



ACTIVE TRANSPORTATION 2022 PLAN



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Caltrans District 12 staff participating in Bike to Work Day at Great Park in Irvine.

WHAT'S INSIDE THE SUMMARY REPORT?

The Caltrans Active Transportation Plan for District 12 (Plan) identifies pedestrian and bicycle needs on and across the State Highway System (SHS) and prioritizes highway segments and crossings to influence future investments. The Plan's main outputs are lists and maps of location-based needs, prioritized highway segments, and prioritized highway crossings.

The following sections present key information about the planning process and identify next steps to support implementation.

STATEWIDE CONTEXT

How the goals of the Caltrans statewide bicycle and pedestrian plan, *Toward an Active California*, guided the development of the Plan, and how the Plan fulfills the next step in the process of addressing active transportation needs along the SHS.

PUBLIC ENGAGEMENT

Stakeholder and public engagement efforts Caltrans undertook to learn directly from people who walk and bicycle along and across the District 12 SHS.

WALKING AND BICYCLING ON THE STATE HIGHWAY SYSTEM

What it is like to walk or bicycle along the SHS in District 12 today, and where there are opportunities to replace driving trips with walking and bicycling trips.

NEEDS FOR PEOPLE WALKING AND BICYCLING ON THE STATE HIGHWAY SYSTEM

Location-based needs identification and prioritization process to address existing barriers and gaps in the District 12 SHS pedestrian and bicycle network.

NEXT STEPS FOR IMPLEMENTATION

Coordination, facilitation, and project development steps for Caltrans District 12.

KEY TERMS

The list below defines key terms used throughout the Caltrans Active Transportation Plan for District 12.

ROADWAY NETWORK

Conventional highway: At-grade highways with intersections rather than interchanges, allowing direct private property access, and with one or more motor vehicle lanes in each direction.

Freeway: Highways with full access control, interchanges providing connections to other routes, and two or more motor vehicle lanes in each direction.¹

Highway: A State Highway System route, which may be comprised of roads, streets, parkways, and connected infrastructure elements such as on- and off-ramps, bridges, and tunnels. This plan often discusses highways in their land use contexts, as in *rural or urban conventional highways* and *rural or urban freeways*.

Main street: A conventional highway that functions as a community street, connecting people to important destinations like work, school, housing, healthcare, community centers, and coastal recreation sites. Each Caltrans district determines which conventional highway segments serve as main streets.

State Highway System (SHS): Legislatively designated highway network that supports the movement of people and goods across California. The California SHS includes a variety of highway infrastructure assets, including but not limited to pavement lane miles, bridges, tunnels, and culverts.

ANALYSIS

Barrier: A physical feature that restricts movement between elements of the pedestrian or bicycle network. Examples include uncontrolled freeway on- or off-ramps, which are challenging to cross.

Bicyclist: This document uses the term *bicyclist* broadly to include people riding traditional bicycles and a wide variety of other human-powered devices that use typical bicycle facilities. These include electric-assisted bicycles, recumbent bicycles, bicycles or tricycles adapted for use by people with disabilities, and many others, such as scooters.

Equity priority communities: Communities that face disproportionate environmental, public health, and economic disadvantages. These communities often experience fewer benefits and a greater share of negative impacts associated with California's transportation system. In District 12, locations with equity priority communities were identified based on income-based measures, vehicle access, CalEnviroScreen 3.0 (a composite measure that combines pollution burden with health and vulnerability factors), Communities of Concern identified by the Southern California Association of Governments, and district staff local knowledge.

Gap: Specific locations where pedestrian facilities (like sidewalks and crossing treatments) or bicycle facilities (like bike lanes) are missing, narrow, or incomplete.

Land use context: The built and natural environment surrounding the SHS, which shapes travel needs and influences user expectations.

Location-based need: A specific location on the SHS where infrastructure changes would most benefit people walking and biking, helping to achieve the state's active transportation goals from **Toward an Active California**.

Pedestrian: In this document, the terms *pedestrian* and *walking* are applied broadly to all users of sidewalks, including people walking, rolling, and using mobility assistance devices such as walkers, strollers, or wheelchairs.

¹ Federal Highway Administration, "Highway Performance Monitoring System Field Manual."
https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/hpms_field_manual_dec2016.pdf.



Ryan P. Chamberlain
District 12 Director

MESSAGE FROM THE DISTRICT DIRECTOR

I am pleased to present the Active Transportation Plan for Caltrans District 12 Orange County. This plan furthers the Climate Action Plan for Transportation Infrastructure (CAPTI), Caltrans Strategic Plan, California Transportation Plan (CTP) 2050, and the state bicycle and pedestrian plan *Toward an Active California*, which established statewide policies, strategies, and actions to advance active transportation safety, mobility, preservation, and equity.

Caltrans District 12 is already working to incorporate active transportation elements into our projects and embracing a Complete Streets approach to our planning, project development, operation, and maintenance activities. This plan provides valuable guidance by identifying and prioritizing needs with insight from our department, public agency partners, and community partners.

This plan is a significant step forward and will guide Caltrans investments to support active transportation infrastructure. It will help to connect walking and biking

facilities and it will also connect people to opportunities. Collaboration with our partners from local and regional agencies, community organizations, and advocacy groups has been central to the development of this plan, and it will continue to be central to its implementation. I would like to acknowledge and thank all who participated in this process, including our external partners, internal staff, Active Transportation Technical Advisory Committee, and our consultant team. Your contributions have been invaluable.

We look forward to working with our partners and communities to implement the District 12 Active Transportation Plan and building a safe and sustainable active transportation network that serves people of all ages and abilities.

Ryan P. Chamberlain
District 12 Director



Pedestrians crossing a scramble crosswalk at SR 1 and Forest Avenue in Laguna Beach.

PURPOSE AND OVERVIEW OF PLAN

The Caltrans Active Transportation Plan for District 12 is part of a comprehensive effort to identify locations with bicycle and pedestrian needs in each Caltrans district across California. It is a critical step in implementing [Toward an Active California](#). Caltrans and its agency partners will use the Plan to address active transportation needs along and across the SHS in future planning, design, construction, and maintenance projects. Data and analysis developed in this plan will be used in asset management activities, as a basis for setting Complete Streets targets, and as a starting point during project initiation and development.

The Plan identifies challenges to people’s ability to walk, bicycle, and reach transit on the SHS, which provides critical transportation routes in towns and cities across California. State highways serve as main streets, provide access to destinations people visit every day, and are often the primary routes connecting communities. When these communities

are walkable, bikeable, and transit-rich, people benefit from improved air quality, health, social equity, quality of life, and access to economic opportunity. The Plan identifies gaps and barriers on the SHS and recommends priorities among need locations. This represents a crucial step in making walking and bicycling safer, more comfortable, and more convenient.

The Plan consists of two elements:

- ▶ This Summary Report provides an overview of walking and bicycling conditions on the SHS today, identifies locations where needs exist, recommends priorities, and describes next steps in the implementation process.
- ▶ A companion online [Story Map](#) provides an opportunity to view and interact with a series of District 12 maps that highlight the pedestrian and bicycling issues, needs, and opportunities described in this report.



People crossing I-5 freeway ramps along Harbor Boulevard near Disneyland in Anaheim.

District 12 Active Transportation Plan Process Timeline



TOWARD AN ACTIVE CALIFORNIA 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.

STATEWIDE CONTEXT

In alignment with the vision in the Caltrans statewide active transportation plan, *Toward an Active California*, this plan establishes methods for identifying and evaluating pedestrian and bicycle needs on, across, and parallel to the SHS. It focuses on increasing social equity throughout the planning process, strengthening community partnerships, and improving connections between the State and local networks.

Toward an Active California outlines four goals, which guided the development of the District 12 Active Transportation Plan:

- ▶ **MOBILITY:** Increase walking and bicycling in California.
- ▶ **SAFETY:** Reduce the number, rate, and severity of bicycle and pedestrian involved collisions.
- ▶ **EQUITY:** Invest resources in communities that are most dependent on active transportation and transit.
- ▶ **PRESERVATION:** Maintain a high-quality active transportation system.

The District 12 Active Transportation Plan contains the second of five steps for delivering active transportation infrastructure in California, as shown in the graphic on the next page. The work will continue as Caltrans collaborates with local partners to identify, fund, design, construct, and maintain pedestrian and bicycle projects and facilities.



Pedestrians crossing the street at SR 1 and Broadway Street in Laguna Beach.

HOW CALTRANS MEETS ACTIVE TRANSPORTATION NEEDS



BUILDING A MORE EQUITABLE FUTURE

Caltrans has an important role to play in advancing equity in California so that everyone can thrive, starting with the most vulnerable people and regardless of their race, socioeconomic status, identity, age, or where and how they travel. Although the goal of a modern transportation network should be to connect communities to jobs and other destinations, historically, the California SHS has often done the opposite. Freeways, expressways, and high-speed arterials act as barriers, often disconnecting people from the services and locations they need to access and dividing previously established communities.

Today, many communities continue to be at a disadvantage due to unequal access to government services and opportunities. Historically, racially restrictive zoning and discriminatory lending (e.g., redlining) contributed to racial segregation and wealth inequities between white and non-white populations, leaving a disproportionate share of the latter exposed to unhealthy environmental conditions and food insecurity. Depressed land values in those disadvantaged communities attracted highway projects and urban renewal.

