

FINAL MAY 2017



TOWARD AN ACTIVE CALIFORNIA

STATE BICYCLE + PEDESTRIAN PLAN





» Director's Message

DIRECTOR'S MESSAGE



Dear Fellow Californians:

I am pleased to present *Toward an Active California, State Bicycle + Pedestrian Plan*, Caltrans' first-ever statewide plan for active modes of transportation. This document is the culmination of a year and half of discussions and analysis by management and subject matter experts from Caltrans, local and regional agencies, state agency partners, advocacy organizations, and other stakeholders. Over the course of the plan's development an extensive effort to engage the public from every region of California was made through a series of regional forums, online surveys, focus groups, and webinars.

Caltrans has set an ambitious target to double walking, triple bicycling, and double transit use in the state between 2010 and 2020. This goal cannot be achieved by Caltrans alone, which is why *Toward an Active California* compliments local and regional active transportation plans across the state and identifies policies and actions that Caltrans and its partners will take to achieve this and other important goals. We are excited that this plan comes at a time when the Road Repair and Accountability Act of 2017 will provide significant new revenues to multi-modal transportation programs including funds to catch up on years of unfunded maintenance needs and an additional \$1 billion for the active transportation program over the next ten years increasing this ongoing program by more than 80 percent. Well-maintained roads benefit all users, not just drivers, as roads are used for all modes of transport, whether motor vehicles, transit, bicycles, or pedestrians.

Active transportation must play a vital role in California's goal to reduce greenhouse gas emissions and vehicle miles traveled. Walking and bicycling also have many positive benefits associated with personal health, economic benefits, and sustainable and equitable development. I encourage you to read the policies and actions within *Toward an Active California* as it identifies steps Caltrans and its partners will take to improve the safety and comfort of pedestrians and bicyclists throughout the state, making walking and biking an appealing option for many everyday trips.

Sincerely,

A handwritten signature in blue ink, which appears to read "Malcolm Dougherty". The signature is fluid and stylized, with a long horizontal stroke at the end.

MALCOLM DOUGHERTY
Director, Caltrans
May 2017



» Table of Contents

Table of Contents

» Executive Summary	iii
» 1 Introduction	2
» 2 California Today	8
» 3 Process & Outreach	16
» 4 Strategies	20
» Safety	25
» Mobility	37
» Preservation	57
» Social Equity	63
» 5 Implementation	72



Executive Summary

Home to millions, California is full of diverse and amazing regions, cities, and neighborhoods full of active families, businesses, schools, and communities. Visitors and residents alike experience wonders large and small through vacations and day trips, exploring the arts and the outdoors, meeting friends and families, or discovering food, culture, and a sense of place. An active California should be available across the state and through a variety of transportation modes.

Toward an Active California is Caltrans' first statewide policy-plan to support travel by bicyclists and pedestrians through objectives, strategies, and actions. This policy direction continues support for the recent trend of increasing bicycle and pedestrian travel in the state and strengthens the connection between transportation, environmental sustainability, and public health. This plan is an important element of a statewide goal to provide robust multimodal transportation options to everyone in California.

Trends and Opportunities

Over the last decade, Californians have increased travel by foot and bicycle. Between 2000 and 2010, the California Household Travel Survey showed an increase in bicycling from 0.8 percent to 1.5 percent of all trips, and an increase in walking from 8.4 percent to 16.6 percent. State and local officials are adapting elements of the expansive network of state highways and local roads to support and encourage this increase in active transportation.

New Funding

This plan is released concurrent with major new funding directed to active transportation from Senate Bill 1, the Road Repair and Accountability Act of 2017. This legislation provides an additional \$1 billion for investments over the next decade.

VISION STATEMENT

BY 2040, PEOPLE IN CALIFORNIA OF ALL AGES, ABILITIES, AND INCOMES CAN SAFELY, CONVENIENTLY, AND COMFORTABLY WALK AND BICYCLE FOR THEIR TRANSPORTATION NEEDS.

Caltrans Planning Framework

The *California Transportation Plan 2040* (CTP 2040) is Caltrans' overarching long-range transportation plan that identifies the state's sustainable multi-modal transportation system, uniting six individual modal plans: The *Interregional Transportation Strategic Plan*, *California Freight Mobility Plan*, *California State Rail Plan*, *California Aviation System Plan*, *Statewide Transit Strategic Plan*, and now *Toward an Active California - State Bicycle and Pedestrian Plan*. *Toward an Active California* seeks to fulfill the six goals laid out in the CTP 2040 as identified in Chapter 4 of this plan.

Toward an Active California also aims to achieve goals and targets set in the *Caltrans Strategic Management Plan*, including:

- » Double walking, triple bicycling, and double transit by 2020
- » Reduce bicycle and pedestrian fatalities by ten percent per year
- » Increase the number of complete streets projects by twenty percent

New Active Transportation Policies

Toward an Active California introduces four new objectives, fifteen strategies, and sixty actions that are specific to active transportation. The objectives are provided below; strategies and actions are described in Chapter 4 and serve as the basis for Plan implementation.

SAFETY

Reduce the number, rate, and severity of bicycle and pedestrian involved collisions



MOBILITY

Increase walking and bicycling in California



PRESERVATION

Maintain a high quality active transportation system



SOCIAL EQUITY

Invest resources in communities that are most dependent on active transportation and transit



Public Engagement and Input

Extensive public engagement informed the recommendations in *Toward an Active California*, to capture the challenges and opportunities facing residents, communities, and policy makers. This strategic outreach as outlined in Chapter 3 sought feedback from a diverse cross section of Californians from rural, suburban, and urban areas; from socially and economically disadvantaged communities; local advocates; and local, regional, and state agencies.



» 1 Introduction



Introduction

California has a long history of leading the nation in active transportation. The first bicycle lanes in North America were installed in 1967 just fifteen miles west of the state capitol, in the community of Davis. This pioneering treatment led California to develop the first guidance for bikeway design, soon adopted as the national standard.

Caltrans developed *Toward an Active California*, its first pedestrian and bicycle plan, to continue progress toward a sustainable multimodal transportation system. With a unique vision that focuses on walking and bicycling, this Plan seeks to fulfill the six goals outlined in the *California Transportation Plan 2040*. Objectives and strategies developed to meet these goals focus on policies or actions that Caltrans can undertake to support active transportation, including initiatives that will require collaboration with key agency partners.

Toward an Active California grows out of several statewide efforts to address some of the most pressing policy issues of our time. This Plan is built on:

- » Legislation and policy efforts to make California a climate policy leader, reducing greenhouse gas emissions and vehicle miles traveled
- » California's Health in All Policies task force and associated *Active Transportation Action Plan* that highlights the intersection between public health and walking and bicycling, including addressing air quality, obesity, and heart disease
- » Recognition of the economic benefits of active transportation, including local business support, active transportation tourism, and other effects
- » California's push toward sustainable and equitable development, including the *Caltrans Smart Mobility Framework*

Caltrans acknowledges the many benefits active transportation brings to the state of California. The *Caltrans Strategic Management Plan* set ambitious targets for the share of all travel in California, pushing to **double walking, triple bicycling**, and double transit in the state between 2010 and 2020. The *Strategic Management Plan* also set targets to reduce bicycle and pedestrian fatalities by ten percent per year and increase the number of complete streets projects by 20 percent. Including high-priority active transportation targets emphasizes the importance of walking and bicycling to meet statewide objectives and sets an expectation that walking and bicycling be considered Department-wide in performance management, sustainability, and innovation.

Toward an Active California identifies policies and actions that Caltrans and its partners will take to achieve this goal and improve the safety and comfort of pedestrians and bicyclists throughout the State, making walking and biking an appealing option for many everyday trips.

To meet these goals of increased walking and bicycling, active transportation facilities must be designed, managed, and maintained to provide the same level of year-round, 24-hour, and all-weather safety, security, and reliability that drivers experience. Without this, walking and bicycling will remain occasional choices rather than viable modes of transportation.

Toward an Active California complements local and regional active transportation plans being developed across the state, supporting agencies as they undertake their own efforts to improve the walking and bicycling environment in California. While Caltrans has the greatest control over state transportation facilities, it exerts considerable influence on bicycling and walking facilities on local roads through funding programs, design, and design guidance. Only through partnerships, coordination, and funding can the state achieve the goals set in the *California Transportation Plan 2040* and the *Caltrans Strategic Management Plan*.

Organization of the Plan

Toward an Active California is organized in the following chapters:

- » Chapter 1: Introduction outlines the purpose and structure of this Plan
- » Chapter 2: California Today provides an overview of the walking and bicycling policy framework and environment in the state
- » Chapter 3: Process & Outreach describes the extensive public engagement and committee process that guided this effort
- » Chapter 4: Strategies includes the objectives, strategies, and actions that make up this Plan
- » Chapter 5: Implementation Plan creates a checklist of action items and next steps to launch this effort from planning to reality



Plan Oversight

The plan was developed with support from a **Technical Advisory Committee**, that was selected to be broadly representative of Caltrans, regional and local transportation agencies, and partners in related fields. Committee members include:

- » Representatives of each Caltrans District
- » Representatives of Caltrans Divisions of Transportation Planning; Design; Local Assistance; Maintenance; Traffic Operations; Programming; Environmental Analysis; Rail and Mass Transportation; and Research, Innovation and System Information
- » California Highway Patrol
- » California Department of Public Health
- » California Department of Motor Vehicles
- » California Transportation Commission
- » California High Speed Rail Authority
- » California Office of Traffic Safety
- » City of San Luis Obispo
- » Southern California Association of Governments
- » Sacramento Regional Transit District
- » Rural Counties Task Force
- » Nevada County Transportation Commission
- » California Bicycle Coalition
- » California Walks
- » UC Davis Sustainable Transportation Center
- » Capital Corridor Joint Powers Authority
- » Federal Transit Administration

Plan oversight was provided by a **Policy Advisory Committee**, which included the:

- » Deputy Director of Planning & Modal Programs
- » Deputy Director of Project Delivery
- » Deputy Director of Maintenance and Operations
- » Deputy Director of Finance
- » Deputy Director of Sustainability
- » Deputy Secretary of Housing and Environment



CALTRANS DISTRICTS

What's In This Plan?

Toward an Active California provides statewide policy direction to support travel by bicyclists and pedestrians. In this Plan, a **bicyclist** is any person riding a bicycle or tricycle, including Class I and II e-bikes, cargo bikes, recumbent bikes, bikes with trailers, handcycles, or other variations. Motorized scooters or mopeds are not considered bicycles. A **pedestrian** is any person walking, skateboarding, using a wheelchair or other mobility device, or any other form of human-powered transportation other than a bicycle. Motorized wheelchair users are also considered pedestrians. All pedestrians are implied when this Plan uses “walking,” as many of these modes primarily travel on sidewalks and other walking facilities. All pedestrians and bicyclists are included in **active transportation**.

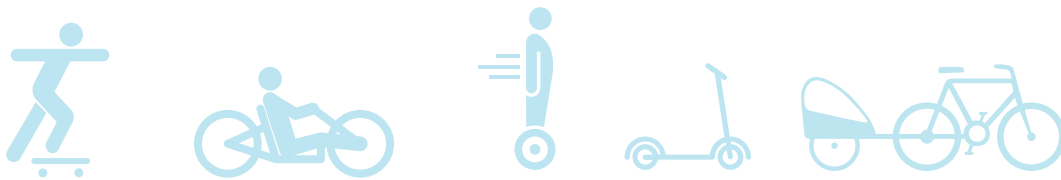
Pedestrians and bicyclists are often referred to as **vulnerable users** of roads because they do not have the protection provided by an automobile, though this can be improved by off-street trails or on-street separated bike-ways. This is especially true for children, seniors, and those with disabilities, who may require additional time or unique information to use and cross roads safely.

Toward an Active California recognizes that the needs for bicyclists and pedestrians (and other non-motorized users) are often different. The plan is meant to apply to all active transportation modes, but unique concerns for individual modes are highlighted, where appropriate.



Equity is addressed in this Plan consistent with the *California Transportation Plan 2040* and the *Smart Mobility Framework*, with a focus on providing mobility for people who are economically, socially, or physically disadvantaged in order to support their full participation in society. Social Equity strategies seek to support disadvantaged communities - including low income communities and communities of color - who rely on walking, bicycling, and transit by designing and managing an active transportation system that equitably distributes its benefits and burdens. While Social Equity is an important objective of this Plan, equity is also considered throughout the document with “equity check-ins” identified in the Plan’s strategies and actions.

Toward an Active California has been developed by Caltrans. The focus of the plan is on policies, strategies, and actions that can be carried out by Caltrans and state agency partners. At the same time, Caltrans influences local roads through funding programs and design guidance, and many of the policies and programs in this Plan require local support and implementation. Improving the walking and bicycling environment in California is not a task that can be accomplished by Caltrans alone—successful implementation of this Plan requires strong partnerships with other state, regional, and local agencies.





» 2 California Today

A vertical photograph on the left side of the page shows a person from behind, riding a bicycle on a paved road. The person is wearing a white and green long-sleeved shirt, dark pants, and a helmet. They have large red and blue panniers on their bike. The road is paved and has a white line on the left side. In the background, there are trees and a clear blue sky. The overall scene is bright and sunny.

California Today

Over the last decade, Californians have been making more trips by foot and bicycle. Between 2000 and 2010, the California Household Travel Survey showed an increase in bicycling from 0.8 percent to 1.5 percent of all trips, and an increase in walking from 8.4 percent to 16.6 percent. State and local officials are adapting elements of the expansive network of state highways and local roads to support and encourage this increase in active transportation.

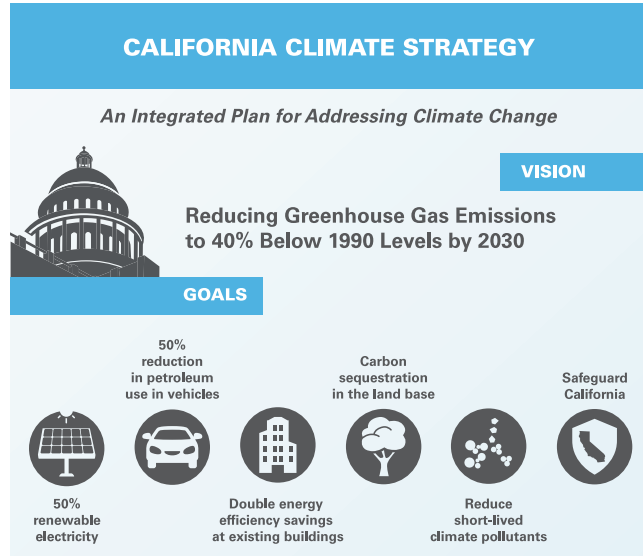
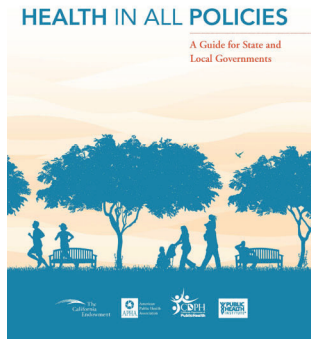
California's moderate climate also makes bicycling and walking possible year-round in many places, presenting the opportunity to expand active transportation. Whether for improving health and the environment, to support state social equity goals, or for convenience and enjoyment, Californians have embraced active transportation.

California's existing policy framework sets the stage for consideration of bicycle and pedestrian facilities and programs at state, regional, and local levels. *Toward an Active California* supports and expands this policy framework through objectives, strategies, and actions.

Active transportation fits within a policy context related to statewide goals including the environment, the economy, public health, and quality of life. These broad, societal goals shape all transportation plans, including *Toward an Active California*.

At the statewide level, California's leadership in climate policy establishes a clear need for investment in active transportation. Through Assembly Bill 32 in 2006 and Senate Bill 32 in 2016, California has established a long-term approach to reduce greenhouse gas and carbon emissions, including setting the most aggressive greenhouse gas reduction target in

CALIFORNIA HEALTH IN ALL POLICIES TASK FORCE



North America: 40 percent below 1990 levels by 2030. Because transportation is the largest contributor to carbon emissions in California, shifting additional automobile trips to walking, bicycling, and transit will help meet these targets.

California is also a leader in inter-agency and cross-disciplinary collaboration to improve sustainability, economic prosperity, and quality of life. The Strategic Growth Council organizes these collaborations at the state level, including the Health in All Policies task force that provides a planning framework for consideration of health in all statewide policies. This task force has developed an *Active Transportation Action Plan* that includes support from Caltrans, the California Department of Public Health and many other agencies.

Within Caltrans, the foundation of active transportation policy framework is the state's Complete Streets Deputy Directive 64-Revision 2, requiring integration of Complete Streets principles in all agency activities since 2008, and a second revision in 2014. Caltrans monitors Complete Streets progress through the original *Complete Streets*

Implementation Action Plan released in 2010 and the *Complete Streets Implementation Action Plan 2.0*, released in 2014.

Important actions include the update of the State's *Highway Design Manual* in 2012 to incorporate Complete Streets concepts, including enhanced facilities for bicyclists and pedestrians, and the endorsement of the National Association of City Transportation Officials design guidelines. The *Highway Design Manual* is a living document, allowing addition of new infrastructure concepts, such as the December 2015 Design Information Bulletin 89 that set design standards for Class IV Separated Bikeways. While the manual explicitly applies to the state highway system, many local agencies use it to design their streets.

For statewide transportation planning, Caltrans has integrated active transportation goals and policies into larger statewide mobility goals. The 2010 *Caltrans Smart Mobility Framework* provides tools and resources to help state and local agencies create a more sustainable transportation system, with policies centered on public health



Sloat Boulevard Bicycle and Pedestrian Improvements

Caltrans completed bicycle and pedestrian improvements to Sloat Boulevard (State Route 35) in 2012, reducing the speed limit from 40 mph to 35 mph and adding Class II bike lanes with a painted buffer. Caltrans also added curb extensions, advanced stop lines, high-visibility ladder-style crosswalks, more visible pedestrian signage, and a pedestrian hybrid beacon to facilitate crossings.

and safety. The 2015 *Caltrans Strategic Management Plan* and the 2016 *California Transportation Plan 2040* also integrate active transportation into larger mobility goals for the state.

Ultimately, implementation of active transportation depends on providing funding to these projects and programs. The Active Transportation Program, established by Governor Brown in 2013, consolidated multiple state and federal transportation funding programs, making active transportation funding more accessible and flexible. Since 2014, the program has obligated nearly \$1 billion in funding (approximately one percent of total state transportation funding) for bicycle and pedestrian improvements.

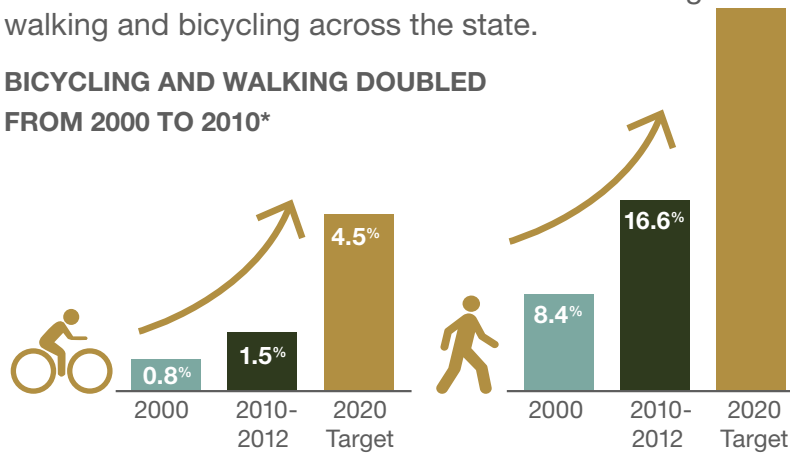
At the local level, many regional sales tax (or ‘self help’) funding initiatives have committed substantial resources to active transportation as well.

