California Transportation Carbon Reduction Strategy

FINAL OCTOBER 2023

Caltrans

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Locations of Infrastructure Investment and Jobs Act Required Elements

A Carbon Neutral California

Climate Change Policies and Legislation

California has led the nation on climate change and greenhouse gas (GHG) emission reductions since our first statewide GHG target in 2006. Assembly Bill 32, the California Global Warming Solutions Act, set a goal to reach 1990 GHG levels by 2020, which California achieved six years early. Today, California is committed to reducing GHG emissions to 40% below 1990 levels by 2030 (Senate Bill 32, 2016) and achieving carbon neutrality by 2045 (Assembly Bill 1279, 2022). These ambitious state goals cannot be met without the partnership of California's Metropolitan Planning Organizations (MPO) and Regional Transportation Planning Agencies (RTPA) who are assigned regional GHG targets to share the responsibility of meeting California's goals (Senate Bill 375, 2008).

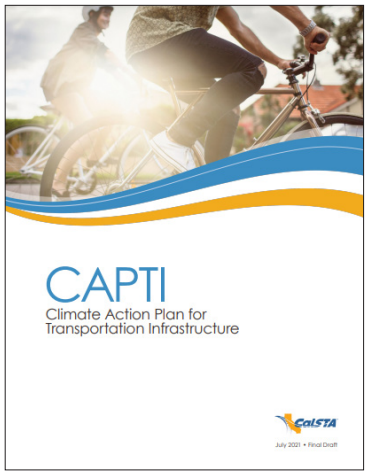
Planning Framework

California's carbon reduction work is led by the California Air Resources Board (CARB) and summarized in the CARB Scoping Plan. Updated every five years, the Scoping Plan outlines a GHG reduction target for each sector. For transportation, the Scoping Plan focuses on transitioning to zero-emission vehicles (ZEV) and reducing vehicle miles traveled (VMT). This focus is reiterated in the Climate Action Plan for Transportation Infrastructure (CAPTI) and the California Transportation Plan (CTP) 2050. CAPTI responds to an executive order to leverage all discretionary transportation funding to reduce the impacts of climate change and makes recommendations to increase investment in ZEV, rail, transit, and active transportation. Similarly, CTP 2050's vision for California is centered around a carbon-neutral multimodal transportation system that ensures all residents have viable alternatives to driving.

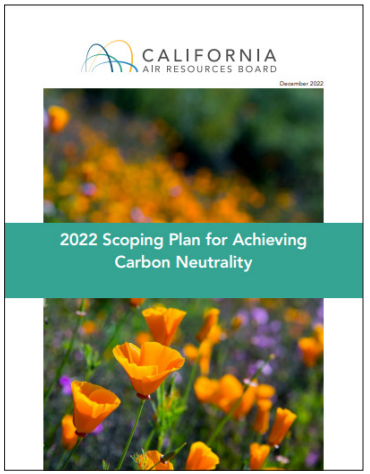
About This Strategy

Given California's robust existing framework around carbon emissions and the diversity of its communities, the California Transportation Carbon Reduction Strategy (Strategy) is structured as a reference, highlighting and linking to work happening across California to reduce transportation's impact on climate change. In general, the Strategy does not set new policy. Instead, it provides direction on how the Infrastructure Investment and Jobs Act (IIJA) Carbon Reduction Program (CRP) funds can be leveraged to implement California's ambitious carbon reduction plans and policies.

View the CTP 2050



View CAPTI



View the Scoping Plan

Zero-Emission Vehicles and Infrastructure

Active Transportation and Micromobility

Rail and Transit

Reducing Transportation's Carbon Emissions

Although transitioning to electric and hydrogen vehicle technologies is critical to carbon reduction, the CARB Scoping Plan is clear that California cannot achieve carbon neutrality with ZEVs alone. Even with California's mandate that all new car sales be ZEVs beginning in 2035, many vehicles will still have traditional internal combustion engines. To achieve carbon neutrality, Californians need to drive less: 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045. Caltrans has a critical role to play in this work; nearly 62% of California's total vehicle miles traveled occurs on the state highway system.

This Strategy establishes three types of projects and strategies that support the reduction of transportation carbon emissions: Zero-Emission Vehicles and Infrastructure, Active Transportation and Micromobility, and Rail and Transit. These 'three pillars' create a framework to ensure CRP funds are programmed on projects that support the state's efforts to reduce transportation emissions, while providing necessary flexibility. California's cities and counties range wildly in geography, population demographics, land use patterns, and transportation networks. The three pillars structure allows projects and strategies to be tailored to local context while still working towards carbon neutrality by 2045. Projects are considered aligned with this Strategy, and eligible for CRP funds, if they support one or more of the three pillars.

California's need for ZEV, active transportation, and rail and transit investment exceeds CRP funds. The CARB Scoping Plan highlights roadway pricing (tolled roads and lanes) as an effective tool to reduce VMT and generate revenue for low-carbon travel options. This Strategy directs California's "any area" CRP funds to be spent on projects that convert existing lanes to priced managed lanes to support the three pillars.

Strategy Development

This Strategy was developed in partnership with stakeholders across California. The California Department of Transportation (Caltrans) first began discussing the three pillars framework in January 2023. This early stakeholder engagement allowed for programming and delivery of CRP funds during the development of this Strategy in line with California's commitment to timely delivery of federal funds. Caltrans hosted four virtual stakeholder workshops in May 2023 to discuss this Strategy's content. The workshops were regionally focused and gathered more than 200 individuals from cities, counties, regional agencies, transit operators, Tribal Governments, community groups, and advocacy organizations. The draft Strategy was released on July 10, 2023, for a 30-day public comment period. Comments received on the draft are reflected in this final version of the Strategy.

