrian trips;
- Identifies network improvements on a system-wide basis; and
- Guides capital investments and assist in the pursuit of additional funding options.

Below are the goals, objectives, and actions for ATP implementation. The goals establish purpose while the objectives define the course of action to achieve the goals. Actions are specific ways forward for implementation.

The goals of the ATP are categorized as: *safety*, *accessibility*, *connectivity*, and *public health*. These goals provide the foundation for the County's long-term vision for developing a multi-modal network that is safe and accessible for all users.

TABLE 1-1 GOALS, OBJECTIVES, AND ACTIONS

Goal 1: Improve Safety	
Objective 1: Achieve a reduction in collision rates by 2050 while achieving an increase in mode share for people biking and walking.	Action A: Evaluate pedestrian and bicycle-involved collision data, identify trends, and prepare an annual report that summarizes collision trends and locations, evaluations, and recommendations. Action B: Update and inform infrastructure project lists to prioritize or incorporate improvements to areas with substantial pedestrian or bicycle-involved collisions. Action C: Incorporate separated bicycle and pedestrian facilities within the public right-of-way for all new development or improvement projects.
Measures of Effectiveness Reductions in collisions involving people biking and walking; an increase in mode share.	
Goal 2: Accessibility and Connectivity	
Objective 2.1 Plan for a comprehensive network of facilities that are accessible to all users including people walking, biking, and those utilizing assistance devices such as wheelchairs.	Action A: Adopt a Complete Streets policy that addresses all public and private roadway and infrastructure improvements
Objective 2.2 Fill gaps within the existing pedestrian and bicycle networks to create a continuous accessible network.	Action A: Complete sidewalks and bicycle facilities that have existing gaps and/or Action B: Upgrade facilities that do not meet current classifications or standards.
Objective 2.3 Keep bicycle and pedestrian access open during construction projects.	Action A: Require construction traffic management plans to address access for people biking and walking.
Measures of Effectiveness Periodic reviews, as established by County staff, of pedestrian and bicycle networks illustrating greater levels of network completeness.	

TABLE 1-1, CONTINUED

Goal 3: Public Health	
Objective 3.1 Increase frequency and types of biking and walking trips in the County of San Diego to improve public health, decrease the number of vehicle trips, and reduce impacts to the environment.	Action A: Implement the pedestrian and bike network improvements as identified in the ATP. Action B: Promote biking and walking trips by developing continuous, convenient, maintained, and safe routes for work and non-work or recreational trips. Action C: Continuously work with HHSA staff to identify opportunities to combine or overlap public health initiatives, programs and projects where feasible.
Measures of Effectiveness Increase biking and walking mode share and/or use tools for measuring progress such as pre- and post-intervention audits or public health indicators (e.g. BMI calculators).	

1.3 Program Guidelines and Requirements

State Active Transportation Program Requirements

The County ATP meets the objectives and requirements of the State of California's Active Transportation Program and CA Streets and Highway Code 891.2. This allows the County to pursue funding for implementation of active transportation facilities. The active transportation initiative began at the State level when the California Active Transportation Program was created by Senate Bill 99 (Chapter 359, Statutes of 2013) and Assembly Bill 101 (Chapter 354, Statutes of 2013) to encourage increased use of active modes of transportation. The California Active Transportation Program consolidated various transportation programs -- the Federal Transportation Alternatives Program, State Bicycle Transportation Account, and Federal and State Safe Routes to School programs -- into a single program with a goal of making California a national leader in active transportation.

The goals of the California Active Transportation Program are:

- Increase the proportion of biking and walking trips;
- Increase safety and mobility for non-motorized users;

- Advance the efforts of regional agencies to achieve greenhouse gas reduction goals;
- Enhance public health, including the reduction of childhood obesity through the use of projects eligible for Safe Routes to Schools Program funding;
- Ensure disadvantaged communities fully share in program benefits (25% of program); and
- Provide a broad spectrum of projects to benefit many types of active transportation users.

The Active Transportation Program requirements established by the California Transportation Commission (CTC) are further summarized in this section. The complete list of requirements is available at:

<http://www.dot.ca.gov/hq/LocalPrograms/atp/>

The ATP will help the County's eligibility to compete for infrastructure improvement funding under the California Active Transportation Program.

In addition to the requirement of the State's Active Transportation Program, the County's ATP adheres to the following guidelines and requirements.

Regional ATP Program Guidelines

The County ATP must adhere to the Regional ATP Program Guidelines as outlined in SANDAG's 2017 Active Transportation Program Guidelines – San Diego Regional Competition ATP Cycle 4. Available here:

<http://www.sandag.org/index.asp?classid=12&projectid=491&fuseaction=projects.detail>

Federal Requirements

Unless programmed for state-only funding, grant recipients must comply with the provisions of Title 23 of the U.S. Code of Federal Regulations and with the processes and procedures contained in the Caltrans Local Assistance Procedures Manual and the Master Agreement with Caltrans.

Design Standards

California Streets and Highways Code Section 891 requires all city, county, regional, and other local agencies responsible for the development or operation of bikeways or roadways where bicycle travel is permitted utilize all minimum safety design criteria established by Caltrans, except that an agency may utilize other minimum safety

design criteria if specific conditions are met, as described in Section 891(b). Chapter 11, Design Standards, of the Caltrans Local Assistance Procedures Manual.

1.4 Plan Development

In 2014, the County of San Diego's Department of Public Works, Parks and Recreation, Planning & Development Services, and the Health and Human Services Agency applied for grant funding through the California Active Transportation Program for a county-wide ATP. The project was selected during the regional round administered by the San Diego Association of Governments (SANDAG).

The ATP was internally developed by Planning & Development Services in collaboration with the Department of Public Works, Parks and Recreation, and the Health and Human Services Agency.

Many County of San Diego initiatives, policies, and plans related to active transportation are summarized and referenced throughout the ATP.

1.5 Public Outreach

Public involvement was important to understanding the needs and desires of residents to prepare a plan that is functional, feasible, and addresses needs at both a regional and local community level. Agencies, such as SANDAG, and interest groups ensured cohesive plans and policies in the development of the ATP. An advisory stakeholder group was formed and included representatives from County of San Diego Departments of Planning & Development Services, Parks and Recreation, Public Works, and Health and Human Services Agency, as well as the Climate Action Plan team, and the Air Pollution Control District. The community planning groups and sponsor groups were provided updates and information about the project with feedback requested at each milestone. Additionally, a [project website](#) was developed to share project-related information, news, and materials or presentations with the public.

As the public input process proceeds in advance of the adoption of the plan, additional details will be inserted into this section to provide a summary of the outreach process and input received prior to adoption of the plan.



Project Presentation to
Community Planning &
Sponsor Group Chairs

2 Existing Policy Framework



This chapter summarizes existing plans and policies that address how future infrastructure improvements affect active transportation in the unincorporated county. Existing plans and policies discussed include those of the County of San Diego, SANDAG, the State of California, and Federal or other related initiatives, as summarized in **Table 2-1**. Active transportation programs and plans in neighboring cities and jurisdictions are summarized in **Table 2-2**.

The ATP and recommended improvements update, complement, and/or are consistent with these policies, plans, and standards.

TABLE 2-1 SUMMARY OF EXISTING PLANS AND POLICIES

County of San Diego	Regional Plans	State Plans	Federal Initiatives	Other Initiatives
<ul style="list-style-type: none"> – General Plan – Mobility Element – Bicycle Transportation Plan – Community Trails Program and Community Trails Master Plan – <i>Live Well</i> San Diego – Climate Action Plan – Public Road Standards – Green Street Standards 	<ul style="list-style-type: none"> – San Diego Forward: The Regional Plan – Riding to 2050: The San Diego Regional Bike Plan – Regional Complete Streets Policy – Designing for Smart Growth, Creating Great Places in the San Diego Region 	<ul style="list-style-type: none"> – California Transportation Plan – California Bike and Pedestrian Plan – Caltrans Non-motorized Transportation Facilities Manual 	<ul style="list-style-type: none"> – Transportation Alternatives Programs (TAP) – Federal Safe Routes to Schools Policies – Recreational Trails Program – FHA Bicycle and Pedestrian Program – Bikeway Design Guides 	<ul style="list-style-type: none"> – Smart Growth America – Vision Zero

TABLE 2-2 SUMMARY OF NEIGHBORING CITIES AND JURISDICTIONS

Neighboring Cities and Jurisdictions	
– City of Carlsbad	– City of Oceanside
– City of Chula Vista	– City of Poway
– City of Coronado	– City of San Diego
– City of Del Mar	– City of San Marcos
– City of El Cajon	– City of Santee
– City of Encinitas	– City of Solana Beach
– City of Escondido	– City of Vista
– City of Imperial Beach	– City of Temecula
– City of La Mesa	– Imperial County
– City of Lemon Grove	– City of Tijuana
– City of National City	– City of Tecate

2.1 County of San Diego Plans and Policies

County General Plan Update

Adopted in August 2011, the General Plan Update includes guiding principles designed to accommodate future growth while protecting unique and diverse natural resources and maintaining the character of the county's rural and semi-rural communities. The General Plan reflects a sustainable approach to planning that balances the need for infrastructure, housing, and economic vitality, while protecting unique community character, agricultural areas, and open spaces.

The General Plan provides a county-wide vision on how the county accommodates and plans for growth. Sections within the General Plan include individual plans and policies for each of the unincorporated communities that focus discussion on future infrastructure and land use opportunities. As mandated by State law, each element within the General Plan must be consistent with all other elements to ensure a cohesive and unified vision. This includes Community Plans, the Mobility Element, the Land Use Element, the Noise Element, the Conservation and Open Space Element, and the Safety Element.

County Mobility Element Goals and Policies

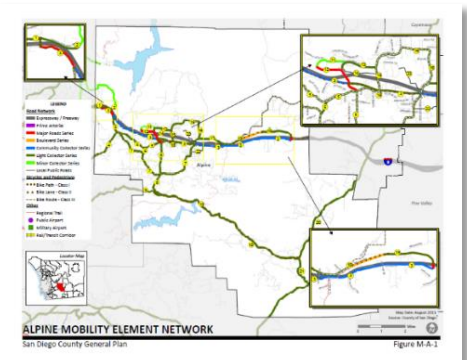
The Mobility Element addresses the operations, maintenance, and management of the county's transportation network. The Mobility Element provides a balanced system that incorporates multiple modes of travel including motor vehicles, public transportation, bicycles, pedestrians, and, where applicable, rail and air transportation. While the automobile dominates travel in the unincorporated county, opportunities for increased active transportation are also addressed in the Mobility Element. The Mobility Element identifies roads that are multi-modal and can safely accommodate vehicular, transit, bicycle, equestrian, and pedestrian modes of travel. The County of San Diego Public Road Standards and supplemental manuals provide guidance for road design.

The Mobility Element goals and policies are based on a number of Guiding Principles as described in the General Plan. A central theme is support for a multi-modal transportation network that enhances connectivity and supports existing development patterns while retaining community character. The Guiding Principles focus on environmental sustainability by striving to reduce greenhouse gas emissions and vehicle miles traveled. The following summarizes the subcategories of topics within the Mobility Element's goals and policies including the road network, public transit, transportation system and travel demand management, parking, bicycle, pedestrian, and trail facilities.

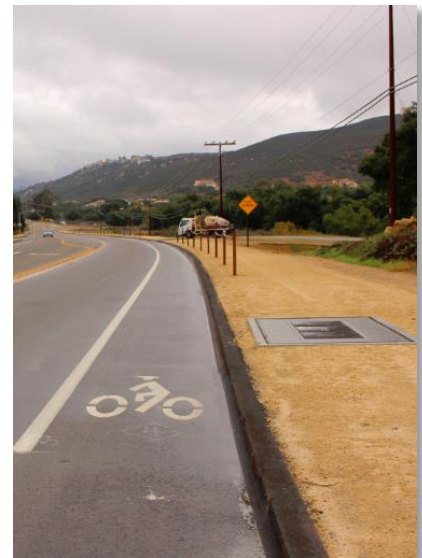
Road Network

The County is responsible for maintaining Mobility Element and local public roadways in the unincorporated areas, including bicycle and pedestrian facilities. County roadways can be characterized as one of the following three types:

- **Mobility Element roads** are County-maintained roads adopted in the General Plan. They provide for the movement of people and goods between and within communities in the County.
- **Non-Mobility Element public roads** are County-maintained roads that feed traffic onto Mobility Element roads. These roads are not adopted in the General Plan.
- **Private roads** are not maintained by the County.



Mobility Element Map



Mobility Element Road with Bike Lane and Pathway

The road network identified by the Mobility Element is shown on community maps and include the road classification series and general routes. The Mobility Element network maps ([available on the County's website](#)) illustrate existing and planned future roadways. Buildout of the recommended network will be constructed by new development as a condition of project approval and/or mitigation for project traffic-related impacts, by the County Capital Improvement Program (CIP) funded by *TransNet* and the Transportation Impact Fee (TIF) Program or other local funding, and by State or federal funds when available.

The primary objectives of the Mobility Element network include:

- **Accommodate all users of the road right-of-way –** The Mobility Element supports the concept of complete streets that are designed and operated to enable safe access for all users and for all modes of travel, including non-motorized users and transit riders. This includes users of all ages and abilities such as the elderly, children, and people with disabilities.
- **Right-of-way for road alignments reserved by development –** New development generally causes the need for road improvements. Proposed development within or adjacent to a road on the Mobility Element maps will require coordination with the County to determine the extent of responsibility for construction of the roadway and right-of-way improvements for non-motorized uses.
- **Road design, operation, and maintenance that reflects community character and the Community Plan –** Transportation and land use are components of every community that help establish its character and function. Proper road design should accommodate both motorized and non-motorized users of the road and respond to both travel demands and the character of the place (neighborhood, village, open space, etc.) that the road traverses.
- **Construct complete streets that balance vehicular needs with pedestrian, bicycle and transit facilities to meet the needs of all users –** The County of San Diego shall scope, plan, design, fund, construct, operate and maintain all public road right-of-way to provide a comprehensive and integrated network of facilities that are safe and convenient for



County Road

people of all ages and abilities traveling by foot, bicycle, equine, automobile, public transportation, and commercial vehicle.

Mobility Element road network goals and policies are directly applicable to the ATP, including:

- **Create a balanced road network** by prioritizing travel between and within Community Planning Areas and providing an interconnected road network.
- **Develop equitable transportation facilities** by requiring development to accommodate all users and to provide fair-share contributions toward financing transportation facilities.
- **Create safe and compatible roads** designed to be safe for all users, including multi-modal facilities in County Villages and compact residential areas, compatible with their respective contexts.

Public Transit

As the Regional Transportation Planning Authority, SANDAG is responsible for planning and allocating local, state, and federal funds for the region's transportation network. A long-range plan, the **2050 Regional Transportation Plan (RTP)** addresses countywide growth through the year 2050. The plan defines the level of service for transit in suburban and rural areas as follows:

- **Suburban** – Direct service along commute corridors with critical mass featuring rapid, frequent service during peaks with seamless coordinated transfers, and local service focused on smart growth areas and lifeline needs; and
- **Rural** – Transportation services that run only a few times a day on select days of the week (lifeline services).

The availability of public transit can reduce the dependency on motor vehicles and help to shape future growth patterns. Because of existing and planned development patterns, there are currently limited plans for expansion of transit service into unincorporated communities. Although transit currently comprises a small percentage of total trips in the unincorporated county, certain corridors have high transit ridership. In addition, transit-supportive land uses can encourage increased transit use and transit is an important public service for residents without access to a vehicle, senior citizens, and/or those with special needs. The



Transit Bus with Bike Rack

Mobility Element public transit goal and policies that relate directly to the ATP include:

- **Develop a public transit system** that reduces automobile dependence and serves all segments of the population by: maximizing transit service opportunities; providing transit service to key community facilities and services; placing transit stops in locations that facilitate ridership; providing amenities for pedestrians and bicyclists at all stops; improving existing transit facilities; addressing opportunities for park-and-ride facilities; and coordinating inter-regional travel modes and shuttles to large employment centers.

Transportation System Management, Travel Demand Management, and Parking

Transportation System Management (TSM) seeks to optimize the transportation network, while Travel Demand Management (TDM) seeks to reduce the use of the road network. TSM strategies focus on increasing the efficiency, safety, and capacity of existing transportation systems through strategies that relieve, lessen, or control congestion with minimal roadway widening. TDM addresses traffic congestion by reducing travel demand rather than increasing transportation capacity. The Mobility Element TSM and TDM goal and policies that relate directly to the ATP include:

- **Encourage effective use of the existing transportation network** by prioritizing alternative travel modes and operational improvements over road widening; ensuring operational improvements do not adversely impact transit, bicyclists, and pedestrians; requiring large commercial and office developments to implement TDM programs; and requiring developers of large projects to provide or contribute to park-and-ride facilities.

Parking is an essential component of an efficient transportation system that includes accommodation for automobiles, motorcycles, and bicycles. Providing bicycle parking that is both secure and convenient may contribute to increased bicycle usage. The Mobility Element parking goal and policies that relate directly to the ATP include:

- **Provide parking regulations that serve community needs** by providing sufficient parking capacity for all modes, including bicycles and staging areas for regional and community trails; designing and placing

parking that does not restrict pedestrian activity; and minimizing on-street parking outside County Villages.

- **Provide Park-and-Ride facilities** by requiring developers of large projects to provide, or to contribute to, park-and-ride facilities near freeway interchanges and other appropriate location that provide convenient access to congest regional arterials; and requiring that park-and-ride facilities are accessible to pedestrians and bicyclists and include bicycle lockers and transit stops.

Bicycle, Pedestrian, and Trail Facilities

A well-planned multi-modal road network, complete with non-motorized travel options, offers an important alternative to motor-vehicle use. Bicycle and pedestrian facilities, hiking, horseback riding, mountain biking trails, and pathways can help reduce traffic congestion, dependency on motorized vehicles, roadway noise, and air pollution, while promoting improved public health.

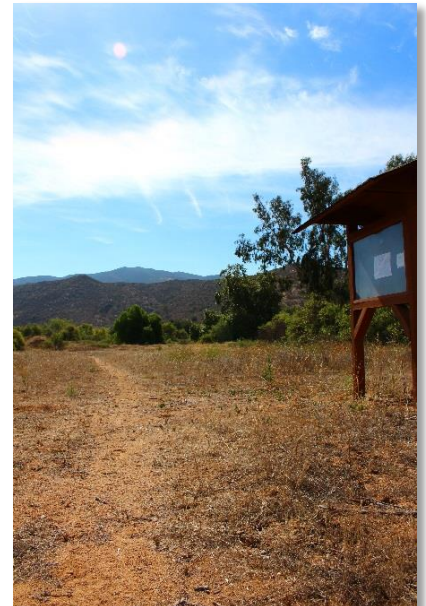
County Community Trails Program and Community Trails Master Plan

The County **Community Trails Program** identifies a system of interconnected regional and community trails and pathways address the public need for recreation and transportation. The County Community Trails Program involves both trail development and management on public, semi-public, and private lands. The **Community Trails Master Plan (CTMP)** was adopted in 2005 to implement the trails program and contains adopted individual community trails and pathway plans. The CTMP outlines the objectives, framework, goals and policies, design considerations, construction guidelines, operations and program management, and implementation processes.

The ATP supplements the Community Trails Program and Master Plan. The ATP links the CTMP soft-surface trails with other on and off-road active transportation facilities.

The options and recommendations in the CTMP helps the County by prioritizing implementation issues, defining starting points, and guiding the County Trails Program implementation.

The County has two types of regional trail facilities: trails and pathways. **Trails**, typically located away from vehicular roads, are primarily recreational in nature but can also serve as an alternative mode of transportation. They are soft-surface facilities for multiple users including; pedestrians,



Trail Head

equestrians, and bicyclists. Trail characteristics vary depending on location and topography. **Pathways** are facilities located within a parkway or road right-of-way. A riding and hiking trail located in the road right-of-way is considered a pathway. They are soft-surfaced facilities intended to serve both circulation and recreation purposes. Pathways help make critical connections and are an integral part of a functional trail system.