Toward an Active California is built on these foundations, identifying strategies and actions to sustain this momentum and create opportunities for bicycling and walking to thrive across the state.

To better understand the history of bicycle and pedestrian networks and key issues facing active transportation in California, the following pages present a timeline of key milestones as well as some challenges and opportunities that help shape the objectives and actions set forth in this Plan.

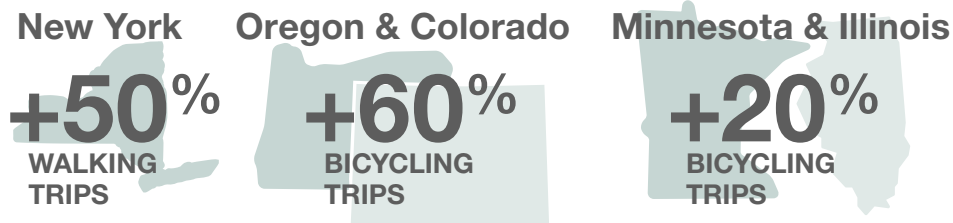
California has seen significant growth in the use of active transportation over the last decade and has set an ambitious target to increase walking and bicycling across the state.

BICYCLING AND WALKING DOUBLED FROM 2000 TO 2010*



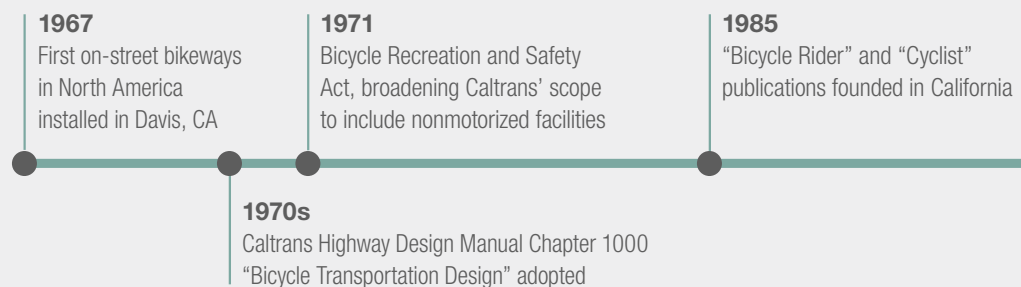
Data from 2010-2012 California Household Travel Survey. Figures are as a percent of all trips. Charts are not to scale.

More people walk and bicycle in California than in many other states. Only in Oregon do residents both walk and bike more. In a few peer states with major urban areas, residents either walk or bicycle more for their trips.



Data from National Household Travel Survey for 2010-2012

Timeline of Bicycle, Pedestrian, and Caltrans Milestones



The increasing rate of biking and walking has made California roads safer. However, safety continues to be a concern.

BETWEEN 2005 AND 2014, THERE WERE



134,125 bicyclist-involved collisions and 136,618 pedestrian-involved collisions across California. That is an average of

37

and

38

bicyclist-involved collisions per day

pedestrian-involved collisions per day

THERE WERE



1,351 bicyclist fatalities across California. That is more than

2.5

FATALITIES PER WEEK

AND THERE WERE



6,874 pedestrian fatalities across California. That is nearly

2

PEDESTRIANS KILLED EACH DAY

IN 2014, NEARLY



1 in 4

ROADWAY FATALITIES involved a pedestrian

SAFETY IS IMPROVING

Relative to the number of trips, bicycle and pedestrian fatalities have declined

PEDESTRIAN FATALITIES DECLINED

↓ **50%**

BICYCLE FATALITIES DECLINED

↓ **40%**

BUT REMAINS A CHALLENGE

Bicycle and pedestrian fatalities and serious injuries are an increasing share of the total

ROAD FATALITIES DECLINED

↓ **25%**

PEDESTRIAN FATALITIES STAYED THE SAME

—

BICYCLE FATALITIES INCREASED

↑ **10%**

Note, collision statistics typically exclude collisions on trails or between bicyclists and/or pedestrians

Data from SWITRS, 2005-2014, California Strategic Highway Safety Plan, and National Household Travel Survey 2000-2002 & 2010

1996

First bicycle signal head installed in North America in Davis, CA

2008

Deputy Directive 64 released, requiring complete streets integration into all agency activities

2010

Smart Mobility Framework released
Complete Streets Implementation Action Plan
Complete Intersections Guide

1999

AB 1475 authorizes the statewide Safe Routes to School program.

2007

Statewide Safe Routes to School program made permanent

2009

Pedestrian Safety Improvement Program (PSIP) launched, identifying and addressing problems with pedestrian safety in California

While we know about total trips, those data are collected infrequently (once a decade) or only consider commute trips.



OVER 150 permanent bicycle counters

are deployed in the state, but 90% are in San Francisco, San Diego County, and Palo Alto

COMPARED TO OVER

10,000



permanent and short-term vehicle counters throughout the state



Hundreds of California's 58 counties and 482 cities have completed **active transportation plans**, but there are

no STATEWIDE DATABASES

to collect information from these plans

BY COMPARISON

Caltrans collects data about

all

OF THE STATE-OWNED NETWORK AND MANY LOCAL ROADS

California has increased funding for active transportation in recent years, but significant needs remain

The Active Transportation Program obligated

\$\$\$\$\$

about **\$1B** in funds, but had over **\$4B** in requests

CALIFORNIA PROVIDES GREAT FLEXIBILITY

75%

of state and federal non-maintenance funding allocated to regional agencies, providing opportunities for active transportation investments

\$100 MILLION

Senate Bill 1, The Road Repair and Accountability Act of 2017, added at least \$100 million to the Active Transportation Program starting in 2017-2018

Timeline of Bicycle, Pedestrian, and Caltrans Milestones (continued)

2011

California Traffic Control Devices Committee adds two seats for nonmotorized transportation representatives

First modern separated bikeway installed in Long Beach, CA

2012

Complete Streets update to Highway Design Manual released

2013

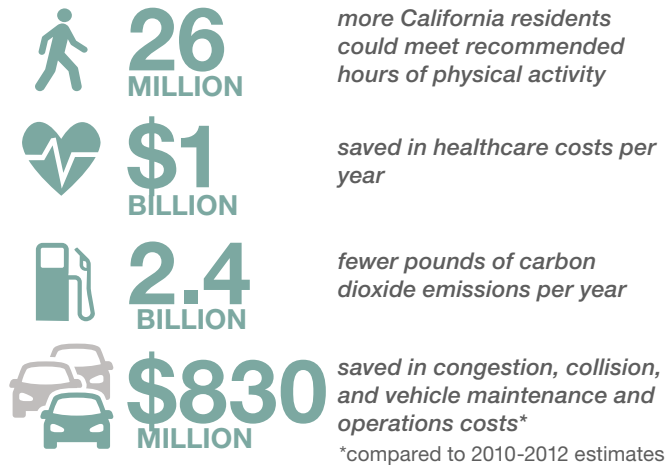
Main Street, California Guide 3rd edition published, a toolbox of design treatments for state highways that are also community main streets

California State Transportation Agency coordinates mobility, safety, and air quality objectives across multiple state entities

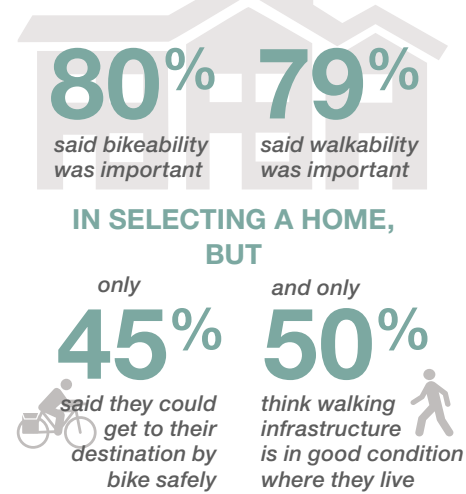
Active Transportation Program consolidates funding streams for bicycling and walking investments

Investment in active transportation provides many benefits...

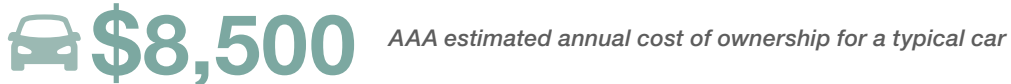
IF CALIFORNIA MEETS ITS 2020 TARGETS FOR WALKING AND BICYCLING



Caltrans administered an online (non-random) survey for this Plan that received 3,291 responses, providing a window into the needs and desires for biking and walking in California



AND COULD REDUCE AUTO OWNERSHIP COSTS



California's counties have contributed funding to active transportation

Since 1986, California Counties have raised over \$19 trillion from transportation sales tax measures, many of them over 20 to 30 years and recent ones extending until 2048.



2014

NACTO guidelines endorsed by Caltrans, encouraging buffered bike lanes and improved pedestrian facilities

Three-Feet for Safety Act passed, requiring drivers to maintain a minimum 3-foot buffer when passing a bicyclist

2015

Class IV Bikeway Guidance Design Information Bulletin Number 89 issued

California Strategic Highway Safety Plan Update released, including bicycle and pedestrian safety needs

First protected intersection in North America installed in Davis, CA

2017

California's first Statewide Bicycle and Pedestrian Plan developed by Caltrans, *Toward an Active California*

ongoing

implementation of *Toward an Active California*



» 3 Process & Outreach

Project Timeline & Milestones



Process & Outreach

Caltrans developed *Toward an Active California* based on a detailed review of existing state and regional policies, analysis of available data, and outreach and engagement with Californians.

Extensive public engagement informed the recommendations in *Toward an Active California*, to capture the challenges and opportunities facing communities, residents, and decision makers across the state. This strategic outreach sought feedback from a diverse cross section of Californians from rural, suburban, and urban areas; from socially and economically disadvantaged communities; and from Caltrans staff, local agency staff, and local advocates.



Technical Advisory Committee

ONGOING



6 TO 8
MEMBERS



POLICY ADVISORY COMMITTEE

Composed of Caltrans executive leadership and the California State Transportation Agency

Met throughout the planning process

Provided oversight and strategic guidance on policy language as well as general direction of the plan



ABOUT 50
MEMBERS



TECHNICAL ADVISORY COMMITTEE

Members represent most Caltrans headquarters divisions; all 12 districts; bicycling and walking advocacy groups; cities, counties, transit agencies, metropolitan planning organizations, and rural transportation planning agencies; and partners including the California Highway Patrol, Department of Motor Vehicles, California Transportation Commission, Office of Traffic Safety, and the Department of Public Health

Met six times during the planning process

Reviewed public input, develop recommendations, and provided feedback on Plan drafts

PHASE 1: Gathered information on challenges, opportunities, and priorities to help identify objectives and strategies



10
FORUMS

REGIONAL FORUMS

Spring 2016 forums included approximately 300 participants at the following locations: Redding, Oakland, Fresno, Riverside, San Diego, San Luis Obispo, Los Angeles, Folsom, Bishop, and Eureka

Forums were divided into morning and afternoon sessions – morning **Agency Roundtables** and afternoon **Public Open Houses**



Agency Roundtables engaged city, county, and Caltrans District staff in a discussion of opportunities and challenges for implementing active transportation projects



Public Open Houses engaged members of the public to identify draft strategies and action items



MORE THAN 3,200
RESPONDENTS



ONLINE SURVEY

Survey open from October 2015 - July 2016

Offered in Spanish and English

Gathered information on current transportation habits, improvement priorities, and needs and preferences related to bicycling and walking facilities



11
FOCUS GROUPS

STAKEHOLDER FOCUS GROUPS

Convened focus groups with over 120 participants throughout the state in Eureka, Redding, Yuba City, Oakland, Salinas, Modesto, Bakersfield, Coachella, Paramount, Santa Ana, and Logan Heights (a neighborhood of San Diego)

Conducted in both English and Spanish

Targeted outreach to gather feedback from disadvantaged and hard-to-reach communities that rely on active transportation

PHASE 2: Sought input and feedback on draft objectives and strategies



2
WORKSHOPS

PUBLIC WORKSHOPS

Held two workshops with more than 200 participants, one in the Bay Area and one in Southern California

Participants were also able to participate in either session online via webinar

Held in October 2016

Gathered feedback on draft objectives and strategies



3
SESSIONS

TRIBAL LISTENING SESSIONS

Three sessions held: Palm Springs, Woodland, and Trinidad

Sessions held in October and November 2016

Gathered input from California Native American Tribes about critical bicycle and pedestrian issues, concerns, and priorities in tribal communities



**MORE THAN
1,000
RESPONDENTS**

QUESTIONNAIRE

Questionnaire open from October 2016 through November 2016

Gathered feedback on draft strategies

PHASE 3: Public review of the draft plan



2
WORKSHOPS

PUBLIC WORKSHOPS

In-person workshops were held in Orange County and Fresno. A third in-person workshop in San Jose was converted to a webinar due to flooding near the event site.

Also included participation via webinar

February-March 2017



2
WEBINARS

PUBLIC WEBINAR

Two webinar only meetings held, with an emphasis on reaching the remote areas of the state. Webinars followed the same presentation and approach as the public workshops.

March 2017



**OVER 500
COMMENTS**

ONLINE COMMENT

Draft plan was available for public review and comment online from plan website

Intent was to gather feedback on all elements of the draft plan. 500 comments received on the website and through formal comment letters.



» 4 Strategies



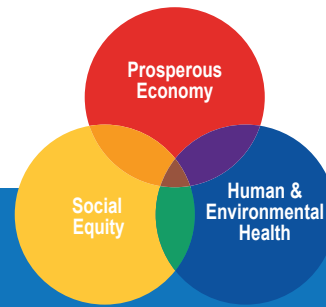
Strategies

As a modal plan under the broader umbrella of statewide transportation planning, *Toward an Active California* seeks to fulfill the six goals laid out in the *California Transportation Plan 2040*. The following page provides the California Transportation Plan 2040 policy framework, including guiding principles, goals, and policies.

Toward an Active California supports the *California Transportation Plan 2040* at two levels:

- » *Toward an Active California* was developed because of the broad support that active transportation provides for California's economy, environment, sustainability, and social equity. These permeate throughout the plan, including the vision and all of the objectives.
- » The four objectives of *Toward an Active California* link to several of the specific *California Transportation Plan 2040* goals.

The following two pages introduce the *California Transportation Plan 2040* policy framework and how that links to the vision and objectives of *Toward an Active California*.



THE VISION SUSTAINABILITY

California's transportation system is safe, sustainable, and globally competitive. It provides reliable and efficient mobility and accessibility for people, goods, and services while meeting our greenhouse gas emission reduction goals and preserving community character. This integrated, connected, and resilient multimodal system supports a prosperous economy, human and environmental health, and social equity.

THE GOALS

- 1 **Improve Multimodal Mobility and Accessibility for All People**
- 2 **Preserve the Multimodal Transportation System**
- 3 **Support a Vibrant Economy**
- 4 **Improve Public Safety and Security**
- 5 **Foster Livable and Healthy Communities and Promote Social Equity**
- 6 **Practice Environmental Stewardship**

THE POLICIES

POLICY 1 Manage and Operate an Efficient Integrated System	POLICY 1 Apply Sustainable Preventative Maintenance and Rehabilitation Strategies	POLICY 1 Support Transportation Choices to Enhance Economic Activity	POLICY 1 Reduce Fatalities, Serious Injuries, and Collisions	POLICY 1 Expand Engagement in Multimodal Transportation Planning and Decision Making	POLICY 1 Integrate Environmental Considerations in All Stages of Planning and Implementation
POLICY 2 Invest Strategically to Optimize System Performance	POLICY 2 Evaluate Multimodal Life Cycle Costs in Project Decision Making	POLICY 2 Enhance Freight Mobility, Reliability, and Global Competitiveness	POLICY 2 Provide for System Security, Emergency Preparedness, Response, and Recovery	POLICY 2 Integrate Multimodal Transportation and Land Use Development	POLICY 2 Conserve and Enhance Natural, Agricultural, and Cultural Resources
POLICY 3 Provide Viable and Equitable Multimodal Choices Including Active Transportation	POLICY 3 Adapt the Transportation System to Reduce Impacts from Climate Change	POLICY 3 Seek Sustainable and Flexible Funding to Maintain and Improve the System		POLICY 3 Integrate Health and Social Equity in Transportation Planning and Decision Making	POLICY 3 Reduce Greenhouse Gas Emissions and Other Air Pollutants
					POLICY 4 Transform to a Clean and Energy Efficient Transportation System



www.californiatransportationplan2040.org



California Department of Transportation, November 2013

The vision of *Toward an Active California* supports this overall policy framework.

By 2040, people in California of all ages, abilities, and incomes can safely, conveniently, and comfortably walk and bicycle for their transportation needs.

The following table describes how *Toward an Active California* supports each of the six goals of the *California Transportation Plan 2040*.

California Transportation Plan 2040 Goal	How the Goal is Supported by <i>Toward an Active California</i>
Improve Multimodal Mobility and Accessibility for All People	The Plan's mobility objective – <i>Increase walking and bicycling in California</i> – directly addresses this goal for active transportation.
Preserve the Multimodal Transportation System	The Plan's preservation objective – <i>Maintain a high quality active transportation system</i> – directly addresses this goal for active transportation.
Support a Vibrant Economy	This goal permeates <i>Toward an Active California</i> . Active transportation reduces auto ownership and healthcare costs, supports local businesses by residents and tourists, and can increase land values. By creating a safer active transportation system that more Californians use, the plan will help support the State's economy.
Improve Public Safety and Security	The Plan's safety objective – <i>Reduce the number, rate, and severity of bicycle and pedestrian involved collisions</i> – directly addresses this goal for active transportation.
Foster Livable Communities and Promote Social Equity	This goal permeates <i>Toward an Active California</i> . Active transportation is a key element to placemaking and livable communities. The Plan's social equity objective – <i>Invest resources in communities that are most dependent on active transportation and transit</i> – addresses the equity elements of this goal. As the mode that most Californians can use, active transportation is vital for addressing social equity in California.
Practice Environmental Stewardship	This goal permeates <i>Toward an Active California</i> . Active transportation can reduce use of carbon-based fuels and supports more compact development. By increasing travel using active transportation modes, the plan supports reduction of vehicle miles of travel and greenhouse gases.

The following two pages describe the four plan objectives and the strategies identified to achieve those objectives.

Toward an Active California includes four **OBJECTIVES** and fifteen **strategies** that emerged from community input during the extensive outreach process. Each strategy includes multiple actions for implementing this Plan. The objectives and strategies are listed below.

