



County of Santa Barbara

Zero Emission Vehicle Plan

Public Draft May 2024





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A planning effort of the
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Table of Contents

Introduction	5
Planning Process	5
Users of the Road	6
Electric Vehicles and Grid Reliability	8
Mobility Justice & Equity Guardrails	10
Existing Policies and Planning	11
Federal	11
California	11
What is the County doing?	14
Regional Partnerships & Planning	17
Programs and Incentives	19
Life Cycle Impacts of Zero-Emission Vehicles	21
Zero Emission Vehicle Plan Actions	22
Planning & Policy Actions	23
Infrastructure Deployment Actions	25
Programmatic Actions	27
Outreach, Education, & Engagement Actions	30
Plan Implementation	32
Implementation Table	34
Definitions /Terms	37

Introduction

The County has been a leader in climate action, taking steps to reduce greenhouse gas (GHG) emissions and prepare for climate impacts. The 2030 Climate Action Plan (CAP) has a target to reduce community-wide emissions 50% by 2030 (below 2018 levels). On-road vehicle transportation account for 48% of the County’s GHG emissions¹. As of 2022, zero emission vehicles (ZEV) make up less than 2% of all vehicles on the road in Santa Barbara County.

To meet State and local emission reduction targets, the CAP includes the following goals to reduce transportation-related emissions:

Table 1. 2030 Climate Action Plan Zero Emission Mobility Goals

CAP Goal	2030 Goal	2045 Goal
Increase passenger electric vehicle ownership	25%	90%
Increase commercial electric vehicle use	15%	75%
Install at least 375 publicly available electric vehicle chargers	375	NA
Decarbonize off-road equipment	21%	38%
Increase bike-mode share	1%	5%

ZEV planning and implementation transects nearly all County operations and community functions, from fleet vehicles, building regulations, infrastructure, parking and energy management. It will require action from both internal County Departments and local community and municipal partners to help implement the Actions (page 31) identified in this plan.

With both Federal and State governments investing billions of dollars in ZEVs and charging infrastructure, the County needs a strategic plan guide its work and to leverage all available resources. This plan will identify the gaps, barriers and challenges to planning, education and infrastructure deployment and

develop strategies to a to meet internal county operations and community needs.

This plan will identify opportunities to increase equitable adoption of clean transportation modes including electric vehicles (EVs), electrified transit, micro-mobility and shared mobility devices and services, and emerging technologies. This plan will also complement existing efforts led by local and community partners and increase access to mobility options by accelerating the transition to zero emission vehicles.

Planning Process

To accelerate the adoption and utilization of all forms of zero emission mobility, infrastructure must be reliable, equitable and accessible for all users, everywhere. To achieve this, the County must address the current and future electrified transportation needs with a targeted and multifaceted approach.

This plan was developed by reviewing previous plans and programs from leading jurisdictions across the State and country, including the Central Coast Zero Emission Vehicle Strategy developed by SBCAG and existing policies and programs. Staff then considered the gaps and areas that need to be addressed directly by the County.

A draft list of actions was developed and reviewed by County departments, before releasing to external stakeholders. A draft of the full document was released for public comment XX.

XX community workshops and presentations were held. XX comments were received from the public.

¹ County of Santa Barbara 2018 Greenhouse Gas Inventory

Users of the Road

Decarbonizing the transportation sector is essential to reducing GHG emissions as it is the largest contributing sector. Decarbonizing transportation will require a major shift in how people and goods move. New and innovative forms of transportation technology such as electric vehicles, electric bikes, ridesharing and much more, can help meet these emission reduction goals. However, this will only occur if clean modes of transportation are widely adopted. This Plan outlines strategies the County can implement to support the shift and adoption to zero-emission vehicles and alternative transportation for a variety of different users of the road.

This Plan focuses on addressing the mobility needs that cannot be met with walking or bicycling, given the dispersed and low-density characteristics of the County. The Plan prioritizes modes that reduce vehicle trips, like transit, vanpooling and carsharing, while emphasizing electrification of the vehicles and devices to ensure that all Santa Barbara communities have access to the benefits of clean transportation technology.



Santa Maria Regional Transit (SMART) Battery Electric Bus

Despite the wide range of technologies and types of users, the underlying challenges are mostly the same. All of them require infrastructure to charge, outreach and education to increase awareness and comfort, and incentives and programs to encourage purchases or usage. Below is a description of the types of vehicles and devices referred to throughout the document.

Medium and Heavy-Duty Vehicles

Medium and heavy-duty vehicles (MD/HDV) include commercial trucks typically used to haul goods, public transit and off-road equipment for construction and agriculture.

Commercial fleets face unique challenges when transitioning to electric options, including range anxiety, payloads, and infrastructure. Depending on fleet operation type, finding electric vehicles with sufficient range and deploying infrastructure can be challenging.

All electric transit buses are already operating locally in regional transit agencies such as SBCAG Clean Air Express, Santa Maria Regional Transit, Santa Barbara Metropolitan Transit District and Ventura County Transportation Commission. All-electric transit buses are quieter and cleaner than their diesel counterparts and have lower operating costs. Buses can be charged while parked for storage and/or maintenance, or on-route while laying over for brief periods of time.

Electric off-road equipment is still emerging in the market. Reliability and fueling in the field, when operating for extended periods of time are key concerns that need to be addressed.

Electric Micro-Mobility Devices

Micro-mobility encompasses low-speed, lightweight devices that are propelled by electric or human power, this includes bikes, scooters, or skateboards etc. Electric micro-mobility has proliferated in the past several years. Locally, B-Cycle operates a bike sharing system in the City of Santa Barbara, and Lime operates an e-scooter sharing system in Isla Vista.

Personal and shared electric micro-mobility have the potential to reduce GHG emissions, vehicle trips and road congestion, especially in urban areas. Those benefits can increase with electric micro-mobility which can allow users to travel farther when compared to their non-electric counter parts.

Micro-mobility can potentially improve road safety due to reduced speed and lighter weight when compared to cars. Dedicated infrastructure for micro-mobility is needed to ensure a reliable network of devices can be deployed and well-utilized.



Bcycle Electric Bike Share offers mobility without vehicles



Chevy Bolt charges at a Level 2 Charging station in Solvang

Passenger Electric Vehicles

Passenger electric vehicles (EVs) provide the highest levels of mobility for urban, suburban and, especially, rural communities where access to transit and action transportation options are limited. Electric vehicles are the most well-known and most popular forms of zero emission mobility.

Electric vehicle adoption is relatively low (less than 5% of all vehicles in California) but steadily increasing – in 2023, electric vehicles made over 25% of all vehicles sold statewide. Consumer awareness and acceptance of electric vehicles needs to be increased through education, financial incentives and assistance and reliable infrastructure.

Electric Vehicles and Grid Reliability

While the deployment of public EV charging stations is implemented at the local level, electrical grid planning is primarily implemented by the investor-owned utilities. Ensuring the electric grid has enough capacity to take on additional EV charging is a challenge and an opportunity for innovation. Electric vehicles can support the modernization and resiliency of the grid.

There are potential impacts and stresses that should be considered when planning for the adoption of electric vehicles. While steps to improve grid resiliency are being taken through State regulations and utility actions, there are local actions the County can take to ensure EV adoption does not strain local grid capacity such as partnering with Central Coast Community Energy to develop renewable energy and storage projects

Solar energy is the most prevalent source of renewable energy but is limited by daylight hours for production. During these times (typically 9am-4pm), utility rates are cheaper since solar-generated energy is abundant and available. As the sun sets, solar energy production decreases while at this same time, customer energy demand increases. This is due to at-home activities such as air-conditioning, heating, cooking, and even EV charging. This imbalance of energy generation with energy demand poses challenges to utility grid operators to consistently and reliably provide electricity at all hours of the day.