A regional trails map, included in the Mobility Element (see Mobility Element Figure M-2 (Regional Trails)), identifies general alignment corridors for regional trails in the San Diego region. Regional trails are shown on the community level maps in Figure M-A-1 through Figure M-A-23 of the Mobility Element Network Appendix.

County Bicycle Transportation Plan

The **County Public Road Standards** include provisions to allow the construction of Class I, Class II, or Class III bikeways as defined in the California Highway Design Manual. Each is described below:

1. **Class I Bike Path:** Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with minimized crossflow by motorists.
2. **Class II Bike Lane:** Provides a striped lane for one-way bike travel on a street or highway.
3. **Class III Bike Route:** Provides for shared use with pedestrian or motor vehicle traffic.

These facilities are recognized in the existing County Public Road Standards. An additional bikeway classification, **Class IV Cycle Track or Separated Bikeway**, is defined in Chapter 3 of this document as a physically-separated bikeway for the exclusive use of bicycles. Class IV facilities are new to the Public Road Standards.

The County of San Diego's Bicycle Transportation Plan (BTP) was adopted in 2003, and re-adopted without changes in 2008, to guide the development and maintenance of a bicycle network, support facilities and other programs for the unincorporated communities. The ATP and its recommended network updates the Mobility Element, and thus, the County's Bicycle Transportation Plan.

Live Well San Diego

The County of San Diego HHSA strives to create a healthy, safe, and thriving community for residents. HHSA developed *Live Well San Diego*, which began as a health strategy and has evolved into a greater vision to improve the health, safety and well-being of all county residents based on three components:

- **Building Better Health** calls for improving the health of all residents and supporting healthy choices;
- **Living Safely** calls for ensuring residents are protected from crime and abuse, neighborhoods are safe and communities are resilient to disasters and emergencies: and
- **Thriving** calls for opportunities for all people and communities to grow, connect, and enjoy the highest quality of life.



The *Live Well San Diego* includes a framework of indicators spanning five areas of influence that track progress for the region. With this framework, the County tracks if collective efforts are making a difference, as reflected in changes in one or more indicators. The two indicators relevant to the County ATP include physical environment/air quality and built environment/distance to parks.

Physical environment/air quality is measured as the ratio of days that air quality is rated unhealthy. Air pollution affects more people than any other pollutant. Lower levels of air pollution in a region correlate with better respiratory and cardiovascular health of the population. In the county of San Diego, air quality is rated poorly 1.5 out of 31 days.

Built environment/distance to park is measured as the percentage of the population living within a half mile of a park. In the county of San Diego, 1 in 2 people live within a half mile of a park. This is substantially better than the national average of 37%, but not as high as the state's average of 58%. Access to parks and recreation services has been shown to have positive health impacts, including the physical, social, and mental aspects of health. *Live Well San Diego* tracks this percentage and the percentage of poor air quality days to determine progress toward the program's goals.

Several programs throughout the County of San Diego contribute to the overall goals and objectives of *Live Well San Diego* and community health improvement at the

regional level. Some of the most influential programs and important assets to the community resulted from the work initiated with funding from the Center for Disease Control, Communities Putting Prevention to Work (CPPW) grant, known in San Diego as *Healthy Works*™. The community assets, programs, and resources relevant to this ATP, include:

- **Regional Safe Routes to School Strategic Plan (March 2012):** HHSA partnered with SANDAG to implement the regional Safe Routes to School Regional Plan. This plan facilitates students and parents across the county in increasing physical activity as bicycling or walking to school are incorporated as part of their daily routines.
- **Safe Routes to School Coalition (May 2012):** The San Diego Safe Routes to School Coalition is made up of educators, advocates, parents, engineers, planners, and others who are working to make biking and walking to school a safer and more accessible option for children and their families.
- **Local Public Health System Assessment (LPHSA) (2012):** The LPHSA is a CDC tool to evaluate how well the local public health system meets national standards and serves as a blueprint for strategic and community health planning efforts.
- **Community Health Assessment (CHA) (June 2014):** The subsequent *Live Well San Diego* CHA analyzed regions within the County and use this data to aid in determining priority areas for their respective communities.
- **Healthy Communities Atlas (2012):** The Healthy Communities Atlas is a tool developed with SANDAG and the County of San Diego HHSA for the Healthy Works program. The Atlas reflects the program's focus on obesity prevention through physical activity and access to healthy foods. GIS mapping tools were used to display environmental factors related to health outcomes based on public health research and are available on the [SANDAG website](#).
- The community assets and resources assessment called ***Mobilizing for Action through Planning and Partnerships (MAPP Assessments)*** illustrated that while assets and resources exist, better coordination will enhance ways a community can better address

needs. According to the County Health Rankings report, the county of San Diego is 17th out of 57 ranked California counties on overall health outcomes (combined morbidity and mortality). For overall health factors, the county of San Diego ranks 19th out of 57 counties. Health factors include health behaviors, clinical care rates, social and economic factors, and the physical environment. San Diego was one out of 26 counties that experienced a decrease in the number of obese and overweight individuals and one out of 15 counties that experienced a decrease of at least 3% between 2005-2010.

- Information collected from the CHA assessment and other community health needs assessments influenced the development of the *Live Well San Diego Community Health Improvement Plan (CHIP)*.

The *Live Well San Diego* priorities that apply to the ATP cover multiple focus areas, which can be summarized as:

- Reducing the burden of chronic disease by increasing the percentage of working people who are physically active;
- Increasing the number of safe routes to safe places and neighborhoods by engaging schools in the Safe Routes to School Program; and
- Increasing physical activity by increasing pedestrian safety and walkability in neighborhoods.

Objectives, performance measures, rationale, background and evidence base are provided for each goal within the [Live Well San Diego Community Health Improvement Plan](#).

County Climate Action Plan (CAP)

In February 2018, the County of San Diego adopted a Climate Action Plan (CAP). The CAP outlines the specific measures the County will undertake to reduce GHG emissions in the unincorporated communities of the county to achieve state-mandated GHG reduction targets. This included an active transportation measure that results in mode shifts from vehicular to walking and biking trips. The Goals and Implementation of the ATP support the efforts of the County CAP.

Specifically CAP Measure T-2.1 calls for improvements to streets for multi-modal benefit through the County's resurfacing program.

County Green Street Standards

The County of San Diego adopted the Green Streets Design Criteria in 2016 to regulate and guide improvements using green infrastructure strategies for County-maintained roads. Green Street Projects use a natural systems approach to reduce stormwater flow, improve water quality, reduce urban heating, enhance pedestrian safety, reduce carbon footprints, and beautify neighborhoods. The Green Streets Design Criteria includes regulations and policies on street design, including public rights-of-way improvements, road improvements, design principles, and exceptions.

2.2 SANDAG Plans and Policies

This section provides an overview of planning documents, policies, and other related efforts by SANDAG related to the ATP. As the regional metropolitan planning organization (MPO) for the county, SANDAG's area of coordination directly overlaps all jurisdictions. With several parallel efforts to improve mobility options, it is important to understand and synchronize with SANDAG to ensure regional coordination.

Review and comparison of SANDAG documents, plans, and policies included *San Diego Forward: The Regional Plan*, *the San Diego Regional Bike Plan*, *the Regional Complete Streets Policy*, *Designing for Smart Growth*, *Creating Great Places in the San Diego Region*, and *the Healthy Communities Campaign*. A summary of each plan or policy is described below.

San Diego Forward: The Regional Plan

San Diego Forward: The Regional Plan outlines the vision for how the region will grow over the next 35 years with goals to improve the economy, protect the environment, provide greater mobility choices, and create healthier communities. The plan is updated every four years and was most recently adopted by the SANDAG Board of Directors on October 9, 2015. The plan integrates the RTP, its Sustainable Communities Strategy (SCS), and the Regional Comprehensive Plan (RCP) into one document to chart future growth and transportation investments. The plan outlines goals for active transportation facilities which are

further discussed in *Riding to 2050, the San Diego Regional Bike Plan*.

Riding to 2050, the San Diego Regional Bike Plan

The *San Diego Regional Bike Plan* was prepared by SANDAG in 2010 to “provide a regional strategy to make riding a bike a useful form of transportation for everyday travel. *The Regional Bike Plan* supports the implementation of *San Diego Forward: The Regional Plan*, which calls for more transportation choices and a balanced regional transportation system that supports smart growth and a more sustainable region. The Plan provides a critical component of that balanced system, as well as the programs that are necessary to support it.”

Additionally, implementation of the bike plan will help the San Diego region meet its goals to reduce greenhouse gas emissions and improve mobility. It provides benefits to public health by encouraging more people to adopt a physically active mode of transportation for at least some of their trips. The bike plan provides detailed information about the structure of the Regional Bike Network, the supporting policies and programs, and the benefits of implementing it.”¹

The regional bikeway network proposed as a part of the Regional Bike Plan consists of Class I bike paths, Class II bike lanes, and Class III bike routes and innovative treatments for cycle tracks and bicycle boulevards. The *Regional Bike Plan* also recommends programs which include a Complete Streets education program, Safe Routes to School program, a Pilot Smart Trips Program, expanded Bike to Work Month activities, a route identification and way-finding signage program, and an annual bicycle evaluation program.

The plan proposes 40 bikeways, some of which border or extend into the unincorporated county including:

- The **San Luis Rey River Trail** which extends north of the eastern border of the City of Oceanside;
- The **Vista Way Connector**, which runs through the City of Vista and connects with the Inland Rail Trail and the San Luis Rey Trail;



Inland Rail Trail

¹ SANDAG, *Riding to 2050, the San Diego Regional Bike Plan*, <http://www.sandag.org/index.asp?projectid=353&fuseaction=projects.detail>

- The **Inland Rail Trail**, which connects the Cities of Escondido, San Marcos, Vista and Oceanside with the Coastal Rail Trail;
- The **Escondido Creek Bikeway**, which runs through the City of Escondido, terminates at the north eastern edge of the City, and connects with the Inland Rail Trail, the I-15 Bikeway, and the Mid County Bikeway;
- The **I-15 Bikeway**, which runs along the Interstate 15 corridor to the northern edge of the County of San Diego;
- The **Mid-County Bikeway**, which runs through the unincorporated County community of San Dieguito and connects the Cities of Solana Beach and Del Mar with the City of Escondido;
- The **I-8 Corridor Bikeway**, begins in the City of Santee and runs along the Interstate 8 corridor to the eastern border of the county of San Diego;
- The **East County Northern and Southern Loops** which connect the Cities of El Cajon and La Mesa with unincorporated county communities and ultimately with the City of Chula Vista using the SR-125 Corridor Bikeway;
- The **SR-125 Corridor Bikeway** connects the City of Chula Vista with the Cities of La Mesa, El Cajon and Santee; and
- The **SR-905 Corridor Bikeway**, which connects the City of San Diego, the Border to the Bayshore Bikeway and the community of Otay Mesa.

These bikeways will be constructed in a partnership between SANDAG and the County when funding becomes available.

Regional Complete Streets Policy

The SANDAG Complete Streets policy was developed to address all modes of travel throughout the county. The Complete Streets policy was adopted by the Board of Directors on December 19, 2014 and serves as a tool and technical support for local agencies. The Complete Streets policy “includes implementation action items to provide the tools, training and procedures necessary to ensure all projects implemented by SANDAG consider local complete streets initiatives and accommodate the needs of all travel modes. [The] policy is a commitment to a process that

ensures the needs of people using all modes of travel are considered and appropriately accommodated on every street or every network of streets.”²

SANDAG prepared a supporting Regional Complete Streets Project Development Checklist, which is used at project initiation or when amending the scope of a project to determine that all modes of travel are accommodated in each project.

Designing for Smart Growth, Creating Great Places in the San Diego Region

This document represents SANDAG’s Smart Growth Design Guidelines to assist in maintaining, improving, and/or enhancing community character as growth occurs. The guidelines, titled Designing for Smart Growth, Creating Great Places in the San Diego Region, were accepted by the Board of Directors on June 26, 2009 as “a valuable resource for policymakers, local agency planning and engineering staff, developers, and interested citizens that shows how good design can contribute to the quality of life in the San Diego region.

The guidelines address the importance of design in maintaining and enhancing community character and in creating great public places... Among the subjects covered are such community defining topics as site design, and street design and parking to support mixed use development and a variety of transportation options.”³

Smart growth and the creation of complete or multi-modal streets is important to create robust, low stress roads and facilities for people biking and walking. The document is used as a reference to ensure that placemaking is included in the permitting process of new developments.

2.3 State Plans

Statewide transportation planning involves efforts to facilitate the efficient movement of people and goods. State plans impact the future improvements of transportation systems by providing comprehensive policy plans, detailed

² SANDAG, *Complete Streets*, from <http://www.sandag.org/index.asp?classid=12&projectid=521&fuseaction=projects.detail>

³ SANDAG, *Smart Growth Design Guidelines*, from <http://www.sandag.org/index.asp?classid=12&projectid=344&fuseaction=projects.detail>

studies, and plans to increase use of non-motorized transportation.

California Transportation Plan

The California Transportation Plan (CTP) provides a long-range policy framework to meet the states future mobility needs and reduce greenhouse gas emissions. The plan envisions a sustainable system that improves mobility and enhances our quality of life.

California Bike and Ped Plan

California set a target to triple bicycling and double walking by 2020. The Caltrans California State Bicycle and Pedestrian Plan⁴, adopted in 2017, supports active modes of transportation including safe access to bicycle routes and pedestrian walkways. Caltrans' active transportation efforts invest in safe facilities and programs that inspire biking and walking. The Plan promotes connections to rail and other public transportation while supporting local government's efforts to develop safe active transportation networks. The Caltrans plan is focused on State highway right-of-way.

Caltrans Non-Motorized Transportation Facilities Manual

The Caltrans Non-Motorized Transportation Facilities Manual provides a project development strategy which includes planning policies, statutory requirements, and the implementation of procedures regarding non-motorized transportation facilities. This manual focuses on new non-motorized projects along or within a state highway right-of-way. These projects allow bicycling and pedestrian access on state highways and offers strategies to successfully design on-highway pathways.

Streets and Highways (S&H) Codes shape the design standards on the State Highway System for non-motorized transportation facilities. Caltrans provides planning guidelines for prohibited and permitted non-motorized travel while maintaining facilities. The design guidelines incorporate California Statues concentrating on minimum safety design criteria, using safety design criteria, and improving on the State Highway System for bicycle and pedestrian accessibility.

Caltrans provides an annual report, the Non-Motorized Transportation Facilities Report, to the California State

⁴ Caltrans. California State Bicycle and Pedestrian Plan.
<http://www.cabikepedplan.org/>

Legislature that includes an overview of Caltrans progress on active transportation projects, funding, and design guidance.

2.4 Federal Initiatives

Transportation Alternative Programs (TAP)

The Transportation Alternatives Program (TAP) was authorized under Section 1122 of Moving Ahead for Progress in the 21st Century Act (MAP-21). The TAP provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways. The national total reserved for the TAP is equal to two percent of the total amount authorized from the Highway Account of the Highway Trust Fund for Federal-aid highways each fiscal year.

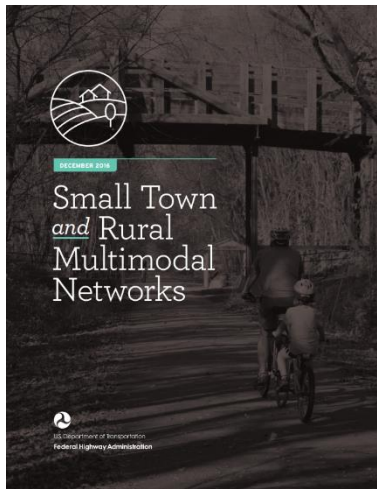
Federal Safe Routes to Schools Policies

Federal Safe Routes to Schools policies and programs are discussed in **Appendix G**.

Recreational Trails Program (RTP)

RTP provides funds to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. These uses include hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles. The RTP is an assistance program of the Department of Transportation's Federal Highway Administration (FHWA).

The [Fixing America's Surface Transportation \(FAST\) Act](#) reauthorized the RTP for Federal fiscal years 2016 through 2020 as a set-aside of funds from the [Transportation Alternatives \(TA\) Set-Aside under Surface Transportation Block Grant Program](#) (STBG). The FAST Act maintains focus on safety, keeps intact the established structure of the various highway-related programs, continues efforts to streamline project delivery and, provides a dedicated source of federal dollars for freight projects.



Federal Highway Administration Bicycle and Pedestrian Program

The Federal Highway Administration's Bicycle and Pedestrian Program promotes safe, comfortable, and convenient biking and walking for people of all ages and abilities. The FHWA supports pedestrian and bicycle transportation through funding, policy guidance, program management, and resource development. The FHWA provides local jurisdictions a variety of resources, issuing new research, and highlighting existing tools for a range of transportation professionals. The ATP Toolbox includes a variety of these tools and performance measurements.

In 2015, less than two percent of Federal-Aid Funds was for Pedestrian and Bicycle Programs and Projects, including all Safe Routes to School and Non-Motorized Transportation Pilot Program funds. FHWA has a responsibility to provide State and local agencies with guidance on safe roadway design standards. In August 2013, FHWA released a [Bicycle and Pedestrian Facility Design Flexibility](#) guidance memo that expresses the agency's support for taking a flexible approach to bicycle and pedestrian facility design. In December 2016, FHWA adopted a [Small Town and Rural Multimodal Networks](#) report that provides guidance for creating rural or small town multimodal networks. This report also provides details of innovative facilities that strive to meet the unique active transportation needs of rural communities. FHWA grant funding, primarily in the form of formula grants to State DOTs and MPOs, can be used to build and improve bicycle and pedestrian infrastructure. FHWA and Federal Transit Administration (FTA) maintain a [table](#) indicating potential eligibility for bicycle and pedestrian projects under current funding opportunities⁵.

Multiple FTA grant programs are able to help cities, towns and rural areas invest in bicycle infrastructure, which improves personal mobility and helps more people access public transportation. The FTA provides financial and technical assistance to local public transit systems. The FTA oversees grants to state and local transit providers; multiple FTA grant programs are available to help cities and towns invest in pedestrian and bicycle infrastructure, which improves mobility and helps people access public

⁵ FHWA, Pedestrian and Bicycle Funding Opportunities, https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm.

transportation. FTA maintains a list of grant programs with funding eligibility for bicycle projects.

Bikeway Design Guides

The following design guides are established references for bikeway design guidelines and principles:

- National Association of City Transportation Officials (NACTO), Urban Bikeway Design Guide, 2013;
- American Association of State Highway and Transportation Officials (AASHTO), Guide for Development of Bicycle Facilities (2017); and
- Federal Highway Administration, Manual on Uniform Traffic Control Devices (MUTCD) (2012).

These bikeway design guides are referenced in the Active Transportation Facility Toolbox provided in **Appendix B**.

2.5 Other Initiatives

Smart Growth America

National Complete Streets Coalition published the [*Safer Streets, Stronger Economies*](#) study findings based on data collected by local transportation and economic development agencies as reported to Smart Growth America's National Complete Streets Coalition. The Coalition surveyed Complete Streets projects from across the country, and found 37 with transportation and/or economic data available from both before and after the project. Smart Growth America found that Complete Streets projects tended to improve safety for everyone, increased biking and walking, and showed a mix of increases and decreases in automobile traffic, depending in part on the project goal. Compared to conventional transportation projects, these projects were remarkably affordable, and were an inexpensive way to achieve transportation goals. In terms of economic returns, the limited data available suggests Complete Streets projects were related to broader economic gains like increased employment and higher property values.