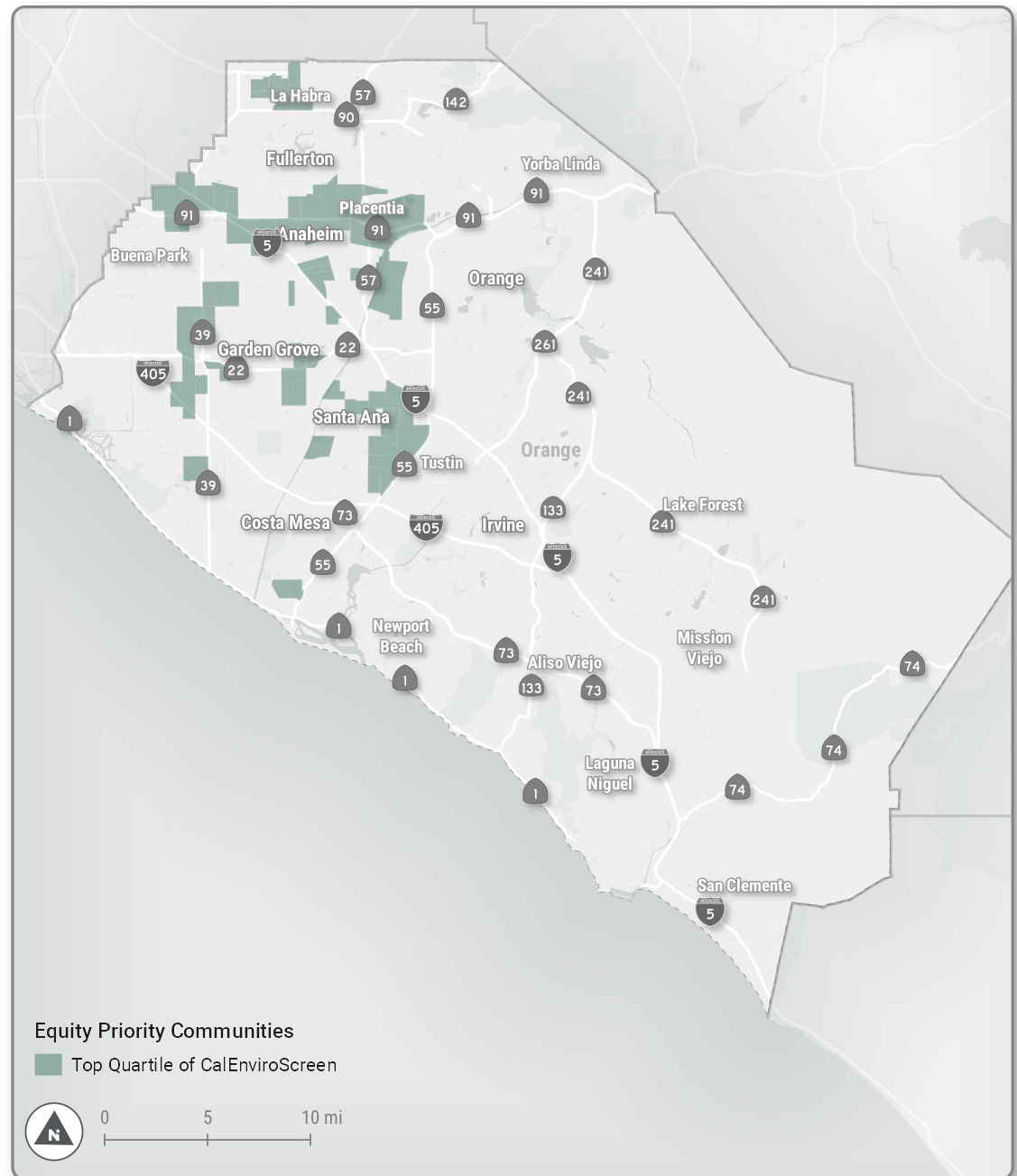
“VISION ZERO” INITIATIVES AND THE “CALTRANS TOWARD ZERO DEATHS” GOAL

Vision Zero is an organizing framework for eliminating fatalities and serious injuries caused by traffic crashes. Agencies and jurisdictions around the world have adopted Vision Zero goals to reduce the loss of life on local roadways and work towards safer roadways through engineering and programming changes. A defining feature of Vision Zero Action Plans is their ability to coordinate and focus the ongoing work of agency departments and partner jurisdictions towards this singular goal. Caltrans developed its Toward Zero Deaths goal as its expression of the Vision Zero approach. The need for the initiative is critical: between 2015 and 2019, more than 3,500 crashes that involved pedestrians or bicyclists occurred on roads in District 12, killing 208 and severely injuring 442 people.

that perpetuated poverty. Overtime, land use and transportation development patterns have further exacerbated inequities in access and mobility, perpetuating issues related to housing affordability and transportation options. As a result, disadvantaged communities often experience a disproportionate transportation burden, from unequal access to affordable transportation and the opportunities it affords, to higher rates of pedestrian and bicycle injuries resulting from traffic crashes.

Due to all of these factors, Caltrans has an obligation to not only seek equal treatment in its projects and other works, but also to actively correct the ways in which SHS construction has divided communities. This plan, alongside all of the Caltrans Active Transportation Plans, positions equity as one of its main goals as a step toward meeting the agency's equity obligations.

As part of that goal, the Plan uses CalEnviroScreen 3.0 and socioeconomic data to locate equity priority communities, which influence the prioritization level the location-based need receives. Additionally, public engagement included communities that are most likely to use active transportation and cities that fell within the top quartile of environmentally disadvantaged communities using CalEnviroScreen 3.0 scores.



PUBLIC ENGAGEMENT

People who travel through their community every day have valuable first-hand knowledge about the challenges they face when walking and biking. Engagement efforts for this plan were focused on the following objectives:

- ▶ Seeking input from the public
- ▶ Strengthening relationships between Caltrans and local community groups
- ▶ Deepening Caltrans' understanding of local contexts and needs

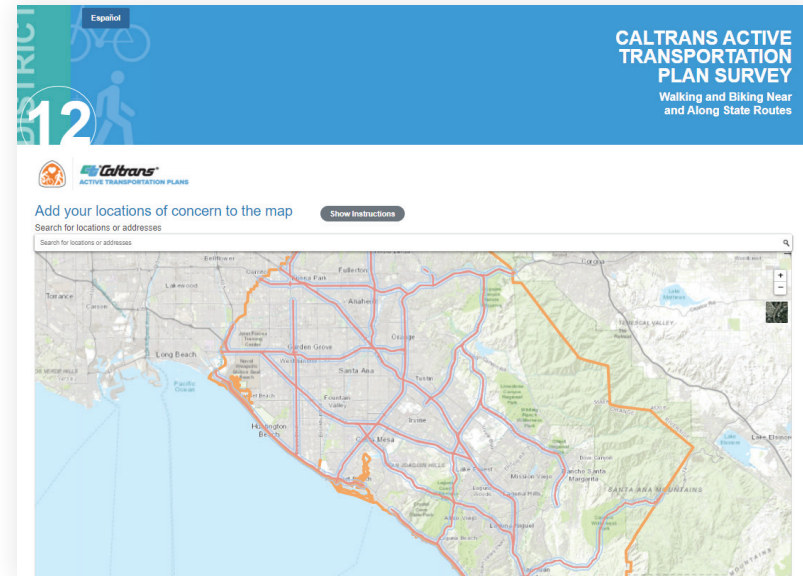
HOW DISTRICT 12 CONNECTED WITH STAKEHOLDERS AND THE PUBLIC

The COVID-19 pandemic required adaptations to District 12's usual outreach methods. With many community events and meetings transitioning from in-person to online collaboration, the project team reached out to community-based organizations and stakeholders to understand how to successfully engage vulnerable and equity priority community members while public health restrictions were in place.

COORDINATION WITH PARTNER AGENCIES AND ADVOCATES

The District 12 project team held a series of Stakeholder Workshops that included local public agencies, community-based organizations, and individuals who had demonstrated interest in active transportation. Examples of these stakeholders include cities, health organizations, bicycle and pedestrian advocacy groups, transit agencies, regional and state agencies, and neighboring Caltrans districts. The workshops served to provide information and updates on the Plan, as well as an opportunity for stakeholders to share information about related local planning efforts and priorities, advise on locally effective outreach strategies, and provide input on location-based needs.

Local and regional public agencies including Orange County Transportation Authority, Orange County Public Works, and cities across Orange County provided active transportation infrastructure and planning data from completed and ongoing plans, as well as other input that was used to identify the location-based needs that are included in the Plan.



Top: The online map for the Plan included a survey and the option for members of the public to add points indicating locations of concern.

Left: A social media post used to promote the Caltrans Active Transportation Plan online survey on social media platforms.

PUBLIC OUTREACH AND ENGAGEMENT

Due to the COVID-19 pandemic and related restrictions for in-person engagement, District 12 relied primarily on online and remote outreach strategies to raise awareness about the Plan and inform community members of input opportunities. These included online map-based surveys (described below) hosted in English and Spanish, press releases, social media posts, printed fliers, stakeholder email lists, and content hosted on the [District 12 Active Transportation Plan](#) website. A social media toolkit that included digital fliers, sample social media posts, and captions was provided to stakeholders to help promote the online survey.