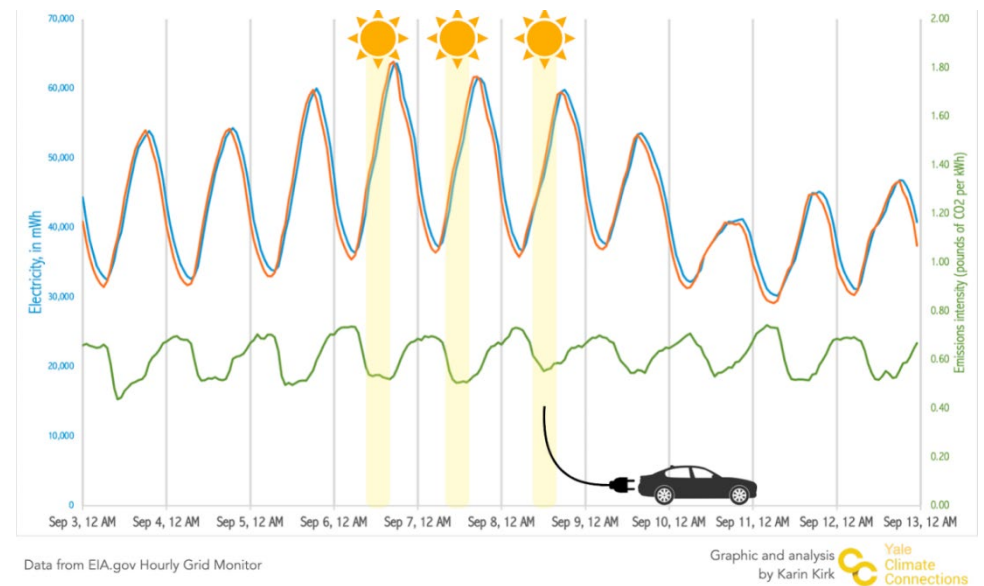
When there is not enough power being generated to meet customer demand, blackouts can occur. To avoid these situations, electric utility rates and customer programs are designed to curtail electricity use during afternoon and evening hours. This can alleviate the stress on the grid to mitigate the changes in energy demand and fluctuation due to solar energy availability.

Rolling brown outs or demand response events can also be implemented to reduce peak energy demand to a portion of customers. Public safety power

shutoffs (PSPS) occur when utilities temporarily shut off power to certain areas to reduce the risk of fires caused by electric infrastructure. The use of PSPS events have become more common as California has experienced more frequent extreme heatwaves and wildfires within the past several years.

This challenge was prevalent before EVs but can be exacerbated by unplanned EV charging. Most EV charging does not need to happen during a specific time of day, and therefore can be charged outside of the peak hours, during the middle of the day when solar is at peak strength and would be the least polluting. Non-peak hours are the cheapest to encourage charging in the middle of the day or in the evening as highlighted in the figure below.

Figure 1. Hourly Electricity Supply, Demand and Emissions Intensity



Electric vehicle charging demand can be further mitigated, managed and adapted by:

- Increasing renewable energy generation and storage facilities connected to EV chargers
- Programming and managing charging sessions to take advantage of the cheapest, and usually, the least polluting electricity that is available through managed charging.
- Discharging stored energy from vehicles back to the grid during peak hours.



BEAM EV Arc mobile charging stations are powered by solar panels and battery systems in Lompoc



Community health outreach workers, Promotores, conduct outreach in Spanish

Mobility Justice & Equity Guardrails

A more sustainable transportation system creates a more equitable transportation future. Historically, the placement of highway infrastructure and heavy-duty trucking facilities has placed disproportionate burdens on frontline and priority populations. Major highway projects have segregated urban communities and has created burdens of increased noise and air pollution for those who live near major highways. Living next to major highways and roads and commercial trucking facilities cause higher rates of asthma and other cardiovascular and respiratory issues which tend to exacerbate low-income and communities of color disproportionately.

Personal vehicle ownership has become a crucial part of accessing opportunities, especially for people who need to travel longer distances for work, education and other basic needs. Vehicle ownership can be challenging for lower income households and remote communities due to the high cost of purchasing, owning (insurance and fuel) and maintaining (oil changes, repairs etc.) a vehicle. Lack of off-street parking creates additional challenges for apartment dwellers or multifamily households.

While electric and zero-emission vehicles can reduce the operational cost of vehicle ownership, vehicle ownership can still be a financial challenge even with the available rebates. While there are other services such as public transit, taxis and transportation network companies (TNCs), many of these services can be more expensive and/or less reliable than driving.

In developing the 2030 CAP, Equity Guardrails were created to ensure that the CAP measures and actions prioritize benefits for historically marginalized populations and that no action or measure exacerbates existing inequities. This Plan supports the Equity Guardrails below.

Access to Health & Safety Benefits

Ensure marginalized communities and others most impacted by climate change have equitable access to health, safety, and comfort benefits from climate actions.

Access to Economic Benefits

Ensure all community members, especially marginalized communities, have equitable access to affordable funding and financing mechanisms, and to high-road job opportunities.

Ensure Ease of Adoption

Ensure that incentives and programs provide meaningful support to community members, starting with language access. Provide a simple process that minimizes the burdens and impacts associated with technology adoption or behavior change.

Promote Housing Affordability & Avoid Displacement

Ensure community investments or building upgrades don't displace or over-burden renters and homeowners. Programs should support housing production, housing preservation, and tenant protections.

Existing Policies and Planning

While this plan envisions the necessary steps and paths to reduce the County's transportation emissions, it is important to acknowledge the progress that has already been made towards adopting clean transportation. This following section will provide an overview of the various achievements that have already been made locally and by the State and Federal Partners.

Federal

The National Electric Vehicle Infrastructure (NEVI) Formula Program was established through the Bipartisan Infrastructure Law to provide funding to States to strategically deploy electric vehicle charging infrastructure and to establish a nationally interconnected charging network which facilitate data collection, access, and reliability.

The California Department of Transportation (Caltrans) and the California Energy Commission have partnered to create California's *Deployment Plan for the National Electric Vehicle Infrastructure Program* that describes how the State plans to allocate its \$384 million share of Federal NEVI funds to build out a network of modern, high-powered DC fast chargers along Interstates and National Highways throughout California. The current approach focuses on prioritizing corridors for future funding. Santa Barbara County corridors are ranked 10.

The Charging and Fueling Infrastructure Grant Program (CFI Program) is a new competitive grant program created by the Bipartisan Infrastructure Law to strategically deploy publicly accessible electric vehicle charging and alternative fueling infrastructure in the places people live and work – urban and rural areas alike. – especially along designated Alternative Fuel Corridors (AFCs). CFI Program investments will make modern and sustainable infrastructure accessible to all drivers of electric, hydrogen, propane, and natural gas vehicles. This program provides two funding categories of grants: (1) Community Charging and Fueling Grants (Community Program); and (2) Alternative Fuel Corridor Grants (Corridor Program). The Bipartisan Infrastructure Law provides \$2.5 billion over five years for this program. This Notice of Funding Opportunity (NOFO) offers up to \$700 million from Fiscal Years 2022 and 2023 to strategically deploy electric vehicle (EV) charging infrastructure and other alternative fueling infrastructure projects in urban and rural communities in publicly accessible locations, including downtown areas and local neighborhoods, particularly in underserved and disadvantaged communities.

California

Executive Orders and State policies (Table 3) have and will continue to play a critical role for reducing greenhouse gas emissions through increasing zero-emission vehicle adoption among consumers and fleets at the local level.

Table 3. California State ZEV Goals

By 2025	<ul style="list-style-type: none"> • 1.5 million ZEVs on the road • 200 hydrogen fueling stations • 250,000 charging stations
By 2030	<ul style="list-style-type: none"> • 5 million ZEVs on the road
By 2035	<ul style="list-style-type: none"> • No new sales of internal combustion engine light duty vehicles
By 2045	No new sales of medium and heavy-duty internal combustion engine vehicles

Executive order N-79-90 issued by Governor Gavin Newsom in 2020 will mandate that 100% of new passenger vehicle purchases must be zero-emission vehicles by 2035. According to the California Air Resources Board (CARB), the state is projected to have approximately 8 million ZEVs by 2030. To meet statewide decarbonization goals by 2045, CARB has determined that the state will need 27.9 million ZEVs. Additional targets have been set by CARB for other various on- and off-road vehicles including publicly operated fleets including transit fleets, medium and heavy-duty vehicles.

To achieve the wide scale adoption of zero-emission vehicle adoption for various users, these vehicles will require access to electric and zero-emission vehicle charging infrastructure. Specialized and high-powered charging/refueling infrastructure will be needed especially for medium and heavy-duty fleets.

The California Air Resources Board (CARB) oversees mobile and point source emission regulations in the State. CARB administers air pollution control programs to attain and maintain health-based air quality standards within local air basins. Through Air Pollution Control Districts, CARB can effectively reduce mobile source emissions locally. Locally the Santa Barbara Air Pollution Control District (SBAPCD) provides Clean Air Grants for heavy- medium duty, off-road

vehicles and marine vessels, purchase incentives and charging/refueling infrastructure for ZEVs. In addition to CARB's regulatory oversight, the Board's mission is to also consider the effects of air pollution reduction on the economy.

CARB provides incentives and rebates for zero-emission vehicle refueling infrastructure, zero-emission vehicles for a variety of different applications including electric bikes, light, medium, heavy-duty and off-road vehicles. These incentives can greatly reduce the economic impact of transitioning to zero-emission technology for consumers, businesses, local governments and organizations.