SAFETY

Reduce the number, rate, and severity of bicycle and pedestrian involved collisions



- » **S1: Safer Streets & Crossings:** Address safety of vulnerable users in roadway design and operations
- » **S2: Education:** Provide consistent, accessible, and universal education about the rights and responsibilities of all roadway users
- » **S3: Safety Data:** Invest in the quality, completeness, timeliness, and availability of data on bicycle and pedestrian collisions
- » **S4: Enforcement:** Focus state and local enforcement of safety laws on highest risk behaviors by all road users

MOBILITY

Increase walking and bicycling in California



- » **M1: Connected & Comfortable Networks:** Develop local and regional networks of high-quality bicycle and pedestrian facilities for all ages and abilities
- » **M2: Multimodal Access:** Integrate bicycle and pedestrian needs in planning and design of multimodal transportation systems and services
- » **M3: Efficient Land Use & Development:** Support regional and state efforts to integrate land use and transportation planning to maximize the effectiveness of active transportation investments
- » **M4: Network & Travel Data:** Develop consistent, high-quality data on bicycle and pedestrian travel and facilities
- » **M5: Statewide & Regional Trails:** Support low-stress or physically separated pedestrian and bicycle trail routes of state-wide or regional significance for tourism, recreation, and utilitarian transportation
- » **M6: Encouragement:** Promote bicycling and walking for everyday transportation, recreation, improved health, and active living

PRESERVATION

Maintain a high quality active transportation system



» **P1: Quality of Condition:**

Establish and meet an expected quality of condition for bicycle and pedestrian infrastructure

» **P2: Program Integration:**

Pursue internal and external partnerships to address bicycle and pedestrian needs in maintenance and preservation activities

EQUITY



*Throughout the strategies and actions, this **Equity Check** icon is used near actions where an equity lens might be particularly important, along with a brief description of the equity considerations that should be made.*

SOCIAL EQUITY

Invest resources in communities that are most dependent on active transportation and transit



» **E1: Community Support:**

Strengthen engagement with disadvantaged communities by proactively seeking input on needs and providing technical guidance

» **E2: Equity Lens:** Address social equity when implementing all strategies from this Plan

» **E3: Access to Funding:** Provide disadvantaged communities with the opportunity to participate in active transportation funding programs



SAFETY

Reduce the number, rate, and severity of bicycle and pedestrian involved collisions



The safety of bicyclists and pedestrians is improved by moderating automobile speeds and providing greater protection from faster moving traffic. Achieving Caltrans' "Toward Zero Deaths" goal in the *Caltrans Strategic Highway Safety Plan* and the target ten percent reduction in bicycle and pedestrian fatalities in the *Caltrans Strategic Management Plan* will require a comprehensive approach addressing system design as well as behavior of all types of road users.

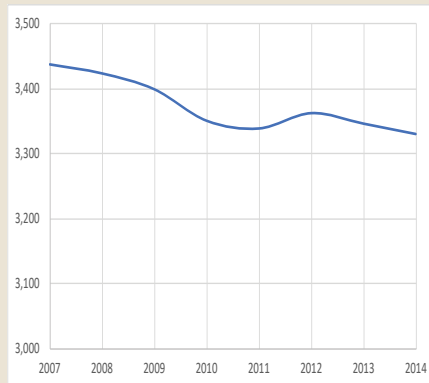
The following strategies emphasize safety in roadway design and speed management, address unsafe behavior, and seek a deeper understanding

of collision causes and occurrences to contribute to a safer, more inviting walking and bicycling environment.

- » **S1: Safer Streets & Crossings:** Address safety of vulnerable users in roadway design and operations
- » **S2: Education:** Provide consistent, accessible, and universal education about the rights and responsibilities of all roadway users
- » **S3: Safety Data:** Invest in the quality, completeness, timeliness, and availability of data on bicycle and pedestrian collisions
- » **S4: Enforcement:** Focus state and local enforcement of safety on highest risk behaviors by all road users

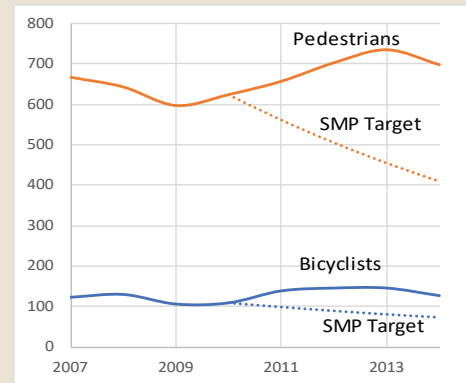
Safety Performance Measures

Two safety performance measures can be tracked today.



Number of bicycle and pedestrian fatalities and serious injuries

(5 year rolling average) (Data from SWITRS). Federally required performance measure.



Bicycle and Pedestrian Fatalities

(Data from SWITRS)

Strategic Management Plan target to reduce fatalities by 10% each calendar year

While overall serious injuries for bicyclists and pedestrians are declining, fatalities have increased or remained the same. The strategies in this plan have been identified to help achieve the ambitious target set in the Caltrans Strategic Management Plan.

Long term, the plan recommends tracking the rate of bicycle and pedestrian collisions, serious injuries, and fatalities relative to the amount of bicycle and pedestrian travel in the state.

Supporting the *California Strategic Highway Safety Plan*

The *California Strategic Highway Safety Plan (SHSP)* is a statewide action plan to reduce traffic fatalities and severe injuries on all public roads. The *SHSP* was assembled by a broad coalition of transportation professionals, law enforcement, emergency responders, public health officials, and others. *Toward an Active California* builds on the *SHSP* and directly links to several of the fifteen challenge areas from that plan.

Relevant *SHSP* Challenge Areas and Strategies

Driver Licensing & Competency

- » Improve the initial driver licensing process
- » Improve the competency of licensed drivers

Pedestrians

- » Expand effective enforcement and education of all roadway users to improve pedestrian safety based on known risk factors and data trends
- » Improve collection, use, and analysis of data needed for pedestrian safety planning and programming

Bicycling

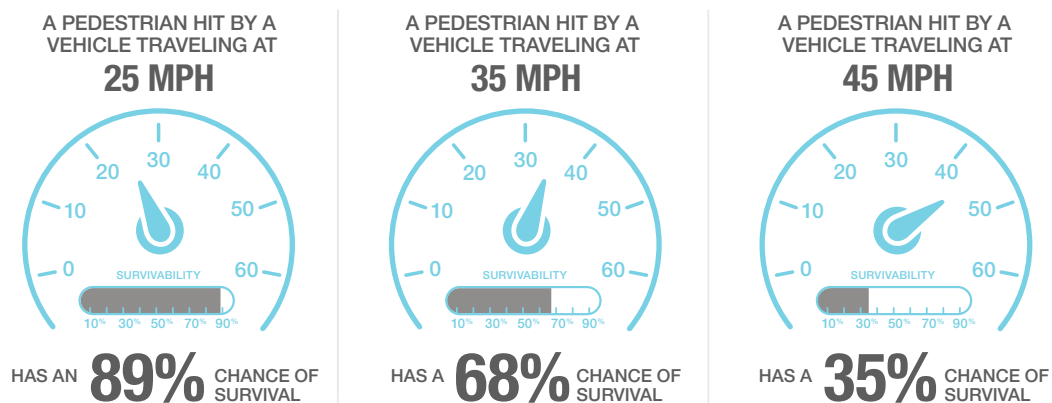
- » Improve education and enforcement to promote safe multi-modal travel
- » Improve data collection regarding bicyclist trips, injuries, and fatalities on California roadways and bicycle paths

Roadway Departures & Head-On Collisions

- » Address systemic risks on non-state roads with low cost safety countermeasures

Speeding & Aggressive Driving

- » Increase targeted enforcement at locations prone to speeding and other forms of aggressive driving
- » Increase use of technology and engineering methods to reduce speeding and other forms of aggressive driving



Tefft, B. C. Impact speed and a pedestrian's risk of severe injury or death. *Accident Analysis & Prevention* 50 (2013) 871-878.

Reducing vehicle speeds by as little as ten miles per hour has a significant impact on the risk of fatality for vulnerable road users like bicyclists and pedestrians.

S1: Safer Streets & Crossings

Address safety of vulnerable users in roadway design and operations

Caltrans will take the lead in improving the safety of vulnerable users of all ages using evidence-based roadway design that includes increased separation, signal improvements, signage and other strategies to reduce conflicts between vulnerable users and motorized traffic. This includes both crossings of access controlled facilities (freeways) and crossing and use of conventional highways and streets. Design strategies can also reduce crime and improve personal safety by increasing visibility, increasing the number of people out walking and bicycling in an area, and “daylighting” dark areas or passageways to reduce potential hiding places.

Design requirements that prioritize safety for people walking and bicycling will be proactively incorporated in the design of roadways, intersections, and trail crossings. Facilities should be designed for users from age 8 to 80.

S1.1: Develop equity focused plans at the regional or district level to proactively identify opportunities for safer highway crossings, including addressing personal safety

Caltrans is committed to reducing the barriers that state highways can create for communities. Highway crossings that negatively impact disadvantaged communities will be identified and prioritized on a statewide scale. District staff will proactively work with communities to develop plans to improve identified crossings, including community engagement to inform the design. This action will be completed in conjunction with or parallel to plans identified under M1.1. Creating safe crossings for pedestrians will be a focus, building on the \$10 million dedicated to pedestrian crossings in the latest Highway Safety Improvement Program Cycle and will identify needs for all Caltrans programs. This action will be led by the Division of Transportation Planning, the Division of Traffic Operations, metropolitan planning organizations, regional transportation planning agencies, and District staff.



EQUITY

Engage community members throughout the process. Provide outreach in multiple languages. Educate stakeholders on the planning process and facility design.



Protected Intersections

San Francisco improved an intersection at 9th Street and Division Street, underneath the Central Freeway (US 101) in December 2016. While not a true ‘protected intersection’ due to lack of signals, the project includes Class IV parking-protected bikeways on Division Street, corner safety islands, and raised crosswalks. Caltrans District 4 provided input and issued a permit to San Francisco in early 2016.

S1.2: Work with regional and local agencies internally to apply the guidelines in Caltrans' *Complete Intersections Guide*, *Main Street, California Guide*, and National Association of City Transportation Officials guidelines

Intersections and interchanges often present safety challenges for people walking and bicycling because of the many potential conflicts with turns, crossings, and merges. Provide targeted training for District and regional and local agency staff (including metropolitan planning organizations and regional transportation planning agencies) and promote the use of design tools and countermeasures like those identified in the *Complete Intersections Guide*, *Main Street California Guide*, and National Association of City Transportation Officials (NACTO) guidelines to improve safety for bicyclists and pedestrians at these challenging locations. Provide an update of the *Complete Intersections Guide*. This action will be led by metropolitan planning organizations, regional transportation planning agencies, the Division of Transportation Planning, and District staff.

S1.3: Develop and implement a systemic safety analysis approach to address infrastructure that poses a higher risk to vulnerable users

Perform systemic analysis on the state highway system, identifying characteristics of high-risk environments and low-cost countermeasures that generally reduce the types of collisions encountered under these conditions. This proactive approach seeks to address known design challenges before collisions occur. This action should build on the efforts of the Pedestrian Safety Improvement Program, expanding to assess safety risks facing bicyclists as well, and encourage local jurisdictions to adopt similar methods. This action will be led by the Division of Traffic Operations.

Signs and Markings

The California Manual of Uniform Traffic Control Devices identifies signs, signals, and markings to indicate where to expect pedestrians and bicyclists. Example signs, crosswalks and other markings are shown here.



Pedestrian and Bicycle Undercrossing

The East Campbell Avenue Portals Project in Campbell, CA modified the Highway 17 overcrossing with new retaining walls to improve pedestrian and bicycle access across the freeway. The project includes wider sidewalks with separation columns, widened bike lanes, pedestrian-scale lighting, landscaping, and public artwork.



S2: Education

Provide consistent, accessible, and universal education about the rights and responsibilities of all roadway users

Understanding the rules of the road, how they apply to all modes of transportation, and anticipating the behavior of road users are key to sharing the road safely. The safety of the road network depends on individual road users treating each other with consideration and respect. A robust education effort can improve safety, consideration, and comfort for people driving, walking, and bicycling in California.

Bicycle and pedestrian education is needed at all levels, from school children to adults; for drivers, bicyclists, and pedestrians; and for the planners and engineers who design our transportation systems. The following action items outline a strategy to implement this education effort.

S2.1: Include active transportation infrastructure concepts and bicycle/pedestrian safety information in regular driver handbook updates

As bicycle and pedestrian facilities become more popular in California communities, coordinate with the Department of Motor Vehicles on regular handbook updates (every 3 to 5 years) to provide information for drivers on how to navigate the design and what to expect bicyclists and pedestrians to do. This is especially important when new facilities or policies are implemented. This action will be led by the Department of Motor Vehicles with support from Caltrans.

S2.2: Include bicycle and pedestrian content in driver testing exams for all new and re-licensing drivers

The forty-odd questions on a written driver's exam are randomly selected from a pool of hundreds of questions, only a few of which relate to bicycling and walking. Coordinate with the Department of Motor Vehicles to increase the number of active transportation questions in the pool and establish a minimum number to be tested on every drivers exam. Explore opportunities to use technology to make the test reflect more 'real world' circumstances. Questions topics could be selected based on the specific safety challenges in California. Bicycle and pedestrian education should also be included in Driver's Education classes. This action will be led by the Department of Motor Vehicles. Caltrans, the California Bicycle Advisory Committee and the Active Transportation and Livable Communities (ATLC) Advisory Group will help identify bicycle and pedestrian content for questions and handbook updates.

Bicycle & Pedestrian Safety Curriculum

The Active Transportation Resource Center released a bicycle and pedestrian safety curriculum in 2015. Nine classroom lessons for 4th and 5th grade students include talking points and activities that introduce environmental concepts, traffic safety, and rules of the road.

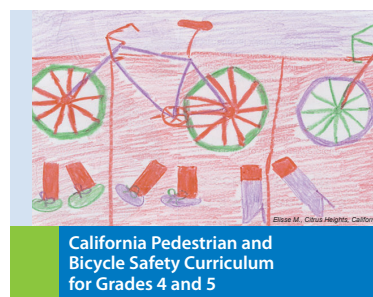


IMAGE CREDIT: DE STENTOR AND HANS VAN DE VLEKKERT

S2.3: Explore periodic re-licensing of drivers

Drivers in California complete driver's education and pass the written and driving exams to receive a driver's license when they are as young as 16 years old, and are rarely re-tested or required to complete any continuing education. Evaluate impacts and benefits of requiring periodic re-taking of driver's licensing exams to refresh knowledge and educate drivers on new laws or street features, especially for drivers for transportation network companies. Reduced fees for registration or insurance should be explored as incentives to re-take exams. Because most bicyclists are also licensed drivers, this action will increase the level of understanding of all road users. This action will be led by the Department of Motor Vehicles with support from Caltrans.

S2.4: Provide universal elementary school bicycle and pedestrian curriculum

Just as all Californians who drive receive education about the rules of the road, all young residents should learn how to walk and bicycle safely. Hundreds of communities offer programs using curricula and lesson plans developed by the Active Transportation Resource Center and other organizations, but programs are sporadic and inconsistently applied across the state. Coordinate with the Department of Education, Active Transportation Resource Center, and advocacy groups to identify funding and resources to adopt a statewide curriculum and oversee its implementation in all schools. Education should include classroom lessons and on-foot/on-bike practice, beginning early in elementary school and provided to every student in the state. This action may be led by the Department of Education with support from Caltrans.

EQUITY



Make education materials available in multiple languages and minimize cost of materials required to implement. Accommodate participants with mobility impairments or other disabilities in on-bike lessons.

Netherlands Universal Bicycling Education

The Netherlands is a world leader in bicycling, where it is a primary mode of transportation. This cultural emphasis begins in grade school, where all Dutch children receive lessons on bicycle safety in traffic. At age 12 children take a bicycling exam, including written and on-road tests (similar to U.S. drivers' license exams). This makes them better bicyclists, with a firm grasp of the rules of the road, and safer drivers—they know to expect bicyclists on the road and anticipate their movements.



S2: Education (Continued)

S2.5: Advance an adult-oriented safe bicycling and walking curriculum

Education for adult bicyclists and pedestrians is less widely available than youth programs, and most widely-distributed materials emphasize bicycling with confidence in high-traffic situations. Review existing programs to develop or identify a bicycling and walking curriculum for adults and college students, and identify potential partners to implement this curriculum throughout the state. This action will be led by the Department of Education, the Department of Aging, and the Office of Traffic Safety, with support from Caltrans.

S2.6: Incorporate Americans with Disabilities Act awareness into all active transportation educational programs

Pedestrians with mobility impairments or other disabilities are at a higher risk for collisions with bicyclists and motor vehicles because they may move more slowly, have limited range of movement to look for oncoming traffic, or have slower reaction times. The unique needs of these pedestrians will be emphasized in all education programs, including driver licensing and bicycling education. Provide presentation by Department of Motor Vehicles to Caltrans ADA Advisory Task Force on implementation of this strategy. This action may be led by the Department of Motor Vehicles and the Office of Traffic Safety with support from Caltrans.

S2.7: Engage colleges and universities in including current, best-practice bicycle and pedestrian design in engineering programs

Engage California colleges and universities to promote Complete Streets engineering education, including offering resources or providing guest speakers on current best practices in bikeway and pedestrian design, design flexibility, and design immunity. Conduct a survey to determine needs and interest for the proposed resources. Ongoing training for practitioners on bicycle and pedestrian needs and facility design is addressed in M1: Complete & Comfortable Networks. Integrate these concepts into existing Caltrans internship programs. This action will be led by the Division of Design, the Division of Transportation Planning, and the Division of Local Assistance.

Nevada City Bicycle Recycle Project

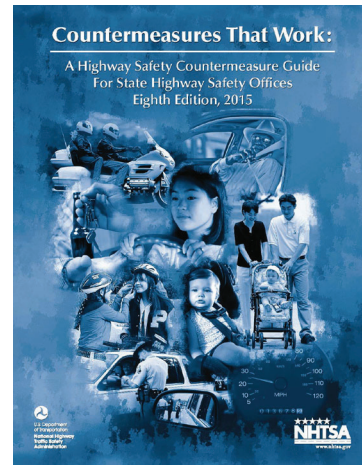
Existing local programs provide opportunities to educate children and adults about safe bicycling and walking. The Nevada City School District's Bicycle Recycle Project is a middle school education program that provides hands-on bicycle repair skills as students tune up bicycles to be donated to students, family members, or friends in need.



PHOTO: NEVADA CITY BICYCLE RECYCLE PROJECT

Federal Resources to Support Safety

The Federal Highway Administration provides several resources to help identify and prioritize safety investments for bicyclists and pedestrians. *Countermeasures that Work* is a basic reference to assist State Highway Safety Offices in selecting effective, evidence-based countermeasures for traffic safety problem areas. The Federal Highway Administration has also developed a systemic approach to safety that considers risks proactively (in addition to looking at the specific locations of collisions) and a project selection tool to help apply the method.



Highway 1 Accessibility Improvements

Caltrans constructed 300 feet of sidewalk and concrete barrier north of the Oceano Overhead on Route 1 in the community of Oceano in San Luis Obispo County. This work closed a gap of missing sidewalk and obstructions for pedestrians. Community participated with aesthetic treatment design concepts for barrier surface.



Windsor US 101 Ramp Raised Crosswalk

The Town of Windsor and Caltrans installed a raised crosswalk across the on ramp to US 101 from Old Redwood Highway. The raised crosswalk draws increased attention to pedestrians crossing the ramp.



S3: Safety Data

Invest in the quality, completeness, timeliness, and availability of data on bicycle and pedestrian collisions

Pedestrian and bicycle collisions are infrequent at any location, so understanding safety problems requires investing in high-quality and complete data on these events. To assemble a comprehensive record of safety challenges in the state, data must be gathered not only on the state highway system, but also on local roads and tribal lands. Collecting tribal data has been a challenge to assembling comprehensive data.

High-quality collision data supports all of the State's safety goals. Better data on location, contributing factors, and exposure to risk will help Caltrans and local agencies develop and implement programs and projects that improve safety.

S3.1: Continue developing approaches to integrate hospital data into collision reporting

The California Department of Public Health has begun exploring links between law enforcement and hospital data in its Crash Medical Outcome Database. This approach will be refined to provide the level of contextual detail available in the Statewide Integrated Traffic Records System (SWITRS), which is owned by the California Highway Patrol. This action will be led by the Division of Traffic Operations and the California Department of Public Health with support from the Office of Traffic Safety and the California Highway Patrol.



Address sensitivities around collecting data related to immigration status, racial or ethnic background, and tribal cultures.