Regional Strategies

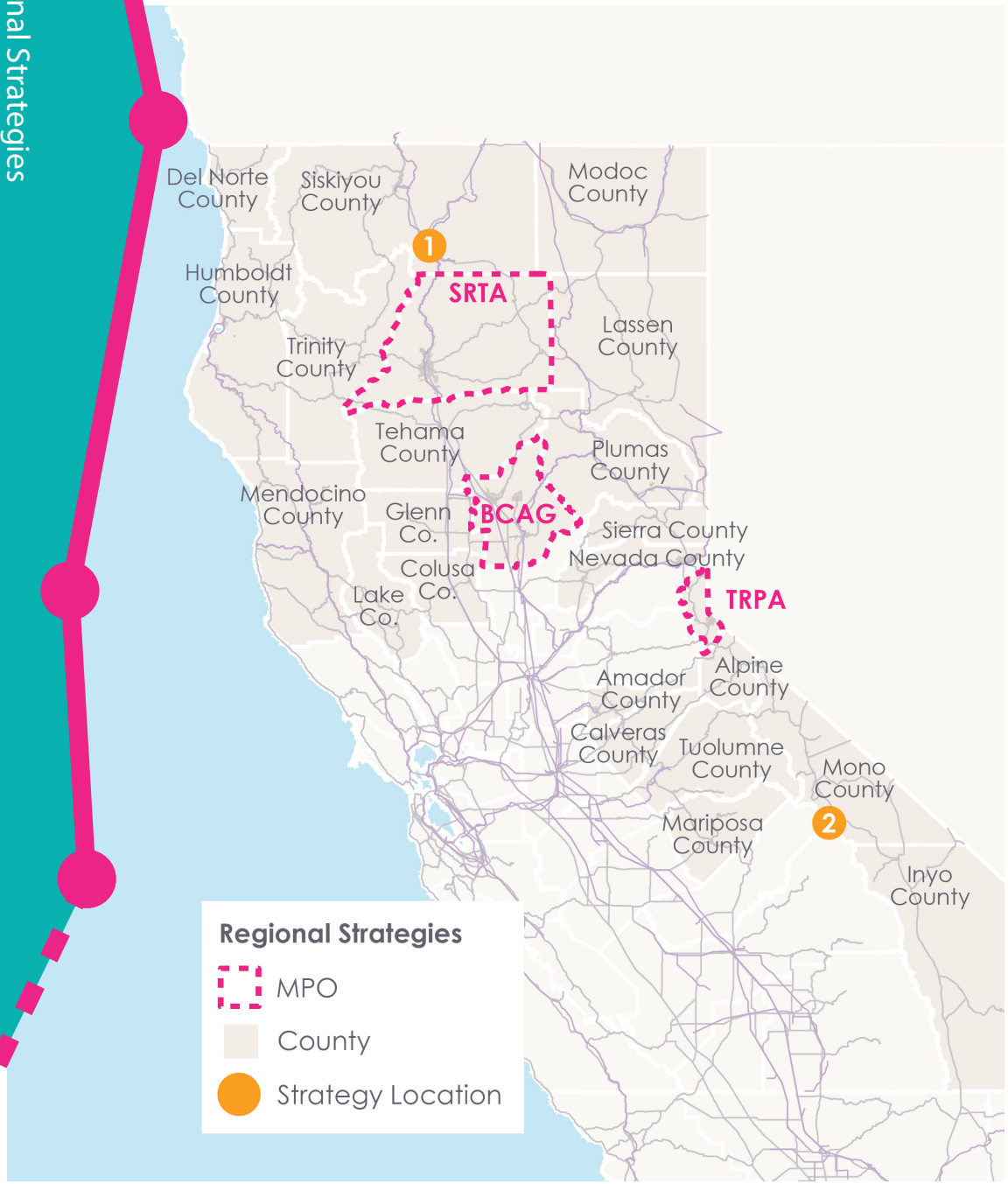
The Diversity of California's Regions

California has embraced a decentralized approach to transportation infrastructure planning and delivery. Working with MPO and RTPA partners to develop transportation strategies ensures that projects are diverse enough to the meet the unique conditions across California and effectively reducing transportation carbon emissions.

Reflecting this need, the Strategy highlights a collection of carbon-reducing projects and strategies that reflect the diversity of California's communities. The following pages contain 10-15 examples for each of the three pillars that are planned or in-progress. These highlights should not be taken as a comprehensive list of all carbon-reducing transportation projects in the state. Instead, they represent a cross-section of California's efforts to decarbonize transportation. For a comprehensive understanding of the transportation improvements needed in each region to achieve carbon neutrality by 2045, refer to the RTP/SCSs linked below.

MPOs
Association of Monterey Bay Area Governments (AMBAG)
Butte County Association of Governments (BCAG)
Fresno Council of Governments (FCOG)
Kings County Association of Governments (KCAG)
Kern Council of Governments (KCOG)
Merced County Association of Governments (MCAG)
Madera County Transportation Commission (MCTC)
Metropolitan Transportation Commission (MTC)
Sacramento Area Council of Governments (SACOG)
San Diego Association of Governments (SANDAG)
San Joaquin Council of Governments (SJCOG)
San Luis Obispo Council of Governments (SLOCOG)
Santa Barbara County Association of Governments (SBCAG)
Shasta Regional Transportation Agency (SRTA)
Southern California Association of Governments (SCAG)
Stanislaus Council of Governments (StanCOG)
Tulare County Association of Governments (TCAG)
Tahoe Regional Planning Agency (TRPA)

Zero-Emission Vehicles and Infrastructure



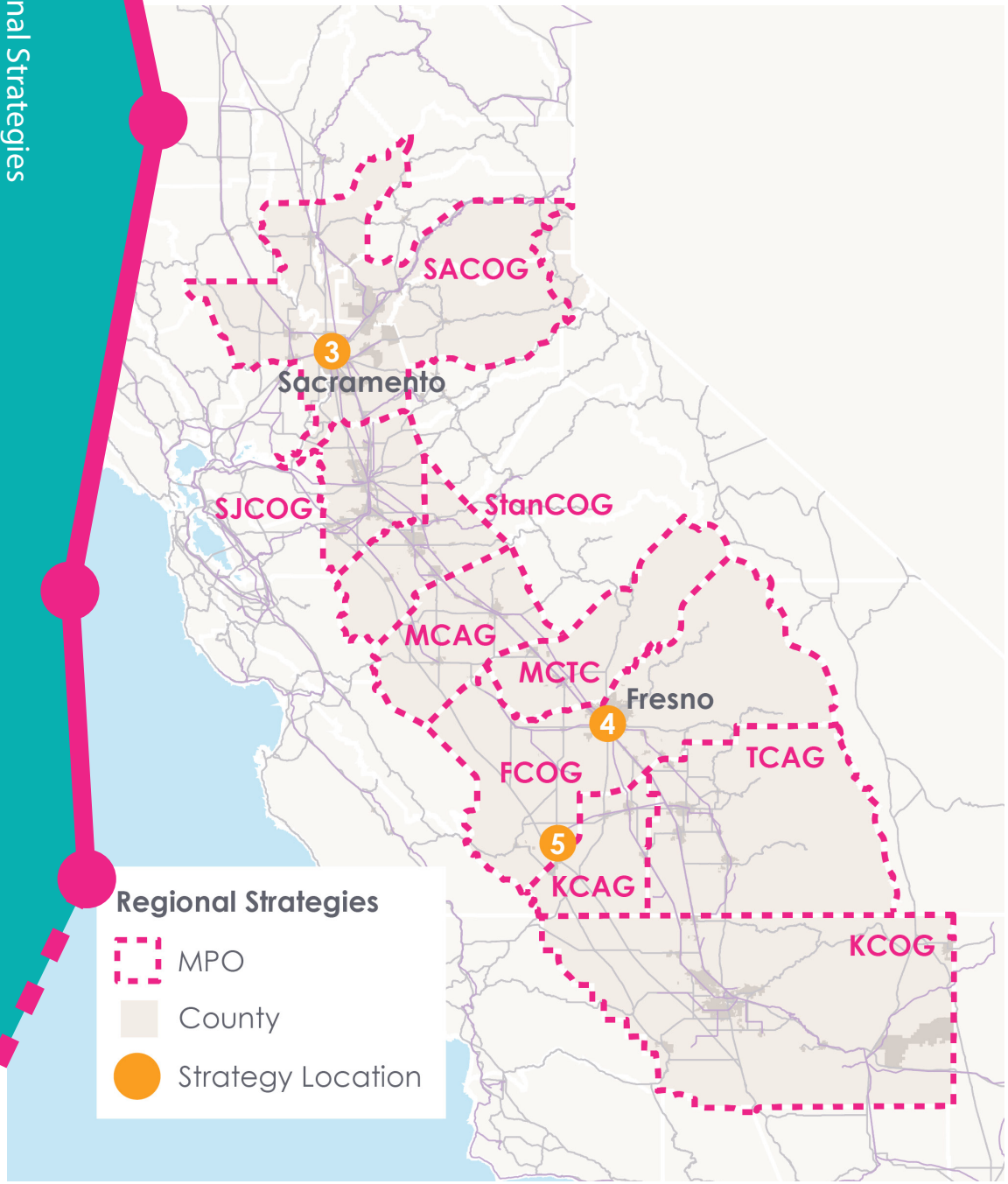
1. West Coast Truck Charging and Fueling Corridor Project

In partnership with Oregon and Washington, California is working to install freight truck charging infrastructure along Interstate 5 (I-5) from Mexico to Canada. I-5 connects several major sea ports and ports of entry and is a critical interstate and international freight route. Appropriately spaced high-capacity truck chargers are critical to transitioning the freight truck fleet to ZEV without impacting the supply chain. This project will also create a spine of high-capacity electric infrastructure through rural areas, reducing the inequitable distribution of chargers.