Study Findings

Streets are Safer after Complete Streets Improvements.

The study analysis found that the safer conditions created by Complete Streets projects avoided a total of \$18.1 million in collision and injury costs in one year. The financial impact of automobile collisions and injuries nationwide is in the billions of dollars annually. Targeting the country's more

dangerous roads, a Complete Streets approach over time has the potential to save money in personal costs.

Complete Streets encourage more Multi-Modal Travel. Along with the safer conditions mentioned above, this support for active transportation options adds to the health benefits as trips by foot, bicycle, and transit almost always increased after the Complete Streets projects.

Complete Streets projects are Cost Effective.

The cost is less than conventional transportation projects, yet can still deliver transportation benefits like better safety performance and more people using the facility.

Complete Streets projects provide Economic Incentives.

Communities reported increased net new businesses after Complete Streets improvements, suggesting that Complete Streets projects made the street more desirable for businesses. In eight of the ten communities with available data, property values increased after the Complete Streets improvements. And eight communities reported their Complete Streets projects at least partly responsible for increased investment from the private sector.

Vision Zero

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. This strategy was first implemented in Sweden in the 1990s and is beginning to be implemented in cities across the United States⁶.

⁶ Vision Zero Network, What is Vision Zero?
<http://visionzeronetwork.org/about/what-is-vision-zero/>.

2.6 Neighboring City Plans

There are 18 incorporated cities within the county of San Diego, several of which are directly adjacent to the unincorporated areas. To improve regional connectivity, the active transportation facilities recommended in the ATP have been reviewed for opportunities to provide or improve connections to neighboring jurisdictions. This section references neighboring cities' active transportation plans; mobility, circulation, and trails elements; and describes potential opportunities connected to the county of San Diego ATP. **Table 2-3** summarizes the jurisdictions and plans included for review.

TABLE 2-3 SUMMARY OF EXISTING CITY PLANS AND POLICIES

Jurisdiction	Plan(s)
Cities within San Diego County	
Carlsbad	Bikeway Master Plan (2007) Pedestrian Master Plan (2008)
Chula Vista	Bikeway Master Plan (2011) Pedestrian Master Plan (2010)
Coronado	Bicycle Master Plan (2011)
Del Mar	Transportation Element (2002)
Encinitas	Bikeway Master Plan (2006) Pedestrian Plan and Safe Routes to School (2014) Circulation Element (n.d.) Trails Master Plan (2003)
Escondido	Bicycle Master Plan (2012) Escondido Creek Trail Master Plan (2010) Master Plan for Parks, Trails, and Open Space (1999)
Imperial Beach	Bicycle Transportation Plan (2008)
La Mesa	Bicycle Facilities and Alternative Transportation Plan (2006)
Lemon Grove	Bikeway Master Plan Update (2006)
National City	Bicycle Master Plan (2010) Circulation Element and Open Space and Agriculture Element (2011)
Oceanside	Bicycle Master Plan (2008) Pedestrian Master Plan (2009)
Poway	Transportation Master Element (2010)
San Marcos	Mobility Element (2012)

TABLE 2-3, CONTINUED

Jurisdiction	Plan(s)
Santee	Bicycle Master Plan (2009) Circulation Element and Trails Element (2003)
Solana Beach	Circulation Element (2014) Comprehensive Active Transportation Strategy (2015)
Vista	Bicycle Master Plan (2014) Circulation Element (2011)
Jurisdictions outside of, and adjacent to, San Diego County	
City of Temecula	Trails and Bikeway Master Plan (n.d.)
Imperial County	Bicycle Master Plan (2011) California/Baja California Pedestrian and Bicycle Transportation Access Study Safe Routes to School Regional Master Plan (2016)
City of Tijuana	N/A
City of Tecate	N/A

City of Carlsbad



Carlsbad Rail Trail

Carlsbad is located along the Pacific coastline in northern San Diego County, south of Oceanside, north of Encinitas, and west of San Marcos. County land exists between the western boundary of Carlsbad and San Marcos. The City has prepared the following plans which outline plans to enhance and expand the existing bikeway and sidewalk network:

- City of Carlsbad Bikeway Master Plan (2007)⁷
- City of Carlsbad Pedestrian Master Plan (2008)⁸

County Coordination Opportunities

The Carlsbad Bikeway Master Plan recommends a Class II Bike Lane on Rancho Santa Fe Road to connect with an existing Class I and Class II facility. Segments of Rancho Santa Fe Road run through the City of Carlsbad, City of San Marcos, and unincorporated North County Metro near the intersection of Melrose Drive. An opportunity to connect the planned facility through the County neighborhoods would improve regional bike connectivity through the area.

⁷ City of Carlsbad & Alta Planning + Design. (2007, December). Carlsbad Bikeway Master Plan.

⁸ City of Carlsbad & Alta Planning + Design. (2008). Pedestrian Master Plan.

City of Chula Vista

Chula Vista is located east of the San Diego Bay in southern San Diego County. It is north of Imperial Beach and the City of San Diego's community of Otay Mesa, south of National City and the County community of Sweetwater, and east of the County communities of Otay and Jamul-Dulzura. The City has prepared the following plans which outline planned infrastructure improvements and existing bicycle demand:

- City of Chula Vista Bikeway Master Plan (2011)⁹
- City of Chula Vista Pedestrian Master Plan (2010)¹⁰

County Coordination Opportunities

On the east side of Chula Vista is an existing network of bike lanes that primarily runs along Proctor Valley Rd, Mt Miguel Rd, Otay Lakes Rd, and Olympic Pkwy. County facilities in the communities that border Chula Vista may be planned to connect with the existing network. Another possible bicycle connection is to the Class I Bike Path that runs along Wueste Rd to Lake Crest Dr.

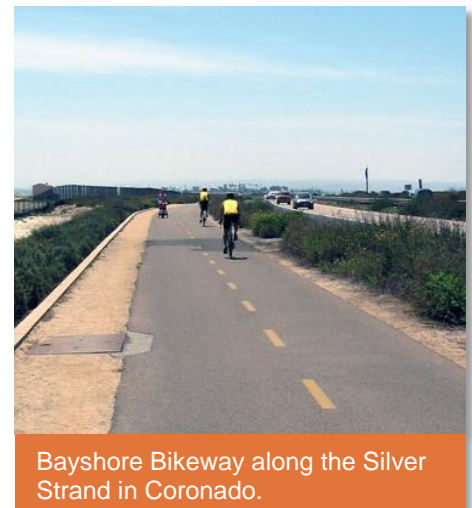
City of Coronado

Coronado is located in the San Diego Bay, west of the downtown district of the City of San Diego and north of Imperial Beach. The City of Coronado has developed the following document which describes plans for the implementation of bicycle facilities and lists bicycle routes:

- City of Coronado Bicycle Master Plan (2011)¹¹

County Coordination Opportunities

The City of Coronado does not directly border the County of San Diego, however there are regional bikeways that connect Coronado to the County through other jurisdictions. The connections include the Bayshore Bikeway which connects Coronado to Imperial Beach, Chula Vista, National City and City of San Diego and to the unincorporated County through National City on the Sweetwater River bicycle path.



Bayshore Bikeway along the Silver Strand in Coronado.

⁹ City of Chula Vista. (2011). City of Chula Vista Bikeway Master Plan.

¹⁰ City of Chula Vista & Alta Planning + Design. (2010, June). City of Chula Vista Pedestrian Master Plan.

¹¹ City of Coronado. (2011, March). City of Coronado Bicycle Master Plan.

City of El Cajon

El Cajon is located east of the City of San Diego, south of the City of Santee, and northeast of the City of La Mesa in eastern San Diego County. El Cajon borders the County communities of Valle de Oro, Crest-Dehesa, Lakeside, and Pepper Drive – Bostonia. The City has prepared the following documents which discuss their plans to use bicycle travel to maximize connections between transit, employment, and residential and activity areas and to improve residents' comfort biking, walking, and using transit:

- City of El Cajon Bicycle Master Plan (2011)¹²
- City of El Cajon Be Safe El Cajon Campaign¹³

County Coordination Opportunities

Connections to the County communities that border El Cajon are existing or have been proposed in the City of El Cajon Bicycle Master Plan.

City of Del Mar

The City of Del Mar is a small municipality (encompassing 1.8 square miles) located along the western coast of San Diego County. It is bordered by the City of San Diego to the south and east and Solana Beach to the north. Del Mar does not share a boundary with the unincorporated county. The city's general plan (locally referred to as its "community plan") includes a transportation element and the city adopted a complete streets policy in October 2017.

- City of Del Mar Transportation Element (2002)

County Coordination Opportunities

The City of Del Mar does not directly border an unincorporated community of the County of San Diego. Regional connectivity to Del Mar is provided via Camino Del Mar/U.S. Highway 101.

¹² City of El Cajon, KTU+A Planning and Landscape Architecture, & Fehr & Peers Transportation Consultants. (2011, August). City of El Cajon Bicycle Master Plan.

¹³ City of El Cajon Be Safe El Cajon Campaign (2016). <http://www.ci-el-cajon.ca.us/your-government/departments/community-development/planning/be-safe-el-cajon-campaign>.

City of Encinitas

Encinitas is located along the Pacific coastline in northern San Diego County. It is north of Solana Beach and south of Carlsbad. Encinitas borders the County community of San Dieguito. The City has prepared the following documents which identify cycling constraints, proposed Safe Routes to School Programs, and outline a trail system:

- City of Encinitas Bikeway Master Plan (2006)¹⁴
- City of Encinitas Pedestrian Plan and Safe Routes to School (2014)¹⁵
- City of Encinitas Circulation Element (n.d.)¹⁶
- City of Encinitas Trails Master Plan (2003)¹⁷



Sharrow and "Bike May Use Full Lane" Sign on Coastal Highway 101 in Encinitas.

County Coordination Opportunities

The City of Encinitas' Bicycle Master Plan indicates that there are opportunities to link the County into Encinitas' proposed bicycle network on Encinitas Blvd and El Camino del Norte.

City of Escondido

Escondido is located north of Poway and the City of San Diego; and east of San Marcos in the North County Inland area of the County of San Diego. Escondido borders the unincorporated County communities of North County Metro, Valley Center and Ramona. The City prepared the following documents which develop an interconnected network of bicycle facilities, creates a plan for the Escondido Creek Trail, and proposes a city-wide network of trails:

- City of Escondido Bicycle Master Plan (2012)¹⁸
- Escondido Creek Trail Master Plan (2010)¹⁹
- City of Escondido Master Plan for Parks, Trails, and Open Space (1999)²⁰

¹⁴ City of Encinitas & KTU+A. (2006). City of Encinitas Bikeway Master Plan.

¹⁵ City of Encinitas. (2014, December). Let's Move, Encinitas: City-wide Pedestrian Travel and Safe Routes to School Plan.

¹⁶ City of Encinitas. (n.d.). City of Encinitas General Plan 2035 – Public Review Draft.

¹⁷ City of Encinitas, & PELA Landscape Architecture - Planning. (2003, June). Encinitas Trails Master Plan.

¹⁸ City of Escondido. (2012, October). City of Escondido Bicycle Master Plan.

¹⁹ City of Escondido & Schmidt Design Group, Inc. (2010, January). Escondido Creek Trail Master Plan Report.

²⁰ City of Escondido. (1994, January, Updated: 1999, September). Master Plan for Parks, Trails, and Open Space.

County Coordination Opportunities

The City of Escondido recommends the addition of bicycle facilities within the unincorporated County of San Diego and in San Marcos. These facilities function primarily to connect existing facilities that are within the City of Escondido. The facilities follow various corridors, including the following locations for Class II and Class III facilities:

- Proposed Class II Bike Lanes:
 - Via Rancho Parkway from Del Dios Highway to Bear Valley
 - Felicita from Citracado to Via Rancho
 - Citracado Dr from Kauna Loa Dr to Felicita (in County intermittently)
 - Rock Springs from Seven Oaks to Bennett
 - San Pasqual Valley from Birch eastwards
 - 17th from Juniper to San Pasqual Valley
 - Bear Valley from Boyle to San Pasqual Valley
 - El Dorado from Juniper to Bear Valley
 - Cloverdale and San Pasqual between Escondido City Limits
- Proposed Class III Bike Routes:
 - Lake Dr from Valley to existing Lake Hodges Unpaved Multi-use Trail
 - Kauna Loa from Harmony Grove to Country Club Dr
 - Country Club Dr from Larvat to Auto Parkway
 - Montiel from Nordahl to Seven Oaks
 - Nordahl from Center City to Montiel
 - Broadway from North northwards to northeast Daley Ranch Park boundary
 - Citrus from Reed to San Pasqual Valley
 - Idaho from Juniper to Citrus
 - Birch from San Pasqual Valley to Bear Valley
 - Mary Lane
 - Summit Drive

Connections to the Escondido Creek Trail, Daley Ranch, Lake Wohlford, San Dieguito River Park, San Pasqual Valley, Lake Hodges to the San Pasqual Valley Wildlife Corridor, and Lake Dixon and the North Community Wildlife Corridor are recommended.

City of Imperial Beach

Imperial Beach is located south of San Diego Bay and the City of Coronado in southern San Diego County. Imperial Beach does not border County land. The City prepared the following document which recommends bicycle paths, lanes, and routes and identifies constraints of biking:

- City of Imperial Beach Bicycle Transportation Plan (2008)²¹

County Coordination Opportunities

The City of Imperial Beach does not directly border an unincorporated community of the County of San Diego. Connections to the County currently exist via the Bayshore Bikeway and Sweetwater River Bicycle Path.



Imperial Beach portion of the Bayshore Bikeway.

City of La Mesa

La Mesa is located east of the City of San Diego, north of Lemon Grove and southwest of El Cajon in eastern San Diego County. La Mesa borders the County communities of Valle de Oro and Spring Valley. The City has prepared the following document which develops a plan to connect existing and proposed alternative transportation facilities:

- City of La Mesa Bicycle Facilities and Alternative Transportation Plan (2006)²²

County Coordination Opportunities

A limited network of Class II Bike Lanes and Class III Bike Routes currently connect the City to its neighboring County communities. Future connections could be made at Bancroft Drive and Mariposa Street or further north on Bancroft Drive. A possible connection exists between Lemon Grove, Spring Valley, and La Mesa at Spring St and Campo Rd/Broadway.

Sidewalks in the eastern area of La Mesa, closest to the unincorporated County communities of Spring Valley and Valle de Oro, are limited. It would be beneficial to locate

²¹ City of Imperial Beach, KTU+A Planning and Landscape Architecture, & KOA Corporation. (2008, June). City of Imperial Beach Bicycle Transportation Plan.

²² City of La Mesa, KTU+A Planning and Landscape Architecture, IBI Group. (2012, February). City of La Mesa Bicycle Facilities and Alternative Transportation Plan.



City of Lemon Grove Bike Rodeo and Community Bike Ride.



Cyclists participate in the Gordy Shields Memorial Ride on the Gordy Shields Bridge in National City.

proposed County sidewalk/pedestrian improvements to connect with the proposed sidewalks in La Mesa along Bancroft Drive, Panorama Drive, and Spring Street.

City of Lemon Grove

Lemon Grove is located east of the City of San Diego, and south of the City of La Mesa in southeastern San Diego County. Lemon Grove borders the County community of Spring Valley. The City has prepared the following document which makes recommendations on how to expand the current bicycle network within Lemon Grove:

- Lemon Grove Bikeway Master Plan Update (2006)²³

County Coordination Opportunities

Bikeways proposed in the community of Spring Valley should connect to existing or planned bikeways along Troy Street or Broadway.

National City

National City is located east of San Diego Bay, south of the City of San Diego, and north of Chula Vista in southern San Diego County. The City borders the County community of Sweetwater and one of the County Islands. National City has prepared the following documents which emphasize the creation of an interconnected bicycle corridor network and recognizes the recreational facilities within or near the City (the California Coastal Trail, the California Riding and Hiking Trail, and Sweetwater Regional Park):

- National City Bicycle Master Plan (2010)²⁴
- National City Circulation Element and Open Space and Agriculture Element (2011)²⁵

County Coordination Opportunities

A Regional Class I Bike Path runs along the southern boundary of the city and roughly follows the Sweetwater River. This facility connects with a preexisting County facility in Sweetwater Regional Park. Any upgrades to the County facility would be coordinated with National City. A potential National City Bikeway (Class II and III) is proposed to run through the County along Euclid Avenue from E 24th Street to Sweetwater Road under the 805 freeway.

²³ City of Lemon Grove, & Alta Planning + Design. (2006, November). Lemon Grove Bikeway Master Plan Update.

²⁴ City of National City. (2010, July). National City Bicycle Master Plan.

²⁵ City of National City. (2011, June). National City General Plan.

City of Oceanside

Oceanside is located along the Pacific coastline, south of Camp Pendleton, and north of Carlsbad and Vista in northern San Diego County. Oceanside borders the County communities of Pendleton-De Luz and Bonsall. The City has prepared the following documents which identify bicycling constraints and opportunities, and address pedestrian safety, walkability and connectivity:

- City of Oceanside Bicycle Master Plan (2008)²⁶
- City of Oceanside Pedestrian Master Plan (2009)²⁷

County Coordination Opportunities

Possible connections between the County and the City of Oceanside exist on Mission Avenue, North River Road, and Sleeping Indian Road. These bicycle connections could then be used to connect people biking to Vista and Carlsbad using the Oceanside bicycle network.

The pedestrian improvements discussed in the City of Oceanside Pedestrian Master Plan are focused on the urban core of the City near the coast, predominately west of Interstate-5. Pedestrian connections from the County of San Diego should attempt to connect to the most robust pedestrian facilities available at the border of the City of Oceanside and the County through trails or multi-use paths.

City of Poway

Poway is located east of the City of San Diego, and south of Escondido in northern inland San Diego County. Poway borders the County community of Ramona. The City has prepared the following document which discusses public transit and pedestrian and bicycle facilities and possible sources of funding for improved facilities:

- City of Poway Transportation Master Element (2010)²⁸

County Coordination Opportunities

There are opportunities for Class IV Cycle Track connections to the City of Poway along Scripps Poway Parkway and Sycamore Canyon Road, and for a Class I Bike Path along State Route 67.

²⁶ City of Oceanside, KTU+A Planning and Landscape Architecture, & IBI Group. (2008). City of Oceanside Bicycle Master Plan.

²⁷ City of Oceanside, IBI Group, & KTU+A Planning and Landscape Architecture. (2009, November). Pedestrian Master Plan.

²⁸ City of Poway. (2010, March). Transportation Master Element.

There are also possible trail connections along much of the eastern edge of the City of Poway.

City of San Diego

San Diego is located along the Pacific coastline in southern, central, and northern San Diego County. San Diego borders the County communities of Otay, San Dieguito, and North County Metro and contains County islands. The City has prepared the following documents which analyze existing infrastructure city-wide, identify methods to improve the city's bicycle network, and outline seven pedestrian route types within the City:

- City of San Diego Bicycle Master Plan (2013)²⁹
- City of San Diego Pedestrian Master Plan (2006)³⁰



Riders on the SR-56 bike path in the City of San Diego.

County Coordination Opportunities

The opportunities for connection to the City of San Diego are numerous, several of which have been incorporated into the recommended ATP network. See County network maps in **Appendix A** for potential City of San Diego to County connections.

City of San Marcos

San Marcos is located northeast of Encinitas, west of Escondido, and east of Carlsbad in northern San Diego County. San Marcos borders the County communities of San Dieguito, and North County Metro. The City of San Marcos General Plan includes Complete Streets, Multi-modal Level of Service (MMLOS), Transit Service and Transit Facilities, Bikeways, Pedestrian and Trails Facilities, and Traffic Calming:

- City of San Marcos Mobility Element (2012)³¹

County Coordination Opportunities

Possible bicycling connections between the City of San Marcos and the County could occur at Elfin Forest Drive, East Barham Drive, the Class I Bike Path along the San Marcos Creek (Inland Rail Trail), the proposed Class I Bike Path along Rancho Santa Fe Road. There is a robust trail network that weaves through the City. In the City's mobility

²⁹ City of San Diego & Alta Planning + Design. (2011, June). City of San Diego Bicycle Master Plan Update.