Research on Near Misses

To supplement the collision data available in SWITRS, surrogate measures such as reported near misses can provide a deeper understanding of risk. Research from UC Berkeley's SafeTREC has explored surrogate measures around university campuses, revealing that crowd-sourced data on collisions, near misses, and perceived hazardous locations are highly predictive of police-reported collision locations. Information about near misses can mitigate the relatively low bicycle and pedestrian collision frequency at any given location.

Medury, A., O. Grembek, A. Loukaitou-Sideri, and K. Shafizadeh. "Investigating the underreporting of pedestrian and bicycle crashes in and around university campuses - a crowdsourcing approach." In review for Accident Analysis & Prevention.

California Department of Public Health Crash Medical Outcome Database Project



This is a project to link SWITRS collision reports to hospital records, based on the National Highway Traffic Safety Administration's Crash Outcome Data Evaluation System. While this provides for improved understanding of serious injuries, it does not currently provide disaggregated records, limiting its application for engineering studies.

S3.2: Develop improved exposure estimates for bicycling and walking

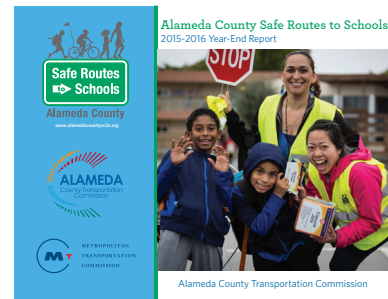
Understanding how much people walk and bicycle is important in its own right, but is also critical for understanding safety and risk. Calculating exposure to risk requires understanding how many people walk and bicycle at specific locations (i.e. counts) and across larger areas (i.e. estimated miles bicycled or walked). It may be more cost effective to prioritize areas where high bicycling and walking activity is known before expanding to collect accurate data in less often traveled areas of the state. Identify high-concentration and high risk collision locations through existing pedestrian collision monitoring program and a new bicycle collision monitoring program (see M4: Network & Travel Data). This action will be led by the Division of Traffic Operations and the Division of Transportation Planning with support from the Division of Research, Innovation and System Information.

S3.3: Explore the feasibility of conducting a pilot study of the information being compiled regarding collisions involving bicycles and pedestrians, leveraging investment in exposure estimates developed in S3.2

Reducing collisions, injuries, and fatalities requires understanding risky behavior of drivers, bicyclists, and pedestrians. In coordination with ongoing efforts to improve forms and processes for collision reports, study the evaluation of bicycle and pedestrian involved collisions. As part of this effort, consider training on recognizing and responding to harassment of people walking or bicycling, including passing or following too closely, verbal abuse, or throwing objects. This action will be led by the California Highway Patrol, the Division of Traffic Operations, and the Office of Traffic Safety.

Safe Routes to Schools Evaluations

California includes many well-established safe routes to school programs. Alameda County's program, in place for over a decade, has demonstrated measurable improvement in students walking and bicycling to school. Hand tallies, surveys, and direct measurement provide an important source of data for evaluating the success of the program and refining its strategies.



Traffic Records Coordinating Committee

The California Traffic Records Coordination Committee is focused on improving data quality in collision records. Currently chaired by the Office of Traffic Safety, the California Traffic Records Coordinating Committee is comprised of state agencies and departments including enforcement, transportation, and health services and includes a California State Transportation Agency representative. It is focused on improving the quality and availability of traffic safety data.

Crash Investigation Courses

Courses on crash investigation can help officers' understand pedestrian and bicycle behavior. The American Automobile Association's Children In Traffic video provides insights into young pedestrians' behaviors, perceptions of traffic, and more.

S4: Enforcement

Focus state and local enforcement of safety laws on highest risk behaviors by all road users

Enforcement complements other safety strategies, presenting opportunities to protect and educate road users about appropriate behavior on the roads. Enforcement helps build a culture that recognizes that all users belong on the road. Improved safety for all users requires speed management strategies that create a safer transportation system. To reduce the severity of collisions, enforcement should focus on high-risk behaviors by drivers, bicyclists, and pedestrians that are most likely to result in a fatality.

S4.1: Support updates to police officer training to curb road user behaviors that pose the greatest risk of collision, injury, and fatality.

The California Commission on Peace Officer Standards and Training (POST) develops standard training materials used by law enforcement agencies. The POST standard training is regularly updated and includes specific training on bicycle and pedestrian safety issues. Consider updates to existing training regarding bicycle and pedestrian traffic laws (e.g., 3' minimum passing, 'Bikes May Use Full Lane' signs, Shared Lane markings, or green pavement) to help reduce high risk behaviors (e.g., unsafe turns or lane changes, wrong way bike riding, driving or bicycling while distracted or under the influence, and failing to yield). Training materials may include pedestrian crosswalk safety enforcement promoted by the National Highway Traffic Safety Administration. This action will be led by POST with support from the California Highway Patrol.

S4.2: Support and fund diversion programs for bicyclists and pedestrians cited for a traffic offense

Traffic schools are widely used to turn enforcement actions into educational opportunities, exchanging participation in a course on traffic laws for fines and punitive measures. Assembly Bill 902 (2016) created an opportunity for adult bicyclists and pedestrians to participate in diversion programs. Programs must be sanctioned by local law enforcement and supported by the court system. Work with state and local law enforcement and the courts to increase the availability of bicycle and pedestrian diversion programs. This action will be led by local governments with support from the Office of Traffic Safety and Caltrans.

Portland Alternate Methodology for Setting Speed Limits

The Portland Bureau of Transportation has proposed an alternative methodology for setting speed limits to the Oregon Department of Transportation. This method streamlines the request process for setting speed limits on lower classification streets while supporting the goal of eliminating traffic deaths and serious injuries. The proposed methodology better accommodates Portland's multimodal transportation system and considers all road users, not just vehicles. The proposed alternative methodology would set speed limits based on the degree of separation provided between people driving, biking, and walking. Portland is proposing this method on non-arterial streets with posted speed limits greater than 25 mph that are not designated freight routes and not statutory.

S4.3: Explore use of technology and engineering methods to reduce speeding and aggressive driving

In addition to the Mobility strategies, enforcement helps to manage speeds to improve safety for all users. Technology plays a role in managing speeds, using tools like speed feedback signs, radar trailers, automated speed enforcement, traffic calming features, and others. Monitor and report on programs used in other states and identify best practices, considering cost and maintenance needs. This action will be led by the Division of Traffic Operations with support from the Division of Research, Innovation and System Information and the Division of Transportation Planning.

EQUITY



Do not target communities or individuals based on income, race, ethnicity, gender, or sexual preference. Use progressive ticketing to emphasize education and minimize costs for low-income individuals.

S4.4: Research methods for setting and enforcing speed limits

The California Manual for Setting Speed Limits defines a standard approach such that 85 percent of vehicles travel at or below the set limit, with alternate limits allowed in certain circumstances (such as in school zones). This approach helps reduce speed variability, which has known impacts on collision rates. Monitor efforts by other states and local agencies to develop alternate approaches to setting speed limits, especially for local roads. Work with state and local partners to study the potential safety benefits of setting speed limits in combination with design strategies to reduce speeds, while considering the impacts alternate methods would have on enforcement. Provide education to local agencies on existing flexibility available in current law. This action will be led by the Divisions of Transportation Planning and Traffic Operations, with support from the Division of Research, Innovation and System Information and the California Highway Patrol.

Enforcement for Bicycle Safety

Wisconsin has a law enforcement training course called Enforcement for Bicycle Safety. The course teaches officers about bicycle safety, what laws to emphasize with children and adult bicyclists and with motorists to prevent collisions, how to begin bicycle collision cause identification, and the important role of officers as front-line educators to improve safety.

Washington Neighborhood Safe Streets

Washington State passed the Washington Neighborhood Safe Streets Bill in 2013, allowing municipalities to establish a maximum speed limit of twenty miles per hour on non-arterial streets in residential or business districts. The speed limit change does not require engineering or traffic investigation. In September 2016, Seattle adopted a default speed limit of 20 mph on all residential streets, changing the speed limit on approximately 2,400 miles of neighborhood streets, without requiring engineering or traffic investigation.



PHOTO: SEATTLE DEPARTMENT OF TRANSPORTATION

MOBILITY

Increase walking and bicycling in California



The Caltrans *Strategic Management Plan* set an ambitious goal to double walking and triple bicycling trips in the state by 2020. Achieving this requires a safe and comfortable network of well-designed bicycling and walking facilities that serve the transportation and recreation needs of all Californians.

Bicycling and walking facilities need to appeal to a range of different users, especially the “interested but concerned” Californians, who may consider walking or bicycling for their daily transportation needs, but are often uncomfortable in narrow bicycle lanes or sidewalks adjacent to moving traffic. By providing facilities that offer increased comfort and a high-quality experience, California can encourage more residents and visitors to use active transportation.

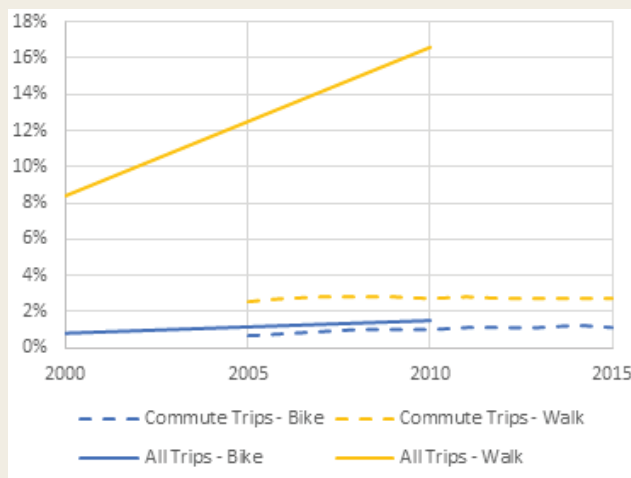
Coordinating land use and development with transportation decisions will help create places where active transportation is a viable and attractive option. Designing higher density, mixed use, and bicycle and pedestrian-friendly communities will make walking and bicycling a realistic option for more trips.

As California provides new and improved bicycle facilities, pedestrian crossings, sidewalks, and high-quality places, it is important to match investments to the local context, considering roadway speeds, place type, development character, and expected users.

The following strategies emphasize high-quality facilities, a comprehensive view of the existing network and gaps, and increasing the number of people walking and bicycling in the state.

Mobility Performance Measures

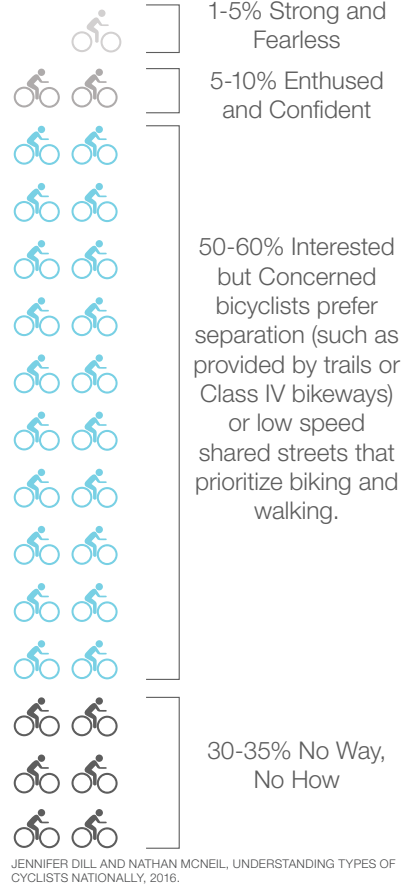
Mode share for bicycling and walking can be calculated from the National and California Household Travel Surveys for all trips (using) or for commute trips only using the American Community Survey. The all trips measure is available about once every 10 years, and, especially for walking, follows a much stronger growth trajectory than commute trips. Caltrans is already measuring the **percent of projects that include complete streets features** as part of the *Strategic Management Plan*.



Long-term, additional measures to be tracked include:

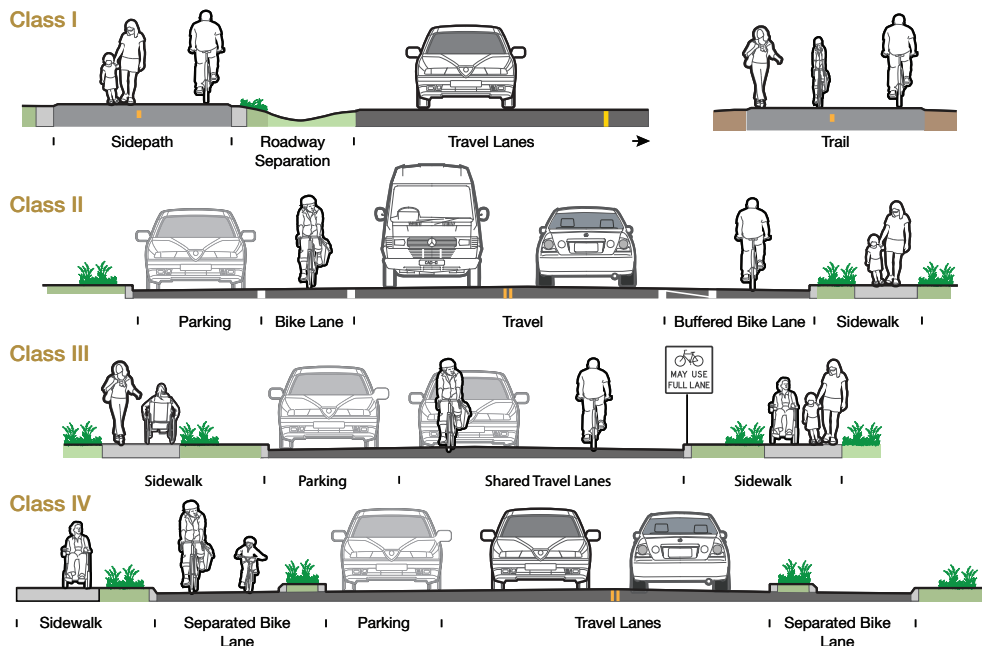
- » **Pedestrian miles of travel** and **bicycle miles of travel** would provide a more comprehensive evaluation of the level of activity.
- » A measure of **bicycle level of traffic stress** for the portions of the state transportation system that allow bikes will help track improvements in the quality of the system over time.

- » **M1: Connected & Comfortable Networks:** Develop local and regional networks of high-quality bicycle and pedestrian facilities for all ages and abilities
- » **M2: Multimodal Access:** Integrate bicycle and pedestrian needs in planning and design of multimodal transportation systems and services
- » **M3: Efficient Land Use & Development:** Support regional and state efforts to integrate land use and transportation planning to maximize the effectiveness of active transportation investments
- » **M4: Network & Travel Data:** Develop consistent, high-quality data on bicycle and pedestrian travel and facilities
- » **M5: Statewide & Regional Trails:** Support low-stress or separated pedestrian and bicycle trail routes of statewide or regional significance for tourism, recreation, and utilitarian transportation
- » **M6: Encouragement:** Promote bicycling and walking for everyday transportation, recreation, improved health, and active living



Bicycle Facility Classifications

Caltrans defines several classifications of bicycle facilities. These facilities provide varying levels of separation from other traffic and some are shared use.



San Mateo Interstate-280 and Alpine Road buffered green bike lanes



San Mateo County Public Works installed green, buffered bike lanes on Alpine Road across the I-280 ramps. This was one of the first uses of green colored pavement in District 4 and is seen as a good example of using interim striping measures to improve bicycle connectivity under existing freeway interchanges. A Corridor Study is in development by San Mateo County which includes longer-term proposals to redesign the ramp intersections.

Humboldt Colorized Shoulders

Shoulders on Highway 101 in both directions were widened to 10 feet and colorized terra cotta. This gives motorists a visual cue that they can expect bicyclists on the shoulder and provides bicyclists extra width for a more comfortable experience. This roadway is the most direct route between Eureka and Arcata, and is part of the Pacific Coast Bike Route.



Tiburon Bicycle Boxes

In 2016, the Town of Tiburon and Caltrans District 4 secured a joint request to experiment with two bike boxes at the Tiburon Boulevard (State Route 131) intersection with Blackfield Drive/Greenwood Cove Drive. The bike boxes will improve connectivity for bicyclists, including groups of school children, across Tiburon Boulevard, connecting a residential community with the Tiburon Linear Park, schools, and downtown.





State Route 28, Kings Beach, Placer County: The Commercial Core Improvement Project

The project was completed in 2012 converting State Route 28 from four lanes to three lanes to accommodate new sidewalks, Class II bike lanes and bus shelters. Two single-lane roundabouts at Bear Street and at Coon Street were constructed. The Commercial Core Improvement Project also established a Parking Management Plan.



Pedestrian Hybrid Beacon

This pedestrian-activated hybrid beacon was installed in Crescent City to help pedestrians cross the street within the marked crosswalk and to give more protection for pedestrians in an otherwise auto-oriented environment.

Los Molinos Main Street Improvements

Caltrans District 2 and Tehama County Transportation Commission completed traffic calming improvements on SR 99 in 2013. Curb extensions, colored and textured crosswalks, and flashing lights now aide pedestrians across SR 99. Improvements also included a buffered Class II Bikeway.



M1: Connected & Comfortable Networks

Develop local and regional networks of high-quality bicycle and pedestrian facilities for all ages and abilities

High-quality bicycle and pedestrian networks are low stress, accessible, direct, and appropriate to the land use context they support. Building these networks requires coordination between local, regional, and state agencies. Caltrans can help partners connect networks across jurisdictional boundaries, creating a seamless, integrated active transportation network that goes beyond minimum standards. Guides and manuals encourage selecting active transportation facilities that create comfortable experiences for all users by considering the speed and volume of traffic on adjacent roadways, as well as the type and number of people walking and bicycling.

Through District-level planning and implementation in coordination with agency partners and stakeholders, the state can implement a consistent approach to designing and investing in developing complete, connected, and comfortable networks that meet current design guidance. Training, support, and innovation will yield bicycle and pedestrian facilities that are high-quality, support the needs of all users, and meet California's diverse urban, suburban, and rural contexts.

M1.1: Develop District-level plans to identify bicycle and pedestrian needs and priority projects on or parallel to and across the state highway system, with a focus on removing barriers, closing gaps, and building complete, comfortable networks that consider the context

Develop District Bicycle and Pedestrian Plans that identify needs on state highways in cooperation with regional and local agencies. These plans will complement local and regional active transportation plans and existing networks by addressing challenges Californians face crossing and using the state highway system. Once completed, these plans can be incorporated into project scoping for maintenance, reconstruction, safety, and other projects, such as bridge replacements, consistent with Caltrans Complete Streets directive. This action will be completed in conjunction with or parallel to plans identified under S2.1. This action will be led by the Division of Transportation Planning.



Engage community members throughout the process. Provide outreach in multiple languages. Educate stakeholders on the planning process and facility design.

M1.2: Provide ongoing implementation of existing Caltrans Complete Streets education and hands-on training

New design guidance and innovative approaches require a concerted effort to share knowledge across divisions, disciplines, and districts to advance innovation in bikeway and pedestrian facility design. Implement existing Complete Streets training and mentorship programs that focus on the design flexibility included in the *Highway Design Manual*, the *California Manual for Uniform Traffic Control Devices* and the *Highway Safety Manual*. In the short term identify extent of training already conducted. This action will be led by multiple Caltrans Divisions.

M1.3: Increase state investment and encourage local and regional investment in complete bicycle and pedestrian networks

Creation of the Active Transportation Program in 2013 increased funding for bicycle and pedestrian projects; but the need for these projects exceeds available funding. The State has proposals to increase funding from existing and new revenue sources. Highway maintenance and rehabilitation projects present opportunities to add bicycle and pedestrian facilities such as creating Class II or Class IV bike lanes or wider shoulders in existing right of way. The Caltrans *Strategic Management Plan* calls for a 20 percent increase in the number of projects with complete street features by 2020. This action will be led by the State Transportation Agency, local agencies, metropolitan planning organizations, and regional transportation planning agencies.