The California Energy Commission (CEC) is the lead state agency overseeing energy policy and planning. The goal of the Commission is to reduce energy cost and grid emissions, while providing a resilient, reliable and safe supply of energy. The CEC's role in decarbonizing transportation primarily focuses on deploying electric vehicle supply equipment (EVSE) or EV charging stations and ensuring that the electric grid has enough energy supply. Furthermore, the State Legislature has tasked the CEC and other State Agencies (CARB, CPUC) to increase the electric grid's reliance of renewable energy to reduce GHG to 40% below 1990 levels by 2030 ([SB 350](#)).

The CEC provides grants and incentives to support in electric vehicle adoption specifically for the deployment of EVSE including local energy storage and

generation. The incentives can be used to support the deployment of infrastructure to install EV charging stations as well as local energy storage and generation.

The California Public Utilities Commission (CPUC) regulates the four investor-owned utilities (IOUs) in California. The CPUC has six distinct roles in

transportation electrification which include strategic planning on ZEV policy and investments, electric rates and cost of fueling, grid distribution infrastructure and planning for charging infrastructure, vehicle-grid integration (VGI) policy, pilots and enablement, charging infrastructure incentives and deployment and program evaluation and interagency coordination.

What is the County doing?

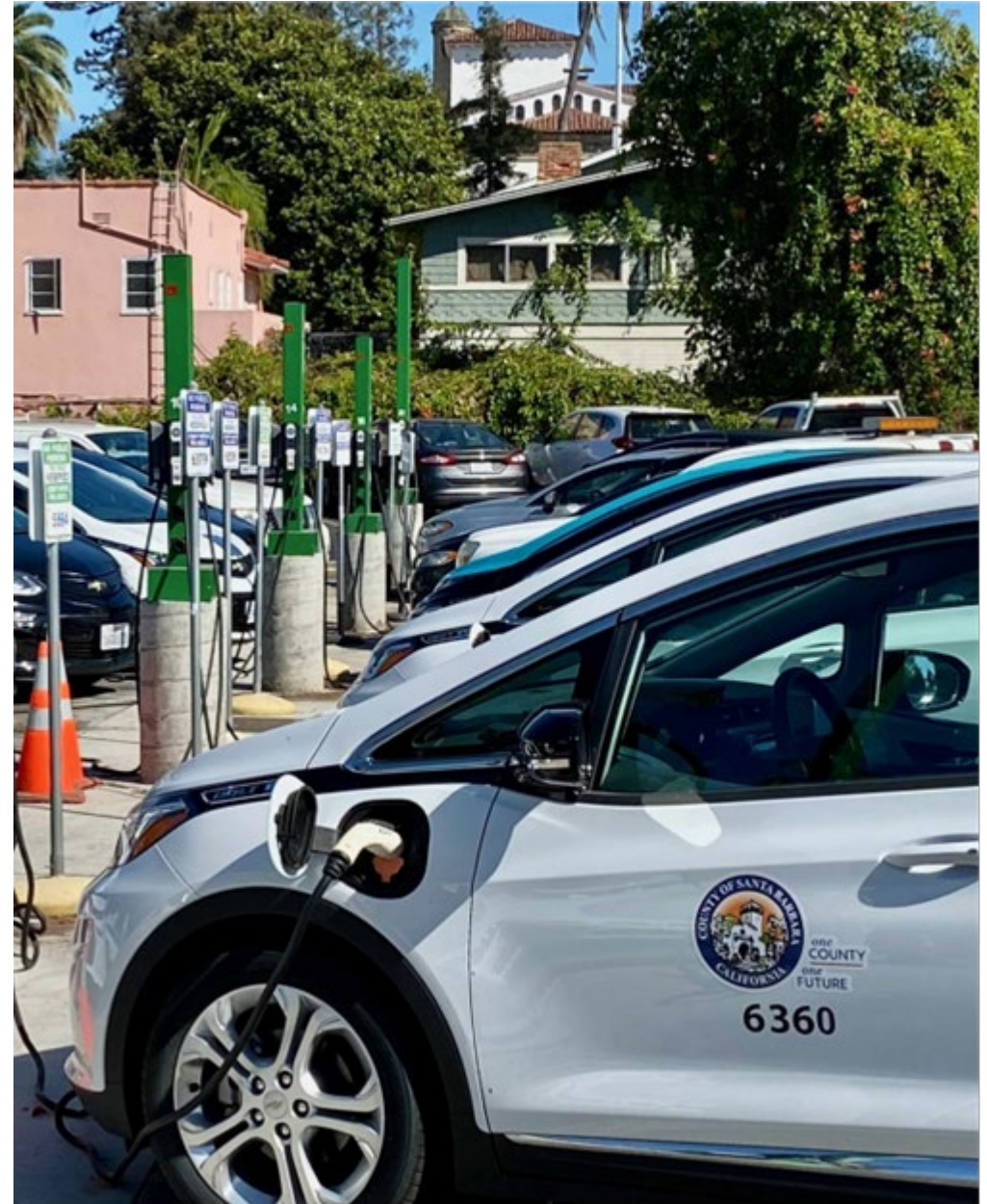
Following the adoption of the EV Readiness Plan, the Board of Supervisors have taken a series of steps to advance County fleet electric vehicle adoption and expand charging infrastructure.

In 2019, the Board directed that the purchase of all new non-public safety sedans in the light duty fleet be electric vehicles. In 2022, the Board directed staff to expand the policy to include not just sedans, but all non-public safety light duty vehicles, adding pickup trucks, vans, and SUVs.

In recent years, General Services has significantly ramped up electric vehicle procurement and charging station installations. At the time of preparing this plan, the County has over 60 electric sedans and 127 EV chargers installed at 13 sites. To support the future EVs that will be purchased over the next 2-4 years, approximately 150 to 170 additional EV chargers will be needed at various locations throughout the County to support charging for such vehicles.

In 2023, the Board approved a \$1 million dollar contract with PowerFlex, the County's preferred charging equipment and service provider, to supply charging equipment to support up to 150-180 additional charging stations for fleet vehicles.

Throughout 2023, the County supported regional grant applications lead by local partners, to pursue State and Federal EV infrastructure funding. If funded, these applications would support the EV infrastructure installation for various affordable properties in the tri-county and high powered and publicly accessible direct current fast charging (DCFC).



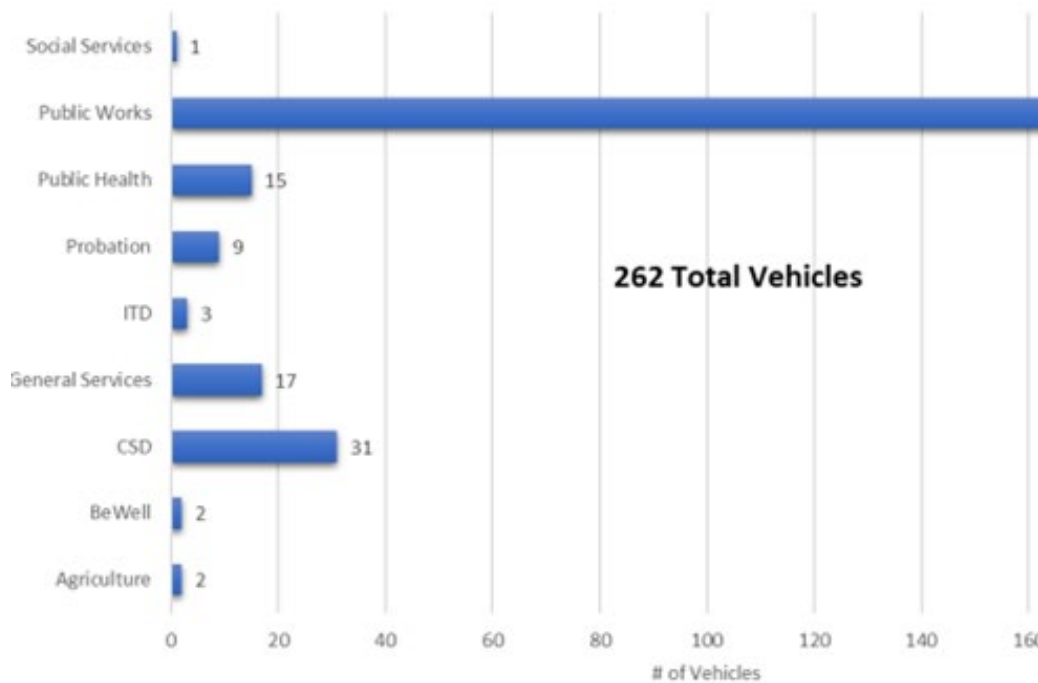
County Electric Vehicle Fleet

The County fleet contains approximately 1,400 different units spread across the County in both incorporated and unincorporated areas. The fleet vehicles are primarily located in the Downtown Santa Barbara Campus, Calle Real Campus, Lompoc Road Yard, Foster Road Campus and Betteravia Campus in Santa Maria. At each location employees can reserve and take out a County vehicle for County business use.