³⁰ City of San Diego. (2006, December). City of San Diego Pedestrian Master Plan.

³¹ City of San Marcos. (2012, February). City of San Marcos Mobility Element.

element, trail continuation points are identified and include the continuation of Soft Surface Trails at:

- Elfin Forest Rd
- Buena Creek Rd
- Cresthaven Rd
- Las Posas Rd
- Way Up Trail
- West Borden Rd
- Rancho Santa Fe Rd
- Cassou Rd

City of Santee

Santee is located east of the City of San Diego and north of El Cajon in eastern San Diego County. Santee borders the County communities of Lakeside and Pepper Drive-Bostonia. The City has prepared the following documents which emphasize a ‘destination-oriented’ system of complete streets and improved bicycle facilities and potential trail connections at Mission Trails Regional Park, Goodan Ranch and the Sycamore Canyon Open Space Preserve:

- City of Santee Bicycle Master Plan (2009)³²
- City of Santee Circulation Element and Trails Element (2003)³³

County Coordination Opportunities

Possible bicycling connections exist along Woodside Avenue, to the south of State Route 67, Prospect Ave, a connection between the existing facilities on Mast Boulevard, a connection on El Nopal, and a connection at the northern terminus of Magnolia Ave.

Trail connections exist near Mission Trails Regional Park, Goodan Ranch, and the Sycamore Canyon Open Space Preserve or to the network of trails that connect to these recreational facilities.

City of Solana Beach

Solana Beach is located along the Pacific coastline, north of Del Mar and south of Encinitas in northern San Diego County. Solana Beach borders the County community of San Dieguito. The City has prepared the following documents which address the state of walkability in the City and proposes the addition of cycle tracks, buffered bike

³² City of Santee, KTU+A Planning and Landscape Architecture, & KOA Corporation. (2009). City of Santee Bicycle Master Plan.

³³ City of Santee. (2003, August). General Plan 2020: City of Santee, California.

lanes, commercial bicycle boulevards, and residential bicycle boulevards to the City's bike network:

- City of Solana Beach Circulation Element (2014)³⁴
- City of Solana Beach Comprehensive Active Transportation Strategy (2015)

County Coordination Opportunities

Possible bicycle connections to the planned network in Solana Beach include a Multi-Use Path and bicycle route at Highland Dr and a multi-use path and cycle track at Lomas Santa Fe. Pedestrian connections could be made at Lomas Santa Fe or Highland Dr.

City of Vista

Vista is located southeast of Oceanside, northeast of Carlsbad, and northwest of San Marcos in northern San Diego County. Vista borders the County communities of North County Metro, and Bonsall. The City has prepared the following documents which guide the development of bicycle infrastructure and focus on improving the safety and efficiency of existing transportation facilities:

- City of Vista Bicycle Master Plan (2014)³⁵
- City of Vista Circulation Element (2011)³⁶

County Coordination Opportunities

Possible bicycle connections exist in multiple locations:

- To the One-Way Cycle Track or Buffered Bike Lanes on Melrose Dr, N Santa Fe Ave, E Vista Way, and Sycamore Ave;
- To the bike lane on Emerald Dr, San Marcos Blvd, Business Park Dr, Thibodo Dr, and S Santa Fe Ave;
- To the bicycle boulevards or bike routes on Foothill Dr, Warmlands Ave, Cypress Dr, and Sunset Dr;
- To the soft surface multi-use trail on Monte Vista Dr, and at La Mirada Dr and Poinsettia Ave; and
- The Inland Rail Trail.

³⁴ City of Solana Beach. (2014) City of Solana Beach General Plan: Circulation Element.

³⁵ City of Vista, & Chen Ryan Associates, Inc. (2014, October). City of Vista 2014 Bicycle Master Plan.

³⁶ City of Vista. (2011, December). City of Vista General Plan 2030: Circulation Element.

The City of Vista's Circulation Element identifies a network of pedestrian facilities many of which terminate at the boundary between Vista and the County. Connections could be made to these facilities at North Santa Fe Avenue, Goodwin Drive, Taylor Street at Warmlands Avenue, Foothill Drive, Monte Vista Drive, Santa Fe Avenue, Buena Creek Drive/Sycamore Avenue, and Oleander Avenue at Poinsettia Avenue.

Connections to trails for both people biking and people walking could be made at North Santa Fe Avenue, on Osbourne Street near the border between Vista and the County, Foothill Drive, Monte Vista Drive, and the trailhead at the intersection of La Mirada Drive and Poinsettia Avenue.

2.7 Neighboring Jurisdictions Outside of the County of San Diego

City of Temecula

Temecula is located in Riverside County north of the County of San Diego and the County communities of Rainbow and Pala-Pauma. The City has prepared the following document which guides trail and bicycle facility planning throughout the City:

- Trails and Bikeway Master Plan

County Coordination Opportunities

Although the City of Temecula does not border directly with the County of San Diego possible connections between the County community of Rainbow and the City could be made along the I-15 corridor. The City of Temecula's Trails and Bikeway Master Plan proposes a soft surface hiking and equestrian trail on the west side of I-15, as well as, combination hard/soft multi-use trails and hard surface cycling and walking trails proposed east of the I-15 corridor along Rainbow Valley Road (which becomes Old Highway 395) at the southern border of Temecula that could be possible points of connection for County facilities. The proposed Class II Bike Lane that runs south along Pala Road could serve as a community connector between Pala and Temecula.

Imperial County

Imperial County is located east of the County of San Diego and north of the Mexican border. The County has prepared the following documents which guide the development of an integrated network of bicycle facilities and support programs and analyze the need and opportunities for pedestrian and bicycle improvements at or near Ports of Entry, as well as, discuss ongoing and proposed Safe Routes to School programs:

- Imperial County Bicycle Master Plan (2011)
- California/Baja California Pedestrian and Bicycle Transportation Access Study
- Imperial County Safe Routes to School Regional Master Plan (2016)

County Coordination Opportunities

The Imperial County Bicycle Master Plan proposes a Class III Bike Route along SR-78 which connects to the County of San Diego community of Borrego. It also proposes a Class II Bike Lane along the San Diego-Arizona Railroad/Evan Hewes Highway which ultimately runs alongside Interstate-8. The County of San Diego network could connect to these facilities.

City of Tijuana/ Ciudad Tijuana

Tijuana is located in the Mexican state of Baja California directly south of the City of San Diego and along the Pacific Coastline.

Tijuana is a partner city of the Institute for Transportation and Development Policy, ITDP, and is currently rated 13th out of 36 Mexican cities for most bicycle friendly city. Information about existing bicycle facilities within the City of Tijuana can be found on the Ciclo Ciudades website.

Projects at the San Ysidro/ Puerto México Port of Entry including PedWest and El Chaparral³⁷ and the Otay Mesa POE, including Cross Border Xpress³⁸ and Caltrans' transit center should be connected to and evaluated to improve bicycling and walking access to and from Mexico.

³⁷ <http://www.citylab.com/commute/2016/05/us-mexico-border-bike-lane/481515/>

³⁸ Imperial County Transportation Commission, *Pedestrian and Bicycle Transportation Access Study for the California/Baja California Land Ports of Entry*, February 2015.

County Coordination Opportunities

County pedestrian and bicycle facilities in this region should attempt to connect or facilitate connections to the facilities that are a part of PedWest, the BRT system, the Border to Bayshore Bikeway, and the Cross Border Xpress, and the existing or planned bike routes in the San Diego Master Plan Update, the San Ysidro Community Plan, the Otay Mesa Community Plan and the IMPLAN documents “Movilidad Integral” and “Ciclovia Benitez”. More information on the BRT system and overall transportation network in Tijuana will be available on the Sistema Integral de Transporte Tijuana website (<http://www.sitt.org.mx/inicio/>).

City of Tecate/ Ciudad Tecate

Tecate is located in Mexico south of the County community known as Tecate in Mountain Empire.

The Tecate Point of Entry at State Route 188 and State Route 94 currently provides pedestrian access.

On the U.S. side of the border, the Kumeyaay Crossing at Tecate International Border Crossing is planned to widen its sidewalk and create a bike lane on the west side of State Route 188. This Caltrans project would also provide pedestrian and bicycle crossing improvements at SR 188 in order to improve access to the port.³⁹

The Mexican City of Tecate has a separated bicycle path that runs along the river from Blvd Universidad to Encinos. This bikeway connects the Universidad Autonoma De Baja California to Parque Los Encinos.

County Coordination Opportunities

The main roads that lead to the border crossing in Tecate are State Route 94 and State Route 188. Enhanced bicycle facilities, such as a separate cycle track would greatly improve access to the Port of Entry.

³⁹ Imperial County Transportation Commission, Pedestrian and Bicycle Transportation Access Study for the California/Baja California Land Ports of Entry, February 2015.
http://www.dot.ca.gov/dist11/departments/planning/pdfs/border/2015_Bicycle_Pedestrian_Border_Study.pdf

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3 Existing Physical Conditions

The ATP includes a comprehensive inventory of existing pedestrian and bicycle facilities within the unincorporated county of San Diego. The pedestrian inventory assessed facilities within one quarter-mile along public roadways from community attractors such as schools, parks, libraries and commercial centers. The bicycle facility inventory included all Mobility Element roads, but excluded non-Mobility Element and privately maintained roads.

The inventory assessment revealed approximately 53% of surveyed roadways lack a pedestrian facility. For bicycles, 87% of Mobility Element roadways lack a bicycle facility.

3.1 Existing Land Use

The unincorporated county encompasses approximately 2.3 million acres. Over 90% is either open space or undeveloped and approximately 35% is privately owned. The predominant pattern of development is and varies in land use and density. The [General Plan Land Use Element](#) provides a framework for future development. The Land Use Element contains maps, goals, and policies for land use patterns and was referenced as the ATP was prepared. Land use maps for each unincorporated community are available in the [General Plan Land Use Appendix](#).



3.2 Existing Road Types and Facilities

Existing Road Types



Harbison Canyon
Mobility Element Road

The county contains a mix of roadway types that vary in right-of-way, number of travel lanes, median type, design speed, and bicycle and pedestrian infrastructure. The Mobility Element in the General Plan identifies all major roadways that provide connections within and between communities. Mobility Element Roads maintained by the County and make up approximately 58% of the entire unincorporated road network.

The Mobility Element roadway classifications by mileage percentages are:

- (6-Lane) Expressway/Prime Arterial = 3%
- (4-Lane) Major Road = 11%
- (4-Lane) Boulevard = 3%
- (2-Lane) Community Collector = 24%
- (2-Lane) Light Collector = 50%
- (2-Lane) Minor Collector = 6%
- Local Public Roads = 3%

Other types of County-maintained roads not identified as Mobility Element Roads include:

- Residential
- Cul-de-sac and Loop
- Rural Residential
- Industrial/Commercial
- Frontage Road
- Alley
- Hillside Residential

For the purposes of the ATP, Mobility Element roadways have been evaluated and select roadways that qualified for bicycle or pedestrian facilities included.

Existing Multi-Modal Facilities

Multi-modal facilities primarily consist of sidewalks, trails, and bike facilities. Multi-modal facilities support people walking, biking, and all other non-motorized modes of travel.

Pedestrian Facilities

Pedestrian facilities include sidewalks, pathways, and trails. The existing pedestrian network evaluated as part of the ATP Pedestrian Gap Analysis (PGA) is included in

Appendix D. The PGA evaluated all pedestrian facilities for availability, sidewalk or path type, ADA compliance, and slopes. The results of the PGA and evaluation of the



Canfield Road in Palomar
Mountain (non-Mobility Element)

Sidewalk Type	Miles
Asphalt	15.86
Brick Pavers	0.22
Concrete	284.46
DG Pathway	30.00
Native	4.74
Native-Goat Path	25.37
No Sidewalk	401.61
Total	762.25

PGA Sidewalk Inventory

existing facilities revealed that approximately 53%, or 401 miles, of roadways assessed have no sidewalk or pedestrian facility, indicating a lack of pedestrian access that could restrict and/or discourage people from walking.

The County Trails Program and Community Trails Master Plan incorporates and implements County trails and pathways in conjunction with the ATP.

Bicycle Facilities

The County Public Road Standards includes four types of bikeways:

- **Class I Bikeway (Bike Path).** Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized.
- **Class II Bikeway (Bike Lane).** Provides a striped lane for one-way bike travel on a street or highway.
- **Class III Bikeway (Bike Route).** Provides for shared use with vehicular traffic within the travel lane.
- **Class IV Bikeway (Separated Bikeway/Cycle Track).** Provides a physically separated bikeway for the exclusive use of bicycles. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking¹.

The County has developed guidelines for the design of Class IV bikeways in coordination with the Public Road Standards and Green Streets Standards. These guidelines are available in the Active Transportation Facility Toolbox, provided in **Appendix B**.

The 158 miles of bikeway include:

- Class I Bike Path: 1 mile
- Class II Bike Lane: 145 miles
- Class III Bike Route: 9 miles
- Class IV Separated Bikeway/Cycle Track: 0 miles
- Bicycle Freeway Shoulder Use: 3 miles (Caltrans)



Class I Bike Path



Class II Bike Lane



Class III Bike Route



Class IV Separated Bikeway/
Cycle Track

¹ See Caltrans Design Information Bulletin (DIB) 89 for guidance.

Active Transportation Trip Types

Commuting Trips



Youth Trips



College Trips



Access to Transit Trips



Utilitarian Trips



Recreational Trips



3.3 Active Transportation Trip Types and User Demand

Trips made by active transportation can vary greatly for commuting, recreation, and utilitarian trips. Some trips include a combination of active and non-active modes, such as a person walking or biking to a bus stop.

The routes taken by people walking and bicycling vary based on the person's destination and comfort levels within the built environment. Studies have shown that certain barriers, such as uncontrolled intersections, difficult crossing locations, and steep elevations, influence a person's route – often towards a lengthier detour perceived as easier or more comfortable to navigate.² The ATP evaluated existing facilities and user demand including needs assessment supported by route and trip estimates. Recommendations are detailed in **Chapter 4**.

User Demand Needs Assessment

California Streets and Highway Code Section 891.2 requires bike plans to estimate the number of existing bicycle commuters in the plan area. For the ATP, estimates of existing active transportation user demand for each of the County Community Planning Areas (CPA) were prepared. The data, sourced from the 2010-2014 American Community Survey (ACS) and provided by SANDAG, was used in the ATP GIS analysis.

The baseline ACS data provided pedestrian and bicycle commuting activity, but under-reported (or did not report) non-commuter bicycling and walking trips. An industry standard estimation process provided a more complete picture of activity and demand. This process incorporates commute trips and trips among youth, college students, transit access trips, and general utilitarian trips undertaken by those who work from home or do not otherwise commute. Using ACS data as the primary source provides an approximation for creating a baseline of activity for existing and future active transportation demand estimates.

Appendix C-1 Demand Source Data Table Key provides detailed information on each of the attributes used in analyzing the existing active transportation environment.

² Joseph Broach, et al. *Where do cyclists ride? A route choice model developed with revealed preference GPS data*, Transportation Research Part A: Policy and Practice, Vol 46, Issue 10, December 2012.

The table provides guidance for the full dataset (**Appendix C-2 Current Demand Source Data Table**) used to formulate the existing demands for the ATP.

Table 3-1 summarizes the estimated number of existing bicycling and walking trips in each CPA.

TABLE 3-1 EXISTING ACTIVE TRANSPORTATION USER DEMAND

Community Plan Area (CPA)	2010 CPA Population (persons)	2010 Total Daily Bicycle and Walking Trips (weekday)
Alpine	17,734	2,149
Bonsall	16,249	1,425
Central Mountain	4,858	347
County Islands	2,178	347
Crest-Dehesa	10,048	976
Desert	5,251	567
Fallbrook	43,148	4,981
Jamul-Dulzura	10,943	959
Julian	3,194	561
Lakeside	78,057	7,345
Mountain Empire	7,530	999
North County Metro	49,660	4,141
North Mountain	3,270	309
Otay	7,448	141
Pala-Pauma	6,676	976
Pendleton-De Luz*	36,739	18,900
Rainbow	2,230	186
Ramona and Barona	40,807	4,207
San Dieguito	23,210	3,829
Spring Valley	62,958	6,626
Sweetwater	13,979	939
Valle De Oro	43,851	3,836
Valley Center	20,757	2,201

*Pendleton – De Luz number of bicycle and walking trips is especially high due to large amounts of walking and bicycling trips to the Camp Pendleton military base from military housing.

As shown, the current number of active transportation trips are highest in the communities of Pendleton, Lakeside, Spring Valley, and Fallbrook.

3.4 Issue Identification

Existing condition analyses for both walking and bicycling facilities helped identify issues and areas for improvement



Existing Road without Pedestrian or Bicycle Facilities

in the existing network. Separate analyses assessed each mode. Pedestrian facilities evaluation used the tailored Pedestrian Gap Analysis (PGA) while the bicycle facilities evaluation is based on the level of traffic stress (LTS) methodology.

Pedestrian Gap Analysis

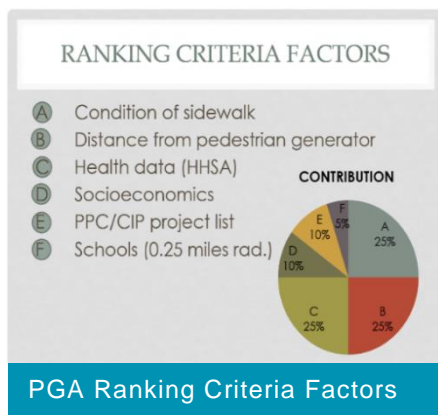
Over 700 miles of public maintained roadway were included in the Pedestrian Gap Analysis (PGA) field condition study. Each public road segment was within ¼-mile from an attractor: school, parks, libraries, and commercial centers. Each sidewalk segment, typically defined as the segment between intersections, was considered a study segment. Altogether, 9,241 segments were analyzed within the County Community Planning Areas. In most cases, intersections were also evaluated.

Methodology

A point system was created to rank individual sidewalk segments. The system assigned points to create a rank for comparison and project prioritization. Each criterion was assigned a percentage of the overall points. As developed for this exercise, 100% of the pie equates to 4,000 points. The point system allocated criteria weights to each identified segment based on the impact to County maintenance, ATP goals, health, economic diversity, and an overall benefit to users, particularly schoolchildren. Full details and descriptions regarding the PGA methodology and associated data is included in Appendix D.

The PGA criteria used to rank segments included:

- The **condition of sidewalk/pathway** and associated characteristics such as obstructions, slope, grade, and curb ramp configuration;
- **Distance** from pedestrian generators;
- **Health data** (supplied by County Health and Human Services Agency);
- **Socioeconomic data** (supplied by County Health and Human Services Agency);
- County Public Works **Project Planning/Capital Improvement** project list; and
- Proximity to **schools**.

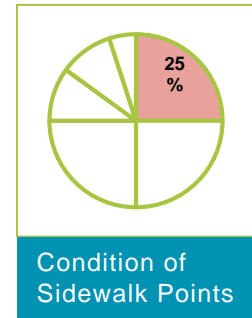


The following sections describe how the criteria are applied to the study segments.

Condition of Sidewalk

The condition of the sidewalk accounts for 25%, or up to 1,000 points, of the overall ranking. Field crews collected existing condition data and recorded these conditions with geographic reference points.