2. Mammoth Lakes Mobility Hub

The Town of Mammoth Lakes conducted a Mobility Hub Study that recommended adding multi-modal transportation facilities to an existing Park & Ride lot. The mobility hub's electric vehicle (EV) charging, pedestrian areas, bike parking, and transit station will serve the town's significant recreational travel demand. This project will reduce carbon emissions by providing ZEV charging infrastructure in a rural region of California that lacks significant charging infrastructure.

Zero-Emission Vehicles and Infrastructure (cont.)



3. Sacramento Valley Station Bus Mobility Center

As part of a larger vision to upgrade Sacramento Valley Station and its surrounding area, the Bus Mobility Center provides 18 electric bus charging bays. This infrastructure makes it possible for long distance regional bus routes to connect into Sacramento Valley Station and share charging facilities. This project reduces transportation carbon emissions by supporting the transition of bus fleets from traditional fuels to electric.

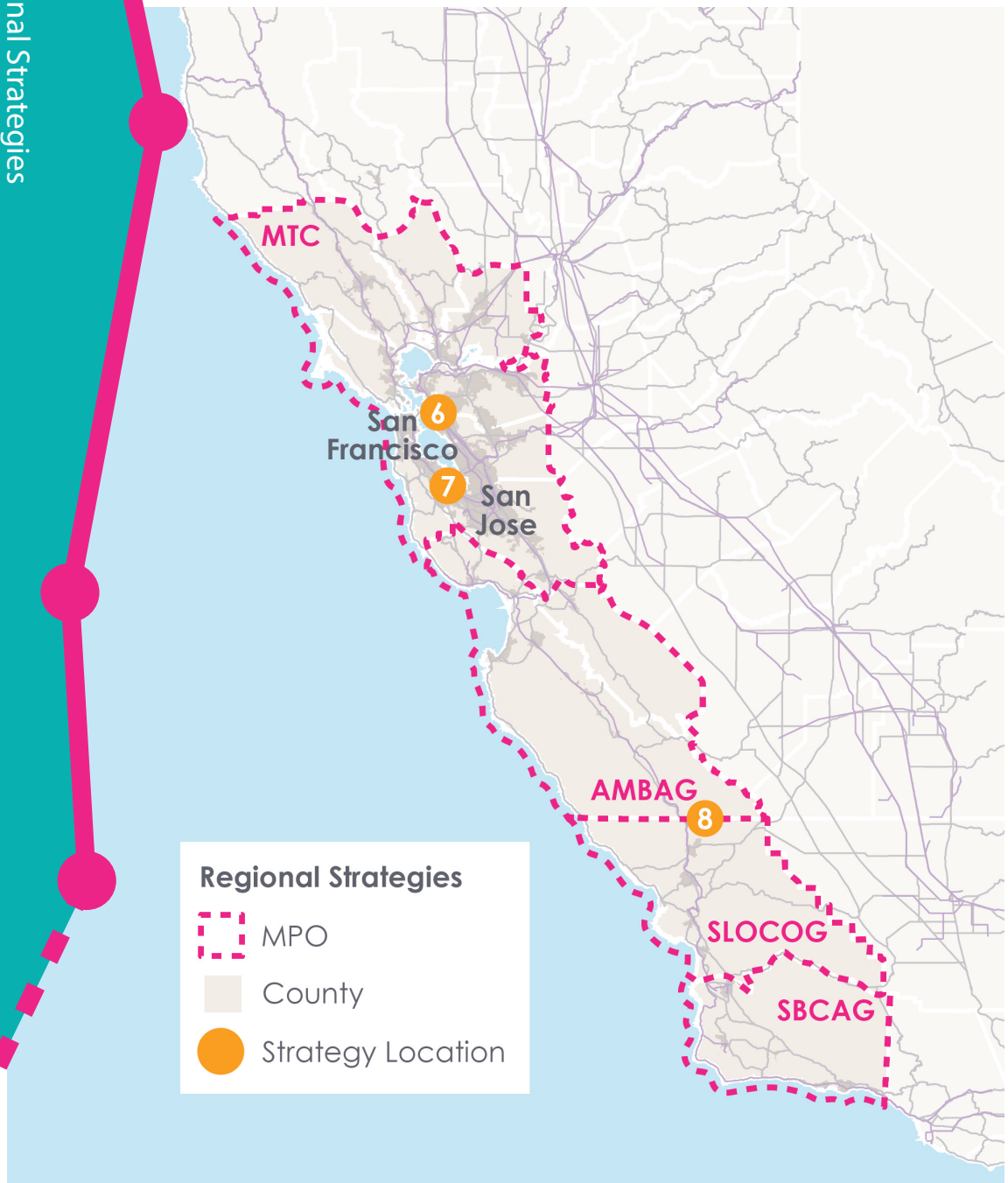
4. Fresno Community College Workforce Development

To support transportation carbon emissions reductions by ensuring ZEV reliability, this program expands the ZEV support workforce by providing maintenance training. This program also ensures the benefits of California's carbon-neutral economy are equitably distributed.

5. Green Raiteros

This program reduces transportation carbon emissions by providing a shared fleet of ZEVs that give rural residents without personal vehicles a way to access essential destinations. The program closes a gap in transit service and reduces emissions in the heavily polluted Central Valley region.

Zero-Emission Vehicles and Infrastructure (cont.)



6. Port of Oakland Green Power Microgrid

This project enables one of California's largest ports to support 1,000 electric vehicles on-site. ZEV infrastructure at seaports and ports of entry is critical to transitioning the freight fleet and supporting reduced transportation carbon emissions in an equity-priority community that has been historically burdened by poor air quality.