The General Services Department has been leading the County fleet electrification efforts. General Services has successfully converted 92 internal combustion vehicles to battery electric vehicles for the light duty fleet².

The California Air Resources Board – Advanced Clean Fleet regulations require that government fleets transition medium and heavy-duty vehicles from Class 2B to Class 8 by 2045. The purpose of this regulation is to convert the most heavily polluting fleet vehicles to all electric through a targeted purchasing requirement. Beginning in 2024 local government fleets are required to make 50% of vehicle purchases ZEVs. By 2027, 100% of the County’s vehicle purchases must be ZEVs. In compliance with CARB ACT regulations, the County will need to convert approximately 262 medium and heavy-duty vehicles. The graph below indicates the number of gasoline vehicle replacements which will need to occur by County Department.

Figure 4. Vehicles Subject to ACF Reaulations by Department

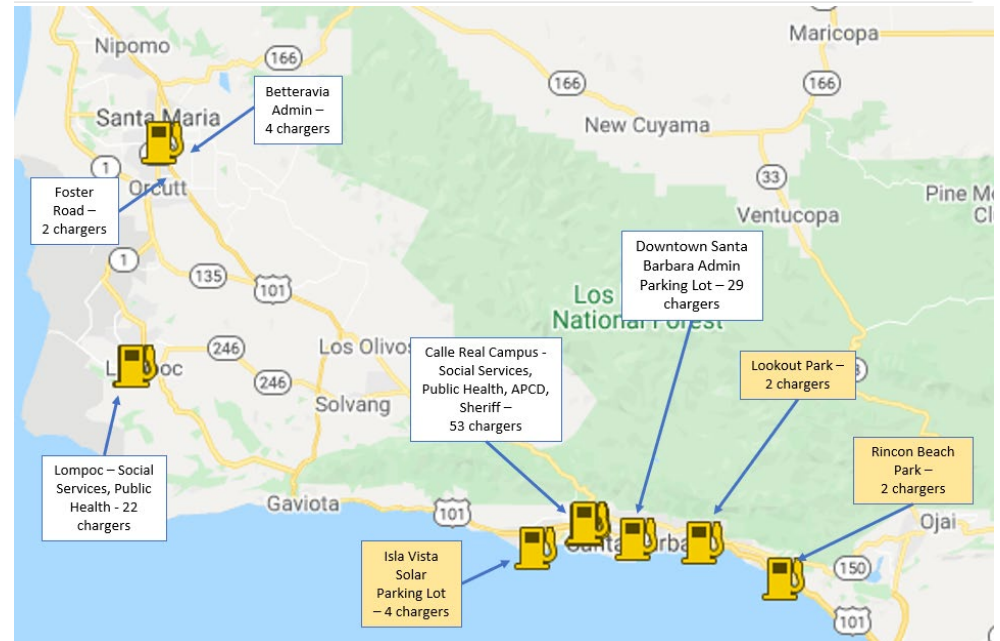


County Electric Vehicle Charging Infrastructure

To support the electrification of both the County fleet and public employee EV drivers, the County has dedicated electric vehicle charging stations to ensure that EVs can have a reliable place to charge. The County approximately 130 EV charging stations across the County dedicated primarily for the fleet and secondarily for the public and employees. The majority of these charging stations are in Downtown Santa Barbara Campus, (29 chargers) Calle Real Campus (52 chargers), Lompoc Road Yard (22 chargers), Foster Road Campus (2 chargers) and Betteravia Campus (4 chargers) in Santa Maria. At each location employees can reserve and take out a County vehicle for County business use.

Other locations which exclusively have public facing charging stations are at Rincon Park (2 chargers), Lookout Park (2 chargers), and Isa Vista Solar Parking (4 chargers). The County's General Services Department are planning an additional 125 charging stations at various locations across the County in Santa Maria Area, Santa Barbara and New Cuyama.

Figure 5. Locations of County Fleet and Public Charging Stations



Regional Partnerships & Planning

In 2012, the counties of Ventura, Santa Barbara and San Luis Obispo collaborated to create the [Plug-In Electric Vehicle Readiness Plan for the California Central Coast](#) (EV Readiness Plan) to guide the development of charging infrastructure for the tri-counties.



[Electric Vehicle 805](#) is a network of partners from San Luis Obispo, Santa Barbara and Ventura Counties, leading the transition to electric vehicles in the Central Coast to help meet the State of California's goal of 5 million zero-emission vehicles on the road by 2030. Electric Drive 805 has brought millions of dollars in grant funding for regional EV planning and projects to communities in the tri-county central coast region. Partners support collaborative EV planning efforts, infrastructure projects, and education and outreach across different communities to help increase EV adoption and awareness in the region. Outreach methods include EV car shows that have attracted more than 30,000 - 40,000 people each year and workshops with employers, property managers, and community groups that help local stakeholders learn about the environmental and financial benefits of electric vehicles. The Electric Drive 805 coalition has worked with hundreds of local governments, businesses, multifamily properties, charging hosts, and other stakeholders to build charging stations and make it easier to drive an EV.

[Central Coast Clean Cities Coalition](#) (C5) is a group of local stakeholders whose mission is to expand the use of alternative fuel vehicles (AFVs) and fueling

infrastructure throughout the Central Coast. C5 serves as a clearinghouse for local government agencies to get together and learn more about AFVs (e.g., what is available, how to purchase AFVs, and where/how to fuel them). C5 is housed within the Santa Barbara Air Pollution Control District (SBAPCD) and is funded by the US Department of Energy Clean Cities Coalition Network.

[Central Coast Zero Emission Vehicle Strategy](#)

In 2022, Santa Barbara County Association of Governments (SBCAG) led the development of the [Central Coast Zero-Emission Vehicle Strategy](#) (CCZEVS), which identifies electric vehicle (EV) charging infrastructure needs in the Central Coast Counties, including Santa Barbara, San Luis Obispo, Ventura, Monterey, Santa Cruz and San Benito counties. The Plan focuses on long-distance commuters, regional transit providers, freight and other users as determined through input solicited from key stakeholders. Additionally, the plan recommends infrastructure investments that are equitable and accessible to all users, including traditionally underserved populations.

The project team used the stakeholder and public input received to inform study recommendations regarding the future location and allocation of electric charging infrastructure in the Central Coast region. The input also helped identify the constraints and opportunities for future deployment of electric charging infrastructure needed to meet future demand.

Santa Barbara County received 425 comments (on Social Pinpoint) from 148 unique users. The most comments were DCFC requests, followed by Level 2 charger requests. The highest number of comments received were for projects in Santa Barbara (156) followed by Goleta (56) and Santa Maria (52). 83% of Social Pinpoint responses were from participants within Santa Barbara County, while the remaining 17% are from nearby Ventura and Los Angeles County.

Table 5. Summary of Santa Barbara County CCZEVS Comments

COMMENT TYPE	COUNT	MOST POPULAR LOCATIONS ¹
PROJECT SUGGESTIONS	45	Chargers at Calle Real Shopping Center, Goleta (17 likes) Chargers at Future Orcutt Key site retail/commercial development at Clark Interchange (9 likes) Chargers at Ortega Garage, Santa Barbara (8 Likes)
DC FAST CHARGER REQUESTS	226	Loreto Plaza, Santa Barbara (21 likes) Costco Wholesale, Goleta (16 likes) Gaviota Southbound Rest Area (15 likes) Five Point Shopping Center, Santa Barbara (14 Likes) Los Olivos (13 likes) Santa Barbara Airport (13 Likes) Santa Barbara Beach (13 likes) Girsh Park, Goleta (12 likes) Buellton Shopping Center (11 likes) Downtown Carpinteria (10 likes) Carpinteria Train Station (10 likes) Carpinteria Shopping Center (10 likes) Near Gaviota Northbound Rest Area (9 likes) Turnpike Shopping Center, Goleta (9 likes) Hollister Village Plaza (9 likes)
LEVEL 2 CHARGER REQUESTS	140	Patterson Place Apartments, Santa Barbara (10 likes) Santa Barbara High School (9 likes)

Requests for charging infrastructure at shopping centers and recreation sites were the most popular submissions. There were many requests to charge infrastructure at rest stops and train stations.