The project team placed special emphasis on engaging the following District 12 communities:

- ▶ Communities most likely to depend on active transportation and transit for commuting and daily travel, according to recent American Community Survey data
- ▶ Cities that fell within the top quartile of environmentally disadvantaged communities, as defined by [Senate Bill 535](#)

ONLINE SURVEY AND INTERACTIVE MAPS

An online survey and interactive map provided an opportunity for members of the public to submit comments and identify locations in need of improvement for active transportation users walking and bicycling along and across the SHS. This online survey was also shared with Orange County elected officials to distribute among their constituents.

A similar interactive mapping tool was directed to regional and local agency partners and organizations. Over 1,300 comments were received on the public map and 351 comments were received from agency partners.

NEXT STEPS FOR PUBLIC ENGAGEMENT

The level of committed engagement included in the Plan's development does not end with its publication. District 12 will continue these conversations as the Plan's recommendations are implemented and projects are developed, to ensure they reflect local community needs and priorities. More concentrated efforts are needed to engage schools along state highways, communities that do not have convenient access to the internet, and historically underrepresented communities dependent on multimodal transportation for their work commutes. These will be ongoing collaborative efforts that involve Caltrans, agency partners, community-based organizations, and the public.



Bicyclists riding on SR 39 during the Meet on Beach open streets event.

WHAT WE HEARD

Input received from stakeholders and members of the public ranged from general statements about the state of active transportation in the District to specific location-based needs.

Participants mentioned these challenges:

- ▶ High traffic speeds
- ▶ Sidewalk gaps or difficulties crossing intersections
- ▶ Lack of bike lanes, and gaps in connectivity

Participants shared their desire for:

- ▶ Traffic calming to slow vehicle speeds
- ▶ Dedicated and/or separated bike and pedestrian facilities
- ▶ Bike and pedestrian accommodations through construction zones

WALKING AND BIKING IN DISTRICT 12 TODAY

To better understand the walking and bicycling conditions and experience along the SHS, the project team performed a detailed analysis that is visualized in the [Story Map](#). This section summarizes the key findings from that analysis.

WHO USES THE STATE HIGHWAY SYSTEM?

A wide range of people use the SHS to walk and bicycle to work, school, the grocery store, transit stops, and recreational facilities, such as trails and the beach. The diversity in land uses along the SHS within District 12 means that needs and recommendations to serve pedestrians and bicyclists might vary based on the relationship between the highway and its context.

For example, in Seal Beach, State Route (SR) 1 (Pacific Coast Highway) provides direct access to shopping centers, restaurants, and services. It also connects to streets serving residential neighborhoods. Here there might be strong potential for people to make shorter walking and bicycling trips to meet daily needs. Farther south near Crystal Cove in Newport Beach, the same highway serves fewer everyday destinations directly but has an important role connecting neighboring communities and providing coastal access. Close engagement with local partners and the public during project development can help confirm how highways are used and which improvements would best meet local needs.

REGIONAL TRAILS AND BICYCLE ROUTES

Local and regional trails provide connectivity within and between communities and at times are located in SHS right-of-way on public and private land, providing an alternate or parallel route to the SHS. In District 12, such trails include the California Coastal Trail, the Santa Ana River Trail, and the Orange County (OC) Loops. Where these routes run parallel to the SHS, Caltrans coordinates with the California Coastal Commission, the State Coastal Conservancy, and other agencies and organizations to facilitate route planning and implementation. As alignments are identified and adopted, they will be added to the Caltrans active transportation database.



Top: Family crossing the street at SR 1 and Superior Avenue in Newport Beach.
Middle: Bicyclists riding in the shoulder on SR 133 in Irvine.
Bottom: Bicyclist crossing SR 39 in Anaheim.

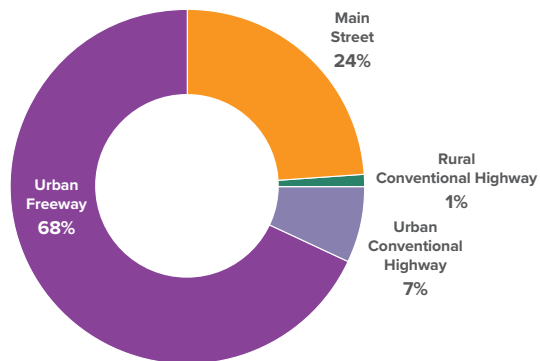
SURROUNDING LAND USE CONTEXT

The SHS in District 12 includes 278 miles of roadway, most of which travels through urban areas. Highways fall into two primary categories: freeways (which are access-controlled and use interchanges) and conventional highways (which are not access-controlled and use intersections).

The majority of the District 12 SHS is comprised of urban freeways, which are high-speed, limited-access facilities that carry high volumes of motor vehicle traffic. While these routes are important to regional mobility, they can create barriers for people walking and bicycling.

Main streets on the SHS are conventional highways that serve as primary corridors for daily activities in many communities. They provide access to important destinations including work, shopping, parks, schools, major transit stations, health care, senior centers, beaches, and parks. For this reason, it is critical that they are convenient and comfortable for people bicycling, walking, and taking transit. They also strengthen the unique identities of communities. Main streets make up nearly one quarter of the SHS miles in District 12 and include routes like SR 1 (Pacific Coast Highway) and SR 39 (Beach Boulevard).

Other urban and rural conventional highways (excluding those designated as main streets) represent less than 10% of the SHS miles in District 12. While these may not play as critical a role in serving key destinations as main streets, they still can provide important walking or bicycling connections for nearby communities.



SHS Land Use Type

Source: California Transportation System Network, OpenStreetMap, District Staff



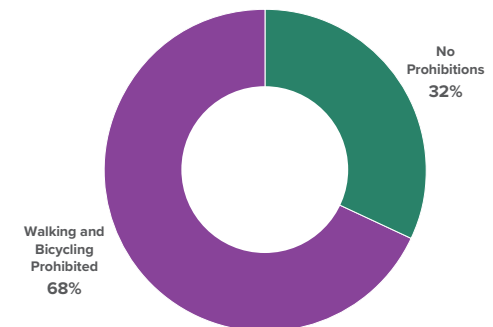
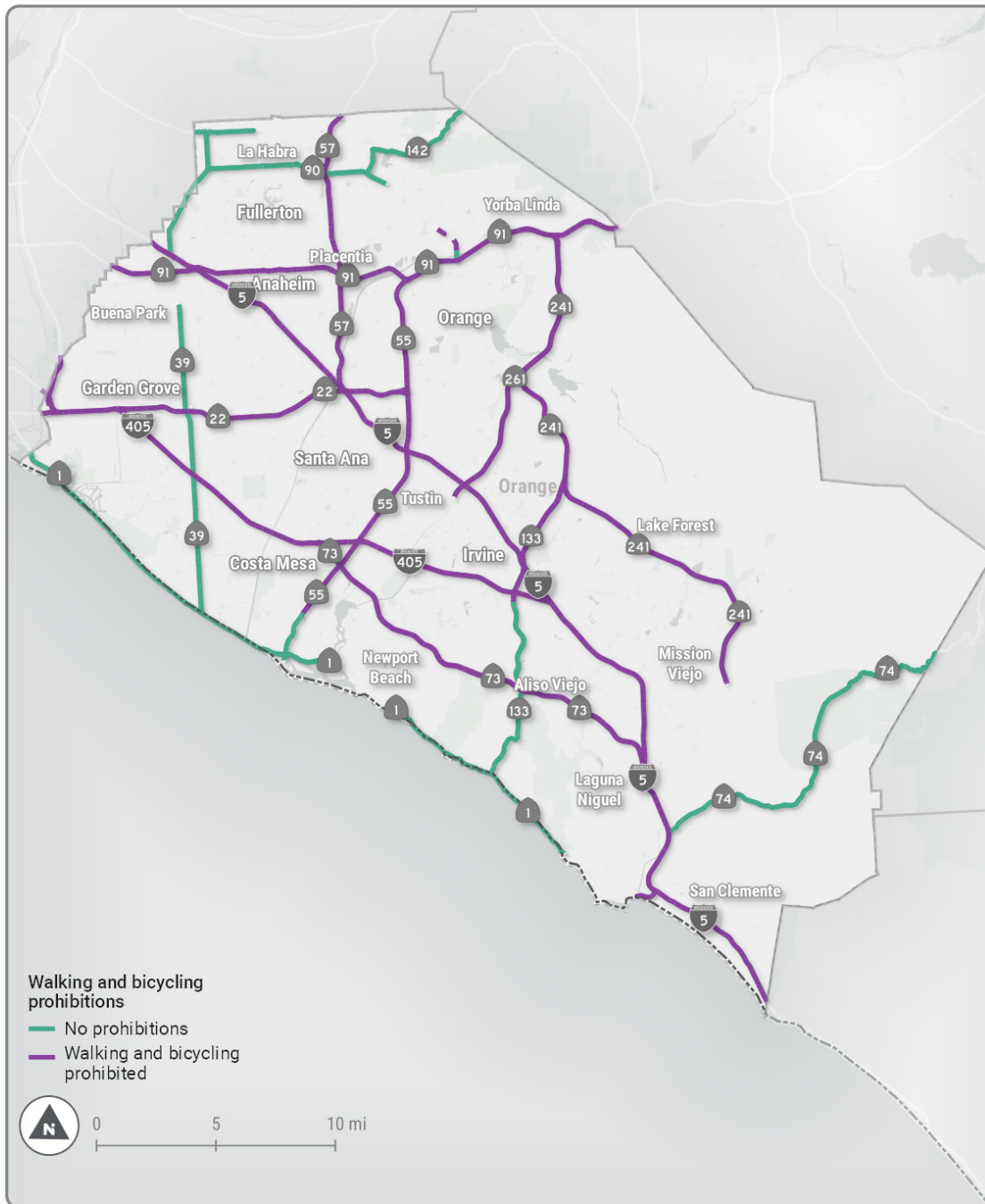
Gaps on some SHS corridors that are shown on this and following maps, such as SR 1, SR 39, and SR 90, represent segments that have been relinquished to cities.