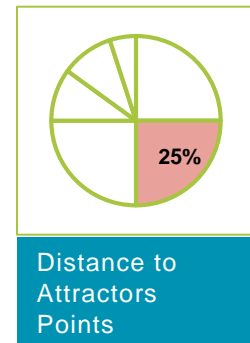
A point system for various sidewalk conditions that were collected was allocated. The point total for each condition was then added to the street segments, resulting in each street segment having a total number of points.



Distance to Attractors

The distance from pedestrian attractors accounts for 25%, or 1,000 points, of the overall ranking criteria. Buffers were generated at three intervals (1/16 mile, 1/8 mile and 1/4 mile) from each attractor based on the reasonable walking distance and a weight was applied to study segments depending on the distance interval:

- 330 feet – 1,000 points
- 660 feet – 500 points
- 1,320 feet – 0 points



Health (Diabetes and Collision)

Overall health data accounts for 25%, or 1,000 points, of the PGA ranking criteria. While there are an infinite number of variables that could be selected to represent health in resident populations, the health portion for the PGA consisted of diabetes data and pedestrian collision information as representative of general health. Prevalence of diabetes represents a range of personal and environmental factors, and collision data represents an immediate health threat in the environment. Of the 25% for health data, diabetes data accounts for 40% and pedestrian collision data accounts for 60%.

The Condition of Sidewalk, Distance to Attractors and Health accounts for 75% or up to 3,000 total points.

Socioeconomic

Socioeconomic data factors account for 10%, or 400 points, of the overall ranking criteria.

TABLE 3-2 POINTS ASSOCIATED WITH EACH SOCIOECONOMIC CATEGORY

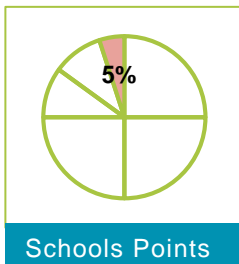
Socioeconomic Category	Points
Lowest Income	400
Low Income	300
Moderately Low Income	200
Moderately High Income	0
High Income	0
Highest Income	0



Project Priority List

The County Department of Public Works maintains a list of priority projects vetted through community input and analyzed by engineering staff. The County's existing capital improvement project list accounts for 10%, or 400 points, of the overall ranking criteria.

The projects on the list are associated with road corridors and geographically matched with the Pedestrian Gap Analysis study segments. Each segment that was also on the County project priority list received 400 points.



Schools

The PGA methodology placed a priority on children walking to school and, thus, allocated additional points to study segments near schools to enhance their priority in the final PGA rankings. The final criteria, distance from schools, accounts for 5%, or 200 points, of the overall ranking criteria. All segments within ¼-mile of a school receive 200 points.

Results

The following is a summary of the total PGA inventory results:

TABLE 3-3 EXISTING PEDESTRIAN FACILITIES

Sidewalk Type	Miles
Asphalt	15.86
Brick Pavers	0.22
Concrete	284.46
DG Pathway	30.00
Native	4.74
Native-Goat Path	25.37
No Sidewalk	401.61
Total	762.25

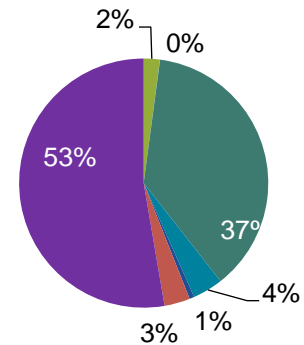
The adjacent chart illustrates the types of sidewalk mileage as a percentage of the total PGA network. As shown, 53% of assessed roadways currently have no pedestrian facility. The ranking (scores) of the evaluated sidewalk and pathway segments are included in Appendix D and includes maps and key ranking criteria factors along with the resulting score.

Conclusion

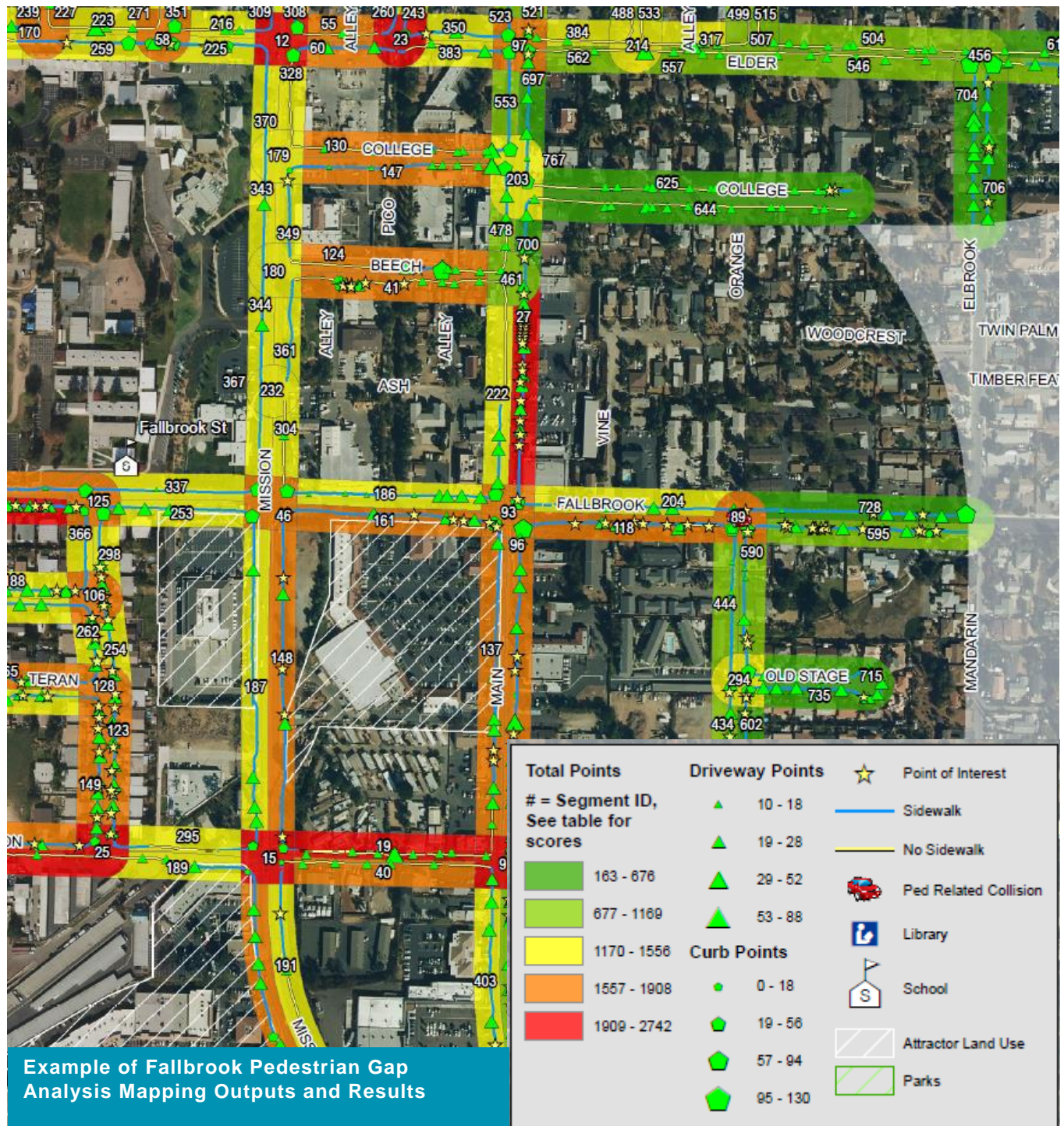
The methodology used in the PGA assigned points to individual street segments to provide a ranking for comparison and prioritization of pedestrian improvements. Points assigned based on the six Ranking Criteria Factors, result in a list of projects that should be prioritized for maintenance and improvement based upon the ranking factors.

The points for each street segment are identified by colors corresponding to the range of points allocated and applied on Scoring Maps (Appendix D). A portion of the map for Fallbrook is provided below as an example to illustrate the results. The colors range from green to red, with green reflecting fewer points based on field data and the methodology data ranking factors, and red colored segments reflecting the higher total points of field and methodology data and identifying areas of potential priority. The scoring system is one factor to identify priority improvement projects found in the on-going ADA Transition Plan and programmed capital improvements by the Department of Public Works.

PGA Percentage of Sidewalk Type



- Asphalt
- Brick Pavers
- Concrete
- DG Pathway
- Native
- Native-Goat Path
- No Sidewalk



Bicycle Facilities Level of Traffic Stress Analysis

Level of Stress Defined

An in-depth analysis of the existing and planned roadway build out was conducted to assess bicycle conditions. The analysis and categorization on the level of traffic stress (LTS) identifies what a person biking will experience on each roadway. LTS is a qualitative measure that assesses the level of discomfort or stress experienced by bicyclists based on the quality of the environment and provided facilities. LTS ranges from LTS 1 (most comfortable, least stressful) to LTS 4 (least comfortable, most stressful) and considers bike lanes, bike paths, bike routes, and any provided separation from vehicles. In general, roads with dedicated space and separation for people biking are less stressful. Below is additional discussion of each category:

- **LTS 1** – represents the most comfortable and least stressful bicycling environment. LTS 1 is the level that is comfortable for most people including children.
- **LTS 2** – represents a fairly comfortable and low stress bicycling environment. LTS 2 is the level that is comfortable by the mainstream adult population.
- **LTS 3** – represents a fairly uncomfortable and high stress bicycling environment. LTS 3 is the level that is comfortable for those that are confident in their bicycling abilities but prefer to have dedicated space while riding.
- **LTS 4** – represents the least comfortable and most stressful bicycling environment. LTS 4 is tolerated only by the most seasoned and confident cyclists but generally avoided by all other people who want to bike.

The levels of LTS analysis are consistent with the “Four Types of Transportation Cyclists in Portland” population segmentation scheme developed from research and surveys conducted by the Portland Office of Transportation³.

Typical Users of Varying LTS Facility Levels



LTS 1 Typical Users



LTS 2 Typical Users



LTS 3 Typical Users



LTS 4 Typical User

³ <https://www.portlandoregon.gov/transportation/article/264746>

Four Types of Transportation Cyclists in Portland By Proportion of Population



The four types of cyclists range from “No Way No How” – representing individuals who are not interested in biking – to “Strong and Fearless”, which represents the most active and confident cyclists. People in the “Interested but Concerned” category, which represents approximately 60% of all bicycling activity, typically prefer to ride along facilities classified as LTS 1 or LTS 2. These facilities, physically separated from vehicular traffic, provide dedicated lanes for bicycling and minimal conflict points. People in the “Enthusied and Confident” category, representing 7% of all bicycling activity, feel comfortable bicycling within a facility with an LTS 3 or better. People in the “Strong and Fearless” category represent less than 1% of bicycling activity who may tolerate bicycling within an LTS 4 facility, as they are the most experienced and confident. These bicyclists are generally seasoned bicycle commuters or recreational cyclists. Those in the “No Way, No How” population segment will not ride a bicycle.

Level of Stress Analysis Data Factors

LTS analysis forecasts the level of stress of future or proposed facilities. The data used in the ATP LTS analysis include the Pedestrian Gap Analysis (PGA) existing conditions inventory and San Diego Geographic Information Source (SanGIS). The data includes number of lanes in each direction, presence and type of bicycle facility, presence and type of median, speed, and functional class of the roadway. Data factors are described below:

1. **Number of lanes in one direction** was determined using street segments mapped as part of the PGA, the County of San Diego Mobility Element GIS road layer and Eagle Aerial imagery.
2. **Presence and type of bike facility** including:
 - Multi-use Path
 - Bike Lane
 - Bike Route
 - Other Suggested Routes
 - Freeway Shoulder Bike Access

For ATP analysis purposes, the bike facility types reflect the Caltrans Bicycle Facility Classes as follows:

- Multi-Use Path = **Class I (separate bike path)**
- Bike Lane = **Class II (striped bike lane)**
- Bike Route = **Class III (bike route)**
- Other Suggested Routes = **Class III (bike route)**
- Freeway Shoulder Bike Access = Any roadways with this designation were considered **LTS 4**

3. **Presence and type of median** was determined as part of the PGA inventory assessment. For roads analyzed outside of the PGA study area, no median was assumed.

4. **Average roadway speed** includes the roadway speed defined as the maximum speed at which an emergency vehicle can travel on the roadway and was used as a proxy for the average speed of vehicle travel. This proxy may not accurately reflect prevailing speeds.

5. **Functional Class** (those included in the ATP are in bold):

- 1: Freeway to freeway ramp
- **2: Light (2-lane) collector street**
- **3: Rural collector road**
- **4: Major road/4-lane major road**
- **5: Rural light collector/local road**
- **6: Prime (primary) arterial**
- **7: Private Street**
- 8: Recreational parkway
- **9: Rural mountain road**
- **A: Alley**
- B: Class I Bicycle Path
- **C: Collector/4-lane Collector Street**
- **D: Two-lane Major Street**
- E: Expressway
- **F: Freeway**
- **L: Local street/cul-de-sac**
- **M: Military street within base**
- **P: Paper Street**
- Q: Undocumented
- **R: Freeway/expressway on/off ramp**
- S: Six-lane Major Street
- T: Transitway
- **U: Unpaved Road**
- W: Pedestrianway/bikeway



Roadway with one lane per direction and no median

In the analysis, Rural Light Collector/Local Road (5) and Local Street (L) were considered residential roadways.

Appendix E includes the data for all data layers used in the LTS assessment.

The thresholds used for the LTS analysis were adapted from those developed in the paper "[Low-Stress Bicycling and Network Connectivity](#)" prepared by the Mineta Transportation Institute⁴. In the paper, the thresholds were analyzed for the road network in urban San Jose. The ATP thresholds were modified to account for the data available and unique regional aspects of the unincorporated county.

Level of Stress on Mobility Element Roadways

LTS scores for all Mobility Element roadways were determined for existing conditions, Mobility Element buildout conditions, and buildout conditions with proposed ATP improvements. Because of varying roadway configurations, separate criteria were used for roads with and without bicycle facilities.

For roads with Class I (Bike Path) or Class II (Bike Lane) facilities, street width, facility type, and speed were reviewed as individual criteria. **Table 3-4** summarizes the criteria for roads with a Class I or II bike facility. The scored criteria with the highest LTS was applied for each roadway. For example, if a segment has both LTS 2 or LTS 4, then the higher criteria score (LTS 4) would be applied to the road segment.

TABLE 3-4 CRITERIA FOR ROADWAYS WITH BICYCLE FACILITIES

	LTS ≥ 1	LTS ≥ 2	LTS ≥ 3	LTS ≥ 4
Street Width (through lanes per direction)	1	2, if directions are separated by a raised median	More than 2, or 2 without a separating median	(no effect)
Bike Facility Type	Class I	Class II	(no effect)	(no effect)
Speed	30 mph or less	(no effect)	35 mph	40 mph or more

Note: (no effect) = factor does not trigger an increase to this level of traffic stress.

⁴ Maaza C. Mekuira, et al., 2012, <http://transweb.sjsu.edu/PDFs/research/1005-low-stress-bicycling-network-connectivity.pdf>.

Level of Stress for Mixed Traffic

Table 3-5 summarizes the LTS criteria for roadways with mixed traffic, or roadways with a Class III Bike Route or no bike facility. As shown, a roadway with a speed of 20 mph, street width of two lanes, and a residential functional class was assigned a value of LTS 1. A roadway with speed greater than 35 mph is categorized as LTS 4.

TABLE 3-5 CRITERIA FOR ROADWAYS WITH MIXED TRAFFIC (ROADWAY WITH NO BICYCLE FACILITY OR A CLASS III FACILITY)

Speed Limit	Width of Street (Travel Lanes in one direction)		
	1 lane	2-3 lanes	4+ lanes
Up to 25 mph	LTS 1 ^a or 2 ^a	LTS 3	LTS 4
30 mph	LTS 2 ^a or 3 ^a	LTS 4	LTS 4
35+ mph	LTS 4	LTS 4	LTS 4

Note: ^a Use lower value for streets classified as residential with fewer than three lanes; use higher value otherwise.

Level of Stress for Intersections

A secondary LTS analysis was also completed to analyze user stress associated with maneuvering through an intersection. The criteria for intersection crossing stress was considered based on street widths, travel lanes, and speed. The criteria for the LTS of crossing each roadway are shown in **Table 3-6** and **Table 3-7**, respectively.

TABLE 3-6 CRITERIA FOR CROSSINGS WITHOUT A MEDIAN REFUGE

Speed Limit of Street Being Crossed	Width of Street Being Crossed (Travel Lanes in one direction)		
	1 lane	2-3 lanes	4+ Lanes
Up to 25 mph	LTS 1	LTS 2	LTS 4
30 mph	LTS 1	LTS 2	LTS 4
35 mph	LTS 2	LTS 3	LTS 4
40+	LTS 3	LTS 4	LTS 4

TABLE 3-7 CRITERIA FOR CROSSINGS WITH A MEDIAN REFUGE (STRIPED OR RAISED)

Speed Limit of Street Being Crossed	Width of Street Being Crossed (Travel Lanes in both directions)		
	Up to 2 lanes	3 - 6 Lanes	7+ Lanes
Up to 25 mph	LTS 1	LTS 1	LTS 2
30 mph	LTS 1	LTS 2	LTS 3
35 mph	LTS 2	LTS 3	LTS 4
40+ mph	LTS 3	LTS 4	LTS 4

Level of Stress Mobility Element Roads

The LTS scores for all Mobility Element roads are shown on maps for each community plan area using the inventory data available. Because of the size of the unincorporated county, Fallbrook provides a sample community to demonstrate how the analysis translates onto a map. The LTS for the Fallbrook Community Plan area is shown in **Figure 3-1** below. The scores are categorized with green representing a low LTS score and red a high, or more stressful, score. The first map shows the entire Fallbrook community and **Figure 3-2**, the second map, shows an inset detail in a more dense area.

The existing roadway network, attractors, and collision data are also shown on the maps. The collision data was provided by the Transportation Injury Mapping System (TIMS) for 2008 – 2013 and were focused on accidents involving people biking.

Level of Stress Full Buildout

LTS was also evaluated for the planned buildout of the Mobility Element to determine the forecasted LTS for the County's long-range plans for active transportation improvements.

LTS factors included the Mobility Element classifications and the County road standards that relate to each roadway for number of lanes and presence of medians, as categorized in **Table 3-8**.

TABLE 3-8 MOBILITY ELEMENT ROAD CLASSIFICATIONS AND ROAD STANDARDS

Mobility Element Road Segment Classification	County Road Standard Feature		
	Number of Lanes (both directions)	Speed	Presence of Median
6.1 – Expressway	6	65	Median
6.2 – Prime Arterial			
4.1A – Major Road with Raised Median	4	55	Median
4.1B – Major Road with Intermittent Turn Lanes			
4.2A – Boulevard with Raised Median	4	40	Median
4.2B – Boulevard with Intermittent Turn Lane			
2.1A – Community Collector with Raised Median	2	45	Median
2.1B/C/D/E – Community Collectors			
2.2A – Light Collector with Raised Median	2	40	Median
2.2B/C/D/E/F – Light Collectors			
2.3A – Minor Collector with Raised Median	2	35	Median
2.3B/C – Minor Collectors			

The LTS analysis for the segments was evaluated using a similar process to that discussed previously for forecasted conditions. However, Two Way Left Turn Lanes were not considered travel lanes to maintain consistency with the Mobility Element roadway classifications and road standards. Additional inputs consisted of Mobility Element planned bicycle facilities, number of travel lanes, speed, and presence of a median.

The following maps **Figure 3-3, Level of Traffic Stress (LTS) of Mobility Element - Buildout Conditions: Fallbrook Map and Figure 3-4, Inset Map** illustrate the results of the LTS analysis for Fallbrook with buildout of the Mobility Element. As shown, all Mobility Element roadways are forecasted to operate at LTS 4 at planned buildout.