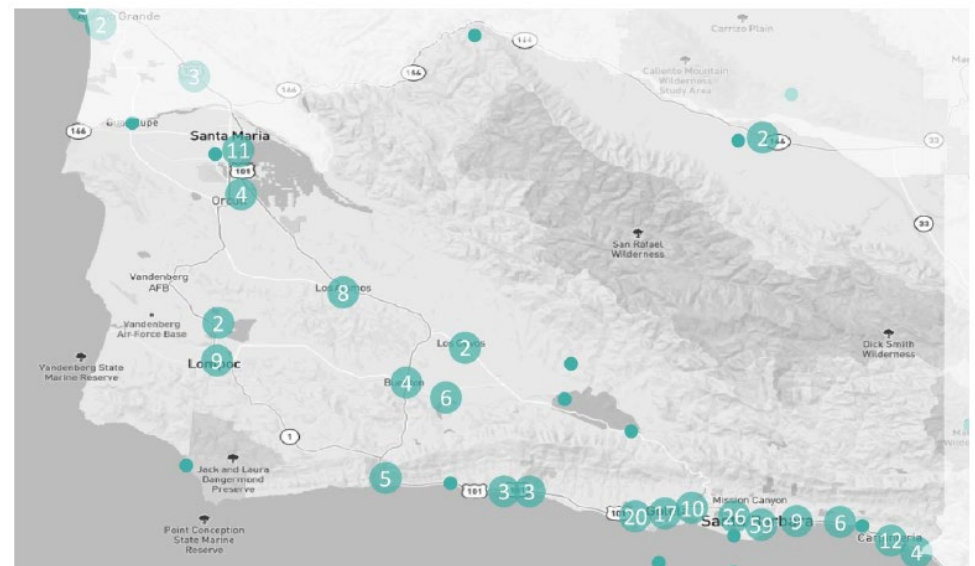
Policies and implementation strategies were recommended to promote ZEV adoption through charging infrastructure investments based on the plan’s transportation demand analysis, and stakeholder input.

This ZEV Plan will leverage the outreach, analysis and recommendations from the CCZEVS to prioritize future policies, programs and projects.

Figure 2. CCZEVS Level 2 Charging Location Suggestions



Figure 3. CCZEVS DCFC Charging Location Suggestions



Programs and Incentives

[Central Coast Community Energy](#) (3CE) was established by local communities to source clean and renewable electricity at competitive prices for customers throughout Monterey, San Benito, Santa Cruz, San Louis Obispo and Santa Barbara counties. 3CE is locally controlled and governed by board members who represent each community served by the agency. With no investors or shareholders, revenue generated by 3CE comes back to member agencies,

businesses and residents through program offerings and other benefits. 3CE helps keep electricity rates affordable and fair for all customers while also funding innovative energy programs designed to lower greenhouse gas emissions and stimulate community reinvestment. 3CE also provides EV and EV charging station rebate programs for member agency fleets and their local constituents through their Electrify Your Ride Program. Below is utilization data of the Electrify You Ride Program.

Table 3. Zero-Emission Vehicles and Projects Funded by 3CE

Fiscal Year (October 1 - September 30)	Battery Electric Vehicles	Electric Bikes	Electric Motorcycles	Electric Vehicle Charger	Electric Vehicle Readiness	Plug- in/Hybrid Electric Vehicles	Grand Total
FY 20 - 21	23			12	12	3	50
FY 21 - 22	123	255		85	61	4	528
FY 22 - 23	188		1	161	128	6	484
FY 23 - 24	14			10	15		39
Grand Total	348	255	1	268	216	13	1101

[Santa Barbara Air Pollution Control District](#) (SBCAPCD) regulates point source pollution from a variety of air pollution sources. In addition to their regulatory role for air quality, they also provide local incentives for on and off-road ZEVs and their refueling infrastructure to reduce mobile source pollutions.

Clean Air Grants

Local Clean Air Grants can fund the installation of electric vehicle charging stations for different use cases. These use cases include public, workplace, fleet, high power and destination charging stations for plug-in electric vehicles. Eligible infrastructure which can be funded by the grant includes, Level 2 charging stations and Level 3 (direct current fast charging). Level 1 is not eligible to be funded by the SBAPCD. The grant can also fund the hydrogen refueling stations to either expand, add new or convert existing infrastructure to dispense hydrogen fuel. Projects can receive anywhere from \$10,000 to \$25,000 to install ZEV refueling infrastructure.

Vehicle Incentives

SBAPCD also offers incentives for on and off-road ZEVs. On-road ZEV incentives amounts are calculated based on the amount of pollutant emissions the replacement project will reduce. Priority for funding is given to vehicles that operate in low-income and disadvantaged communities as defined by CARBs Priority Populations. Below is a table indicating the eligible vehicles/equipment.

Table 4. SBCAPCD Clean Air Grants*

Infrastructure – EV Charging & Hydrogen	\$10,000 to \$250,000
On-Road Vehicles	Discretionary
Off-Road Equipment Replacement	\$10,000 to \$250,000
Off-Road Equipment Voucher Program	Up to half the incremental cost
School Bus Replacement Program	\$10,000 to \$250,000

**Please visit www.ourair.org for the most up-to-date information about these funding programs*

Given the abundance of resources and incentives, owning and operating ZEVs has become more accessible to consumers and fleets. Incentives such as the Central Coast Community Energy (3CE) - Electrify Your Fleet/Ride incentives reduce the upfront cost of zero-emission vehicles. The IRS Tax credits can provide up to \$7,500 and the 3CE incentives can provide up to \$4,000 for eligible applicants. Both 3CE and IRS tax credit incentives can be stacked, increasing the incentive for eligible applicants.

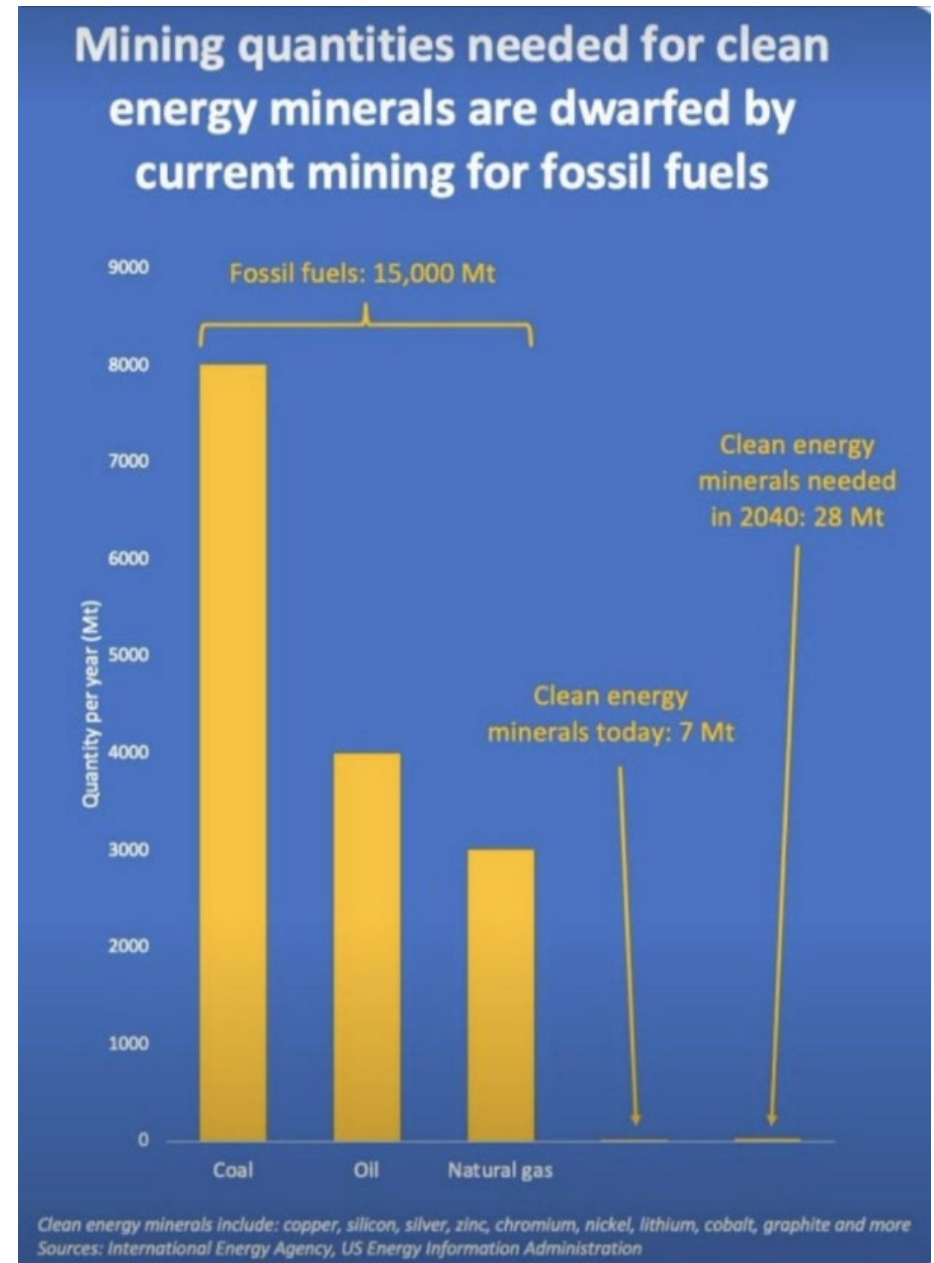
Incentives for off-road, medium and heavy-duty vehicles are also made available for fleet operators through local and state incentive programs provided by CARB and local air districts.