Seek opportunities to meaningfully integrate workforce training and local hire programs into active transportation investments.

Funding for Active Transportation

The Road Repair and Accountability Act of 2017 was signed into law in April 2017. This comprehensive transportation bill provides significant new revenues directed to existing and new multi-modal transportation funding programs. Set to begin in late 2017 revenues are estimated at \$5 billion annually providing funds to both state and local entities. . New provisions linked to active transportation will:

- » Require Caltrans to update the Highway Design Manual by January 1, 2018 to incorporate “complete streets” design concepts.
- » Require with certain considerations, that Caltrans, cities, and counties receiving funds shall incorporate complete streets elements into projects, including but not limited to, elements that improve the quality of bicycle and pedestrian facilities and that improve safety for all users of transportation facilities.
- » Increase funding for public transit, passenger and intercity rail.
- » Allocate an additional \$100 million for the ATP program beginning in 2017/18, resulting in an annual program that totals about \$220 million.

Other state sources include:

The **Highway Safety Improvement Program (HSIP)** funds projects that improve safety on state and local roads, including improvements for bicyclists and pedestrians. Because one quarter of all fatal collisions involve a pedestrian, this is a critical source.

The **State Highway Operations and Protection Program (SHOPP)** funds roadway resurfacing, preservation, and similar projects. This program provides an opportunity to integrate complete streets improvements into the everyday maintenance and preservation activities.

Since 1986, 25 counties have passed local ‘self help’ sales taxes referendums. Fourteen of these measures dedicated almost \$400 billion (over 60 years) to bicycle and pedestrian improvements. These measures have also dedicated \$400 billion for local road improvements that may include bicycle and pedestrian improvements. These long term investments have helped and are helping build active transportation networks across California.

M1: Connected & Comfortable Networks (Continued)

M1.4: Explore opportunities to develop a network of separated 'bicycle highways' to serve regional and interregional travel

Pursue development of branded (e.g., numbered, signed, and legible) networks of bicycle highways within California's major metropolitan areas, potential through a pilot study. A bicycle highway restricts use to bicyclists, has intermittent entrances and exits, serves longer distance trips (five miles or more), and supports higher-speed travel up to 20-25 miles per hour. As e-bikes extend the range of bicycle trips, bicycle highways may be needed to support longer trips. Primarily a system of separated facilities, connecting segments of separated bikeways or bicycle boulevards may be required. In suburban and rural contexts, these facilities could include low-speed on-street bikeways that also accommodate neighborhood electric vehicles and electric bikes. These facilities could be narrower (16 feet wide) and serve multiple types of users. This action will be led by metropolitan planning organizations, regional transportation planning agencies, and the Division of Transportation Planning.

M1.5: Consider bicyclist and pedestrian comfort when designing new or improved facilities for state highways, and encourage use of this approach by local agencies

Research has begun to demonstrate the link between the confidence of users walking and bicycling and their preference for specific types of infrastructure (e.g. 'interested but concerned' bicyclists prefer greater separation from automobile traffic). Monitor research and integrate analysis methods into corridor and system planning efforts to improve the accommodation of bicyclists and pedestrians on the state highway system. This action will be led by the Division of Design and the Division of Research, Innovation and System Information.

Bicyclist Level of Comfort

A Caltrans-funded research project ("Performance measures for bicycle suitability on the state highway system") is exploring the relationship between two bicycle infrastructure comfort measures (Bicycle Level of Service and Level of Traffic Stress) and survey respondent ratings of video footage on state highways. A sophisticated modeling approach (latent class choice modeling) was employed to account for differences in respondent levels of cycling confidence. Level of Traffic Stress was found to be both a better predictor of cycling comfort ratings and easier to apply, although there is room for improvement to this method.

Dutch Bicycle Highways

The Netherlands' RijnWaalpad F325 is primarily a rural commuter route linking two cities, Arnhem and Nijmegen. Arnhem is the provincial capital on the Rhine and Nijmegen is the big city in the province of Gelderland. These cities are connected by the almost 10-mile cycle route, The RijnWaalpad F325, making it possible to cycle that distance in about 45 minutes.



PHOTO: BICYCLE DUTCH BLOG. [HTTP://WP.ME/P2FAP-2RG](http://wp.me/p2FAP-2RG)

M1.6: Provide a comprehensive resource on best practice bicycle and pedestrian design treatments for California

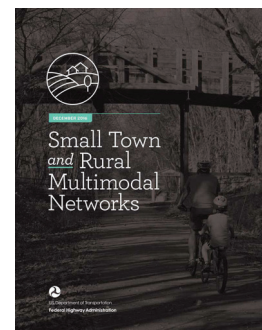
The *Highway Design Manual* includes Complete Streets treatments designed to accommodate bicyclists and pedestrians. Recent guidelines for Class IV bikeways, Caltrans' endorsement of National Association of City Transportation Officials design guidelines, and the *Main Street California Guide* also support these complete streets efforts. A comprehensive bicycle and pedestrian design manual or other resource could complement these manuals and help educate practitioners and lead to development of new facilities on and off the state highway system. Work with partners in local and regional agencies to highlight examples of high quality bicycle and pedestrian facilities. The resource should discuss appropriate use of design exceptions and how to match bicycle and pedestrian facilities to their context. This action will be led by the Division of Design, the Division of Transportation Planning, and the Division of Local Assistance.

District 3 Complete Streets Plan

Caltrans District 3, which covers eleven counties in the Sacramento Valley and Northern Sierra, developed a Complete Streets Plan that provides a framework for implementing Complete Streets improvements on the State Highway System within the varied communities throughout the district. The Plan includes an inventory of existing bicycle and pedestrian facilities and identifies gaps in the network. The plan also provides guidance on how District 3 and partner agencies can work together to implement complete streets in the region, and to establish a partnership-based processes for Maintenance Agreements and Design Exceptions.

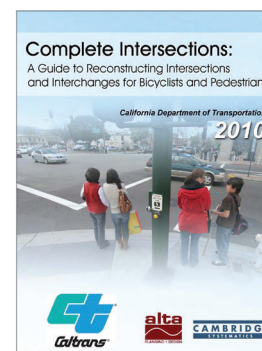
Small Town and Rural Multimodal Networks Guide

This design guide, released by the Federal Highway Administration in 2017, provides information on bicycle and pedestrian facilities specifically applicable to small towns and rural communities. Recognizing that much of the research and analysis of infrastructure design has been focused on larger cities, this guide addresses the unique opportunities and challenges that face active transportation in rural contexts.



Caltrans Complete Intersections Guide

The Caltrans *Complete Intersections Guide*, published in 2010, describes best practices for design and operational changes to solve common safety challenges faced by pedestrians and bicyclists at intersections. The guide is primarily focused on providing tools to assist Caltrans staff planners, engineers, and designers in improving safety for pedestrians and bicyclists, but can also be used as a resource for community organizations, advocates, law enforcement, and public health staff. A future update to the guide incorporating Class IV bikeways, protected intersections, and other new facility types and features is needed.



M2: Multimodal Access

Integrate bicycle and pedestrian needs in planning and design of multimodal transportation systems and services

Ensuring multimodal access requires integrating bicycle and pedestrian needs into the planning and design of all transportation systems, including rail and transit systems and services and the delivery of freight. At some point, everyone is a pedestrian, whether walking to or from a parking lot, transit stop, bicycle parking, or a destination. Incorporating bicycling and walking facilities in transit and rail station area designs will help to provide seamless movement between modes of transportation.

M2.1: Incorporate first mile/last mile planning for pedestrian access needs for all intercity/high speed rail and transit systems

Integrating bicycling and walking with transit can shift trips from driving to active transportation and makes transit more effective. The High-Speed Rail Authority is developing an access policy to guide active transportation and transit access investments in the station areas, and clarifying modal access points at each station location. Access planning should include traditional first/last mile assessments for pedestrians and an analysis of bicycle facilities and needs within 3-5 miles of rail stations and major bus stops. Transit stops should also be designed to minimize conflicts with people walking or bicycling. This action will be led by local and regional transit agencies, the High Speed Rail Authority, and the Division of Rail and Mass Transportation.



Provide stations that are accessible for disadvantaged community residents that rely on walking or bicycling, including consideration of personal security.

M2.2: Identify bicycle parking needs at transit, rail and park and ride services and define appropriate bicycle accommodation policies

Secure bicycle parking at rail and transit stops and stations completes the bicycle network for travelers, and can reduce demand for bicycles on board transit and rail. Both short-term bicycle racks and long-term parking (e.g., bike lockers or secure gated areas) should be considered to create seamless transitions from walking or bicycling to parking and boarding areas. This action will be led by local transit agencies, the High Speed Rail Authority, metropolitan planning organizations, and regional transportation planning agencies with support from the Division of Rail and Mass Transportation.

VTA Pedestrian Access to Transit Plan

The Santa Clara Valley Transportation Authority (VTA) identifies walking as fundamental for transit access. Pedestrian access to transit is a key element of all of VTA's transit plans. The recently released Transit Passenger Environment Plan identifies the important role of urban design elements (lighting, amenities, shade, shelters, etc.) to support pedestrian access to transit.



M2.3: Explore development of a statewide bike share system that reaches the maximum number of Californians

A statewide bike share program could leverage state and local resources to better serve the transportation and recreation needs of California residents and visitors. By implementing bike share at the state level, cities without the resources for an internal bike share program could participate in a broader program through economies of scale and a larger user pool. This action will be led by the Division of Transportation Planning.

EQUITY



Make bike share accessible to low-income individuals who may not have access to credit cards or smart phones.

M2.4: Provide seamless integration of bike share and public transit fare systems on a regional or statewide scale

Integrating fare systems and payment media for bike share, bicycle parking, and public transit systems would simplify travel by multiple modes. Research integrated fare systems, equity concerns, and related trip-planning opportunities. This action will be led by metropolitan planning organizations, regional transportation planning agencies, the Division of Transportation Planning, and the Division of Rail and Mass Transportation.

EQUITY



Work to keep bicycle parking at transit stations free or low-cost so that it is not a barrier for low-income residents. Avoid requirements for personal identification.



Los Angeles: Metro

Metro has undertaken many policies, programs, and projects to help close the first-mile/last-mile gap and connect its transit stops to walking and bicycling facilities. In summer 2016, Metro launched the first phase of Countywide Bikeshare, making it the first American transportation authority to run a bike share system. The system uses the same fare media as the regional transit system.

M2: Multimodal Access (Continued)

M2.5: Support expanded use of electric bicycles in California, including the provision of a network of public electric bike charging infrastructure

Electric bicycles, or e-bikes, can extend trip ranges, overcome barriers like topography, and make bicycling a viable choice for a greater segment of the population. With more widespread adoption of electric bikes across California, bicycle facility design will need to consider the unique needs of e-bikes including faster average speeds, parking and security, and a need for publicly-accessible charging stations. These needs may include greater separation of users or wider facilities to accommodate passing. This action will be led by the Division of Transportation Planning with support from the California State Transportation Agency.



Cost is often a financial barrier for e-bikes. Consider subsidies to increase access to e-bikes for disadvantaged communities.

M2.6: Facilitate opportunities for local freight delivery by bicycle, including funding pilot implementation

Local freight delivery on large trucks increases congestion in communities, contributes to pollution, and can create challenges for people walking or bicycling when trucks double park or block bikeways. In many communities, local delivery could be easily accomplished using an e-bike outfitted with a cargo trailer. This would not only eliminate the added congestion and emissions, but may increase efficiency as the e-bike can bypass congestion and maneuver more easily. Caltrans will work with private shipping companies and local agencies to pilot bicycle delivery implementation, consistent with the strategy considered in the *California Sustainable Freight Action Plan* from July 2016. This action will be led by the Division of Transportation Planning with support from the Air Resources Board.



PHOTO: UPS

Bicycle Freight Delivery

UPS now has two successful pilot programs delivering parcels on custom electric cargo trikes. One pilot, in Hamburg, Germany, has been operating since 2012. A second pilot launched in Portland, Oregon in 2016. Parcels are delivered by truck to a secure central locker, and then local deliveries are made on foot or by bicycle.



Los Angeles' Union Station Multimodal Improvements

On the northern edge of downtown Los Angeles, Union Station is the largest hub of transportation in Los Angeles County, home to three Metro rail lines, Amtrak and Metrolink commuter and long distance trains, local and commuter bus routes, and eventually High Speed Rail. Union Station is disconnected from local street networks by US 101. Metro's *ConnectUS Action Plan* and *Union Station Master Plan* identify pedestrian, bicycle, and transit improvements to better connect the communities around Union Station, improve circulation within the station, and develop mixed-use development within close proximity to the station. The Class IV Bikeway on Los Angeles St and bike share are initial steps to improve connections.

Support Facilities and Wayfinding

While much of the discussion of active transportation focuses on networks, facilities and wayfinding are important elements of the network. These include urban design amenities such as benches, shade structures, lighting, and others, bicycle parking, first aid, emergency/feedback call system, and wayfinding systems that help provide guidance to people walking and bicycling.



D1-3c



M1-8



D11-1c



M3: Efficient Land Use & Development

Support regional and state efforts to integrate land use and transportation planning to maximize the effectiveness of active transportation investments

Bicycle and pedestrian facilities are a critical complement to land use strategies that better connect people to the places they want to go. Destinations must not only be connected by safe, comfortable, and convenient bikeways and walkways, but must also be located within a reasonable distance to make walking or bicycling an attractive choice to a large number of people.

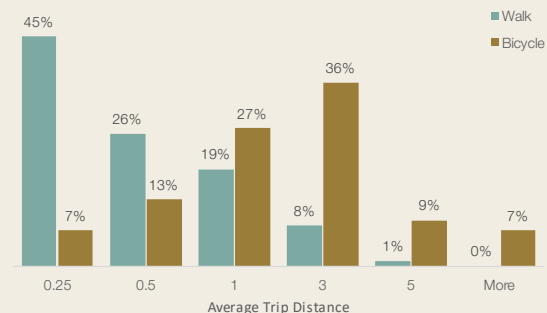
M3.1: Provide guidance to state and local agencies on school and government building siting that considers walkability, bikeability, and proximity to transit

Government and school building siting should consider local land use policy, community design, parking policy, and accessibility for transit and active transportation, including safe routes to school. In its December 2016 meeting, the Strategic Growth Council agreed to use location efficiency as a primary consideration for siting state buildings. Location efficient planning makes it easier to access facilities using transit, walking, and biking. This action may be led by the Department of General Services at the state level with support from the Division of Transportation Planning. Local and regional agencies can implement similar programs in their jurisdictions.

M3.2: Link land use plans, zoning, and design standards to active transportation planning, integrating principles of location efficiency and urban form

Building on the principles of location efficiency in the *Smart Mobility Framework* that cover both community design scale and regional scale, consider density and urban form in development of active transportation networks. Require active transportation plans, general plans, and specific plans to consider complete streets and regional Sustainable Communities Strategies. Consider requiring updates to land use plans, policies, zoning, and regulations to support location efficiency and urban form to receive implementation funding from the Active Transportation Program. This action will be led by the Strategic Growth Council and the Governor's Office of Planning and Research with support from the Division of Transportation Planning.

The California Household Travel Survey reports nearly half of all walking trips are one quarter mile, and 90 percent are one mile or shorter. Similarly, nearly 85 percent of reported bicycling trips were three miles or shorter. This underscores the importance of land use decisions that place transit access, destinations, and homes at distances that support walking and bicycling.



M3.3: Support the design of transit-oriented, location efficient development that creates density and urban form to encourage pedestrian, bicycle, and transit travel

Support the creation of dense, mixed-use environments with urban design that creates a safer and more comfortable public realm supportive of active transportation and transit. The principles of pedestrian-oriented design directly support the principles of transit-oriented and location efficient development. Review the Local Development-Intergovernmental Review process to support development with density, diversity of uses, and design that promotes both active transportation and transit use. Examine parking policy within this effort. This action will be led by local agencies, metropolitan planning organizations, and regional transportation planning agencies with support from the Division of Transportation Planning.



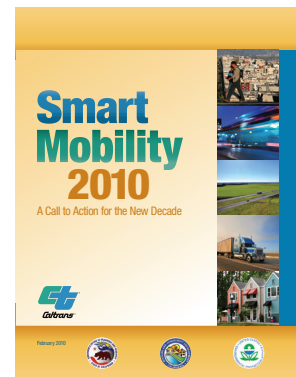
Supporting bicycle shops in low-income neighborhoods can make bicycling easier for residents. Pair TOD planning with anti-displacement policies.

M3.4: Explore opportunities for a consolidated, universal, and flexible wayfinding system applicable to all modes of travel

Many agencies provide wayfinding information, leading to sign clutter and traveler confusion. A coordinated wayfinding system could help users better understand available transportation options and access their destinations efficiently. Explore setting wayfinding design standards that address the needs of all users. This action will be led by the Division of Traffic Operations with support from the California Traffic Control Devices Committee, and the Division of Transportation Planning.

Smart Mobility Place Types

The Smart Mobility Framework introduces Smart Mobility Place Types. The place types are a tool for a general classification of towns, cities, and larger areas to be used as a basis for making investment, planning, and management decisions that advance Smart Mobility. Each of seven place types creates a distinct context for transportation investments and distinct opportunities to gain Smart Mobility benefits. The place types are: Urban Centers, Close-in Compact Communities, Compact Communities, Suburban Communities, Rural and Agricultural Lands, Protected Lands, and Special Use Areas.



Sustainable Communities Strategies

The Sustainable Communities and Climate Protection Act of 2008 (SB 375) sets regional targets to reduce Greenhouse Gas emissions through coordinated transportation and land use planning. SB 375 requires Metropolitan Planning Organizations to include a Sustainable Communities Strategy as an integral part of its regional transportation plan. The Strategy must demonstrate how development patterns and transportation network, policies, and programs can work together to achieve greenhouse gas emission reduction targets for cars and light trucks.

M4: Network & Travel Data

Develop consistent, high-quality data on bicycle and pedestrian travel and facilities

Consistent, high-quality bicycle and pedestrian data describing existing infrastructure and use can inform planning and design for the transportation system and specific corridors. For example, forecasting future demand as a result of facility modifications provides a better understanding of the benefits of new investments. Facility construction and user volumes are useful performance measures that can help Caltrans evaluate Complete Streets. Exposure data is also critical for understanding collision risk. Detailed guidance on methods to achieve the strategies outlined in this section is provided in the baseline data methodology supplement to this Plan.

M4.1: Develop a standard collection method for bicycle and pedestrian counts and create a central database for storing counts

Accurate statewide data on bicycling and walking trips is important to understand demand and calculate exposure to risk. Expand bicycle and pedestrian counting efforts (using automated count technologies where possible) and encourage regional agency partners to do the same. Incorporate counts from school tallies. Work with regional agencies to develop a geographic information systems (GIS) database of bicycle and pedestrian counts that can be used to collect consistent data across the state and compile local count efforts. This action will be led by the Division of Transportation Planning; the Division of Research, Innovation and System Information; and the Division of Traffic Operations.

M4.2: Explore opportunities to leverage existing data collection by Caltrans and third parties to better understand use of the system by bicyclists and pedestrians

Potential existing data sources include traffic cameras and signal actuators owned by Caltrans and local agencies, and GPS traces or app-based data collected by third parties (e.g. cell phone providers, app developers, or data aggregators). When paired with counts, these data sources provide a more complete view of existing volumes. Continue to sponsor research on the use of these data sources to more efficiently capture bicycling and walking in California. This action will be led by the Division of Traffic Operations with support from the Division of Research, Innovation and System Information.