WALKING AND BICYCLING PROHIBITIONS

Not all segments of the SHS are legally open for use by people walking or bicycling.

In District 12, walking and bicycling are prohibited on all freeway segments. As freeway segments that prohibit walking and bicycling make up 68% of the SHS in District 12, many communities in the central part of the District rely on local walkways, bikeways, and roadways for transportation and recreation. It is vital that Caltrans and its partners understand which routes people walk and bicycle near the SHS segments that prohibit those modes, so they can coordinate to develop safe and comfortable connections. Creating safe and comfortable opportunities to cross freeways on foot or by bike—at over-crossings, under-crossings, or interchanges—will be key to supporting direct and convenient active transportation trips between neighborhoods, destinations, and transit.

Virtually all main streets, most urban conventional highways, and all rural conventional highways allow walking and bicycling. In District 12, these routes include SR 39 (Beach Boulevard), SR 90 (Imperial Highway), and SR 142 (Carbon Canyon Road) in northern Orange County; SR 1 (Pacific Coast Highway) and other at-grade highways that serve coastal communities; SR 74 (Ortega Highway) in southern Orange County, and SR 133 (Laguna Canyon Road) south of I-405. For these portions of the SHS, providing high-quality biking and walking facilities along and across the highway may play an important role in helping people choose active travel.



Prohibitions by mode

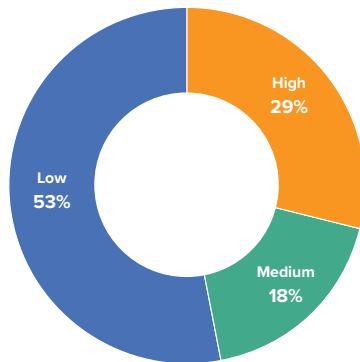
Source: California Transportation System Network (2019), OpenStreetMap (2019)

WALKING AND BICYCLING TRIP POTENTIAL

Land use patterns, demographics, and characteristics of the built environment influence the extent to which a person can or will choose to walk or bike for daily needs or recreation. Several factors can help determine the likelihood of people taking future trips on foot or by bike at a particular location.

Distance is one of the simplest determinants of bicycle and pedestrian trips. Most adults can comfortably make trips of less than one mile on foot, with assistance from mobility aids such as wheelchairs, by bicycle, or using other devices like scooters. Locations where the land uses offer a variety of destinations, services, and amenities in close proximity are most convenient for people walking and bicycling, provided there are safe and comfortable walkways and bikeways available.

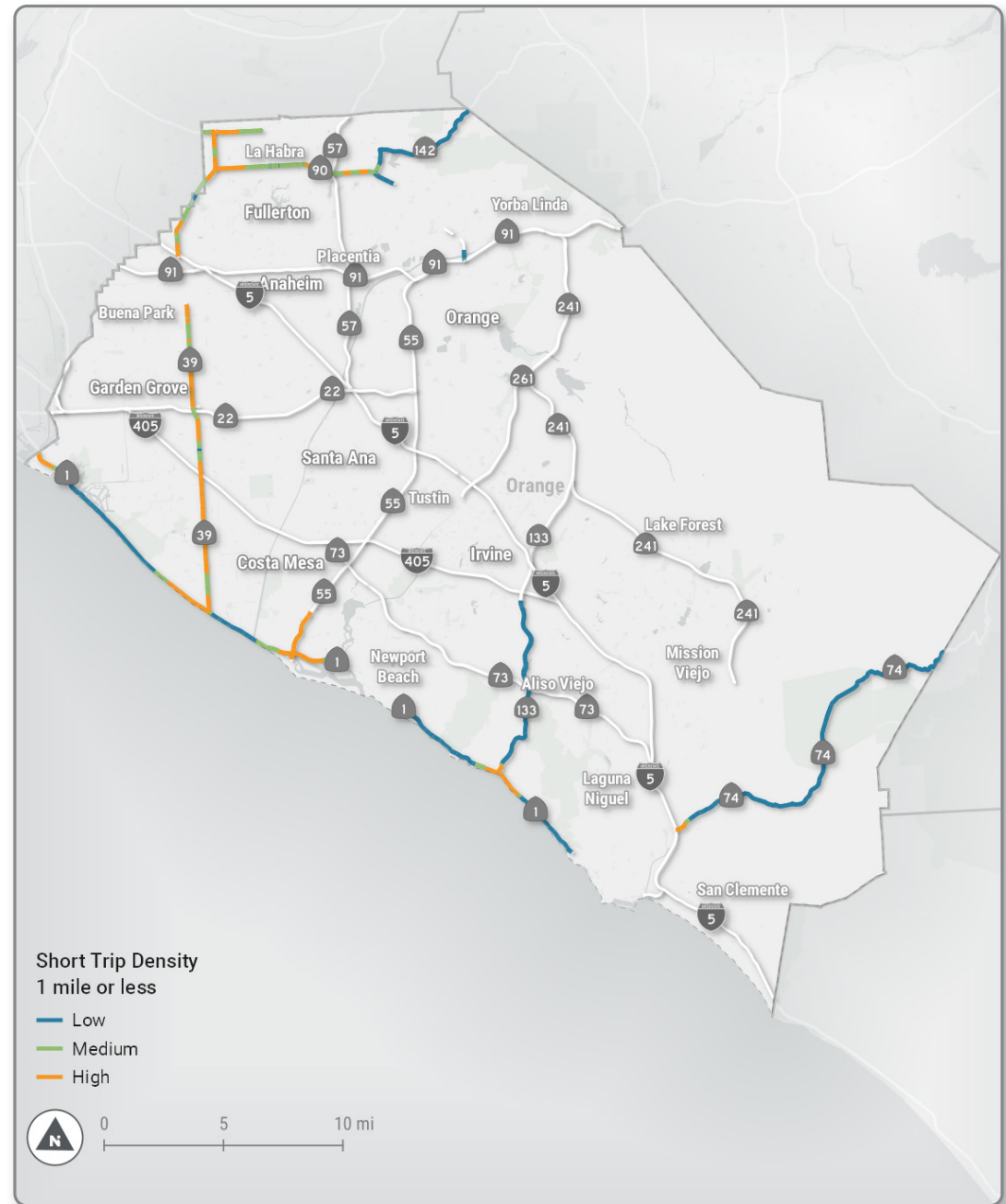
To understand where people are currently making short trips, this plan analyzed mobile phone data that shows where and how commonly people make trips of certain lengths near the SHS, regardless of whether they make those trips by walking, bicycling, taking transit, or driving.² SHS segments with high numbers of trips under one mile represent areas with high potential to encourage walking by improving