Life Cycle Impacts of Zero-Emission Vehicles

Metals such as lithium and cobalt often come from parts of the world where labor and environmental protections are weaker. While EVs emit less emissions than gas-powered vehicles, the increasing demand for rare earth metals would still be much less when compared to the levels of fossil fuel mining. Industry groups and researchers are exploring ways to develop batteries using alternative materials, improve efficiency and reduce waste in mining.

In California, the Rechargeable Battery Recycling Act of 2006 requires every retailer to have in place a system for the acceptance and collection of used rechargeable batteries for reuse, recycling, or proper disposal. The bill also established the Lithium-Ion Car Battery Recycling Advisory Group² to develop policy recommendations pertaining to the recovery and recycling of lithium-ion batteries. The recommendations include battery exchange fees and incentives, producer take-back programs, environmental handling fees.

While the County is not a direct stakeholder in the battery supply chain, the County has a responsibility to identify opportunities to minimize lifecycle impacts within its abilities through responsible end-of-life management.

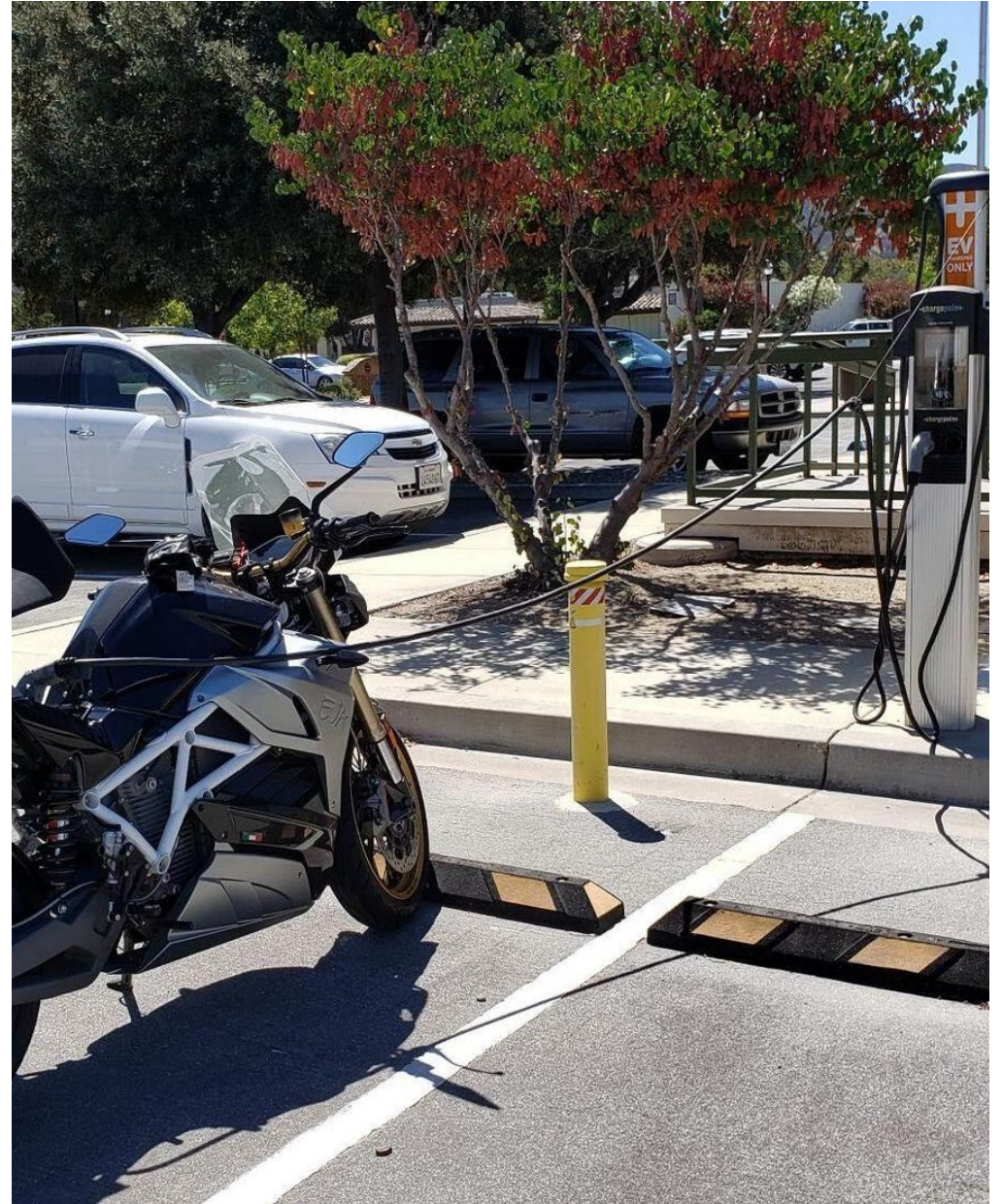


Zero Emission Vehicle Plan Actions



Planning & Policy Actions

Long-range plans and strategic plans are useful tools for socializing new concepts and identifying solutions to barriers and charting a course toward achieving a goal. This plan is intended to identify the critical next steps while keeping a strategic focus on the County's strengths and abilities. Policy development can set new requirements for private buildings or municipal fleet vehicles. Local policies have the potential to shift market demand toward new technologies.



[ZEV 1.1 Develop and adopt an ordinance to increase the requirements for charging infrastructure in new residential and non-residential buildings.](#)

Currently the State can set minimum building standards through CalGreen which include electric vehicle charging for new and existing buildings. The County can set the minimum standards which supersede the State CalGreen minimum known as Reach Codes. Other jurisdictions across the State have already adopted some form of reach codes for electric vehicles including City of Goleta. This ZEV Actions seeks to leverage the authority of the County to develop reach codes which create a cohesive regional building code and increase access to charging.

[ZEV 1.2 Conduct a mobility needs assessment for unincorporated County communities in partnership with local organizations.](#)

Rural and low-income communities have lower rates of zero-emission vehicle technology adoption and face higher barriers to transportation. Limited incomes and long travel times can prevent vehicle ownership and increase the cost of travel respectively. Today, there are various forms of clean transportation models and technologies which can meet transportation needs. This action will seek to identify local unmet transportation needs.

[ZEV 1.3 Develop and create an EV Charging Station Implementation Manual to provide guidance and technical knowledge for installing and maintaining EV charging stations for internal County departments to use.](#)

Installing electric vehicle charging infrastructure requires county wide support beyond the Community Services Department. Not all Departments will not have the knowledge or capacity to install electric vehicle charging stations. An implementation manual can support other county departments who would like to install EV charging stations for public or municipal use.

[ZEV 1.4 Incorporate ZEV infrastructure and clean mobility options into other County and regional plans.](#)

Planning for zero-emission transportation will require the support from other county departments and divisions. Other County Departments can help pave the way for the county to adopt zero-emission vehicles for employees, residents and the broader community. This can be supported through other county plans such as the Active Transportation Plan, Housing Element updates, County Campus Plans and the General Plan.



Fast charging station at Santa Barbara Metropolitan Transit District bus depot

Infrastructure Deployment Actions

County projects, or infrastructure, make it possible for residents or employees to consider ZEVs for themselves. Being able to charge or fuel a vehicle at destinations is critical to building consumer confidence in seeing themselves as ZEV users. The County will expand its charging facilities to maximize the charging network across the region.

ZEV 2.1 Accelerate the pace of project identification and implementation by developing a map and database of potential charging infrastructure sites, such as private properties, County properties and right of way areas. Incorporate considerations for identifying charging gaps for priority populations.

Planning for infrastructure and mobility devices requires increasing the County's capacity to understand transportation needs and viable locations for future projects. The current planning and project development process poses many challenges to successfully installing charging infrastructure, especially when dealing with limited funding opportunities, like grants.

Accelerating the pace of infrastructure deployment will require community-based knowledge of transportation needs and systematic identification of potential locations within a variety of settings and use cases for charging infrastructure and mobility services.

ZEV 2.2. Incorporate EV charging stations into Public Works, Parks, Libraries capital projects and any other local, which involved parking facilities. When feasible install solar power and battery backup with charging stations.