Capture travel patterns of all people walking and bicycling, including those who may not have access to smart phones, fitness trackers, or GPS.

North Carolina Count and Infrastructure Data

The North Carolina Department of Transportation has developed centralized databases and data collection procedures for non-motorized count and infrastructure data in collaboration with North Carolina State University's Institute for Transportation Research and Education. Both databases include data contributed by local agencies in specified formats.

M4.3: Improve state travel surveys to better represent bicycle and pedestrian travel

The California and National Household Travel Surveys provide important data to understand how people travel to work, services, shopping, and recreation. Improvements could include oversampling households that are likely to make bicycling or walking trips or testing survey collection using novel technologies like social networking sites. This action will be led by the Division of Transportation Planning.



Over-sample disadvantaged communities and people of color in surveys to help identify their travel patterns.

M4.4: Work with the Federal Highway Administration and other partners to develop a standard for bicycle and pedestrian infrastructure data

Current street network databases lack consistent detail on bicycle and pedestrian facilities. Complete, accurate data helps to identify sub-standard facilities, potential improvements, and demand. Research and develop data collection standards and over the next five to ten years explore gathering local network data from Active Transportation Plans following established standards. In the short term, development agreement around data items for collection (bicycle facilities, sidewalks, crossing treatments, signalization, and others). This action will be led by the Division of Transportation Planning and the Division of Local Assistance with support from the Division of Research, Innovation and System Information.

M4.5: Appropriately consider bicycling, pedestrian, and transit concerns in traffic analysis methods

Senate Bill 743 (2013) made significant changes to the California Environmental Quality Act by removing automobile Level of Service as a metric for establishing an environmental impact and directed the Governor's Office of Planning and Research to promote the reduction of greenhouse gas emissions, the development of multimodal networks, and a diversity of land uses. Caltrans is updating its Transportation Impact System Guidelines and creating a transportation analysis template that reflect multimodal analysis needs. Encourage local agencies to adopt traffic impact guidelines that consider all users. This action will be led by the Division of Transportation Planning.

Traffic Accident Surveillance and Analysis System

Caltrans' statewide highway infrastructure and collision database, the Traffic Accident Surveillance and Analysis System uses data from the Statewide Integrated Traffic Records System, but does not include information on non-motorized transportation infrastructure such as bicycle facilities or sidewalks. UC Berkeley's Safe Transportation Research & Education Center has developed database elements and collection plans for both bicycle and pedestrian infrastructure, which could be applied in the development of the database in M4.1.

Right: A bicyclist stops to chat with a worker conducting bicycle counts in Berkeley.



M5: Statewide & Regional Trails

Support low-stress or separated pedestrian and bicycle trail routes of statewide or regional significance for tourism, recreation, and utilitarian transportation

Statewide, regional and local trails connect residents and visitors to parks, forests, beaches, and other public lands across California, including the California Coastal Trail. Trails encourage healthy lifestyles, provide transportation alternatives, and directly support statewide and local economies. As a major element in California's outdoor recreation industry, trails help generate \$85 billion in consumer spending and \$27 billion in wages and salaries every year.

Many California cities, suburbs, and rural areas are connected by trails, providing recreation access to millions of people. They also serve mid- and long-distance transportation needs for commuters or others traveling between communities or regions. Other communities could benefit from new investments in multi-jurisdictional trail networks. Opportunities to integrate long distance trails with active transportation networks and build new networks requires coordination with state and local agency partners and strategic investments in infrastructure and marketing.

M5.1: Promote awareness of and connections to key statewide bicycling and walking routes

Identify opportunities to support trails in the state, including the California Coastal Trail, Pacific Coast Bike Route, Adventure Cycling routes, US Bicycle Route System, and other state and regional trails and routes. This action will be led by California State Parks with support from the Division of Transportation Planning.

M5.2: Coordinate with state and local convention and visitors bureaus to market bicycling and walking options to tourists

Work with tourism agencies to integrate trail and local bicycling and walking network data to produce user maps that support walking- and bicycling-based tourism. Partners may include the California Travel and Tourism Commission, the American Automobile Association, chambers of commerce, and state and national parks. Consider convening a one day workshop with state, regional, and local economic development agencies to identify opportunities and agree on a framework for ongoing coordination. This action will be led by local economic development agencies with support from Caltrans and State Parks.

Trails Support a Complete Active Transportation System

Many bicycling and walking networks include or could include state, regional, or local trails as a key element. Class I bikeways are paved trails used by both bicyclists and pedestrians that provide low stress, comfortable routes. Trails will be considered within the proposed district-level bicycle and pedestrian plans (see action M1.1). These efforts can consider enhancing existing unpaved trails, building trails in existing, abandoned, or underutilized rail and highway right-of-way, and building new trails where they may be missing.





Ventura County US 101 Bike Path

As part of a project to add carpool lanes to US 101 in rural Ventura County, Caltrans developed a separated bike path and new connections to communities. Previously, bicyclists traveling this heavily used recreational route had to travel the shoulder of the high speed highway, which is the only connection between from Bates Road in Carpinteria and the Mobil Pier in Ventura County.

AASHTO US Bicycle Route System

The American Association of State Highway and Transportation Officials has developed a National Corridor Plan of 50,000 miles of numbered bicycle interstate routes, of which 11,000 miles have been officially designated. Seven corridors are identified in California, but no official designations have been made.

Napa Valley Vine Trail

The Napa Valley Vine Trail is envisioned as a 47-mile walking and bicycling trail system connecting the entire Napa Valley, from the Vallejo Ferry Terminal in Solano County to Calistoga. In northern Napa County a 12-mile stretch from south Napa to the town of Yountville was recently completed.

The trail is supported by a partnership between public agencies, nonprofit groups, and private companies. The Vine Trail Board coordinates with local vintners and hospitality groups to promote bicycling as an alternative to driving for visitors coming to the valley. Caltrans has supported the effort, accommodating sections of the trail in excess state right-of-way.



M6: Encouragement

Promote bicycling and walking for everyday transportation, recreation, improved health, and active living

In addition to providing a safe, comfortable network for bicycling and walking and educating Californians on their rights and responsibilities, Caltrans and other California state agencies can lead by example by implementing and supporting programs across the state to encourage people to try walking and bicycling.

M6.1: Support and promote bicycling and walking events for all ages

With thousands of employees, Caltrans and other state agencies will set a statewide example for employee encouragement programs by promoting national bicycling and walking event days, such as bike and walk to work days, open streets events, and other similar events. Advertise upcoming events and celebrate employees who participate. Consider an internal Caltrans competition with a goal to increase participation by ten percent per year. Evaluate opportunities to support local and regional Safe Routes to Schools programs or Bike and Walk to School Day events. This action will be led by the California State Transportation Agency and the Division of Local Assistance.

M6.2: Implement model encouragement programs to incentivize walking and bicycling to work for state and partner agency employees

While many public and private employers provide free or subsidized parking for motor vehicles, few offer incentives or even basic accommodations like bicycle parking, lockers, or showers for employees who choose to walk, bicycle, or take transit to work. Implement robust encouragement programs and events for employees, and work with other state agencies to explore implementation of these practices at work sites across the state. Consider convening a summit for state and regional travel demand management (TDM) staff. This action may be led by the Government Operations Agency, the Department of General Services, and the California State Transportation Agency.

M6.3: Research applications of the science of behavior change in transportation

The science of behavior change focuses on understanding how and why people form new habits. Research has shown that people may be more likely to adopt a new habit at times of change in their lives, including beginning a new school or job, or by continuing a behavior established early in life. Applying these methods to transportation could result in more effective encouragement programs to shift trips to walking or bicycling, and a better understanding of the needs of different bicycling trip purposes. Research best practices and effectiveness of known tools and strategies. This action will be led by the Division of Transportation Planning with support from the California Department of Public Health and the Division of Research, Innovation and System Information.



Coalinga Walk to School Day

Activities like this Walk to School Day event in Coalinga and other Safe Routes to School activities and programming can serve as encouragement to get kids excited and wanting to walk and roll to school regularly.

Rancho Cucamonga Pop-up Engagement

In conjunction with the opening of a new segment of the Pacific Electric Trail through Rancho Cucamonga, the city set up a pop-up information center on the pathway. City staff discussed the new facility with residents and visitors, distributed educational materials, and engage the community in future bicycle and pedestrian planning projects.



PHOTO: CITY OF SAN JOSÉ

Viva Calle San José

An open streets event in San Jose passed under US 101, requiring coordination between event organizers, Caltrans, and the City to close the freeway ramps. Open streets events can be a great way to encourage community members to try bicycling or walking in a supportive environment without conflicts with traffic.

Professional Development Rides

The Ohio Department of Transportation, in partnership with Yay Bikes! hosts Professional Development Rides for engineers, planners, and health professionals. The rides are led by experienced bicyclists and help professionals evaluate bicycle-related infrastructure designs through hands-on experience. Some rides are focused on particular projects, while others have focused on more general awareness building. Participants in the rides report an increased understanding of why bicyclists make the choices they do, and how roadway design influences those decisions.

PROFESSIONAL DEVELOPMENT RIDES

Yay Bikes!

Yay Bikes! and the Ohio Department of Transportation are offering educational bicycle rides to engineering, planning and health professionals. These are easy rides led by experienced cyclists. The hour lasts about three hours and can be tailored to your community's specific challenges.

- The rides help professionals evaluate bicycle-related infrastructure designs through hands-on experience.
- Participants report an increased understanding of why cyclists make the choices they do, and how roadway design influences those decisions.

I got a feel for the perspective of a bicyclist (and learned some things about general bicycling practices that are contrary to what I previously thought I knew about bicycling, planning of traffic signals, etc.). These are things that will aid me as I'm working on different levels pertaining to bicycling.

I want to expand my engineering knowledge. I want to experience it. And to see it first-hand that thought, they should give our users a better view perspective. As an engineer, we're focused on making it work, and for that goes as feedback from a customer perspective.

I learned quite a bit about what bicyclists go through and how they feel about the right solution in their city.

PARTICIPATE NOW

If your community would like to participate in a ride send us an email

bikeohio@dot.ohio.gov

OHIO DEPARTMENT OF TRANSPORTATION

PRESERVATION

Maintain a high quality active transportation system



Planning for a high-quality active transportation system involves both building a system and preserving that system over time. Without comprehensive maintenance activities, transportation networks will eventually deteriorate and no longer provide adequate facilities for users.

Just as Complete Streets principles promote consideration of people bicycling and walking in roadway design, a Complete Streets approach to maintenance and preservation can limit the potential barriers created by these activities for people walking and bicycling.

Caltrans will work to address the preservation and maintenance of active transportation systems consistent with the approaches used for highway maintenance. This will require cooperation and collaboration between the agency and local partners to fund and conduct maintenance activities, through formal maintenance agreements established for

every facility, taking into consideration of facility use by bicyclists and pedestrians and cost.

Two key aspects of active transportation system preservation are establishing standards for the quality of conditions and integrating these standards into internal and external programs. In doing so, Caltrans will be able to assist in the creation of reliable facilities by setting standards for condition while also fostering stewardship through the creation of internal and external partnerships.

The two strategies to meet this objective address these two aspects of system preservation:

- » **P1: Quality of Condition:** Establish and meet an expected quality of condition for bicycle and pedestrian infrastructure
- » **P2: Program Integration:** Pursue internal and external partnerships to address bicycle and pedestrian needs in maintenance and preservation activities

Preservation Performance Measures

There are no currently available measures to track the condition and quality of the active transportation system. However, two measures have been identified for longer term tracking as the actions of the plan are implemented:

- » Percentage of bicycle and pedestrian facilities with a good condition rating
- » Percentage of bicycle and pedestrian facilities on state highways meeting established maintenance standards

Implementing these measures will require tracking data on the condition of pedestrian and bicycle facilities and clearly established maintenance standards. Most pavement condition rating systems consider the mainline road, not the bike lane or a shoulder that might allow bicycles, and the condition of sidewalks is tracked infrequently. Actions to help address these issues are identified on the following pages.



Los Angeles Department of Transportation Thermoplastic Application

City of Los Angeles Department of Transportation crews applying a layer of green bike lane thermoplastic in a conflict zone on Reseda Boulevard. Thermoplastic markings are highly reflective and provide long term performance. It is critical that maintainers of these facilities update and repair/replace the striping and markings when necessary.

P1: Quality of Condition

Establish and meet an expected quality of condition for bicycle and pedestrian infrastructure

Setting clear and consistent standards for quality of condition for active transportation infrastructure and establishing methods to monitor condition helps streets, paths, and other active transportation facilities function as expected over time. Similarly, establishing a clear maintenance agreement at the beginning of any project helps an agency or organization understand the responsibility and cost they are committing to maintain a new or improved facility. Caltrans will integrate active transportation conditions into existing departmental maintenance approaches during project development, maintenance, and construction.

P1.1: Develop a standardized menu of services and condition expectations/quality service standards for bicycle and pedestrian facilities and update the existing maintenance manual

The 2014 *Caltrans Maintenance Manual* contains services and condition expectations related to bicycle and pedestrian facilities, but they are spread throughout the manual in various sections. To promote consistency, ease of use, and awareness, include language in an existing chapter in the manual that identifies condition expectations and methods for monitoring quality of condition. Because pavement preservation methods affect automobile traffic and non-motorized traffic in different ways, create a menu of options for maintenance that provide cost-effective quality facilities for all users. This action will be led by the Division of Maintenance.

P1.2: Require consideration of bicyclists and pedestrians during temporary traffic control for construction or maintenance

When a bikeway or walkway is impacted by construction activities, people walking and bicycling often have to make a circuitous detour to travel safe. Set standards for consideration of pedestrians and bicyclists during construction or maintenance activities that require temporary traffic control, including identifying appropriate level of accommodation during long-term capital projects, short-term maintenance projects, and emergency repairs. These standards apply to both major construction projects and maintenance activities on the state highway system and local roads. This action will be led by local agencies, the Division of Maintenance, the Division of Construction, with support from the Division of Traffic Operations and Division of Local Assistance.

Minneapolis Maintenance Guidelines

While many cities have bicycle plans and design guidelines, Minneapolis provides direction on bicycle facility maintenance. Their comprehensive guidelines set standards, such as:

- » On-street bicycle facilities receive the same level of maintenance as the rest of the street surface
- » Clear zones along trails will be mowed at least twice per year
- » Bikeways must be plowed by the end of the next business day following a snow fall

P1.3: Explore changes to sidewalk maintenance responsibility in California to reduce the burden on individual property owners of ongoing maintenance for priority pedestrian routes

Many jurisdictions in California require property owners to maintain sidewalks adjacent to their property, creating financial burden on low income residents and uneven quality along walkways, as repairs are addressed inconsistently or sidewalks adjacent to vacant properties are entirely unattended. Some property owners may view small cracks or faults in the walkway to be minor, but these can pose significant challenges to pedestrians in wheelchairs or using other mobility devices. A more comprehensive strategy in priority pedestrian areas will produce a more consistent walking experience. This action will be led by the Division of Local Assistance and the California State Transportation Agency.

Berkeley Construction

During construction, bicyclists were permitted on this Bicycle Boulevard in Berkeley (a low-speed, Class III facility optimized for bicycle travel), but the route was closed to vehicular traffic. Adding distance to a trip with a detour was a relatively minor inconvenience for people driving, but would have added significant time and effort for a bicyclist.



San Luis Obispo County Highway 1 Shoulder Seal

In 2012, US 1 in San Luis Obispo County was resurfaced with a ‘chip seal,’ a common preventative maintenance technique that adds five to ten years of life to a road at low cost. While extending roadway life, the rougher surface was uncomfortable for bicyclists. Caltrans partnered with the bicycling community and the University of California Pavement Research Center to identify and test cost-effective resurfacing techniques to maintain bicyclist comfort in this heavily traveled corridor. A new treatment was applied and Caltrans updated specifications for chip seals to use aggregate sizes that accommodate all modes.



P2: Program Integration

Pursue internal and external partnerships to address bicycle and pedestrian needs in maintenance and preservation activities

Internally, Caltrans will work to create more open systems of communication and foster collaboration across divisions and project teams around planning, budgeting, and implementation of maintenance and preservation activities. While these activities are limited to minor repairs or resurfacing and do not cover larger rehabilitations or reconstructions, many of these projects present opportunities to add or improve bicycle facilities without significant additional cost.

Maintenance and preservation of active transportation facilities involve several different divisions and project teams, so it is imperative that staff form strong partnerships and clearly communicate task requirements and budget needs. Creating an open and collaborative process will help include the necessary maintenance actions and in project planning. Caltrans will also work to establish and strengthen external partnerships with other agencies, non-profits, and citizen groups to strengthen relationships with people who work ‘on the ground’ and may be able to quickly identify and respond to some issues. Involving community members in preservation and maintenance efforts of their local facilities can create a greater sense of ownership of these facilities, reducing maintenance costs and increasing community pride.

P2.1: Incorporate bicycle and pedestrian needs into asset management plans and associated programming and prioritization processes

Including active transportation facilities in preservation and maintenance of the state highway system improves the bicycling and walking experience while also using staff time and resources efficiently. Where bicycling or walking facilities are provided along a segment of the state highway system, develop clear maintenance agreements and identify funding sources to maintain those facilities to an appropriate standard. This will require a change in policy and an update to the current maintenance directive to allow for minor design work for minor pavement preservation projects and to allow for new placement of striping. This action will be led by the Division of Maintenance and the Division of Transportation Planning.

P2.2: Develop an Adopt-a-Bikeway program to assist with maintenance of bicycle facilities, similar to Adopt-a-Highway

Expand outreach activities to existing community groups and potential private sponsors. Develop training and education programs to assist these groups to become successful in preservation and maintenance activities, including clean-up events to bring partners together and clear vegetation or debris from paths. This action will be led by the Division of Maintenance.



EQUITY

Adopt segments throughout the state, not disproportionately in affluent areas.

P2.3: Include maintenance staff in Project Initiation Document, planning, and design phases for projects to consider impacts

In addition to maintenance staff input, consider developing a measurement tool that considers maintenance practices and equipment needs when initiating projects. Review PID procedures and recommend appropriate approach to integration. Incorporate bicycle and pedestrian needs into asset management plans and associated programming and prioritization processes. This action will be led by the Division of Transportation Planning and the Division of Maintenance.

San Jose Trail Closure Policy

Because many trails are built along waterways, trails sometimes must be closed. San Jose has established a trail closure policy that identifies the steps to take when a trail is closed, including posting detour routes and communicating about the closure to the public.

TRAIL Closure Process

Required Steps	Recommended Steps
<ol style="list-style-type: none"> 1. Indicate trail on projects plans, limits of closed, detour signs, and schedule. Short-term closures should avoid holidays, weekends and commute hours. 2. Submit plans per the "Routing Plans" table below. 3. Upon approval, contact the Trail Program Manager with closure information for posting. See "More Information". 	<ol style="list-style-type: none"> 1. Submit closure information to the Trail Program Manager for informational purposes if closing a trail outside of the City but leading to the Trail Network. 2. Attend project-appropriate coordination meetings: <ul style="list-style-type: none"> • Utility Coordination Meeting • Downtown Construction Coordination Meeting (monthly) • See Web Site for schedules.



American River Parkway Foundation

The American River Parkway Foundation in Sacramento is a nonprofit organization dedicated to environmental education and stewardship of the 23-mile parkway. The foundation accepts general donations to support maintenance and programs, and also operates an 'Adopt a Parkway' program for specific miles of the trail. Adopters can opt to be a financial sponsor at \$1,500 annually, or be a mile steward and commit to 20 hours each quarter spent on parkway cleanup, weeding, minor maintenance activities, and reporting of any larger issues. Both programs have two-year minimum commitments, and honor stewards and sponsors on signs along their chosen mile.