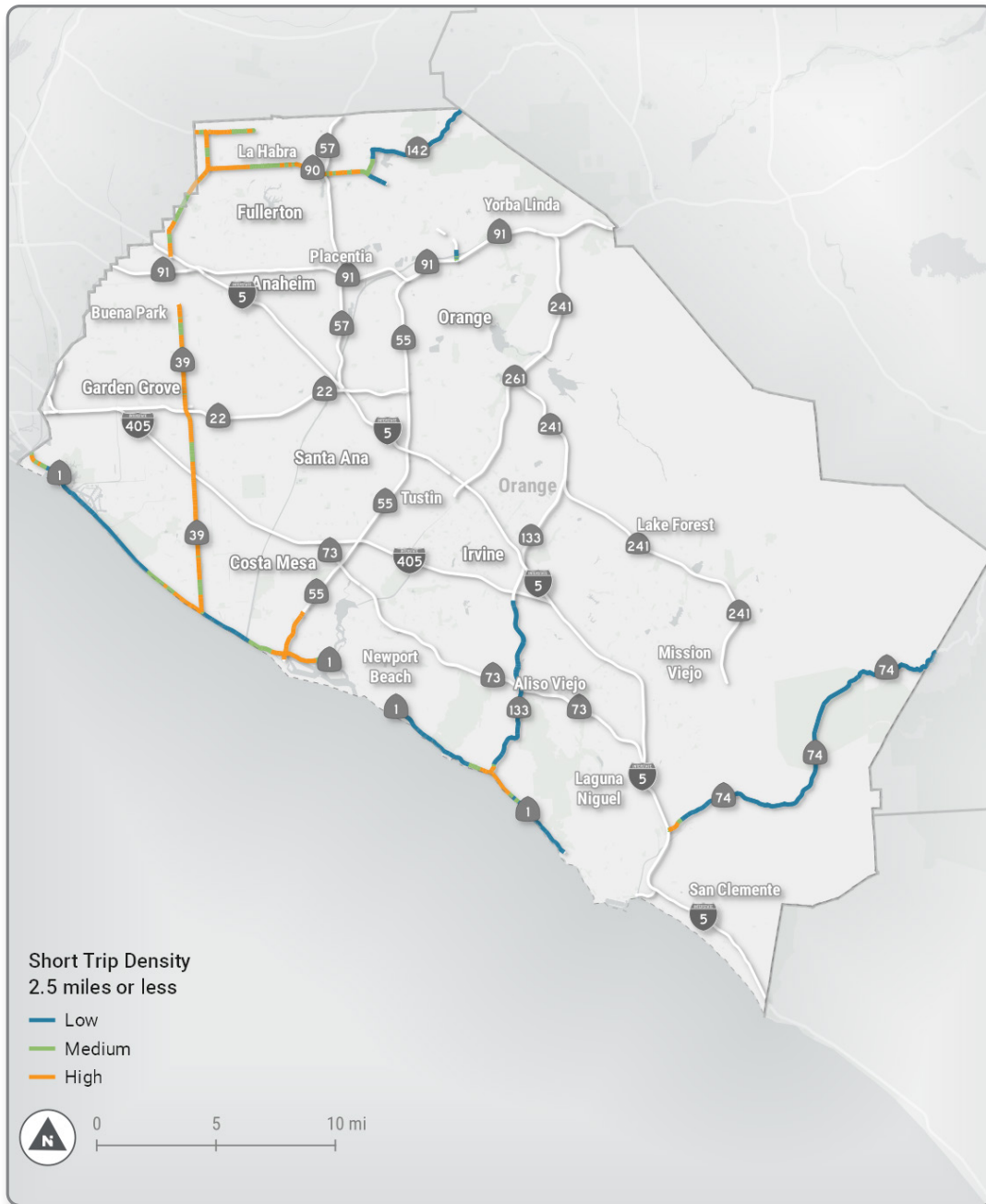


Percent of SHS segments with high, medium, and low pedestrian trip potential, excluding the segments where walking is prohibited

Source: LOCUS, Cambridge Systematics (2019)

² LOCUS is a dataset used to provide the information in this section. The dataset assembles digital data about trips people are making today by any mode. This section examines which segments of the SHS are in proximity to low, medium, or high densities of short trips that currently occur within 0.25 miles of the SHS.



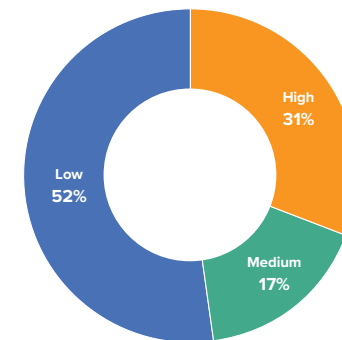


the pedestrian environment or to encourage bicycling by improving bikeways. Freeways, which are access controlled and where walking and biking are prohibited, were not included in this analysis.

The majority of short trips on the SHS occur on main streets and near coastal recreation areas, which are major trip attractors in District 12. For example, SR 1 (Pacific Coast Highway) and SR 39 (Beach Boulevard) in Huntington Beach show high concentrations of trips under one mile. These corridors connect dense residential areas, commercial destinations, and recreational businesses to the beach while providing access to transit. By investing in safe and comfortable walking and bicycling facilities on these highways (including completion of the California Coastal Trail), Caltrans and its partners can help people access jobs, meet daily needs, and enjoy the ocean without driving.

In contrast, SR 74 (Ortega Highway) between San Juan Capistrano and the Riverside County line shows relatively few trips of one mile or less and has infrequent connections to local roads. Much of this route passes through wilderness areas, with long distances between residences or businesses. Active transportation facility investments will serve people who do walk or bicycle along the SHS in this area, but the data suggest they may yield relatively fewer conversions of vehicle trips to walking or biking trips.

By investing in safe, comfortable, and convenient walking and bicycling infrastructure in places where people frequently make short trips by car, Caltrans and its partners can encourage people to choose pedestrian or bicycle travel instead. While investments in infrastructure that supports walking and bicycling can be useful everywhere, investments in the places where most short trips are concentrated can help meet the State's goal of mode shift toward increased walking and biking trips, and reducing greenhouse gas emissions.



Percent of SHS segments with high, medium, and low bicycling trip potential, excluding the segments where bicycling is prohibited

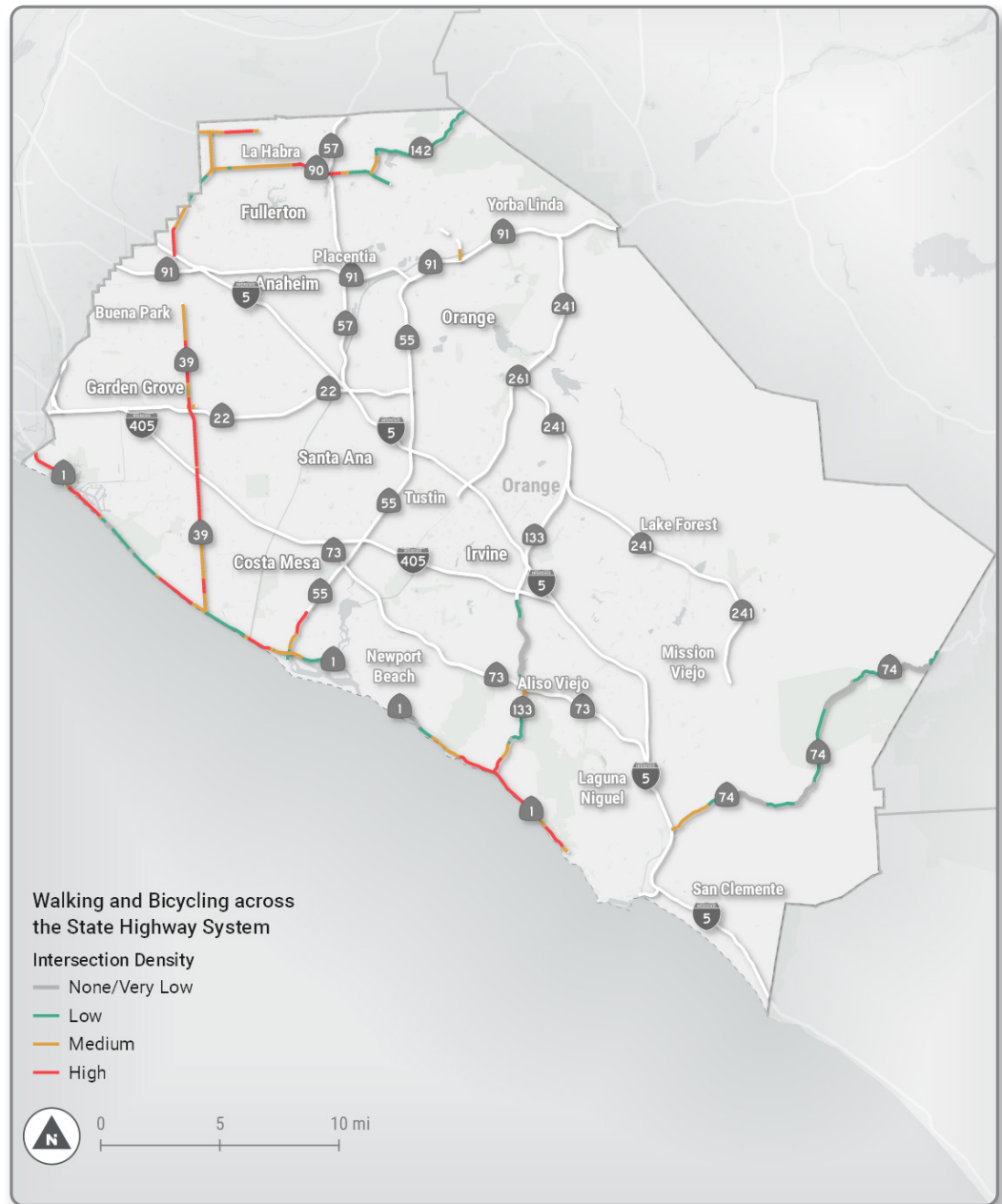
Source: LOCUS, Cambridge Systematics (2019)

INTERSECTIONS PER MILE

As pedestrians and bicyclists travel primarily by using their own physical effort, they have a strong preference for direct routes. This is in contrast to drivers, who may be content to take less direct routes if they offer shorter overall travel times or faster travel speeds. Along travel routes that intersect frequently with local roads, people walking and bicycling can choose more direct paths of travel to their destinations. On routes with few intersections, however, people may need to walk or bicycle some distance out of the most direct path of travel to find the nearest safe crossing opportunity. An important additional safety factor to consider is that intersections and crossings expose people walking and bicycling to vehicle traffic, and intersections on multi-lane roads with high-speed, high-volume vehicle traffic can be uncomfortable or unsafe for pedestrians and bicyclists to cross unless they are thoughtfully designed. For this reason, a roadway with a high density of intersections creates more direct and convenient travel options for people walking and biking, yet also potentially increases exposure to safety concerns created by vehicle cross-traffic.