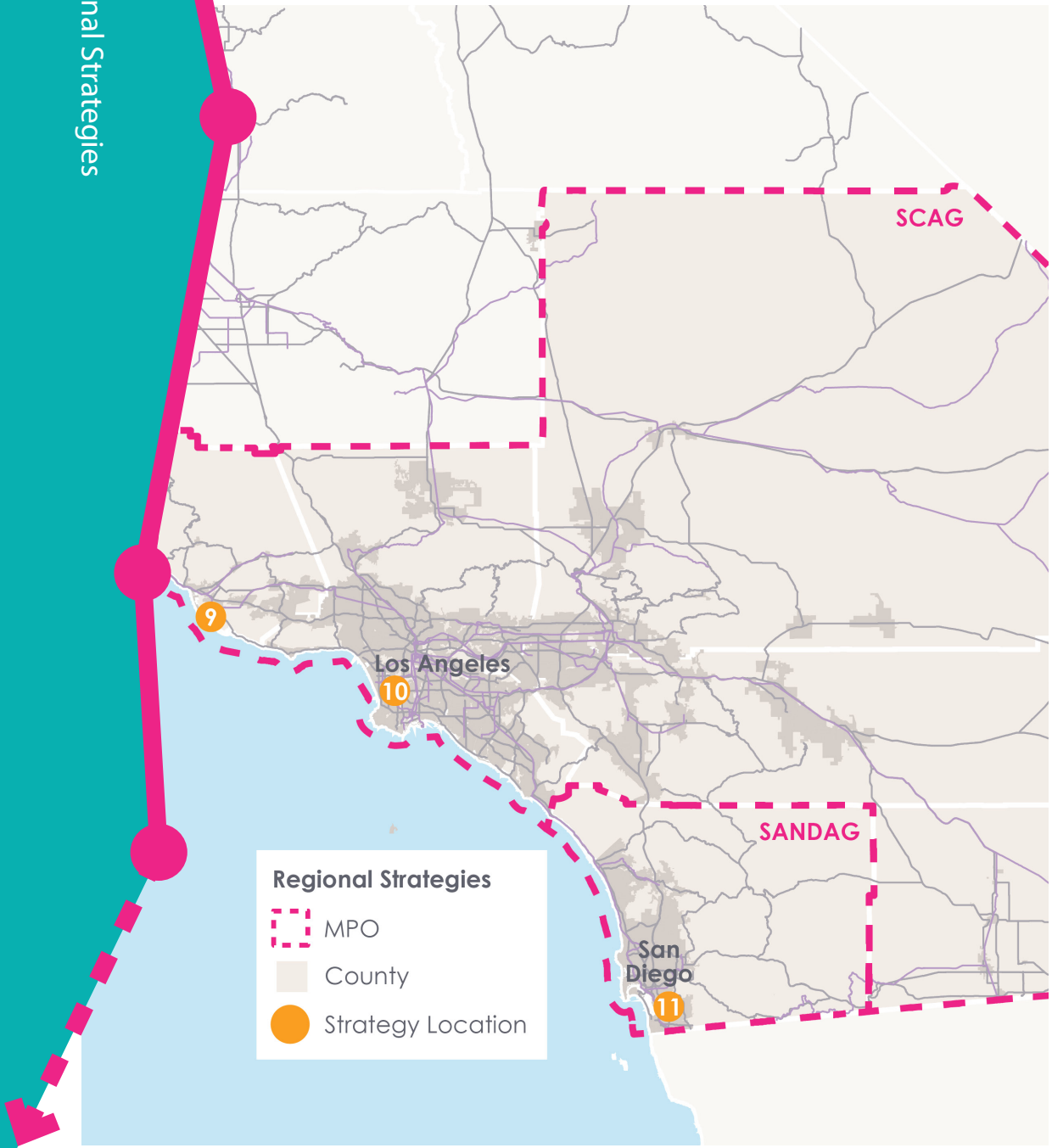
7. Caltrain Electrification

This project will electrify the Caltrain passenger rail corridor from San Francisco to San Jose. The new electric trains replace the system's current diesel-hauled trains, reducing noise, improving air quality, and reducing carbon emissions.

8. Central Coast ZEV Strategy

AMBAG, SLOCOG, and SBCAG are working together to identify gaps and opportunities to implement ZEV infrastructure within their regions. The project reduces carbon emissions by accelerating the adoption of ZEV vehicles in a region of the state without dense charging and fueling infrastructure.

Zero-Emission Vehicles and Infrastructure (cont.)



9. Metrolink Station EV Charging

Six additional electric vehicle charging stations at the Camarillo, East Ventura, and Oxnard train stations (2 chargers per station) to improve amenities for passengers and encourage EV use. Part of the US 101 Connected Communities Corridor Rail and Active Transportation Improvements Project.

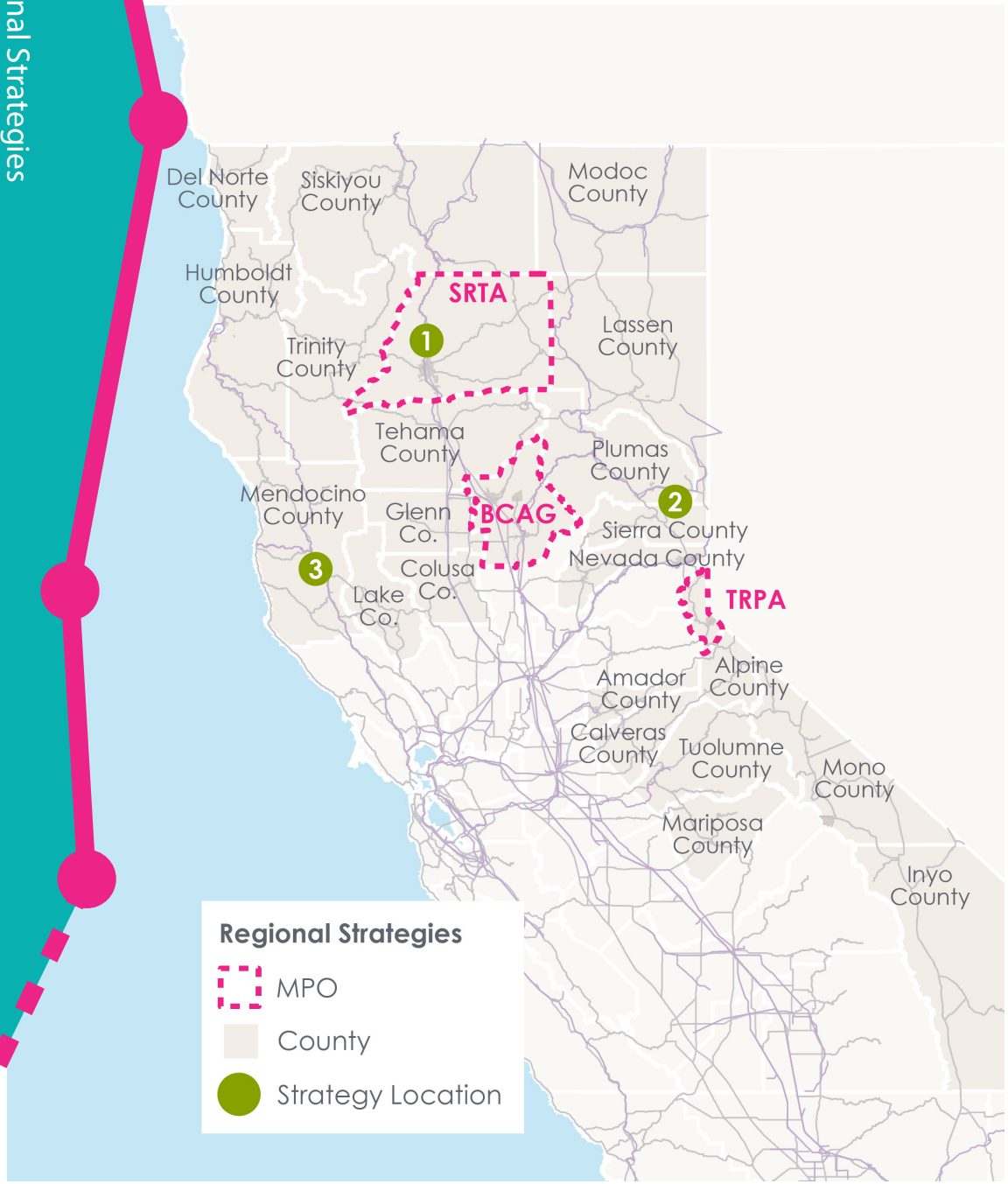
10. LA Metro J Line Electrification

This project replaces the J Line (also known as the Silver Line) diesel buses with extended range electric buses that can handle the 35-mile route's roundtrip on a single charge. This equity-forward ZEV deployment reduces carbon emissions on one of the state's busiest bus routes through critical environmental justice communities.