Pre-identifying viable publicly- and privately-owned properties for future charging infrastructure and creating an inventory of shovel-ready projects can reduce the time and effort to get projects funded and constructed.

The County's Capital Improvement Program (CIP) is an annual budgeting and project planning tool for large projects that do not typically receive ongoing funding. Many CIP projects involve constructing, re-constructing or re-paving on and off-street parking facilities. These projects create opportunities to incorporate charging infrastructure, where there was none before. Staff will recommend a policy to require electric vehicle charging infrastructure to be included in all capital projects that involve parking facilities. Staff will prepare a design guide to pro

ZEV 2.3 Secure funding to install charging stations and requisite infrastructure necessary to facilitate public charging for vehicles of nearby multifamily apartment dwellers, shared mobility devices, transit vehicles and CalVans.

Additionally, the County can leverage the public right of way by including EVSE where off-street parking is not available for commercial or residential areas. Incorporating solar and battery technology can ensure that electric vehicles can charge even during an energy disruption events such as a public safety power shutoffs. Ensuring that electric vehicles can charge during these disruptive events can provide the public with more confidence in electric vehicle technology creating a resilience clean mobility system.

Programmatic Actions

Programs provide ongoing services and resources to engage, educate and connect audiences to the actions and technologies that are desired. The County has the capacity to create new programs or enhance existing ones that support ZEV adoption.



ZEV 3.1 Secure funding to deploy shared mobility pilots or expand regional bikeshare operations with partners in unincorporated and incorporated areas of the County. Work with community members to identify viable solutions for rural and remote communities.

The initial high cost of an electric vehicle and limited access to EV charging impose barriers (sometimes more perceived than real) which limit the access to benefits of clean transportation technology such as improved air quality and reduced operational cost.

Shared mobility devices can reduce mobile source emissions and vehicle miles travelled and offer equitable access to clean transportation options. By listening and understanding community mobility challenges and needs, the County can develop equitable and sustainable solutions to meet existing transportation needs locally and regionally for low-income and disadvantaged communities.

Specifically, shared electric bike programs, can reduce the cost of transportation by allowing users to forgo the cost of owning and maintaining a bike or vehicle. Currently there is one docked bike-shared operator (B-Cycle) in the City of Santa Barbara. A regional bike-share program could significantly increase mobility and connectivity.

By pursuing funding based on a collaborative community engagement process and with support from public and private partners, the County could facilitate private micro-mobility operators to expand their service areas.

ZEV 3.2 Establish an e-bike pilot for County employee-work trips and provide County employees information about the health, financial and environmental benefits of electric bikes.

The goal of the employee e-bikeshare program is to increase awareness among county employees of how electric bikes can create accessible and clean ways to travel. In partnership with SBCAG and the Clean Commute Committee, this action will develop and implement a e-bike library/share program to address knowledge gaps about electric bikes and micro-mobility and allow county employees experience the benefits themselves.

ZEV 3.3 Implement a workplace charging program for County employees to increase workplace charging for employee's long commutes and those without access to home charging.

County employees may have barriers to charging at home depending on their living situation. Additionally, even though who may have access to home charging but have a long commute may be prevented from using their electric vehicle for their commute. Providing County employees dedicated workplace charging can greatly reduce barriers to electric vehicle ownership among these types of employees. Providing employees an incentive to charge at the workplace during the day can increase the use of renewable energy generated by local and grid-supplied solar power.

ZEV 3.4 Secure funding to pilot zero-emission medium, heavy-duty and off-road fleet vehicles to support essential County operations

The County's medium and heavy-duty fleet consists of approximately 260 vehicles which are subject to the CARBs ACF regulations. By 2027 all new vehicle purchases will need to 100% zero-emission vehicles. The cost of the fleet conversion to heavy and medium duty vehicles is still being determined but over the next five to ten years, it could cost the County somewhere in the range of \$5 million to \$15 million for new electric class 2a through class 8 vehicles and the infrastructure to charge them.

ZEV 3.5 Secure funding to pilot local collection programs for used vehicle batteries and procurement of repurposed batteries in battery energy storage systems for County facilities. Track and research the development of vehicle to everything technology to support the energy resilience of county facilities and vehicle operations.

Most waste management policies are being established at the state level. In addition, to what the state will require of local waste collection facilities, the County can pilot efforts to recover battery electric vehicles, to maximize the lifetime of battery packs.

ZEV 3.6 Track and research the development of vehicle to everything technology to support the energy resilience of county facilities and vehicle operations.

Battery electric vehicles not only provide cleaner ways to move goods and people, but they also can potentially serve as mobile energy generation sources. The ability to utilize the energy stored to a battery electric vehicle to power other vehicles, buildings or even the electric grid is known as vehicle to vehicle, vehicle to building and vehicle to grid technology. While this technology is still in development, the benefits can create more resilient energy and transportation infrastructure during power outages and other disruptive events.



Green Car Show at Santa Barbara Earth Day

Outreach, Education, & Engagement Actions

Facilitating the uptake and adoption of electric vehicles and charging infrastructure requires partnership, with internal and external stakeholders. The County will leverage existing partnerships like Electric Drive 805 and the Santa Barbara County Promoters Network, and the employee-facing Clean Commute Committee to ensure wider reach and impact.

The County will lead and support collaborative efforts to accelerate the pace and scale of infrastructure development and vehicle adoption.

[ZEV 4.1 Promote and coordinate technical assistance services from entities like 3CE and utilities to assist local businesses and organizations to identify their EV charging needs and support installation of EVSE on their properties.](#)

There is a wide array of agencies and organizations committed to providing funding and technical assistance services to businesses and multifamily properties for electric vehicle fleets and charging stations. However, property owners have varying degrees of awareness, education, financial and management capacity to take on new projects. Installing EV charging stations alone can be complicated, let alone the decisions necessary to accommodate multiple groups of drivers.

The County can serve as a clearinghouse of information and provide direct technical assistance and consultation to property owners who are interested in installing charging infrastructure.

[ZEV 4.2 Conduct culturally and linguistically appropriate outreach and education on EVs, clean mobility options and technology.](#)

Clean energy technologies and programs that support them, have largely left behind non-English speaking residents. Programs that promote rooftop solar, battery storage and EV charging primarily have primarily targeted and benefitted property owners, who tend to be mostly White and upper middle class.

Communities of color, immigrants, people are low-income and/or do not speak English have borne the burden of environmental degradation, be it pollution

disinvestment, lack of trees, green spaces or healthy sources of food. These populations and 'environmental justice' communities are also the most likely to bear the brunt of climate change impacts, like extreme heat or wildfire smoke.

To ensure the benefits of clean energy technologies reach these populations, targeted outreach and education needs to be conducted in ways that are culturally and linguistically appropriate. To do this, the County has partnered with the Children and Family Resource Services in the County Education Office to distribute information and engage non-English speaking residents through the Santa Barbara County Promotores Network.

Promotores are community-based outreach workers who focus on public health campaigns. They leverage their personal and professional connections to reach individuals who would not normally encounter or receive communications from a public agency, like the County.

[ZEV 4.3 Engage with local unions and other workforce development organizations to identify and create local workforce development opportunities in the clean mobility industry.](#)

The transition into a clean transportation industry will increase the number of local jobs available to deploy and maintain electric vehicle infrastructure, maintain zero-emission vehicles and electric micro-mobility and operating shared mobility services.

This action seeks to ensure that the local workforce has opportunities to learn and transition into jobs created by the clean transportation industry.



Santa Barbara Metropolitan Transit District Battery Electric Bus

Plan Implementation

Implementation of the ZEV Actions will be facilitated by the Sustainability Division's Community Service Department. However, many of the actions will require additional support from both County departments and external stakeholders to truly achieve the emission reduction goals the plan seeks to

achieve. The following section will further clarify how all of the Actions will be implemented based on the various partners involved, as well as funding opportunities needed to implement these actions.