Midtown Greenway Coalition

Prior to the installation of the 5.5 mile Midtown Greenway in Minneapolis, a grassroots coalition advocated for the construction of the trail. Once completed, the Midtown Greenway Coalition continued its mission to support the trail by coordinating with the City and providing volunteers to perform trail maintenance, nightly watch, and engagement activities. These activities are supported by a combination of membership dues, local business sponsorship, and volunteer time.



SOCIAL EQUITY

Invest resources in communities that are most dependent on active transportation and transit



Walking and bicycling are modes of transportation that nearly everyone can choose, making social equity a critical consideration for any active transportation plan. This Plan explicitly prioritizes social equity in active transportation planning and implementation. Caltrans will work to provide equity in mobility and accessibility to meet the needs of all community members regardless of age, race, gender, ability, or income.

Providing equitable transportation can have exponentially positive impacts, by connecting people to economic opportunities and basic needs. Disadvantaged communities face many challenges in planning for and implementing active transportation, including staff availability, training, and capacity, as well as funding for planning and implementation, including matching funds required for grants. Women also typically bicycle less frequently than men, due to concerns about safety, including personal safety.

Caltrans will work to address these challenges. Following an inclusive and open process in the planning and implementation of active transportation will make active transportation facilities available to the people who need them most.

Ensuring equitable access to funding and implementation opportunities will help achieve a complete network in underserved communities. Caltrans will integrate an equity lens throughout this Plan.

The following strategies support a more equitable active transportation system in California:

- » **E1: Community Support:** Strengthen engagement with disadvantaged communities by proactively seeking input on needs and providing technical guidance
- » **E2: Equity Lens:** Address social equity when implementing all strategies from this Plan
- » **E3: Access to Funding:** Provide disadvantaged communities with the opportunity to participate in active transportation funding programs

Social Equity Performance Measures

Social equity can be partially tracked through levels of investment in funding programs – for example, 100 percent of the approved projects for the most recent round of the statewide Active Transportation Program went to support disadvantaged communities. However, a systematic accounting of the funding for all projects that support active transportation is not possible.

Long term, important measures to track related to social equity may include:

- » Percent of transportation-disadvantaged population within 1/2-mile bicycling distance to on-street bicycle facilities
- » Percent of disadvantaged population for whom state highways serve as barriers to economic and other opportunities
- » Percent of transportation-disadvantaged population with access to completed sidewalk network
- » Bicycling and walking rates for low income communities, people of color and women



IMAGE CREDIT: CALIFORNIA TRANSPORTATION COMMISSION.

Social Equity

Sacramento County residents advocating for safer, more active transportation friendly streets.



IMAGE CREDIT: SANTA ANA STREETS COALITION

Santa Ana Active Streets Coalition

The Santa Ana Active Streets Coalition works to cultivate diverse community participation in creating safe and accessible environment for active transportation in Santa Ana, including leading free confident cycling classes.

E1: Community Support

Strengthen engagement with disadvantaged communities by proactively seeking input on needs and providing technical guidance

Incorporating inclusive engagement processes in planning and implementation of active transportation networks will help engage disadvantaged communities and involve them in creating plans and projects that best serve their needs. Caltrans will provide training and technical assistance on best practices to provide inclusive engagement for all transportation planning processes.

Collaboration with metropolitan planning organizations and regional transportation planning agencies will be key to the success of this strategy. In addition to identified disadvantaged communities, Caltrans will engage tribal communities and rural communities early and often in the planning process.

E1.1: Proactively identify disadvantaged communities without active transportation plans and help them develop plans

Opportunities for funding and implementation often depend on having a completed active transportation plan, but communities with limited resources may not have the staff capacity or available funding to create needed plans. In the short term, establish criteria for assessing and prioritizing communities to provide assistance based on need and disadvantaged community status. Over the medium term, develop and maintain a list of local active transportation plans during the course of normal communication and interaction with local agencies to facilitate this effort, and communicate directly with members of disadvantaged communities to engage them in the process. This action will be led by metropolitan planning organizations and regional transportation planning agencies with support from the Division of Local Assistance and the Division of Transportation Planning.

Sustainable Transportation Planning Grants

Caltrans provides planning grant awards to cities, counties, transit agencies, metropolitan planning organizations, and regional transportation planning agencies to promote a balanced multimodal transportation system, and to promote the involvement of low-income communities, minority communities, and tribal governments in the planning of transportation projects. The grant program encourages engagement of disadvantaged communities and tribal governments including outreach events, surveys, and translation services. Applicant agencies can work with community-based organizations and nonprofit groups as sub-applicants, allowing for community representation in the design and implementation of outreach and engagement strategies.



E1.2: Provide active transportation technical assistance as part of existing Caltrans technical assistance programs

Expand the offerings of the Active Transportation Resource Center to provide resources, webinars, and tools beyond Safe Routes to School to include all users and destinations. Provide active transportation and community engagement training through the Local Technical Assistance Program Center, which currently offers trainings on federal-aid processes, infrastructure management, worker safety, and workforce development. In the short term, define opportunities to coordinate the ATRC and LTAP programs. This action will be led by the Local Technical Assistance Program.

E1.3: Require District staff to reach out to regional transportation planning agencies, metropolitan planning organizations, and disadvantaged communities to identify opportunities to integrate active transportation into local plans and programs

Work proactively with disadvantaged communities to incorporate key active transportation policies, goals, and strategies into other plans and programs such as general plan updates, community plans, or other transportation plans. Include notifications of the opportunity to include active transportation content in regular communications with regional transportation planning agencies, metropolitan planning organizations, and local agencies. As part of the plans identified in M1.1 and other planning efforts, establish a list of typical community organizations and agencies for outreach. This action will be led by the Division of Transportation Planning and District staff.

E1.4: Develop education and encouragement materials that can be distributed by communities without resources to develop their own programs

Create a statewide bicycling and walking safety guide available in multiple languages to promote basic education on active transportation in communities without the ability to host robust educational programs. Languages should be specific to the regional context the materials are intended to support. Similarly, making existing toolkits and resources available to local agencies can support encouragement and outreach campaigns. This action will be led by the Division of Traffic Operations with support from the Office of Traffic Safety, the Division of Local Assistance, and the Division of Transportation Planning.

California Active Transportation Resource Center

The California Active Transportation Resource Center (formerly the CA Safe Routes to School Resource Center) assists California's communities with resources, technical assistance, and training materials to implement active transportation projects. They also support grant applications statewide with webinars, data tools, and peer review.

<http://www.caatpresources.org>



E2: Equity Lens

Address social equity when implementing all strategies from this Plan

Equity is woven throughout this Plan and the recommended actions. An equity lens provides a way of understanding and evaluating policies and projects that takes into account historical and current institutional and structural sources of inequality and works to narrow gaps, overcome inequities, and improve overall outcomes by considering the distribution of positive and negative impacts of investments. Community and nonprofit groups play an important role identifying and advocating for the specific needs of their communities. Caltrans views social equity as a critical component of all Plan efforts, instead of a stand-alone action. Integrating the equity lens throughout all implementation efforts will help this Plan benefit all Californians.

E2.1: Develop equity-focused Caltrans district plans to identify and improve state highway crossings that limit accessibility to or within communities (see S1.1)

Caltrans is committed to ensuring that state highways do not create barriers for communities. Create a methodology to identify highway crossings that negatively impact communities and prioritize improvements based on need and other equity criteria. Work proactively with communities to develop plans to improve identified crossings, including community engagement to inform the design. Tools like CalEnviroScreen can be used to support identification of disadvantaged communities. This action will be led by the Division of Transportation Planning with implementation support by District staff.

E2.2: Consider access to economic opportunity as a critical component to serving disadvantaged communities

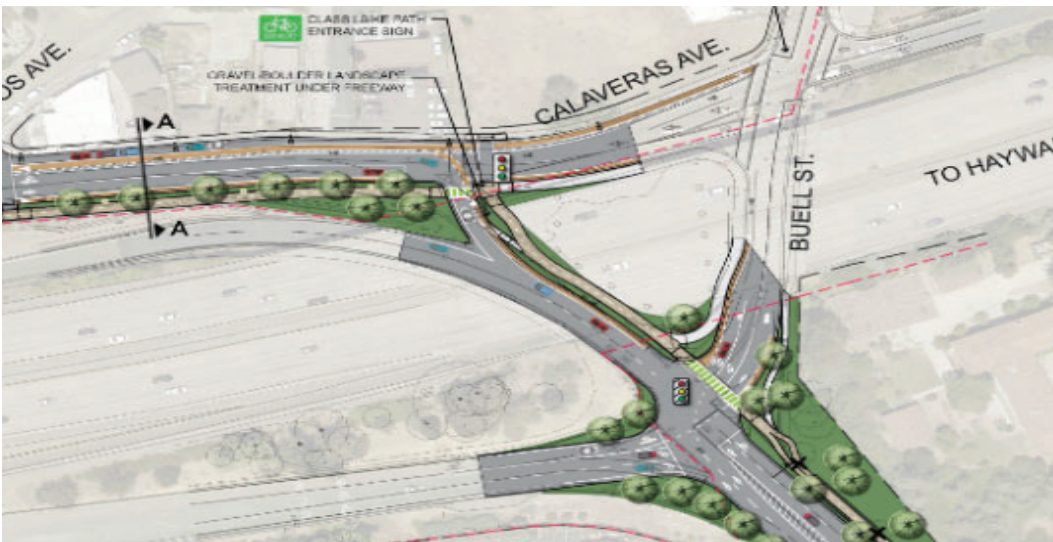
Incorporate access to employment as a key analysis factor for active transportation improvements and encourage local agencies to do the same for local planning efforts. Report on effectiveness of the Active Transportation Program in supporting access to economic opportunity. This action will be led by the Division of Transportation Planning.





Los Angeles “Great Streets” Program

The Great Streets Program, housed in the Los Angeles Mayor’s Office issues Challenge Grants for communities to come together and creatively envision how they want their streets designed. Above is a 2015 winning project on Cesar Chavez Boulevard in Boyle Heights. State funding could spur new programs and expand existing ones, further extending the reach and potential success of these programs.



Alameda County I-580 Project

The Laurel Access to Mills, Maxwell Park & Seminary Project improves pedestrian and bicycle access along MacArthur Boulevard across I-580 in Oakland. The project improves intersection crossings and utilizes underused space beneath the I-580 freeway with a Class I path, landscaping, and pedestrian-scale lighting.

E3: Access to Funding

Provide disadvantaged communities with the opportunity to participate in active transportation funding programs

To develop an equitable active transportation network, access to funding must also be equitable. This involves removing barriers and making information accessible for funding opportunities. Funding for planning and implementation can often be a challenge for disadvantaged communities, including the need to provide matching funds for grants. Assisting communities with identification and development of projects can also increase their competitiveness at the statewide level. Maintaining and enhancing partnerships with public health and other agencies will help leverage funding and implementation opportunities.

Sharing information to help build these partnerships at the local level and connecting disadvantaged communities with non-traditional funding opportunities will help provide access to funding. Active transportation involves many disciplines and can therefore be a catalyst for breaking down silos, creating cross-disciplinary programs, plans, and projects, and broadening the scope of funding opportunities.

E3.1: Develop a centralized information resource for grant funding and partnership opportunities for active transportation projects

Work with partners to create a comprehensive resource library where communities can access information on guidelines, eligibilities, and timelines for all available funding programs, both governmental and non-governmental. This action will be led by the Division of Local Assistance, Division of Transportation Planning, Division of Traffic Operations, and California Transportation Commission.

E3.2: Identify opportunities to simplify and streamline grant funding for local agencies, and provide technical assistance with analysis for applications

Work to reduce or eliminate barriers that grant application processes may create for disadvantaged communities to receive funding. Caltrans will also provide technical assistance for applicants. This action will be coordinated by the Division of Transportation Planning, with support from multiple Divisions that oversee several grant programs.

Grant Application Technical Support

The Sacramento Area Council of Governments provides application support for local agencies within its region seeking grant funding through the Active Transportation Program. An information center provides census data, a forecasting tool, and other helpful resources to ease the data collection and analysis burden on applicant agencies. This can be especially helpful for low-resource communities who may not have the staffing resources to develop strong Active Transportation Program applications on their own, and may not have funding available to seek outside support.

E3.3: Evaluate funding efforts to determine how grant funds address bicycle and pedestrian network needs

Define evaluation metrics and establish criteria for defining the needs of the communities the network serves. This will allow Caltrans to move away from an opportunity-based funding model to a need-based funding program. This effort should build on the work and findings in the Technical Assistance Resource Center's study on Safe Routes to School funding for low-income communities. This action may require a change in law, and should not supersede or eliminate current funding of active transportation investments. This action will be led by the Division of Transportation Planning and the Division of Local Assistance with support from the Division of Research, Innovation and System Information.

E3.4: Explore joint funding of active transportation plans and programs with county public health agencies, tribal governments, transit agencies, parks and recreation departments, and other potential partners

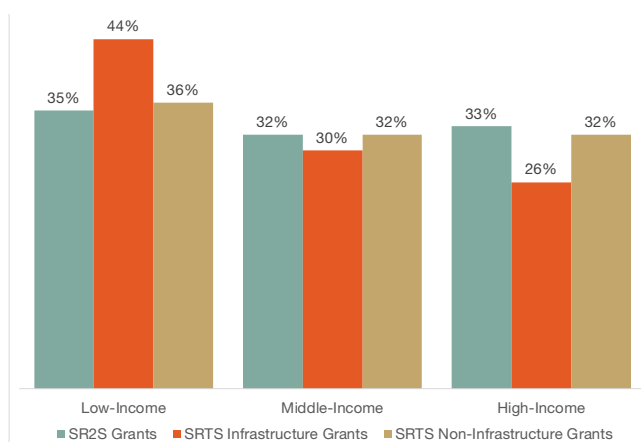
Transportation agencies regularly partner with other agencies to expand funding opportunities will allow more people to be reached. This can lead to process streamlining and improved collaboration and cohesion between programs. Evaluate the extent and effectiveness of these partnerships and identify opportunities to extend these partnerships further. This action will be led by the Division of Transportation Planning and the Division of Local Assistance with support from the California Department of Public Health.

E3.5: Highlight successful non-traditional funding partnerships as models for other communities

Provide resources and case studies as part of technical assistance that highlight non-transportation related public funding and non-governmental funding opportunities. Health agencies focused on reducing chronic diseases and obesity have particular promise for forming strong partnerships, as do regional and statewide health-focused foundations like the Sierra Health Foundation and the California Endowment. Consider providing training for innovative funding and grant writing for active transportation as part of 'Tech Transfer' trainings. This action will be led by the Division of Local Assistance.

Active Transportation Investment in Low Income Schools and Communities

The California Safe Routes to School Program *Low-Income Schools and Communities* study (2010) identified how funding has been distributed by income of the schools served (data at right). Consistent with Title I, low-income schools have 75 percent or more of students eligible for free or reduced price meals. This analysis could be expanded to all active transportation funding sources.





» 5 Implementation



Implementation

Implementing *Toward an Active California* requires partnerships among public agencies at all levels of government and support from the private sector. Active transportation brings together health, safety, economic development, tourism, the environment, and sustainability. Throughout this process, Caltrans worked with the State Transportation Agency and its departments (Department of Motor Vehicles, Office of Traffic Safety, High Speed Rail Authority, California Highway Patrol), the many divisions of Caltrans, and partner state agencies and groups (California Department of Public Health, Strategic Growth Council, and others). Regional and local partners have also been an important part of this process and will need to support implementation of this Plan and lead some of the actions.

The Road Repair and Accountability Act of 2017 will play a vital role in implementing the actions identified in this plan. The landmark transportation bill will significantly augment existing funding sources through a variety of funding programs, including a sizable increase to the Active Transportation Program, establishing the Congested Corridors Program focused on multimodal system improvements, and funding maintenance for state highways and local streets and roads. Caltrans and other agencies responsible for the implementation of the actions identified in this chapter will explore opportunities to develop active transportation improvements through these funding sources as the guidance for the Road Repair and Accountability Act of 2017 is created.

Action Plans

The plan identifies a number of actions to be implemented. This section describes the actions, responsibilities, expected time frame for implementation and potential cost, where that can be readily estimated. The Caltrans Division of Transportation Planning has several overall responsibilities for the execution of this plan, including:

- » Tracking fulfillment of these actions, including engaging with partner agencies outside of Caltrans.
- » Developing an approach for regular reporting of the actions of this plan (at least annual).
- » Establishing a schedule for regular plan updates, consistent with the update of the California Transportation Plan conducted every 5 years

Time frames have been identified for each action, including:

- » In Progress – for actions that were begun as part of an existing process
- » Short – for work that should be completed in the next 1 to 3 years
- » Medium – for work that will be completed in the next 4 to 6 years
- » Long– for work that will take up to 10 years to complete

Where initial steps are identified in Chapter 4, the time frame references that first step.

The remainder of this chapter captures the individual action items, expected time-frame, and provides some information about costs for major actions.