11. San Diego Charger Rebate Program

The San Diego County Incentive project reduces transportation carbon emissions by promoting easy access to ZEV infrastructure across the county. The program provides rebates to property owners who install publicly-accessible passenger EV chargers.

Active Transportation and Micromobility



1. Lake Ashby to Downtown

Included in the GoShasta Regional Active Transportation Plan, this project adds 1.4 miles of safe routes to school infrastructure within the city of Shasta Lake. This project reduces carbon emissions by providing a safe alternative to driving for students traveling to and from Central Valley High School.

2. Smithneck Road Bike Path

This project creates a Class I bike trail connecting the city of Loyalton to the scenic Tahoe Pyramid Bikeway. This project provides a critical link in California's recreational bikeway network, reducing transportation carbon emissions from rural tourism trips.

3. Great Redwood Trail

The Great Redwood Trail is a 320-mile rail-to-trail project connecting the San Francisco Bay to the Humboldt Bay. The project repurposes right-of-way from a largely unused rail line parallel to United States Highway 101 (US 101). The project is being constructed in segments, reducing transportation carbon emissions in the many communities along the North Coast. Ultimately, the full trail will provide a low-carbon travel option for the heavy recreation travel in this region.

Active Transportation and Micromobility (cont.)

4. El Dorado Trail

Similar to the Great Redwood Trail, this project follows two former rail lines, creating a continuous separated bicycle and pedestrian facility between Folsom and Lake Tahoe. Although the ultimate trail's elevation change will challenge even the most avid cyclists, its segments in the many cities and towns along US 50 provide a low-carbon travel option for local trips.

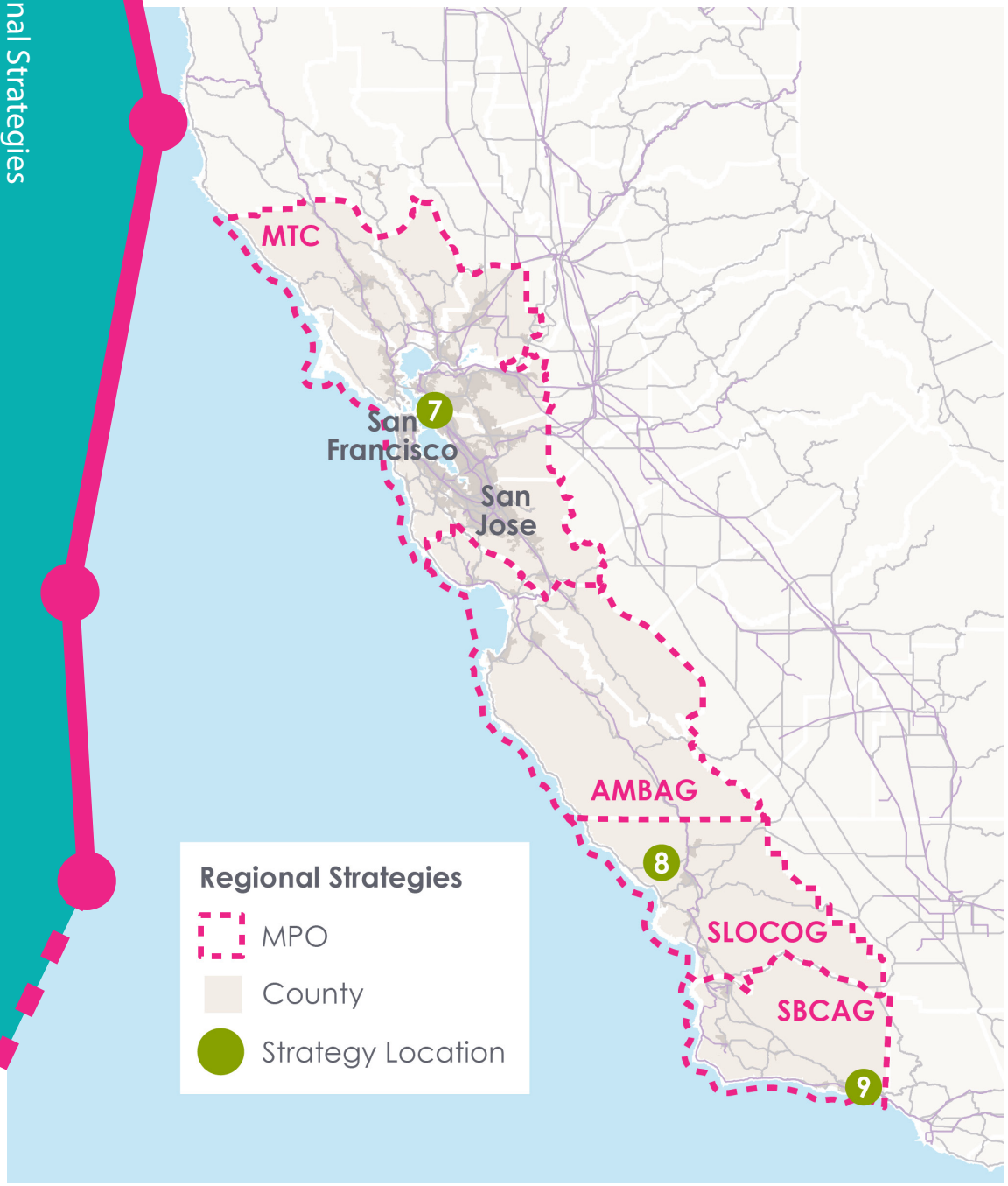
5. Airport Neighborhood Safe Routes to School

The City of Modesto's Airport Neighborhood is a low-income community with limited public transit and high vehicle speeds. This project includes a suite of improvements to improve the safety of students and families walking to school and to reduce the inequitable transportation burden experienced by this community.

6. Hanford Complete Streets Improvements

This project adds traffic calming and pedestrian safety improvements in downtown Hanford, reducing carbon emissions by improving transportation equity by providing a safe travel option for households without access to a car.

Active Transportation and Micromobility (cont.)



7. Bay Skyway

This project will extend the 15-foot-wide walking and biking path on the East Span of the Bay Bridge to create a continuous connection between San Francisco and Oakland. In addition to providing a time- and cost-competitive low-carbon option for residents commuting across the bay, this project supports infill development on Treasure Island. Dense housing supported by robust and safe active transportation and public transit infrastructure creates sustainable communities that are less dependent on driving.