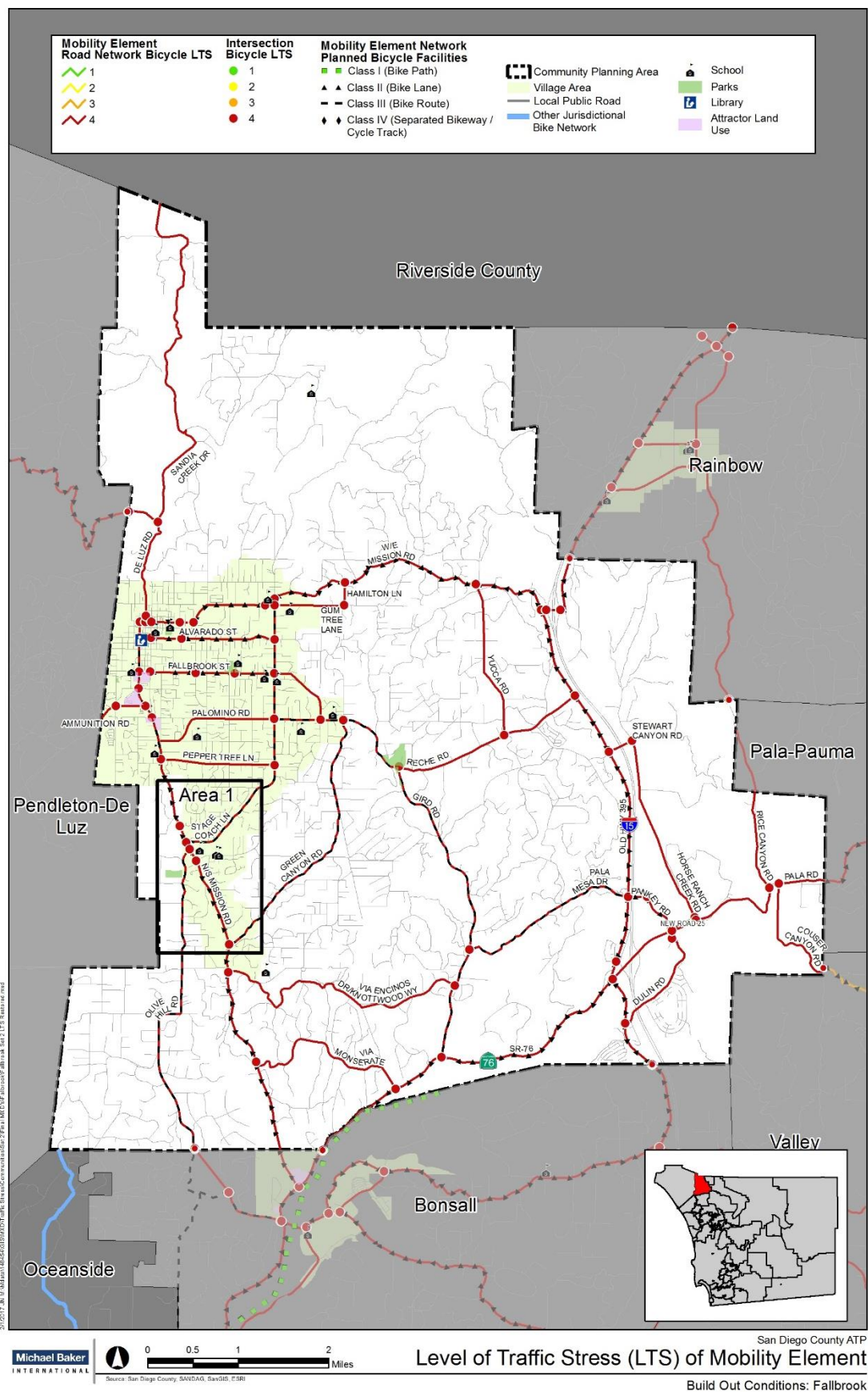


Figure 3-3

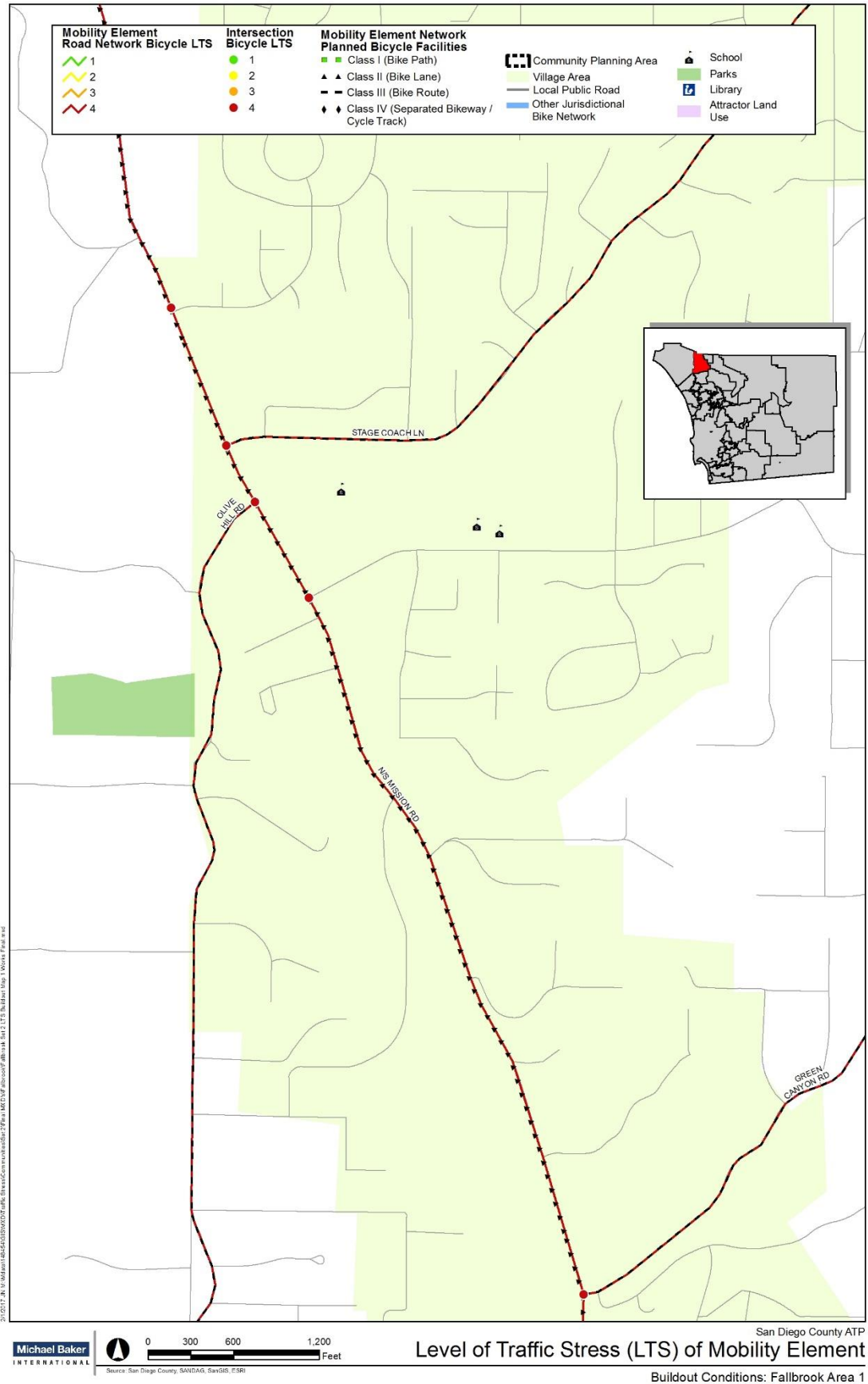


Figure 3-4

The results of LTS 4 at planned buildout of the Mobility Element network suggests that upgraded or additional bicycle improvements provide increased and improved traveling conditions to attract new and concerned riders.

The next chapter will take this existing conditions LTS analysis and apply a facility selection methodology to provide bicycle facility recommendations that reduce traffic stress experienced by people riding.

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4 Plan Analysis and Recommended Network

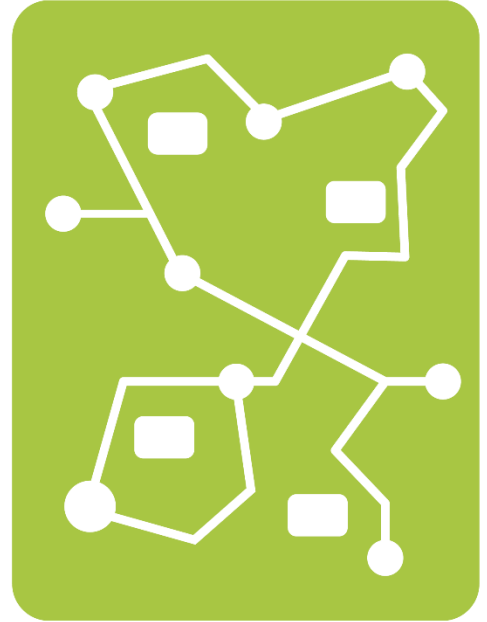
This chapter details the proposed active transportation network improvements for the unincorporated communities in the county of San Diego. The draft recommendations were developed through an assessment of existing facilities, identification of pedestrian and bicyclist needs, public input, review of the Mobility Element buildout, and the goals and objectives of the ATP.

4.1 Recommendations for Existing County Plans and Policies

This section provides recommendations to existing plans and policies to improve active transportation within the unincorporated county. These recommendations improve coordination among plans and encourage biking and walking trips.

Coordination between *Live Well San Diego* and Local Groups

Live Well San Diego could partner with local bicycle and pedestrian organizations, such as San Diego Bicycle Coalition, Bike San Diego, and Circulate San Diego, to pursue projects that promote is the goal of *Building Better Health, Living Safely* and *Thriving*.



Designation as a *Live Well San Diego* Recognized Partner organization has numerous benefits, including:

- Opportunities to showcase best practice examples and success stories through web, media and events;
- Support in tracking data, measuring outcomes and reporting results; and
- Collaboration with a growing network of Live Well San Diego champions and partners for the greatest collective impact.



Coordinate County of San Diego ATP and CAP

The efforts and goals of the ATP align with the Climate Action Plan (CAP) to reduce GHG emissions within the unincorporated county. Active transportation improvements that improve pedestrian and bicycle facilities have a direct impact on reducing GHG emissions by promoting mode shifts from vehicular to pedestrian or bicycle trips. Coordination between CAP and ATP should seek funding for active transportation and GHG reduction projects wherever feasible.

Coordination with the Community Trails Program and Parks and Recreation Projects

The ATP supplements the Community Trails Program and Master Plan (CTMP) by linking the CTMP soft-surface trails with other on- and off-road facilities. It is recommended that efforts combining trails, parks, recreational, and active transportation facilities be collaboratively pursued, wherever feasible.

4.2 Proposed Pedestrian Network

The Pedestrian Gap Analysis (PGA) included existing conditions to identify a range of pedestrian improvements within the unincorporated communities. The results of the PGA found that over half (approximately 400 miles) of the assessed roadways lack a pedestrian facility, indicating a deficiency of pedestrian access within the unincorporated communities. The sidewalk network is the default network on public roads where the CTMP has not identified a designated pathway.

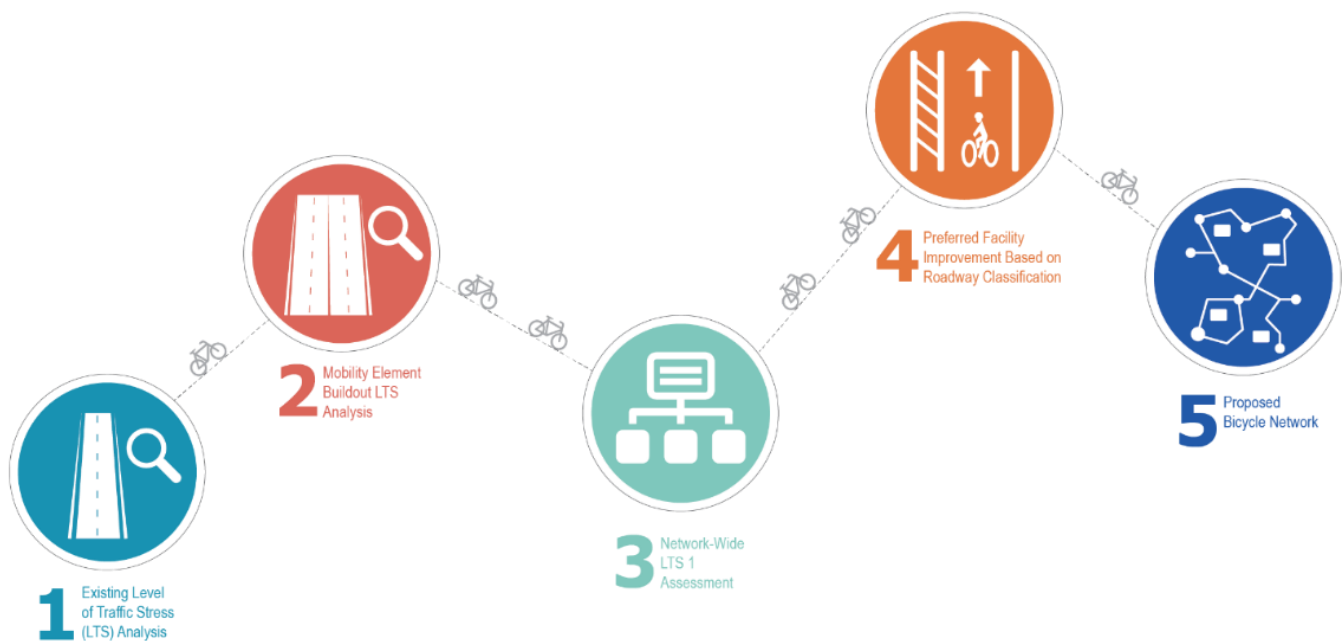
The Department of Public Works, through its Capital Improvement Program (CIP), will be responsible for overseeing pedestrian improvements as it pertains to the ATP pedestrian network. Sidewalk and pathway gap

improvement projects will be completed through the CIP or by private development projects as frontage improvements or off-site mitigation requirements.

4.3 Bicycle Network Methodology

The proposed bicycle network was developed through an analytical process reviewing the existing bike network and associated levels of traffic stress, future forecasted levels of traffic stress at buildout of the Mobility Element, a review of collision data, and an overall evaluation of what improvements and facilities would achieve an integrated, connected, and comfortable bicycle network. As seen in **Figure 4-1** a second level of stress (LTS) analysis was conducted to evaluate each roadway at build-out conditions of the Mobility Element. Overall, the buildout LTS analysis identified a need for improved bicycling facilities throughout the county with a majority of segments scoring LTS 4 (least comfortable, most stressful) at Mobility Element buildout.

FIGURE 4-1 BICYCLE NETWORK METHODOLOGY FLOW CHART



After identifying where deficiencies or segments with poor LTS are likely to occur in the buildout condition, the network was reviewed to determine what types of facility modifications or additions would improve levels of traffic stress to achieve LTS 1. This was referenced as the “unconstrained network”. To achieve LTS 1 along a roadway

including a two-lane roadway with Class II bike lane and vehicle speeds of less than 35 miles per hour, or any roadway with a Class I bike path or Class IV cycle track, requires facilities physically separate people biking from vehicular traffic and substantially improve levels of comfort.

Table 4-1 summarizes the parameters for determining LTS 1 bicycle facilities.

TABLE 4-1 LTS 1 BICYCLE FACILITIES

LTS 1 Bicycle Facilities	2-lane roadway and Class II Bike Lane and Speeds < 35 mph
	Any roadway with Class I Bike Path or Class IV Cycle Track

A comparison of the Mobility Element network and the roadway characteristics above show that roadway segments with a proposed Class II Bike Lane in the current Mobility Element have design speeds greater than 35 miles per hour. No roadway segments met the requirements for a Class II, LTS 1 facility in the buildout condition of the Mobility Element.

Therefore, the “unconstrained” proposed bicycle network to attain LTS 1 on all roadways would consist of Class IV facility recommendations across the network.

The next step involved refining the “unconstrained” LTS 1 network to better align with fiscal constraints and realistic rider demand for a more achievable plan focused on providing facilities that would serve the greatest number of users.

To create a more economically feasible and implementable network, the user demand for each roadway was reviewed to determine which segments show low demand (not connecting to Village areas), large distances between communities and mountainous terrain conditions with large elevational changes. The recommended facilities along such roadways were downsized from the unconstrained LTS 1, Class IV facility to a Class II facility.

Table 4-2 summarizes recommended facility improvements based on roadway classification. As seen in the table, where vehicle speeds and volumes (number of lanes) are high, separated facilities are recommended as facility improvements. Additional context is provided to guide where the bikeway is within the context of the regional network and expected user demand.

TABLE 4-2 RECOMMENDED FACILITY IMPROVEMENT BASED ON ROADWAY CLASSIFICATION

Mobility Element Road Classification			Role in Bikeway Network		
Road Classification (#travel lanes)	Min Design Speed (MPH)	Capacity (LOS D)	Basic	Priority Bikeway	Regional Bikeway
Expressway (6.1)	65	86,000	Adjacent Class I bike paths		
Prime Arterial (6.2)	65	50,000	Class IV cycle track	Adjacent Class I bike path (preferred), or Class IV cycle track (acceptable)	
Major Road					
with raised median (4.1A)	55	33,400	Class IV cycle track	Adjacent Class I bike path (preferred), or Class IV cycle track (acceptable)	
with intermittent turn lane 4.2B)	55	30,800			
Boulevard					
with raised median (4.2A)	40	27,000	Class IV cycle track (preferred), or buffered Class II bike lane (acceptable)	Class IV cycle track (preferred), or adjacent Class I bike path, or buffered Class II bike lane (acceptable)	
with turn lanes (4.2B)	40	25,000			
Community Collector					
with raised median (2.1A)	45	15,000	Class IV cycle track (preferred), or buffered Class II bike lane (acceptable)	Adjacent Class I bike path (preferred), or Class IV cycle track (acceptable)	
with turn lanes or no median (2.1B,C,D,E)	45	13,500			
Light Collector					
with raised median (2.2A)	40	13,500	Class IV cycle track (preferred), or buffered Class II bike lane (acceptable)	Class IV cycle track (preferred), or adjacent Class I bike path, or buffered Class II bike lane (acceptable)	
with turn lanes or no median (2.2B, C, D, E)	40	13,500			
Minor Collector					
with raised median (2.3A)	35	8,000	Class IV cycle track (preferred), or buffered Class II bike lane (acceptable)	Class IV cycle track (preferred), or adjacent Class I bike path, or buffered Class II bike lane (acceptable)	
with turn lanes or no median (2.2B, C)	35	8,000			
Residential Collector/ Road	30	4,500	Yield Street/bike boulevard with traffic control devices to slow motor vehicle traffic		