How to Read the Table

This implementation plan includes the following for the measures and actions as described in the plan:

1. **ACTION CATEGORY:** The plan is divided into four categories: Planning & Policy; Infrastructure; Programs; Outreach, Education & Engagement
2. **ACTION #:** The Action number unique to each action.
3. **ACTION DESCRIPTION:** The description of the action summarizing the main objective to reduce accelerate ZEV adoption and utilization.
4. **LEAD DEPARTMENT:** County department responsible for implementing the action.
5. **SUPPORTING DEPARTMENTS & AGENCIES:** Identifies the potential partnering organizations for implementation of an action.
6. **TERM:** The actions listed below have been broken down into three timeframes:
 - Short
 - Medium
 - Long
7. **COST:** The actions listed below have been broken down into three cost segments faced by the County and denoted as \$-\$\$\$:
 - Low-Cost (\$): The low-hanging fruit for the County, generally delineated as strategies associated with relatively low upfront costs or County staff time, (e.g., policy ordinances or outreach).
 - Moderate-Cost (\$\$): Intermediate level of costs associated with consultant and moderate infrastructure changes, (e.g., feasibility studies, program development, and retrofitting existing infrastructure).
 - High-Cost (\$\$\$): Longer term projects requiring substantial capital investments into major infrastructure or technology over time, (e.g., energy storage, bike lanes, or other infrastructure changes).
8. **POTENTIAL FUNDING AGENCIES:** Identifies the potential agencies that provide funding opportunities such as grants and loans.
 - 3CE – Central Coast Community Energy
 - 3CREN – Tri-County Regional Energy Network
 - CalEPA – California Environmental Protection Agency
 - CARB – California Air Resources Board
 - CEC – California Energy Commission
 - DTSC – California Department of Toxic Substance Control
 - SBCAPCD – Santa Barbara County Air Pollution Control District
 - US DOE – US Department of Energy
 - US DOT – US Department of Transportation

Figure 7. Example Implementation Action

1	Planning and Policy Actions	4	Lead Department	5	Supporting Departments & Agencies	6	Term	7	8	Cost	Potential Funding Agencies
2	1.1	3	Community Services	Planning & Development	Short	\$	US DOE, 3CREN	Develop and adopt an ordinance to increase the requirements for charging infrastructure in new residential and non-residential buildings.			

Implementation Table

Planning and Policy Actions		Lead Department	Supporting Departments & Agencies	Term	Cost	Potential Funding Agencies
1.1	Develop and adopt an ordinance to increase the requirements for charging infrastructure in new residential and non-residential buildings.	Community Services	Planning & Development	Short	\$	US DOE, 3CREN
1.2	Conduct a mobility needs assessment for unincorporated County communities in partnership with local organizations.	Community Services	SBCAG	Long	\$\$	CARB, US DOE and DOT
1.3	Develop and create an EV Charging Station Implementation Manual to provide guidance and technical knowledge for installing and maintaining EV charging stations for internal County departments to use.	Community Services	Public Works and General Services	Short/Medium	\$	
1.4	Incorporate ZEV infrastructure and clean mobility options into other county and regional plans.	Community Services	Public Works, Planning and Development, General Services	Long	\$	
Infrastructure Actions		Lead Department	Supporting Departments & Agencies	Term	Cost	Potential Funding Agencies
2.1	Accelerate the pace of project identification and implementation by developing a map and database of potential charging infrastructure sites, such as private properties, County properties and right of way areas. Incorporate considerations for identifying charging gaps for priority populations.	Community Services	Public Works, General Services, Planning & Development, Information Technology Department	Short	\$	

2.2	Incorporate EV charging stations into Public Works, Parks, Libraries capital projects and any other local, which involved parking facilities. When feasible install solar power and battery backup with charging stations.	Community Services	Public Works, General Services	Short/Medium	\$\$	3CE, SBAPCD, CARB, CEC, US DOE and DOT
2.3	Secure funding to install charging stations and requisite infrastructure necessary to facilitate public charging for vehicles of nearby multifamily apartment dwellers, shared mobility devices, transit vehicles and CalVans.	Community Services	3C-REN, County of SB Housing Authority, Non-profit Housing Providers	Long	\$\$	3CE, SBAPCD, CARB, CEC, US DOE and DOT
Programs Actions		Lead Department	Supporting Departments & Agencies	Term	Cost	Potential Funding Agencies
3.1	Secure funding to deploy shared mobility pilots or expand regional bikeshare operations with partners in unincorporated and incorporated areas of the County. Work with community members to identify viable solutions for rural and remote communities.	Community Services & Public Works	General Services, Planning & Development, Cities, Educational Institutions	Medium	\$\$	3CREN, CARB, US DOE and DOT
3.2	Establish an e-bike pilot for county employee-work trips and provide County employees information about the health, financial and environmental benefits of electric bikes.	Community Services	General Services, Human Resources, SBCAG	Short/Medium	\$	
3.3	Implement a workplace charging program for County employees to increase workplace charging for employee's long commutes and those without access to home charging.	General Services	Community Services	Short	\$	
3.4	Secure funding to implement zero-emission medium, heavy-duty and off-road fleet vehicles to support essential county operations	General Services	Community Services, Public Works	Long	\$\$\$	3CE, SBAPCD, CARB, CEC, US DOE and DOT

3.5	Secure funding to pilot local collection programs for used vehicle batteries and procurement of repurposed batteries in battery energy storage systems for County facilities.	Public Works, General Services	Community Services	Medium	\$\$\$	CalEPA, DTSC
3.6	Track and research the development of vehicle to everything technology to support the energy resilience of county facilities and vehicle operations.	General Services Public Works	Community Services	Long	\$\$\$	US DOE and CEC
Outreach, Education, & Engagement Actions		Lead Department	Supporting Departments & Agencies	Term	Cost	Potential Funding Agencies
4.1	Promote and coordinate funding and technical assistance programs from entities like 3C-REN, 3CE and utilities to assist local property owners and organizations to identify their EV charging needs and support installation of EVSE on their properties.	Community Services	3C-REN, 3CE, utilities	Long	\$	
4.2	Conduct culturally and linguistically appropriate outreach and education on EVs, clean mobility options and technology.	Community Services	Santa Barbara County Promotores Network, Community Environmental Council	Long	\$	
4.3	Engage with local unions to identify and create local workforce development opportunities in the clean mobility industry.	Community Services	Workforce Development Board, Local Unions	Long	\$	California Jobs Now

Definitions /Terms

Carpooling - Self-service, pooled rides in the driver's personal vehicle, with at least one passenger, to a common destination. Traditionally this takes place on a set schedule among the same individuals. In the last decade, advances in mobile technology have encouraged the growth of new carpooling models that allow the discovery of nearby rides/riders from outside an individual's immediate sphere.

Carshare - A form of shared mobility which involved sharing a passenger vehicle among several individuals for daily travel needs. The responsibility of owning, maintaining, and providing insurance, is generally left to the owner and operator of the carsharing business or organizations.

Electric Vehicle Charging Stations / Electric Vehicle Supply Equipment – Refers to user-facing equipment such as the payment kiosk, charging cord and pedestal. EVs have three levels of charging.

Level 1 – Slowest

A Level 1 charger generally come with many EVs and can be plugging it into a 110/120-volt home outlet. A Level 1 charger takes the longest time to charge at 40-50 hours from 0-100%.

Level 2 - Faster

A Level 2 charger is more commonly found at public parking facilities such as workplaces, malls and municipal properties. Level 2 chargers can also be installed at home but require a higher power outlet (240 volt). Installing one may require electrical upgrades, especially in older homes and buildings since the power output is equivalent to large appliances such as refrigerators and dishwashers. The time to charge an EV can be from 4-10 hours from an empty battery.

Level 3 (Direct Current) – Fastest

A Level 3 charger utilizes Direct Current (DC) which provides the fastest rate of charge of the three and can fully charge an EV in 30 minutes to 1 hour. These stations are commonly found in public locations such as along highways, destinations, and retail.

Micro-Mobility - Any small, low-speed, human- or electric-powered transportation device, including bicycles, scooters, electric-assist bicycles, electric scooters (e-scooters), and other small, lightweight, wheeled conveyance. Micro-mobility can be privately owned by an individual or shared among several individuals through services provided by a private company, local government agency or local organization. Examples of recent deployments of micro-mobility in Santa Barbara County include Lime e-scooters in Isla Vista, BCycle (e-bikeshare) in the City of Santa Barbara and SBCAG's EZ-Bike Library Project.

Shared Mobility - Any mode of transportation which is shared among different users. Several examples of shared mobility include, carshare, micro-mobility (bikeshare, scooter share etc) and commute-based modes.

Ridesharing - Carpooling and vanpooling, the original ridesharing, are noncommercial shared ride arrangements, carrying anywhere from two to ten passengers, where the driver is already making that trip for themselves.

Vanpooling - A subscription-based service where one driver provides prearranged rides to multiple passengers with whom they share an origin and destination. Generally administered by a public agency, business district, or workplace, vanpooling programs typically lease and make the vehicles (minivans or passenger vans) available, and participants share a monthly fee that covers the vehicle cost, insurance, maintenance, and gas—generally much less than the cost of making the same daily trip in a personal vehicle.

Zero-Emission Vehicle (ZEV) - A form of transportation which does not produce exhaust or tailpipe emissions. ZEVs can be used as an umbrella term for all types of transportation including those that are powered by electricity or hydrogen fuel. The following is a list of various transportation modes which can fall under the category of a ZEV: Bikes, scooters skateboards, buses and trucks, passenger vehicles, vans and buses, motorcycles and mopeds.