8. Chorro Valley Trail

This 17-mile trail will provide a low-carbon alternative to driving between San Luis Obispo and Morro Bay and adds a new trail connection to the California Coastal Trail.

9. Rincon Trail

This 0.9-mile gap closure in the California Coastal Trail provides the residents of Carpinteria a safe low-carbon connection to the ocean, including a bridge that eliminates the need to walk across the passenger rail line.

Active Transportation and Micromobility (cont.)

10. Long Beach Orange Avenue Bikeway

This project adds six miles of protected bike lanes as part of the comprehensive network identified in the City of Long Beach's Bicycle Master Plan. Protected bike lanes attract individuals who may be hesitant about biking, reducing carbon emissions by eliminating vehicle trips.

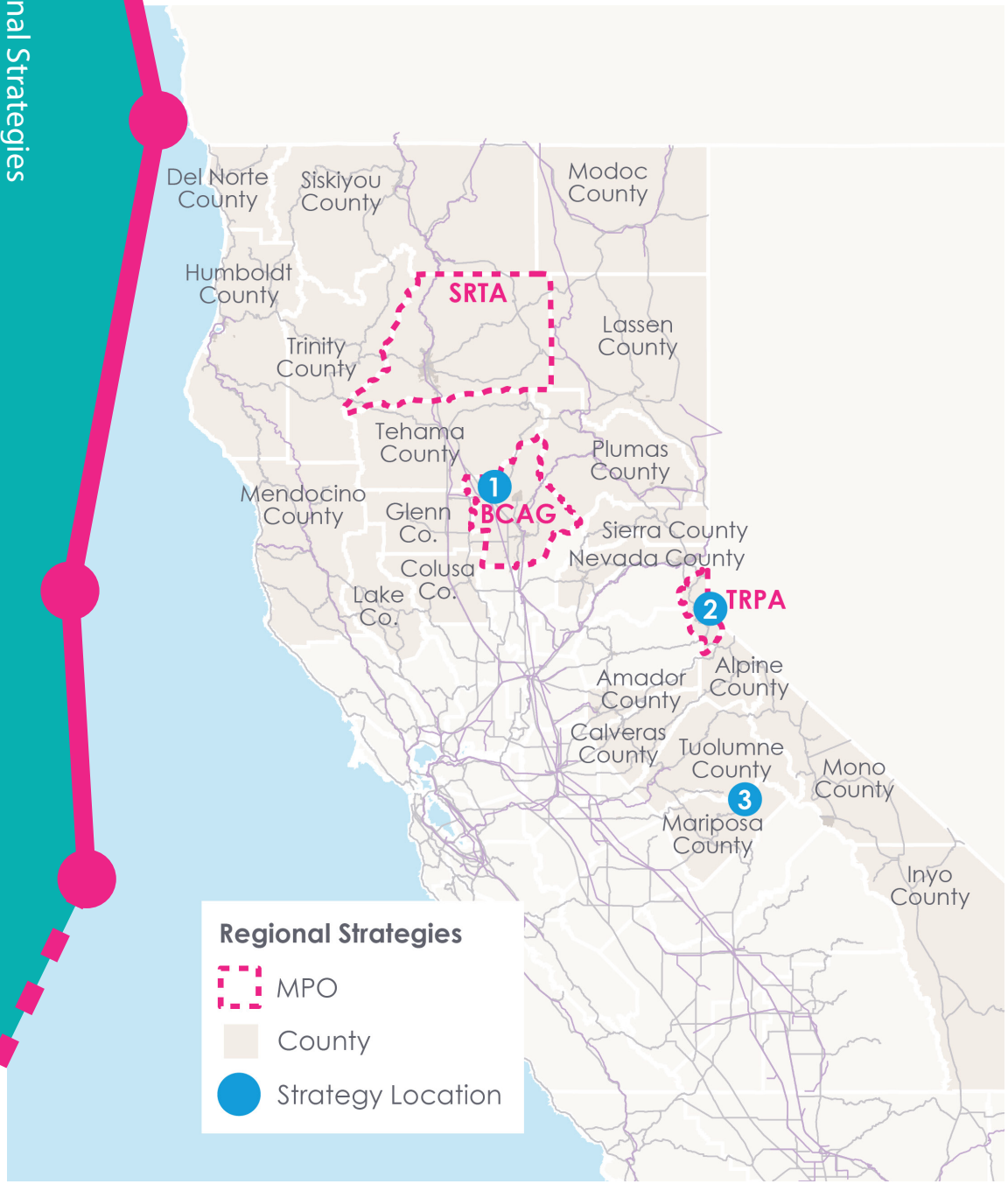
11. Coachella Valley Link

This 40-mile pathway for pedestrians, cyclists, and low-speed neighborhood electric vehicles provides a low-carbon travel option that meets the needs of the Coachella Valley's more suburban communities. In addition to reducing transportation carbon emissions, the project is designed as a driver of economic growth, public health and safety, and community connection.

12. Coastal Rail Trail

This 44-mile continuous Class I bike route will provide a low-carbon travel option to I-5 for the residents between Oceanside and downtown San Diego.

Rail and Transit



1. North Valley Rail

North Valley Rail adds regular passenger rail service between Sacramento and Chico, adding a frequent and reliable alternative to driving that reduces transportation carbon emissions.

2. Cross Lake Ferry

This project will add frequent public transit connections between Lake Tahoe's north and south shores. As part of a larger network of multimodal travel options, the Cross Lake Ferry service will reduce transportation carbon emissions and air pollution in the environmentally-sensitive Lake Tahoe Basin.

3. Yosemite Area Regional Transportation System (YARTS) Sacramento Service

The sixth most visited nation park in the country, Yosemite National Park creates significant demand for trips, but the park's transit system YARTS serves limited nearby cities. During the peak season, the highways leading into the park are severely congested. YARTS' long-range plans includes the creation of bus service connecting the park to Sacramento and Stockton, providing a low-carbon connection between the park and major cities.

Rail and Transit (cont.)

4. Valley Rail

Valley Rail is a collection of improvements and expansions of the Altamont Corridor Express and Amtrak San Joaquins passenger rail lines, focused on improving service between Sacramento and the San Joaquin Valley. As communities in the Central Valley grow rapidly, this project is key to limiting those trips' carbon emissions and ensuring those communities have equitable access to high-quality transit.