Safety

Reduce the number, rate, and severity of bicycle and pedestrian involved collisions

S1: Safer Streets & Crossings

Address safety of vulnerable users in roadway design and operations

Action	Partners	Time Frame
S1.1 Develop equity focused plans at the regional or district level to proactively identify opportunities for safer highway crossings, including addressing personal safety	Lead: Division of Transportation Planning, Division of Traffic Operations, metropolitan planning organizations, regional transportation planning agencies, District staff	Medium
S1.2 Work with regional and local agencies to apply the guidelines in Caltrans' Complete Intersections Guide, Main Street California Guide, and National Association of City Transportation Officials guidelines	Lead: metropolitan planning organizations, regional transportation planning agencies, Division of Transportation Planning, District staff	Medium
S1.3 Develop and implement a systemic safety analysis approach to address infrastructure that poses a higher risk to vulnerable users	Lead: Division of Traffic Operations	Short

S2: Education

Provide consistent, accessible, and universal education about the rights and responsibilities of all roadway users

Action	Partners	Time Frame
S2.1 Include active transportation infrastructure concepts and bicycle/pedestrian safety information in regular driver hand-book updates	Lead: Department of Motor Vehicles Support: Caltrans	Short, update every 5 years
S2.2 Include bicycle and pedestrian content in driver testing exams for all new and re-licensing drivers	Lead: Department of Motor Vehicles Support: Caltrans, California Bicycle Advisory Commission	Medium
S2.3 Explore periodic re-licensing of drivers	Lead: Department of Motor Vehicles Support: Caltrans	In progress (SHSP action plan)
S2.4 Provide universal elementary school bicycle and pedestrian curriculum	Department of Education, Caltrans	Medium
S2.5 Advance an adult-oriented safe bicycling and walking curriculum	Department of Education, Department of Aging, Office of Traffic Safety, Caltrans	Long
S2.6 Incorporate ADA awareness into all active transportation educational programs	Lead: Department of Motor Vehicles and Office of Traffic Safety Support: Caltrans	Medium
S2.7 Engage colleges and universities in including current, best-practice bicycle and pedestrian design in engineering programs	Lead: Division of Transportation Planning, Division of Design, Division of Local Assistance	Short - survey of programs

S3: Safety Data

Invest in the quality, completeness, timeliness, and availability of data on bicycle and pedestrian collisions

Action	Partners	Time Frame
S3.1 Continue developing approaches to integrate hospital data into collision reporting	Division of Traffic Operations and California Department of Public Health Support: Office of Traffic Safety, California Highway Patrol	In Progress
S3.2: Develop improved exposure estimates for bicycling and walking	Lead: Division of Traffic Operations, Division of Transportation Planning Support: Division of Research, Innovation and System Information	See item M4.4
S3.3 Explore the feasibility of conducting a pilot study of the information being compiled regarding collisions involving bicycles and pedestrians, leveraging investment in exposure estimates developed in S3.2	Lead: Division of Traffic Operations, California Highway Patrol, Office of Traffic Safety	Medium

S4: Enforcement

Focus state and local enforcement of safety on highest risk behaviors by all road users

Action	Partners	Time Frame
S4.1 Support updates to police officer training to curb road user behaviors that pose the greatest risk of collision, injury, and fatality	Lead: California Highway Patrol Support: Caltrans, Office of Traffic Safety, and local police	Medium
S4.2 Support and fund diversion programs for bicyclists and pedestrians cited for a traffic offense. <i>Preliminary target of making diversion programs available to 25% of Californians.</i>	Lead: local governments Support: Office of Traffic Safety, Caltrans	Medium
S4.3 Explore use of technology and engineering methods to reduce speeding and aggressive driving	Lead: Division of Traffic Operations Support: Division of Research, Innovation and System Information, Division of Transportation Planning	Medium
S4.4 Research methods for setting and enforcing speed limits	Lead: Division of Research, Innovation and System Information Support: Division of Traffic Operations, Division of Transportation Planning	Short

Mobility

Increase walking and bicycling in California

M1: Connected and Comfortable Networks

Develop local and regional networks of high-quality, bicycle and pedestrian facilities for all ages and abilities

Action	Partners	Time Frame
M1.1 Develop District-level plans to identify bicycle and pedestrian needs and priority projects on or parallel to the state highway system, with a focus on closing gaps and building complete, comfortable networks that consider the context	Lead: Division of Transportation Planning, Division Staff	Short
M1.2 Provide ongoing implementation of existing Caltrans Complete Streets education and hands-on training	Lead: Multiple Caltrans Divisions (see CSIAP 2.0)	In progress
M1.3 Increase state investment and encourage local and regional investment in complete bicycle and pedestrian networks	Lead: State Transportation Agency, local agencies, metropolitan planning organizations, and regional transportation planning agencies	Short

Action	Partners	Time Frame
M1.4 Explore opportunities to develop a network of separated 'bicycle highways' to serve regional and interregional travel	Lead: metropolitan planning organizations, regional transportation planning agencies, Division of Transportation Planning	Medium
M1.5 Consider bicyclist and pedestrian comfort when designing new or improved facilities for state highways, and encourage use of this approach by local agencies	Lead: Division of Design, Division of Research, Innovation and System Information	In Progress
M1.6 Provide a comprehensive resource on best practice bicycle and pedestrian design treatments for California	Lead: Division of Design, Division of Transportation Planning, Division of Local Assistance	Short

M2: Multimodal Access

Integrate bicycle and pedestrian needs in planning and design of multimodal transportation systems and services

Action	Partners	Time Frame
M2.1 Incorporate first mile/last mile planning for bicycle/pedestrian access needs for all intercity/high speed rail and transit systems,	Lead: Local and regional transit agencies, High Speed Rail Authority, Division of Rail and Mass Transportation	Short
M2.2 Identify bicycle parking needs at transit, rail and park and ride services and define appropriate bicycle accommodation policies	Local transit agencies, High Speed Rail Authority, metropolitan planning organizations, regional transportation planning agencies Support: Division of Rail and Mass Transportation	Medium
M2.3 Explore development of a state-wide bike share system that reaches the maximum number of Californians	Lead: Division of Transportation Planning	Medium
M2.4 Provide seamless integration of bike share and public transit fare systems on a regional or statewide scale	Lead: metropolitan planning organizations, regional transportation planning agencies, Division of Transportation Planning, Division of Rail and Mass Transportation	Long
M2.5 Support expanded use of electric bicycles in California, including the provision of a network of public electric bike charging infrastructure	Lead: Division of Transportation Planning Support: State Transportation Agency	Long
M2.6 Facilitate opportunities for local freight delivery by bicycle, including funding pilot implementation	Lead: Division of Transportation Planning, Air Resources Board	Medium

M3: Efficient Land Use and Development

Support regional and state efforts that integrate land use and transportation planning to maximize the effectiveness of active transportation investments

Action	Partners	Time Frame
M3.1 Provide guidance to state and local agencies on school and government building siting that considers walkability, bikeability, and proximity to transit	Lead: Department of General Services	In Progress
M3.2 Link land use plans, zoning, and design standards to active transportation planning, integrating principles of location efficiency and urban form	Lead: California Strategic Growth Council, Governor's Office of Planning and Research	Medium
M3.3 Support the design of transit-oriented and location efficient development that creates density and urban form to encourage pedestrian, bicycle, and transit travel	Lead: Local agencies, metropolitan planning organizations, regional transportation planning agencies	Medium
M3.4 Explore opportunities for a consolidated, universal and flexible wayfinding system applicable to all modes of travel	Lead: Division of Traffic Operations Support: California Traffic Control Devices Committee, Division of Transportation Planning, Division of Design	Medium

M4: Network and Travel Data

Develop consistent, high-quality data on bicycle and pedestrian travel and facilities

Action	Partners	Time Frame
M4.1 Develop a standard collection method for bicycle and pedestrian counts and create a central database for storing counts	Lead: Division of Transportation Planning; Division of Research, Innovation and System Information; Division of Traffic Operations	Short
M4.2 Explore opportunities to leverage existing data collection by Caltrans and third parties to better understand use of the system by bicyclists and pedestrians	Lead: Division of Research, Innovation and System Information; Division of Traffic Operations	Medium
M4.3 Improve state travel surveys to better represent bicycle and pedestrian travel	Lead: Division of Transportation Planning	Every 5-10 years when NHTS conducted
M4.4 Work with the Federal Highway Administration and other partners to develop a standard for bicycle and pedestrian infrastructure and data	Lead: Division of Research, Innovation and System Information; Division of Local Assistance	Medium
M4.5 Appropriately consider bicycling, pedestrian, and transit concerns in traffic analysis methods	Lead: Division of Transportation Planning	In Progress

M5: Statewide Trails

Support low-stress or separated pedestrian and bicycle trail routes of statewide or regional significance for tourism, recreation, and utilitarian transportation

Action	Partners	Time Frame
M5.1 Promote awareness of and connections to key statewide bicycling and walking routes	Lead: California State Parks Support: Division of Transportation Planning	In Progress
M5.2 Coordinate with state and local convention and visitors bureaus to market bicycling and walking options to tourists	Lead: Local economic development agencies Support: Caltrans	Medium

M6: Encouragement

Promote bicycling and walking for everyday transportation, recreation, improved health and active living

Action	Partners	Time Frame
M6.1 Support and promote bicycling and walking events for all ages	State Transportation Agency, Division of Local Assistance	Short
M6.2 Implement model encouragement programs to incentivize walking and bicycling to work for state and partner agency employees	Government Operations Agency, Department of General Services, State Transportation Agency	Short - workshop
M6.3 Research applications of the science of behavior change in transportation	Division of Transportation Planning Support: DRISI, California Department of Public Health	Long

Preservation

Maintain a high quality active transportation system

P1: Quality of Condition

Establish and meet an expected quality of condition for bicycle and pedestrian infrastructure

Action	Partners	Time Frame
P1.1 Develop a standardized menu of services and condition expectations/quality service standards for bicycle and pedestrian facilities and update the existing maintenance manual	Lead: Division of Maintenance	Medium
P1.2 Require consideration of bicyclists and pedestrians during temporary traffic control for construction or maintenance	Local agencies, Division of Maintenance, Division of Construction, Division of Design Support: Division of Traffic Operations, Division of Local Assistance	Medium
P1.3 Explore changes to sidewalk maintenance responsibility in California to reduce the burden on individual property owners of ongoing maintenance for priority pedestrian routes	Lead: State Transportation Agency	Medium

P2: Coordination

Pursue internal and external partnerships to address bicycle and pedestrian needs in maintenance and preservation activities

Action	Partners	Time Frame
P2.1 Incorporate bicycle and pedestrian needs into asset management plans and associated programming and prioritization processes	Lead: Division of Maintenance, Division of Transportation Planning	In Progress
P2.2 Develop an Adopt-a-Bikeway program to assist with maintenance of bicycle facilities, similar to Adopt-a-Highway	Lead: Division of Maintenance	Short
P2.3 Include maintenance staff in Project Initiation Document, planning, and design phases for projects to consider impacts	Lead: Division of Transportation Planning, Division of Maintenance	Short

Social Equity

Invest resources in communities that are most dependent on active transportation and transit

E1: Community Support

Strengthen engagement with disadvantaged communities by proactively seeking input on needs and providing technical guidance

Action	Partners	Time Frame
E1.1 Proactively identify disadvantaged communities without active transportation plans and help them develop plans	Lead: metropolitan planning organizations, regional transportation planning agencies Support: Division of Local Assistance, Division of Transportation Planning	Short
E1.2 Provide active transportation technical assistance as part of existing Caltrans technical assistance programs	Lead: Local Technical Assistance Program	Short
E1.3 Require District staff to reach out to regional transportation planning agencies, metropolitan planning organizations, and disadvantaged communities to identify opportunities to integrate active transportation into local plans and programs	Lead: Division of Transportation Planning, District staff	Short
E1.4 Develop education and encouragement materials that can be distributed by communities without resources to develop their own programs	Lead: Division of Traffic Operations Support: Office of Traffic Safety, Division of Local Assistance, Division of Transportation Planning	Short

E2: Equity Lens

Address social equity when implementing all strategies from this Plan

Action	Partners	Time Frame
E2.1 Develop equity-focused Caltrans district plans to identify and improve state highway crossings that limit accessibility to or within disadvantaged communities (See S1.1)	Lead: Division of Transportation Planning Support: District staff	Medium (see S2.1)
E2.2 Consider access to economic opportunity as a critical component to serving disadvantaged communities	Lead: Division of Transportation Planning	Medium

E3: Access to Funding

Provide disadvantaged communities with the opportunity to participate in active transportation funding programs

Action	Partners	Time Frame
E3.1 Develop a centralized information resource for grant funding and partnership opportunities for active transportation projects	Lead: Division of Local Assistance	Short
E3.2 Identify opportunities to simplify and streamline grant funding for local agencies, and provide technical assistance with analysis for applications	Lead: Division of Transportation Planning Support: multiple Divisions	Medium
E3.3 Evaluate funding efforts to determine how grant funds address bicycle and pedestrian network needs	Lead: Division of Transportation Planning, Division of Local Assistance Support: Division of Research, Innovation and System Information	Medium - study every 5 years
E3.4 Explore joint funding of active transportation plans and programs with county public health agencies, tribal governments, transit agencies, parks and recreation departments, and other potential partners	Lead: Division of Transportation Planning, Division of Local Assistance Support: California Department of Public Health	Short
E3.5 Highlight successful non-traditional funding partnerships as models for other communities	Lead: Division of Local Assistance	Short

Measuring Success

Toward an Active California provides a set of performance measures to track the success of the above actions. These are identified within each goal in Chapter 4, and reproduced here.

Objective	Measure	Status
Safety	Number of bicycle and pedestrian fatalities and serious injuries (5 year rolling average)	Already collected Federally required per MAP-21
	Bicycle and pedestrian fatalities	Already collected Strategic Management Plan target to reduce by 10% per year
	Bicycle and pedestrian collision, serious injury, and fatality rate	Long term (requires exposure data)
Mobility	Walk and bicycle mode share (all trips)	Already collected (every 8 to 10 years as part of NHTS)
	Pedestrian and bicycle miles of travel	Long term (requires better count data)
	Bicycle level of traffic stress on the state highway system	Long term (requires finalizing measure and coding state highway network)
Preservation	Percent of bicycle and pedestrian facilities with a good condition rating	Long term (requires establishing condition ratings)
	Percent of bicycle and pedestrian facilities on state highways meeting established maintenance standards	Long term (requires establishing maintenance standards for bicyclists and pedestrians - P1.1)
Social Equity	Percent of transportation-disadvantaged population within 1/2 mile bicycling distance of on or off-street bicycle facilities	Long term (requires network data - M4.4)
	Percent of disadvantaged population for whom state highways serve as barriers to economic and other opportunities	Long term (need definition of barriers - S1.1 - and network data - M4.4)
	Percent of transportation-disadvantaged population with access to completed sidewalk network	Long term (need data on sidewalk network - M4.4)
	Bicycling and walking rates for low income communities, people of color, and women	Already collected (every 8 to 10 years as part of NHTS)

What Will it Take?

Toward an Active California lays out an ambitious agenda for Caltrans and its partners to support active transportation in the State. While the plan is focused on the policy actions that Caltrans, other state agencies, and regional and local partners can take to improve the safety and comfort of pedestrians and bicyclists, this section addresses the critical question: what will it take?

This section provides a preliminary assessment of the resources needed to address several high priority, significant investments. These investments are intended to describe high level needs and to start a conversation on funding active transportation. Actual bicycle and pedestrian needs across the state would require analysis at the State, regional, and local levels.

Investing in Infrastructure

The following ranges provide a planning level estimate for the investment need in additional infrastructure, taking into account the limited data available on existing bicycle and pedestrian facilities.

- » Tripling bicycle commute mode share likely requires at least \$8 billion worth of investment, based on data on available bicycle infrastructure and commute mode shares in cities across California. This does not account for non-commute trips, though many utilitarian and some recreational trips would use the same infrastructure. A more significant shift in travel by bicycle could substantially increase this cost as well.
- » Pedestrian needs are harder to estimate, though Caltrans recently committed \$1.1 billion for ADA needs on the state highway system over 30 years. The City of Los Angeles identified \$1.4 billion in needed pedestrian upgrades (\$190,000 per centerline mile of road). Using this information, overall pedestrian infrastructure needs across the state are likely to be at least \$60 billion (based on the Los Angeles estimate), though may substantially higher, considering the level of investment being made by Caltrans.

Investing in Education and Training

Education and training are critical elements of the implementation of the plan. The following estimates describe the potential need for the proposed programs:

- » Providing universal education to school children is likely to cost between \$20,000 and \$300,000 per school per year, depending on the types of programs implemented. With approximately 10,000 schools in California, this cost would be between \$20 million and \$300 million per year.
- » Providing a training resource on bicycle and pedestrian design is likely to cost between \$500,000 and \$750,000.
- » Providing ongoing regular adult education on safe bicycling and walking will cost between \$400,000 and \$500,000 to develop. Implementation costs will depend on the development of the program, and may be borne by partners, such as universities, senior centers, and others.

Investing in Planning

The plan identifies a substantial need to identify bicycle and pedestrian needs across the state transportation system. Potential planning related needs may include:

- » Developing district bicycle and pedestrian plans to prioritize needs and projects for bicyclists and pedestrians are likely to cost about \$100,000 to 500,000 per district, or \$1.2 to \$6 million overall.
- » Up to \$3 million is needed to support ongoing research efforts to improve monitoring of pedestrian safety needs and expand these efforts to include bicycle safety.

Investing in Data

The plan identifies several areas of data need. These needs are for statewide data collection, not specifically for the State Highway System. Specific needs include:

- » Around \$500,000 is needed to develop a database to collect existing and proposed bicycle and pedestrian counts. Maintaining this database over time will likely require \$100,000 per year.
- » Systematically collecting counts will likely require \$1 million to \$1.5 million per year, including both permanent counters and ongoing short term counts. These costs are for the entire transportation system, not just the state system.
- » Finally, an investment of \$1 million is needed to establish and collect data on existing bicycle and pedestrian infrastructure. An ongoing cost of \$50,000 per year will also likely be needed to maintain these data, though there is the potential to integrate data collection into other databases.

Investing in Staff

With substantial policy changes and investments proposed, both Caltrans and local agencies are likely to need additional staff to support bicycle and pedestrian improvements.

These investments include both dedicated staff to support planning and design of bicycle and pedestrian facilities, as well as training for Caltrans staff on bicycle and pedestrian planning and design concepts.

Acknowledgments

This document would not have been possible without the contribution of many people, including past and present department staff and managers, partner agencies, California tribal governments, stakeholders, advocacy organizations, and the public at large. In particular, the following are acknowledged for their significant contributions and dedication to completion of this effort:

POLICY ADVISORY COMMITTEE

- » Coco Briseno, Caltrans Deputy Director of Planning and Modal Programs
- » Karla Sutliff, Caltrans Deputy Director of Project Delivery
- » Tim Craggs, Caltrans Division Chief of Design
- » Janice Benton, Caltrans Deputy Division Chief of Design
- » Norma Ortega, Caltrans Deputy Director of Finance
- » Ellen Greenberg, Caltrans Deputy Director of Sustainability
- » Kate White, California State Transportation Agency - Deputy Secretary of Environmental Policy and Housing Coordination

CALTRANS PROJECT TEAM

Division of Transportation Planning

- » Scott Forsythe, Project Manager
- » Chris Schmidt, Division Chief
- » Katie Benouar, Division Chief (retired)
- » Nieves Castro, Assistant Division Chief
- » Scott Sauer, Chief - Office of Multi-Modal System Planning
- » Rusty Thornton, System Planning Branch Chief
- » Frances Dea-Sanchez, System Planning Branch

CONSULTANT TEAM

- » Alta Planning + Design: Hugh Louch - Project Manager, Brett Hondorp, Emily Tracy, Dara O'Byrne, Anne Bothner-By
- » M.I.G., Inc.: Andy Pendoley - Project Manager, Beth Martin

TECHNICAL ADVISORY COMMITTEE

Local and Regional Partners

- » Tim Bochum – City of San Luis Obispo
- » Mike Woodman - Nevada County Transportation Commission
- » David Garcia – Nevada County Public Works
- » Tamera Leighton – Rural Counties Task Force
- » Alan Thompson – Southern California Association of Governments
- » Traci Canfield – Sacramento Regional Transit

Advocacy Organizations

- » Dave Snyder – California Bicycle Coalition
- » Tony Dang – California Walks

State and Federal Agency Partners

- » Laurie Waters – California Transportation Commission
- » Ben Licthy – California High Speed Rail Authority
- » Scott Taylor, Martha Vazquez – California Highway Patrol
- » Eric Eidlin – Federal Transit Administration
- » Justine Hearn, Victoria Custodio – California Department of Public Health
- » Jim Allison – Capitol Corridor Joint Powers Authority
- » Mark Ferguson – Department of Motor Vehicles
- » Mitch Zehnder - Office of Traffic Safety

Other Partners

- » Susan Handy – Sustainable Transportation Center, UC Davis
- » Lorenda Sanchez – California Indian Manpower Consortium

Caltrans District staff, by District

1. Kevin Tucker
2. Steve Pendergast
3. Florigna Feliciano
4. Aprile Smith
5. Melissa Streder, Adam Fukushima
6. Pedro Ramirez
7. Dale Benson
8. Dustin Foster, Cuong Trinh
9. Jacob Mathews
10. Tom Dumas
11. Seth Cutter
12. Marlon Regisford

Caltrans Headquarters Staff

- » Ann Mahaney – Smart Mobility and Active Transportation Branch
- » Mark Barry, Patrick Record – Office of State Planning
- » Emily Abrahams, Erik Reitz – Division of Rail and Mass Transportation
- » Paul Moore – Division of Local Assistance
- » David Chursenoff – Division of Research, Innovation, and System Information
- » Mike Janzen – Division of Design
- » Peter Bond – Division of Environmental Analysis
- » Rachel Carpenter, Gretchen Chavez – Division of Traffic Operations
- » Patti-Jo Dickinson – Division of Maintenance
- » Surjit Dhillon, Leah Shepard – Division of Transportation Programming
- » Elizabeth Dooher – ADA Infrastructure Program