This plan analyzed the frequency of intersections on SHS segments. This analysis does not reflect whether intersections include treatments such as marked crosswalks, median refuge islands, signals for pedestrian- or bicycle-only crossing phases, or other designs that protect people crossing from exposure to vehicle traffic.

In District 12, main streets generally have the most frequent intersections, with an average of over nine per mile. For example, SR 1 (Pacific Coast Highway) near downtown Huntington Beach as well as SR 55 (Newport Boulevard) in southern Costa Mesa both





Caltrans District 12 staff and community members riding on Cypress Village Trail in Irvine during Bike Month.

offer frequent connections to closely spaced local streets. In contrast, urban freeways in District 12 have much lower intersection density, with an average of five per mile (these include interchanges, overcrossings, and undercrossings). In Santa Ana and Tustin, for example, people may need to walk or bike more than 1,000 feet out of the way to find an opportunity to cross I-5. Urban and rural conventional highways have significantly lower crossing frequency, typically offering only 1 to 2 crossing opportunities per mile.

Roadways with few crossing opportunities become barriers for surrounding neighborhoods. Analysis of local sidewalks, bikeways, and community destinations can indicate locations where new crossings have the greatest potential to facilitate more direct travel on foot or by bicycle. Where intersections exist, thoughtful design can increase safety and comfort for pedestrians and bicyclists by separating them from vehicles in space (such as by providing well maintained crosswalks or other crossing treatments) and in time (such as by creating signal phases when vehicles will not travel through the intersection).

Average crossings per mile on different SHS facility types and land use contexts

CONTEXT TYPE	AVERAGE CROSSINGS PER MILE
Main Street	9.5
Rural Conventional Highway	1.2
Urban Freeway	5.0
Urban Conventional Highway	2.5



Counter Clockwise from Top: Class I (Bike Path) Santa Ana River Trail undercrossing at SR 57 in Anaheim. Left: Green Class II (Bike Lane) at I-405/Culver Drive on-ramp in Irvine. Right: Class III (Bike Route) Shared Lane Marking on relinquished portion of SR 1 in Newport Beach. Bottom: Class IV (Separated Bikeway) Cycletrack and floating bus island on Bristol Street in Santa Ana.

BICYCLE FACILITIES ON AND OFF THE SHS

Nearly all existing bikeways on the District 12 SHS are located on segments of SR 1 (Pacific Coast Highway), with one such segment in northwestern Orange County shown on the map (page 19).

Caltrans bike facilities are organized by four classifications:

CLASS I bicycle facilities are off-street paved bikeways that separate users from vehicle traffic. These offer the greatest comfort and protection for people bicycling. Class I bikeways are commonly designed as multiuse paths or trails that also serve people walking. SR 1 (Pacific Coast Highway) in Huntington Beach has a parallel 2.3 mile off-street trail.

CLASS II bicycle facilities are on-street bike lanes that may be separated from traffic by a single paint stripe or buffered by a double stripe to create greater separation. Bike lanes provide exclusive road space for bicycling but may present a higher-stress riding environment when located alongside high-speed or high-volume vehicle traffic. There are 13.1 miles of Class II bike lanes on the District 12 SHS.

CLASS III bicycle facilities are on-street travel lanes shared with cars, which can be signed and may be indicated by shared lane markings (sharrows). These designs are most comfortable when used on low-speed, low-volume local streets.³

CLASS IV bicycle facilities are cycle tracks with vertical elements or protected bikeways typically located between vehicle travel lanes and the sidewalk. They are separated from traffic by a range of designs, offering enhanced safety and comfort for people bicycling by reducing their proximity to vehicles.

In addition to these four types of facilities, the District 12 SHS includes routes where bicycles are permitted on highway shoulders or in travel lanes.

When planning, designing, and constructing new bikeways on the SHS, one important factor to consider is how to provide connections to other bikeways that serve District 12. Orange County and the cities within it offer a range of local bikeways, including local and regional trails. As Caltrans identifies priority

³ Class III facilities are distinct from roadways where bicycles are permitted but that do not share other characteristics such as sharrows and low speeds.

Class III facilities are not mapped in this project due to limitations of bicycle facility source data.



locations for bikeway investments, it will work with partners to understand where new bike facilities on the SHS can close gaps or offer new routes in the countywide bikeway network. People do not typically choose travel routes based on agency ownership and operation; rather, they seek a safe, comfortable, and convenient trip as they traverse city, county, and state facilities, often within the same trip. Choosing the right bicycle facility for an SHS route involves not only considering the characteristics of that highway, such as width, volume, and speed, but also how best to provide a seamless and high-quality trip when combined with other nearby bikeways. Providing safe and comfortable opportunities to connect the bikeway network across freeways, whether at grade-separated crossings or through interchanges, can be critical to encouraging travel by bicycle.



Bicyclist riding in Class II bike lane on SR 1 over the Anaheim Bay in Seal Beach.



Family riding on SR 55 in Newport Beach.

NEEDS FOR PEOPLE WALKING AND BIKING ON CALTRANS HIGHWAYS

The primary purpose of this planning effort was to identify and prioritize “location-based needs,” or specific locations on the Caltrans system where infrastructure modifications would most benefit people walking and bicycling and best achieve the goals in *Toward an Active California*. To identify these needs, the project team analyzed data to identify gaps and barriers on the SHS that affect walking and bicycling. Additional needs that were identified by agency partners and from previously completed plans and studies were included. Location-based needs are available for review on the online [Story Map](#).

IDENTIFYING NEEDS

NEEDS IDENTIFIED BY AGENCY PARTNERS

District 12 and its local and regional partners have documented the need for pedestrian and bicycle infrastructure along the SHS in various adopted plans and needs inventories. Where GIS files for these plans were available, needs were incorporated into the data analysis described below. For areas without GIS data, the District 12 project team encouraged partners to complete the partner map-based survey.

NEEDS IDENTIFIED BY THE PUBLIC

As described in the Public Engagement section, members of the public identified needs using the Caltrans map-based survey. Public input informed prioritization of needs. Public comments have been preserved as part of this plan’s final data package to inform future project development efforts.

NEEDS IDENTIFIED BY DATA ANALYSIS

The project team conducted detailed automated and manual analyses of SHS data to identify needs of the following types.

TYPES OF ACTIVE TRANSPORTATION NEEDS



MAIN STREET SIDEWALK GAPS. Main street locations lacking sidewalks on one or both sides of the road.



SIDEWALKS IN FAIR OR POOR CONDITION. SHS segments with sidewalks in fair or poor condition, as determined by Caltrans staff.



SIDEWALKS ALONG HIGHER-SPEED HIGHWAYS. SHS segments with sidewalks along highways with a posted speed limit of 35 mph or higher.



STRESSFUL PEDESTRIAN CROSSINGS. Intersections that are stressful for people to cross by walking, located on at-grade highways that are not access-controlled. This analysis accounts for characteristics like the presence or absence of median islands and marked crossings, posted speed limits, distance from low-stress crossing opportunities, and other factors.

STRESSFUL BICYCLE CROSSINGS. This metric uses a similar stress analysis to the one described for pedestrian crossings above, but applies it to places where people cross conventional state highways by bicycle.



INFREQUENT CROSSINGS. Freeway sections where pedestrian crossings (like bridges or undercrossings) are infrequent. This analysis considers the local land use (e.g., the presence of destinations on both sides of the road), but it does not consider the quality of the surrounding pedestrian network.



STRESSFUL BICYCLE ROUTES. This need type is identified by conducting a Bicycle Level of Traffic Stress Analysis along the SHS. Locations with higher speeds and higher traffic volumes, and with absent or narrow bicycle facilities, are more stressful for bicyclists



FREEWAY CROSSING NEEDS. Locations where freeway over-crossings, under-crossings, or interchanges exist but present challenging conditions for people walking and bicycling. Crossing needs include narrow sidewalks, a lack of sidewalks, uncontrolled or unmarked crossings at highway on- or off-ramps, or poor crosswalk visibility.

PRIORITIZING NEEDS

Need locations on the SHS were evaluated and prioritized according to the goals of *Toward an Active California*: mobility, safety, equity, and preservation. Prioritization may inform future Caltrans efforts in seeking competitive project funds.

The first step in the prioritization process was to break the SHS within District 12 into smaller segments, such as areas around freeway crossings, between major intersections, at jurisdictional boundaries, and where the transportation and land use context changes. The project team scaled these segments to roughly align with segments Caltrans uses to develop improvement projects on the SHS, allowing individual needs to be grouped together with other projects on the system.

As a second step, each highway segment and freeway crossing need was scored based on measures aligning with the “Walking and Bicycling in District 12 Today” section of this report. These include the potential to shift short trips from driving to walking or bicycling, the history of pedestrian and bicyclist collisions, the presence of equity priority communities, and the condition of existing sidewalks, crosswalks, and bikeways along the facility. Each segment and freeway crossing received a score based on these and other factors.

The scoring calculations incorporated input on weights and measures assigned to each goal from *Toward an Active California* from the District 12 Active Transportation Technical Advisory Committee, partner and public stakeholders, and the District 12 project team. The scoring approach summarized in the following table reflects local vision and priorities communicated by District 12’s public and partners. These weights refer only to the data-driven prioritization in the Plan and do not mean that Caltrans District 12 assigns these weights to safety, mobility, equity, and preservation in all its work. Consistent with the state’s efforts to eliminate fatalities and serious injuries due to traffic collisions, safety remains the highest priority for Caltrans.