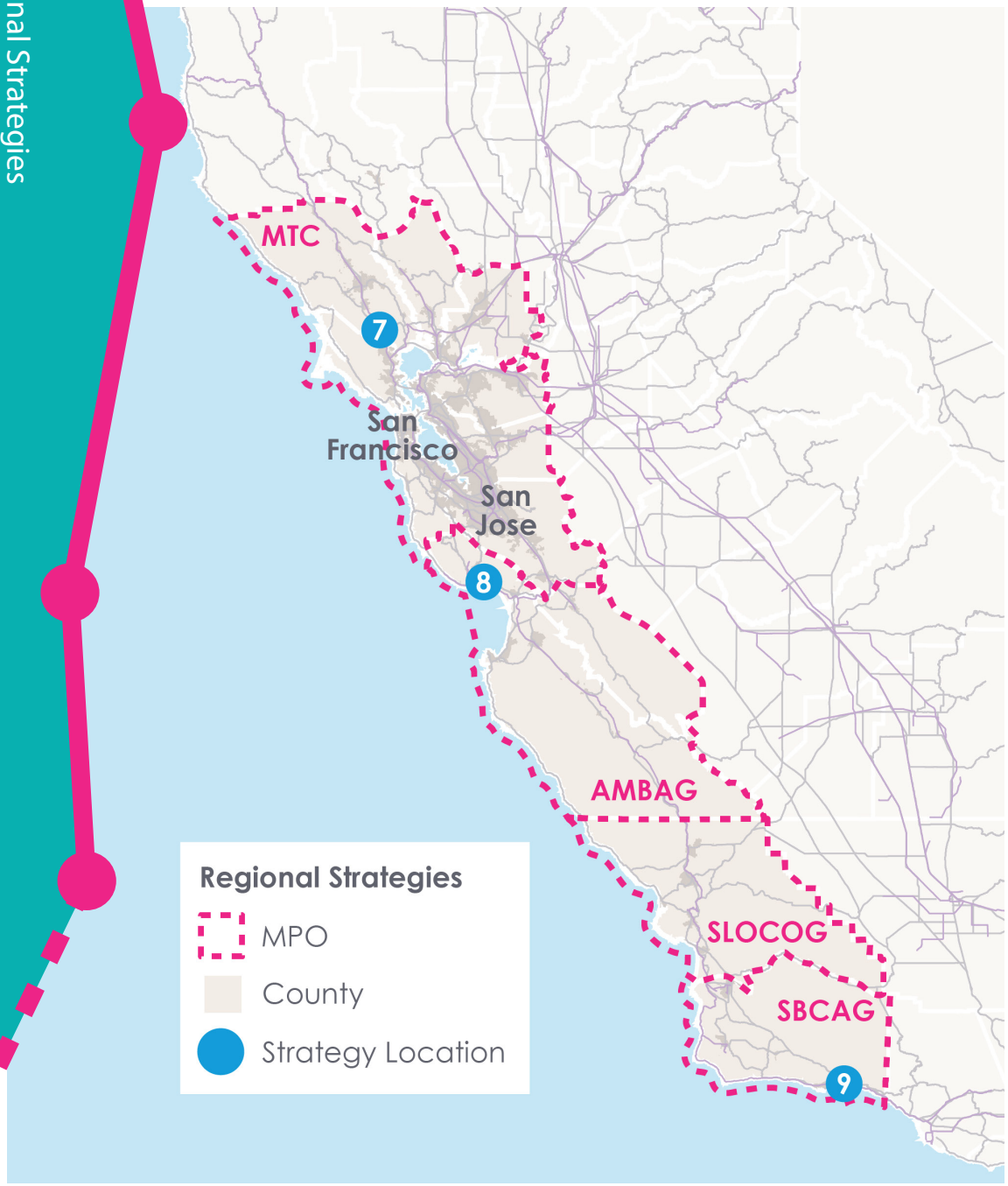
5. Mooney Boulevard Bus Rapid Transit

The City of Visalia's transit plan includes increasing frequency on its busiest bus route along Mooney Boulevard. This suite of transit priority investments will make transit more reliable and appealing and encourage more trips to shift away from driving.

6. Bakersfield High Speed Rail Station Area Vision

The California High Speed Rail Authority is working with the cities with planned high speed rail stations to develop plans for multimodal connections into the station. Bakersfield's vision includes dense land uses, active transportation connections, and local transit connections that will make the rail line more attractive and reduce transportation's carbon emissions.

Rail and Transit (cont.)



7. Sonoma Marin Area Rail Transit (SMART) Extension to Windsor

SMART is rehabilitating a largely unused passenger rail line along US 101 through Sonoma and Marin Counties. SMART currently operates passenger rail service between Santa Rosa and San Rafael, with a planned northern extension to Windsor. The rehabilitation of this line will increase the number of residents with access to a frequent, reliable, low-carbon alternative to driving.

8. Highway 1 Bus on Shoulder

Buses connecting Santa Cruz and Aptos will be allowed to use the State Route 1 (SR 1) shoulder between auxiliary lanes, reducing the impact that peak congestion has on transit travel time. Reliable transit travel times are key to shifting trips away from carbon-intensive passenger vehicle travel.

9. LOSSAN North Corridor

The Los Angeles to San Luis Obispo North (LOSSAN) involves a combination of track and signal upgrades, siding extensions, second track construction, and grade separations to increase frequency on the corridor. This interregional rail service is the second busiest in the nation, and a critical element to decarbonizing California's transportation sector.

Rail and Transit (cont.)

10. West Valley Connector Bus Rapid Transit (BRT)

This 35-mile zero-emission BRT system provides a critical low-carbon link between the rapidly-growing suburban communities of Pomona and Rancho Cucamonga. Capital project elements include dedicated lanes, 21 stations, and transit signal priority.

11. Link Union Station Phase 1

This project will make Los Angeles Union Station a run-through station instead of a stub-end station, increasing the throughput capacity for commuter, intercity, and high speed rail services while at the same time improving connecivity between subway, light rail, bus, bike, shared ride, and rail systems.

12. Orange County Streetcar

This project creates a new low-carbon alternative to driving by constructing a 4-mile light rail line between Santa Ana and Garden Grove.

13. San Diego Purple Line

A proposed 23-mile, 13 station Trolley (light rail) line from the USA/Mexico border in the south to Kearney Mesa in the north, providing a key inland connection to underserved communities and job centers.

Carbon Reduction Program

All projects programmed for Carbon Reduction Program funds must be in the applicable Regional Transportation Plan, Federal Transportation Imrovement Plan (FTIP), and Federal Statewide Transportation Improvement Program (FSTIP), and be consistent with the National Environmental Policy Act (NEPA), Congestion Management Process (CMP), and federal air quality attainment.

Local Carbon Reduction Program Funds

California receives about $110 million per year of CRP funds over five years through IIJA. These funds are split, with 65% apportioned to different areas of the state based on population, or 'Local CRP', and 35% to be spent anywhere in the state, or 'State CRP'. To address the diverse needs of California's communities and ensure carbon reduction projects work for the local context, projects are selected for Local CRP by MPOs and non-MPO RTPAs. These regional agencies may select their own performance-driven project prioritization process as long as it aligns with the three pillars of the Strategy. Local CRP will be administered through the Caltrans Division of Local Assistance.

Local CRP may be spent on projects at any phase, helping to close a critical transportation funding gap for pre-construction needs. As with most federal funds, Local CRP requires a non-federal match. While the non-federal share requirement depends on the type of project, most projects must have an 11.47% non-federal funding match. Toll credits may be available to reduce the match requirement.

Once California is allocated Local and State CRP each year, Caltrans develops apportionments for each MPO and non-MPO RTPA. MPOs and non-MPO RTPAs are then responsible for selecting projects for their apportionment using their adopted method. Before selected projects are programmed, agencies must submit a Project Alignment Confirmation Form to Caltrans to ensure selected projects align with the Strategy's three pillars. Once the form is signed, projects proceed through the normal programming, obligation, and delivery processes for federal funds.