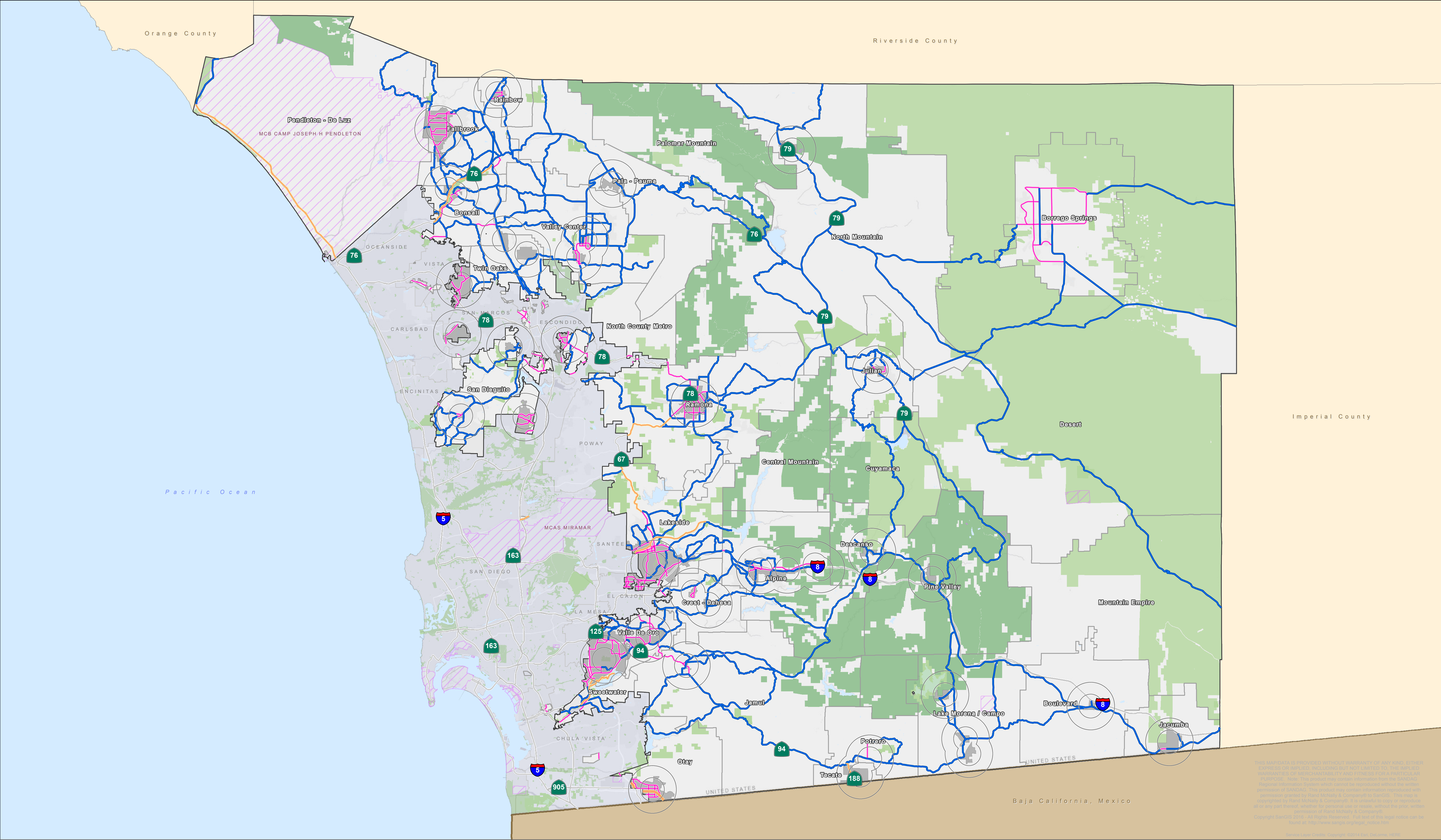
4.4 Proposed Bicycle Network

The proposed bicycle network of Class I, Class II, and Class IV recommended facilities for each Mobility Element segment are shown on **Figure 4-2** and maps for each community in **Appendix A. Table 4-3** summarizes the proposed improvements by bicycle facility class proposed for each Community Plan Area (CPA).

TABLE 4-3 DISTANCE OF PROPOSED IMPROVEMENTS BY BICYCLE FACILITY TYPE

CPA	Class I Facilities (Miles)		Class II Facilities (Miles)		Class IV Facilities (Miles)		Total Improvements (Miles)
	County Facility	Caltrans Facility	County Facility	Caltrans Facility	County Facility	Caltrans Facility	
Alpine	0	0	42.77	.26	8.63	0	51.65
Bonsall	6.46	0	28.34	3.29	7.10	0	45.18
Central Mountain	0	0	42.05	21.52	0	0	63.57
County Islands	.90	0	0	0	.61	0	1.51
Crest-Dehesa	0	0	19.73	0	2.50	0	22.23
Desert	0	0	96.71	0	30.81	0	127.52
Fallbrook	2.31	0	47.06	6.95	19.25	0	75.58
Jamul-Dulzura	0	0	45.04	15.51	0.89	4.20	65.64
Julian	0	0	11.44	15.29	0.75	2.18	29.66
Lakeside - Pepper Drive	7.20	4.96	42.46	0	26.78	4.88	86.29
Mountain Empire	0	1.85	90.11	27.47	1.93	0	121.37
North County Metro	0.34	0	37.29	0	26.23	3.68	67.54
North Mountain	0	0	57.74	48.75	0	0	106.49
Otay	0	5.67	3.72	0	10.31	0	19.69
Pala-Pauma	0	0	21.43	24.12	0	0	45.55
Pendleton-De Luz	0	17.92	15.48	0	0	0	33.40
Rainbow	0	0	7.33	0	2.20	0	9.53
Ramona and Barona	0	4.68	58.04	11.18	9.15	5.67	88.72
San Dieguito	0	0	30.80	0	7.89	0	38.69
Spring Valley	2.98	0	2.07	0	17.12	0	22.17
Sweetwater	2.42	0	9.51	0	2.60	0	14.53
Valley Center	0	0	70.30	0	7.15	0	77.45
Valle de Oro	0	0	17.93	0	13.38	2.56	33.86
TOTAL DISTANCE OF IMPROVEMENTS	22.61	35.08	797.34	174.34	195.29	23.17	1,247.83

FIGURE 4-2 PROPOSED BIKE NETWORK



Proposed Bike Network

- Class IV
- Class II
- Class I

Reference

- Village Boundary
- Village Center - 1 and 2 Mile Radius
- Incorporated Area
- Military Installation
- Community Planning Area
- County and State Parks
- Cleveland National Forest

Proposed Bike Network

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Back of Proposed Bike Network Map

The proposed ATP bicycle network represents a network of continuous and connected bicycle facilities that allows for travel between communities within a dedicated on-road space in the form of a Class II Bike Lane, complemented with Class IV Separated Bikeways within villages, where access to destinations is shorter and traffic volumes are higher.

The proposed network covers all Mobility Element Roads in the county. About eighty percent of the network is Class II Bike Lanes, while approximately twenty percent is proposed for Class IV Separated Bikeways.

The majority, fifty-eight percent, of Class IV Separated Bikeways, are within community planning area village boundaries. This allows residents to access the goods, services and destinations in a facility that provides less stress than just a striped Class II Bike Lane. As seen on the maps, the villages typically have a radius of 1 to 2 miles and most people are comfortable riding these distances.

For those people willing to ride longer or without separation, the proposed bicycle network connects villages and communities along Mobility Element Roads with Class II Bike Lanes. Ninety-six percent of the Class II Bike Lanes are outside of the village boundaries.

4.5 Future Demand

California Streets and Highway Code Section 891.2 requires a bike plan to estimate the increase in the number of participants resulting from implementation of the plan.

Future demand for walking and bicycling trips (commute and utility trips) have been developed for 2020, 2030, 2040, and 2050 populations for each community planning area. The number of forecasted trips was calculated according to the forecasted increase in population and with the assumption that no pedestrian or bicycle facility improvements were completed. The estimated number of walking and bicycling trips for 2020, 2030, 2040, and 2050 are shown in **Table 4-4** below. The full data table is included in **Appendix C-3**.

TABLE 4-4 FUTURE UNIMPROVED ESTIMATED BICYCLE AND WALKING DEMAND

	2020	2030	Δ	2040	2050	Δ
Community Planning Area	Estimated Total Daily Bicycle and Walking Trips	Estimated Total Daily Bicycle and Walking Trips	Estimated Percentage Increase in Daily Bicycle and Walking Trips (2020-2030)	Estimated Total Daily Bicycle and Walking Trips	Estimated Total Daily Bicycle and Walking Trips	Estimated Percentage Increase in Daily Bicycle and Walking Trips (2030-2050)
Alpine	2,098	2,377	11.7%	2,528	2,651	4.6%
Bonsall	1,391	1,576	11.7%	1,677	1,759	4.7%
Central Mountain	339	384	11.7%	408	428	4.7%
County Islands	338	383	11.7%	408	427	4.4%
Crest-Dehesa	952	1,079	11.8%	1,148	1,204	4.7%
Desert	554	627	11.6%	667	700	4.7%
Fallbrook	4,861	5,508	11.7%	5,859	6,144	4.6%
Jamul-Dulzura	937	1,061	11.7%	1,129	1,184	4.6%
Julian	548	620	11.6%	660	692	4.6%
Lakeside	7,169	8,123	11.7%	8,640	9,061	4.6%
Mountain Empire	976	1,105	11.7%	1,175	1,233	4.7%
North County Metro	4,042	4,578	11.7%	4,870	5,108	4.7%
North Mountain	301	342	12.0%	363	381	4.7%
Otay	138	156	11.5%	165	173	4.6%
Pala-Pauma	952	1,080	11.9%	1,147	1,204	4.7%
Pendleton-De Luz	18,446	20,899	11.7%	22,230	23,315	4.7%
Rainbow	181	205	11.7%	219	229	4.4%
Ramona and Barona	4,158	4,711	11.7%	5,010	5,256	4.7%
San Dieguito	3,737	4,234	11.7%	4,504	4,724	4.7%
Spring Valley	6,467	7,327	11.7%	7,793	8,174	4.7%
Sweet-water	917	1,039	11.7%	1,105	1,179	6.3%
Valle De Oro	3,743	4,242	11.8%	4,512	4,732	4.6%
Valley Center	2,148	2,435	11.8%	2,590	2,715	4.6%

The future demand estimates are based on projected increases in population. In more urbanized communities, the increase in walking and bicycling and trips correlates to greater expected population growth. The projected demand for each community was adjusted based on improvements recommended throughout the bicycle network and sample projects. Using factors applied to each type of improvement, and recognizing that improved facilities attract more users, community-wide demand was increased accordingly. **Table 4-5** summarizes the future adjusted estimated bicycle and walking demand volumes.

TABLE 4-5 FUTURE ADJUSTED ESTIMATED BICYCLE AND WALKING DEMAND

	2020	2030	Δ	2040	2050	Δ
Community Planning Area	Estimated Total Daily Bicycle and Walking Trips	Estimated Total Daily Bicycle and Walking Trips	Estimated Percentage Increase in Total Daily Bicycle and Walking Trips (2020-2030)	Estimated Total Daily Bicycle and Walking Trips	Estimated Total Daily Bicycle and Walking Trips	Estimated Percentage Increase in Total Daily Bicycle and Walking Trips (2030-2050)
Alpine	2,098	2,384	13.6%	2,590	2,655	11.4%
Bonsall	1,391	1,589	14.2%	1,715	1,761	10.8%
Central Mountain	339	388	14.5%	418	429	10.6%
County Islands	339	410	20.9%	412	428	4.4%
Crest-Dehesa	953	1,102	15.6%	1,172	1,206	9.4%
Desert	553	630	13.9%	683	700	11.1%
Fallbrook	4,861	5,531	13.8%	6,000	6,152	11.2%
Jamul-Dulzura	936	1,067	14.0%	1,156	1,185	11.1%
Julian	548	633	15.5%	673	693	9.5%
Lakeside	7,169	8,131	13.4%	8,854	9,073	11.6%
Mountain Empire	975	1,116	14.5%	1,203	1,235	10.7%
North County Metro	4,041	4,603	13.9%	4,987	5,114	11.1%
North Mountain	301	344	14.3%	372	381	10.8%
Otay	137	159	16.1%	169	174	9.4%
Pala-Pauma	953	1,088	14.2%	1,175	1,206	10.8%
Pendleton-De Luz	18,446	23,212	25.8%	22,747	23,345	0.6%
Rainbow	181	213	17.7%	222	230	8.0%
Ramona and Barona	4,157	4,736	13.9%	5,160	5,262	11.1%
San Dieguito	3,737	4,255	13.9%	4,612	4,730	11.2%
Spring Valley	6,467	7,419	14.7%	7,968	8,184	10.3%
Sweet-water	917	1,053	14.8%	1,129	1,160	10.2%
Valle De Oro	2,149	2,454	14.2%	2,650	2,719	10.8%
Valley Center	3,744	4,264	13.9%	4,620	4,738	11.1%

The demand values by year listed in **Table 4-5** assumed:

- In 2020, no proposed improvements would be complete;
- In 2030, all sample projects (**Appendix F**) would be complete;
- In 2040, half of the remaining projects in the proposed network would be complete; and
- In 2050, the entire network would be complete.

As seen in **Table 4-5** with the proposed ATP network, communities can expect to increase their total walking and bicycling trips.

TABLE 4-6 FUTURE ADJUSTED ESTIMATED BICYCLE AND WALKING DEMAND RESULTS FROM NETWORK IMPROVEMENTS

Community Planning Area	Δ	Δ
	Estimated Percentage Increase in Total Daily Bicycle and Walking Trips From Unimproved to Proposed Network Improvements (2020-2030)	Estimated Percentage Increase in Total Daily Bicycle and Walking Trips From Unimproved to Proposed Network Improvements (2030-2050)
Alpine	1.90%	6.80%
Bonsall	2.50%	6.10%
Central Mountain	2.80%	5.90%
County Islands	9.20%	0.00%
Crest-Dehesa	3.80%	4.70%
Desert	2.30%	6.40%
Fallbrook	2.10%	6.60%
Jamul-Dulzura	2.30%	6.50%
Julian	3.90%	4.90%
Lakeside	1.70%	7.00%
Mountain Empire	2.80%	6.00%
North County Metro	2.20%	6.40%
North Mountain	2.30%	6.10%
Otay	4.60%	4.80%
Pala-Pauma	2.30%	6.10%
Pendleton-De Luz	14.10%	4.10%
Rainbow	6.00%	3.60%
Ramona and Barona	2.20%	6.40%
San Dieguito	2.20%	6.50%
Spring Valley	3.00%	5.60%
Sweet-water	3.10%	3.90%
Valle De Oro	2.40%	6.20%
Valley Center	2.10%	6.50%

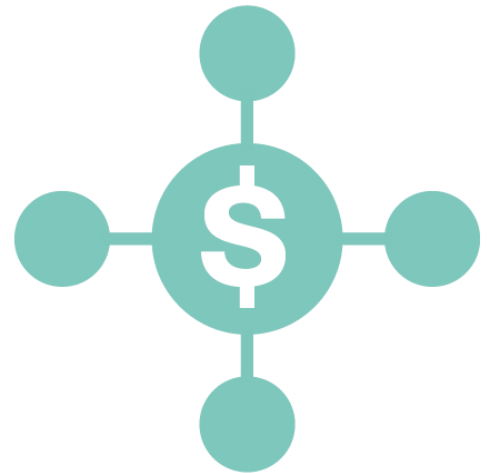
As seen in **Table 4-6**, the expected increase in active transportation trips with proposed network improvements range from 1.7% to 14.1% from 2020 to 2030, and up to an additional 7% increase with continued network improvements through 2050. These figures represent estimates based upon the methodology used in this

document. Estimated participation increases are good for resident's health and align with County goals.

Actual participation is dependent on trends and circumstances of the individuals living in these communities. The county has a wide variety of built and natural environments, as community composition changes, active transportation options are expected to become desirable and the proposed network is intended to support those trips on a safe, connected and integrated network.

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5 Implementation and Funding



This chapter includes implementation strategies and funding resources for the active transportation network recommended in this plan. Implementation comes from both public and private development. Funding for public development and maintenance of pedestrian and bicycle facilities come from a variety of federal, state, regional, and local revenue sources. Preparing and applying for various revenue streams is a key strategy to plan, build, and maintain projects in the near and long-term.

5.1 Implementation

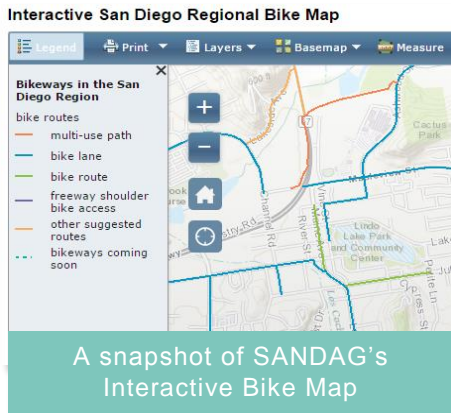
A focused strategy aimed at providing a connected network and receiving the highest return on investment is an important factor to implement improvements over time. The County is required to have an adopted plan to be considered eligible for local, state, and federal funding. The County currently utilizes a “Top-10” list developed by each community planning group to rank community infrastructure needs and priorities. This approach will not change with the ATP. However, ATP network recommendations will be available for ranking and prioritization.

Complete the Network

The ATP recommends the following implementation approach to complete the network:

1. **Emphasize safe connections where none currently exist.**

The ATP provide a connected network for biking and walking between neighborhoods and schools, and major regional destinations and activity centers. As discussed in Chapter 2, the Pedestrian Gap Analysis (PGA) identified all pedestrian facility gaps along County-maintained roadways in each unincorporated community,



totaling approximately 401.61 miles without any form of a sidewalk or path. Maps illustrating the gaps in the pedestrian network for each community are included in the PGA. The Department of Public Works will maintain the PGA database that serves as the resource for updated information as projects are completed over time.

To identify current gaps in the bicycle network, the ATP existing bike network maps show County data based on bike lane striping and signage. This information is shared with SANDAG who then publishes and maintains a map showing existing bicycle facilities in the region.

The map is available online at

www.icommutesd.com/bike/bikemap

2. Fill existing gaps in areas with higher demand for biking and walking.

The demand for bicycle or pedestrian facilities is high in some areas and low in others. The ATP includes existing and future user demand estimates for biking and walking in each community so that gaps can be filled where the need and demand justifies the investment.

3. Focus investments on improving and upgrading deficient facilities so they are safe and comfortable for all ages and abilities.

Unimproved facilities in areas with high demand when upgraded will provide comfortable, accessible facilities. Improvements like ADA compliance and quality or capacity upgrades in areas surrounding community attractors such as schools and parks will help to increase utilization of these facilities.

Implementing Specific Projects

The following Action Steps are recommended to implement projects:

1. Finalize commitments and partnerships with Caltrans or other agencies.

Commitments and partnerships with Caltrans, neighboring jurisdictions, utility companies, and any other coordinating agency should be finalized early in the process.

2. Secure funding.

Secure funding for each project as necessary, which may include an assortment of funding sources. There are two ways to position projects for local funding:

- Adding the project to the **Regional Transportation Improvement Program (RTIP) project list**, which ensures that it is eligible for State and Federal funding and *TransNet*¹ dollars.
- Adding the project to the **County's Capital Improvement Project (CIP) list** or overlapping with other efforts for a project already on the CIP list. The projects on the CIP list are considered the highest priority and are much more likely to be funded within an established timeframe.

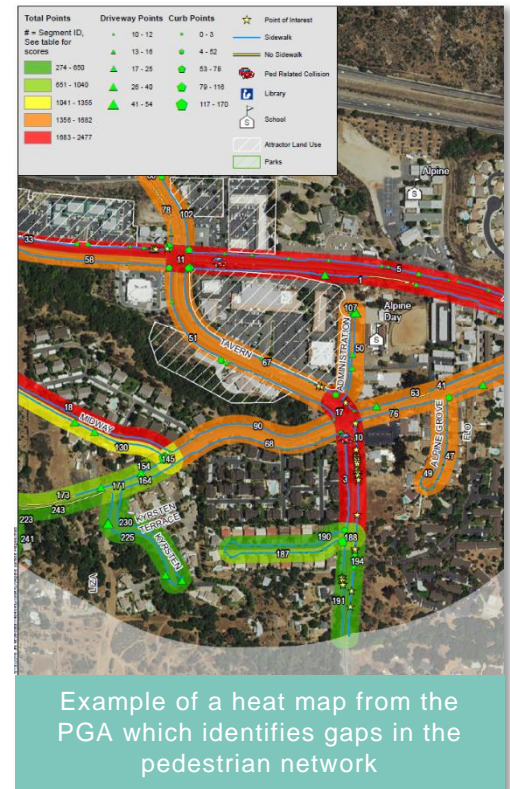
Funding strategies and a summary of funding sources at the local, State, and Federal levels is summarized later in this chapter.