Finally, scored segments and freeway crossings were ranked and sorted into three tiers based on their relative need intensity, with Tier 1 representing the highest intensity. The maps following this section show tiered highway segments and freeway crossings in District 12.

This process provides a comparative indication of need. Regardless of their assigned tier, needs should always be considered when developing nearby projects on the SHS. Caltrans has access to datasets with additional details describing the specific infrastructure conditions that resulted in individual needs being identified at specific locations. These details are intended to be used to support the project development process. The needs in the Plan will also be used to develop Complete Streets performance targets used in the State Highway Operation and Protection Program (SHOPP) and Transportation Asset Management Plan.

HOW TO USE THIS PLAN’S DATA AND ANALYSIS

This plan provides a strong foundation for understanding walking and bicycling needs on the SHS in District 12. However, data-driven processes cannot fully capture all needs that exist on the state’s highways. The absence of a need from the Plan’s datasets does not mean the need does not exist or is not important. Similarly, the prioritization criteria provide a sense of how areas of need align with the statewide goals, but the analytic process may not always reflect the local significance of any particular walking or bicycling need. Needs that were not captured by this plan or that were not assigned to the top priority tier should still be considered for project development and funding.

Collaboration between Caltrans, its agency partners, and the public will be essential to all future project development activities. While this plan identifies general need locations and the kinds of challenges people walking and biking are likely to encounter, these must be validated and refined by gathering local knowledge, reviewing partner agency plans, collecting field data, and considering how that location on the SHS fits into the land use and transportation context.

When addressing walking and bicycling needs on the SHS, Caltrans and its partners may consider solutions both on and off the highways themselves. For example, the safest, most comfortable, or most direct new walkway or bikeway may be on an alignment away from rather than on or immediately adjacent to the SHS. For needs that relate directly to access issues on the SHS—such as crossing a highway or reaching a destination adjacent to a highway—improvements to the SHS will be most appropriate. Caltrans and its partners will work with local communities to understand their specific walking and bicycling needs and explore a range of possible solutions.

GOAL	WEIGHT	MEASURE(S)
Mobility	25%	1- and 2.5-mile short trip potential; 1- and 2.5-mile short trip potential near low income communities; main street; job density; proximity to major transit station
Safety	30%	Pedestrian crash density (total and severity-weighted); bicycle crash density (total and severity-weighted); proximity to schools; speed
Equity	30%	CalEnviroScreen 3.0; median household income; free or reduced price school meal program participation rates; zero-car households; Southern California Association of Governments Communities of Concern ¹ ; locally identified equity priority community
Preservation	15%	Improvement to existing bicycle facility sidewalk, or crosswalk
Total	100%	

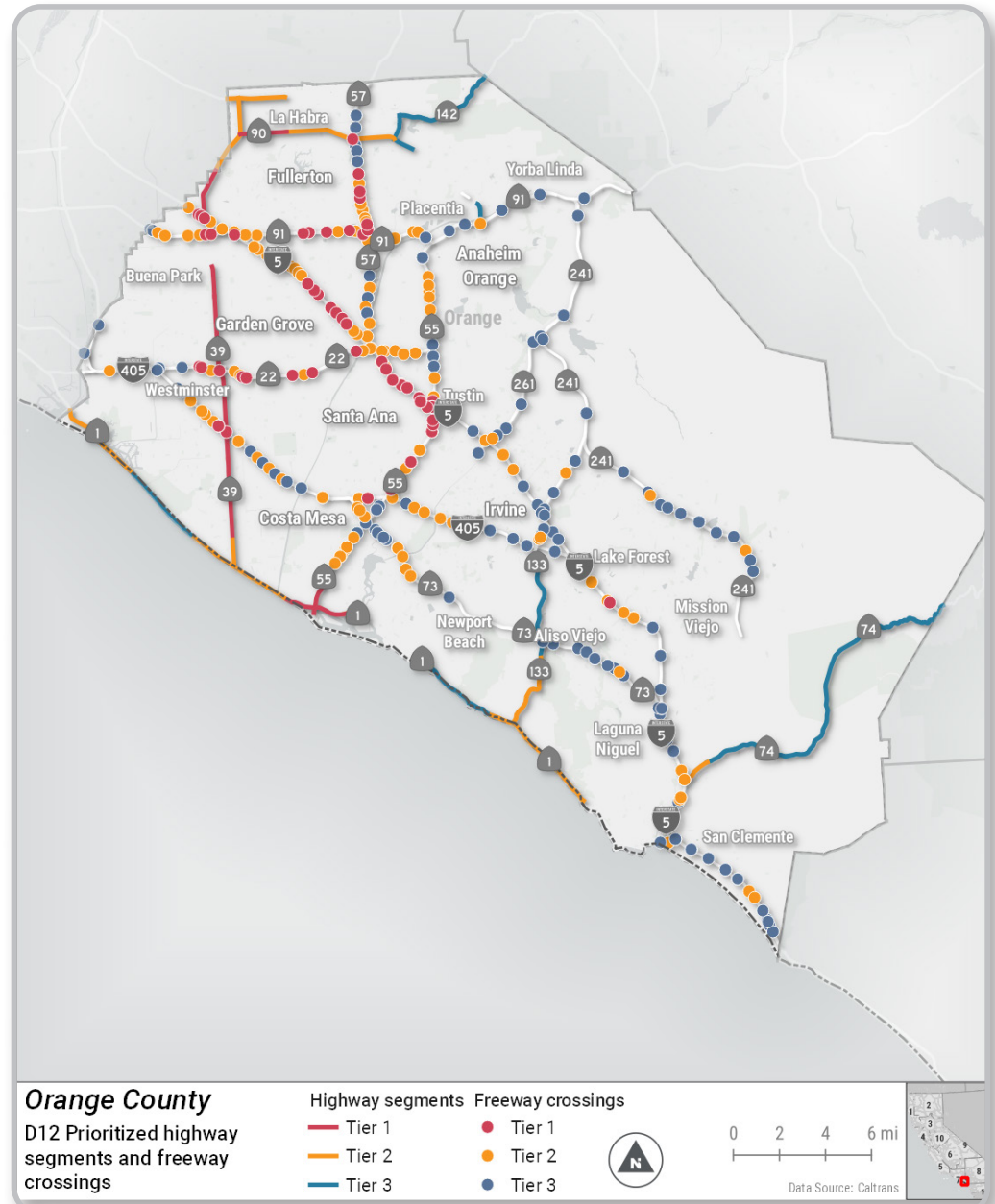
¹ Southern California Council of Governments has designated Communities of Concern using American Community Survey 2012-2017 estimates to identify locations that are in upper third in the region for a) percentage of households in poverty and for b) minority population. For more information and GIS data, visit the <https://gisdata-scaq.opendata.arcgis.com/datasets/SCAG::communities-of-concern/about> SCAG GIS Open Data platform.

STORY MAP

This Summary Report has a companion *Story Map*. This interactive tool uses maps to provide a visual companion to this Summary Report. Its “Explore” section is a full-scale interactive map that provides even greater detail on a full range of existing conditions measures and illustrates the individual and prioritized location-based needs. The map also includes additional information about highway segments with needs on them:

- ▶ Whether the need location is along or across the highway
- ▶ Whether the need is for bicyclists or pedestrians
- ▶ Relative priority (Tier 1, Tier 2, or Tier 3)
- ▶ Prioritization goal scores

The Story Map and Explore Map can help stakeholders and the public understand where needs and opportunities exist in their communities, the nature of those needs, and how they relate to the full picture of active transportation conditions and needs across the District.



Points and lines represent needs along and across the SHS. These features are colored to indicate intensity of need, with Tier 1 representing high intensity of need.

NEXT STEPS FOR IMPLEMENTATION

The District 12 Active Transportation Plan serves as a critical step in implementing Caltrans' statewide vision for an improved walking and biking experience along the SHS in Orange County. Caltrans and its partners in local agencies and community-based organizations all have important roles to play in supporting highway improvement projects that meet the needs of people walking and bicycling, including the needs identified in this plan. Next steps are described below.

NEXT STEPS FOR CALTRANS

LEVERAGE LOCAL PARTNERSHIPS

Caltrans will use the Plan to help identify subsequent planning efforts and develop projects located on or near the SHS. Caltrans and local agency staff will meet early in the project planning and development process to coordinate on project purpose and need, design, and community engagement. This coordination can occur independently or as part of other stakeholder engagement efforts. Site visits with local partners can provide further understanding of the local contexts and the connectivity needs between local pedestrian or bicycle networks and the SHS.

In addition to stakeholder engagement, locally led and developed active transportation plans and efforts will be leveraged to inform a holistic understanding of user needs and to serve as a starting point for dialogue with the community and local groups.

IDENTIFY AND INITIATE PROJECTS

The pedestrian and bicycling needs in the Plan provide baseline information that Caltrans will use to further understand issues at specific locations and to identify potential improvements. Caltrans has further detail on the location-based needs identified in the Plan, which the public can view on the project [Story Map](#).