Roadway Pricing and Climate Change

California will use its State CRP funding on projects that convert existing highway lanes into priced managed lanes. Roadway pricing--including Express and High-Occupancy Toll (HOT) lanes, congestion pricing, and toll roads and bridges--are critical to achieving carbon neutrality by 2045. The Driving California's Transportation Emissions to Zero report estimates that between 27% and 37% of the VMT reduction needed to reach carbon neutrality will come from roadway pricing. Roadway pricing projects are also included in many of California's RTP/SCS to meet a region's GHG targets.

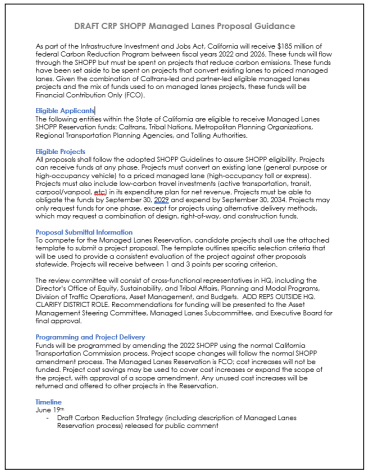
Priced managed lanes encourage carpooling, make transit more cost- and time-competitive, and can generate revenue that can be reinvested in nearby low-carbon travel options. However, not all priced managed lanes projects provide equal carbon reduction benefit. Projects that widen highways, adding new HOT or Express lanes to existing general purpose lanes, can substantially increase VMT. Although these priced managed lanes widening projects may reduce congestion in the short-term and support transit on highways, substantial increases in VMT run counter to California's carbon reduction goals. To maximize carbon benefit and minimize impact on adjacent communities, State CRP will only fund conversions of existing lanes to priced managed lanes.

State Carbon Reduction Program Funding

State CRP will be administered through the State Highway Operations and Protections Program (SHOPP) by amending priced managed lanes conversion projects into the 2022 SHOPP to program all five years of State CRP funds. Projects will be prioritized to receive $200 million of CRP SHOPP Managed Lanes funds based on the following performance metrics:

- Carbon dioxide equivalent emissions
- Vehicle miles traveled
- Travel reliability
- Toll revenue investment in low-carbon travel options
- Transportation equity
- Outreach and partnership
- Deliverability

CRP SHOPP Managed Lanes proposals will be solicited through the Caltrans Districts. Caltrans released the final guidance and proposal form, and began soliciting proposals in September 2023. An amendment adding selected projects into the 2022 SHOPP will be considered at the California Transportation Commission's January 2024 meeting.



DRAFT CRP SHOPP Managed Lanes Proposal Guidance

As part of the Infrastructure Investment and Jobs Act, California will receive $185 million of federal Carbon Reduction Program between fiscal years 2022 and 2026. These funds will flow through the SHOPP but must be spent on projects that reduce carbon emissions. These funds have been set aside to be spent on projects that convert existing lanes to priced managed lanes. Given the combination of Caltrans-led and partner-led eligible managed lanes projects and the mix of funds used to on managed lanes projects, these funds will be Financial Contribution Only (FCO).

Eligible Applicants
The following entities within the State of California are eligible to receive Managed Lanes SHOPP Reservation funds: Caltrans, Tribal Nations, Metropolitan Planning Organizations, Regional Transportation Planning Agencies, and Tolling Authorities.

Eligible Projects
All proposals shall follow the adopted SHOPP Guidelines to assure SHOPP eligibility. Projects can receive funds at any phase. Projects must convert an existing lane (general purpose or high-occupancy vehicle) to a priced managed lane (high-occupancy toll or express). Projects must also include low-carbon travel investments (active transportation, transit, carpool/vanpool, etc) in its expenditure plan for net revenue. Projects must be able to obligate the funds by September 30, 2027 and expend by September 30, 2034. Projects may only request funds for one phase, except for projects using alternative delivery methods, which may request a combination of design, right-of-way, and construction funds.

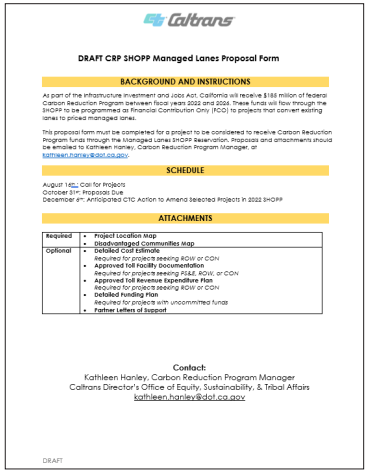
Proposal Submittal Information
To compete for the Managed Lanes Reservation, candidate projects shall use the attached template to submit a project proposal. The template outlines specific selection criteria that will be used to provide a consistent evaluation of the project against other proposals statewide. Projects will receive between 1 and 3 points per scoring criterion.

The review committee will consist of cross-functional representatives in HQ, including the Director's Office of Equity, Sustainability, and Tribal Affairs, Planning and Modal Programs, Division of Traffic Operations, Asset Management, and Budgets. ADD REP? OUTSIDE HQ. CLARIFY DISTRICT ROLE. Recommendations for funding will be presented to the Asset Management Steering Committee, Managed Lanes Subcommittee, and Executive Board for final approval.

Programming and Project Delivery
Funds will be programmed by amending the 2022 SHOPP using the normal California Transportation Commission process. Project scope changes will follow the normal SHOPP amendment process. The Managed Lanes Reservation is FCO; cost increases will not be funded. Project cost savings may be used to cover cost increases or expand the scope of the project, with approval of a scope amendment. Any unused cost increases will be returned and offered to other projects in the Reservation.

Timeline
June 19th
- Draft Carbon Reduction Strategy (including description of Managed Lanes Reservation process) released for public comment

View the CRP SHOPP Managed Lanes Guidance



Caltrans

DRAFT CRP SHOPP Managed Lanes Proposal Form

BACKGROUND AND INSTRUCTIONS

As part of the Infrastructure Investment and Jobs Act, California will receive $188 million of federal Carbon Reduction Program between fiscal years 2022 and 2026. These funds will flow through the SHOPP to be programmed as Financial Contribution Only (FCO) to projects that convert existing lanes to priced managed lanes.

This proposal form must be completed for a project to be considered to receive Carbon Reduction Program funds through the Managed Lanes SHOPP Reservation. Proposals and attachments should be emailed to Kathleen Hanley, Carbon Reduction Program Manager, at kathleen.hanley@dot.ca.gov.

SCHEDULE

August 14th: Call for Projects
October 31st: Proposals Due
December 6th: Anticipated CTC Action to Amend Selected Projects in 2022 SHOPP

ATTACHMENTS

Required	• Project Location Map • Disadvantaged Communities Map
Optional	• Detailed Cost Estimate Required for projects seeking RDW or CON • Approved Toll Facility Documentation Required for projects seeking PS&E, RDW, or CON • Approved Toll Revenue Expenditure Plan Required for projects seeking RDW or CON • Detailed Funding Plan Required for projects with uncommitted funds • Partner Letters of Support

Contact:
Kathleen Hanley, Carbon Reduction Program Manager
Caltrans Director's Office of Equity, Sustainability, & Tribal Affairs
kathleen.hanley@dot.ca.gov

DRAFT

View the CRP SHOPP Managed Lanes Proposal Form


COASTER
Caltrans