3. Outreach to community members.

Once a green light to move forward is determined then staff representatives should present the proposed project to the local community at the Community Planning Group or Sponsor Group to share the intent, cost, and schedule of the project as well as address community questions and concerns.

4. Finalize design.

The project will be taken from a conceptual recommended improvement to a final engineering design, factoring in all existing physical and



¹ TransNet is a local, ½ cent sales tax, approved in 2004 and made effective in 2008. It provides over \$500 million for project in the unincorporated County and will end in 2048. More details about TransNet is available in Section 7.5.

operational constraints that need to be addressed. The Active Transportation Toolbox should be utilized as a reference during the design phase to ensure proposed improvements are context-sensitive and appropriately applied to the existing built environments and to incorporate additional features or improvements, where applicable.

5. Outreach to community members.

Continuous updates should be provided to the community throughout the course of implementation to keep them informed of the progress and any issues that may arise, such as road closures.

6. Secure County approval(s).

Schedule and seek County Board of Supervisors approvals as required prior to construction of the project.

7. Project construction.

Once approval is granted by the appropriate bodies and funding and permits, where applicable, have been received, the project may be constructed.

These implementation steps will help the County to efficiently and effectively implement active transportation projects. In addition, projects under discretionary project review will reference this Plan and the County of San Diego's Complete Streets policy and employ the best practices, as applicable.

5.2 Monitor Progress

Implementing and maintaining an active transportation network monitoring provides the County of San Diego with ongoing data needed to measure and track changes in biking and walking trends over time. The data can be a helpful resource for grant applications by providing real time data to help estimate benefits for future active transportation projects and other cost-benefit analyses. The County will monitor and track ATP improvements annually.

5.3 Local and Regional Funding Sources

Funding for infrastructure improvements relies on a variety of sources. Recent expenditures for bicycle and pedestrian facilities and programs include the following capital

improvement projects and are indicative of recent ATP investments:

- In January 2017, the Bear Valley Parkway North Widening Project was completed to widen the road from two to four-lanes from San Pasqual Valley Road (SR-78) to just north of Boyle Avenue to connect to the existing four-lane road within the City of Escondido. Bike lanes, sidewalks, landscaped medians and parkways, drainage improvements, waterline upgrades, and new traffic signals with crosswalks at realigned intersections were installed. In addition, overhead utilities were undergrounded. The new roadway conforms to the County's General Plan Mobility Element classification as a Major Road and Bicycle Route.

Funding sources included *TransNet*, Proposition 1B bonds, and a contribution from the City of Escondido for work within their jurisdiction.

- In 2016, the San Vicente Road Improvement Project was completed along the long, 2.25-mile windy stretch of San Vicente Road. Improvements included realigning the existing roadway to reduce curves and hills and improve visibility of road users; undergrounding of utilities; bicycle lanes on both sides of the road; 10-foot stabilized DG multi-use pathway on the west and south sides of the road; a 10-foot graded parkway on the north and east sides of the road. The multi-use pathway included a wooden post and rope rail fencing to separate non-motorists from vehicular travel lanes.

Funding sources included *TransNet*, San Diego Gas & Electric programs, Ramona Municipal Water District, and AT&T and Cox Communications.

Regional and local funding sources provide a starting point for gathering adequate project funds. In the San Diego Region, there are many different funding programs that can be used for funding small to large active transportation related projects.

Local Funding

Funded and non-funded projects in the unincorporated County are listed in the Department of Public Works Five Year Capital Improvement Plan (CIP) (2016 – 2021). In a typical fiscal year, approximately 25 projects are in construction with about 70 other projects in various stages

of development. The CIP budget for fiscal year 2016/17-2020/21 is over \$69 million.

Transportation Impact Fee (TIF)

The TIF program provides funding for construction of transportation facilities needed to support traffic generated by new development and to meet state law requirements. The County collects TIFs as part of the building permit process.

Private Development

Private development often builds frontage improvements or off-site roads as part of their subdivision requirements and impact mitigation. Completion of Mobility Element improvements will assist implementing ATP networks.

Regional Funding

SANDAG Smart Growth Incentive and Active Transportation Grant Program

SANDAG's Active Transportation Grant Program encourages local jurisdictions to plan and build facilities that promote multiple travel choices and connectivity to transit, schools, retail centers, parks, work, and other community destinations. Program and projects funded through this grant include bicycle parking, education, encouragement, and awareness programs that support pedestrian and bicycle infrastructure.

See SANDAG's website for more information:

www.sandag.org/index.asp?classid=12&projectid=491&fuseaction=projects.detail

TransNet

TransNet is a local, 1/2 cent sales tax approved by the County of San Diego voters in 2004 and became effective in 2008. It provides over \$500 million for projects in the unincorporated County of San Diego over 40 years and will end in 2048. The County receives about \$15 million annually from *TransNet* revenue administered by SANDAG.

5.4 State Funding Sources

Securing state funds assists in filling local funding gaps for a variety of active transportation related projects. **Table 7-3** summarizes the available State-funded grants applicable for active transportation funding and further discussed as follows:

California Active Transportation Program

The California Active Transportation Program, administered by Caltrans' Division of Local Assistance, Office of Active Transportation and Special Programs, consolidates existing federal and state transportation programs – including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and the State Safe Routes to School (SR2S) - into a single program. This program, which funded the creation of this plan, aims to assist local, regional, or state agencies, Caltrans, Transit Agencies, Natural Resources or Public Land Agencies, Public Schools and Districts, Tribal Government and Private non-profits, fund and complete infrastructure and non-infrastructure, and plans.

The goals of the California Active Transportation Program is to increase the trips taken using active transportation, increase safety, reduce greenhouse gas emissions, enhance public health, and share the benefits of the program with disadvantaged communities.

See the Caltrans website for more information about the program: www.dot.ca.gov/hq/LocalPrograms/atp/

Caltrans Sustainable Transportation Planning Grant Program

The Caltrans Sustainable Transportation Planning Grant Program was created to support Caltrans' current mission. This program consists of two grants – Strategic Partnerships and Sustainable Communities – each focuses on a different scale of multi-modal studies. Those eligible for these grants as a primary applicant are MPOs/RTPAs or Transit Agencies, Cities and Counties, and Native American Tribal Governments. Those eligible to apply as a sub-applicant are MPOs/RTPAs, Transit Agencies, University and Community Colleges, Native American Tribal Governments, Cities and Counties, Community-Based Organizations, Non-Profit Organizations, and other public entities.

Additional information is provided on the Caltrans website: <http://www.dot.ca.gov/hq/tpp/grants.html>

<http://www.dot.ca.gov/hq/tpp/offices/ocp/cbtp.html>

TABLE 5-1 STATE FUNDED GRANTS

Program Name		Eligible Applicants		Eligible Projects	Local Match	Minimum Project Request	Maximum Project Request	Funding
		Primary Applicant	Sub-Applicant					
California Active Transportation Program		Local, Regional, or State Agencies, Caltrans, Transit Agencies, Natural Resources or Public Land Agencies, Public Schools or Districts, Tribal Government, or Private non-profits		Infrastructure and Non-Infrastructure projects or Plans	not required	\$250,000		Varies Annually
Sustainable Transportation Planning Grant	Strategic Partnerships	Metropolitan Planning Organizations and Regional Transportation Planning Agencies (MPOs/RTPAs)	MPOs/RTPAs, Transit Agencies, Universities and Community Colleges, Native American Tribal Governments, Cities and Counties, Community-Based Organizations, Non-Profit Organizations, Other Public Entities	Transportation planning studies of interregional and statewide significance, in partnership with Caltrans	20% minimum	\$100,000	MPOs \$1,000,000 Others \$500,000	\$1,500,000
	Sustainable Communities	Metropolitan Planning Organizations and Regional Transportation Planning Agencies (MPOs/RTPAs) and Transit Agencies, Cities and Counties, Native American Tribal Governments		Studies of multimodal transportation issues having statewide interregional, regional, or local significance to assist in achieving the Caltrans Mission and overarching objectives	11.47% minimum	\$50,000	MPOs \$1,000,000 Others \$500,000	\$7,800,000
Affordable Housing and Sustainable Communities Program (AHSC)		Locality, public housing authority, redevelopment successor agency, transit agency or transit operator, Regional Transportation Planning Agency (RTPA), local Transportation Commissions, Congestion Management Agencies, Joint Powers Authority (JTS), school district, facilities district, University or Community College or District, Developer or Program Operator		Affordable Housing Developments Housing-Related Infrastructure Sustainable Transportation Infrastructure Transportation-Related Amenities Program Costs (including active transportation, transit ridership or criteria air pollutant reduction programs)			A Single Developer may receive no more than \$40 million per NOFA funding cycle	\$20,000,000
California Office of Traffic Safety (OTA) Grants		Local, Regional, or State Agencies		Pedestrian and Bicycle Safety related projects, Public Relations, Advertising and Marking Programs, and Roadway Safety	--	--	--	ongoing

Statewide Highway Users Tax Account (HUTA)

The “Gas Tax” is the primary source of funds for the overall county road maintenance and safety improvement program. The State of California collects 30 cents for every gallon of gasoline sold. The State distributes money back to California counties based on the number of registered vehicles and miles of roads maintained. This money becomes a special revenue fund called the Road Fund which must be used for road and transportation purposes.

See the California State Controller’s Office’s website for monthly Gas Tax Collections:

www.sco.ca.gov/ard_payments_highway.html

California Affordable Housing and Sustainable Communities Program (AHSC)

The Affordable Housing and Sustainable Communities (AHSC) Program, administered by the Strategic Growth Council and implemented by the Department of Housing and Community Development, funds land-use, housing, transportation, and land preservation projects to support infill development that reduce greenhouse gas emissions. Projects that receiving funding through this program increase the accessibility of affordable housing, employment centers and destination by supporting the use of transit, bicycling, or walking.

See the California Department of Housing and Community Development website for more information:

www.hcd.ca.gov/financial-assistance/affordable-housing-and-sustainable-communities/

Office of Traffic Safety (OTS) Grant Program

The Office of Traffic Safety (OTS) Grant Program funds projects that increase roadway safety for all users – including, but not limited to, safety improvements to existing bicycle transportation facilities, safety promotions including bicycle helmet giveaways, and studies to improve traffic safety. The grant cycle typically begins with a Request for Proposals in November/December, and proposals are due the following January. In 2015, OTS awarded \$102 million to over 200 agencies.

See the Office of Traffic Safety’s website for more information: www.ots.ca.gov/Grants/

Another funding program that can fund specific portions of an active transportation project is the Clean Water State Revolving Fund Program, which can fund the stormwater

management components of a bicycle infrastructure project, pedestrian infrastructure project, or green street

See California Environmental Protection Agency's website for more information:

www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_basics.shtml

5.5 Federal Funding Sources

Partnerships with State and Federal stakeholders helps identify funds that support opportunities during routine maintenance to include ATP facilities. to approach roadways and cost saving possibilities. The funding sources listed below are able to address strategic gaps with targeted investment, facilities, and traffic calming, which are intended to generate substantial benefits to the local economy.

Table 7-4 summarizes federally funded grants available for pursuit to design, construct, and maintain ATP facilities.

Federal

Transportation Investment Generating Economic Recovery (TIGER) Grant Program

The highly competitive TIGER grant program, administered by the U.S. Department of Transportation, supports innovative projects, including multi-modal and multi-jurisdictional projects, which are difficult to fund through traditional federal programs. Awards focus on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for urban and rural communities. Eligible applicants include States, U.S. Territories, Tribal communities, cities, and towns.

See the U.S. Department of Transportation's website for more information: www.transportation.gov/tiger

Federal Transit Act

The Federal Transit Administration administers the Federal Transit Act program. This program contains a series of grants with varying requirements and different eligible applicants. Funding is available for bicycle projects that support using the bicycle for trips to transit.

See the Federal Transit Administration's website for more information: www.transit.dot.gov/regulations-and-guidance/environmental-programs/livable-sustainable-communities/fta-program-bicycle

Congestion Mitigation and Air Quality (CMAQ) Improvement Program

Administered by FHWA, the CMAQ program is used to fund projects and programs that help meet the requirements of the Clean Air Act. The program is expected to provide over \$15 billion in funding over the next 5 years. Eligible applicants are State DOTs, metropolitan planning organizations, and other sponsors.

See the Federal Highway Administration's website for more information: www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm

Highway Safety Improvement Program

Administered by the Federal Highway Administration, the Highway Safety Improvement Program (HSIP) funds projects or programs that achieve a significant reduction in traffic fatalities and serious injuries on public roads, including non-State-owned public roads and roads on tribal lands. The program is expected to provide over \$9 Billion in funding over the next 5 years. Eligible applicants include State DOTs and MPOs.

See the Federal Highway Administration's website for more information: www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm

TABLE 5-2 FEDERALLY FUNDED GRANTS

Program Name		Eligible Applicants		Eligible Projects	Local Match	Minimum Project Request	Maximum Project Request	Funding
		Primary Applicant	Sub-Applicant					
Transportation Investment Generating Economic Recovery (TIGER)		States, Tribal communities, Cities, and Towns		Any Transportation Improvement Project	--	\$5,000,000	\$100,000,000	\$500,000,000 (2016)
Federal Transit Administration	Metropolitan & Statewide and Nonmetropolitan Transportation Planning	States with allocation of funding to MPOs		Planning for bicycle facilities in a state of metropolitan transportation network	20% (non-federal)	not specified		
	Urbanized Area Formula Program	State and local governmental authorities including public transportation providers (receive funds from designated recipients)		Bicycle routes to transit, bike racks, shelters and equipment for public transportation vehicles	1%			
	Fixed Guideway Capital Investment Grants	State and local government agencies, including transit agencies		Bicycle racks, shelters and equipment	10%			
	Bus and Bus Facilities Formula Grants	Designated recipient and states that operate or allocate funding to fixed-route bus operators		Bicycle routes to transit, bike racks, shelters and equipment for public transportation vehicles	10%			
	Enhanced Mobility of Senior and Individuals with Disabilities	States and designated recipients, State DOTs for private non-profit agencies and public agencies that coordinate human service transportation States or local government authorities, private non-profit organizations, or operators of public transportation that receive a grant indirectly through a recipient		Bicycle improvements that provide access to an eligible public transportation facility and meet the needs of the elderly and individual with disabilities	20%			
	Formula Grants for Rural Areas	State, Indian tribes, State DOTs for local rural transit providers, including private non-profits	State or local government authorities, nonprofit organizations, operators of public transportation	Bicycle routes to transit, bike racks, shelters and equipment for public transportation vehicles	10%			
	TOD Planning Pilot Grants	State and local government agencies		Projects that facilitate multimodal connectivity and accessibility or Increase access to transit hubs for pedestrian and bicycle traffic	10%			

TABLE 5-2, CONTINUED

Program Name	Eligible Applicants		Eligible Projects	Local Match	Minimum Project Request	Maximum Project Request	Funding
	Primary Applicant	Sub-Applicant					
Congestion Mitigation and Air Quality Improvement Program	State DOTs, MPOs, and other sponsors		transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard and is included in the MPO's current transportation plan and transportation improvement plan or the current state transportation improvement program	--		not specified	\$2.360 Billion (2017)
Highway Safety Improvement Program	State DOTs, MPOs, and other sponsors		Examples include: Pedestrian Hybrid Beacons, Roadway improvements that provide separation between pedestrian and motor vehicles, including medians and pedestrian crossing islands	10%		not specified	\$2.275 Billion (2017)
National Highway Performance Program	State DOTs, MPOs, and other sponsors		improvements to the National Highway System	--		not specified	\$22.828 Billion (2017)
Section 402 State and Community Highway Safety Grant Program	State DOTs, MPOs, and other sponsors		projects that improve pedestrian and bicycle safety	--		not specified	\$25,462,417 (CA - 2016)
Community Development Block Grant Program (CDBG)	Cities, Counties, States		projects that improve community development and economic development activities such as sidewalks	--		not specified	
Local Foods, Local Places	local governments, Indian tribes, non-profit institutions and organization proposing to work in a neighborhood, town, or city		projects that create walkable, healthy, economically vibrant communities through the development of local food systems - including making it easier for people to walk or bicycle to farmers markets and local restaurants	--		not specified	
People for Bikes	Non-Profits and Local Governments		projects include bike paths and rail trails, mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives	50%		not specified	

Community Development Block Grant Program (CDBG)

Administered by the U.S. Department of Housing and Urban Development, the Community Development Block Grant Program supports projects that improve community development and economic development activities such as sidewalks. Eligible applicants include Cities, Counties, and States.

See the U.S. Department of Housing and Urban Development's website for more information:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs

Local Foods, Local Places

Administered by the U.S. Environmental Protection Agency, the Local Foods, Local Places grant program helps people create walkable, healthy, and economically vibrant neighborhoods through the development of local food systems. Funds can be used to make it easier for people to bike or walk to farmers markets and local restaurants. Eligible applicants are local governments, Indian tribes, non-profit institutions and organizations proposing to work in a neighborhood, town, or city.

See the US Environmental Protection Agency's website for more information: www.epa.gov/smartgrowth/local-foods-local-places

People for Bikes

People for Bikes provides grants of up to \$10,000 with a federal match that recipients may use towards the engineering, design, and construction of influential projects – including bike paths, lanes, bridges, and end-of-trip facilities and programs.

Visit People of Bikes' website for more information:

www.peopleforbikes.org/pages/community-grants

Other federal programs that provide funding for larger projects including Highway improvements, parts of which could benefit people biking and walking, or provide large block grants to address all transportation needs, include:

- The National Highway Performance Program (NHPP)
www.fhwa.dot.gov/fastact/factsheets/nhppfs.cfm
- The Railway-Highway Crossings Program
www.fhwa.dot.gov/fastact/factsheets/railwayhwycrossingsfst.cfm
- Surface Transportation Block Grant Program
www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm

ATP Appendices

Given the size of the unincorporated county, a significant portion of technical analysis and supplemental information are included in the Appendices. The following appendices provide supporting information for analysis, network recommendations, and conclusions made within the ATP document. The supporting materials include:

- **Appendix A: Recommended Bicycle Network Maps and Level of Traffic Stress (LTS) of Mobility Element Maps.** The recommended bicycle network maps are presented by community. The first LTS map illustrates buildout of the bicycle network as planned in the County's General Plan Mobility Element (2011) and associated LTS. The second LTS map illustrates the ATP proposed bicycle network and associated LTS.
- **Appendix B: Active Transportation Facility Toolbox** provides a comprehensive document of active transportation facility information and supplemental measures that serve as a reference when planning, designing, and constructing roadway projects with multi-modal facilities in suburban and rural contexts.
- **Appendix C: Bicycling and Walking Demand Support Materials** provides community specific data and further explanation of the methods used to determine existing and future user demand as discussed in Chapter 3 and Chapter 4. The demand data is broken up into source, current, future, and future demand adjusted tables as sub-appendices C-1 through C-4.
- **Appendix D: Pedestrian Gap Analysis (PGA) provides the complete PGA document and supporting appendices.** Supported by PDS and managed by DPW, the PGA provides gap identification for pedestrian improvements.
- **Appendix E: Level of Traffic Stress (LTS) Analysis Metadata** provides a look into the data that was utilized for the Level of Traffic Stress analysis of planned and recommended bicycle facilities, discussed in Chapter 3.
- **Appendix F: Sample Mobility Element Projects for County Community Planning Areas** summarizes the scores for each assessed roadway segment and is useful to refer to as sample projects are constructed, additional projects are added to the CIP list or when additional road improvements are approved.
- **Appendix G: Safe Routes to School (SRTS) Toolbox** can be used as a stand-alone reference document for those implementing a SRTS program at their school.