The Plan includes detailed GIS data that can be accessed via public web applications or GIS applications internal to Caltrans. These applications are interactive platforms that assist Caltrans planners and project teams in identifying project elements that address pedestrian and bicycle travel needs.

USE RESOURCES TO SELECT IMPROVEMENTS

Caltrans' [Complete Streets Elements Toolbox](#) translates complex statewide policies into easily accessible concepts and practices for effective Complete Streets implementation. The Toolbox focuses on roadway elements that prioritize multimodal travel and assists project staff in identifying Complete Streets elements which meet relevant policy goals and objectives. The Toolbox aligns with the State Highway Operation and Protection Program process and can be used during project development to select appropriate improvements that address the needs in the Plan.

Other resources include the *Highway Design Manual*, the *California Manual of Uniform Traffic Control Devices*, and the Federal Highway Administration (FHWA) *Bikeway Selection Guide*. These resources are intended to supplement, but not replace, professional planning and engineering judgment.

FUND PROJECTS

Caltrans views all transportation projects as opportunities to accommodate the needs of people walking and bicycling on the SHS, and many funding programs require consideration of Complete Streets elements during project development. Funding is often the most challenging part of implementing any kind of project on the SHS. The following are three primary funding mechanisms for projects to meet the active transportation needs outlined in the Plan.

- ▶ The State Highway Operation and Protection Program (SHOPP) is the Caltrans "fix-it-first" program, which funds repair and preservation, emergency repairs, safety improvements, and some highway operational improvements on the SHS. The needs identified in the Plan can be incorporated into the SHOPP to generate additional benefits beyond the primary purpose of the project. The baseline needs from the Plan will directly contribute to establishing performance targets specific to active transportation.
- ▶ The *Active Transportation Program* directs funds to local and regional agencies through a competitive selection process. Caltrans is eligible to compete for these funds or with partner agencies and local jurisdictions, which may also compete for these funds independently. The Plan identifies and prioritizes improvements that might be most competitive for these funds.
- ▶ *Senate Bill 1 (SB 1)* establishes local and State transportation programs and funding to repair and enhance roads, bridges, transit, and other transportation assets. SB 1 provides opportunities to address active transportation needs while also infusing the active transportation program with an additional \$100 million annually.

Other grant programs provide funding for bicycle and pedestrian improvements.

- ▶ Caltrans can coordinate with partner agencies that are eligible to apply for funds through the *Highway Safety Improvement Program* and the *Affordable Housing and Sustainable Communities Program*.
- ▶ *Local and regional jurisdictions* may also contribute project funds to meet the capital needs of projects in the Plan. Funds generated by local sales tax measures, for example, can be used for matching grants or to provide additional financial leverage for projects.
- ▶ Bicycle and pedestrian improvements may be constructed using *development project mitigation funding*. Such projects could provide multi-modal access, such as trail connections, sidewalks, or bicycle facilities, on or parallel to SHS roads.

TAKE DISTRICT-LEVEL ACTION

Each district plays a key role in achieving the goals and objectives of *Toward an Active California*. District 12 staff can take the following actions to track progress and implement strategies that further those goals and objectives:

- ▶ Track implementation of pedestrian and bicycle improvements along and across the SHS in District 12.
- ▶ Provide guidance to local agency partners on the Caltrans approval process for Complete Streets improvements on the SHS.
- ▶ Identify and promote best practices from District 12 and local jurisdictions developing pedestrian and bicycle facilities on and along the SHS.
- ▶ Develop recommendations based on best practices for future updates to Caltrans statewide guidance and policies.
- ▶ Explore opportunities to partner with local agencies and organizations on short-term pilot projects and events to promote walking and biking.
- ▶ Strengthen engagement with all communities in District 12 during planning and project development to understand and co-develop solutions and strategies based on their mobility and safety needs on the SHS.
- ▶ Collect additional data about the SHS and local networks, including more detailed data in places where potential for improvements is high.



Pedestrians crossing the street at SR 1 and SR 39 in Huntington Beach.

NEXT STEPS FOR LOCAL AND REGIONAL JURISDICTIONS AND STAKEHOLDERS

COORDINATE AT THE LOCAL LEVEL

Local knowledge and expertise are critical for understanding the needs of people walking and bicycling at specific locations. Those insights help Caltrans and local agencies identify, fund, and implement projects that successfully address those needs. Communities throughout District 12 can gather and share knowledge to advance projects. For example, members of the public can advocate for their local or regional government to initiate a study of local needs. Local and regional agencies can likewise lead planning studies that identify relevant funding sources. This step should include community engagement to understand the public's experiences and priorities. Funding for planning efforts is available through Caltrans Sustainable Transportation Planning Grants, Urban Greening Grants, Transformative Climate Communities Program, and other initiatives.

Project needs may also be incorporated into local general plans, specific plans, or other planning documents to address the gaps identified in the Plan. Consistency across plans is a key factor in making projects attractive for funding.

PARTNER WITH CALTRANS TO DEVELOP PROJECTS

Local agencies are key partners with Caltrans, as they provide information on local needs and priorities related to the SHS. Coordination can strengthen projects, whether led by Caltrans or by local agencies, so that they better address needs for people walking and bicycling on the SHS as well as on connecting streets and roads. Local partners can provide critical input about how incorporating active transportation elements into projects will provide improved connections to the local road network. The [*State Highway Operation and Protection Program \(SHOPP\) Ten-Year Project Book*](#) dashboard is a publicly accessible source for information on planned SHS projects.

SEEK FUNDING TO BUILD PROJECTS

Projects or plans on the SHS frequently include funds provided directly from Caltrans, such as through its Active Transportation Program or Sustainable Transportation Planning Grant Program. In addition to grant funding, Caltrans is also seeking opportunities to fund active transportation needs by incorporating them into projects funded by the State Highway Operation and Protection Program, which is described above. Project funding packages sometimes include additional sources, such as local or regional sales tax measures, grants from the California Air Resources Board (e.g., Sustainable Transportation Equity Projects), funds from regional partners, funds from the Transportation Demand Act, environmental mitigation funds, other gas tax revenue, or general funds.

DATA SHARING

High-quality data from across the region, including data collected during this planning effort and data gathered from our partners, is the cornerstone of the Plan. The contact information provided below will connect you to District 12 staff who can coordinate data sharing efforts.

CONTACTING CALTRANS

Additional information about this planning effort can be found on the [*District 12 Active Transportation Plan webpage*](#). Caltrans District 12 staff can provide additional information about upcoming projects in your community, provide input, and coordinate on project identification, development, and implementation. District 12 staff contact for the Active Transportation Plan is:

Irene Hou, [*irene.hou@dot.ca.gov*](mailto:irene.hou@dot.ca.gov), (657) 328-6272

ACKNOWLEDGEMENTS

Thank you to everyone who completed the public survey or shared it with people they know.

This plan was developed through the combined commitment, energy, and guidance of current and past District 12 and Caltrans Headquarters team members, the District 12 Active Transportation Plan project team, partner agency representatives, advocacy group members, and community members. In particular, the following organizations and individuals contributed significantly to the Plan's development and were instrumental in its completion.

CALTRANS PROJECT TEAM

- ▶ District 12 System Planning Branch
- ▶ District 12 Active Transportation Technical Advisory Committee (ATTAC)
- ▶ Headquarters Active Transportation Plan Team

COMMUNITY AND MOBILITY PARTNERS

- ▶ California Coastal Commission
- ▶ Costa Mesa Alliance for Better Streets
- ▶ Lightning Velo
- ▶ Orange County Health Care Agency (OCHCA)
- ▶ Orange County Active Transportation Network
- ▶ Orange County Public Works (OCPW)
- ▶ Orange County Transportation Authority (OCTA)
- ▶ Orange County Bicycle Coalition
- ▶ Safe Routes Partnership
- ▶ Santa Ana Active Streets
- ▶ Southern California Association of Governments (SCAG)
- ▶ St. Jude Medical Center
- ▶ State Coastal Conservancy
- ▶ Transportation Corridor Agencies (TCA)

ORANGE COUNTY CITIES

- ▶ Aliso Viejo
- ▶ Anaheim
- ▶ Brea
- ▶ Buena Park
- ▶ Costa Mesa
- ▶ Cypress
- ▶ Dana Point
- ▶ Fountain Valley
- ▶ Fullerton
- ▶ Garden Grove
- ▶ Huntington Beach
- ▶ Irvine
- ▶ La Habra
- ▶ La Palma
- ▶ Laguna Beach
- ▶ Laguna Hills
- ▶ Laguna Niguel
- ▶ Laguna Woods
- ▶ Lake Forest
- ▶ Los Alamitos
- ▶ Mission Viejo

- ▶ Newport Beach
- ▶ Orange
- ▶ Placentia
- ▶ Rancho Santa Margarita
- ▶ San Clemente
- ▶ San Juan Capistrano
- ▶ Santa Ana
- ▶ Seal Beach
- ▶ Stanton
- ▶ Tustin
- ▶ Villa Park
- ▶ Westminster
- ▶ Yorba Linda

CONSULTANT TEAM

- ▶ Toole Design
- ▶ WSP
- ▶ Cambridge Systematics
- ▶ MIG
- ▶ Tierra Plan



Surfer crossing the street at SR 1 and SR 39 in Huntington Beach.

ACTIVE TRANSPORTATION 2022 PLAN

SUMMARY REPORT

